Moral emotion, moral cognition, and (im)moral behavior in the workplace

Edited by
Peixu He, Hongdan Zhao, Cuiling Jiang
and Chuangang Shen

Published in
Frontiers in Psychology

About Frontiers

Frontiers is more than just an open access publisher of scholarly articles: it is a pioneering approach to the world of academia, radically improving the way scholarly research is managed. The grand vision of Frontiers is a world where all people have an equal opportunity to seek, share and generate knowledge. Frontiers provides immediate and permanent online open access to all its publications, but this alone is not enough to realize our grand goals.

Frontiers journal series

The Frontiers journal series is a multi-tier and interdisciplinary set of open-access, online journals, promising a paradigm shift from the current review, selection and dissemination processes in academic publishing. All Frontiers journals are driven by researchers for researchers; therefore, they constitute a service to the scholarly community. At the same time, the *Frontiers journal series* operates on a revolutionary invention, the tiered publishing system, initially addressing specific communities of scholars, and gradually climbing up to broader public understanding, thus serving the interests of the lay society, too.

Dedication to quality

Each Frontiers article is a landmark of the highest quality, thanks to genuinely collaborative interactions between authors and review editors, who include some of the world's best academicians. Research must be certified by peers before entering a stream of knowledge that may eventually reach the public – and shape society; therefore, Frontiers only applies the most rigorous and unbiased reviews. Frontiers revolutionizes research publishing by freely delivering the most outstanding research, evaluated with no bias from both the academic and social point of view. By applying the most advanced information technologies, Frontiers is catapulting scholarly publishing into a new generation.

What are Frontiers Research Topics?

Frontiers Research Topics are very popular trademarks of the *Frontiers journals series*: they are collections of at least ten articles, all centered on a particular subject. With their unique mix of varied contributions from Original Research to Review Articles, Frontiers Research Topics unify the most influential researchers, the latest key findings and historical advances in a hot research area.

Find out more on how to host your own Frontiers Research Topic or contribute to one as an author by contacting the Frontiers editorial office: frontiersin.org/about/contact

Moral emotion, moral cognition, and (im)moral behavior in the workplace

Topic editors

Peixu He — Huaqiao University, China
Hongdan Zhao — Shanghai University, China
Cuiling Jiang — Kedge Business School, France
Chuangang Shen — Huaqiao University, China

Table of
contents

Editorial: Moral emotion, moral cognition, and (im)moral behavior in the workplace

Peixu He[1], Chuangang Shen[1], Hongdan Zhao[2] and Cuiling Jiang[3]*

[1]Business School, Huaqiao University, Quanzhou, China, [2]School of Management, Shanghai University, Shanghai, China, [3]Department of Management, KEDGE Business School, Talence, France

Editorial on the Research Topic
Moral emotion, moral cognition, and (im)moral behavior in the workplace

Introduction

Workplace moral behavior (e.g., pro-social behavior and organizational citizenship behavior) and immoral behavior (e.g., interpersonal abusive behavior, deviant/counterproductive behavior, and unethical pro-organizational behavior) have received substantial attention over the past decades (see for example Podsakoff et al., 2009; Dufy et al., 2012; Moore et al., 2012, 2018; Bolino and Grant, 2016; Chen et al., 2016; He et al., 2017, 2020, 2023a; Organ, 2018; Mishra et al., 2021). The existing research has provided us with knowledge on the antecedents and consequences of workplace moral and immoral behaviors (He et al., 2021). The most common framework that has been widely adopted to study the moral behavior has been the cognitive approach (Bandura, 1986, 1999), with rich evidence demonstrating that emotion and cognition are the two core elements which generate and influence workplace (im)moral behavior. However, we still have little knowledge on the emotional/cognitive processes or integrative moral emotion-cognition mechanisms related to workplace moral or immoral behavior. For example, it is unclear how exhibiting (im)moral behavior in the workplace would impact the perpetrator's and the third-party observer's emotions, thoughts, feelings, and subsequent behavior (Greenbaum et al., 2020). Besides, the question of whether ethical/unethical leader behavior would trigger a "trickle-down effect" is underdeveloped (Ogunfowora et al., 2022). In addition, when, how, and why the ethical employees (the so-called "good soldiers") engage in workplace immoral behavior, and vice-versa, calls for further studies (He et al., 2023b).

The main goals of this Research Topic are to extend and enrich the research on workplace (im)moral behavior, offering the diverse insights to the individual emotion-centric models and social cognitive process models, exploring the individual dynamic moral emotions and moral cognition before and after the conduct of workplace (im)moral behavior, and clarifying the respective boundary conditions. Totally, we have accepted 28 papers for publication in the Frontiers in Psychology, which deal with different aspects of workplace (im)moral behavior, exploring mechanisms of these behaviors from the perspectives of moral cognition and moral emotion, and investigating the relevant antecedents and outcome variables. Some studies examined positive leadership (such as self-sacrificial leadership, responsible leadership, and moral leadership) and its impacts on subordinate performance

and behavior (such as task performance, employee knowledge sharing behavior, and innovation behavior). We also included articles that investigate immoral behaviors in the organizations such as abusive supervision and counterproductive behavior. These studies have systematically examined the role of immoral behavior in the organizations from both moral cognition and emotion perspectives, which provide a complete understanding of the mechanisms underlying the immoral behavior. Moreover, we included one systematic review of executives' unethical behavior. Here, we provide an overview of the articles that have been included in this Research Topic.

Overview of the articles in this Research Topic

The study "Linking Ethical Leadership to Followers' Knowledge Sharing: Mediating Role of Psychological Ownership and Moderating Role of Professional Commitment" was conducted by Saeed et al., which examines the impact of ethical leadership on knowledge sharing through the social learning theory. In this study, psychological ownership serves as a mediating variable and professional commitment serves as a moderating variable. The data was collected from employees of 307 Pakistani listed companies. The findings reveal that ethical leadership had a positive effect on knowledge sharing via psychological ownership which was buffered by professional commitment, enhancing the understanding in the field of leadership and knowledge management by identifying the role of ethics.

What about the relationship between responsible leadership and unethical pro-organizational behavior? In their work "Standing in Customers' Shoes: How Responsible Leadership Inhibits Unethical Pro-Organizational Behavior," Cheng, Guo, et al. employ social information processing theory and social learning theory to build a moderated mediation model. Based on the sample of 557 participants, the results suggest that responsible leadership could inhibit unethical pro-organizational behavior and customer-oriented perspective taking partially may mediate the negative link between responsible leadership and unethical pro-organizational behavior.

In their work "The Impact of Moral Leadership on Physical Education Teachers' Innovation Behavior: The Role of Identification with Leader and Psychological Safety," Chen J. et al., have used the sample of 287 teachers to examine the relationship between moral leadership and innovation performance.

The article "Servant Leadership Behavior at Workplace and Knowledge Hoarding: A Moderation Mediation Examination," written by Zada S. et al. utilized social learning theory and data from 347 employees in 56 teams to investigate the relationship among servant leadership, psychological safety, and knowledge hoarding. The findings suggest that servant leadership negatively affects knowledge hoarding by positively influencing psychological safety, and mastery climate moderated the relationship.

The study "How Classy Servant Leader at Workplace? Linking Servant Leadership and Task Performance During the COVID-19 Crisis: A Moderation and Mediation Approach" by Zada M. et al., examined the impact of servant leadership on the task performance of employees in virtual working environments during

the COVID-19 crisis. Drawing on the conservation of resources theory, the findings revealed that servant leadership is positively related to task performance in a virtual environment during crises. The study also found that psychological empowerment partially mediates this relationship, and perceived supervisor support positively moderates the relationship between servant leadership and task performance.

In their work "The Influence of Self-Serving Leadership on Deviant Behaviors in the Workplace: A Moderated Mediation Model," Liu L. et al. have examined one type of destructive leadership, the self-serving leadership. Drawing from the social identity theory and 377 survey data via a three-wave time lagged design, the findings showed that self-serving leadership may induce employees' deviant behavior, organizational identification partially mediates self-serving leadership and employees' deviant behavior, and employees' moral identity negatively moderates the relationship between self-serving leadership and employees' organizational identification.

The study "Executives' unethical behavior with directions for future research," is written by Zhu et al.. This bibliometric analysis has reviewed 428 articles published between the years 2000 and 2020 on executives' unethical behavior in the emerging markets.

In their work "The influence of leader–signaled knowledge hiding on tourism employees' work withdrawal behavior: A moderated mediating model," Xu et al. have used conservation of resources theory to build a moderated mediation model with emotional exhaustion as a mediating variable and supervisor-subordinate guanxi as a moderating variable. The data was collected from 440 tourism employees. The results show that leaders' knowledge hiding is positively linked to employees' withdrawal behavior and emotional exhaustion.

Regarding the relationship between self-sacrificial leadership and employees' knowledge sharing, they study "How Does Self-Sacrificial Leadership Foster Knowledge Sharing Behavior in Employees? Moral Ownership, Felt Obligation and Supervisor-Subordinate Guanxi," conducted by Su et al., employed the social cognitive theory and social exchange theory to explain how, when and why self-sacrificial leaders may trigger knowledge sharing. Totally, 481 pair sample has been used to test the theoretical model. The results showed that good guanxi between employees and their leaders, could lead employees to better understand leaders' self-sacrificial behavior and engage in knowledge sharing.

The study entitled "Does Self-Sacrifice Make Me Great? Research on the Relationship Between Employee Conscientiousness and pro-Social Rule Breaking" is written by Liu X. et al.. Drawing upon purposeful work behavior theory and using two-wave time lagged design, data was collected from 216 employee-supervisor dyads. The findings showed that duty orientation and achievement orientation have opposite relationship to pro-social rule breaking. Furthermore, job autonomy strengthens the positive effect of duty orientation and the negative effect of achievement orientation on pro-social rule breaking.

We have included another contribution related to employee consciousness. In their work "When Do Coworkers' Idiosyncratic Deals Trigger Social Undermining? – The Moderating Roles of Cored Self-Evaluations and Conscientiousness," Wang and Ma used social comparison theory and a sample of 331 employees,

to examine the interaction between perceptions of coworkers' receiving idiosyncratic deals and respective deprivation. The findings showed the moderating role of conscientiousness, which may weaken the relationship between deprivation and social undermining.

They study "When and How Workplace Helping Promotes Deviance? An Actor-Centric Perspective," conducted by Zhang H. et al., examined the impacts of three helping behaviors (caring, coaching, and substituting helping) on helpers themselves. Drawing from the resource conservation theory and using a three-wave time-lagged design, the findings suggested that caring and coaching were more negatively associated with emotional exhaustion and helpers of these two styles were less likely to adopt subsequent deviant behaviors. This study has also identified the role of extrinsic career goals in the direct relationship between the three helping behavior and emotional exhaustion.

The contribution "A Contingency Perspective of Pro-Organizational Motives, Unethical Pro-Organizational Behavior, and Organizational Citizenship Behavior," written by Cheng, Hu, et al., uses the data collected from 218 salespeople in the internet technology service company and develops a contingent model to show how moral identity and impression management motives could moderate the links between pro-organizational motives, unethical pro-organizational behavior, and organizational behavior.

The article "Status Competition and Implicit Coordination: Based on the Role of Knowledge Sharing and Psychological Safety" written by Xiao J. et al., has examined the implicit coordination from the perspective of team mentality, and discussed the incentive mechanism of status competition by using knowledge sharing as a mediating variable and psychological safety as a moderating variable. The empirical study has used a sample of 367 employees from 44 companies. The findings revealed that prestige-type status competition was positively related to implicit coordination, while dominant-type status competition was negatively related to implicit coordination. Furthermore, knowledge sharing mediated the relationship between both types of status and implicit coordination, and psychological safety enhanced both relationships.

In the study "Research on the Relationship Between High-Commitment Work Systems and Employees' Unethical Pro-Organizational Behavior: The Moderating Role of Balanced Reciprocity Beliefs," Zhang M. et al. uncovered the situational factors that influence employees' unethical pro-organizational behavior to repay the organization. Based on the social exchange theory, the authors used multisource data from 139 human resource managers and 966 employees to examine why and how high-commitment work systems affect employees' unethical pro-organizational behavior. The findings revealed that high-commitment work systems promote employees' unethical pro-organizational behavior through relational psychological contract. Besides, the findings showed that balanced reciprocity beliefs strengthen the positive relationship between relational psychological contract and employees' unethical pro-organizational behavior.

Zhang Z. et al. conducted the study "Does Technostress Increase R&D Employees' Knowledge Hiding in the Digital Era?" and introduced work exhaustion as a mediating variable for exploring how five sub-dimensions of technostress impact R&D employees' knowledge hiding. The authors have used job demand-resource theory to examine technostress—an antecedent of knowledge hiding. The sample of 254 participants was collected through a two-stage survey. The findings showed that techno-invasion, techno-insecurity, and techno-complexity were significantly and positively associated with work exhaustion. Furthermore, work exhaustion mediated the relationship between aforementioned three variables and knowledge hiding, while workplace friendship negatively moderated the association between techno-invasion, techno-insecurity and work exhaustion, reducing the emergence of knowledge hiding, while it also positively moderated the association between techno-complexity and work exhaustion.

The study "Workplace Suspicion, Knowledge Hiding, and Silence Behavior: A Double-Moderated Mediation Model of Knowledge-Based Psychological Ownership and Face Consciousness" conducted by Wu et al. examined the relationship between workplace suspicion and employees' silence, as well as the mediating role of knowledge hiding from a colleague's perspective. Drawing from resource conservation theory and self-regulation theory, data of 303 pair sample from 23 companies in China was collected through three-waves questionnaire method. The results revealed that workplace suspicion positively influenced employees' silence via knowledge hiding, and knowledge-based psychological ownership strengthened the mediating effect. However, face consciousness weakened the positive impact of workplace suspicion on knowledge hiding.

The study "Impacts of Corporate Social Responsibility on Employees' Mental Fatigue" written by Zheng et al. uses 176 valid responses to examine whether employees' personal ethics and perceptions of corporate hypocrisy can be beneficial for reducing employees' mental fatigue. The theories used to develop the hypotheses are stakeholder theories and sociological theories. The findings showed that employees' mental fatigue reduces when internal or external corporate social responsibility (CSR) has a positive impact on employees' altruistic choice and employees' mental fatigue increases when CSR has a negative effect on ethical egoism.

Existing research seldom employs a bottom-up perspective to examine how employees can reduce abusive supervision. In their work, Jiang et al. conducted the study of "Benefits of Non-Work Interactions with Your Supervisor: Exploring the Bottom-Up Effect of Employee Boundary Blurring Behavior on Abusive Supervision" and explored how employees' boundary blurring behavior can prevent themselves from being abused by supervisors. Drawing from the self-disclosure theory, authors have used a scenario-based experimental study and a multi-wave field study to find out that employees' boundary blurring behaviors inhibit the emergence of abusive supervision through the mediating effect of supervisor liking toward the employee.

In the article "Appearing competent or moral? The role of organizational goals in the evaluation of candidates," Fousiani et al. explored the effect of morality and competence in recruiters' hiring decisions. The authors used the Big Two theoretical framework to examine how instrumental or relational goals of organizations might influence the importance of morality or competence of

candidates during the hiring process. The authors conducted three studies (Study1, $n = 260$; Study2, $n = 318$; Study3, $n = 394$) to test the proposed hypotheses. The findings showed that the primacy effect of morality might hold when organizational goals are relational but might get reversed when organizational goals are instrumental. They also found that perceived appropriateness of a candidate positively affects hiring recommendations.

The contribution of Carminati and Héliot, titled "Between Multiple Identities and Values: Professionals' Identity Conflicts in Ethically Charged Situations," adopted a qualitative approach. Forty-seven semi-structured interviews had been conducted among doctors and nurses working for the English National Healthcare Service. The findings showed that micro processes such as cognitive and emotional perspective taking, plus identifying with the other may trigger identity conflict.

The study "Person–Job Misfit: Perceived Overqualification and Counterproductive Work Behavior" by Khan et al. examined the relationship between perceived overqualification and counterproductive work behavior (CWB) among textile sector employees, considering job boredom as a mediator and job crafting as a moderator. The findings showed a positive relationship between perceived overqualification and CWB. Furthermore, the study found that job boredom mediated the relationship between perceived overqualification and CWB, and job crafting moderated the positive association between perceived overqualification and job boredom.

The article by Shen et al. titled "How I Speak Defines What I Do: Effects of the Functional Language Proficiency of Host Country Employees on Their Unethical Pro-Organizational Behavior" investigates the relationship between functional language proficiency (i.e., English) and unethical pro-organizational behavior of host country employees in multinational corporations (MNCs). The authors used data from 309 full-time host country employees to test their predictions guided by social identity theory. The findings suggested that host country employees' functional language proficiency enhances their unethical pro-organizational behavior through their linguistic group identification and moral disengagement.

The article "How does leaders' information-sharing behavior affect subordinates' taking charge behavior in public sector? A moderated mediation effect," is written by Liu J.-N. et al.. Drawing from planned behavior theory and 200 civil servants' data, the findings showed that public sector leaders' information-sharing behavior is positively related to their subordinates' taking charge behavior, and public service motivation mediates this relationship. The results also found emotional trust strongly moderates the effect of leaders' information-sharing behavior on subordinates' taking charge behavior.

In their work "Is not workplace gossip bad? The effect of positive workplace gossip on employee innovative behavior," Dai et al. have examined the role of positive workplace gossip through a moderated mediation model. Data from 327 employees in the Pearl River and Yangtze River Delta regions of China was collected to test the theory model. The results showed that positive workplace gossip may promote employee innovation.

The article "How Daily Supervisor Abuse and Coworker Support Affect Daily Work Engagement" by Wang and Tang aimed to investigate the impact of daily supervisor abuse and coworker support on daily work engagement. Drawing from the conservation of resources (COR) theory, the study utilized a daily diary approach and collected data from 73 employees during five consecutive days in China. The results showed that daily abusive supervision had a negative impact on daily work engagement and that daily negative emotions mediated this relationship. Coworker support had a cross-level moderating effect between daily abusive supervision and daily negative emotions.

The study "Influence of Crowd-sourcing Innovation Community Reference on Creative Territory Behavior" by Xiao W. et al. investigates the impact of crowdsourcing innovation community reference on creative territory behavior from the perspective of reference group theory. A two-stage survey has been used and 524 valid responses were collected. The results suggested that the crowdsourcing innovation community reference influences members' impression management behavior and then inhibits creative territory behavior. Interestingly, there are different community reference effects among members of different community age groups. These findings contribute to understanding the influence of the crowdsourcing innovation community on crowd participation decision-making and suggest implications for exploring the cooperation mechanism of crowdsourcing innovation.

In another perspective, the article "Why Does Leader Aggressive Humor Lead to Bystander Workplace Withdrawal Behavior?—Based on the Dual Path Perspective of Cognition Affection," Chen H. et al. examined the relationship between leader's aggressive humor and bystander's workplace withdrawal behavior. The study used the Cognitive-Affective Personality System Theory and collected data from 443 employees and their direct supervisors in the Chinese enterprises. The results showed that leader-aggressive humor positively affected bystander affective rumination and bystander workplace anxiety, which in turn mediated the relationship between leader-aggressive humor and bystander workplace withdrawal behavior. Additionally, organization-based self-esteem moderated the indirect impact of leader-aggressive humor on bystander workplace withdrawal behavior through bystander affective rumination and bystander workplace anxiety.

Contributions

This Research Topic has made the following contributions. First, in this Research Topic, scholars attempted to conduct research from different perspectives and methodologies on the "good" behaviors (e.g., organizational citizenship behaviors) and negative behaviors (e.g., workplace gossip), which have enriched the research on the "dark sides" of workplace positive behavior and the "bright sides" of workplace negative behavior. For example, the study of Dai et al. have explored the effect of positive workplace gossip on employee's innovative behavior; Zhang H. et al. have studied when and how workplace helping promotes workplace deviance from an actor-centric perspective; Zhang M. et al. have explained the dark side of high-commitment work systems and linked it to employees' unethical pro-organizational behavior. These findings point out the importance to review and manage

workplace (un)ethical/(im)moral behaviors with a balanced but critical perspective.

Second, prior research has explored the relationship between various types of destructive leaders' behavior (e.g., abusive supervision) and workplace unethical/immoral behaviors such as counterproductive work behavior, and the relationship between positive leadership (e.g., ethical leadership) and employees' positive workplace behaviors such as innovative behavior and prosocial behavior. However, how positive leadership can help prevent unethical organizational behaviors requires further development. In this Research Topic, Cheng, Guo, et al. have examined how positive leadership can prevent employees' workplace unethical/immoral behaviors. This contribution has greatly enriched the current understanding of how responsible leadership is related to employees' unethical pro-organizational behavior. Furthermore, this study has explicitly explained the impacts of positive leadership and the important role that positive leadership can play in inhibiting and governing the negative behaviors of employees.

Third, this Research Topic focuses on the mechanisms by which relationships and interpersonal interactions between supervisors and subordinates and between coworkers influence each other's (un)ethical/(im)moral behaviors. We have included studies of top-down leadership behaviors and their impacts on employees' behaviors, and the studies of the bottom-up employees' behaviors and their impacts on leaders' behaviors. The (un)ethical/(im)moral behaviors in the workplace are examined through multiple directions. For example, Xu et al. have explored the influence of leader-signaled knowledge hiding on tourism employees' withdrawal behavior. Jiang et al. have advocated the benefits of employees' non-work interactions with their supervisors and verified the bottom-up effect of employee boundary blurring behavior on abusive supervision. Liu J.-N. et al. have investigated how leaders' information sharing behavior affect subordinates' taking charge behavior in public sector. Chen H. et al. have further studied the relationship between leader's aggressive humor and employee's withdrawal behavior from a bystander's perspective. Su et al. have demonstrated the impacts of leaders' self-sacrificial behaviors and supervisor-subordinate *guanxi* on employees' knowledge sharing. Wang and Tang have integrated daily supervisor abuse and coworker support in influencing employees' daily work engagement. These contributions point out that when managing leaders' or employees' workplace (un)ethical/(im)moral behaviors, one should not only look for the reasons and respective governance strategies from the actors' perspectives. In fact, the influence of others is an important source of the formation of individual behaviors in the workplace. Managers should improve the positive interpersonal interactions through building the healthy and meaningful relationship at the workplace, and reduce the contagion effects through lead by example, open communication, promotion of positive corporate culture, rewards on the ethical/moral behaviors, and so on.

Last, knowledge-related behaviors such as knowledge sharing (see for example Liu J.-N. et al.; Su et al.; Xiao J. et al.; Saeed et al.), knowledge hiding (see for example Xu et al.; Wu et al.; Zhang Z. et al.), and knowledge hoarding (see for example Zada S. et al.) have attracted increasing attention. The contributions have employed theoretical lens such as the conservation of resources theory, the self-regulation theory, the framework of "cognition-motivation-behavior," and the psychological safety and psychological ownership perspectives, to examine the formation mechanism between knowledge sharing behavior and counterproductive knowledge behavior. In addition, these contributions have provided a systematic review related to the moral concern of knowledge hiding. Thanks to these studies, we are able to enrich the knowledge hiding research by diversifying the existing theoretical perspectives, realizing the interdisciplinary studies, introducing and integrating the moral ownership, moral self-regulation and other moral psychology, cognitive psychology and other disciplines in the theoretical perspectives, forming new insights to call for research on the novel knowledge hiding phenomenon (i.e., leader-signaled knowledge hiding). Furthermore, the contributions that have been included in this Research Topic have taken the lead in exploring how technostress increase R&D employee knowledge hiding in the digital era. These findings draw practitioners' attention to the ethical nature of knowledge hiding behaviors and the respective moral issues. This Research Topic offers practitioners with knowledge on how to better anticipate the harmfulness of immoral behavior and the dark sides of moral behavior, developing the knowledge governance practices from the perspectives of employees' moral emotion and moral cognition.

Author contributions

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

Funding

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Bandura, A. (1986). *Social Foundations of Thought and Action*. Upper Saddle River, NJ: Prentice Hall.

Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Pers. Soc. Psychol. Rev.* 3, 193–209. doi: 10.1207/s15327957pspr0303_3

Bolino, M. C., and Grant, A. M. (2016). The bright side of being prosocial at work, and the dark side, too: a review and agenda for research on other-oriented motives, behavior, and impact in organizations. *Acad. Manag. Ann.* 10, 599–670. doi: 10.5465/19416520.2016.1153260

Chen, M., Chen, C. C., and Sheldon, O. J. (2016). Relaxing moral reasoning to win: how organizational identification relates to unethical pro-organizational behavior. *J. Appl. Soc. Psychol.* 101, 1082–1096. doi: 10.1037/apl0000111

Dufy, M. K., Scott, K. L., Shaw, J. D., Tepper, B. J., and Aquino, K. (2012). A social context model of envy and social undermining. *Acad. Manag. J.* 55, 643–666. doi: 10.5465/amj.2009.0804

Greenbaum, R., Bonner, J., Gray, T., and Mawritz, M. (2020). Moral emotions: a review and research agenda for management scholarship. *J. Organ. Behav.* 41, 95–114. doi: 10.1002/job.2367

He, P., Anand, A., Wu, M., Jiang, C., and Xia, Q. (2023b). How and when voluntary citizenship behaviour towards individuals triggers vicious knowledge hiding: the roles of moral licensing and the mastery climate. *J. Knowl. Manag.* doi: 10.1108/JKM-05-2022-0358

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: Current research status and future research directions. *Front. Psychol.* 12, 748237. doi: 10.3389/fpsyg.2021.748237

He, P., Peng, Z., Zhao, H., and Estay, C. (2017). How and when compulsory citizenship behavior leads to employee silence: a moderated mediation model based on moral disengagement and supervisor-subordinate guanxi. *J. Bus. Ethics.* 155, 259–274. doi: 10.1007/s10551-017-3550-2

He, P., Sun, R., Zhao, H., Zheng, L. and Shen, C. (2020). Linking work-related and non-work-related supervisor-subordinate relationships to knowledge hiding: A psychological safety lens. *Asian Bus. Manag.* 21, 525–546. doi: 10.1057/s41291-020-00137-9

He, P., Zheng, W., Zhao, H., Jiang, C., and Wu, T. J. (2023a). Citizenship pressure and knowledge hiding: the mediating role of citizenship fatigue and the moderating role of supervisor-subordinate guanxi. *Appl. Psychol.* doi: 10.1111/apps.12490. [Epub ahead of print].

Mishra, M., Ghosh, K., and Sharma, D. (2021). Unethical pro-organizational behavior: a systematic review and future research agenda. *J. Bus. Ethics.* 179, 63–87. doi: 10.1007/s10551-021-04764-w

Moore, C., Detert, J. R., Treviño, L. K., Baker, V. I., and Mayer, D. M. (2012). Why employees do bad things: Moral disengagement and unethical organizational behaviour. *Pers. Psychol.* 65, 1–48. doi: 10.1111/j.1744-6570.2011.01237.x

Moore, C., Mayer, D. M., Chiang, F. F. T., Crossley, C., Karlesky, M. J., Birtch, T. A., et al. (2018). Leaders matter morally: the role of ethical leadership in shaping employee moral cognition and misconduct. *J. Appl. Soc. Psychol.* 104, 123–145. doi: 10.1037/apl0000341

Ogunfowora, B. T., Nguyen, V. Q., Steel, P., and Hwang, C. C. (2022). A meta-analytic investigation of the antecedents, theoretical correlates, and consequences of moral disengagement at work. *J. Appl. Soc. Psychol.* 107, 746–775. doi: 10.1037/apl0000912

Organ, D. W. (2018). Organizational citizenship behavior: recent trends and developments. *Annu. Rev. Organ. Psychol. Organ. Behav.* 5, 295–306. doi: 10.1146/annurev-orgpsych-032117-10 4536

Podsakoff, N. P., Whiting, S. W., Podsakoff, P. M., and Blume, B. D. (2009). Individual- and organizational-level consequences of organizational citizenship behaviors: a meta-analysis. *J. Appl. Psychol.* 94, 122–141. doi: 10.1037/a0013079

Research on the Relationship Between High-Commitment Work Systems and Employees' Unethical Pro-organizational Behavior: The Moderating Role of Balanced Reciprocity Beliefs

Min Zhang[1], Lijing Zhao[2]* and Zhihong Chen[3]*

[1]Economics and Management School, Nantong University, Nantong, China, [2]Business School, Nanjing University, Nanjing, China, [3]Institute for International Students, Nanjing University, Nanjing, China

Based on the social exchange theory, this paper explores the indirect impact of high-commitment work systems on employees' unethical pro-organizational behavior. Through the analysis of multisource data from 139 companies (including 139 human resource managers and 966 employees), a multilevel structuring equation model is used to verify the study's hypotheses. The research results show the following findings: (1) High-commitment work systems are significantly positively related to employees' unethical pro-organizational behavior. (2) High-commitment work systems have indirect effects on the employees' unethical pro-organizational behavior through the relational psychological contract. The relational psychological contract plays a mediating role in this process. (3) Employees' balanced reciprocity beliefs significantly enhance the positive effect of relational psychological contracts on employees' unethical pro-organizational behavior. It can also positively moderate the mediating effect of high-commitment work systems that affect employees' unethical pro-organizational behavior *via* relational psychological contract.

Keywords: high-commitment work systems, relational psychological contract, unethical pro-organizational behavior, balanced reciprocity, social exchange

INTRODUCTION

In an economic environment of increasing competition, uncertainty, and complexity, managers try to stimulate employees' pro-organizational behavior through various methods to obtain a sustainable competitive advantage. However, to achieve this goal, employees may look for shortcuts that violate the moral standards at for-profit organizations, ranging from tampering with financial data to withholding negative information from the public. Other unethical workplace behaviors were revealed in the "Enron event," "Sanlu melamine incident," and other corporate scandals, which become widespread (Xu and Lv, 2018). Many ethical misdeeds are destructive (such as damaging equipment) or purely self-serving (such as fraudulent reporting). Still, such misconducts stem from a desire to benefit the organization. To distinguish this

from general unethical behavior, Umphress et al. (2010) put forward the concept of "unethical pro-organizational behavior," which they defined as an act aimed at promoting the effective operation of the organization or its members (such as leaders) and violating the core social values, ethics, laws or standards of proper conduct (Umphress and Bingham, 2011). It is precise because unethical pro-organizational behaviors violate widely accepted ethical norms in society, which may eventually lead to harmful consequences (Vadera and Pratt, 2013), such as fines, corporate reputation tarnished, and damage to the interests of external stakeholders and even the whole society (Umphress and Bingham, 2011). Therefore, unethical pro-organizational behavior quickly became the focus of scholars and managers, who seek to identify more factors affecting unethical pro-organizational behavior in order to reduce or avoid such behaviors among employees.

Previous studies have studied the antecedents of unethical pro-organizational behavior from the perspectives of individual characteristics (such as psychological rights, moral identity, moral disengagement, the high performance expectation, and the high performance pressure; Wu et al., 2016a; Chen and Liang, 2017; Zhao and Zhou, 2017; Lee et al., 2019), leadership style and behavior (such as transformational leadership, and moral leadership; Miao et al., 2013; Effelsberg et al., 2014; Zhang et al., 2018; Wang and Li, 2019), and colleague behavior (Thau et al., 2015). However, it is worth noting that employees often engage in unethical pro-organizational behavior for the sake of organization's short-term interests. What organizational situations encourage employees to show more willingness to participate in unethical pro-organizational behavior? According to the recent research, organizational context that predicts employees' unethical pro-organizational behavior has not received sufficient attention (Xu and Lv, 2018). Scholars pay more attention to the relationship between organizational factors and employees' unethical pro-organizational behavior, such as organizational identity, organizational emotional commitment, and organizational culture (Umphress et al., 2010; Alexandra, 2012).

In an organization, strategic human resource management aims to convey and strengthen the consistency of the relationship between employees and the organization to employees, and provides clear guidance on how the organization trains and supports employees and what the company expects from employees in return (Lepak and Snell, 1999; Bowen and Ostroff, 2004). High-commitment work systems, which are committed to the common development of employees and the organization, have the closest contact with employees (Chang et al., 2014). Under the guidance of the high investment concept, high-commitment work systems promote the development of employees' skills and abilities through high investment measures, and help employees establish attachment and emotional commitment to the organization (Arthur, 1994; Lepak and Snell, 1999). By investing resources in its employees, high-commitment work systems try to establish trust, mutual exchange, and long-term relationships with employees (Walton, 1985; Whitener, 2001; Hauff et al., 2014), and when employees feel the "valuable things" provided by the organization, they are

willing to offer "valuable things" in return, which may show more pro-organizational behavior (Ali et al., 2020). For example, for the organization's benefit, even in the face of violating existing rules and moral standards of the organization, employees will choose to engage in behaviors beneficial to the organization, that is the occurrence of unethical pro-organizational behavior (Kehoe and Wright, 2013; Kehoe and Collins, 2017). Further cycles of mutually beneficial exchanges may occur when both parties in a relationship gain benefits (Mostafa et al., 2019), in keeping with the aphorism, "The grace of dripping water should be repaid by the spring." When employees feel supported and cared for by the organization, will they choose to engage in unethical behaviors that benefit the organization's interests because of their intense gratitude to the organization and their willingness to reward the organization? This research's primary goal is to explore the relationship between high-commitment work systems and employees' unethical pro-organizational behavior.

To clarify the mechanism of the high-commitment work systems on an employee's unethical pro-organizational behavior, this research intends to further explore the mediation mechanism of the high-commitment work systems affecting an employee's unethical pro-organizational behavior. The social exchange theory asserts that if one party pays for the other party and fulfills the other party's expectations accordingly, then in response, the beneficiary will show positive behaviors and attitudes (Blau, 1964; Peyton et al., 2019). There is a long-term, unspecified obligation between the two parties in this process, which provides a theoretical framework for explaining how the organization's human resource management practices affect employees' work performance (Li et al., 2017). High-commitment work systems that highlight the "promise maximizer" provide employees with resources, support, and participation (Arthur, 1994), allowing employees to gain positive work experience, establish a sense of trust in and commitment to the organization, and form a long-term psychological contract. The establishment of a relational psychological contract based on mutual trust and long-term commitment, beyond the written form of agreement (Morrison and Robinson, 1997), will directly affect individuals' attitudes and behaviors at work (He et al., 2019). Hence, taking positive reciprocity as the criterion of action (Gouldner, 1960), for the sake of repaying the organization, employees abide by the relational psychological contract by engaging in behaviors beneficial to the development of the organization, which sometimes may damage the interests of external stakeholders to a certain extent. Therefore, the relational psychological contract may mediate between the high-commitment work system and the employees' unethical pro-organizational behavior.

Moreover, considering that employees' unethical pro-organizational behavior occurs in the context of two-way interaction between employees and the organization, this research also incorporates employees' perception of the organization's equality and reciprocity into this research framework based on the social exchange theoretical framework. Compared to employees with a low level of balanced reciprocity beliefs, employees with a stronger belief in balanced reciprocity are

more sensitive to the exchange of rights and interests (Huseman et al., 1987; Smith, 2003). Having perceived the material resources and psychological support given by the organization, they tend to immediately repay the organization with the same effective reward (Sparrowe and Liden, 1997). After forming a relational psychological contract with the organization, affected by the strong belief in equality and reciprocity, they are more likely to deliberately take actions that are beneficial to the organization but violate social laws or ethics to meet the organization's requirements and realize the return to the organization as soon as possible in the short term. Therefore, this study believes that the stronger the employee's balanced reciprocity beliefs is, the more obvious the effect of relational psychological contract on the employees' unethical pro-organizational behavior may be.

In summary, based on social exchange theory, a cross-level model of high-commitment work systems affecting employees' unethical pro-organizational behavior is deduced, so as to better understand the situational factors influencing employees' choice of unethical pro-organizational behavior to repay the organization. At the same time, employees' perception of organizational reciprocity will also play a role in high-commitment work systems' effectiveness. Therefore, this research introduces the concept of balanced reciprocity beliefs and discusses whether balanced reciprocity beliefs determine the conditions for high-commitment work systems to affect the employees' unethical pro-organizational behavior through relational psychological contract.

THEORETICAL BASIS AND RESEARCH HYPOTHESIS

High-Commitment Work System and Employees' Unethical Pro-organizational Behavior

In enterprises, when the organization implements the high-commitment work system, strictly selects employees in accordance with the requirements of organizational culture and norms, and then shapes and guides employees to develop specific skills and abilities through systematic training activities, employee participation in decision-making, reasonable salary and incentive (Bowen and Ostroff, 2004), and further promotes employees' professional development and growth (Arthur, 1994; Chang et al., 2014). Based on the principle of reciprocity, as the return of high-level investment by the organization, employees often have strong pro-organizational will and motivation, which urges them to repay the organization and maintain the positive social exchange relationship between the two parties with pro-organizational behavior (Kalshoven et al., 2016). However, to maintain the high-quality social exchange relationship generated by the high level of investment in employees, employees will greatly reduce the possibility of behaviors that harm the interests of the organization, and even lower their own moral threshold and engage in behaviors that violate moral standards for the short-term interests of the organization (Wilks, 2011).

In addition, employees with strong pro-organization motivation tend to ignore ethical and moral constraints to realize the return to the organization, and rationalize the attribution for their unethical behaviors (Wang et al., 2018), thus reducing the sense of cognitive dissonance brought by unethical pro-organizational behavior. Therefore, based on social exchange theory, this study argues that employees are more likely to engage in unethical pro-organizational behavior in return for the organization's investment in them, when the organization effectively implements high-commitment work systems. Accordingly, the following hypothesis is proposed as:

> *H1*: High-commitment work systems have a significant positive effect on employees' unethical pro-organizational behavior.

Mediating Effect of Relational Psychological Contract

Rousseau (1989) believed that psychological contract is the belief that there are mutual obligations between employees and organizations, while relational psychological contract is a long-term employment relationship established on the basis of mutual trust and loyalty. It is characterized by universality and openness, and there are no explicit obligations or performance requirements between both parties (MacNeil, 1985; Robinson and Rousseau, 1994; Raja et al., 2004). When a relational psychological contract is established between an organization and its employees, a stable relationship of mutual commitment exists between both parties (Rousseau, 1990, 1995; Janssens et al., 2003). It is worth noting that whether a relational psychological contract can be successfully established between an organization and employees is affected by the enterprise's human resource management practice (Marks, 2001). Based on this, this study infers that as a human resource management strategy with a high level of investment, the high-commitment work systems emphasize high investment in employees and long-term participation of employees, which are conducive to shaping positive emotions and relationships between employees and the organization and inducing the formation of relational psychological contracts between both parties.

Specifically, first, in the strict employee screening stage, the organization selects employees who meet the enterprise's development goals. When the organization and employees have a clear shared vision, it is easier for both parties to establish long-term emotional connection and relational psychological contract (Sun et al., 2007). Moreover, at the beginning of the employment relationship, organizations can lay the foundation for the formation of relational psychological contract by conveying the terms and conditions of the employment relationship, demonstrating the management philosophy behind human resource management practice (Suazo et al., 2009).

Secondly, high-commitment work systems involve a wide range of training activities to help new employees understand their roles, quickly obtain work-related knowledge and skills. Also such systems provide employees with the most direct

perception of the organization's investment and possible long-term employment opportunities, which can improve employees' willingness to keep a good relationship with the organization. Thus, relational psychological contract between employees and organizations can be formed (Latorre et al., 2016; He et al., 2021).

Thirdly, the organization attaches importance to teamwork and emphasizes team performance appraisal, which is conducive to creating an excellent working atmosphere. The cooperation among team members will continuously stimulate the employees' work potential, and the positive feedback from team leaders during the team performance evaluation process may indicate the establishment of different types of psychological contracts (Suazo et al., 2009). This belief makes employees more willing to develop a long-term oriented social exchange relationship based on social emotion with the organization, so as to establish a relational psychological contract (Rousseau and Schalk, 2000).

Fourthly, the measures, such as employee participation, higher salary level, and superior welfare, emphasized by the high-commitment work systems make employees realize that the organization values employees' contributions enhancing their sense of trust and dependence on the organization, and thus generating long-term emotional resources and finally forming high-quality social exchange relationships (Arthur, 1994).

According to social exchange theory, employees with relational psychological contracts try to strengthen their relationship with the organization by adopting long-term commitments and engaging in more behaviors and obligations beyond their roles' requirements (Choi et al., 2014), even though these behaviors may damage the organization's long-term interests. Specifically, on the one hand, in the relational psychological contract, employees have an accurate perception of the responsibilities undertaken by the organization (Wu et al., 2006) and a strong desire to maintain a long-term employment relationship with the organization (El Akremi et al., 2010; Liu et al., 2013; Jawahar et al., 2018). Therefore, they are more likely to perceive that the benefits brought by unethical behaviors outweigh the costs, so they break away from the restrictions and constraints of morality (Becker, 1968; Lewicki, 1983) and regard unethical pro-organizational behavior as an "effective way" to maintain relationships (Cropanzano and Mitchell, 2005). On the other hand, a relational psychological contract means that the organization provides stable wages and long-term employment and supports the welfare and interests of employees and their families (Jepsen and Rodwell, 2012), which will significantly improve employees' enthusiasm for repaying the organization. With the care and support of the organization, it is easy for employees to mistakenly think that the pro-organization unethical behavior is recognized by the organization. Although unethical pro-organizational behaviors violate ethical standards and even damage external stakeholders' interests and the organization's long-term development, such behaviors express their devotion and recompense to the organization. Moreover, these behaviors will not bring negative consequences and costs in a short term, like direct or indirect punishment and damage to its reputation or moral identity (Wang et al., 2018), and even have some benefits to the organization. Accordingly, the following hypothesis is proposed as:

H2: The relational psychological contract plays a mediating role in the impact of high-commitment work systems on employees' unethical pro-organizational behavior.

Moderating Effects of Balanced Reciprocity Beliefs

Sahlins (1972) proposed different types of reciprocity by examining different dimensions of reciprocity, namely, equivalence of income, timeliness of income and the degree, and nature of interests of both parties in the transaction, which are generalized reciprocity, balanced reciprocity, and negative reciprocity. As a positive reciprocal norm with altruism tendency, generalized norm aims to establish a long-term exchange relationship. In the process of exchange, all parties show a spirit of benevolence and self-sacrifice. On the contrary, negative reciprocity is a highly self-interest behavior whose purpose is to safeguard and maximize their own interests as much as possible. Sometimes, in order to achieve this purpose, it will even damage the interests of others. Balanced reciprocity is between generalized reciprocity and negative reciprocity, which emphasizes a high degree of reciprocity, the immediacy of return, and the common interests of both parties. This form of reciprocity comes from the strict and fine accounting of inputs and results by both sides of the exchange on the basis of trust. It emphasizes the criterion of "economic exchange," which directly reflects people's views on the exchange relationship (Sahlins, 1972; Wu et al., 2016b). On the whole, people's calculation of time and value of extensive reciprocity is not only limited by the gift, but also depends on each other's needs and appropriate time, which means that rewards may arrive quickly, but they may never materialize. In comparison, the interaction between both parties of balanced reciprocity has clearer economic and social purposes, and in the process of exchange, the social relations between actors change along with the changes of economic relations. Therefore, we infer that balanced reciprocity is more likely to affect the relationship between relational psychological contract and employee unethical pro-organizational behaviors.

Social exchange theory further states that individuals are concerned with balancing giving and receiving in social exchange. In other words, differences in the degree of individual recognition of "reciprocity" will affect the quality of social exchange relationships and influence the behaviors between employees and organizations (Cropanzano and Mitchell, 2005). Individuals with a strong belief in balanced reciprocity are committed to the exchange of equal resources. In other words, when employees establish a close relational psychological contract with the organization, they tend to repay the organization with something of equal value within a short period, devoting more to the work and the enterprise, and willing to contribute to the realization of the organizational performance of the enterprise based on the principle of giving back to the organization, and paying more attention to how to quickly benefit the organization in a short term, so as to increase the possibility of unethical pro-organization behavior. Simultaneously, unethical pro-organization behaviors can also reduce the sense of guilt caused by failure to provide feedback to some extent (Bredewold

et al., 2016). On the contrary, if the individual's belief in balanced reciprocity is low. It means that employees believe that after contributing to the organization, the organization ignores or neglects employees' efforts, which will lead to the rupture of the relational psychological contract established between employees and the organization, so employees will stop paying and investing in their work, and will not violate moral laws and regulations in order to return to the organization in a short term and create "immediate benefits" for the organization, thus reducing their willingness to engage in unethical pro-organizational behavior. In this case, the influence of relational psychological contract on employees' unethical pro-organizational behavior is weakened. Accordingly, the following hypothesis is proposed as:

> H3: Employees' balanced reciprocity beliefs moderate the relationship between relational psychological contract and their unethical pro-organizational behavior, that is, the stronger the employee's belief in balanced reciprocity is, the more obvious the relationship between relational psychological contract and unethical pro-organizational behavior is.

The relationships revealed by hypothesis 2 and hypothesis 3 can be further understood as a moderated mediation model. Specifically, the relational psychological contract mediates high-commitment work systems' influence on employees' unethical pro-organizational behavior, but employees' belief in balanced reciprocity also moderates this mediating effect. When employees believe that an organization has a high level of balanced reciprocity beliefs, the high-commitment work systems will positively impact the relational psychological contract. To repay the organization, establishing the relational psychological contract will further promote employees to make more unethical pro-organizational behaviors. Conversely, when employees' belief in balanced reciprocity is weak, the relationship between relational psychological contract, high-commitment work systems, and employees' unethical pro-organizational behaviors will be more fragile. Thus, the mediating effect of the relational psychological contract will be further weakened. Accordingly, the following hypothesis is proposed in this study:

> H4: Employees' balanced reciprocity beliefs moderate the mediating effect of the relational psychological contract between high-commitment work systems and employees' unethical pro-organization behaviors. With the enhancement of employees' balanced reciprocity beliefs, the mediating effect of relational psychological contract becomes stronger, otherwise, the mediation effect becomes weaker.

RESEARCH METHODS

Samples and Procedures
This study's data are collected from enterprises in Jiangsu, Anhui, Guangdong, Sichuan, Beijing, and other places. The types of enterprises include manufacturing, service industry, high-tech enterprises, and others. After obtaining consent from

each enterprise's human resources department manager, the researcher explained the survey's purpose, process, and confidentiality. By mailing the paper questionnaire, each enterprise's human resources department manager organized randomly selected employees to fill in the questionnaire and then send back the completed questionnaire.

To avoid the effect of homologous variance, this research collected data from multiple sources. The enterprise's human resource department managers completed the questionnaire on the high-commitment work systems and the demographic variables at the enterprise level. Each enterprise's employees completed the questionnaire of the relational psychological contract, balances reciprocity, unethical pro-organizational behavior, and the demographic variables at the individual level. A total of 150 enterprises were contacted before the survey, and 150 questionnaires for human resource department managers and 1,200 questionnaires for employees were delivered. After eliminating invalid questionnaires, 139 valid questionnaires were obtained of human resource department managers and 966 of employees, with effective recovery rates of 92.67 and 80.5%, respectively. **Table 1** shows the sample characteristics of this research.

Measurement of Variables
The scales used in this study are all quoted from papers published in top journals abroad and translated into Chinese scales according to the procedure of translation and retranslation (Brislin, 1970). Likert seven points were used for all the scales involved, from "1-totally disagree" to "7-totally agree."

High-Commitment Work Systems
A scale of 10 items compiled by Xiao and Tsui (2007) was selected (Xiao and Tsui, 2007). For items, such as "Our company emphasizes open communication and wide information sharing, "the scale's internal consistency coefficient is 0.900.

Relational Psychological Contract
A scale of 5 items compiled by Hui et al. (2004) was selected (Hui et al., 2004). For items, such as "Our company is concerned for my long-term well-being," the scale's internal consistency coefficient is 0.914.

Balanced Reciprocity Beliefs
The scale of 6 items compiled by Wu et al. (2006) was selected (Wu et al., 2016b). For items including "My organization takes care of the organization's interests as much as my interest," the scale's internal consistency coefficient is 0.891.

Employee Unethical Pro-organizational Behavior
A scale of 6 items compiled by Umphress et al. (2010) was selected (Umphress et al., 2010). One example includes "If my organization needed me to, I would withhold issuing a refund to a customer or client accidentally overcharged." The internal consistency coefficient of this scale is 0.880.

Characteristics of Employees				Characteristics of Organizations			
Gender (%)		**Education (%)**		**Types (%)**		**Numbers of employees (%)**	
Male	55%	Middle school or below	10.8%	Stated-owned	47.5%	Less than 50	7.2%
Female	45%	Junior college	29.4%	Foreign	25.9%	50 ~ 100	10.1%
Age (%)		Bachelor degree	55.7%	Private	17.3%	101 ~ 500	41%
Less than 25	16.3%	Master degree or above	4.1%	Others	9.4%	501 ~ 1,000	22.3%
26 ~ 30	36%	Tenure by Year (%)		Organization age (%)		1,001 ~ 2000	5%
31 ~ 35	25.4%	Less than 1	17.6%	Less than 1	19.4%	More than 2001	14.4%
36 ~ 40	9.6%	1 ~ 3	30.6%	1 ~ 2	39.6%		
More than 41	12.7%	3 ~ 5	22.8%	2 ~ 4	23.7%		
		More than 5	29%	More than 4	17.3%		

Control Variables

Previous studies believe that variables at the individual level (such as gender, age, education level, and tenure) and organizational level (such as enterprise type, enterprise size, and enterprise establishment years) may affect the occurrence of employees' unethical pro-organizational behavior, and most empirical studies on unethical pro-organizational behavior, especially the cross-level structural equation models constructed, take these variables as control variables (Umphress et al., 2010; Xu and Lv, 2018). Therefore, we also controlled for demographic variables at the individual and organizational levels. Specifically, human resource department managers fill in the control variables of the organization level, including enterprise type (1 "stated-owned," 2 "foreign," 3 "private," and 4 "others"), numbers of employees (1 "less than 50," 2 "50 ~ 100," 3 "101 ~ 500," 4 "501 ~ 1,000," 5 "1,001 ~ 2000," and 6 "more than 2001"), organization age (by year; 1 "less than 1," 2 "1 ~ 2," 3 "2 ~ 4," and 4 "more than 4"); line staff fill in the demographic variables at the individual level, including gender (1 "male" and 2 "female"), age (1 "Less than 25," 2 "26 ~ 30," 3 "31 ~ 35," 4 "36 ~ 40," and 5 "more than 41"), education level (1 "middle school or below," 2 "junior college," 3 "bachelor degree," and 4 "master degree or above"), and tenure (by year; 1 "less than 1," 2 "1 ~ 3," 3 "3 ~ 5," and 4 "more than 5").

DATA ANALYSIS AND RESULTS

Confirmatory Factor Analysis

This study used Mplus 7.40 software to distinguish the validity of the variables, the inspection through multiple levels of confirmatory factor analysis. The results showed that compared to other competitive models, four factors of measurement model have better fitting validity, $\chi^2 = 614.461$, $df = 151$, RMSEA $= 0.056$, CFI $= 0.949$, TLI $= 0.938$, SRMR (within-level) $= 0.037$, SRMR (between-level) $= 0.061$. This study selected four variables with good validity, effectively representing four different research constructs.

Descriptive Statistics and Correlation Analysis

Table 2 shows the mean value, standard deviation, and correlation of all study variables. **Table 2** shows that relational psychological contract is positively correlated with employees' unethical pro-organizational behavior ($r = 0.574$, $p < 0.01$), and equality and reciprocity are positively correlated with employees' unethical pro-organizational behaviors ($r = 0.177$, $p < 0.01$), which preliminarily supports the research hypothesis.

Hypothesis Testing

After controlling gender, age, education level, tenure on individual levels of, and enterprise type, enterprise size, and enterprise establishment years on the organizational level, this study establishes a multilevel moderated mediation model of high-commitment work systems' unethical pro-organizational behavior. The result of path analysis is shown in **Figure 1**. As shown in **Figure 1**, high-commitment work systems significantly affect employee's unethical pro-organizational behavior ($\gamma = 0.427$, $p < 0.001$). Hypothesis 1 is supported.

According to the multilevel model results in **Figure 1**, high-commitment work systems have a significant positive effect on relational psychological contracts ($\gamma = 0.472$, $p < 0.001$). The relational psychological contract also has a significant positive effect on unethical pro-organizational behavior ($\gamma = 0.189$, $p < 0.01$). Meanwhile, the direct effect of high-commitment work systems on employee's unethical pro-organizational behavior remained significant ($\gamma = 0.339$, $p < 0.001$), suggesting that the relational psychological contract played a partial mediating role between high-commitment work systems and employees' unethical pro-organizational behavior. Hypothesis 2 is supported. In addition, the results of 20,000 tests using the Monte Carlo method showed that a 95% confidence interval for the relational psychological contract's mediating effect was (0.023, 0.162), and the interval did not include 0. This indicates that the relational psychological contract has a significant mediating effect between high-commitment work systems and employees' unethical pro-organizational behavior. Hypothesis 2 is further verified.

According to **Figure 1**, the interaction between relational psychological contract and balanced reciprocity beliefs has significant positive impact on employees' unethical pro-organizational behavior ($\gamma = 0.064$, $p < 0.05$). It shows that balanced reciprocity beliefs have significant moderating effect between relational psychological contract and employees' unethical pro-organizational behavior. Hypothesis 3 is supported. This

TABLE 2 | Descriptive statistics of variables.

	M	SD	1	2	3	4	5	6
Individual Level								
1. Gender	1.470	0.504						
2. Age	3.750	1.427	−0.067*					
3. Education	2.950	1.125	−0.008	−0.305**				
4. Tenure	54.230	55.189	−0.020	0.581**	−0.221**			
5. Relational Psychological Contract	4.065	1.073	−0.024	0.025	0.002	0.048		
6. Balanced reciprocity beliefs	4.947	1.125	0.018	0.022	−0.006	−0.057	0.120**	
7. Unethical Pro-Organizational Behavior	3.799	0.967	−0.021	−0.009	0.044	0.041	0.574**	0.177**
Organizational Level								
8. Types	1.885	1.008						
9. Numbers of Employees	3.504	1.380	−0.135					
10. Organization Age	28.806	23.652	−0.028	0.194*				
11. High-Commitment Work Systems	4.547	1.017	0.012	0.077	0.001			

$**p < 0.01$; $*p < 0.05$.
$n_{employee} = 966$, $N_{organization} = 139$.

FIGURE 1 | The final model with coefficients.
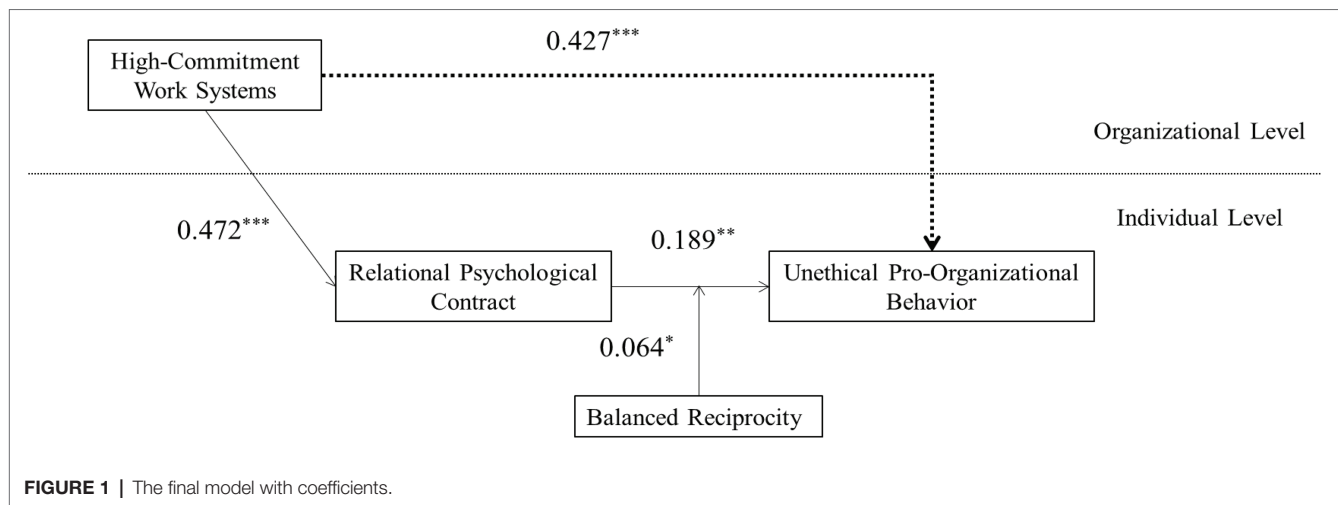
study drew the moderating effect chart of balanced reciprocity beliefs more intuitively to reflect the moderating effect of balanced reciprocity beliefs between relational psychological contract and employees' unethical pro-organizational behavior. As shown in **Figure 2**, when the level of balanced reciprocity beliefs is low, the relational psychological contract has a significant positive impact on employees' unethical pro-organizational behavior ($\gamma = 0.424$, 95% LLCI = 0.345, 95% ULCI = 0.503). When the level of balanced reciprocity beliefs is high, the positive effect of relational psychological contract on employees' unethical pro-organizational behavior is more significant ($\gamma = 0.568$, 95% LLCI = 0.489, 95% ULCI = 0.648), indicating that the moderating effect of balanced reciprocity beliefs has been verified. Therefore, hypothesis 3 is supported.

In this study, the Monte Carlo method was also used to test the moderated mediating effect. The R program was used to sample 20,000 times. Results are shown in **Table 3**. In the high level of balanced reciprocity beliefs, the indirect effect of high-commitment work systems on employees' unethical

pro-organizational behavior through relational psychological contract was 0.133, and the 95% confidence interval was (0.043, 0.230), which did not include 0. In the low level of balanced reciprocity beliefs, the indirect effect of high-commitment work systems on unethical pro-organizational behavior through relational psychological contract was 0.097; 95% confidence interval was (0.032, 0.167), and the interval did not include 0. Simultaneously, the difference between groups was 0.036, and the 95% confidence interval was (0.003, 0.085), reaching the significance level. This indicates that the mediating effect is different at different levels of balanced reciprocity beliefs; that is, the mediating effect of relational psychological contract is moderated by balanced reciprocity beliefs. Hypothesis 4 is supported.

DISCUSSION AND CONCLUSION

This paper discusses the mechanism of high-commitment work systems' influence on employees' unethical pro-organizational
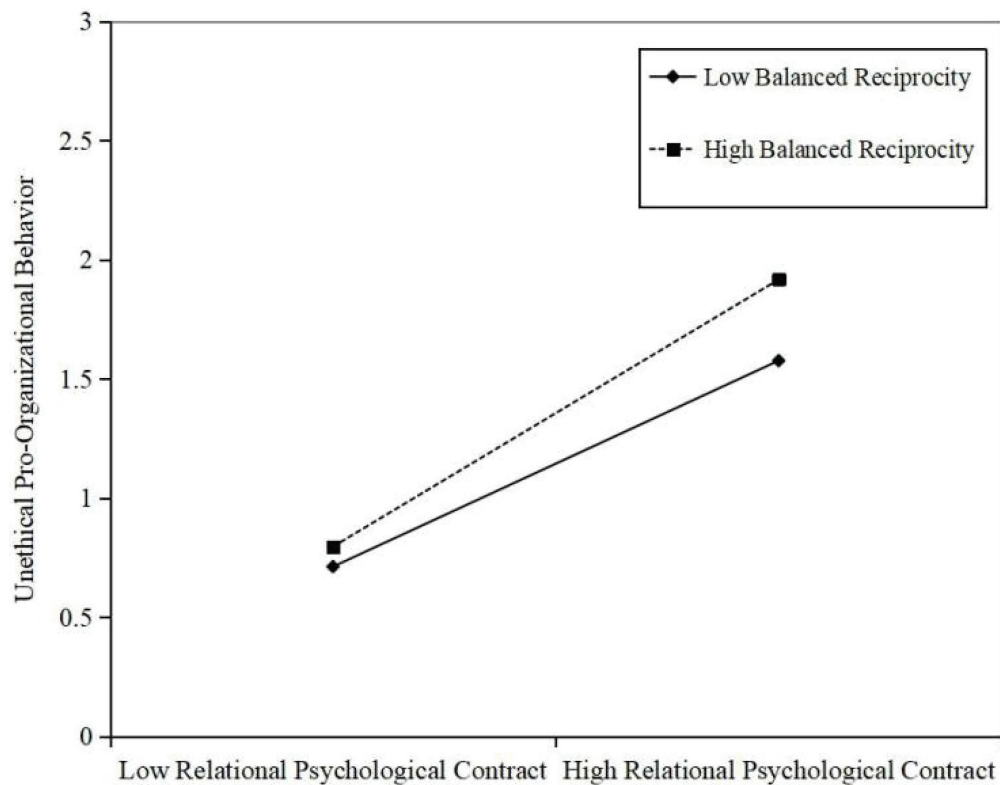
FIGURE 2 | The moderating role of balanced reciprocity beliefs in the relationship between relational psychological contract and unethical pro-organizational behavior.

behavior based on the social exchange theory. The results show that the high-commitment work system is significantly beneficial to establishing relational psychological contracts and directly promotes the occurrence of unethical pro-organizational behavior. The relational psychological contract mediates the influence of high-commitment work systems on employees' unethical pro-organizational behavior. Employees' balanced reciprocity beliefs positively moderate the relationship between relational psychological contract and employees' unethical pro-organizational behavior, and positively moderate the relationship between high-commitment work systems and employees' unethical pro-organizational behavior.

Theoretical Contribution

This research has the following theoretical contributions. First, a review of the literature showed that most current studies on employees' unethical pro-organizational behavior illustrate the occurrence process of such behaviors from the perspective of individual characteristics (e.g., organizational commitment and psychological rights; Umphress et al., 2010; Lee et al., 2019) or relationships (e.g., leadership style and colleague behavior; Miao et al., 2013; Effelsberg et al., 2014), but pay less attention to how the strategic HRM practices at the enterprise level influence employees' unethical pro-organizational behavior. The occurrence of employees' pro-organizational immoral behavior is often related to the specific management practice at the enterprise level, which is because the specific measures of strategic human resource

TABLE 3 | Monte Carlo simulation tests the moderated mediating effect.

Dependent variables	Balanced reciprocity beliefs	Effect value	Standard error	Lower limit	Upper limit
Employees' unethical pro-organizational behavior	High level	0.133**	0.047	0.043	0.230
	Low level	0.097**	0.034	0.032	0.167
	Difference	0.036*	0.021	0.003	0.085

**indicates p < 0.01; *indicates p < 0.05.
Bootstrap times are 20, 000.

management implemented by enterprises have the most direct and close contact with employees (Chang et al., 2014). The "effective solutions" implemented by the organization and managers may inhibit the occurrence of employees' unethical behavior as expected by the organization but may also stimulate employees' pro-organizational unethical behavior. Therefore, this study discusses that the implementation of high-commitment work systems that provide employees with many "benefits" is more likely to prompt employees to ignore ethical standards for the sake of the organization's benefit, resulting in unethical behavior. This paper's research conclusion effectively responds to the call put forward by scholars to study how to effectively avoid employees' unethical pro-organizational behavior from the perspective of organizational context (Kalshoven et al., 2016), and to some

extent, expands the research on the influencing factors that lead to the occurrence of employees' unethical pro-organizational behavior.

Secondly, previous studies have emphasized more on the positive role of social exchange, while ignoring the possible negative consequences of social exchange. The emergence of employees' unethical pro-organizational behavior is one of the evidences of the negative impact of social exchange (Kalshoven et al., 2016). Similarly, the "employee centered" high-commitment work systems aim to strengthen employees' commitment to the organization, establish a good relational psychological contract between employees and the organization, promote the realization of organizational goals, and help employees achieve their own development. Consistent with the outcome variables expected by the organization, scholars pay more attention to and investigate the impact of high-commitment work systems on employees' positive attitude and behavior (Farndale et al., 2011). In fact, based on the principle of social exchange, the implementation of high-commitment work systems may also promote employees to show behaviors beyond the expectations of the organization, including immoral behaviors that lose the long-term interests of the organization, which will have a fatal impact on the organization and employees. Therefore, this study's conclusion is a useful supplement to the mechanism of how the previous organizational human resource management practices affect the employees' unethical pro-organizational behavior, and at the same time, enriches the studies on the negative consequences brought by implementing high-commitment work systems.

Thirdly, based on the perspective of reciprocity principle of social exchange theory, this study explains the internal mechanism between high-commitment work system and employees' pro-organizational unethical behavior, and finds that the high-commitment work system implemented by the organization promotes employees to take pro-organizational unethical behavior to repay the organization by establishing and maintaining employees' relational psychological contract. Although in previous studies, scholars have used social exchange theory to explain the mediating mechanism of pro-organizational immoral behavior (Umphress et al., 2010), no research has tested the role of psychological contract during this process. Therefore, this study makes contribution by selecting the relational psychological contract that has received less attention in the past but has a long-term mutually beneficial relationship with enterprises as mediator, revealing the mechanism of the impact of high-commitment work system on employees' pro-organizational unethical behavior, and retesting the explanation of social exchange theory for pro-organizational unethical behavior.

Finally, this study investigates the balanced reciprocity beliefs as a contingency factor, influencing the occurrence of unethical pro-organization behaviors. According to the social exchange theory, the individual's perception of the degree of reciprocity with the organization will lead the individual to adopt different behaviors. Employees with a firm belief in balanced reciprocity will more likely show unethical pro-organizational behavior to maintain an excellent relational psychological contract with the organization. Therefore, this study incorporated the balanced reciprocity beliefs as an individual factor into the research

framework of the influence of high-commitment work systems on employees' unethical pro-organizational behavior and considered the joint effect by organizational context factors and personal factors on the occurrence of employees' unethical pro-organizational behavior. This study's conclusions contribute to a more comprehensive understanding of the boundary conditions of organizational HRM practices affecting unethical pro-organizational behavior.

Practical Inspiration

This research also has specific management significance. First of all, managers should be vigilant against the occurrence of employees' pro-organizational unethical behavior, and put forward relevant management suggestions. Although in the short term, employees' pro-organizational unethical behavior may benefit the organization, several related events (e.g., "Enron event" and "Sanlu melamine include") show that the occurrence of such behavior will not only affect the economic benefits of the organization, but also damage the reputation of the organization. Therefore, managers should try their best to make employees realize that the organization cannot tolerate the occurrence of unethical behavior and cannot make employees mistakenly believe that pro-organization unethical behavior is the default or advocacy of the organization. Employees should be encouraged to match the organizational culture and values of the enterprise's long-term development for the sake of the long-term development of the organization.

Secondly, the study concludes that implementing high-commitment work systems may lead to employees' unethical pro-organizational behavior, and thus provides suggestions for enterprises' managers. Even the high-commitment work systems committed to the common development of employees and organizations may have a negative impact. Therefore, in the process of implementing the high-commitment work systems, attention should be paid to avoid or reduce the possibility of employees' unethical pro-organizational behavior, such as selecting employees with high moral level in recruitment, inform employees of correct moral values and code of conduct during training, include moral evaluation standards in the evaluation, regular lectures, and thematic discussions on ethics (Xu and Lv, 2018). In short, in the recruitment, training and daily management of employees, enterprises should pay attention to cultivating employees' awareness of social responsibility and guiding employees to work in a correct way.

Thirdly, with relational psychological contract as a "double-edged sword," managers should pay attention to the benign social exchange relationship between employees and organizations, carry out human resource management practices conducive to the establishment of trust and long-term exchange relationship. Enterprises should be trustworthy and keep their promises, and maintain the psychological contract with employees by actively fulfilling their commitments, and furthermore guide the pro-organizational behavior that employees may make in order to repay the organization. At the same time, department leaders, heads of human resources management department, and other managers should still pay attention to the observation of employees' behavior after the establishment of relational psychological contract, so as to reduce or avoid employees'

unethical behavior for legitimate reasons, such as meeting organizational expectations and returning to the organization.

Finally, managers should be aware of the positive and negative impact of employees' belief in balanced reciprocity on their behavior. On the one hand, we should build an effective incentive mechanism of balance and mutual benefit, give timely incentives and feedback to employees' work results, and create an organizational atmosphere of mutual benefit; On the other hand, a high level of belief in balanced reciprocity may also stimulate employees' unethical pro-organizational behavior. Therefore, managers should carefully cultivate employees' belief in equality and reciprocity, and emphasize employees' moral and ethical awareness while establishing clear moral norms (Liu et al., 2020).

LIMITATIONS AND FUTURE RESEARCH

This study still has the following limitations, which should be further improved in the follow-up study. Firstly, in terms of research design, this study mainly verifies the theoretical model through empirical research. The research results are based on cross-sectional data, that is, the data of main variables and control variables of this study are collected at the same time point. Therefore, future research can provide more convincing evidence for research hypotheses through vertical research. In addition, the human resources managers and employees of each research unit are invited to fill in the questionnaire. Although the data sources are different, they may still be affected by the common method deviation. Then, the follow-up research can consider improving the external validity of the data through experimental design or collecting objective data. For example, besides the traditional questionnaire measurement method, some scholars use scenario to measure employees' unethical pro-organizational behavior (Wang et al., 2021), which is worthy of reference for future scholars in empirical research.

Secondly, this study is still an intermediary mechanism proposed under the framework of social exchange theory, which is similar to previous empirical studies on employees' pro-organizational immoral behavior, but it needs to be further

explored whether there are other possible mechanisms (such as cognitive imbalance, social comparison, and negative affect), to promote or inhibit employees to engage in unethical pro-organizational behavior (Chen et al., 2016; He et al., 2020), for the purpose of continuously expanding the research on the intermediary mechanism of employees' unethical pro-organizational behavior. Also, this study mainly focuses on the moderator role of employees' belief in balanced reciprocity in the generation of their pro-organizational immoral behavior. Follow-up research can further explore whether there are different contextual variables (such as organizational ethical atmosphere and organizational culture) or individual factors (such as values and power distance) influencing employees' judgment on ethical standards, so as to stimulate or inhibit the possibility of unethical pro-organizational behavior (Graham et al., 2019; He et al., 2020).

Lastly, although this study controlled the relevant demographic variables from the individual and organizational levels, from the perspective of data analysis, the controlled variables did not have a substantive impact on the research results. Therefore, scholars can consider putting forward effective controlled variables on the basis of theoretical reasoning.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

FUNDING

REFERENCES

Alexandra, I. (2012). *Unethical pro-Organizational Behaviors: Antecedents and Boundary Conditions*. Tampa, FL: University of South Florida.

Ali, M., Li, Z., Khan, S., Shah, S. J., and Ullah, R. (2020). Linking humble leadership and project success: the moderating role of top management support with mediation of team-building. *Int. J. Manag. Proj. Bus.* 14, 545–562. doi: 10.1108/IJMPB-01-2020-0032

Arthur, J. B. (1994). Effects of human resource systems on manufacturing performance and turnover. *Acad. Manag. J.* 37, 670–687. doi: 10.5465/256705

Becker, G. S. (1968). Crime and punishment: an economic approach. *J. Polit. Econ.* 76, 169–217. doi: 10.1086/259394

Blau, P. (1964). *Exchange and Power in Social Life*. New York: Wiley.

Bowen, D. E., and Ostroff, C. (2004). Understanding HRM-financial performance linkages: The role of the "strength" of the HRM system. *Acad. Manag. Rev.* 29, 203–221. doi: 10.5465/amr.2004.12736076

Bredewold, F., Tonkens, E., and Trappenburg, M. (2016). Solidarity and reciprocity between people with and without disabilities. *J. Community Appl. Soc. Psychol.* 26, 534–550. doi: 10.1002/casp.2279

Brislin, R. W. (1970). Back-translation for crosscultural research. *J. Cross-Cult. Psychol.* 1, 185–216. doi: 10.1177/135910457000100301

Chang, S., Jia, L. D., Takeuchi, R. K., and Cai, Y. H. (2014). Do high-commitment work systems affect creativity? A multilevel combinational approach to employee creativity. *J. Appl. Psychol.* 99, 665–680. doi: 10.1037/a0035679

Chen, M., Chen, C., and Shelton, O. J. (2016). Relaxing moral reasoning to win: how organizational identification relates to unethical pro-organizational behavior. *J. Appl. Psychol.* 101, 1082–1096. doi: 10.1037/apl0000111

Chen, M., and Liang, J. (2017). High performance expectation and unethical pro-organizational behavior: social cognitive perspective. *Acta Psychol. Sin.* 49, 94–105. doi: 10.3724/SP.J.1041.2017.00094

Choi, B. K., Moon, H. K., Ko, W., and Kim, K. M. (2014). A cross-sectional study of the relationships between organizational justices and OCB: roles

of organizational identification and psychological contracts. *Leadersh. Org. Dev. J.* 35, 530–554. doi: 10.1108/LODJ-08-2012-0103

Cropanzano, R., and Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *J. Manag.* 31, 874–900. doi: 10.1177/0149206305279602

Effelsberg, D., Solga, M., and Gurt, J. (2014). Transformational leadership and follower's unethical behavior for the benefit of the company: A two-study investigation. *J. Bus. Ethics* 120, 81–93. doi: 10.1007/s10551-013-1644-z

El Akremi, A., Vandenberghe, C., and Camerman, J. (2010). The role of justice and social exchange relationships in workplace deviance: test of a mediated model. *Hum. Relat.* 63, 1687–1717. doi: 10.1177/0018726710364163

Farndale, E., Hope-Hailey, V., and Kelliher, C. (2011). High commitment performance management: The roles of justice and trust. *Pers. Rev.* 40, 5–23. doi: 10.1108/00483481111095492

Gouldner, A. W. (1960). The norm of reciprocity. *Am. Sociol. Rev.* 25, 161–167. doi: 10.2307/2092623

Graham, K. A., Resick, C. J., Margolis, J. A., Shao, P., Hargis, M. B., and Kiker, J. D. (2019). Egoistic norms, organizational identification, and the perceived ethicality of unethical pro-organizational behavior: A moral maturation perspective. *Hum. Relat.* 73, 1249–1277. doi: 10.1177/0018726719862851

Hauff, S., Alewell, D., and Hansen, N. K. (2014). HRM systems between control and commitment: occurrence, characteristics and effects of HRM outcomes and firm performance. *Hum. Resour. Manag. J.* 24, 424–441. doi: 10.1111/1748-8583.12054

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: current research status and future research directions. *Front. Psychol.* 12:748237. doi: 10.3389/fpsyg.2021.748237

He, P., Peng, Z., Zhao, H., and Estay, C. (2019). How and when compulsory citizenship behavior leads to employee silence: a moderated mediation model based on moral disengagement and supervisor–subordinate guanxi views. *J. Bus. Ethics* 155, 259–274. doi: 10.1007/s10551-017-3550-2

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020). Linking work-related and non-work-related supervisor-subordinate relationships to knowledge hiding: A psychological safety lens. *Asian J. Bus. Manag.* 1–22. doi: 10.1057/s41291-020-00137-9

He, P., Zhou, Q., Zhao, H., Jiang, C., and Wu, Y. J. (2020). Compulsory citizenship behavior and employee creativity in China: creative self-efficacy as a mediator and negative affect as a moderator. *Front. Psychol.* 11:1640. doi: 10.3389/fpsyg.2020.01640

Hui, C., Lee, C., and Rousseau, D. M. (2004). Psychological contract and organizational citizenship behavior in China: investigating generalizability and instrumentality. *J. Appl. Psychol.* 89, 311–321. doi: 10.1037/0021-9010.89.2.311

Huseman, R. C., Hatfield, J. D., and Miles, E. W. (1987). A new perspective on equity theory: The equity sensitivity construct. *Acad. Manag. Rev.* 12, 222–234. doi: 10.2307/258531

Janssens, M., Sels, L., and Brande, I. V. (2003). Multiple types of psychological contracts: A six-cluster solution. *Hum. Relat.* 56, 1349–1378. doi: 10.1177/00187267035611004

Jawahar, I. M., Schreurs, B., and Mohammed, S. J. (2018). How and when LMX quality relates to counterproductive performance: a mediated moderation model. *Career Dev. Int.* 23, 557–575. doi: 10.1108/CDI-05-2018-0134

Jepsen, D. M., and Rodwell, J. J. (2012). Lack of symmetry in employees' perceptions of the psychological contract. *Psychol. Rep.* 110, 820–838. doi: 10.2466/01.07.21.28.PR0.110.3.820-838

Kalshoven, K., van Dijk, H., and Boon, C. (2016). Why and when does ethical leadership evoke unethical follower behavior? *J. Manag. Psychol.* 31, 500–515. doi: 10.1108/JMP-10-2014-0314

Kehoe, R. R., and Collins, C. J. (2017). Human resource management and unit performance in knowledge-intensive work. *J. Appl. Psychol.* 102, 1222–1236. doi: 10.1037/apl0000216

Kehoe, R. R., and Wright, P. M. (2013). The impact of high-performance human resource practices on employees' attitudes and behaviors. *J. Manag.* 39, 366–391. doi: 10.1177/0149206310365901

Latorre, F., Guest, D., Ramos, J., and Gracia, F. J. (2016). High commitment HR practices, the employment relationship and job performance: A test of a mediation model. *Eur. Manag. J.* 34, 328–337. doi: 10.1016/j.emj.2016.05.005

Lee, A., Schwarz, G., Newman, A., and Legood, A. (2019). Investigating when and why psychological entitlement predicts unethical pro-organizational behavior. *J. Bus. Ethics* 154, 109–126. doi: 10.1007/s10551-017-3456-z

Lepak, D. P., and Snell, S. A. (1999). The human resource architecture: Toward a theory of human capital allocation and development. *Acad. Manag. Rev.* 24, 31–48. doi: 10.5465/amr.1999.1580439

Lewicki, J. R. (1983). "Lying and deception: a behavioral model," in *Negotiating in Organizations*. eds. M. H. Bazerman and R. J. Lewicki (Beverly Hills, CA: Sage), 68–90.

Li, H., Chen, T., and Cao, G. (2017). How high-commitment work systems enhance employee creativity: A mediated moderation model. *Soc. Behav. Personal. Int. J.* 45, 1437–1450. doi: 10.2224/sbp.6514

Liu, Z., Liao, H., and Liu, Y. (2020). For the sake of my family: understanding unethical pro-family behavior in the workplace. *J. Organ. Behav.* 41, 638–662. doi: 10.1002/job.2463

Liu, S., Lin, X., and Hu, W. (2013). How follower's unethical behavior is triggered by leader-member exchange: the mediating effect of job satisfaction. *J. Soc. Behav. Pers.* 41, 357–366. doi: 10.2224/sbp.2013.41.3.357

MacNeil, I. R. (1985). Relational contracts: what we do and do not know. *Wis. Law Rev.* 3, 483–525.

Marks, A. (2001). Developing a multiple foci conceptualization of the psychological contract. *Empl. Relat.* 23, 454–469. doi: 10.1108/EUM0000000005897

Miao, Q., Newman, A., Yu, J., and Xu, L. (2013). The relationship between ethical leadership and unethical pro-organizational behavior: linear or curvilinear effects? *J. Bus. Ethics* 116, 641–653. doi: 10.1007/s10551-012-1504-2

Morrison, E. W., and Robinson, S. L. (1997). When employees feel betrayed: A model of how psychological contract violation develops. *Acad. Manag. Rev.* 22, 226–256. doi: 10.2307/259230

Mostafa, A. M. S., Bottomley, P., Gould-Williams, J., Abouarghoub, W., and Lythreatis, S. (2019). High- commitment human resource practices and employee outcomes: The contingent role of organisational identification. *Hum. Resour. Manag. J.* 29, 620–636. doi: 10.1111/1748-8583.12248

Peyton, T., Zigarmi, D., and Fowler, S. N. (2019). Examining the relationship Between leaders' power use, followers' motivational outlooks, and followers' work intentions. *Front. Psychol.* 9:2620. doi: 10.3389/fpsyg.2018.02620

Raja, U., Johns, G., and Ntalianis, F. (2004). The impact of personality on psychological contracts. *Acad. Manag. J.* 47, 350–367. doi: 10.5465/20159586

Robinson, S. L., and Rousseau, D. M. (1994). Violating the psychological contract: not the exception but the norm. *J. Organ. Behav.* 15, 245–259. doi: 10.1002/job.4030150306

Rousseau, D. M. (1989). Psychological and implied contracts in organizations. *Empl. Responsib. Rights J.* 2, 121–139.

Rousseau, D. M. (1990). New hire perceptions of their own and their employer's obligations: A study of psychological contracts. *J. Organ. Behav.* 11, 389–400. doi: 10.1002/job.4030110506

Rousseau, D. M. (1995). *Psychological Contract in Organizations: Understanding Written and Unwritten Agreements*. Thousand Oaks: Sage.

Rousseau, D. M., and Schalk, R. (2000). "Lessons from cross-national perspectives on psychological contracts," in *Psychological Contracts in Employment: Cross-National Perspectives* (Newbury Park, CA: Sage), 283–304.

Sahlins, M. (1972). *Stone Age Economics*. New York: Aldine de Gruyter.

Smith, M. L. (2003). Reciprocity and social exchange relationships in organizations: examining why and how individuals contribute to organizational social capital. Dissertation abstracts international section A: humanities and social sciences, 64(1-A), 219. Doctoral dissertation. Pennsylvania: University of Pittsburgh

Sparrowe, R. T., and Liden, R. C. (1997). Process and structure in leader-member exchange. *Acad. Manag. Rev.* 22, 522–552. doi: 10.5465/amr.1997.9707154068

Suazo, M. M., MartÍnez, P. G., and Sandoval, R. (2009). Creating psychological and legal contracts through human resource practices: a signaling theory perspective. *Hum. Resour. Manag. Rev.* 19, 154–166. doi: 10.1016/j.hrmr.2008.11.002

Sun, L. Y., Aryee, S., and Law, K. S. (2007). High-performance human resource practices, citizenship behavior, and organizational performance: A relational perspective. *Acad. Manag. J.* 50, 558–577. doi: 10.5465/amj.2007.25525821

Thau, S., Derfler-Rozin, R., Pitesa, M., Mitchell, M. S., and Pillutla, M. M. (2015). Unethical for the sake of the group: risk of social exclusion and pro-group unethical behavior. *J. Appl. Psychol.* 100, 98–113. doi: 10.1037/a0036708

Umphress, E. E., and Bingham, J. B. (2011). When employees do bad things for good reasons : examining unethical pro-organizational behaviors. *Organ. Sci.* 22, 621–640. doi: 10.1287/orsc.1100.0559

Umphress, E. E., Bingham, J. B., and Mitchell, M. S. (2010). Unethical behavior in the name of the company: the moderating effect of organizational identification and positive reciprocity beliefs on unethical pro-organizational behavior. *J. Appl. Psychol.* 95, 769–780. doi: 10.1037/a0019214

Vadera, A. K., and Pratt, M. G. (2013). Love, hate, ambivalence, or indifference? A conceptual examination of workplace crimes and organizational identification. *Organ. Sci.* 24, 172–188. doi: 10.1287/orsc.1110.0714

Walton, R. E. (1985). From control to commitment in the workplace. *Harv. Bus. Rev.* 63, 77–84.

Wang, Y., and Li, H. (2019). Moral leadership and unethical pro-organizational behavior: A moderated mediation model. *Front. Psychol.* 10:2640. doi: 10.3389/fpsyg.2019.02640

Wang, T. L., Long, L. R., Zhang, Y., and He, W. (2018). A social exchange perspective of employee-organization relationships and employee unethical pro-organizational behavior: The moderating role of individual moral identity. *J. Bus. Ethics* 159, 473–489. doi: 10.1007/s10551-018-3782-9

Wang, X., Zheng, X. J., and Zhao, S. (2021). Repaying the debt: An examination of the relationship between perceived organizational support and unethical pro-organizational behavior by low performers. *J. Bus. Ethics*, 1–13. doi: 10.1007/s10551-021-04809-0 [Epub ahead of print]

Whitener, E. M. (2001). Do "high commitment" human resource practices affect employee commitment? *J. Manag.* 27, 515–535. doi: 10.1016/S0149-2063(01)00106-4

Wilks, D. C. (2011). Attitudes towards unethical behaviours in organizational settings: An empirical study. *Ethics Prog. Q.* 2, 9–22. doi: 10.14746/eip.2011.2.1

Wu, J. B., Hom, P. W., Tetrick, L. E., Shore, L. M., Jia, L., and Li, C. (2006). The norm of reciprocity: scale development and validation in the Chinese context. *Manag. Organ. Rev.* 2, 377–402. doi: 10.1111/j.1740-8784.2006.00047.x

Wu, M. Z., Shen, B., and Sun, X. L. (2016a). The relationship between organizational commitment and unethical pro-organizational behaviors: The moderating role of moral identity. *J. Psychol. Sci.* 39, 392–398. doi: 10.1007/s10551-021-04809-0

Wu, T. J., Sun, R., and Lin, Z. F. (2016b). The empirical research of the relationship between internal social capital and relational psychological contract and employee' innovation behavior. *J. Interdis. Mathematics* 19, 823–841. doi: 10.1080/09720502.2016.1225933

Xiao, Z. X., and Tsui, A. S. (2007). When brokers may not work: The cultural contingency of social capital in Chinese high-tech firms. *Adm. Sci. Q.* 52, 1–31. doi: 10.2189/asqu.52.1.1

Xu, T., and Lv, Z. (2018). HPWS and unethical pro-organizational behavior: A moderated mediation model. *J. Manag. Psychol.* 33, 265–278. doi: 10.1108/JMP-12-2017-0457

Zhang, Y., He, B., and Sun, X. (2018). The contagion of unethical pro-organizational behavior: From leaders to followers. *Front. Psychol.* 9:1102. doi: 10.3389/fpsyg.2018.01102

Zhao, H. D., and Zhou, J. (2017). Corporate hypocrisy, moral disengagement and unethical pro-organizational behavior: moderated mediating effect. *Foreign Econ. Manag.* 39, 15–28. doi: 10.16538/j.cnki.fem.2017.01.002

Check for
updates

When and How Workplace Helping Promotes Deviance? An Actor-Centric Perspective

Hao Zhang[1], Chunpei Lin[1,2], Xiumei Lai[1] and Xiayi Liu[1,2]*

[1] School of Business Administration, Huaqiao University, Quanzhou, China, [2] Business Management Research Center, Huaqiao University, Quanzhou, China

Despite the vast academic interest in workplace helping, little is known about the impact of different types of helping behaviors on physiological and behavioral ramifications of helpers. By taking the actor-centric perspective, this study attempts to investigate the differential impacts of three kinds of helping behaviors (caring, coaching, and substituting helping) on helpers themselves from the theory of resource conservation. To test our model, 512 Chinese employees were surveyed, utilizing a three-wave time-lagged design, and we found that caring and coaching helping were negatively associated with workplace deviance, whereas substituting helping was positively associated with subsequent workplace deviance. Emotional exhaustion mediated the effects of three helping behaviors on subsequent workplace deviance. Moreover, employees' extrinsic career goals influenced the strength of the relationship between three helping behaviors and emotional exhaustion and the indirect effects of three helping behaviors on subsequent workplace deviance via emotional exhaustion. We discuss the implications of our findings for both theories and practices.

Keywords: caring helping, coaching helping, substituting helping, workplace deviance, emotional exhaustion, extrinsic career goals

INTRODUCTION

In highly turbulent environments, companies have increasingly relied on team-based work, thus increasingly encouraging employees' helping behaviors, which are inherently moral and virtuous in the workplace (Deckop et al., 2003). By taking a social-exchange perspective, scholars have long focused on the "bright side" of workplace helping, defined as "an affiliative and supportive behavior that results in the helper receiving benefits from others at work" (Harari et al., 2021). However, from the perspective of resource conservation, helpers often have different psychological and behavioral responses after their helping behaviors due to the limited resources (Lin et al., 2020). This difference also leads to contradictory conclusions in the existing research on the relationship between helping behavior and its subsequent behavior. Workplace deviance, as one of potential subsequent behaviors of workplace helping (Yam et al., 2017), refers to the voluntary behavior that damages an organization and/or its members by violating important norms in the workplace (Robinson and Bennett, 1995; Bennett and Robinson, 2000). Some employees appreciate that they acquire resources when helping others in the workplace. Workplace helping can trigger positive emotional states of helpers (e.g., authentic pride), which reduce the likelihood of deviant behaviors (Kim et al., 2018). However, some employees hold the view that helping behavior will deplete

their own resources because it is not in their backyards (Koopman et al., 2020). They are prone to take a sense of psychological entitlement to transgress for granted, which makes them feel more comfortable to deviate after helping colleagues (Yam et al., 2017). Some scholars point out that the above contradictory views may be related to the multidimensional structure of helping behavior (Bamberger et al., 2017; Duan et al., 2019). Studies have shown that different types of helping behaviors have completely different effects on the psychology and subsequent behaviors of helpers (Shah et al., 2018; Lee et al., 2019). Therefore, it remains to be further explored as to how and when the different dimensions of helping behaviors will lead to deviating behaviors.

Building on the existing work, we will start from the process of individual resource gain and loss, and draw from conservation of resources theory to examine how different types of workplaces helping may motivate individuals to direct workplace deviant behavior. We address these problems by classifying workplace helping into *caring helping* (i.e., helping colleagues overcome negative emotions; Lee and Allen, 2002), *coaching helping* (i.e., sharing knowledge; Podsakoff et al., 1997), and substituting helping (i.e., substitute colleagues to complete work; McDonald et al., 2018) based on the extent to which a helper engages in helping coworkers. Helping behavior has both the characteristics of resource gain and resource depletion. When a certain type of workplace helping can obtain valuable results that meet personal goals, the helper's perception and emotion toward helping behavior in the workplace will become positive; meanwhile, helping behavior exhibits a resource-enhancing effect. Conversely, when helping colleagues get results that deviate from personal goals and are worthless, the helper's perception and emotions toward helping behavior in the workplace will become negative, and, at this time, helping behavior exhibits a resource depletion effect (Bamberger et al., 2017). The resource depletion effect will worsen the resource condition of the helper, leading to resource depletion, and leaving employees in a desperate situation of resources. Conservation of resources theory states that employees in desperate situations will trigger self-defense mechanisms to obtain resources by implementing irrational and aggressive behaviors, harming the interests of the organization and colleagues (Hobfoll et al., 2018). However, which helping behaviors will produce the effect of resource depletion, and which helping behaviors will produce the effects of resource enrichment, the current research literature does not give a clear response to the above questions. As mentioned above, it is highly likely that different workplace helping behaviors lead to different resource outcomes.

To model the relationship between different styles of workplace helping and subsequent deviance, we adopt a resource-based framework. Specifically, we draw upon conservation of resources theory to propose that caring and coaching helping is less *emotional exhausting* (i.e., feeling of "psychological resource availability"; Lin et al., 2020) to helpers than substituting helping. Unlike caring and coaching helping, helpers engaged in substituting helping are more emotionally exhausted because they spend more time and effort. We posit that

this increased emotional exhaustion, in turn, triggers workplace deviance in resource-exhausted circumstances. Furthermore, we argue that the effects of workplace helping will depend on the helpers' *extrinsic career goals* (i.e., an individual's career goals including pursuing short-term extrinsic work outcomes such as salary; Seibert et al., 2013). Helpers with high extrinsic career goals will be more emotionally exhausted because the resource depletion by workplace helping prevents them from extrinsically motivating attributes such as financial rewards (**Figure 1** illustrates our concept model).

The current research contributes to the existing literature in three ways. First, this research is to examine the relationship between different types of workplaces helping and deviance. Previous studies usually regard helping behavior as a whole to explore the relationship between helping behavior and deviant behavior, and draw different or even opposite conclusions (Yam et al., 2017; Koopman et al., 2020). We introduce conservation of resources theory as a theoretical lens that explains how different helping behaviors may lead to different consequences on deviant behavior. Secondly, we contend that emotional exhaustion plays an essential mediating role and in the process of workplace helping behavior to deviance behavior. Emotional exhaustion reflects prolonged physical, affective, and cognitive strain at work (Koopman et al., 2016). Existing research finds a positive relationship between organizational citizenship behavior and emotional exhaustion (Halbesleben and Wheeler, 2011). Helping behavior is a common type of organizational citizenship behavior, but its effect on emotional exhaustion has not been fully explored. In addition, research suggests that emotional exhaustion coexists with feelings of lack of energy, fatigue, anxiety, and frustration (Eissa and Lester, 2018); this is similar to the characteristics of deviant behavior. Third, we introduce extrinsic career goals as a moderating variable to clarify the important boundary effect of different types of helping behaviors. Previous study argues that employees are likely to have varying degrees of extrinsic career goals (Seibert et al., 2013). Extrinsic career goals play an important part in value judgment that affects employees' investment in resources; few studies consider their connection with organizational citizenship behavior and emotions.

THEORETICAL BACKGROUND AND HYPOTHESES

Workplace Helping and Workplace Deviance

Workplace helping includes caring helping, coaching helping, and substituting helping. Caring helping means that the helper does not directly intervene in the tasks related to the work but invests emotional resources to care for the recipient, such as helping colleagues overcome negative emotions (Lee and Allen, 2002), listen carefully to what your colleagues are saying (Williams and Anderson, 1991; Settoon and Mossholder, 2002), and so on. Coaching helping refers to the way that the helper helps others to improve their knowledge and work skills by investing cognitive resources to impart knowledge to the
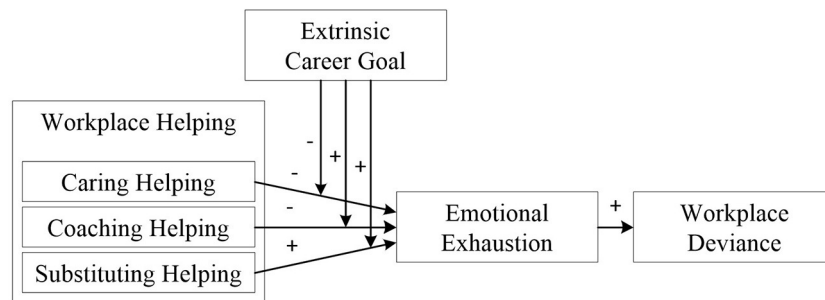
FIGURE 1 | The conceptual mode of this research.

recipients and to provide advice and suggestions, which mainly include the sharing of professional knowledge (Podsakoff et al., 1997), sharing innovative ideas (Van Dyne et al., 1994), and so on. Substituting helping means that the helper directly intervenes in the work related to the recipient's help-seeking matter as a substitute by devoting all resources and fully or partially assumes additional work responsibilities, including sharing heavy tasks (Farh et al., 1997), substitute colleagues to complete work (McDonald et al., 2018), etc. Different types of helping behaviors input different resources, and the mechanisms for obtaining resource returns are also different.

Workplace deviance has been labeled as counterproductive behavior, antisocial behavior, or deviant workplace behavior, which affects almost all organizations (Robinson and Bennett, 1995; Robinson and O'Leary-Kelly, 1998). The antecedents of deviant behavior mainly include individual-level factors and situation-specific or organizational factors (Nair and Bhatnagar, 2011). Employees who deviate in the workplace are labeled as uncomfortable, irresponsible, or emotionally unstable (Mount et al., 2006; Berry et al., 2007), while those who help colleagues in the workplace are often considered as pro-social, pleasant, or conscientious in the organization (Organ, 1988; Lin et al., 2020). Previous studies have argued that these contradictory personal traits are difficult to concentrate on the same individual (Berry et al., 2007). Therefore, the behaviors of "good citizens" that damage the organization and colleagues are mainly affected by situational factors. Job stressors (such as helping pressure) are considered to be one of the situational inducements for deviant behaviors in the workplace (Meier and Spector, 2013; Koopman et al., 2020). Take helping pressure as an example. When supervisors actively encourage subordinates to help colleagues, or when subordinates feel that they should actively respond to colleagues' requests for help, subordinates will feel pressure to help, which will adversely affect their own cognition and emotions. At the cognitive level, helping colleagues will put pressure on helpers, making individuals inclined to be more morally disengaged (He et al., 2019), and causing employees to be unable to effectively restrain their own behavior; at the emotional level, individuals under heavy pressure will have more negative emotions and are more likely to vent their dissatisfaction by harming the interests of the organization or colleagues (Koopman et al., 2020). In addition, helping pressure can also

allow employees to gain a sense of psychological entitlement so that the implementation of deviant behaviors can obtain permission on the level of moral perception (Yam et al., 2017).

Whether it is failures in self-regulation, venting ones anger, moral entitlement or disengagement, the reason why a helper becomes a perpetrator can be attributed to a sense of help pressure. Conservation of resources theory provides a more comprehensive and complete explanation framework for the influence mechanism of workplace helping behavior on deviant behavior. First of all, conservation of resources theory supports the idea that resources are perceived as anything that contribute to the achievement of individual goals (Halbesleben et al., 2014). Preserving, protecting, and obtaining resources are the main strategies for individuals to cope with stress (Hobfoll, 1989); both potential and actual loss of resources will cause individual tension and pressure (Hobfoll, 1989; Hobfoll et al., 2018). Secondly, workplace helping behavior is a double-edged sword for helpers, which can both eliminate and generate resources (Bamberger et al., 2017; Lin et al., 2017). Because of this, many inconsistent conclusions have emerged in the process of studying the impact of helping behaviors in the workplace. Scholars speculate that this is related to the multidimensional structural characteristics of helping behaviors in the workplace (Bamberger et al., 2017; Shah et al., 2018; Duan et al., 2019). Some types of helping behaviors (such as concerning and compassionating for colleagues) will consume fewer resources, while other types of helping behaviors (such as replacing absent colleagues to complete corresponding tasks) require the helper to devote all physical, cognitive, and emotional resources. Finally, the helping behavior that consumes more resources will become a source of stress and cause the resource exhaustion of the helper. In order to get rid of the resource dilemma, in the absence of external resource support, individuals are forced to activate the self-defense mode and supplement resources through improper means, thereby harming the interests of the organization and colleagues (Hobfoll et al., 2018).

According to the work engagement theory, the resources that employees can invest in their work include physical, cognitive, and emotional resources (Kahn, 1990). On the basis of previous research (Williams and Anderson, 1991; Van Dyne et al., 1994; Farh et al., 1997; Podsakoff et al., 1997; Lee and Allen, 2002; Settoon and Mossholder, 2002; McDonald et al.,

2018), we explore the influence of three different types of helping behaviors on deviant behaviors from the perspective of helpers.

In terms of resource loss, the three types of helping behaviors require the helper to invest resources, but there are differences in the amount of resource loss. By analyzing the resource competition between the three types of helping behaviors and jobs, the differences can be better understood. Compared with caring and coaching helping, substituting helping will squeeze the time and energy of the helper and have the greatest impact on their own work (Bergeron, 2007). In terms of resource return, all three types of helping behaviors can gain resources, but there are significant differences in the cycle of resource gains. Caring and coaching helping occurs in work situations where the helper and the recipient are present at the same time, which contributes the helper to receive positive feedback and gratitude from the recipient in a shorter period (Lee et al., 2019). In sharp contrast, substituting helping occurs when the recipient is absent, which is not conducive to the resource gain spirals (McDonald et al., 2018). From the perspective of comprehensive resource loss and gain, caring and coaching helping is more likely to form a net increase in resources and stimulate a spiral of resource enhancement for the helper, while substituting helping is more likely to cause a net loss of resources and stimulate the helper's resource depletion (Hobfoll et al., 2018). Therefore, unlike caring and coaching helping, substituting helping will cause pressure on the helper, worsen the resource status, and more easily stimulate the helper's self-defense mechanism, leading to deviant behavior (Hobfoll et al., 2018). We thus hypothesize the following:

H1a: Caring helping is negatively related to workplace deviance.

H1b: Coaching helping is negatively related to workplace deviance.

H1c: Substituting helping is positively related to workplace deviance.

The Mediating Role of Emotional Exhaustion

Emotional exhaustion is a manifestation of psychological stress that exhausts emotions and psychological resources (Verhoeven et al., 2003), which can be used to measure the availability of psychological resources (Lin et al., 2020). Emotional exhaustion is caused by persistent high work demands and workplace troubles (Eissa and Lester, 2018). Conservation of resources theory provides a theoretical explanation for whether and under what circumstances workplace helping behavior will lead to emotional exhaustion of the helper. According to the viewpoint of conservation of resources theory, when a kind of helping behavior causes a net loss of individual resources, the resource loss spiral will accelerate the loss of resources, causing the helpers to fall into resource dilemma, and the lack of resources will eventually lead to emotional exhaustion (Hobfoll et al., 2018). Caring and coaching help requires a lower amount of resources and has less resource conflict with their own work (Bergeron, 2007); on the other hand, substituting help requires the helper

to share the workload of other colleagues and spare no effort solve the problems of other colleagues and affect the progress of the job (Koopman et al., 2016). Continuous substitution has helped to increase the job needs of helpers, causing trouble to their jobs, and being more prone to emotional exhaustion (Eissa and Lester, 2018).

Here, we believe that emotionally exhausted helpers will increase their deviant behaviors because they lack sufficient physical, cognitive, and emotional resources, accompanied by feelings of insufficient energy, fatigue, anxiety, and depression (Eissa and Lester, 2018), making it difficult for them to manage interpersonal relationships and conflicts of work resources (Jahanzeb and Fatima, 2018). According to the resource desperation principle of resource conservation theory, in order to get rid of desperation, individuals with exhausted resources will trigger self-defense mechanisms and make offensive and irrational behaviors to promote changes in stressors or promote new resource strategies (Hobfoll et al., 2018). The deviating behavior from the perspective of resource preservation is, actually, the self-defense behavior of an individual to get rid of the stressor in the desperate situation of resources. Empirical data also support the positive correlation between emotional exhaustion and deviant behavior (Mulki et al., 2006; Kong et al., 2020).

In summary, considering the negative correlation between caring and coaching help and emotional exhaustion, and the positive correlation between emotional exhaustion and deviant behavior, we thus hypothesize the following:

H2a: Emotional exhaustion mediates the relationship between caring helping and workplace deviance.

H2b: Emotional exhaustion mediates the relationship between coaching helping and workplace deviance.

H2c: Emotional exhaustion mediates the relationship between substituting helping and workplace deviance.

The Moderating Roles of Extrinsic Career Goals

Consistent with conservation of resources theory, the resources needed by individuals to cope with stress include personal characteristics, conditions, energy, and material resources. These resources play an important role in obtaining or producing valuable resources (Hobfoll, 2001). Individuals' judgments on resources are subjective. Due to the differences in personal goals, different individuals will get different value judgments when evaluating the same thing (Halbesleben et al., 2014; Hobfoll et al., 2018). When the individual perceives that a certain helping behavior helps to achieve personal goals, the behavior can activate resource gain; on the contrary, the behavior may induce accelerated resource depletion (Hobfoll et al., 2018). Existing studies have shown that pro-social motivation and regulatory focus can affect individuals' value judgments of helping behaviors in the workplace (Koopman et al., 2016; Lanaj et al., 2016; Lin et al., 2017). However, few studies have focused on the impact of employees' career goals. We suspect employees of high extrinsic career goals likely respond

more positively to the resource-depleting effects caused by workplace helping.

Career goals represent the career results that employees strive to achieve (Seibert et al., 2013). It is a personal goal for a specific job or a specific attribute in the job, including the pursuit of extrinsic career goals such as obvious success, status, income, influence, and the pursuit of intrinsic career goals, such as new knowledge, new skills, and engaging in challenging, meaningful, and valuable work (Seibert et al., 2013). Different from intrinsic ones, the achievement of extrinsic career goals (i.e., the pursuit of income and promotion) is more closely related to in-role performance (Bergeron et al., 2013), with which workplace helping will compete for a resource (Bergeron, 2007). Scholars have, in the past, viewed these two forms of career goals as theoretically and empirically independent (Seibert et al., 2013). Based on this, we believe that extrinsic career goals are more likely to affect individuals' value judgments of helping behavior in the workplace.

From the perspective of resource conservation theory, we will discuss the fit between the three types of workplaces helping behaviors and extrinsic career goals, and explore the influence of extrinsic career goals on the relationship between workplace helping behaviors and emotional exhaustion. First of all, caring helping requires the helper to invest in emotional resources, which has little impact on the helper's task performance, but the gratitude and good interpersonal relationship cannot be directly converted into visible extrinsic work rewards (such as salaries and career advancements) (Bergeron et al., 2013). For individuals with high extrinsic career goals, caring helping is inconsistent with their personal goals. Secondly, coaching helping also has a small impact on the job, but by sharing knowledge and skills with colleagues, it can show the advantages of the helper in the organization (He et al., 2020a, 2021). According to the perspective of evolutionary psychology, coaching helping is conducive to improving the status and image of the helper in the organization (Salamon and Deutsch, 2006), in line with the goals of individuals with high extrinsic career goals. Finally, substituting helping will cost a lot of resources, have a negative impact on their own work, damage the helper's task performance improvement, and have an adverse effect on the improvement of work income and status. It is at odds with the personal goals of individuals with high extrinsic goals (Bergeron, 2007). In summary, individuals with high extrinsic career goals will regard coaching helping as resource gaining behaviors, while caring and substituting helping as resource depletion behaviors. When individuals with high extrinsic career goals implement coaching helping, it is more conducive to the helpers to obtain resources and alleviate their emotional exhaustion; when they implement caring helping, they are prone to resource loss, which offsets the resource recovery of caring helping. When they implement substituting helping, the depletion effect on resources is more significant, resulting in more serious emotional exhaustion. We thus hypothesize the following:

H3a: Extrinsic career goals moderate the relationship between caring helping and emotional exhaustion. When the extrinsic career goals are lower, the negative correlation between caring helping and emotional exhaustion is more significant.

H3b: Extrinsic career goals moderate the relationship between coaching helping and emotional exhaustion. When the extrinsic career goals are higher, the negative correlation between coaching helping and emotional exhaustion is more significant.

H3c: Extrinsic career goals moderate the relationship between substituting helping and emotional exhaustion. When the extrinsic career goals are higher, the positive correlation between substituting helping and emotional exhaustion is more significant.

In addition, based on the previously discussed assumptions, when the extrinsic career goals are lower, the negative impact of caring helping on emotional exhaustion is more significant, and emotional exhaustion is positively correlated with workplace deviance. We have reason to infer that when employees have low extrinsic career goals, caring helping has a greater impact on the negative indirect effect of workplace deviance through emotional exhaustion. Similarly, since the higher the extrinsic career goals, coaching helping has a more significant negative impact on emotional exhaustion, and emotional exhaustion is positively correlated with workplace deviance, we infer that when employees have high extrinsic career goals, coaching helping has a greater impact on the negative indirect effects of workplace deviance through emotional exhaustion. Because the higher the extrinsic career goals, the more significant the positive impact of substituting helping on emotional exhaustion, and emotional exhaustion is positively correlated with workplace deviance, we assume that when employees have high extrinsic career goals, substitutional helping has a greater positive and indirect effect on workplace deviance through emotional exhaustion.

H4a: Extrinsic career goals moderate the indirect effect between caring helping and workplace deviance *via* emotional exhaustion. When the extrinsic goals are lower, the indirect effect is more significant.

H4b: Extrinsic career goals moderate the indirect effect between coaching helping and workplace deviance *via* emotional exhaustion. When the extrinsic goals are higher, the indirect effect is more significant.

H4c: Extrinsic career goals moderate the indirect effect between substituting helping and workplace deviance *via* emotional exhaustion. When the extrinsic goals are higher, the indirect effect is more significant.

METHOD

Participants and Procedures

Data were collected from full-time employees from eight information technology (IT) companies in China from January to March 2020. We intentionally recruited participants from IT industry because they are mainly engaged in team-based work such as software development, and interpersonal helping is a common occurrence in the organization. Before data collection, all 800 respondents were announced to be assured of their voluntary and confidential participation. We conducted three waves of surveys using a code on the questionnaires to link

them. At Time 1, respondents were required to report their levels of caring helping, coaching helping, substituting helping, extrinsic career goals, and control variables (i.e., age, gender, education level, tenure, neuroticism, and agreeableness). At Time 2 (a month after Time 1), the respondents who answered every scale at Time 1 again reported their levels of emotional exhaustion. At Time 3 (2 months after Time 1), the respondents who answered every scale at Time 2 reported their levels of workplace deviance.

About 658 questionnaires of Time 1 were returned at a response rate of 85.25%, 546 of Time 2 and 512 of Time 3. Thus, among the 800 respondents, 512 of them answered every wave of the questionnaire at a full response rate of 64.00% (250 males, 262 females). They are aged 20 to 55 ($M = 38.64$ years, $SD = 8.97$ years), and more than 80% had a university degree or equivalent. Regarding their work contexts, 98.05% of the participants worked for more than 1 year.

The questionnaire process consisted of three time points to meet the needs of the study while reducing the potential for common method bias (Podsakoff et al., 2003). Prior to the study, the participants had voluntarily signed informed consent and were allowed to withdraw at any time. In the first wave of the study, the participants reported on their current extrinsic career goals, agreeableness, neuroticism, demographic information (including gender, age, education level, and tenure), caring, coaching, and substituting helping. In the second wave of the study (a month after the first wave), the participants rated their emotional exhaustion. The third wave of the research (a month after the second wave) focused on measuring the workplace deviance of the participants. Given the secretive nature of workplace deviance and the difficulty of identifying it using direct observation (Fox et al., 2001), we used a self-report questionnaire to measure workplace deviance in our research, again promising the participants the anonymity of this study in order to mitigate concerns of social desirability bias.

Measures

All English-based scales were translated into Chinese according to Brislin (1970)'s procedures to ensure consistency in meaning with the original. To provide more descriptions and increase the probability of fitting the feeling of the respondents, a 7-point Likert scale was used for all scales, with 1 being "totally disagree" and 7 being "totally agree" (Cox, 1980).

Caring, Coaching, and Substituting Helping

Caring, coaching, and substituting helping were measured at Time 1. Based on scales developed by previous research (Williams and Anderson, 1991; Van Dyne et al., 1994; Farh et al., 1997; Podsakoff et al., 1997; Lee and Allen, 2002; Settoon and Mossholder, 2002; McDonald et al., 2018), this study used items analysis, exploratory factor analysis, and confirmatory factor analysis; we developed the scales of caring, coaching, and substituting helping. Results revealed three distinct factors, with all items significantly loading above 0.52 only on their *a priori* factor. Accordingly, we averaged the four items to measure caring helping (a sample item is "I often help colleagues

overcome negative affect"; $\alpha = 0.85$), the six items to measure coaching helping (a sample item is "I share knowledge with colleagues frequently."; $\alpha = 0.89$) and the remaining five items to measure substituting helping (a sample item is "I often assist coworkers with heavy workloads even though it is not part of job."; $\alpha = 0.87$).

Extrinsic Career Goals

Extrinsic career goals were assessed at Time 1 using a 5-item version of Seibert et al. (2013)'s measure ($\alpha = 0.74$). A sample item is "It is important to me to achieve financial success in my career."

Emotional Exhaustion

We adopted Watkins et al. (2015)'s measure to reflect emotional exhaustion of the participants at Time 2 ($\alpha = 0.92$). Sample items are "I feel emotionally drained from my work," "I feel burned out from my work," and "I feel exhausted when I think about having to face another day on the job."

Workplace Deviance

Workplace deviance was measured at Time 3, selecting 10 items from the version of Bennett and Robinson (2000)'s measure ($\alpha = 0.81$ for the organizational deviance; $\alpha = 0.78$ for the interpersonal deviance). Sample items include "Made fun of someone at work" and "Spent too much time fantasizing or daydreaming instead of working."

Control Variables

Consistent with previous research (Yam et al., 2017), we measured age, gender, education level, and tenure at Time 1 to control for their potentially spurious effects. Agreeableness was measured and included as a control variable in the analyses because previous research has demonstrated that they may be related to workplace deviance (Berry et al., 2007). Moreover, because previous research suggests that neuroticism can influence self-reported perception and hence contribute to common method bias (Podsakoff et al., 2003), we measured neuroticism and agreeableness at Time 1 using 12 items each from Costa and McCrae (1992)'s NEO Five-Factor Inventory scale.

Data Analysis

Firstly, since the same self-report method was adopted, the correlation between variables mentioned above may owe to common method bias (Podsakoff et al., 2003). Harman's single-factor test and controlling for the effects of an unmeasured latent method factor (ULMC) are applied to detect common method bias. Harman's single-factor results indicate the loading on a single factor explains 38.57% of total variance, lower than 50% recommended by Podsakoff et al. (2003). The confirmatory factor analysis (CFA) with the unmeasured latent method factor was conducted to test the potential impact of common method bias. Items were allowed to load on an unmeasured latent construct as a common method variance (CMV) factor in the confirmatory factor analysis. Results showed that, compared to original CFA model fit ($\chi^2/df = 2.628$, TLI = 0.961, CFI = 0.964, RMSEA = 0.056), the unmeasured latent construct failed to improve CMV

model fit (χ^2/df = 2.476, TLI = 0.965, CFI = 0.970, RMSEA = 0.054) significantly, indicating common method variance is not a pervasive problem in this study.

Secondly, the analyses were conducted with the structural equation modeling (SEM) approach using Amos 23.0. Under the model, caring, coaching, and substituting helping were directly and indirectly (through emotional exhaustion) associated with workplace deviance. The Chi-square likelihood ratio statistic, the Tucker and Lewis Index (TLI), the Comparative Fit Index (CFI), the Root Mean Square Error of Approximation (RMSEA) were used to evaluated the fit of model. According to Carmines and McIver (1981), a smaller value of Chi-square likelihood ratio indicates a better fit of model. TLI and CFI are recommended to be >0.95 (Hu and Bentler, 1998), and RMSEA values lower than 0.08 (Browne and Cudeck, 1993).

Finally, the moderating effects of extrinsic career goals were examined using Model 7 for PROCESS (Hayes, 2013).

RESULTS

Statistical Description and Correlation Analysis

Table 1 shows the descriptive statistics and correlations among the variables.

Confirmatory Factor Analysis

Before hypotheses testing, we had first conducted confirmatory factor analysis (CFA) to examine whether the measured constructs had discriminant validity. As shown in **Table 2**, CFA results indicated that, compared to other alternative models, the hypothesized 6-factor model fit the data better: $\chi^2_{(578)}$ = 1549.048, χ^2/df = 2.628, TLI = 0.959, CFI = 0.963, RMSEA = 0.057. Thus, the distinctiveness of the focal constructs was supported.

Hypotheses Testing

According to the results of the hierarchical multiple regression analysis in **Table 3**, caring and coaching helping were both negatively related to workplace deviance (β_1 = −0.111, p < 0.1; β_2 = −0.631, p < 0.01; Model 6), while substituting helping was positively related to workplace deviance (β = 0.384, p < 0.01; Model 6). Thus, Hypotheses 1a, 1b, and 1c were supported.

Next, we tested the mediating effects of emotional exhaustion proposed in Hypotheses 2a, 2b, and 2c. Standardized mediation analysis results presented in **Table 4** are based on 5,000 bootstrap replications using the bias-corrected percentile bootstrap method. **Table 4** shows that the indirect effect of caring helping *via* emotional exhaustion on workplace deviance was −0.132 [95% CI = (−0.228, −0.036)]; the indirect effect of coaching helping *via* emotional exhaustion on workplace deviance was −0.215 [95% CI = (−0.268, −0.160)]; the indirect effect of substituting helping *via* emotional exhaustion on workplace deviance was 0.270 [95% CI = (0.201, 0.336)]. Thus, Hypotheses 2a, 2b, and 2c were supported.

In addition, we then tested the moderating effects of extrinsic career goals. Based on the results of the hierarchical multiple regression analysis in **Table 3**, the interaction term of caring

help and extrinsic career goals was significantly and positively associated with emotional exhaustion (β = 0.188, p < 0.01; Model 3). The interaction term of coaching help and extrinsic career goals was significantly and positively associated with emotional exhaustion (β = −0.128, p < 0.01; Model 4). The interaction term of substituting help and extrinsic career goals was significantly and positively associated with emotional exhaustion (β = 0.184, p < 0.01; Model 5). As shown in **Figure 2**, when extrinsic career goals were low, caring helping was more negatively related to workplace deviance (β = −0.564, SE = 0.090, t = −0.263, p < 0.01) than when extrinsic career goals were high, and, thus, Hypothesis 3a was supported. As shown in **Figure 3**, when extrinsic career goals were high, coaching helping was more negatively related to workplace deviance (β = −0.301, SE = 0.044, t = −0.880, p < 0.01) than when extrinsic career goals were low, and, thus, Hypothesis 3b was supported. As shown in **Figure 4**, when extrinsic career goals were high, substituting helping was more positively related to workplace deviance (β = 0.681, SE = 0.051, t = −13.302, p < 0.01) than when extrinsic career goals were low, and, thus, Hypothesis 3c was supported.

The bias-corrected percentile bootstrap method with SPSS further indicated that the indirect effects of three types of helping on workplace deviance through emotional exhaustion were moderated by extrinsic career goals. **Table 5** shows that the indirect effect for caring helping → emotional exhaustion → workplace deviance was stronger and significant for employees in low extrinsic career goals [β = −0.301, 95% IC = (−0.451, −0.161)], but was not significant for those in high extrinsic career goals [β = −0.060, 95% IC = (0.132, 0.031)]; the indirect effect for coaching helping → emotional exhaustion → workplace deviance was stronger and significant for employees in high extrinsic career goals [β = −0.160, 95% IC = (−0.217, −0.113)], but was not significant for those in low extrinsic career goals [β = 0.004, 95% IC = (0.057, 0.067)]; the indirect effect for substituting helping → emotional exhaustion → workplace deviance was stronger and significant for employees in high extrinsic career goals [β = 0.363, 95% IC = (0.285, 0.452)], but was weaker but significant for those in low extrinsic career goals [β = 0.127, 95% IC = (0.081, 0.175)]. Finally, the index of moderated mediation indicated that the moderated mediation effects of extrinsic career goals were significant, thereby supporting Hypotheses 4a, 4b, and 4c.

DISCUSSION

Although prior studies have noted the importance of workplace helping, little is known about how styles of helpers' helping influence their subsequent behaviors (e.g., workplace deviance). The main purpose of our research was to integrate a clear theoretical framework to understand influences of three types of workplaces helping on helpers' subsequent deviant behaviors. Our conceptual framework was proposed from the perspective of the conservation of resources theory to explore the mechanism of the effect and boundary conditions of caring, coaching, and

TABLE 1 | Descriptive statistics and correlations among all variables.

Variables	1	2	3	4	5	6	7	8	9	10	11	12
(1) Gender												
(2) Age	−0.03											
(3) Education	0.02	−0.08										
(4) Tenure	−0.10*	0.59**	−0.04									
(5) Neuroticism	0.03	−0.13**	0.01	−0.20**								
(6) Agreeableness	−0.05	−0.03	0.01	−0.07	−0.17**							
(7) Caring helping	−0.09*	0.01	0.10*	0.08	−0.12**	0.27**						
(8) Coaching helping	−0.07	−0.02	0.06	0.01	−0.07	0.10*	0.29**					
(9) Substituting helping	−0.02	−0.01	−0.00	0.13**	−0.08	0.10*	0.39**	0.25**				
(10) Emotional exhaustion	−0.05	−0.03	−0.08	−0.06	0.14**	−0.00	−0.10*	−0.38**	0.31**			
(11) Extrinsic goal career	0.11*	0.03	0.03	0.03	0.06	−0.05	−0.10*	−0.62**	−0.03	0.45**		
(12) Workplace deviance	0.05	−0.01	−0.06	0.03	0.06	−0.02	−0.12**	−0.60**	0.17**	0.69**	0.61**	
Mean	1.51	38.64	4.97	2.53	2.79	5.71	5.57	5.11	5.39	2.90	2.19	1.99
SD	0.50	8.97	0.56	0.70	1.40	0.92	1.00	1.81	1.59	1.61	1.21	1.72

N = 512. Gender: 1 = male and 2 = female; Education: 1 = primary school, 2 = junior high school, 3 = high school, 4 = college degree, 5 = bachelor's degree, 6 = master's degree, 7 = doctor's degree; Tenure: 1 = <1 year, 2 = 1–5 years, 3 = 6–10 years, 4 = more than 10 years. *p < 0.05, **p < 0.01 (two-tailed test).

TABLE 2 | Results of the confirmatory factor analysis for the main variables.

Factor models	χ^2	df	χ^2/df	CFI	TLI	RMSEA
Single-factor model: CAH+COH+SUH+EE+ECG+WD	11657.610	592	19.692	0.576	0.549	0.191
Two-factor model 1: CAH+COH and SUH+EE+ECG+WD	8489.713	591	14.365	0.697	0.677	0.162
Two-factor model 2: CAH+COH+SUH and EE+ECG+WD	8509.341	591	14.398	0.697	0.677	0.162
Three-factor model 1:CAH and COH and SUH+EE+ECG+WD	6857.587	589	11.643	0.760	0.743	0.144
Three-factor model 2:CAH+COH and SUH and EE+ECG+WD	5303.754	589	9.005	0.819	0.807	0.125
Four-factor model 1:CAH and COH and SUH and EE+ECG+WD	3618.963	586	6.176	0.884	0.875	0.101
Four-factor model 2:CAH+ COH and SUH and EE and ECG+WD	4037.717	586	6.890	0.868	0.858	0.107
Five-factor model 1:CAH and COH and SUH and EE and ECG+WD	2346.294	582	4.031	0.932	0.927	0.077
Five-factor model 2:CAH+COH and SUH and EE and ECG and WD	3242.753	582	5.572	0.898	0.890	0.095
Five-factor model 3:CAH and COH and SUH and EE+ECG and WD	2874.592	582	4.939	0.912	0.905	0.088
Six-factor model	1549.048	578	2.680	0.963	0.959	0.057

CAH, caring helping; COH, coaching helping; SUH, substituting helping; EE, emotional exhaustion; ECG, extrinsic career goals; and WD, workplace deviance.

substituting helping on subsequent workplace deviance and supported by empirical pieces of evidence from China using a three-wave time-lagged design. We found that caring and coaching helping were both negatively related to emotional exhaustion, while substituting helping was positively related to emotional exhaustion, which was negatively related to workplace deviance. Taken together, the findings suggest that, on one hand, caring and coaching helping weakens helpers' subsequent deviant behaviors by reducing their emotional exhaustion. On the other hand, by inducing helpers' emotional exhaustion, substituting helping increases the potential to damage their organization or colleagues. The outcomes of the present study imply that caring and coaching helping should be good for helpers, while substituting helping would hurt them. The results further indicated that extrinsic career goals played a moderating role between three types of workplaces helping and workplace deviance, and moderated the mediating effect of emotional

exhaustion. This finding also points to the fact that helpers of high extrinsic career goals tend to feel more emotionally exhausted after doing caring and substituting helping. We next discuss the theoretical and practical implications of these findings.

Theoretical Implications

A first contribution this study makes to the workplace helping literature is found in the development of the caring, coaching, and substituting helping constructs. Compared with situations and contents of helping (Spitzmuller and Van Dyne, 2013; Bamberger et al., 2017), relatively little research attention has been focused on the styles of helping in the field of helping types. Based on the effort a helper makes to help coworkers, we have divided workplace helping into three types: caring helping, coaching helping, and substituting helping. From the perspective of helping styles of helpers, we developed a

TABLE 3 | Results of hierarchical regression analyses.

Variables	Emotional exhaustion					Workplace deviance	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Control variables							
Gender	−0.287*	−0.350**	−0.315**	−0.366***	−0.393***	0.030	0.182
Age	0.125	0.121	0.129	0.142	0.115	−0.072	−0.139
Education	−0.094	−0.151	−0.123	−0.093	−0.083	−0.060	−0.010
Tenure	−0.259*	−0.278**	−0.272**	−0.272**	−0.298**	0.053	0.192*
Neuroticism	0.144***	0.132**	0.134***	0.134***	0.128**	0.050	−0.027
Agreeableness	0.079	0.078	0.037	0.075	0.068	0.067	0.025
Independent variables							
Caring helping	−0.248***	−0.272***	−0.340***	0.403***	−0.336***	−0.111†	0.022
Coaching helping	−0.402***	−0.230***	−0.216***	−0.146**	−0.140**	−0.631***	−0.416***
Substituting helping	0.506***	0.471***	0.474***	−0.276***	0.459***	0.384***	0.115**
Moderator							
Extrinsic career goals		0.389***	0.418***	0.212**	0.469***		
Interaction							
Caring helping*Extrinsic career goals			0.188***				
Coaching helping*Extrinsic career goals				−0.128***			
Substituting*Extrinsic career goals					0.184***		
Mediator							
Emotional exhaustion							0.533***
Constant	4.004***	3.068***	2.333**	2.638**	6.227***	3.537***	1.401*
R-sq	0.371	0.420	0.443	0.442	0.459	0.469	0.625

$N = 512$, †$p < 0.1$, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

TABLE 4 | Standardized mediation analysis results.

Model paths	Estimate	SE	95% LLCI	95% ULCI	90% LLCI	90% ULCI
Total effect						
Caring helping → Workplace deviance	−0.111	0.065	−0.237	0.087	−0.217	−0.004
Coaching helping → Workplace deviance	−0.631	0.033	−0.695	−0.567	−0.685	−0.577
Substituting helping → Workplace deviance	0.384	0.039	0.307	0.461	0.320	0.449
Direct effect						
Caring helping → Workplace deviance	0.022	0.055	−0.087	0.696	−0.069	0.112
Coaching helping → Workplace deviance	−0.416	0.031	−0.478	−0.355	−0.468	−0.365
Substituting helping → Workplace deviance	0.115	0.038	0.040	0.189	0.052	0.177
Indirect effect						
Caring helping→ Emotional exhaustion → Workplace deviance	−0.132	0.049	−0.228	−0.036	−0.214	−0.050
Coaching helping → Emotional exhaustion → Workplace deviance	−0.215	0.028	−0.268	−0.160	−0.262	−0.170
Substituting helping → Emotional exhaustion → Workplace deviance	0.270	0.035	0.201	0.336	0.214	0.326

board measure of workplace helping that we found to be related to helpers' psychological resources and their subsequent behaviors. Our findings showed, contrary to substituting helping, caring and coaching helping were more negatively related to emotional exhaustion, and the helpers of these two styles were less likely to commit subsequent deviant behaviors. Thus, the distinction between helping styles of helpers proves to be important in explaining the influences of helping on helpers.

A second contribution this study makes is to improve our knowledge of how and when a helpful employee deviates. Workplace deviance of a helper has been considered to be caused by external factors (Yam et al., 2017; Koopman et al., 2020). Our findings revealed that choosing resource-exhausting ways (i.e., substituting helping) to help co-workers can also lead to deviant behaviors. For helpers, helping styles have an impact on their resource allocation and subsequently influence the coping strategies under pressure. Substituting helping can
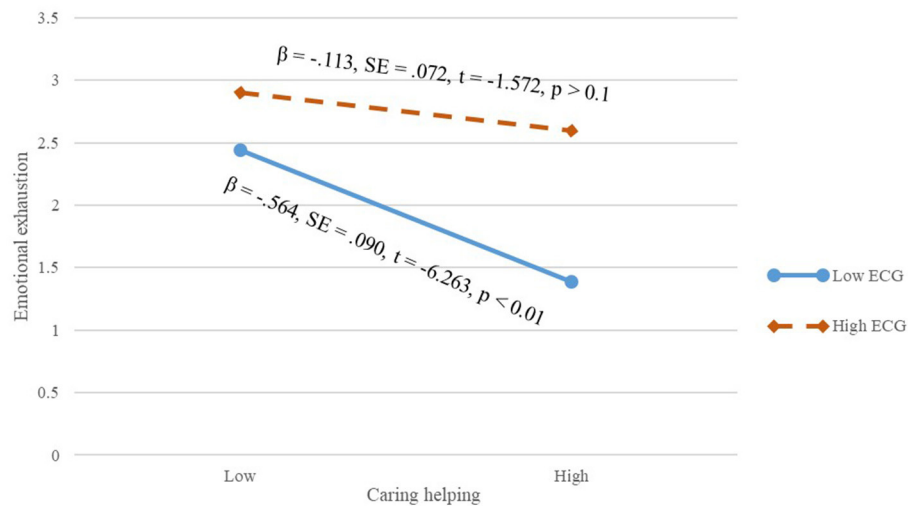
FIGURE 2 | Interactive effect of extrinsic career goals on the relationship between caring helping and employees' emotional exhaustion.
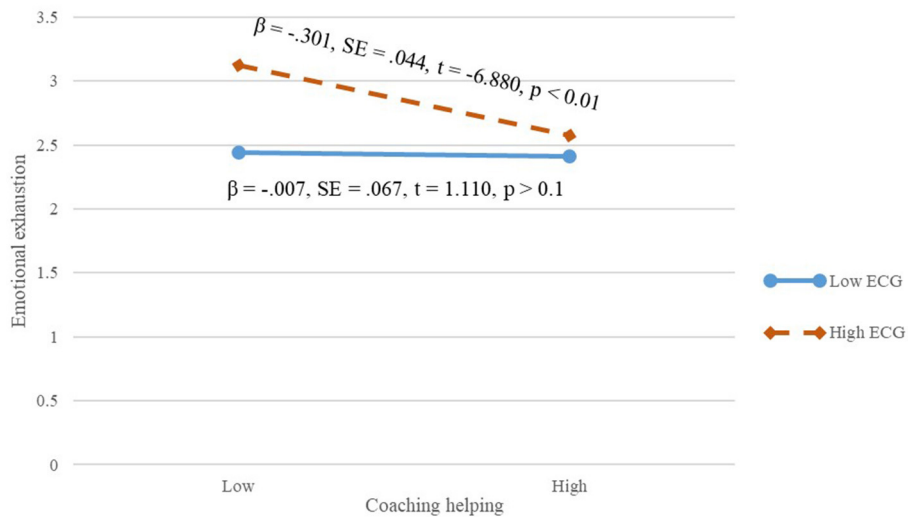
FIGURE 3 | Interactive effect of extrinsic career goals on the relationship between coaching helping and employees' emotional exhaustion.

put the helper in a desperate resource situation, and the helper has to resort to aggressive behavior (i.e., taking advantage of the organization or colleagues) to get out of the situation (Hobfoll et al., 2018). The theoretical model validates our theoretical perspective.

Finally, our research has contributed to apply conservation of resources theory to career goals. Researchers have paid little attention to extrinsic career goals in the field of the conservation of resources theory; however, our results suggest that extrinsic career goals have important implications for the way in which workplace helping is evaluated by helpers. Employees with high extrinsic career goals view helping behaviors that are consistent with their goals as resource acquisition behaviors and *vice versa* as resource depletion behaviors (Hobfoll et al., 2018). Our work,

therefore, serves as a catalyst for further examinations of career goals as a moderator in the literature based on the conservation of resources theory.

Managerial Implications

Workplace helping is essential to organizations, and managers welcome the increasing amount of helping. However, some type of helping is resource depleting and ultimately induces in future deviance in the workplace. Based on the results of this study, the following managerial implications have been proposed:

First, organizations should focus on mentoring helpful employees to reduce emotional exhaustion by choosing appropriate ways to help in order to prevent subsequent deviant behaviors of them. For example, tips for helping colleagues at
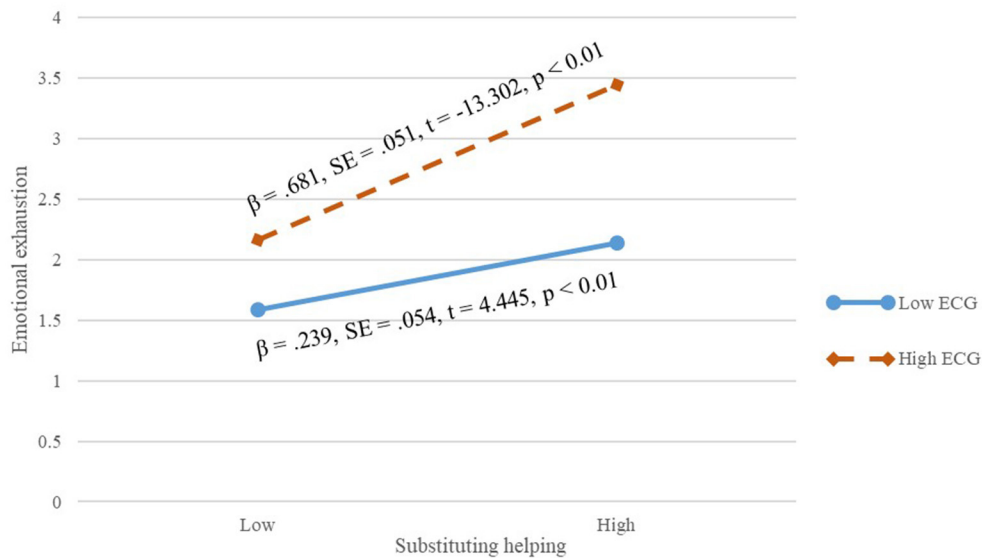
FIGURE 4 | Interactive effect of extrinsic career goals on the relationship between substituting helping and employees' emotional exhaustion.

TABLE 5 | Moderated mediation results.

Moderator variable	Estimate	SE	95% LLCI	95% ULCI
Caring helping → Emotional exhaustion → Workplace deviance				
Extrinsic career goals low	−0.301	0.075	−0.451	−0.161
Extrinsic career goals mean	−0.181	0.050	−0.278	−0.081
Extrinsic career goals high	−0.060	0.042	−0.132	0.031
IMM	0.101	0.028	0.054	0.163
Coaching helping → Emotional exhaustion → Workplace deviance				
Extrinsic career goals low	0.004	0.032	−0.057	0.067
Extrinsic career goals mean	−0.078	0.023	−0.125	−0.035
Extrinsic career goals high	−0.160	0.027	−0.217	−0.113
IMM	−0.069	0.015	−0.101	−0.041
Substituting helping → Emotional exhaustion → Workplace deviance				
Extrinsic career goals low	0.127	0.024	0.081	0.175
Extrinsic career goals mean	0.245	0.028	0.191	0.301
Extrinsic career goals high	0.363	0.042	0.285	0.452
IMM	0.098	0.016	0.069	0.134

IMM, index of moderated mediation.

work should be provided. As such, employees would know when and how to support colleagues at work in the right way. Managers need to be aware that allowing employees to engage in high levels of substituting helping can inadvertently hurt them, who probably harm the organization and other employees in turn. Organizations should identify excessive substituting helping in a timely manner and compensate helpers with resources or replace them with others. For instance, leaders schedule meetings with subordinates to communicate work progress and encourage subordinates to share their concerns about resources.

Second, different indirect effects of three types of workplaces helping on workplace deviance *via* emotional exhaustion remind helpers of appropriately using helping strategies with discretion.

For example, when employees perceive the lack of resources, it may be wiser for them to provide caring and coaching helping than to provide substituting helping for others because substituting helping could further leave them emotionally drained and exhausted. Organizational norms of workplace helping could both limit the excessive substituting helping and encourage caring and coaching helping.

Finally, organizations that value workplace helping may benefit from selecting on the interaction of career goals and types of helping that make employees less vulnerable to the resource-depleting effects of OCB, such as extrinsic career goals. For example, managers should not encourage employees with high extrinsic career goals to help colleagues by caring and

substituting helping. Organizations, therefore, ought to recognize that individual differences in career goals have significant impact on the evaluation of resource-related behaviors of helpers. Furthermore, Human Resources Development Department could implement policies and procedures that clarify each employee's career goal orientation (Greco and Kraimer, 2020).

Limitations and Directions for Future Research

Despite these theoretical and practical implications, this study is not without limitations. The first limitation is that, although some precautions have been taken to limit common method bias, reasonable concerns still remain for using the self-report strategy for data collection. Time-lagged design was used to separate the measurement of independent, mediating, and dependent variables, reducing the influences of the participants' transient moods and response styles (Rindfleisch et al., 2008). The participants' personality traits (e.g., agreeableness and neuroticism) were controlled to limit the effect of the participants' response tendencies on common method bias (Podsakoff et al., 2003). Nevertheless, future research could improve our design by bringing in observers to rate focal variables or an experimental replication of our findings.

A second limitation of our work is that, although the mediating and moderating mechanisms for the effects of different types of workplaces helping on deviance, other mechanisms may also be in existence to influence these effects. For example, in terms of moderators, anticipating gratitude from a recipient was regarded as one of the ways in which the psychological resources of the helper are restored (Lee et al., 2019). The interaction between the helper and the recipient may moderate the resource acquisition and depletion processes in helping events.

Finally, research data come exclusively from employees working in China. Chinese culture values harmony in interpersonal relationships, and Chinese employees are aware of the fact that organizations expect them to lend a helpful hand to colleagues in trouble (i.e., compulsory citizenship behavior; He et al., 2020b). In other words, workplace helping measured in Chinese cultural context may be overestimated (Lin et al., 2020). Therefore, it remains to be further empirically tested whether the findings of this study remain valid for companies in other cultural contexts.

In terms of future research directions, this study only explored workplace helping of coworkers at the same hierarchical organizational level, and future research could build on our work by extending to cross-level helping behaviors between leaders and their subordinates. Based on the social cognitive theory, individuals can gain vicarious experiences by observing the success of others, enhancing their self-efficacy (Wood and Bandura, 1989). Similarly, employees gain a greater sense of self-efficacy by closely observing their leaders' helping behaviors and successfully adopting helping behaviors toward their colleagues (Zhang et al., 2020). Moreover, it would be interesting to investigate cross-level workplace helping because there could be many differences in the types and impacts of helping due to the status gap between leaders and their subordinates (Harari et al., 2021).

Another needed direction for future research is to test our theoretical model in another cultural context. Our theoretical model is tested in Chinese culture, which is described as more collectivist (Lin et al., 2020). Workplace helping in organizations of American culture, which is described as more individualistic, may be different because helpers may be more reciprocally motivated (Spitzmuller and Van Dyne, 2013). Future research that compares workplace helping under different cultures would, therefore, be of great value.

Finally, there may be value to use different theoretical lens. Our research provides theoretical explanations for workplace helping and deviance from the perspective of conservation of a resource. Scholars have also drawn from moral licensing theory to suggest the relationship between OCB and deviance *via* psychological entitlement (Yam et al., 2017). Employees may feel psychologically entitled or empowered in varying degrees due to different degrees of effort they make to help coworkers (Yam et al., 2017; Ali et al., 2020).

CONCLUSION

Too much engagement in helping can have negative results, but these results are not only related to the amount and frequency of the act itself. A resource-depleting helping (i.e., substituting helping) can also lead to a bad workplace experience for the helpers. Based on the conservation of resources theory, this article extends previous research by proposing a model to examine how and when different types of helping affected helpers' subsequent deviance in the workplace through emotional exhaustion. Our study findings highlight the need to consider the interplay between helping types and individual goals in the process of encouraging workplace helping.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

AUTHOR CONTRIBUTIONS

HZ designed the research and completed the manuscript. CL and XLa designed the research with HZ and proposed the discussion. XLi revised and checked the whole manuscript in the revision process. All the authors contributed to the article and approved the submitted version.

FUNDING

REFERENCES

Ali, M., Zhang, L., Shah, S. J., Khan, S., and Shah, A. M. (2020). Impact of humble leadership on project success: the mediating role of psychological empowerment and innovative work behavior. *Leadersh. Organ. Dev. J.* 41, 349–367. doi: 10.1108/LODJ-05-2019-0230

Bamberger, P. A., Geller, D., and Doveh, E. (2017). Assisting upon entry: helping type and approach as moderators of how role conflict affects newcomer resource drain. *J. Appl. Psychol.* 102, 1719–1732. doi: 10.1037/apl0000243

Bennett, R., and Robinson, S. L. (2000). Development of a measure of workplace deviance. *J. Appl. Psychol.* 85, 349–360. doi: 10.1037/0021-9010.85.3.349

Bergeron, D. M. (2007). The potential paradox of organizational citizenship behavior: good citizens at what cost? *Acad. Manag. Rev.* 32, 1078–1095. doi: 10.5465/amr.2007.26585791

Bergeron, D. M., Shipp, A. J., Rosen, B., and Furst, S. A. (2013). Organizational citizenship behavior and career outcomes: the cost of being a good citizen. *J. Manage.* 39, 958–984. doi: 10.1177/0149206311407508

Berry, C. M., Ones, D. S., and Sackett, P. R. (2007). Interpersonal deviance, organizational deviance, and their common correlates: a review and meta-analysis. *J. Appl. Psychol.* 92, 410–424. doi: 10.1037/0021-9010.92.2.410

Brislin, R. W. (1970). Back-translation for cross-cultural research. *J. Cross Cult. Psychol.* 1, 185–216. doi: 10.1177/135910457000100301

Browne, M. W., and Cudeck, R. (1993). "Alternative ways of acccessing model fit," in *Testing Structural Equation Models*, eds K.A. Bollen and J.S. Long. (Newbury Park, CA: Sage) 136–162.

Carmines, E. G., and McIver, J. P. (1981). "Analyzing models with unobservable variables," in *Social Measurement: Current Issues*, eds G.W. Bohrnstedt and E.F. Borgatta. (Beverly Hills, CA: Sage), 65–115.

Costa, P. T., and McCrae, R. R. (1992). Four ways five factors are basic. *Pers. Indiv. Differ.* 13, 653–665. doi: 10.1016/0191-8869(92)90236-I

Cox, E. P. (1980). The optimal number of response alternatives for a scale: a review. *J. Mark. Res.* 17, 407–422. doi: 10.1177/002224378001700401

Deckop, J. R., Cirka, C. C., and Andersson, L. M. (2003). Doing unto others: the reciprocity of helping behavior in organizations. *J. Bus. Ethics* 47, 101–113. doi: 10.1023/A:1026060419167

Duan, J., Wong, M., and Yue, Y. (2019). Organizational helping behavior and its relationship with employee workplace well-being. *Career Dev. Int.* 24, 18–36. doi: 10.1108/CDI-01-2018-0014

Eissa, G., and Lester, S. W. (2018). When good deeds hurt: the potential costs of interpersonal helping and the moderating roles of impression management and prosocial values motives. *J. Leadersh. Organ. Stud.* 25, 339–352. doi: 10.1177/1548051817753343

Farh, J.-L., Earley, P. C., and Lin, S.-C. (1997). Impetus for action: a cultural analysis of justice and organizational citizenship behavior in Chinese society. *Adm. Sci. Q.* 42, 421–444. doi: 10.2307/2393733

Fox, S., Spector, P. E., and Miles, D. (2001). Counterproductive work behavior (CWB) in response to job stressors and organizational justice: some mediator and moderator tests for autonomy and emotions. *J Vocat Behav.* 59, 291–309. doi: 10.1006/jvbe.2001.1803

Greco, L. M., and Kraimer, M. L. (2020). Goal-setting in the career management process: an identity theory perspective. *J. Appl. Psychol.* 105, 40–57. doi: 10.1037/apl0000424

Halbesleben, J. R. B., Neveu, J.-P., Paustian-Underdahl, S. C., and Westman, M. (2014). Getting to the "COR": understanding the role of resources in conservation of resources theory. *J. Manage.* 40, 1334–1364. doi: 10.1177/0149206314527130

Halbesleben, J. R. B., and Wheeler, A. R. (2011). I owe you one: coworker reciprocity as a moderator of the day-level exhaustion–performance relationship. *J. Organ. Behav.* 32, 608–626. doi: 10.1002/job.748

Harari, D., Parke, M. R., and Marr, J. C. (2021). When helping hurts helpers: anticipatory versus reactive helping, helper's relative status, and recipient self-threat. *Acad. Manage. J.* (In press). doi: 10.5465/amj.2019.0049

Hayes, A. F. (2013). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach.* New York, NY: Guilford Press.

He, P., Jiang, C., Xu, Z., and Shen. C. (2021). Knowledge hiding: current research status and future research directions. *J. Front. Psychol.* 12, 748237. doi: 10.3389/fpsyg.2021.748237

He, P., Peng, Z., Zhao, H., and Estay, C. (2019). How and when compulsory citizenship behavior leads to employee silence? A moderated mediation model based on moral disengagement and supervisorsubordinate guanxi views. *J. Bus. Ethics.* 155, 259–74. doi: 10.1007/s10551-017-3550-2

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020a). Linking work-related and non-work-related supervisorsubordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus Manage.* doi: 10.1057/s41291-020-00137-9. [Epub ahead of print].

He, P., Zhou, Q., Zhao, H., Jiang, C., and Wu, Y. J. (2020b). Compulsory citizenship behavior and employee creativity in China: creative self-efficacy as a mediator and negative affect as a moderator. *Front Psychol.* 11:16–40. doi: 10.3389/fpsyg.2020.01640

Hobfoll, S. E. (1989). Conservation of resources: a new attempt at conceptualizing stress. *Am. Psychol.* 44, 513–524. doi: 10.1037/0003-066X.44.3.513

Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: advancing conservation of resources theory. *Appl. Psychol.* 50, 337–421. doi: 10.1111/1464-0597.00062

Hobfoll, S. E., Halbesleben, J., Neveu, J.-P., and Westman, M. (2018). Conservation of resources in the organizational context: the reality of resources and their consequences. *Annu. Rev. Organ. Psychol. Organ. Behav.* 5, 103–128. doi: 10.1146/annurev-orgpsych-032117-104640

Hu, L., and Bentler, P. M. (1998). Fit indices in covariance structure modeling: sensitivity to underparameterized model misspecification. *Psychol. Methods* 3, 424–453. doi: 10.1037/1082-989X.3.4.424

Jahanzeb, S., and Fatima, T. (2018). How workplace ostracism influences interpersonal deviance: the mediating role of defensive silence and emotional exhaustion. *J. Bus. Psychol.* 33, 779–791. doi: 10.1007/s10869-017-9525-6

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Acad. Manage. J.* 33, 692–724. doi: 10.5465/256287

Kim, Y. J., Van Dyne, L., and Lee, S. M. (2018). A dyadic model of motives, pride, gratitude, and helping. *J. Organ. Behav.* 39, 1367–1382. doi: 10.1002/job.2315

Kong, D. T., Ho, V. T., and Garg, S. (2020). Employee and coworker idiosyncratic deals: implications for emotional exhaustion and deviant behaviors. *J. Bus. Ethics* 164, 593–609. doi: 10.1007/s10551-018-4033-9

Koopman, J., Lanaj, K., and Scott, B. (2016). Integrating the bright and dark sides of OCB: a daily investigation of the benefits and costs of helping others. *J. Organ. Behav.* 59, 414–435. doi: 10.5465/amj.2014.0262

Koopman, J., Rosen, C. C., Gabriel, A. S., Puranik, H., Johnson, R. E., and Ferris, D. L. (2020). Why and for whom does the pressure to help hurt others? Affective and cognitive mechanisms linking helping pressure to workplace deviance. *Pers. Psychol.* 73, 333–362. doi: 10.1111/peps.12354

Lanaj, K., Johnson, R. E., and Wang, M. (2016). When lending a hand depletes the will: the daily costs and benefits of helping. *J. Appl. Psychol.* 101, 1097–1110. doi: 10.1037/apl0000118

Lee, H. W., Bradburn, J., Johnson, R. E., Lin, S.-H., and Chang, C.-H. (2019). The benefits of receiving gratitude for helpers: a daily investigation of proactive and reactive helping at work. *J. Appl. Psychol.* 104, 197–213. doi: 10.1037/apl0000346

Lee, K., and Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: the role of affect and cognitions. *J. Appl. Psychol.* 87, 131–142. doi: 10.1037/0021-9010.87.1.131

Lin, K. J., Ilies, R., Pluut, H., and Pan, S.-Y. (2017). You are a helpful co-worker, but do you support your spouse? A resource-based work-family model of helping and support provision. *Organ. Behav. Hum. Decis. Process* 138, 45–58. doi: 10.1016/j.obhdp.2016.12.004

Lin, W., Koopmann, J., and Wang, M. (2020). How does workplace helping behavior step up or slack off? Integrating enrichment-based and depletion-based perspectives. *J. Manage.* 46, 385–413. doi: 10.1177/0149206318795275

McDonald, M. L., Keeves, G. D., and Westphal, J. D. (2018). One step forward, one step back: white male top manager organizational identification and helping behavior toward other executives following the appointment of a female or racial minority CEO. *Acad. Manage. J.* 61, 405–439. doi: 10.5465/amj.2016.0358

Meier, L. L., and Spector, P. E. (2013). Reciprocal effects of work stressors and counterproductive work behavior: a five-wave longitudinal study. *J. Appl. Psychol.* 98, 529–539. doi: 10.1037/a0031732

Mount, M., Ilies, R., and Johnson, E. (2006). Relationship of personality traits and counterproductive work behaviors: the mediating effects of job satisfaction. *Pers. Psychol.* 59, 591–622. doi: 10.1111/j.1744-6570.2006.00048.x

Mulki, J. P., Jaramillo, F., and Locander, W. B. (2006). Emotional exhaustion and organizational deviance: can the right job and a leader's style make a difference? *J. Bus. Res.* 59, 1222–1230. doi: 10.1016/j.jbusres.2006.09.001

Nair, N., and Bhatnagar, D. (2011). Understanding workplace deviant behavior in nonprofit organizations. *Nonprofit Manage. Leadersh.* 21, 289–309. doi: 10.1002/nml.20026

Organ, D. W. (1988). *Organizational Citizenship Behavior: The Good Soldier Syndrome.* Lexington, MA: Lexington Books.

Podsakoff, P. M., Ahearne, M., and MacKenzie, S. B. (1997). Organizational citizenship behavior and the quantity and quality of work group performance. *J. Appl. Psychol.* 82, 262–270. doi: 10.1037/0021-9010.82.2.262

Podsakoff, P. M., Mackenzie, S. B., Lee, J. Y., and Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88, 879–903. doi: 10.1037/0021-9010.88.5.879

Rindfleisch, A., Malter, A. J., Ganesan, S., and Moorman, C. (2008). Cross-sectional versus longitudinal survey research: concepts, findings, and guidelines. *J. Mark. Res.* 45, 261–279. doi: 10.1509/jmkr.45.3.261

Robinson, S. L., and Bennett, R. J. (1995). A typology of deviant workplace behaviors: a multidimensional scaling study. *Acad. Manage. J.* 38, 555–572. doi: 10.5465/256693

Robinson, S. L., and O'Leary-Kelly, A. M. (1998). Monkey see, monkey do: the influence of work groups on the antisocial behavior of employees. *Acad. Manage. J.* 41, 658–672. doi: 10.5465/256963

Salamon, S. D., and Deutsch, Y. (2006). OCB as a handicap: an evolutionary psychological perspective. *J. Organ. Behav.* 27, 185–199. doi: 10.1002/job.348

Seibert, S. E., Kraimer, M. L., Holtom, B. C., and Pierotti, A. J. (2013). Even the best laid plans sometimes go askew: career self-management processes, career shocks, and the decision to pursue graduate education. *J. Appl. Psychol.* 98, 169–182. doi: 10.1037/a0030882

Settoon, R. P., and Mossholder, K. W. (2002). Relationship quality and relationship context as antecedents of person- and task-focused interpersonal citizenship behavior. *J. Appl. Psychol.* 87, 255–267. doi: 10.1037/0021-9010.87.2.255

Shah, N. P., Cross, R., and Levin, D. Z. (2018). Performance benefits from providing assistance in networks: relationships that generate learning. *J. Manage.* 44, 412–444. doi: 10.1177/0149206315584822

Spitzmuller, M., and Van Dyne, L. (2013). Proactive and reactive helping: contrasting the positive consequences of different forms of helping. *J. Organ. Behav.* 34, 560–580. doi: 10.1002/job.1848

Van Dyne, L., G. J. W., and Dienesch, R. M. (1994). Organizational citizenship behavior: construct redefinition, measurement, and validation. *Acad. Manage. J.* 37, 765–802. doi: 10.5465/256600

Verhoeven, C., Maes, S., Kraaij, V., and Joekes, K. (2003). The job demand-control-social support model and wellness/health outcomes: a European study. *Psychol. Health* 18, 421–440. doi: 10.1080/0887044031000147175

Watkins, M. B., Ren, R., Umphress, E. E., Boswell, W. R., del Carmen Triana, M., and Zardkoohi, A., et al. (2015). Compassion organizing: employees' satisfaction with corporate philanthropic disaster response and reduced job strain. *J. Occup. Organ. Psychol.* 88, 436–458. doi: 10.1111/joop.12088

Williams, L. J., and Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *J. Manage.* 17, 601–617. doi: 10.1177/014920639101700305

Wood, R., and Bandura, A. (1989). Social cognitive theory of organizational management. *Acad. Manag. Rev.* 14, 361–384. doi: 10.2307/258173

Yam, K. C., Klotz, A. C., He, W., and Reynolds, S. J. (2017). From good soldiers to psychologically entitled: examining when and why citizenship behavior leads to deviance. *Acad. Manage. J.* 60, 373–396. doi: 10.5465/amj.2014.0234

Zhang, Z., Zhang, L., Xiu, J., and Zheng, J. (2020). Learning from your leaders and helping your coworkers: the trickle-down effect of leader helping behavior. *Leadersh. Organ. Dev. J.* 41, 883–894. doi: 10.1108/LODJ-07-2019-0317

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

frontiers
in Psychology

Linking Ethical Leadership to Followers' Knowledge Sharing: Mediating Role of Psychological Ownership and Moderating Role of Professional Commitment

Imran Saeed[1], Jawad Khan[2], Muhammad Zada[3*†], Shagufta Zada[4,5], Alejandro Vega-Muñoz[6†] and Nicolás Contreras-Barraza[7†]

[1]Institute of Business and Management Sciences, The University of Agriculture, Peshawar, Pakistan, [2]Department of Business Administration, Iqra National University, Peshawar, Pakistan, [3]Business School, Henan University, Kaifeng, China, [4]College of Education, Henan University, Kaifeng, China, [5]Department of Business Administration, ILMA University, Karachi, Pakistan, [6]Public Policy Observatory, Universidad Autónoma de Chile, Santiago, Chile, [7]Facultad de Economía y Negocios, Universidad Andres Bello, Viña del Mar, Chile

This study examined (1) the influence of ethical leadership on knowledge sharing, (2) the mediating role of psychological ownership, and (3) the moderating effect of professional commitment between ethical leadership (EL) and knowledge sharing (KS). Data were collected from 307 public listed Pakistani companies' employees. Statistical analyses were performed by using SPSS Version 25 and AMOS version 22. The findings indicate a positive relationship between EL and KS behavior. Additionally, the impact of EL on KS was partially mediated by psychological ownership. Furthermore, professional commitment buffers the link between EL and KS. This study contributes to the body of knowledge in the field of leadership by confirming the role of ethics. The results show that ethical leaders develop employee attitudes (i.e., psychological ownership and professional commitment) that contribute to employee KS behavior. Ethical leaders create and encourage a learning culture to enhance organizational performance. This study adds to the little data on the positive impact of EL on listed company's employees and addresses the gaps in previous studies on the role of EL in changing environments. In addition, professional commitment as a moderator has not been previously investigated with ethical leadership antecedents.

Keywords: ethical leadership, knowledge sharing, professional commitment, psychological ownership, social learning theory

INTRODUCTION

Leaders are credited with helping their organizations in getting an edge in the marketplace by managing their finances and teaching ethical values to the employees (Koay and Lim, 2021; Yasin, 2021). Over the last decade, ethics in the workplace have received increased attention from researchers, who have long acknowledged the relevance of ethics in employee's character development (Van Gils et al., 2015). Behavioral ethics and ethical leadership (EL) have received a great deal of attention in the wake of the Enron and National Irish Bank scandals in 2001,

owing to the long-term repercussions they may have on an organization (Ali et al., 2018). Leaders play a critical role in enhancing staff morale and increasing productivity (Fatima et al., 2017).

> *EL is defined as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making"* Brown et al. (2005).

Social learning theory is one of the most frequently referenced theories to study the link between EL and followers conduct in the social learning workplace (Keen et al., 2005). We advocate an additional mechanism to better understand the complicated link between EL and employee behavior. Researchers have examined a wide range of factors that results due to ethical leadership. One of the main factors that helps employees to spread, learn and taught the basic skills, knowledge and abilities (i.e., knowledge sharing). EL effects on employee's knowledge sharing behavior was studied from a social perspective (Ganguly et al., 2019), personal characteristics (Kim and Shim, 2018), and cultural influences (Liu et al., 2018). Ethical leadership has significant relationship with knowledge sharing (Bhatti et al., 2021). Most studies have demonstrated that leadership significantly motivates individuals to share their knowledge with colleagues, regardless of the organizational setting (Ali et al., 2021). A recent study also found that ethical leadership reduce employee knowledge hiding behavior and increase employee wellbeing and knowledge sharing behavior (Agarwal et al., 2022). Organizational effectiveness and success are directly linked to EL and knowledge sharing (KS) connection and also linked to leaders' ability to advise, organize, motivate, and empower their followers (Le and Lei, 2018). Most studies on leadership focus on how leaders influence their subordinates, rather than how their subordinates get advantage from their leadership guidance and supervision (Su et al., 2021). There is a dire need to find that how knowledge sharing behavior can be enhance in the presence of individual characteristics (Luo et al., 2021). Thus, our study suggests that subordinate characteristics may act as moderators in the EL development process to share information. Professional commitment (PC) was chosen as a moderator because it has emerged as a critical driver of employees' attitudes and organizational success (Ghani et al., 2020). To complete the global market, organizations seek and encourage continuous innovation in operations and promote an agile workforce, along with their professional commitment to their job roles, to meet organizational objectives in an unpredictably changing environment. Organizations' extra-role performance depends on employees' loyalty to their profession and sense of responsibility toward organizational problems and challenges (Guerrero et al., 2017; Ghani et al., 2020). A company's competitive advantage can no longer be gained from employees who do not fulfill their assigned tasks. Rather, employees' dedication, and devotion to their work responsibilities are important factors to consider (Gerpott et al., 2019). In today's workplace, professional commitment has

emerged as one of the most essential factors in encouraging employees to be proactive and has evolved as a main source of motivation to share knowledge with others (Chang et al., 2019).

> *"Professional commitment is defined as loyalty, the desire to stay in a profession, and a sense of responsibility toward the profession's particular problems and challenges"* (Mitchell et al., 2019).

Employees who hold high ethical standards from their ethical leader will play an active role in shaping the organization's goals and assisting their fellow workers by sharing and assisting in the transmission of relevant information related to the organization's objectives (Bavik et al., 2018). This study also investigated how EL effects and helps employees in developing feelings of ownership to gain control over a target through guidance and knowledge. The likelihood of employees feeling a strong sense of psychological ownership (PO) in their jobs increases when they work under morally good leadership (Mishra and Malhotra, 2021). Furthermore, it is critical to emphasis the value of psychological ownership as a driving force for employee voice and knowledge exchange (Sun et al., 2019).

Theoretical and practical applications are relevant to this study. From a theoretical standpoint, our study makes a significant contribution to the corpus of knowledge on EL and knowledge sharing. First, we examined whether a company's KS culture is influenced by its leadership's ethical standards. Despite the fact that KS is increasingly being acknowledged as a psychological behavior in an organizational environment. Research on the psychological aspects of employees' capacity to share knowledge has not been conducted under changing circumstances (e.g., COVID 19) extensively. This is the first study to examine how EL influences the development of workers' ability to share knowledge during the changing environment. Second, we used social learning theory to show how strong employee professional commitment when combined with EL, leads to a willingness to share knowledge among colleagues. Third, by recognizing KS as a psychologically and interpersonally significant phenomenon, this study investigated the significance of EL as a predictor of information exchange in organizations. For the knowledge management literature, this is a fresh approach to understanding employees' attitudes. From a practical perspective, our findings demonstrate that leaders play a critical role in promoting an information-sharing culture. Organizations that want to maximize the value of their intangible assets by increasing the use and retention of workers' expertise and information *via* KS would benefit the organization in long run. EL is also being studied in a new way, as earlier research has focused on the qualities and personality traits of leaders without taking into account the effect of follower traits that learned from the leader (Sharif and Scandura, 2014; Karim and Nadeem, 2019; Mostafa et al., 2021). This study has the importance in Yarn production sector in Pakistan. Yarn production sector is one of the most growing sectors of developing country like Pakistan. This study will open new avenue in Yarn production sector and will add more knowledge to the body of literature in the area of ethical leadership and knowledge sharing behavior.

THEORY AND HYPOTHESIS DEVELOPMENT

Social Learning Theory

Grounding on social learning theory (Bandura and Hall, 2018), ethical leaders have an influence on their employees *via* observational learning, in which employees learn indirectly by seeing the activities and repercussions of ethical leaders' actions (Bandura, 1979; Grusec, 1994; Brown et al., 2005). Similarly, we contend that ethical leaders have an effect on the behavior of their subordinates' psychological wellbeing *via* the social learning process. With regard to social learning, "the psychological states of the receivers decide which external events to be considered, how they are interpreted and if they leave untouched what will be the consequences" (Bandura, 1979). A person's ability to pay attention, analyze, and react to ethical leaders' actions may be hindered by psychological conditions that produce cognitive dysfunction (Brown et al., 2005). More recent literature focuses on leadership and psychological ownership relationship mechanism and revealed that leadership is the main cause root of psychological ownership (Guarana and Avolio, 2022). Prior social learning theory research has paid little attention to followers' psychological states (Bavik et al., 2018), particularly within the EL framework. We looked at psychological ownership in order to better understand the role of psychological states that emerged during the social learning process (Wright and Cropanzano, 1998) and argued that it is likely to enhance the connection between EL and KS behavior. In other words, the study's second goal is to determine whether employee professional commitment acts as a buffer between EL and knowledge-sharing in the social learning process (see **Figure 1**).

Ethical Leadership and Knowledge Sharing

In an organization, KS does not cause automatically; it requires a certain set of circumstances and ongoing assistance. Information sharing is likely to be significantly influenced by leaders' actions (Ali et al., 2018). Leader support is critical for fostering a culture of knowledge sharing among company workers (Tang et al., 2015). EL is considered an effective leadership style (Bedi

and Wordley, 2019), and is linked to KS behaviors (Su et al., 2021). As part of knowledge management, the goal is to establish an environment that encourages individuals to share information and build a shared understanding of the company's mission. EL significantly influences individual participation and attitudes toward information sharing (Koay and Lim, 2021).

> *KS refers to "acts of making knowledge available to others within the organization"* (Ipe, 2003).

Leadership has been found to have a substantial influence on the interpersonal process of knowledge exchange within organizations (Xue et al., 2011; Rahman et al., 2019). The psychological impact of KS leads to the belief that ethical leader behavior is an important predictor. Fairness, transparency, and trustworthiness are essential components of effective EL that needs for learning culture (Bhatti et al., 2021). Ethical leaders can motivate followers to share their expertise (Wu and Lee, 2017; Men et al., 2020). As a first step, ethical leaders help to reduce the physical barriers that prevent employees from sharing resources by incorporating processes and controls that encourage employees psychologically (e.g., code of ethics, standards for making ethical decisions, open two-way communication, and a fair incentive system) are all important components of an ethical workplace. Second, when ethical leaders exemplify the values and standards of their respective organizations by behaving in line with these values and standards, they demonstrate their values and norms (such as trustworthiness, kindness, and concern for the needs of others; Banks et al., 2021). Based on these considerations, EL encourages employee KS by eliminating organizational obstacles, cultivating trustworthy workplace connections, and fostering workers' expectations of fair compensation for their contributions and resource sharing (Castellani et al., 2021). The knowledge management literature has demonstrated the importance of leadership in establishing rules and directions that encourage KS (Lin et al., 2020). Several studies have indicated that ethical leaders motivate their followers to participate in pro-social activities, such as sharing knowledge and assisting others to gain knowledge (Gerpott et al., 2020; He et al., 2021), while reducing deviance (Evans et al., 2021; Khan et al., 2022).

Hypothesis 1: EL has significant and positive effect on KS.
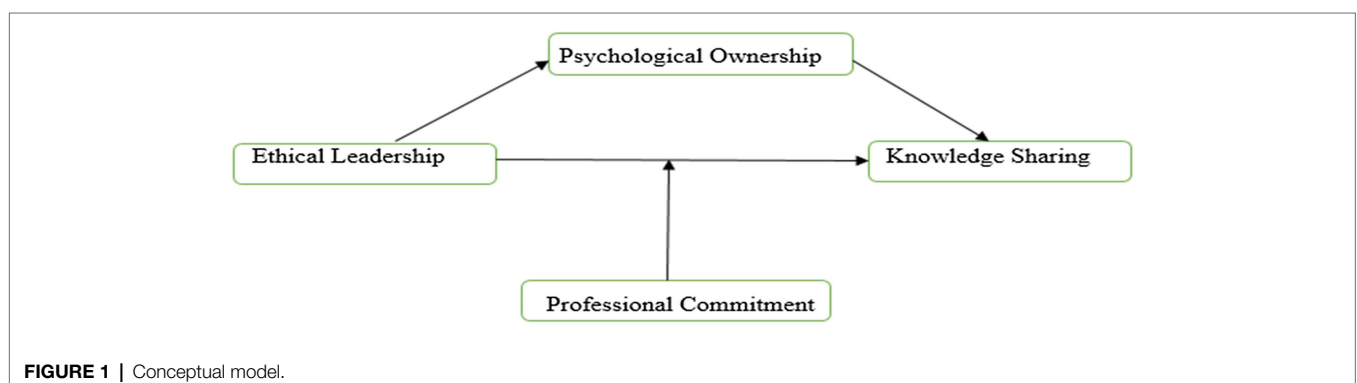
FIGURE 1 | Conceptual model.

The Mediating Role of Psychological Ownership

> *"Employees will put forth better efforts to care for, nurture and maintain things which they consider to be their own. When individuals have a sense of ownership, they feel connected with each other in achieving several tangible and intangible targets* (Dittmar, 1992)."

Employees' psychological ownership and EL are intertwined in the same way through social norms (Kim and Beehr, 2017). By highlighting key principles and norms that are connected to psychological ownership, ethical leaders are likely to impact the behavioral norms of the organizations (Ali et al., 2021). A growing number of moral leaders are particularly concerned about protecting the rights of their workers and obligations when it comes to the first value for equality. There is a strong feeling of commitment to job duties, as well as a strong sense of right to influence the outcomes of work when one takes an ownership perspective on things (Adil and Kamal, 2018; Xiao and Cooke, 2019). Employee ownership was eliminated if the rights were violated. However, because they expressly seek justice, ethical leaders are less likely to violate the supposed rights, equality, and compassion (Brown et al., 2005; Gul et al., 2021). In other words, if an employee has a significant stake in a project, the ethical leader is inclined to remain on the board. However, unethical leaders are less inclined to do this. Ethics-based leadership is more likely to demonstrate and foster responsibility among followers, ensuring that employees' rights are protected. Brown et al. (2005) stated that ethical leaders penalize workers who break ethical norms and hold employees responsible for their work performance. According to the social learning theory, ethical leaders produce positive and productive results through social learning and two-way communication (Bandura, 1979). According to Bandura and Hall (2018), direct and indirect interactions can help employees develop a sense of accountability, such as seeing ethical leaders holding individuals responsible for their accomplishments as well as the method by which those successes were obtained. The norms for social conduct in the organization were established based on observations and interactions between employees (Cheng et al., 2021). In addition, employees are held responsible for their own actions (Podsakoff et al., 2003). Employees who work with morally conscientious bosses are likely to have psychological control over their actions. Ethical leaders create a sense of belonging in the workplace and instill a sense of psychological ownership in their subordinates. Ethical leaders should focus on their workers by listening to them and giving them a voice in the workplace (Brown et al., 2005). Employees who are given the opportunity to voice their opinions and have a voice in the design of their workplace are more likely to feel like part of the team as a whole and are more willing to share their knowledge and experience, as suggested by the job characteristics model and supported by Pittino et al., (2018) and Spreitzer (1995). As a result of being neglected, workers might become emotionally disengaged and feel that they do not belong to the organization, and they are more inclined

to keep their knowledge hidden from the rest of the organization (Arain et al., 2020). When ethical leaders place their followers' interests first and listen to their concerns, they experience a feeling of belonging in the workplace, which is a key component of psychological ownership that encourages them to share their knowledge (Men et al., 2020). The link between psychological ownership and KS entails the conversion of human perceptions and sentiments into an organizational stance. As previously stated, the formation of stewardship culture inside a company may facilitate KS (Pittino et al., 2018). Psychological ownership may motivate individuals to share knowledge, encourage others to learn, work together to solve issues, accept and propagate organizational values and ideas, and accept and disseminate organizational values and ideas (Gupta et al., 2020; Singh et al., 2021). A similar study by Hameed et al. (2019) argued those employees who have high level of psychological ownership shows altruistic spirit and enhance KS and it is considered one of the crucial antecedents of knowledge sharing.

> *Hypothesis 2*: Psychological ownership positively and significantly mediates the link between EL on KS.

The Moderating Role of Professional Commitment

> *"Professional commitment is defined as a psychological attachment to one's profession* (Aranya et al., 1981; Wallace, 1995)."

Previous studies have identified a substantial correlation between a person's commitment to their profession and willingness to share their expertise (Chen et al., 2020; Zada et al., 2021). Additionally, KS may be nurtured and developed if employees have developed favorable attitudes and gestures toward an organization, which requires a lot of internal desire (Khan and Ali, 2019; Tahir et al., 2019). Ethical leaders play an important role in shaping and assisting the professional lives of their workers so that they can participate in KS behavior (Kuenzi et al., 2019). According to Bavik et al. (2018), despite the fact that EL conduct affects workers' attitudes toward KS, there have been few studies on the psychological effects of such activities.

Previous research has shown that leaders are substantially connected with KS behaviors and have pivotal responsibilities in the success of the business by psychologically influencing workers to spread information (Wu and Lee, 2017). Individuals who are supported by ethical leaders are more likely to promote and share their expertise with others, therefore, broadening the breadth of KS, according to our research. Developing a knowledge-sharing culture requires a strong commitment from workers (Lei et al., 2019) to share and receive information (Le and Lei, 2018). Knowledge exchange and professional commitment are typically assumed to be linked. According to Bavik et al. (2018), greater dedication encourages employees to share new ideas. According to Han et al. (2010), are more willing to share their knowledge and experience with their

colleagues. Based on the study by Alrawi et al. (2016), KS is more effective when several workers are involved. Lin (2007) also identified a correlation between professional dedication and tacit KS was also identified by Lin (2007), which is in line with earlier studies.

Hypothesis 3: Professional commitment positively and significantly strengthens the relationship between EL and KS, such that the relationship is stronger when professional commitment is high.

METHODOLOGY

Sample and Procedure

To meet the study aims, a survey technique was used to obtain quantitative data from the participants. The intended audience consisted of individuals who worked in publicly listed yarn production sector companies in Pakistan. The reason behind to select this company as one of our team members working in administrative post and there was easy to collect data from these organizations. They must, however, satisfy certain requirements in order to be considered for participation in our survey. First, they must have at least one direct supervisor to whom they must report to function properly. Second, each supervisor must provide feedback of four subordinates. This is due to the fact that our target populations were asked to assess ethical support received from their line managers as part of their job roles. It is difficult to succeed without reporting to a direct supervisor or a leader. Preliminary testing of the survey questions on three academic experts was conducted before they were sent to the real target population to confirm that all of the scales under investigation had positive face validity. Two academic experts were from specific field of management sciences and one from statistics field in order to verify the scale. All constructions have Cronbach's α values higher than 0.7, which indicates that all scales are reliable according to preliminary data of 28 respondents collected for piloting testing (Iacobucci and Duhachek, 2003). After clarifications were made regarding the questionnaire, every public listed company in Pakistan that was approached through personal contact received a link to the online survey. We asked the person in charge of the distribution to pass the link with the employees. However, we clarified to the representative that to be considered for our target responders, workers had to meet the criteria listed above. The data collection period was split into two periods separated by 15 days in accordance with the suggestions of Podsakoff et al. (2003) to help in the reduction of common method bias, which was followed. First, we gathered information from independent and mediating variables and demographic characteristics, in the second phase, we gathered information from dependent and moderating variables. In the first phase, 420 employees were contacted and 364 questionnaires were received (86.66%). In the second phase, we received 316 questionnaires out of 364 questionnaires (86.81%). After thoroughly studying the questionnaires, we excluded nine

TABLE 1 | Sample characteristics.

Demographic variables	Frequency	Percentage
Gender		
Male	264	85.99
Female	43	14.00
Age		
25–29	37	12.05
30–35	137	44.62
36–40	98	31.92
Above 40	35	11.40
Experience		
1–5	176	57.32
6–10	62	20.19
11–15	42	13.68
Above 16	27	8.79
Qualification		
HSSC	12	3.90
Bachelor	72	23.45
Master	192	62.54
MS/Phil	27	8.79
PhD	4	1.30

questionnaires due to missing data. In total, 307 completed data were collected. The respondents included 264 men (85.99%) and 43 women (14%) females. In terms of age group, 37 (12.05%) were between 25 and 29 years old, 137 (44.62%) were 30 and 35, 98 (31.92%) were 36 and 40, and 35 (11.40%) were 40 and above. Education statistics showed that 12 (3.90%) had completed HSSC, 72 (23.45%) had a bachelor's degree, 192 (62.54%) had a master's degree, 27 (8.79%) had an MS/Phil qualification, and 4 (1.30%) had a doctorate. The full demographic profile of the respondents is presented in **Table 1**.

Measures
Ethical Leadership
We used a 10-item scale created by Brown et al. (2005) to assess EL. Examples of such items are: "my supervisor makes fair and balanced decisions," "when making decisions, asks "what is the right thing to do?," and "disciplines employees who violate ethical standards" Internal reliability ($a = 0.94$) was found to be appropriate for this instrument. All items were measured in 5-likert scale.

Psychological Ownership
Avey et al. (2008), 12-item scale with 5-likert scale was used to assess psychological ownership. Sample items are "I feel this organization's success is my success" "I am totally comfortable being in this organization," and "I am confident I can make a positive difference in this organization." Internal reliability ($a = 0.90$) for the psychological ownership measure was satisfactory.

Professional Commitment
Four scale items with 5-likert scale from a prior study on healthcare professional commitment were included in the

member questionnaire to gage members' level of professional commitment (Lachman and Aranya, 1986; Chang and Choi, 2007; Teng et al., 2009). Sample items are "the extent to which they felt strong ties with their professional group"; "felt closely connected to their professional group"; "felt happy to be a member of their profession." The Cronbach α for professional commitment was $(a = 0.95)$.

Knowledge Sharing

The employees' KS behavior was assessed using Connelly et al. (2012) five-item KS with 5-likert scale. Sample items are "This coworker looks into my requests to make sure his/her answers were accurate." "This coworker explains everything very thoroughly."

PRETESTING

Common Method Variance

In survey-based investigations, common method variance (CMV) should be investigated, particularly when data for independent and dependent variables are obtained simultaneously using the same technique at the same time. As advised by MacKenzie and Podsakoff (2012), we used procedural remedies that they suggested to overcome CMV, such as incorporating a well-written cover letter and ensuring that the respondents' privacy was protected. This study also included several statistical tests to measure the severity of CMV. Upon closer examination of **Table 2**, it becomes clear that there is no significant link between the two variables above 0.9, suggesting that the CMV is not a reason for concern. Second, we used Kock (2015) full collinearity test, which was modified significantly. As shown in **Table 3**, all variance inflation factor values in this investigation were less than 3.3, indicating that CMV risk was not found in this study.

Measurement Model

In the assessment criteria presented by Hair et al. (2017) internal consistency, reliability, convergent validity, and discriminant validity are all reviewed as part of the evaluation process. As shown in **Table 4**, all constructs had Cronbach's

TABLE 2 | Results of the confirmatory factor analysis ($N = 307$).

Model	χ^2/df	RMR	GFI	CFI	RMSEA
Baseline model (four-factor model)[o]	2.23	0.03	0.88	0.90	0.02
4-factor model[a]	4.57	0.07	0.93	0.91	0.07
3-factor model[b]	2.57	0.06	0.91	0.90	0.08
2-factor model[c]	1.62	0.05	0.94	0.91	0.07
1-factor model[d]	5.57	1.04	0.47	0.37	0.18

[a]Combining EL&KS.
[b]Combining EL, KS&PC.
[c]Combining PC, PO&KS.
[d]PC, PO &EL.
[o]Combining all items.

α values more than 0.7, and the composite reliability values in **Table 3** were greater than 0.7, showing that variables had excellent internal consistency. Additionally, since the factor loadings were larger than 0.7 and the average variance extracted (AVE) values of all reflective components were greater than 0.5, convergent validity was established. To establish discriminant validity, the Fornell–Larcker criteria and the Heterotrait–Monotrait ratio (HTMT) criterion were utilized. We found that AVE's square root was greater than the correlation values in the rows and columns to fulfill the Fornell–Larcker criterion (**Table 3**). The HTMT number should not exceed 0.85 in terms of the HTMT criterion (Henseler et al., 2015). **Table 4** shows that all of the HTMT values in this study were less than 0.85, indicating that discriminant validity was not a major problem.

Confirmatory Analysis

A confirmatory factor analysis (CFA) was conducted to assess the factor structure of the EL, KS, psychological ownership, and professional commitment scales. Different confirmatory factor analyses were performed through AMOS 22. The resulting 4 factor model demonstrated excellent fit, $\chi^2/df = 2.23$, RMR $= 0.03$, GFI $= 0.88$, CFI $= 0.90$, and RMSEA $= 0.02$. See

TABLE 3 | Factor loadings.

Constructs	Items	Factor loadings	$\sqrt{AVE}$	CR	AVE
Ethical leadership	EL1	0.86	0.72	0.94	0.53
	EL2	0.85			
	EL3	0.89			
	EL4	0.76			
	EL5	0.73			
	EL6	0.81			
	EL7	0.72			
	EL8	0.75			
	EL9	0.82			
	EL10	0.78			
Knowledge sharing behavior	KS1	0.84	0.80	0.90	0.64
	KS2	0.78			
	KS3	0.81			
	KS4	0.77			
	KS5	0.82			
Psychological ownership	PO1	0.84	0.81	0.95	0.66
	PO2	0.92			
	PO3	0.91			
	PO4	0.78			
	PO5	0.83			
	PO6	0.71			
	PO7	0.91			
	PO8	0.81			
	PO9	0.82			
	PO10	0.66			
	PO11	0.88			
	PO12	0.67			
Professional commitment	PC1	0.85	0.80	0.88	0.64
	PC2	0.82			
	PC3	0.79			
	PC4	0.76			

TABLE 4 | Correlations, mean, standard deviation and reliability.

Variables	Mean	SD	HTMT	VIF	1	2	3	4	5	6	7	8
1. Gender	1.3616	0.48124										
2. Age	2.4463	0.82815			–0.078							
3. Education	2.8664	0.58165			0.021	0.063						
4. Experience	1.9902	0.71165			–0.066	0.041	0.052					
5. EL	3.8446	0.72418	–	1.335	0.030	0.036	0.067	0.022	(0.81)			
6. PO	3.9742	0.70059	0.65	1.453	0.009	0.088	0.086	–0.043	0.572**	(0.78)		
7. PC	4.0008	0.80275	0.56 0.61	1.527	0.014	0.095	0.077	–0.066	0.493**	0.556***	(0.77)	
8. KS	3.8573	0.67975	0.47 0.61 0.57	1.627	0.008	0.033	0.016	–0.034	0.593**	0.674***	0.668**	(0.76)

**Correlation is significant at the 0.01 level (2-tailed). Cronbach's alpha highlighted as bold, all values >0.7.

Table 2 for the series of CFA and see **Table 3** for the factor loadings.

Descriptive Statistics

Table 3 displays the means, standard deviations, correlations, and scale reliability of the data. The research variables' correlations were in the predicted directions, and all of the study variables had an acceptable degree of internal consistency, as shown in **Table 1**. Employees' KS behavior was positively related to EL ($r = 0.668$, $p < 0.01$). Furthermore, EL was positively related to both PO and PC ($r = 0.572$, $p < 0.01$; $r = 0.556$, $p < 0.01$). The Variance Inflation Factor was used to assess for multicollinearity in this study (VIF). The VIF values in **Table 4** varied from 1.335 to 1.627, which is less than 2 and deemed to be within acceptable bounds (Hair et al., 1998).

Control Variables

Several variables were kept under control. Individual demographics (such as age, gender, and educational level) have been found to impact employees' knowledge behaviors in the past (Scholz and Schöner, 1999; Spector and Brannick, 2011; Connelly et al., 2012). As a result, these factors were brought under control in this study. We used four answer choices to control for individual employees' educational level (1 = HSSC; 2 = bachelor's; 3 = master's; 4 = MS/Phil; 5 = PhD). The gender of the participants was dummy coded, with females being tagged as 1 and males being coded as 2. In addition, the size of the teams in our research was kept under control. According to previous studies, a bigger team size reduces a leader's capacity to influence individual employee behavior as well as KS within workgroups (Zhao et al., 2016).

HYPOTHESIS TESTING

Direct Relationship and Mediation Analysis

Table 5 shows the impact of EL on employees' KS. In **Table 5**, the R^2 value of 0.35 revealed that EL explained 35% of the variation in KS behavior with $F(1, 305) = 165.70$, $p < 0.001$. The findings revealed that EL was positively related to KS behavior ($\beta = 0.55$, $p < 0.001$). In **Table 6**, Hayes' PROCESS (5000 bootstrapping was specified) was used to test Hypotheses 2, EL was found to have a positive indirect (PO) relationship with KS *via* psychological ownership ($B = 0.42$, Lower limit = 0.3432, and Upper limit = 0.5102), showing that Hypothesis 2 was also accepted.

Moderation Analysis

The moderating effect of PC in the relationship between EL and KS was investigated using Hayes (2017) (model 1). As a consequence of the findings (**Table 7**), it was found that the interaction term had a statistically significant effect on employees' KS behavior ($\beta = -0.1046^*$), indicating that PC moderated the positive relationship between EL and employees' KS behavior. In **Figure 2**, the interactions between EL and KS and are

shown at ± standard deviation from the mean of PO. A simple slope test was used to determine the strength of the positive associations between EL and employees' KS behaviors at high and low levels of PC. The simple slope test showed a significant positive relationship ($\beta = 0.1771$, $p = 0.0007$) for employees with high PO, Thus, Hypothesis 3 is verified.

DISCUSSION

First, we found that EL was linked to employees' willingness to share their knowledge, which is consistent with social learning theory (Bandura, 1979; Bandura and Hall, 2018). We also examined the moderating influence of professional commitment and how EL may help employees in their professional lives by encouraging them to share knowledge with coworkers. Furthermore, this study investigated the significance of psychological ownership in mediating the relationship between EL and KS behavior. Our findings have substantial consequences for both theory and practice in the corporate environment.

Theoretical Contributions

First, this study examines the effect of EL on employees' knowledge-sharing behavior using a psychological perspective. In spite of previous research indicating that EL has a significant impact on employees' risk-taking and pro-social behavior, such

as employee voice, creativity and organizational citizenship, there is surprisingly little research on the impact of EL on employees' KS (Lei et al., 2019; Men et al., 2020). Sharing one's knowledge is primarily a risk-taking and pro-social behavior with a psychological component, as it implies that one's willingness to share knowledge with others will be reduced if one's ownership of one's expertise is lost (Spender and Grant, 1996). Our findings show that EL is important for encouraging employees to share their knowledge. This finding adds to the growing body of evidence that information sharing has psychological significance. Future studies could examine additional potential antecedents of information sharing at work from a psychological standpoint. Second, most previous studies on EL have relied on theoretical perspectives, such as social exchange theory (Garba et al., 2018; Wang et al., 2019; Eva et al., 2020) and social identity theory (De Roeck and Farooq, 2018; Yang and Wei, 2018; Gerpott et al., 2019). We investigated the impact of EL on KS among workers using the social learning theory to explain the influence of EL on employee behavior. Our research sheds light on the mediating mechanisms of psychological ownership as well as the moderating variable of professional commitment by demonstrating that employees engage in pro-social and psychological behavior under the guidance and supervision of EL to share knowledge. According to Garba et al. (2018), as a manager and as a role model, an ethical leader actively enhances the external events of the organization while also transforming the self-Concept of their employees. This finding supports the theoretical concepts. When it comes to psychologically strong employees and management traits, our study provides a more complete picture of how these two aspects interact to influence employee behavior in a more comprehensive manner. Using this approach, we can provide empirical evidence to support our theoretical understanding of EL by demonstrating that a leader's twin functions as a psychological person and psychological manager are crucial in encouraging colleagues to act in a professional manner (Adil and Kamal, 2018; Xiao and Cooke, 2019). Third, as a result of our research, we found that employee professional dedication and KS among colleagues are both critical variables in encouraging information sharing among colleagues. According to the results, EL is a value-based leadership style generally acknowledged in the development of workers' professional skills

TABLE 5 | Direct path.

	t	R²	SE	β
EL→KS	12.8	0.35	0.54	0.557***

***Correlation is significant at the 0.001 level (2-tailed).

TABLE 6 | Mediation path.

	BootLLCI	BootULCI	Boot SE	β	Decision
Mediation path	0.3432	0.5102	0.0428	0.4259	Partial mediation

TABLE 7 | Results of the moderated path analysis.

Ethical leadership*psychological ownership = knowledge sharing						
					95% CI	
	B	SE	t	p	LL	UL
EL	0.6794	0.1575	4.3125	0.0000	0.3694	0.9894
PC	0.8923	0.1441	6.1939	0.0000	0.6088	1.1758
EL*PC	−0.1046	0.0394	−2.6549	0.0084	−0.1821	−0.0271
HP (−1 SD)	0.3450	0.0458	7.5291	0.0000	0.2548	0.4352
HP (+1 SD)	0.1771	0.0516	3.4350	0.0007	0.0756	0.2786
R²						0.64
ΔR²						0.0082

FIGURE 2 | EL*PC=KS.
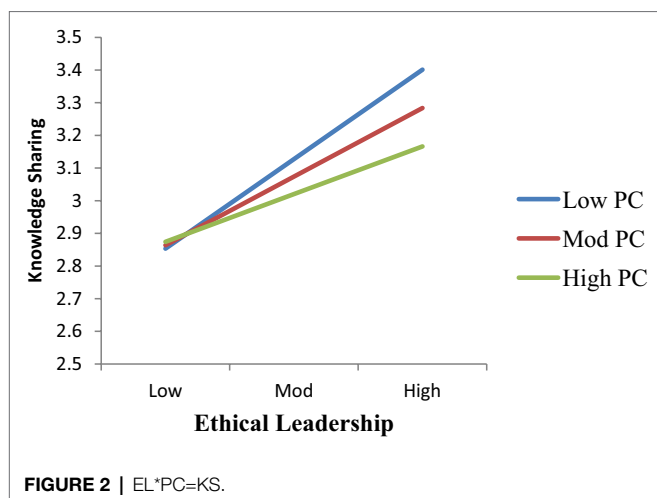
and abilities (Den Hartog, 2015). In the case of an ethical leader who is a real ethical role model, the values of that leader are recognized and reflected by their followers' behaviors.

Our findings also demonstrate that professional commitment is associated with an explanatory power that is comparable to psychological ownership in the EL- employee KS relationship. As Ryan and Deci (2002) argue, external aims are not necessarily inferior to internal driving factors when it comes to motivating people's behavior (Eva et al., 2020). Our findings corroborate the efficacy of the twin processes (psychological ownership and professional commitment) predicted by the EL paradigm is significant affects followers' attitudes and conduct to a great degree. Our theoretical model meaningfully connects the literature on leadership, knowledge management, psychological ownership, and professional commitment, and more research is needed to fully understand the impact of EL on the psychological wellbeing of others around them, as this study demonstrates.

Practical Implications

Our research provides insight into how organizations might encourage their employees to share their knowledge in ways that are beneficial to the company as a whole, rather than just to themselves. First, according to our findings, ethical leaders are actively involved in stimulating information sharing among their staff. Employees who desire to boost KS at work may want to be mentally robust and to participate in professional development programs that encourage ethical conduct. Second, organizations could encourage EL by offering training programs for leaders, stressing the relevance of psychological concepts, and presenting examples of ethical behavior that leaders should demonstrate in their everyday behavior and management practices. Third, when it comes to encouraging information sharing within an organization, it is critical that employees understand the significance of both internal and external regulations. Consequently, organizations must regularly implement mental health programs to prevent interruptions in the flow of information among their employees.

LIMITATIONS AND FUTURE AVENUES

There are several possible drawbacks to this research as well. First, all factors, such as EL, psychological ownership, professional commitment, and KS, were derived from the same source. Because the data were acquired from the same source, a common technique bias may have emerged (Podsakoff et al., 2003). Experimental designs that enhance causal inference should be used in future studies to address this issue. Second, a theoretical model was developed and evaluated at both individual and team levels. Several control variables have been included at both the individual and team levels. Individual and team-level parameters, such as age and gender were considered in our investigation. As Serenko and Bontis (2016) argue, organizational factors like organizational culture, which may affect people's motivation to share information, may also have an impact on individuals' willingness to share knowledge. Corporate culture control should be the primary focus of future research as well as identifying whether such a theoretical model is validated at the organizational level of examination. Third, in accordance with social learning theory, we investigated a mechanism that connects EL with KS in organizations. However, other possible mechanisms cannot be ruled out. As KS progresses, it is necessary to investigate various possible models using a variety of theoretical approaches. For example, may lead to a greater desire to share knowledge (Huo et al., 2016). Future studies should incorporate this behavior. In addition, there may be other possible moderators in the link between EL and KS, such as self-Monitoring, political skills as well as conscientiousness, societal norms, and individual variations based on morality (Bavik et al., 2018). Self-Monitoring, political skills, and conscientiousness have been shown to increase the likelihood that employees will share their knowledge with their coworkers because they see it as a professional obligation. EL and KS should be examined in light of these moderating effects in future research (Bavik et al., 2018).

FINAL THOUGHTS

Most organizations find it challenging to motivate employees to share their knowledge and abilities with colleagues in a productive and effective manner. In the disciplines of organizational behavior and knowledge management, the results of this research may be used to better understand the links between EL, organizational performance, trust in leaders, and certain aspects of knowledge behavior in the workplace. The findings of this study support the hypothesis that EL is crucial in improving employees' psychological wellbeing and developing employees' loyalties to their jobs and organizations, allowing them to share knowledge with their colleagues. KS behavior can be strongly influenced by EL. The fact that a leader treats employee with dignity, honesty, fairness, and integrity, enables them to participate in decision-making; and encourages them to do so and the fact that the leader encourages normative and ethical behavior among his or her workers *via* two-way communication, may contribute to followers' good evaluations of their leader's personality. This research examines and determined that EL is an effective approach to encourage KS among employees by using social learning theory.

Our findings offer preliminary empirical evidence in favor of the theoretical model of EL as a foundation for learning organizations. To create an effective learning environment and encourage resource sharing among employees, these results emphasis the need for ethical leaders who not only support their followers psychologically but also act as a mentor to help them in developing their professional commitment.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants

provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

FUNDING

REFERENCES

Adil, A., and Kamal, A. (2018). Impact of perceived authentic leadership and psychological capital on burnout: mediating role of psychological ownership. *Psychol. Stud.* 63, 243–252. doi: 10.1007/s12646-018-0446-x

Agarwal, U. A., Gupta, M., and Cooke, F. L. (2022). Knowledge hide and seek: role of ethical leadership, self-enhancement and job-involvement. *J. Bus. Res.* 141, 770–781. doi: 10.1016/j.jbusres.2021.11.074

Ali, A., Ahmad, S., and Saeed, I. (2018). Ethical leadership and organizational citizenship behavior: mediating role of organizational justice: a case study of education sector. *Abasyn J. Soc. Sci.* 11, 386–399.

Ali, M., Zhang, L., Zhang, Z., Zada, M., Begum, A., Han, H., et al. (2021). Can leaders' humility enhance project management effectiveness? Interactive effect of top management support. *Sustainability* 13:9526. doi: 10.3390/su13179526

Alrawi, K., Alrawi, A., and Alrawi, W. (2016). Leadership knowledge sharing environments' effect on Employees' performance in organizations. *Appl. Sci. Rep.* 13:4349. doi: 10.15192/PSCP.ASR.2016.13.1.4349

Arain, G. A., Bhatti, Z. A., Ashraf, N., and Fang, Y.-H. (2020). Top-down knowledge hiding in organizations: an empirical study of the consequences of supervisor knowledge hiding among local and foreign workers in the Middle East. *J. Bus. Ethics* 164, 611–625. doi: 10.1007/s10551-018-4056-2

Aranya, N., Pollock, J., and Amernic, J. (1981). An examination of professional commitment in public accounting. *Acc. Organ. Soc.* 6, 271–280. doi: 10.1016/0361-3682(81)90007-6

Avey, J. B., Hughes, L. W., Norman, S. M., and Luthans, K. W. (2008). Using positivity, transformational leadership and empowerment to combat employee negativity. *Leadersh. Organ. Dev. J.* 29, 110–126. doi: 10.1108/01437730810852470

Bandura, A. (1979). Self-referent mechanisms in social learning theory. *Am. Psychol.* 34, 439–441. doi: 10.1037/0003-066X.34.5.439.b

Bandura, A., and Hall, P. (2018). Albert bandura and social learning theory. *Learning Theories For Early Years Practice*, 63.

Banks, G. C., Fischer, T., Gooty, J., and Stock, G. (2021). Ethical leadership: mapping the terrain for concept cleanup and a future research agenda. *Leadersh. Q.* 32:101471. doi: 10.1016/j.leaqua.2020.101471

Bavik, Y. L., Tang, P. M., Shao, R., and Lam, L. W. (2018). Ethical leadership and employee knowledge sharing: exploring dual-mediation paths. *Leadersh. Q.* 29, 322–332. doi: 10.1016/j.leaqua.2017.05.006

Bedi, R., and Wordley, V. (2019). Education and training for dental leadership–a case study of the senior dental leadership programme. *J. Dent.* 87, 36–39. doi: 10.1016/j.jdent.2019.05.007

Bhatti, S. H., Kiyani, S. K., Dust, S. B., and Zakariya, R. (2021). The impact of ethical leadership on project success: the mediating role of trust and

knowledge sharing. *Int. J. Manag. Proj. Bus.* 14, 982–998. doi: 10.1108/IJMPB-05-2020-0159

Brown, M. E., Treviño, L. K., and Harrison, D. A. (2005). Ethical leadership: a social learning perspective for construct development and testing. *Organ. Behav. Hum. Decis. Process.* 97, 117–134. doi: 10.1016/j.obhdp.2005.03.002

Castellani, P., Rossato, C., Giaretta, E., and Davide, R. (2021). Tacit knowledge sharing in knowledge-intensive firms: the perceptions of team members and team leaders. *Rev. Manag. Sci.* 15, 125–155. doi: 10.1007/s11846-019-00368-x

Chang, J. Y., and Choi, J. N. (2007). The dynamic relation between organizational and professional commitment of highly educated research and development (R&D) professionals. *J. Soc. Psychol.* 147, 299–315. doi: 10.3200/SOCP.147.3.299-315

Chang, H. Y., Chu, T. L., Liao, Y. N., Chang, Y. T., and Teng, C. I. (2019). How do career barriers and supports impact nurse professional commitment and professional turnover intention? *J. Nurs. Manag.* 27, 347–356. doi: 10.1111/jonm.12674

Chen, T., Dodds, S., Finsterwalder, J., Witell, L., Cheung, L., Falter, M., et al. (2020). Dynamics of wellbeing co-creation: a psychological ownership perspective. *J. Serv. Manag.* doi: 10.1108/JOSM-09-2019-0297

Cheng, Z., Liu, W., Zhou, K., Che, Y., and Han, Y. (2021). Promoting employees' pro-environmental behaviour through empowering leadership: the roles of psychological ownership, empowerment role identity, and environmental self-identity. *Bus. Ethics Environ. Responsib.* 30, 604–618. doi: 10.1111/beer.12366

Connelly, C. E., Zweig, D., Webster, J., and Trougakos, J. P. (2012). Knowledge hiding in organizations. *J. Organ. Behav.* 33, 64–88. doi: 10.1002/job.737

De Roeck, K., and Farooq, O. (2018). Corporate social responsibility and ethical leadership: investigating their interactive effect on employees' socially responsible behaviors. *J. Bus. Ethics* 151, 923–939. doi: 10.1007/s10551-017-3656-6

Den Hartog, D. N. (2015). Ethical leadership. *Annu. Rev. Organ. Psychol. Organ. Behav.* 2, 409–434. doi: 10.1146/annurev-orgpsych-032414-111237

Dittmar, H. (1992). *The Social Psychology of Material Possessions: To Have Is to Be.* London: Palgrave MacMillan.

Eva, N., Newman, A., Miao, Q., Wang, D., and Cooper, B. (2020). Antecedents of duty orientation and follower work behavior: the interactive effects of perceived organizational support and ethical leadership. *J. Bus. Ethics* 161, 627–639. doi: 10.1007/s10551-018-3948-5

Evans, W. R., Davis, W. D., and Neely, A. (2021). The role of organizational cynicism and conscientiousness in the relationship between ethical leadership and deviance. *J. Manag. Issues* 33, 49–68.

Fatima, T., Majeed, M., and Saeed, I. (2017). Does participative leadership promote innovative work behavior: the moderated mediation model. *Bus. Econ. Rev.* 9, 141–158. doi: 10.22547/BER/9.4.7

Ganguly, A., Talukdar, A., and Chatterjee, D. (2019). Evaluating the role of social capital, tacit knowledge sharing, knowledge quality and reciprocity in determining innovation capability of an organization. *J. Knowl. Manag.* 23, 1105–1135. doi: 10.1108/JKM-03-2018-0190

Garba, O. A., Babalola, M. T., and Guo, L. (2018). A social exchange perspective on why and when ethical leadership foster customer-oriented citizenship behavior. *Int. J. Hosp. Manag.* 70, 1–8. doi: 10.1016/j.ijhm.2017.10.018

Gerpott, F. H., Fasbender, U., and Burmeister, A. (2020). Respectful leadership and followers' knowledge sharing: a social mindfulness lens. *Hum. Relat.* 73, 789–810. doi: 10.1177/0018726719844813

Gerpott, F. H., Van Quaquebeke, N., Schlamp, S., and Voelpel, S. C. (2019). An identity perspective on ethical leadership to explain organizational citizenship behavior: the interplay of follower moral identity and leader group prototypicality. *J. Bus. Ethics* 156, 1063–1078. doi: 10.1007/s10551-017-3625-0

Ghani, U., Zhai, X., Spector, J. M., Chen, N.-S., Lin, L., Ding, D., et al. (2020). Knowledge hiding in higher education: role of interactional justice and professional commitment. *High. Educ.* 79, 325–344. doi: 10.1007/s10734-019-00412-5

Grusec, J. E. (1994). Social learning theory and developmental psychology: the legacies of Robert R. Sears and Albert Bandura. Available at: https://psycnet.apa.org/record/1994-98230-016

Guarana, C. L., and Avolio, B. J. (2022). Unpacking psychological ownership: how transactional and transformational leaders motivate ownership. *J. Leadersh. Organ. Stud.* 29, 96–114. doi: 10.1177/15480518211066072

Guerrero, S., Chênevert, D., and Kilroy, S. (2017). New graduate nurses' professional commitment: antecedents and outcomes. *J. Nurs. Scholarsh.* 49, 572–579. doi: 10.1111/jnu.12323

Gul, S., Ali, A., and Saeed, I. (2021). Revisiting organizational justice and employees job satisfaction: a stakeholders perspective of NGOs in Khyber Pakhtunkhwa. *J. Manag. Sci.* 15.

Gupta, B., Wang, K. Y., and Cai, W. (2020). Interactional justice and willingness to share tacit knowledge: perceived cost as a mediator, and respectful engagement as moderator. *Pers. Rev.* 50, 478–497. doi: 10.1108/PR-08-2019-0436

Hair, J. F., Anderson, R. E., Tatham, R. L., and Black, W. C. (1998). *Multivariate Data Analysis. 5th Edn.* New Jersey, USA: Englewood Cliff. 207–2019.

Hair, J. F., Sarstedt, M., Ringle, C. M., and Gudergan, S. P. (2017). *Advanced Issues in Partial Least Squares Structural Equation Modeling.* Thousand Oaks, CA: SAGE Publications.

Hameed, Z., Khan, I. U., Sheikh, Z., Islam, T., Rasheed, M. I., and Naeem, R. M. (2019). Organizational justice and knowledge sharing behavior: the role of psychological ownership and perceived organizational support. *Pers. Rev.* 48, 748–773. doi: 10.1108/PR-07-2017-0217

Han, T.-S., Chiang, H.-H., and Chang, A. (2010). Employee participation in decision making, psychological ownership and knowledge sharing: mediating role of organizational commitment in Taiwanese high-tech organizations. *Int. J. Hum. Resour. Manag.* 21, 2218–2233. doi: 10.1080/09585192.2010.509625

Hayes, A. F. (2017). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach.* New York: Guilford publications.

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: current research status and future research directions. *Front. Psychol.* 12:748237. doi: 10.3389/fpsyg.2021.748237

Henseler, J., Ringle, C. M., and Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Mark. Sci.* 43, 115–135.

Huo, W., Cai, Z., Luo, J., Men, C., and Jia, R. (2016). Antecedents and intervention mechanisms: a multi-level study of R&D team's knowledge hiding behavior. *J. Knowl. Manag.* 20, 880–897. doi: 10.1108/JKM-11-2015-0451

Iacobucci, D., and Duhachek, A. (2003). Advancing alpha: measuring reliability with confidence. *J. Consum. Psychol.* 13, 478–487. doi: 10.1207/S15327663JCP1304_14

Ipe, M. (2003). Knowledge sharing in organizations: a conceptual framework. *Hum. Resour. Dev. Rev.* 2, 337–359. doi: 10.1177/1534484303257985

Karim, S., and Nadeem, S. (2019). Understanding the unique impact of dimensions of ethical leadership on employee attitudes. *Ethics Behav.* 29, 572–594. doi: 10.1080/10508422.2019.1580582

Keen, M., Brown, V., and Dyball, R. (2005). *Social Learning in Environmental Management.* London: Earthscan.

Khan, D., and Ali, N. (2019). Knowledge sharing concept, attitude and influencing factors: a case with Indian academic librarians. *J. Inf. Knowl. Manag.* 18:1950034. doi: 10.1142/S0219649219500345

Khan, J., Usman, M., Saeed, I., Ali, A., and Nisar, H. (2022). Does workplace spirituality influence knowledge-sharing behavior and work engagement in work? Trust as a mediator. *Manag. Sci. Lett.* 12, 51–66. doi: 10.5267/j.msl.2021.8.001

Kim, M., and Beehr, T. A. (2017). Self-efficacy and psychological ownership mediate the effects of empowering leadership on both good and bad employee behaviors. *J. Leadersh. Organ. Stud.* 24, 466–478. doi: 10.1177/1548051817702078

Kim, N., and Shim, C. (2018). Social capital, knowledge sharing and innovation of small-and medium-sized enterprises in a tourism cluster. *Int. J. Contemp. Hosp. Manag.* 30, 2417–2437. doi: 10.1108/IJCHM-07-2016-0392

Koay, K. Y., and Lim, P. K. (2021). Ethical leadership and knowledge hiding: testing the mediating and moderating mechanisms. *J. Knowl. Manag.* ahead-of-print. doi: 10.1108/JKM-02-2021-0091

Kock, N. (2015). Common method bias in PLS-SEM: a full collinearity assessment approach. *Int. J. eCollab.* 11, 1–10. doi: 10.4018/ijec.2015100101

Kuenzi, M., Brown, M. E., Mayer, D. M., and Priesemuth, M. (2019). Supervisor-subordinate (dis) agreement on ethical leadership: an investigation of its antecedents and relationship to organizational deviance. *Bus. Ethics Q.* 29, 25–53. doi: 10.1017/beq.2018.14

Lachman, R., and Aranya, N. (1986). Evaluation of alternative models of commitments and job attitudes of professionals. *J. Organ. Behav.* 7, 227–243. doi: 10.1002/job.4030070307

Le, P. B., and Lei, H. (2018). The mediating role of trust in stimulating the relationship between transformational leadership and knowledge sharing processes. *J. Knowl. Manag.* 22, 521–537. doi: 10.1108/JKM-10-2016-0463

Lei, H., Ha, A. T. L., and Le, P. B. (2019). How ethical leadership cultivates radical and incremental innovation: the mediating role of tacit and explicit knowledge sharing. *J. Bus. Ind. Mark.* 35, 849–862. doi: 10.1108/JBIM-05-2019-0180

Lin, H. F. (2007). Knowledge sharing and firm innovation capability: an empirical study. *Int. J. Manpow.* 28, 315–332. doi: 10.1108/01437720710755272

Lin, C.-P., Huang, H.-T., and Huang, T. Y. (2020). The effects of responsible leadership and knowledge sharing on job performance among knowledge workers. *Pers. Rev.* 49, 1879–1896. doi: 10.1108/PR-12-2018-0527

Liu, M.-L., Lin, C.-P., Joe, S.-W., and Chen, K.-J. (2018). Modeling knowledge sharing and team performance: the interactions of ethical leadership and ambidexterity with politics and job complexity. *Manag. Decis.* 49, 1879–1896. doi: 10.1108/MD-01-2017-0052

Luo, C., Lan, Y., Luo, X. R., and Li, H. (2021). The effect of commitment on knowledge sharing: an empirical study of virtual communities. *Technol. Forecast. Soc. Chang.* 163:120438. doi: 10.1016/j.techfore.2020.120438

MacKenzie, S. B., and Podsakoff, P. M. (2012). Common method bias in marketing: causes, mechanisms, and procedural remedies. *J. Retail.* 88, 542–555. doi: 10.1016/j.jretai.2012.08.001

Men, C., Fong, P. S., Huo, W., Zhong, J., Jia, R., and Luo, J. (2020). Ethical leadership and knowledge hiding: a moderated mediation model of psychological safety and mastery climate. *J. Bus. Ethics* 166, 461–472. doi: 10.1007/s10551-018-4027-7

Mishra, S., and Malhotra, G. (2021). The gamification of in-game advertising: examining the role of psychological ownership and advertisement intrusiveness. *Int. J. Inf. Manag.* 61:102245. doi: 10.1016/j.ijinfomgt.2020.102245

Mitchell, R., Boyle, B., and Von Stieglitz, S. (2019). Professional commitment and team effectiveness: a moderated mediation investigation of cognitive diversity and task conflict. *J. Bus. Psychol.* 34, 471–483. doi: 10.1007/s10869-018-9550-0

Mostafa, A. M. S., Farley, S., and Zaharie, M. (2021). Examining the boundaries of ethical leadership: the harmful effect of co-worker social undermining on disengagement and employee attitudes. *J. Bus. Ethics* 174, 355–368. doi: 10.1007/s10551-020-04586-2

Pittino, D., Martínez, A. B., Chirico, F., and Galván, R. S. (2018). Psychological ownership, knowledge sharing and entrepreneurial orientation in family firms: the moderating role of governance heterogeneity. *J. Bus. Res.* 84, 312–326. doi: 10.1016/j.jbusres.2017.08.014

Podsakoff, P. M., MacKenzie, S. B., Podsakoff, N. P., and Lee, J. Y. (2003). The mismeasure of man (agement) and its implications for leadership research. *Leadersh. Q.* 14, 615–656. doi: 10.1016/j.leaqua.2003.08.002

Rahman, S., Saeed, I., and Batool, S. (2019). The mediating effect of CSR on the relationship between authentic leadership and organization citizenship behavior. *Glob. Soc. Sci. Rev.* 4, 83–91. doi: 10.31703/gssr.2019(IV-II).08

Ryan, R. M., and Deci, E. L. (eds.) (2002). "Overview of self-determination theory: an organismic dialectical perspective," *Handbook of Self-Determination Research.* (New York: University of Rochester Press), 3–33.

Scholz, J. P., and Schöner, G. (1999). The uncontrolled manifold concept: identifying control variables for a functional task. *Exp. Brain Res.* 126, 289–306. doi: 10.1007/s002210050738

Serenko, A., and Bontis, N. (2016). Understanding counterproductive knowledge behavior: antecedents and consequences of intra-organizational knowledge hiding. *J. Knowl. Manag.* 20, 1199–1224. doi: 10.1108/JKM-05-2016-0203

Sharif, M. M., and Scandura, T. A. (2014). Do perceptions of ethical conduct matter during organizational change? Ethical leadership and employee involvement. *J. Bus. Ethics* 124, 185–196. doi: 10.1007/s10551-013-1869-x

Singh, S. K., Gupta, S., Busso, D., and Kamboj, S. (2021). Top management knowledge value, knowledge sharing practices, open innovation and organizational performance. *J. Bus. Res.* 128, 788–798. doi: 10.1016/j.jbusres.2019.04.040

Spector, P. E., and Brannick, M. T. (2011). Methodological urban legends: the misuse of statistical control variables. *Organ. Res. Methods* 14, 287–305. doi: 10.1177/1094428110369842

Spender, J. C., and Grant, R. M. (1996). Knowledge and the firm: overview. *Strateg. Manag. J.* 17, 5–9. doi: 10.1002/smj.4250171103

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: dimensions, measurement, and validation. *Acad. Manag. J.* 38, 1442–1465.

Su, X., Lin, W., Wu, J., Zheng, Q., Chen, X., and Jiang, X. (2021). Ethical leadership and knowledge sharing: the effects of positive reciprocity and moral efficacy. *SAGE Open* 11:215824402110218. doi: 10.1177/21582440211021823

Sun, H., Zhang, L., and Meng, J. (2019). Alleviating knowledge contribution loafing among engineering designers by ethical leadership: the role of knowledge-based psychological ownership and emotion regulation strategies. *J. Knowl. Manag.* 24, 235–257. doi: 10.1108/JKM-06-2019-0301

Tahir, M., Rahman, S., and Saeed, I. (2019). The effect of relational coordination on employee creative involvement: a study of public and private hospitals in Peshawar. *Pak. Glob. Reg. Rev.* IV, 103–111. doi: 10.31703/grr.2019(IV-III).12

Tang, P. M., Bavik, Y. L., Chen, Y., and Tjosvold, D. (2015). "Linking ethical leadership to knowledge sharing and knowledge hiding: the mediating role of psychological engagement." in *International Conference of Management and Behavioral Science*; March 2015; Singapore.

Teng, C. I., Dai, Y. T., Lotus Shyu, Y. I., Wong, M. K., Chu, T. L., and Tsai, Y. H. (2009). Professional commitment, patient safety, and patient-perceived care quality. *J. Nurs. Scholarsh.* 41, 301–309. doi: 10.1111/j.1547-5069.2009.01289.x

Van Gils, S., Van Quaquebeke, N., van Knippenberg, D., van Dijke, M., and De Cremer, D. (2015). Ethical leadership and follower organizational deviance: the moderating role of follower moral attentiveness. *Leadersh. Q.* 26, 190–203. doi: 10.1016/j.leaqua.2014.08.005

Wallace, J. E. (1995). Organizational and professional commitment in professional and nonprofessional organizations. *Adm. Sci. Q.* 40, 228–255. doi: 10.2307/2393637

Wang, T., Long, L., Zhang, Y., and He, W. (2019). A social exchange perspective of employee–organization relationships and employee unethical pro-organizational behavior: the moderating role of individual moral identity. *J. Bus. Ethics* 159, 473–489. doi: 10.1007/s10551-018-3782-9

Wright, T. A., and Cropanzano, R. (1998). Emotional exhaustion as a predictor of job performance and voluntary turnover. *J. Appl. Psychol.* 83, 486–493. doi: 10.1037/0021-9010.83.3.486

Wu, W.-L., and Lee, Y.-C. (2017). Empowering group leaders encourages knowledge sharing: integrating the social exchange theory and positive organizational behavior perspective. *J. Knowl. Manag.* 21, 474–491. doi: 10.1108/JKM-08-2016-0318

Xiao, M., and Cooke, F. L. (2019). Why and when knowledge hiding in the workplace is harmful: a review of the literature and directions for future research in the Chinese context. *Asia Pac. J. Hum. Resour.* 57, 470–502. doi: 10.1111/1744-7941.12198

Xue, Y., Bradley, J., and Liang, H. (2011). Team climate, empowering leadership, and knowledge sharing. *J. Knowl. Manag.* 15, 299–312. doi: 10.1108/13673271111119709

Yang, Q., and Wei, H. (2018). The impact of ethical leadership on organizational citizenship behavior: the moderating role of workplace ostracism. *Leadersh. Organ. Dev. J.* 39, 100–113. doi: 10.1108/LODJ-12-2016-0313

Yasin, R. (2021). Responsible leadership and employees' turnover intention. Explore the mediating roles of ethical climate and corporate image. *J. Knowl. Manag.* 25, 1760–1781. doi: 10.1108/JKM-07-2020-0583

Zada, S., Wang, Y., Zada, M., and Gul, F. (2021). Effect of mental health problems on academic performance among university students in Pakistan. *Int. J. Ment. Health Promot.* 23, 395–408. doi: 10.32604/IJMHP.2021.015903

Zhao, J., Lyu, X., Fu, Y., Hu, X., and Li, F. (2016). Coordinated microgrid frequency regulation based on DFIG variable coefficient using virtual inertia and primary frequency control. *IEEE Trans. Energy Conv.* 31, 833–845. doi: 10.1109/TEC.2016.2537539

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

How I Speak Defines What I Do: Effects of the Functional Language Proficiency of Host Country Employees on Their Unethical Pro-organizational Behavior

Ya Xi Shen[1], Chuang Zhang[1], Lamei Zuo[1], Xingxing Zhou[2]*, Xuhui Deng[1] and Long Zhang[1†]

[1] Business School, Hunan University, Changsha, China, [2] Institute of Facility Agriculture, Guangdong Academy of Agricultural Sciences, Guangzhou, China

Functional language has been used in many multinational corporations (MNCs) as a way to overcome the problems caused by the coexistence of multiple languages in the workplace. The existing literature has explored the importance, adoption, and effectiveness of functional language. Yet, how functional language shapes host country employees' moral cognition and behavior is insufficiently researched. Guided by the Social Identity Theory, this manuscript shows that host country employees' functional language proficiency (i.e., English) enhances their unethical pro-organizational behavior through their linguistic group identification and moral disengagement. We tested our predictions using the data collected from 309 full-time host country employees through an online survey, and the results generally supported our hypotheses. The findings make contributions to both international management and language literature and organizational moral behavior literature.

Keywords: language, multinational corporation, organizational identification, moral disengagement, unethical pro-organizational behavior, knowledge transfer

INTRODUCTION

With the development of international business, an increasing number of multinational corporations (MNCs) have established subunits around the world. When headquarters and subsidiaries are situated in different linguistic zones, multiple languages are often used by MNC employees (Cohen and Kassis-Henderson, 2017; Vigier and Spencer-Oatey, 2017). Language, as the basis of communication, is essential to the understanding of organizational processes. The use of multiple languages can be the origin of many communication problems that occur at different organizational levels. For instance, the use of multiple languages leads to tension between headquarters and subsidiaries (Vaara et al., 2005; Fredriksson et al., 2006). Moreover, the lack of a common language may result in a misunderstanding between top management and general employees (Barner-Rasmussen and Aarnio, 2011), as well as in the segregation of employees who speak different first languages. Therefore, most MNCs introduce a single functional language policy, aiming to overcome the possible problems associated with interorganizational languages and the facilitation of communication within organizations.

According to Luo and Shenkar (2006), functional language can be defined as "the language formally designated for verbal and written use by an MNC's focal unit (headquarters or overseas subunit) within this unit and with the rest of the MNC network." As Bialystok (1981) suggested, functional language focuses on the use of language for conversations, information, etc. Additionally, Dong et al. (2018) highlighted the contextual and practical use of functional language. Several studies (e.g., Piekkari et al., 2005) have illustrated the importance of functional language for MNCs and their employees. From an organizational perspective, Harzing and Pudelko (2014), for instance, claimed that English as a business lingua franca helps shorten the language distance within an MNC. Functional language may also contribute to trust building (Feely and Harzing, 2003) and tacit knowledge inflow (Reiche et al., 2015) between headquarters and subsidiaries. From an MNC employee perspective, the use of functional language has also been illustrated as affecting their workplace experiences, such as their social status (Hinds et al., 2014), leadership positions (Paunova, 2017), and interpersonal relationships (Henderson, 2005) in the organizational context. Therefore, whether employees can speak the functional language and how proficiently they do so may directly or indirectly impact their work experience.

Employees may be segregated into different groups based on their various functional language proficiencies. Some levels of communication may involve only employees who speak the functional language at a proficient level, thereby excluding the remaining employees who lack this proficiency (Fantini, 1995; Selmer, 2006). The inclusion and exclusion of employees based on their language proficiency may further impact their attitudes toward the organization as well as their organizational behaviors. For instance, these employees may be more likely to proactively participate in organization-related activities and protect their organizational interests despite moral criteria because they have positive emotions toward the organization owing to their language-based "in-group" status (Sharoni et al., 2015). In this case, research has shown that employees' "in-group" status within the organization often motivates them to perform activities that disregard their ethical standards to defend their organization's interests, leading to workplace misconduct and unethical behavior (Babatunde and Viet, 2021). Based on the relationship between language proficiency and linguistic identity and the moral disengagement that may arise from employee identification and the subsequent unethical behavior it triggers, the model proposed in this manuscript is shown in **Figure 1**.

The purpose of this study is to explore how functional language proficiency impacts host country MNC employees' moral disengagement and unethical pro-organizational behavior (UPB) in MNC host country subunits. This research field is important but has been overlooked for at least four reasons. First,

the process of language use has been neglected in the areas of international business and MNC management for many years (Marschan et al., 1997). Most MNCs ignore the complexity of language and simply introduce a single functional language policy as the unified answer for all organizational language problems (Feely and Harzing, 2003). However, whether an organization should use a single functional language may be only the starting point. How functional language is used in organizations may be more important, as it focuses more on the actual language use process and the problems that may occur during this process. However, most existing studies focus on the "whether or not" part of functional language, for instance, the willingness to adopt a functional language (Bordia and Bordia, 2015), the effectiveness of using a single functional language (Fredriksson et al., 2006), and the strategy of building a better functional language policy (Luo and Shenkar, 2006). Very few studies have focused on exploring the actual process of using a functional language. Given the reality that single functional language policies are already widely used in most MNCs around the world and that this current status cannot be changed easily, at least not in a short time. Currently, it is more meaningful to look at "how well" functional languages have been used (e.g., proficiency). It is also important to understand how the functional language use process may impact employees' work, non-work experience, and organizational behavior and attitudes instead of focusing only on "whether or not" the functional language should be used.

In addition, the existing body of literature examining functional language use has typically focused on organizational headquarters. From a global perspective, the majority of management researchers are from Western (e.g., English) backgrounds in which most MNCs are founded; therefore, these researchers are less likely to notice and understand the problems that host country MNC employees may face. Their language studies are more likely to focus on the controlling function when taking an organizational approach (Feely and Harzing, 2003; Reiche et al., 2015) and on expatriates' language use experience when taking an employee approach (Zhang and Harzing, 2016). Although several studies have explored the problems encountered by host country MNC employees when using functional languages at work, host country MNC employees as a group are under-researched in the current literature on language and international business. However, this group plays an important role in MNCs. Host country MNC employees account for a large portion of all MNC employees, and their performance has a great influence on overall MNC performance as well as that in the local area. The organizational behavior and attitudes of these employees toward MNCs are therefore worth researching.

Third, few studies have explored functional language proficiency from an identity perspective. In the handful of studies that have focused on functional language proficiency, functional language speaking has been studied mostly as a communication skill (Selmer, 2006) and, in some cases, as a specific status characteristic based on status characteristics theory (Paunova, 2017). However, functional language can also be understood from an identity perspective. Linguistic identity is an integral part of individuals' social identity

FIGURE 1 | Proposed mediated model.
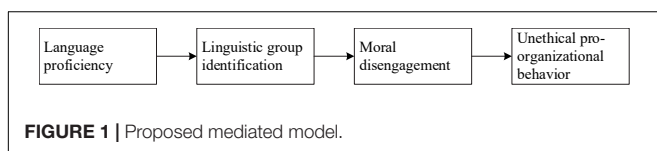
(Bordia and Bordia, 2015; He et al., 2020; Wu and Chen, 2021). Individuals define themselves and others partly through their language use. In MNC subunits, whether host country MNC employees have a functional language linguistic identity and how strong this identity is guide their attitudes and behavior toward their colleagues as well as toward the organization that defines the functional language. Therefore, functional language proficiency should also be studied through a social identity pathway.

Finally, moral disengagement has emerged as a key mediatory mechanism, but little is known about how it links linguistic identification with organizational behavior and attitudes toward MNCs. Research has shown that when employees increase their identity with the organization, they engage in more ethical defensive behaviors toward the organization, including the use of unethical tactics and wrongdoing. In addition, moral disengagement has been shown to be positively associated with workplace misconduct and negatively related to organizational citizenship behaviors (Babatunde and Viet, 2021). However, the role played by moral disengagement in the relationship between linguistic identity and employee behavior has not been adequately studied.

Having identified these key research gaps and illustrated their importance to both the broader language literature and organizations, this article aims to explore how functional language has been used by host country MNC employees (whose first language is not the functional language) and how this experience may impact their work outcomes in MNC subunits (where the local language is different from that of the headquarters). A conceptual framework is then proposed to explain how functional language proficiency impacts linguistic identity and how linguistic identity impacts unethical behavior through moral disengagement. Social Identity Theory is used as the overarching theory to inform the model development.

THEORETICAL BACKGROUND

Social Identity Theory

Social identity theory is used as the overarching theoretical perspective to guide the model development. On the one hand, Tajfel (1972) defined social identity as "*the individual's knowledge that he belongs to certain social groups together with some emotional and value significance to him of this group membership*" (p. 292). On the other hand, social identity generally refers to individuals' feeling of whom they are based on the social group or category to which they belong (Hogg and Abrams, 1988). In other words, the core idea is that individuals distinguish themselves and others based on the various social groups to which they belong. To maintain their self-esteem, individuals tend to focus on the positive aspects of their own groups and negative aspects of other social groups and then reject out-group members (Tajfel and Turner, 1986). Additionally, existing theory shows that in-group members may lower their ethical standards to help protect their positive views of the group, ultimately increasing unethical actions within the group (Kundro and Nurmohamed, 2020).

According to Tajfel et al. (1979), one's social identity is formed through a three-stage process—social categorization, social identification, and social comparison. The social categorization stage is mainly the "what people have" stage, in which individuals create social groups based on what people have (e.g., gender, skills, or nationality) and categorize people into different groups, the core idea of which is that these different attributions dominate in various groups (Li et al., 2021). The identification stage then focuses on "who people are" or "who people want to be." In this stage, individuals attach themselves to specific groups. They adopt the cultures and norms of those groups and express themselves as group members. Social identification can help people decrease uncertainty in organizational settings through the "identity prototype" (Porck et al., 2019). Then, the last stage is the "how people behave" stage. In the social comparison stage, people behave based on their identification with certain social groups; they compare their own groups with others to distinguish themselves from other people, and they exaggerate and accentuate their in-group similarities and out-group differences, carrying out positive activities for their own group, and negative activities for other groups to maintain their self-esteem. Moreover, social comparison may affect team performance by influencing people's behavior (Lam et al., 2011).

Linguistic identity refers to individuals' attachment to certain linguistic groups. As people always define themselves and others based on their language use (Giles, 1977), linguistic identity is an integral part of their social identity (Bordia and Bordia, 2015). Therefore, based on the three-stage process of social identity theory, what language individuals speak and how well they master it (social categorization) will impact their identification with a certain linguistic group (social identification). As the functional language plays an important role in the working communication of many MNCs (Dong et al., 2018), its linguistic identity can be considered part of MNCs' organizational identity. The use of an organizational functional language within MNCs may lead to the creation of a new social group within the MNC subunits in host countries. Only employees who speak the functional language proficiently belong to this group (Seyranian, 2014), while local employees who cannot speak the functional language or speak it awkwardly may be excluded (Hogg and Abrams, 1988). Therefore, according to the three-stage process of Tajfel et al. (1979), identification with a functional language group should enhance one's organizational identification (social identification), which then impacts an individual's attitude and behavior toward the organization (social comparison) (Karelaia et al., 2021). For example, high social comparison requires employees to take the organization's perspective; they regard organizational goals or values as their own. Therefore, when faced with a moral dilemma, these employees would rather engage in unethical behavior than say anything negative about the organization or undermine its interests (Valle et al., 2019).

Language Proficiency and Linguistic Group Identification

In MNC subunits where the functional language is different from the local language, some MNC employees speak the functional language more proficiently than they do other languages (Janssens et al., 2004; Peltokorpi and Vaara, 2012). Previous

studies have explored functional language proficiency mainly from a communication skill perspective by arguing that the more proficient an employee can speak the functional language, the better communication skill he or she has in the working context, and therefore, the easier he or she is able to obtain the necessary information in the organization, build better relationships with colleagues, and fit into the organizational culture (Takeuchi et al., 2002). As previously mentioned, the effect of functional language on employees' organizational behavior may also be explored from the identity perspective, yet few studies have focused on it. In this conceptual manuscript, we consider functional language proficiency from an identity perspective. According to social identity theory, individuals attach themselves to different social groups based on their social identity (Tajfel, 1972). Therefore, we propose that individuals will identify with the functional language linguistic group if they speak the functional language (Kroon et al., 2015; Reiche et al., 2015).

Functional language linguistic identity differs from inborn identities (e.g., nationality, first language, or gender) in which the adoption and development of identities occur naturally. Whether to adopt foreign functional language and how proficiently one speaks the second language is a choice of the individual itself. This decision may affect the attitude of individuals toward identity. If individuals prefer a functional language that is different from their inborn language, then they may have negative attitudes toward their inborn identities and therefore weakly identify with those social groups (Bordia and Bordia, 2015), they will always hold positive attitudes toward the identities with which they choose to associate, or otherwise lack the motivation to develop those identities in the first place. Therefore, people are more likely to identify with the social groups that contain their acquired social identities (Zhang et al., 2017; Karhunen et al., 2018; Zhang et al., 2021), as they believe that belonging to these social groups can improve their self-esteem. In addition, the more effort that individuals devote to developing these acquired social identities, the stronger their social identities are, and the more likely they are to identify themselves as being members of these social groups. Therefore, we hypothesize:

Hypothesis 1: Host country MNC employees' functional language proficiency is positively related to their functional language linguistic group identification.

Functional Language Linguistic Group Identification and Moral Disengagement

For MNC subunits where functional language is used, functional language can be considered part of organizational identity (Ashforth et al., 2008). Ashforth et al. (2008) portrayed some content of the identity that plays an essential role in the organizational identification process, developing a broad three-layer formulation of identification that not only considers the "core of the identity" (e.g., I am and I feel) but also focuses on the "content of the identity" such as the values (I care), the goals (I want), as well as the skills, knowledge, and abilities (I can do) attached to the membership, and finally the "behaviors of the identity" (I behave). Therefore, for host country MNC employees, the ability to speak the functional language is, first, a skill (I can speak the organizational language) that is included in the MNC organizational identity. This ability may also be considered as a value (I care about the organizational culture) because the functional language usually represents the culture of the headquarters at which the MNC was founded. Therefore, the ability to speak the functional language helps explain what it means to be an MNC member. The identification of the functional language linguistic group contributes to the identification of the organization that uses the functional language.

Moral disengagement was first introduced by Bandura (1986), who defined it as "*a set of cognitive tactics that allow people to sidestep moral self-regulatory processes that normally prevent misconduct.*" Many antecedents, such as conscientiousness, trait empathy, and moral identity, lead to individuals' moral disengagement (Babatunde and Viet, 2021). In the context of the rapid development of MNCs, previous studies have shown that employees' performance is affected by moral disengagement (Probst et al., 2020; Ogunfowora et al., 2021), but few studies have paid attention to the relationship between linguistic group identification and moral disengagement. Therefore, this study aims to explore this relationship and to take a closer look at the antecedents of moral disengagement. This study explores the positive relationship between individuals' linguistic group identification and their moral disengagement. As mentioned previously, based on social identity theory, individuals behave positively to benefit their own group during social comparison. Therefore, employees who strongly identify with their organization take its perspective, values, and goals as their own, thus activating their moral disengagement when faced with an ethical dilemma to contribute to the overall benefit of the organization (Van Knippenberg, 2000). In addition, an organization can be considered a social group, and functional language proficiency can be considered a shared or collective identity. The more strongly employees believe in their linguistic-based identification of the functional language linguistic group, the more likely they are to perceive themselves as members of the organizational group, which is referred to as organizational identification, and the more likely they are to enhance their propensity for moral disengagement. Thereby, we propose the following:

Hypothesis 2: Host country MNC employees' functional language linguistic group identification is positively related to their moral disengagement.

Moral Disengagement and Unethical Pro-organizational Behavior

According to Babatunde and Viet (2021), high levels of moral disengagement predict a wide range of undesirable outcomes, for instance, non-ethics outcomes, such as turnover intentions, and immoral behavior, such as workplace misconduct. UPB is among the most likely outcomes because it satisfies the demand to maintain self-esteem. As mentioned previously, individuals intend to take actions that jeopardize the out-group but benefit the organization (social comparison). Therefore, we intentionally link moral disengagement with UPB.

How does linguistic identification influence UPB? Based on social cognitive theory, one reason to adopt unethical behavior is that some cognitive mechanisms dampen moral constraints. Individuals all have a self-regulatory mechanism through which moral standards are developed (He et al., 2019). If this mechanism works well, then unethical behavior will be prevented because no individual wants to disobey their moral standards and thus feel guilty. Otherwise, moral constraints are weakened, resulting in unethical behavior (Narwal et al., 2021). Linguistic identification provides the premise on which to simulate moral disengagement. When moral disengagement is activated, host country MNC employees' self-regulation fails to function well (Baron et al., 2015). By interpreting misconduct, employees' moral responsibility is weakened, and hence, their feelings of guilt are reduced, which makes them feel okay about doing something morally wrong. Due to this lack of moral constraints, the possibility of these individuals engaging in UPB is greatly increased.

Individuals may engage in unethical acts by employing any one of eight "cognitive maneuvers," namely, types of moral disengagement (Babatunde and Viet, 2021): moral justification, euphemistic labeling, advantageous comparison, distortion of consequences, displacement of responsibility, diffusion of responsibility, attribution of blame, and dehumanization. In this case, host country MNC employees who have high linguistic group identification and, hence, high organizational identification are more likely to engage in UPB for the sake of MNC interests. These employees may justify this as being acceptable because it serves the organization (moral justification), describe this activity in an innocuous manner (euphemistic labeling), or minimize its outcome by comparing it to organizational loss (advantageous comparison). Therefore, moral disengagement is a key mediatory mechanism through which linguistic identification influences UPB. Thereby, we propose the following:

> **Hypothesis 3:** Host country MNC employees' moral disengagement mediates the positive relationship between functional language linguistic group identification and UPB.

MATERIALS AND METHODS

Sample and Procedures

We collected our data from Mainland China which has become the second-largest global recipient of foreign direct investment (FDI) and the inflow continues increasing every year (UNCTAD, 2019). Our sample was recruited from full-time host country employees working in Western MNCs' Chinese subsidiaries. The survey was distributed purely online, and the survey link was sent to participants via a Chinese multifunctional messaging app called WeChat. Surveys were sent to a total of 375 employees, and 309 completed surveys were returned, yielding a response rate of 82.40%.

As suggested by Podsakoff et al. (2012), to reduce common method bias, data were collected at two time points with a 2-week interval. The first survey measured participants' perceived organizational functional language proficiency (i.e., English proficiency) and their functional language linguistic group identification. The second survey mainly measured participants' moral cognition and behaviors (i.e., moral disengagement, UPB).

Among the final sample of employees, 43.0% were male [standard deviation (SD) = 0.50], 96.1% of participants had a high school education or above (SD = 0.75), and the average age was 28.60 years (SD = 0.76).

Measures
Organizational Functional Language Proficiency

Self-reports of language proficiency are widely used in language research and are strongly related to objective measures of language proficiency (Marion et al., 2007; Mayberry et al., 2011). Therefore, in this study, we asked participants to rate their language abilities with a single item: "How would you evaluate your English level/fluency?" (1 = not good at all, 5 = perfect).

Linguistic Group Identification

Employees' linguistic group identification was measured using a four-item version of Luhtanen and Crocker's (1992) collective self-esteem scale. This scale is divided into four subscales, namely, membership, private, public, and identity subscales. This study chose to use the private subscale and replaced "social groups" with "language groups" to represent the construct of language group identity. An example item is as follows: "I feel good about the language groups I belong to" (1 = strongly disagree, 5 = strongly agree; α = 0.73).

Moral Disengagement

We measured moral disengagement with three items from Chen et al. (2016). An example item is as follows: "It would be ok to be less than fully truthful to protect [my company's] interests" (1 = strongly disagree, 5 = strongly agree; α = 0.89).

Unethical Pro-organizational Behavior

We used six items from Umphress et al. (2010) to measure this construct. An example item is as follows: "If it would help my organization, I would misrepresent the truth to make my organization look good" (1 = strongly disagree, 5 = strongly agree; α = 0.88).

RESULTS

In this study, SPSS 24.0 and Mplus 8.1 were used to preprocess and analyze the data. Regression analysis and stepwise regression, as suggested by Baron and Kenny (1986), were used to verify the hypotheses.

Preliminary Analyses

Table 1 presents the means and standard deviations of and correlations among the study variables. On this basis, **Table 2** shows composite reliability (CR), average variance extracted (AVE), maximum shared squared variance (MSV), and average shared squared variance (ASV) values of the main variables in this study. According to the analysis results, CR values are all

Variable	Mean	SD	1	2	3	4	5	6
1. Gender	1.57	0.50						
2. Age	2.72	0.76	−0.22**					
3. Education	3.08	0.75	0.02	−0.13*				
4. Organizational functional language proficiency	3.30	1.01	0.05	−0.06	0.50**			
5. Linguistic group identification	3.82	0.78	0.11*	−0.01	0.32**	0.64**		
6. Moral disengagement	2.34	0.94	0.10	0.03	0.07	0.18**	0.15**	
7. UPB	2.32	0.81	0.16**	−0.10	0.08	0.09	0.06	0.68**

*N = 309, *p < 0.05, **p < 0.01. UPB, unethical pro-organizational behavior.*

greater than 0.7, while AVE values are all greater than MSV and ASV values. Therefore, the constructs in this study exhibit good construct reliability and discriminant validity. Furthermore, to verify the validity of our main theorized model, we conducted a confirmatory factor analysis (CFA) using Mplus 8.1. **Table 3** presents the results of our measurement model, which provided an adequate fit to the data (χ^2 = 279.27, df = 62, p < 0.01; CFI = 0.90, TLI = 0.87, RMSEA = 0.10, and SRMR = 0.06).

Hypothesis Testing

Regarding hypothesis 1, as shown in **Table 4**, simple regression analysis showed a positive relationship between organizational functional language proficiency and linguistic group identification (Model 1, β = 0.57, p < 0.01). Therefore, hypothesis 1 is supported. In addition, we tested our main theoretical model using stepwise regression according to Baron and Kenny (1986). As shown in **Table 4**, the results illustrate that linguistic group identification is significantly and

positively related to moral disengagement (Model 2, β = 0.13, p < 0.05). Thus, hypothesis 2 is supported. Hypothesis 3 proposed that moral disengagement plays a mediating role in the relationship between linguistic group identification and UPB. The process results showed that the indirect effect is significant and positive (Model 3, β = 0.69, p < 0.01). Therefore, hypothesis 3 is supported.

The results of this study clearly show that organizational functional language proficiency has a direct effect on linguistic group identification, which is consistent with the previous research on functional languages (Kroon et al., 2015; Reiche et al., 2015). However, unlike previous studies, this study found a significant positive correlation between linguistic group identification and moral disengagement, thus complementing the literature on these topics. In addition, unlike previous studies that focused mainly on the relationship between linguistic identity and employee performance (Probst et al., 2020; Ogunfowora et al., 2021), this study focuses on the relationship between linguistic group identification and employee UPB. The data analysis results show that moral disengagement plays a mediating role in the relationship between linguistic group identification and UPB.

DISCUSSION

The purpose of this study is to provide insight into how host country employees' functional language proficiency shapes their moral cognition and behavior. Guided by the Social Identity

TABLE 2 | Results of reliability and validity analyses.

	CR	AVE	MSV	ASV
Linguistic group identification	0.72	0.45	0.41	0.15
Moral disengagement	0.89	0.73	0.03	0.17
UPB	0.88	0.54	0.46	0.16

CR, composite reliability; AVE, average variance extracted; MSV, maximum shared squared variance; ASV, average shared squared variance; UPB, unethical pro-organizational behavior.

TABLE 3 | Results of confirmatory factor analyses.

Model	χ^2	df	CFI	TLI	RMSEA	SRMR
Three-factor model (proposed model)	279.27	62	0.90	0.87	0.10	0.06
Two-factor model: LGID and MD were combined into one factor	623.71	64	0.74	0.68	0.17	0.12
One-factor model: all variables were combined into one factor	789.33	65	0.66	0.59	0.19	0.12

CFI, comparative fit index; TLI, Tucker-Lewis index; RMSEA, root mean square error of approximation; SRMR, standardized root mean square residual, LGID, linguistic group identification; MD, moral disengagement.

TABLE 4 | Results of regression analyses.

Variables	Model 1		Model 2		Model 3		
Gender	0.11	0.09	0.11	0.09	0.14*	0.14	0.08
Age	0.06	0.05	0.06	0.05	−0.06	−0.07	−0.10*
Education	0.33	0.01	0.07	0.03	0.07	0.06	0.04
OFLP		0.64**					
LGID				0.13*		0.03	−0.06
MD							0.69**
R	0.34	0.65	0.13	0.18	0.18	0.19	0.71
Adjusted R^2	0.11	0.41	0.01	0.02	0.03	0.02	0.49

*N = 309, *p < 0.05, **p < 0.01; In Model 1, Y, Linguistic group identification; In Model 2, Y, Moral disengagement; In Model 3, Y, Unethical pro-organizational behavior; OFLP, Organizational functional language proficiency; LGID, Linguistic group identification; MD, Moral disengagement.*

Theory and supported by a sample of 309 full-time host country employees, our results revealed the positive effects of host country employees' functional language proficiency on their linguistic group identification. The results also suggest that moral disengagement acts as an effective mediator between linguistic group identification and UPB. In the following section, we discuss the theoretical contribution, practical implications of this study, as well as the limitations and possible future research directions.

Theoretical Contributions

First, our framework contributes to the existing language literature by highlighting the importance of functional language use processes in international business and management within the MNC context. This work emphasizes "how" functional language is used rather than "whether" it should be used (Fredriksson et al., 2006). More specifically, our framework introduces language proficiency, that is, how well the functional language has been used by employees. MNCs set subunits in different language zones. To overcome the problems caused by the use of multiple languages, functional language policy is widely used in MNCs (Piekkari et al., 2005). However, the introduction of functional language is not the end of the story. During the day-to-day use process, functional language may have a great impact on employees' work and non-work experience, attitudes toward the organization, and organizational behavior. We developed the contextual use in definition of functional language proficiency (Dong et al., 2018). This research proposes a model that uses social identity theory to explain how host country MNC employees' functional language use process impacts their work outcomes both within and outside of MNCs. When employees believe that speaking the functional language can enhance their self-esteem and is important to their roles in their workplace, their functional language group identification contributes to activating moral disengagement and then guides their attitudes and behaviors toward MNCs.

Second, our model also fills the gap in the research regarding the language use experience of host country employees, as this is an important group to be studied. Host country MNC employees account for the majority of all MNC employees, and thus, their performance directly influences the overall performance of MNCs. Functional language proficiency is an issue that mainly influences host country MNC employees (Janssens et al., 2004; Peltokorpi and Vaara, 2012); the functional language chosen is usually the local language of MNC headquarters (e.g., English), thus usually having less impact on headquarters employees or expatriates. Therefore, when setting up a language policy, MNC headquarters are less likely to notice the importance for and impact of the functional language on host country MNC employees (Feely and Harzing, 2003). The model proposed in the manuscript draws attention to language using a process of host country employees, exploring how host country MNC employees' use of functional language influences their moral disengagement and, hence, their work outcomes.

Third, this article contributes to the existing identity language and international business literature by adopting an identity perspective, rather than communication perspective (Takeuchi et al., 2002; Harzing and Pudelko, 2014). The proposed model focuses on linguistic group identification. First, although there are several other papers focusing on language proficiency (e.g., Selmer, 2006; Paunova, 2017), this study is among the first to study functional language proficiency from a linguistic identity pathway by considering that language proficiency represents the strength of a linguistic identity. Second, through the model, this study illustrates the detailed process of how employees' linguistic identity leads to their linguistic group identification, moral disengagement, and UPB. Some of the existing related research has illustrated the relationship between language and career growth/improvement (Neeley and Dumas, 2016) but has not explained how this happens and the underlying factors. This study contributes to explaining the link between language use and organizational outcomes. Therefore, it not only represents a new and important angle through which to study the language use process but also expands existing studies by providing the detailed relationship between the language use process and work outcomes.

Fourth, this article contributes to the existing ethics literature by exploring the mediation effect of moral disengagement. We first shed light on the role of context in shaping moral disengagement. Although many aspects of the organizational context can mitigate or exacerbate this key factor (Zhang et al., 2016; Huang et al., 2017; Babatunde and Viet, 2021; Black et al., 2021), this study is the first to explore language identification as an antecedent. We find that moral disengagement is at least partly determined by value or culture in an overall work environment—more specifically, functional language use. Second, we find the key mediatory mechanism effect in an ethical context, which depicts that when facing an ethical dilemma, linguistic identification plays a critical role in influencing employees' misconduct (e.g., UPB) in a way that impacts how they construe moral choices, thus weakening their self-regulation. Instead of studying the effects on performance (Probst et al., 2020; Ogunfowora et al., 2021), these results support the Bandura et al. 's (1996, 2001) findings that moral disengagement fosters low prosocialness.

Practical Implications

The results of this study yield several practical implications for MNCs. Our research suggests that in MNCs, language proficiency has a great influence on employees' linguistic group identification and ultimately organizational identity, meaning that when employees demonstrate higher language proficiency, they are more likely to see themselves as part of a linguistic group and thus have stronger organizational identity. Functional language proficiency in MNCs equips employees with the ability to communicate and identify groups, which in turn facilitates their effectiveness at work. Since language proficiency is important, at the corporate level, organizations should provide some language training courses to employees. Therefore, managers can enhance the language proficiency of employees by training them in the functional language of the organization, thereby increasing their organizational identity.

Our results also demonstrate that linguistic group identification plays an important role in the effect of language proficiency on host country MNC employees' UPB. For the sake of the organization, the proper execution of language design decisions is necessary for employees to demonstrate stronger linguistic identification. When employees have a strong sense of identification with the functional language of their organization, they are more likely to adopt pro-organizational unethical behavior to safeguard organizational interests. Thus, on the one hand, managers focus exclusively on enhancing their employees' linguistic identity; on the other hand, managers must be aware that when the organization uses its functional language to strengthen the identity of employees within the organization, employees should be informed of the need to take a more ethical approach to safeguard organizational interests.

Limitations and Directions for Future Research

We should note several limitations of the present research, with the potential to generate future research avenues. The first limitation concerns common method bias and causality in the relationships among the variables. There are threats of common method bias (Podsakoff et al., 2012) because all the data of participants in our study are from a single source. On the one hand, although we have been able to demonstrate the mediation model across two-time lagged data, our study, with features of correlational designs, creates difficulties in terms of causal inference, and is inevitably threatened by common method bias. On the other hand, even though the self-reported data approach was deemed appropriate in studying the nature of functional language in the current study, objective language proficiency measures may also be useful in examining the relationship between linguistic identity and employee behavior from different angles. Therefore, we suggest that further experimental or longitudinal studies, with multi-source data obtained using a combination of objective and subjective measures, are needed to test the implied causality with greater confidence.

Second, additional research is needed to investigate contextual boundary conditions. Many personal and situational factors may come into play to determine this relationship. An important boundary condition that warrants future research is the perceived importance of functional language. Although linguistic group identification itself enhances the propensity of employees to take positive actions for an organization and generate unfavorable outcomes regardless of moral standards, people with different extents of perceived importance of functional language may experience different unethical outcomes. Future research may use this characteristic or other boundary conditions to confirm this prediction.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The ethical aspects of this research were approved by the Australian National University Human Research Ethics Committee when one of the authors (YS) was affiliated there before commencement of the study. They were subsequently approved by Hunan University. The participants provided their online informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

FUNDING

REFERENCES

Ashforth, B. E., Harrison, S. H., and Corley, K. G. (2008). Identification in Organizations: An Examination of Four Fundamental Questions. *J. Manage.* 34, 325–374. doi: 10.1177/0149206308316059

Babatunde, O., and Viet, Q. N. (2021). A Meta-Analytic Investigation of the Antecedents, Theoretical Correlates, and Consequences of Moral Disengagement at Work. *J. Appl. Psychol.* 2021:al0000912.

Bandura, A. (1986). *Social Foundations of Thought and Action: A Social Cognitive Theory*. Upper Saddle River, NJ: Prentice Hall.

Bandura, A., Barbaranelli, C., Caprara, G. V., and Pastorelli, C. (1996). Mechanisms of moral disengagement in the exercise of moral agency. *J. Pers. Soc. Psychol.* 71, 364–374. doi: 10.1037/0022-3514.71.2.364

Bandura, A., Caprara, G. V., Barbaranelli, C., Pastorelli, C., and Regalia, C. (2001). Sociocognitive self-regulatory mechanisms governing transgressive behavior. *J. Pers. Soc. Psychol.* 80, 125–135. doi: 10.1037/0022-3514.80.1.125

Barner-Rasmussen, W., and Aarnio, C. (2011). Shifting the faultlines of language: A quantitative functional-level exploration of language use in MNC subsidiaries. *J. World Bus.* 46, 288–295. doi: 10.1016/j.jwb.2010.07.006

Baron, R. A., Zhao, H., and Miao, Q. (2015). Personal motives, moral disengagement, and unethical decisions by entrepreneurs: Cognitive mechanisms on the "slippery slope". *J. Bus. Ethics* 128, 107–118. doi: 10.1007/s10551-014-2078-y

Baron, R. M., and Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *J. Pers. Soc. Psychol.* 51, 1173–1182. doi: 10.1037/0022-3514.51.6.1173

Bialystok, E. (1981). The role of conscious strategies in second language proficiency. *Mod. Lang. J.* 65, 24–35. doi: 10.1111/j.1540-4781.1981.tb00949.x

Black, E. L., Burton, F. G., and Cieslewicz, J. K. (2021). Improving Ethics: Extending the Theory of Planned Behavior to Include Moral Disengagement. *J. Bus. Ethics* 2021, 1–34. doi: 10.1007/s10551-021-04896-z

Bordia, S., and Bordia, P. (2015). Employees' willingness to adopt a foreign functional language in multilingual organizations: The role of linguistic identity. *J. Int. Bus. Stud.* 46, 415–428. doi: 10.1057/jibs.2014.65

Chen, M., Chen, C. C., and Sheldon, O. J. (2016). Relaxing Moral Reasoning to Win: How Organizational Identification Relates to Unethical Pro-Organizational Behavior. *J. Appl. Psychol.* 101, 1082–1096. doi: 10.1037/apl0000111

Cohen, L., and Kassis-Henderson, J. (2017). Revisiting culture and language in global management teams: Toward a multilingual turn. *Int. J. Cross. Cult. Man.* 17, 7–22. doi: 10.1177/1470595816684882

Dong, W., Liao, S., and Zhang, Z. (2018). Leveraging Financial Social Media Data for Corporate Fraud Detection. *J. Manag. Inf. Syst.* 35, 461–487. doi: 10.1080/07421222.2018.1451954

Fantini, A. E. (1995). Introduction-Language, culture and world view: Exploring the nexus. *Int. J. Intercult. Rel.* 19, 143–153. doi: 10.1016/0147-1767(95)00025-7

Feely, A. J., and Harzing, A. W. (2003). Language management in multinational companies. *Int. J. Cross. Cult. Man.* 10, 37–52. doi: 10.1108/13527600310797586

Fredriksson, R., Barner-Rasmussen, W., and Piekkari, R. (2006). The multinational corporation as a multilingual organization: The notion of a common corporate language. *Corp. Commun.* 11, 406–423. doi: 10.1108/13563280610713879

Giles, H. (1977). *Language, ethnicity and intergroup relations*. London: Academic Press.

Harzing, A. W., and Pudelko, M. (2014). Hablas vielleicht un peu la mia language? A comprehensive overview of the role of language differences in headquarters – subsidiary communication. *Int. J. Hum. Resour. Man.* 25, 696–717. doi: 10.1080/09585192.2013.809013

He, P., Peng, Z., Zhao, H., and Estay, C. (2019). How and when compulsory citizenship behavior leads to employee silence: a moderated mediation model based on moral disengagement and supervisor–subordinate guanxi views. *J. Bus. Ethics* 155, 259–274. doi: 10.1007/s10551-017-3550-2

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020). Linking work-related and non-work-related supervisor – subordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus. Manag.* 2020, 1–22. doi: 10.1057/s41291-020-00137-9

Henderson, J. K. (2005). Language diversity in international management teams. *Int. Stud. Manag. Organ.* 35, 66–82. doi: 10.1080/00208825.2005.11043722

Hinds, P. J., Neeley, T. B., and Cramton, C. D. (2014). Language as a lightning rod: Power contests, emotion regulation, and subgroup dynamics in global teams. *J. Int. Bus. Stud.* 45, 536–561. doi: 10.1057/jibs.2013.62

Hogg, M. A., and Abrams, D. (1988). "A Social Psychology of Intergroup Relations and Group Processes," in *Social Identifications*, eds D. Abrams and M. Hogg (London: Routledge).

Huang, G. H., Wellman, N., Ashford, S. J., Lee, C., and Wang, L. (2017). Deviance and exit: The organizational costs of job insecurity and moral disengagement. *J. Appl. Psychol.* 102:26. doi: 10.1037/apl0000158

Janssens, M., Lambert, J., and Steyaert, C. (2004). Developing language strategies for international companies: The contribution of translation studies. *J. World Bus.* 39, 414–430. doi: 10.1016/j.jwb.2004.08.006

Karelaia, N., Guillén, L., and Leroy, H. (2021). When being oneself is socially rewarded: Social identification qualifies the effect of authentic behavior at work. *Hum. Relat.* 2021:00187267211025286. doi: 10.1177/00187267211025286

Karhunen, P., Kankaanranta, A., Louhiala-Salminen, L., and Piekkari, R. (2018). Let's talk about language: A review of language-sensitive research in international management. *J. Manag. Stud.* 55, 980–1013. doi: 10.1111/joms.12354

Kroon, D. P., Cornelissen, J. P., and Vaara, E. (2015). Explaining employees' reactions towards a cross-border merger: The role of English language fluency. *Manage. Int. Rev.* 55, 775–800. doi: 10.1007/s11575-015-0259-2

Kundro, T. G., and Nurmohamed, S. (2020). Understanding When and Why Cover-Ups are Punished Less Severely. *Acad. Manage. J.* 64, 873–900. doi: 10.5465/amj.2018.1396

Lam, C. K., Van der Vegt, G. S., Walter, F., and Huang, X. (2011). Harming high performers: A social comparison perspective on interpersonal harming in work teams. *J. Appl. Psychol.* 96:588. doi: 10.1037/a0021882

Li, C., Shenkar, O., Newburry, W. E., and Tang, Y. (2021). How Country Reputation Differentials Influence Market Reaction to International Acquisitions. *J. Manag. Stud.* 58, 1609–1639.

Luhtanen, R., and Crocker, J. (1992). A Collective Self-Esteem Scale: Self-Evaluation of One's Social Identity. *Pers. Soc. Psychol. Bull.* 18, 302–318. doi: 10.1177/0146167292183006

Luo, Y., and Shenkar, O. (2006). The multinational corporation as a multilingual community: Language and organization in a global context. *J. Int. Bus. Stud.* 37, 321–339. doi: 10.1057/palgrave.jibs.8400197

Marion, V., Blumenfeld, H. K., and Kaushanskaya, M. (2007). The Language Experience and Proficiency Questionnaire (LEAP-Q): Assessing language profiles in bilinguals and multilinguals. *J. Speech. Lang. Hear. R.* 50, 940–967. doi: 10.1044/1092-4388(2007/067)

Marschan, R., Welch, D., and Welch, L. (1997). Language: The forgotten factor in multinational management. *Eur. Manag. J.* 15, 591–598. doi: 10.1016/S0263-2373(97)00038-8

Mayberry, R. I., Chen, J.-K., Witcher, P., and Klein, D. (2011). Age of acquisition effects on the functional organization of language in the adult brain. *Brain Lang.* 119, 16–29. doi: 10.1016/j.bandl.2011.05.007

Narwal, P., Nayak, J. K., and Rai, S. (2021). Assessing Customers' Moral Disengagement from Reciprocity Concerns in Participative Pricing. *J. Bus. Ethics* 2021, 1–18. doi: 10.1007/s10551-021-04782-8

Neeley, T. B., and Dumas, T. L. (2016). Unearned status gain: Evidence from a global language mandate. *Acad. Manage. J.* 59, 14–43. doi: 10.5465/amj.2014.0535

Ogunfowora, B. T., Nguyen, V. Q., Steel, P., and Hwang, C. C. (2021). A meta-analytic investigation of the antecedents, theoretical correlates, and consequences of moral disengagement at work. *J. Appl. Psychol.* 2021:al0000912. doi: 10.1037/apl0000912

Paunova, M. (2017). Who gets to lead the multinational team? An updated status characteristics perspective. *Hum. Relat.* 70, 883–907. doi: 10.1177/0018726716678469

Peltokorpi, V., and Vaara, E. (2012). Language policies and practices in wholly owned foreign subsidiaries: A recontextualization perspective. *J. Int. Bus. Stud.* 43, 808–833. doi: 10.1057/jibs.2012.28

Piekkari, R., Vaara, E., Tienari, J., and Säntti, R. (2005). Integration or disintegration? Human resource implications of a common corporate language decision in a cross-border merger. *Int. J. Hum. Resour. Man.* 16, 330–344. doi: 10.1080/0958519042000339534

Podsakoff, P. M., MacKenzie, S. B., and Podsakoff, N. P. (2012). Sources of Method Bias in Social Science Research and Recommendations on How to Control It. *Annu. Rev. Psychol.* 63, 539–569. doi: 10.1146/annurev-psych-120710-100452

Porck, J. P., Matta, F. K., Hollenbeck, J. R., Oh, J. K., Lanaj, K., and Lee, S. M. (2019). Social identification in multiteam systems: The role of depletion and task complexity. *Acad. Manage. J.* 62, 1137–1162. doi: 10.5465/amj.2017.0466

Probst, T. M., Petitta, L., Barbaranelli, C., and Austin, C. (2020). Safety-related moral disengagement in response to job insecurity: Counterintuitive effects of perceived organizational and supervisor support. *J. Bus. Ethics* 162, 343–358. doi: 10.1007/s10551-018-4002-3

Reiche, B. S., Harzing, A. W., and Pudelko, M. (2015). Why and how does shared language affect subsidiary knowledge inflows? A social identity perspective. *J. Int. Bus. Stud.* 46, 528–551. doi: 10.1057/jibs.2015.3

Selmer, J. (2006). Language Ability and Adjustment: Western Expatriates in China. *Thunderbird Int. Bus.* 48, 347–368. doi: 10.1002/tie.20099

Seyranian, V. (2014). Social identity framing communication strategies for mobilizing social change. *Leadersh. Q.* 25, 468–486. doi: 10.1016/j.leaqua.2013.10.013

Sharoni, G., Shkoler, O., and Tziner, A. (2015). Job Engagement: Antecedents and Outcomes. *J. Organ. Psychol.* 15, 34–48. doi: 10.13140/RG.2.1.1179.6003

Tajfel, H. (1972). "Social categorization," in *Introduction à la Psychologie Sociale*, ed. S. Moscovici (Paris: Larousse), 272–302.

Tajfel, H., and Turner, J. C. (1986). "The social identity theory of intergroup behavior," in *Psychology of intergroup relations*, eds S. Worchel and W. G. Austin (Chicago: Nelson Hall), 7–24.

Tajfel, H., Turner, J. C., Austin, W. G., and Worchel, S. (1979). "An integrative theory of intergroup conflict," in *Organizational identity: A reader* (London: Oxford University Press), 56–72.

Takeuchi, R., Yun, S., and Russell, J. E. A. (2002). Antecedents and consequences of the perceived adjustment of Japanese expatriates in the USA. *Int. J. Hum. Resour. Man.* 13, 1224–1244. doi: 10.1080/09585190210149493

Umphress, E. E., Bingham, J. B., and Mitchell, M. S. (2010). Unethical behavior in the name of the company: the moderating effect of organizational identification and positive reciprocity beliefs on unethical pro-organizational behavior. *J. Appl. Psychol.* 95, 769–780. doi: 10.1037/a0019214

UNCTAD (2019). "World Investment Report 2019," in *United Nations Conference on Trade and Development* (Geneva: UNCTAD).

Vaara, E., Tienari, J., Piekkari, R., and Säntti, R. (2005). Language and the circuits of power in a merging multinational corporation. *J. Manage. Stud.* 42, 595–623. doi: 10.1111/j.1467-6486.2005.00510.x

Valle, M., Kacmar, K. M., and Zivnuska, S. (2019). Understanding the effects of political environments on unethical behavior in organizations. *J. Bus. Ethics* 156, 173–188. doi: 10.1007/s10551-017-3576-5

Van Knippenberg, D. (2000). Work motivation and performance: a social identity perspective. *Appl. Psychol.* 49, 357–371. doi: 10.1111/1464-0597.00020

Vigier, M., and Spencer-Oatey, H. (2017). Code-switching in newly formed multinational project teams: Challenges, strategies and effects. *Int. J. Cross. Cult. Man.* 17, 23–37. doi: 10.1177/1470595816684151

Wu, Y. J., and Chen, J. C. (2021). Stimulating innovation with an innovative curriculum: a curriculum design for a course on new product development. *Int. J. Manag. Educ.* 19:100561. doi: 10.1016/j.ijme.2021.100561

Zhang, L. E., and Harzing, A. W. (2016). From dilemmatic struggle to legitimized indifference: Expatriates' host country language learning and its impact on the expatriate-HCE relationship. *J. World Bus.* 51, 774–786. doi: 10.1016/j.jwb.2016.06.001

Zhang, L., Zhang, Y., Jiang, H., Yang, M. M., Huang, Y. Y., and Li, S. J. (2017). Customer identification in the healthcare industry. *Int. J. Res. Mark.* 59, 803–822. doi: 10.2501/IJMR-2017-054

Zhang, Y., Liu, G., Zhang, L., Xu, S., and Cheung, M. W. L. (2021). Psychological ownership: A meta-analysis and comparison of multiple forms of attachment in the workplace. *J. Manage.* 47, 745–770. doi: 10.1177/0149206320917195

Zhang, Y., Zhang, L., Lei, H., Yue, Y., and Zhu, J. (2016). Lagged effect of daily surface acting on subsequent day's fatigue. *Serv. Ind. J.* 36, 809–826. doi: 10.1080/02642069.2016.1272593

How Classy Servant Leader at Workplace? Linking Servant Leadership and Task Performance During the COVID-19 Crisis: A Moderation and Mediation Approach

Muhammad Zada[1,2], Shagufta Zada[1,3], Mudassar Ali[4], Zhang Yong Jun[1]*, Nicolás Contreras-Barraza[5] and Dante Castillo[6]

[1] Business School, Henan University, Kaifeng, China, [2] Department of Management Sciences, Alhamd Islamic University, Islamabad, Pakistan, [3] Department of Business Administration, Faculty of Management Sciences, Ilma University, Karachi, Pakistan, [4] Department of Management Science, Capital University of Science and Technology, Islamabad, Pakistan, [5] Facultad de Economía y Negocios, Universidad Andres Bello, Viña del Mar, Chile, [6] Centro de Estudios e Investigación Enzo Faletto, Universidad de Santiago de Chile, Santiago, Chile

The COVID-19 pandemic has caused a record global crisis, particularly and extremely, for the service sectors. Due to extensive security measures, many service sector employees have to work remotely to maintain services. Drawing upon the conservation of resources theory, this research investigates the impact of servant leadership on the task performance of employees in virtual working environments during the COVID-19 crisis. Our theoretical model was tested using data collected from 335 individual employees in the education sector of Pakistan. SPSS version 26.0 was applied to find the hypothesized relationship between the study variables. To find the indirect mediating effect, we applied Model 4; for moderation, we applied Model 1; and for the moderation and mediation effect, we applied Model 7 of the Process Macro model of Hayes. The results of the study revealed that servant leadership is positively related to task performance in a virtual environment during crises. Furthermore, psychological empowerment partially mediates the relationship between servant leadership and task performance. Perceived supervisor support positively moderates the relationship between servant leadership and task performance. Moreover, the indirect effect of servant leadership on task performance *via* psychological empowerment is moderated by perceived supervisor support. The results provided guidance to the educational sector on how to lead effectively in times of crisis when service sector employees work predominantly in virtual environments. The theoretical and practical implications of these findings are discussed.

Keywords: crisis, COVID-19, servant leadership, task performance, psychological empowerment, virtual work environment, perceived supervisor support

INTRODUCTION

COVID-19 affects all sectors of a country that directly contribute to the country's economy and development, and it pushes countries into a global crisis. One of the most affected sectors is the education sector which is an important sector of the country (Haroon and Rizvi, 2020). Educational institutions were closed for a long period of time during the worldwide pandemic (Craven et al., 2020). Similar effects were observed in Pakistan where schools, colleges, and universities were closed as per the government's orders causing severe hurdles for the education ministry to operate universities and colleges in usual ways (Finsterwalder and Kuppelwieser, 2020; Kabadayi et al., 2020). As a result, they shifted mainly to the online system and worked from home to keep things going. Unfortunately, the sudden shift from physical to online was hard to incorporate for the teachers and students. They were facing a significant level of technical issues and found it challenging to adapt to the new learning system. Many students reported financial crises during the pandemic, preventing them from paying school fees. It was reported that the family income sources from services such as airlines, hotels, and hairdressers possibly could not offer their services because of lockdown restrictions. Families that depended on these income resources lost their earning opportunities; as a result, they were unable to financially support their dependents.

Contrarily, the educational sector continued operating by setting a virtual work environment to sustain its operations (Demir et al., 2020). An effective work environment refers to employment settings where workers are designated at different levels geographically, technically, and mentally to keep the organizational mission and goals (Huang et al., 2010). Throughout the pandemic leaders faced problems with making organizational changes and sustaining their quality performance (Collings et al., 2021). Leaders were not prepared for this sudden change and considered it as an imposed change that had negatively affected the task performance of employees operating in the educational sector (Aboramadan et al., 2020; Carnevale and Hatak, 2020). Considering the decline in performance, the present study will investigate the relationship between leadership style and the degree of decisive performance in such situations. In this respect, a conceptual model will be developed to investigate the extent to which servant leadership affects the task performance of employees operating in a virtual work environment in the educational sector. This study will find the mediating role of psychological empowerment and also the moderating role of supervisor support. In this context, it was hypothesized that servant leaders will enhance and sustain the task performance of employees to result in high productivity and high performance in the virtual work environment.

The study aims to contribute to the past literature of management by scrutinizing four major issues. First, the challenges confronting managers about the virtual work environment in the school setting have not been adequately addressed, offering little empirical evidence regarding it. Keeping in view these facts, the current study emphasizes and examines the influence of the servant leadership style on employee performance in a virtual environment which employees are not used to, but must adapt to during the emergency of COVID-19 within the Pakistani context. Previous literature found that important characteristics such as employee performance (Liden et al., 2014), team effectiveness (Hu and Liden, 2011), employee creativity (Aboramadan, 2020), and positive workplace behavior (Brière et al., 2021) are influenced by servant leadership. Yet, very few studies have focused on the psychological empowerment perspective. On the basis of previous literature, the present research proposes the underlying mechanism of employee psychological empowerment which refers to four cognitive states: meaning, self-assurance, competence, and those that reflect on an individual's orientation to their work (Spreitzer, 1995). The components of psychological empowerment enhance the competency of subordinates which are beneficial for identifying the entire efforts to accomplish the defined goals (Chiang and Hsieh, 2012). Past research has explicitly highlighted a significant relationship between leadership and psychological empowerment in typical circumstances (Jeung and Yoon, 2016; Chen et al., 2018).

Second, the power-sharing behavior of leaders is significantly related to the motivation and performance of employees for the accomplishment of collective goals that eventually enhance workplace performance (Chua et al., 2012; Khan et al., 2022). Employees who feel that their work and efforts are being admired are motivated to perform better (Liden et al., 2000; Ali et al., 2020). Literature supports the notion that servant leadership can psychologically empower the employees by enhancing their strength, commitment, and contribution to the organizational goals and recognize their ideas to accomplish and execute tasks in virtual work settings. Subsequently, psychological empowerment potentially intervenes and links servant leadership with the task performance of employees during the COVID-19 crisis. This is uniquely fascinating as the unexpected change to a virtual workplace due to the COVID-19 pandemic creates family, work, and life problems and other difficulties, whether operating at an individual or a group level (Kabadayi et al., 2020).

Third, empirical studies addressing the association between leadership and employee job performance during a crisis are limited (Uhl-Bien and Arena, 2018). The present research probes the moderating effect of supervisor support on how servant leadership could improve the task performance of employees. Moreover, prior literature found that the COVID-19 pandemic seems to be the primary reason behind the rapid digital transformation (Bartsch et al., 2020). In this vein, it is expected that the organization's expertise will significantly influence the effectiveness of the services of the servant leadership in the education sector.

Fourth, the main objective of the present research is to empirically scrutinize the extent to which the servant leadership style influences the task performance of employees in the virtual workplace. However, this is the first study to contribute to literature on managing education and leadership in virtual work environments during the COVID-19 crisis. This article relates the professional insights learned on how to influence employee task performance and production that mostly concerns the leaders in the work environment, especially in a period of crisis. The two theories, the theory of conservation for resources (COR) and

social exchange theory (SET), are used as the theoretical basis for the research of this article. Under the study of the direct outcome of servant leadership on the work performance of employees, it is used to more clarify the research. Furthermore, the indirect influence of servant leadership on the task performance of an employee within the virtual workplace during COVID-19 is not studied in prior literature. The literature is also missing the underlying mechanism such as psychological empowerment and how perceived supervisor support may positively influence and enhance the task performance of employees of the education sector in Pakistan.

The Literature and Conceptual Background

The literature about the challenges of the education sector and the COVID-19 crisis has emphasized work environments, work climate, and the newness of the issue for the target population and researchers (Alsabbagh and Khalil, 2016; Herhausen et al., 2017; Alavi et al., 2018). Liao (2017) supports that the practices, challenges, and behaviors of workgroups operating in the virtual work environment to date have been inadequately explored. This unique business climate is pressuring businesses to rebuild their business model and procedures to acquire and sustain their competitive edge in the modern cooperate world, which is highly virtual. To grapple with this rapidly changing environment, the leadership plays a vital role in building employee task performance. However, very few studies have been conducted on the knowledge of the precursor of the virtual work environment leadership style to deal with this rapidly evolving work climate. The leadership seems to play a considerable part in improving the task performance of subordinates. In any case, not many studies have explored the forerunner of leadership style in the virtual workplace. In this context, scarcely any empirical work has been found in the education sector in a virtual setting. Few studies address this subject matter, analyzing, for instance, challenges faced by the student population (Gedro et al., 2020), job satisfaction (Mihhailova et al., 2011; Madlock, 2018), precursors and outcomes of team effectiveness (Schepers et al., 2011; Zhang et al., 2015), and power, management, and workplace politics (Muganda and Pillay, 2013) in the digital corporate world. There is a gap in literature on the impact of leadership style on overall subordinate performance at a time of a high level of uncertainty in the education sector. Stoker et al. (2019) seem to be exempt as the study has reflected upon the leadership style and behavior in the manufacturing and financial sectors during the 2008 economic crisis. Results revealed that directive leadership significantly increased employee task performance, whereas no effect was found in the participative leadership practices in the targeted sectors. This reflects the significance of undertaking task-oriented behaviors and practices in emergency circumstances, yet their level of significance is not known to date.

In conclusion, we found that there have been no studies addressing the role of servant leadership in the education sector at the time of crisis during the COVID-19 pandemic. However, to fill the literature gap, the primary function of a recent study is the call to examine leadership practices that reduce fear among the employees regarding extreme work outcomes (Hannah et al., 2009; Tecco, 2020). This current study invested efforts to investigate the outcome of servant leadership (SL) styles on worker performance during the virtual workplace in the crisis due to COVID-19. Stoker et al. (2019) differentiated between the directive and participative leadership in detail. The emphasis of the current study will remain on the "task dichotomy and relation-oriented leadership behaviors" to investigate two divergent forms of management behavior. We built the current study model, which gave a helpful hypothetical framework to recognize main supervisors'/leaders' states, procedures, mediators and moderators, and results pertinent to task performance in the virtual work settings (Dulebohn and Hoch, 2017).

Hypothesis Model

Servant leadership practices improve individual and group outcomes in virtual workplaces (Liao, 2017). Leaders find it difficult to inspire, explain, and motivate geologically scattered employees (Berson et al., 2015). Hence, to empower serving styles and adaptability, influential in a virtual setting of work, they are supposed to emphasize the development and enhancement of the self-administration capacities of their subordinates (Carte et al., 2006). Further, in a virtual workplace, organization leaders struggle to effectively coordinate and communicate with their associates because of differences in working hours or other additional burdens, since it is apparent for the duration of the crisis by COVID-19. Employees may need guidance in comprehending and completing the assigned tasks (Liao, 2017). In this manner, leaders ought to take a step in dealing with the team projects virtually since they are familiar with the objectives, assets, and processes to accomplish the team task (Liao, 2017). The various difficulties related to the virtual working setting, especially during a pandemic crisis, require supervisors and leaders to adopt a servant leadership style for sustaining team performance (for example organizing tasks and empowering employees). Subsequently our model recommends that servant leadership prompts task performance through psychological empowerment. The moderating role of perceived supervisor support is helpful in the relationship of servant leadership with task performance and psychological empowerment (**Figure 1**).

Impact of Servant Leadership on Task Performance

There is a significant role for a leader to contribute to accomplishing employees' daily tasks within an organization (Lee et al., 2019; Aboramadan and Dahleez, 2021). The behavior of how leaders deal with the situations they face defines their attributes of leadership (Nifadkar et al., 2012). Leadership refers to influencing others to get the work done effectively and efficiently (Andriani et al., 2018). According to Ridgeway (2003), leadership means the leader's ability to encourage others to achieve organizational goals. Many researchers observe that the
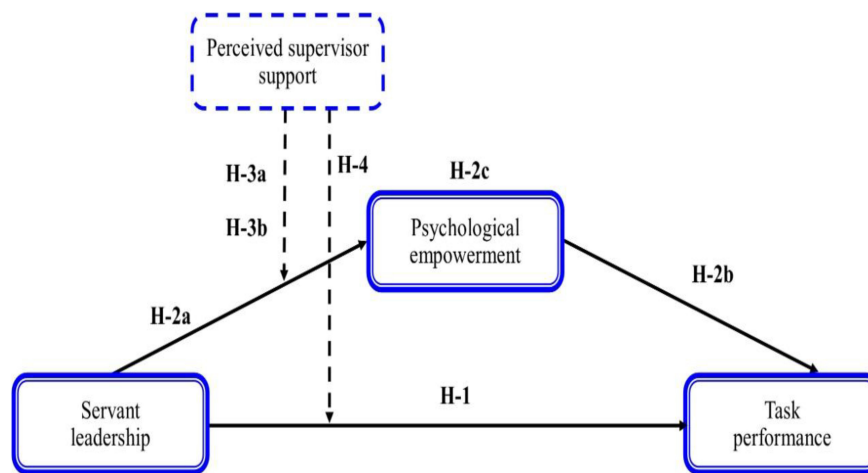
FIGURE 1 | Research model and hypotheses.

performance of the employees is influenced by the leadership directly and indirectly (MacKenzie et al., 2001). Leadership is a complicated process that involves combining and integrating individual commitments, inputs, and accomplishments into a helpful collective endeavor (Spreitzer and Cameron, 2012; Ali et al., 2018). Among the numerous leadership styles, servant leadership has drawn more recently significant attention among both academics (Van Dierendonck, 2011; Liden et al., 2014) and practitioners (Spears, 1995) in response to a growing interest in a more ethical, pro-social, and people centered management leadership style. Servant leadership is described as an endeavor that develops and strengthens employees through a leader's benevolence, sympathy, feeling of morals, and stewardship (Greenleaf, 2002; Liden et al., 2008). Servant leadership is unique in that servant leaders identify their followers' needs, empower them, and provide opportunities to achieve performance (Van Dierendonck, 2011). The core objective of servant leadership is to appreciate the individuals, encourage them, value their efforts, perform task performance, provide directions to the followers, help them, and counsel them. According to Van Dierendonck and Patterson (2015), servant leadership focuses on a strong bonding between the leaders and followers. Servant leaders focus on psychological factors of care, safety, security, confidence, and equality (Yoshida et al., 2014) in a work context (Peoples, 2021). Research has shown that servant leaders represent a high degree of people orientation. It is believed that the freedom of work will help employees to maximize their ability to work that would lead to a mutual benefit of both the organization and the employee.

Moreover, leaders who adopt a servant leadership attitude are focused on workers' activities and provide joint support which enhances their emotional state and increases task performance of the employees (Liden et al., 2015). Therefore, threats related to innovative work behavior would be reduced, and valuable support is provided to employees to enhance their task performance (Hu and Liden, 2011; Yoshida et al., 2014; Aboramadan and Dahleez, 2021). Thus, servant leadership is

encouraged for connecting with employees and enhancing task performance among workers.

> **H1.** There is a positive relationship between servant leadership and employee task performance in virtual teams during the COVID-19 crisis.

The Mediating Role of Psychological Empowerment

Psychological empowerment is a combination of four dimensions that reflect a person's direction toward his or her work that includes meaning, affect, competence, and self-assurance. This meaning refers to the extent to which an employee aligns their job role, values, beliefs, own convictions, qualities, and norms (May et al., 2004). Competence is an individual's perception of self-adequacy about fruitful achievement (Bandura, 1986). Self-assurance indicates the independence enjoyed by an individual to pick a job for themselves (Thomas and Velthouse, 1990; Zhang, 2015). Affect reflects the extent to which employees feel that their work and effort endeavor to impact and accomplish the task at hand (Spreitzer, 1995).

Servant leaders can empower their employees psychologically by prompting different aspects of self-concepts (Owens et al., 2013; Sousa and van Dierendonck, 2017). For instance, servant leadership recognizes and accepts the commitment of the workers to the executive aim and objectives (De Clercq et al., 2014; Mallén et al., 2019), and treats workers with respect and empathy, which gives them a ground perceive their efforts and work as regarded and effective for organizational success (Chen et al., 2018; Wang and Yin, 2020). Moreover, servant leaders pay attention to their subordinates' opinions and ideas that upgrade their certainty and self-confidence about their job positions, improve their competency, and further develop team performance (Hunter et al., 2013). Furthermore, the assignment of power and receptiveness to criticism shown by fair leaders liberate the employees' experiences by starting practical limitations and allowing them to independently operate where

they can create a difference in the accomplishment of work targets (Owens and Hekman, 2012).

Psychologically empowered employees are characterized by devotion and flexibility with expanded endeavors toward task accomplishment, inspiration and motivation for their job role (Seibert et al., 2011; Sun et al., 2020). Psychologically empowered workers accept extra roles and duties and become more autonomous, which are the primary markers of managerial sustainability and customer contentment (Namasivayam et al., 2014; He et al., 2021). In an organization's development process, staff can operate autonomously along with external authoritative commands of leadership. There is intensifying proof that independent, permanent, and trusted employees can achieve the targets in a given time frame (Scott-Young and Samson, 2008). Employees who have self-confidence are quite sure about their success and performance (Zhang and Bartol, 2010). Subordinates knowing about the influence of their work task endorse the feeling that their task job is sufficient (McColl-Kennedy and Anderson, 2002; Khattak et al., 2018) which turns into a motivational instrument for them to apply to other endeavors toward project achievement (Aga et al., 2016). The literature revealed that empowered workers are extra proficient in achieving tasks and facilitating to accomplish managerial aims and objectives (Sigler and Pearson, 2000; Khattak et al., 2020) and enhance task performance (Laschinger et al., 2009). Similarly, psychologically empowered employees can primarily add to the accomplishment of undertaking team/group tasks with great performance, thus adding to the goal accomplishment allocated to the team.

The previous studies propose that psychological empowerment intervenes between servant leadership style and employees task performance. Furthermore, our argument for the mediating effect of psychological empowerment is based on the concept of conservation of resources theory (Hobfoll, 2011b). To adopt the conservation of resources theory, this study addresses that the servant leadership role is to serve others and provide maximum benefits to the employees (Hobfoll, 2011a). It is expected that servant leaders spend their assets to create more resources for their subordinates which empower them and incline them to perform well. Therefore, psychological empowerment appears to influence the impact of servant leadership for task performance.

Research indicates that psychological empowerment has three factors that include: competence, meaning, and self-determination which lead to task performance (Sigall and Mills, 1998). The previous studies strongly argue that psychological empowerment significantly impacts the shared variance of servant leadership and worker task presentation. On the basis of the aforementioned literature, we propose the following hypothesis:

> **H2a.** Servant leadership is significantly positively related to psychological empowerment in virtual teams during the COVID-19 crisis.
> **H2b.** Psychological empowerment is significantly positively related to team performance in virtual teams during the COVID-19 crisis.

> **H2c.** Psychological empowerment mediates the relationship between servant leadership and team performance in virtual teams during the COVID-19 crisis.

Perceived Supervisor Support as a Moderator

Chen and Wu (2020) indicated that perceived supervisor support is the employees' perception that provides a favorable serving environment. Thus, perceived supervisor support plays an essential role in giving organizational resources and incentives to subordinates and should be viewed as a significant source of support. Such support pertains to how employees see their supervisor appreciating their work and efforts and showing concern for their well-being (Eisenberger et al., 2002). It is considered a significant amplifier of establishing a supportive workplace during crises (Rhoades and Eisenberger, 2002; Farid et al., 2021). In the face of high vulnerability, employees might encounter job insecurity. In such situations, they tend to seek their manager's valuable help in evaluating and adapting to the uncertain crisis (Lee and Peccei, 2007; Tian et al., 2014). For this situation, supervisors might give tangible support to their subordinates and offer psychological help to reduce their mental pressure (Kossek et al., 2018). In particular, supervisors might assist their subordinates in reframing their insecurities regarding their job perspectives so that it feels less unpleasant and urges them to embrace positive and versatile conduct and behavior at the workplace (Cooke et al., 2019; Khan et al., 2021). Subsequently, it is assumed that a leader's support adds to the positive feeling of employees and enhances task performance (Cole et al., 2006; Rathi and Lee, 2017) and positively affects emotional commitment (Saeed et al., 2015; Li et al., 2018). Employees will be more emotionally dedicated to their respective organizations when they see their supervisor supporting them in positive directions (He et al., 2020; Ali et al., 2021). Besides, the adverse consequence of job uncertainty on emotional commitment is more remarkable when the work environment supports a lower level of supervisory support than when there is a more elevated level of it. Supervisor support reduces the adverse consequences of job insecurity on the employees' emotional states and increases the number of employees.

We apply this notion to examine the relationship between servant leaders and the task performance of employees. Servant leadership reflects the leader's productive attitude toward task accomplishment and performance. On the other hand, supervisor support inspires employees to act reasonably toward their supervisor/leader by reciprocating positively. Furthermore, psychological empowerment significantly affects the employee's task performance (Feiz et al., 2019). Moreover, it positively affects the performance of the project units, and hence the individual interests of its supervisors. Consequently, supervisor support comprises a working climate that energizes employees through psychological empowerment. Furthermore, workers who see themselves with strong supervisor support in the organization will tend to develop positive psychological empowerment (Rhoades and Eisenberger, 2002). Employees who feel strong support from the organization side will be more psychologically

empowered and this will enhance their task performance. Interestingly, when workers observe supervisor support at lower levels, task performance and efforts might decrease in task accomplishment.

In more broad terms, examination of the supervisor support indicates that it has a direct influence on employee task performance. For example, McGovern et al. (1997, p. 12) stated that the line manager's behavior and practice may deform, and possibly even challenge the commitment for achieving the managerial goals. Similarly, Coyle-Shapiro and Shore (2007) revealed that the line manager's job might be complying with or breaking the conditions of the more distal trade with the respective firm. Moreover, line supervisors have figured out how to invest time or interest in executing tasks (Purcell et al., 2008). On account of leadership, subordinates might encounter low degrees of help for participating in such activities although they are relied upon to do so. Therefore, they may experience mental stress and anxiety (Park and Jang, 2017), which could block or mitigate task performance. Also, research demonstrates that manager support impacts the connection between task performance, cooperation, and influence in the work settings. However, lower levels of perceived supervisor support might endorse the feeling that employees are less creative and show low-level of growth. Conclusively, employees perceive a lower level of support from their immediate line managers due to an absence of help from the association. Employees who have a given lower level of perceived supervisor support will show smaller amounts of commitment, which decreases psychological empowerment and task performance (Rhoades and Eisenberger, 2002).

Thus, employees who notice lower levels of supervisor support may believe that they are not fairly compensated since duties are perceived to be imposed on them and may react by lowering their work performance. On the basis of prior literature, it is hypothesized that:

> **H3a.** Perceived supervisor support (PSS) moderates the association between SL and task performance such as if there is a high level of PSS there will be a high level of task performance and vice versa in virtual teams during the COVID-19 crisis.
>
> **H3b**. Perceived supervisor support moderates the association between servant leadership and "psychological empowerment," i.e., a higher perceived supervisor support strengthens the relationship in virtual teams during the COVID-19 crisis.
>
> **H4**. An indirect effect of servant leadership on task performance through mediating role of psychological empowerment is moderated by perceived supervisor support, such as high PSS lead to high task performance in virtual teams during the COVID-19 crisis.

METHODOLOGY

Research Context and Sample

To investigate these hypotheses, we gathered online data from the service sector of Pakistan that primarily offers education services

(e.g., in schools, colleges, and universities). The data collection proceeded during the middle of the lockdown, December 2020 to August 2021, when the education system service quickly changed to virtual workplaces. All these aspects make it more appropriate for the current study. Initially, 450 questionnaires were distributed among the employees of the service sector. Out of 450 questionnaires, 365 were received with 81.1% response rate. Out of 365 questioners, 30 questionnaires were missing values and were not appropriate to include in this study. So, we entertained only 335 questionnaires with a response rate of 74.44% as a final sample for this study. The demographic results show that 32 respondents were from 20 to 30 years of age (9.5%), 95 respondents were 31–40 years of age (28.4%), 111 respondents were from 41 to 50 years of age (33.1%), and 97 participants were above age 51 (29%). Further, demographic results show that 225 participants (67.0%) were master's degree holders and 110 respondents (32.7%) were Ph.D. degree holders. Furthermore, demographic results show that 33 respondents (9.85%) have 1–5 years of experience, 52 respondents (15.52) have 6–10 years of experience, 78 respondents (23.29%) have 11–15 years of experience, and 172 respondents (51.34%) have above 16 years of experience. Moreover, the demographic result revealed that 289 respondents (86.26) were from public sector universities, and 46 respondents (13.73) were from private sector universities.

Measure
Servant Leadership
To estimate the influence of servant leadership, a scale given by Liden et al. (2015) was employed in the current study. It consists of seven items from good to excellent. Cornbach alpha value was α = 0.95. The items included scrutinized the leadership effectiveness from the employee's perspective, such as "My supervisor makes my career development a priority."

Task Performance
To measure the effectiveness of the job performance a 7-item scale given by Williams and Anderson (1991) was used with a reliability index of α = 0.79. A 5-point Likert Scale was utilized to verify the response starting from "strongly disagree (1) to strongly agree (5)." The items mainly address the task performance, "This employee adequately completes assigned duties" and "Meets formal performance requirements of the job."

Psychological Empowerment Scale
Spreitzer (1995) developed a comprehensive short scale for measuring psychological empowerment based upon a 12-item scale. The items were similar to "You are confident about your ability to do your job." The alpha reliability value of the items was α = 0.93. Moreover, a 5-point Likert scale was used i.e., 1 for strongly disagree and 5 for strongly agree.

Perceived Supervisor Support
Supervisor support was evaluated through a short scale based on four items of the "Spanish version of the Supervisor Support scale" developed by Kottke and Sharafinski (1988). The instrument mainly emphasizes the employees perceived

support from their immediate supervisors. This support could be tangible and intangible. The items included are: "My supervisor is concerned about the welfare of those under him/her," "My supervisor pays attention to what I'm saying," "My supervisor is successful in getting people to work together" and "My supervisor helps get the job done." The scale uses a-point Likert scale varying from 1 = strongly disagree to 4 = strongly agree" with a reliability index of $\alpha = 0.90$.

Control Variable

To enhance the validity of the results, confounding variables were controlled that includes gender, age, education level, and job experience. These variables were found to potentially affect the task performance (Bartsch et al., 2020).

RESULTS

Common Method Bias

In the crosssectional study, a common method bias mostly occurs. Harman's single factor is among the used tests to check for common method bias (Podsakoff, 2003). The Harman's single factor shows 31.8% variation extracted (Cut-Off value = 50%). Non-response bias is calculated by taking the first and last values of the variables of the data but the relation was insignificant, so a non-response bias does not exist (**Table 1**).

Table 2 shows that servant leadership is significantly correlated with perceived supervisor support ($r = 0.12$, $p < 0.001$), psychological empowerment ($r = 0.16$, $p < 0.001$), and task performance ($r = 0.17$, $p < 0.001$). Perceived supervisor support is also significantly correlated with psychological empowerment ($r = 0.43$, $p < 0.001$), task performance ($r = 0.69$, $p < 0.001$), and psychological empowerment is also significantly correlated with employee task performance ($r = 0.54$, $p < 0.001$). Furthermore, the reliability of the main variables of the study shows that all variables have a good reliability value, i.e., all variables have a reliability greater or equal to 0.70. Furthermore, the control variables show no effect.

Mediation Analysis

Psychological empowerment regulated the mediating role from servant leadership to task performance. As shown in **Table 3**, psychological empowerment partially mediates the relationship between servant leadership and task performance (BootLLCI = 0.1452 and BootULCI = 0.3158). As zero is not contained in the 95% confidence interval for the indirect effect, this supports the study's fourth hypothesis (H2c). Our mediation model explained approximately 56% of the variance between servant leadership and task performance.

Hayes (2017) Process Macro Model 1 has been applied to test the moderation. **Table 4** shows the moderating effects of perceived supervisory support on the relationships between servant leadership and task performance ($b = -0.0594$, SE = 0.0258, $t = -2.3049$, $p = 0.0218$, [LLCI = -0.1101 ULCI = -0.0087], which supports the H3a Hypothesis (see **Figure 2**). **Table 5** shows the moderating effect of perceived supervisory support on the relationship between servant

TABLE 1 | Factor loadings.

Constructs	Items	Factor loadings	Cronbach's alpha	CR	AVE
Servant leadership	SL1	0.87			
	SL2	0.65			
	SL3	0.77			
	SL4	0.77	0.84	0.86	0.50
	SL5	0.52			
	SL6	0.72			
	SL7	0.62			
Perceived supervisory support	PSS1	0.77			
	PSS2	0.78	0.70	0.84	0.57
	PSS3	0.75			
	PSS4	0.73			
Psychological empowerment	PE1	0.76			
	PE2	0.76			
	PE3	0.79			
	PE4	0.75			
	PE5	0.84			
	PE6	0.87	0.70	0.95	0.64
	PE7	0.91			
	PE8	0.70			
	PE9	0.87			
	PE10	0.74			
	PE11	0.68			
	PE12	0.79			
Task performance	TP1	0.92			
	TP2	0.84			
	TP3	0.76	0.78	0.93	0.67
	TP4	0.87			
	TP5	0.67			
	TP6	0.92			
	TP7	0.74			

leadership and psychological empowerment ($b = -0.1532$, SE = 0.0356, $t = -4.3070$, $p = 0.0000$, [LLCI = -0.2231 ULCI = -0.0832], supporting the H3b Hypothesis (see **Figure 3**).

Moderation Mediation Analysis

Moderated-mediation analysis reveals the process in which the mediating variable, psychological empowerment, depends on the value of a moderating variable i.e., perceived supervisory support. To check the moderated mediation, we evaluated the integrated model whereby the strength of the relationship between servant leadership and task performance through psychological empowerment is conditional on the value of a moderator i.e., perceived psychological empowerment. The moderated mediation is proved when the conditional indirect effect of servant leadership on task performance in the presence of perceived supervisory support is significant. The interaction effect of servant leadership and perceived supervisory support on task performance through psychological empowerment is significant as the conditional indirect effect is significant

TABLE 2 | Mean, standard deviation, and correlation results.

Var	Mean	SD	1	2	3	4	5	6	7	8	9
(1) Gender	1.46	0.49	1								
(2) Age	2.05	0.92	0.010	1							
(3) Education	2.22	0.82	−0.054	−0.017	1						
(4) Experience	2.58	0.89	−0.028	0.024	−0.017	1					
(5) Sector	0.51	0.50	−0.032	−0.086	−0.057	−0.012	1				
(6) SL	3.24	1.16	0.041	−0.065	−0.001	−0.040	−0.011	0.84			
(7) PSS	3.09	1.03	0.053	−0.085	−0.018	−0.035	−0.010	0.853**	0.70		
(8) PE	3.49	1.06	0.077	−0.123*	0.008	−0.043	0.024	0.770**	0.781**	0.70	
(9) TP	3.15	1.03	−0.019	−0.013	0.100	−0.108*	−0.075	0.690**	0.571**	0.571**	0.78

$**p < 0.01$, $*p < 0.05$, SL, servant leadership, PSS, perceived supervisory support, PE, psychological engagement, TP, task performance.

(BootLLCI = −0.0706 BootULCI = −0.0150, $p < 0.01$) as revealed by bootstrapped results (see **Table 6**).

DISCUSSION

Although researchers investigated the relationship between leadership and accomplishment of the planned organizational tasks, results revealed that change appears at multiple levels, for example Battilana et al. (2010); Oreg and Berson (2019); Sverdlik et al. (2020). However, there have been no studies to investigate the role of servant leadership in achieving desired employee performance and organizational results within a high level of uncertainty and crisis as is the case of COVID-19, specifically in a Pakistani context. Consequently, this study has made significant theoretical contributions by reflecting upon the significance of the servant leadership style in enhancing

TABLE 3 | Mediation effect.

	Boot LLCI	Boot ULCI	Boot SE	β	Decision
Mediation path	0.1452	0.3158	0.0444	0.2245	Partial mediation

TABLE 4 | Moderation effect on task performance.

Model	B	se	T	p	LLCI	ULCI
Constant	0.1501	0.3688	0.4069	0.6843	−0.5755	0.8756
Servant leadership	0.3509	0.1058	3.3176	0.0010	0.1429	0.5590
P. supervisor support	0.8240	0.0933	8.8332	0.0000	0.6404	1.0075
Interaction	−0.0594	0.0258	−2.3049	0.0218	−0.1101	−0.0087

FIGURE 2 | SL × PSS = Task performance.

employee task performance in the virtual work climate, keeping in view the challenges posed to the service sector during the pandemic crisis. This research also emphasized the mediating responsibility of psychological empowerment connecting servant leadership and task performance. The moderation analysis was also carried out to investigate that perceived supervisory support moderates the relation between the independent and dependent variables of the study. The data were gathered from the employee population operating in the service sector of Pakistan. The outcomes uncovered that direct and indirect servant leadership styles (through psychological empowerment) strengthen job performance. The results of this study filled a significant breach in the literature *via* reflecting upon the association concerning servant leadership and task performance of employees operating in the virtual workplace during the COVID-19 pandemic. The findings of the recent study propose that serving behavior ought to be a fundamental aspect for the line managers to guarantee fruitful execution of the task, supporting the past studies addressing the topic under scrutiny of ordinary circumstances (Liden et al., 2014). In addition, given the effect of servant leadership in task accomplishment and performance, this study supports past research corroborating an affirmative relation connecting servant leadership and task performance (Saleem et al., 2020). Moreover, the research shows an underlying mechanism to investigate the function of leadership styles such as servant leadership and task performance (Turner and Müller, 2005).

Expanding on the study model (Liao, 2017), we reflected upon the moderating and mediating factors during a broad pandemic in a virtual workplace. Current research suggests that psychological empowerment works as a mediating mechanism between servant leadership and task performance. Moreover, the direct effect of servant leadership on task performance can be increased when employees become psychologically empowered in a virtual work setting. This finding is in line with the results of

TABLE 5 | Moderation effect on psychological empowerment.

Model	B	se	T	p	LLCI	ULCI
Constant	−0.7923	0.5090	−1.5567	0.1205	−1.7935	0.2089
Servant leadership	0.7748	0.1460	5.3080	0.0000	0.4877	1.0620
P. supervisor support	1.0118	0.1287	7.8600	0.0000	0.7585	1.2650
Interaction	−0.1532	0.0356	−4.3070	0.0000	−0.2231	−0.0832
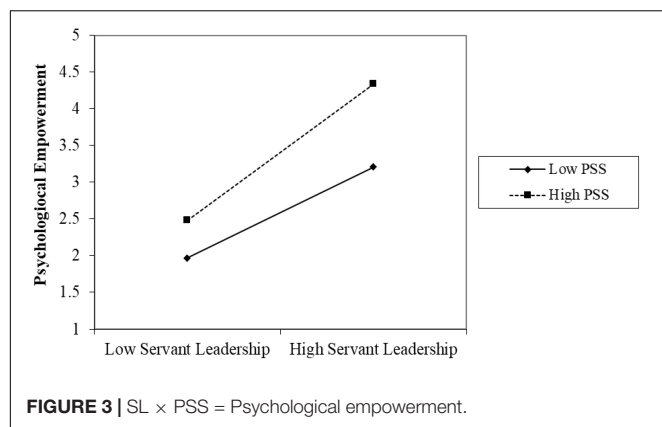
FIGURE 3 | SL × PSS = Psychological empowerment.

TABLE 6 | Bootstrapped results of moderated mediation.

	Index	BootSE	BootLLCI	BootULCI
P. supervisor support	−0.0404	0.0141	−0.0706	−0.0150

the past studies that servant leadership positively affects employee task performance through psychological empowerment (Chen et al., 2018). This result likewise reveals that when servant leaders direct their associates, they believe themselves to be mentally engaged and authorized because they benefit from the independence in their job beneath the management of servant leaders (Jeung and Yoon, 2016). Along these lines, employees feel committed and cheered to achieve the organizational goals (Binyamin and Brender-Ilan, 2018). In general, the results of the current study propose that the psychological empowerment of the workers is a valuable instrument that could potentially enhance the task performance of employees that could be accomplished by team leaders who are well-equipped with serving traits.

This study acknowledged the moderating effect of perceived supervisor support on the association of servant leadership and the task performance of employees. Results support the past literature indicating that supervisor support significantly moderates the relationship between servant leadership and task performance (Kanwal et al., 2017). This conclusion additionally shows that servant leaders and support from the supervisor help achieve high task performances. The findings show that perceived supervisor support significantly moderates the association between servant leadership and psychological empowerment.

Furthermore, the study investigated if the perceived supervisor support moderated the relationship between servant leadership and task performance and psychological empowerment (Boonstra, 2013). It has been found that supervisor support could be utilized to establish and sustain a servant leadership style where employees feel their feedback is esteemed and appreciated. Sustainable supervisory support builds up the inspiration to take part in and exert efforts in accomplishing shared objectives and common goals. When employees receive feedback from their supervisor or from a group, they might be ready to participate and show a better performance.

Practical Implications

Although research examining the role of servant leadership in the context of normal planned organizational change exists (Parris and Peachey, 2013; Harju et al., 2018; Brière et al., 2021), studies on leadership, educational intuition, and service literature dealing with effective servant leadership behavior in a rapid and unpredictable organizational transformation, such as the COVID-19 pandemic crisis, are very scarce. Therefore, our research has certain theoretical and practical implications that contribute to the scarcity of literature on the effectiveness of leadership in educational institutions during a crisis in virtual work environments. First, this paper reveals that servant leadership signifies various resources that are crucial in supporting service employees with task fulfillment while working virtually in times of crisis. Theoretically, the paper is among the few studies to examine the significance of servant leadership in a time of crisis. Furthermore, drawing on the conservation of resource theory (COR), this study addresses a specific mechanism (psychosocial empowerment and perceived supervisor support) through which servant leadership influences task performance.

We examined servant leadership in intuitive educational settings during the pandemic, which is considerably more complex than in normal times due to the sad change in the work environment. The results have revealed that this crisis could cause severe disruptions in the service sector. Eventually, the servant leadership style is unequivocal in sustaining employees' task performance as it offers them firm grounds to deal with uncertain situations. In crisis times, servant leadership creates harmony among employees and as a result, gets better performances. We have shown that servant leader positive serving behavior contributes to employee's task performance. Supervisors driving teams through an emergency or crisis should consider this by actively engaging in a serving conduct that gives direction and sets a clear path to be followed by the subordinates that could potentially lead to better performance outcomes in a quickly arising virtual workplace. Encouraging their subordinates, the vital independence and support that empower them to adjust in critical situations or crises turn out best for every individual to accomplish tasks productively.

Managerial Implications

First, organizations should encourage servant leadership, which can assist workplaces in dealing with the current crisis in a virtual environment. Second, organizational leadership should recognize the productive role of PSS. This key mechanism replicates a positive relationship between organizational leadership and their employee task performance not only for employees in normal working environments but also for those working remotely in virtual working environments. Servant leaders should convey that the organization acknowledges employee contributions, cares about employee well-being, and translates their rhetoric into specific policies and practices. Third, educational institutions both public and private sectors should offer management training programs with courses that emphasize on servant leadership, while policymakers should promote (e.g., flexible work schedules, digital literacy courses, and childcare provisions). To improve

task performance and achieve organization goals within the Pakistani context, a country particularly hard hit by a decade of financial crisis before the current COVID-19 pandemic, the above suggestions should be put into practice. We suggest that nurturing servant leadership and PSS are instrumental in bettering such indicators and limiting some of the problems observed in the labor market, such as undeclared work and unpaid overtime (Kumar Bandyopadhyay et al., 2020).

Limitations and Future Research Directions

The present study has some limitations, despite having several strengths. First, this research used crosssectional primary data and could not draw cause-and-effect conclusions. Future research, therefore, may consider longitudinal studies. Second, we employed a quantitative research methodology. Future research is encouraged to apply qualitative methods to clarify the causality of the relationships between the research variables. Third, while some measures were employed to reduce the common method bias, our study used data collected from one source at one point in time. Considering this, future studies are invited to collect time-lagged data from employees at different points. Fourth, this research investigated the relationships between servant leadership and task performance, psychological empowerment and servant leadership, and perceived supervisor support in the crisis. Future research may consider other outcome variables such as knowledge-sharing behaviors, helping behaviors, and innovative work behaviors. Fifth, in the current study, we investigated the impact of servant leadership style on the outcome variables therefore, future research may consider other leadership styles such as humble, inclusive, ethical transformational, spiritual, and transactional leadership to investigate their comparative effectiveness to servant leadership in crises. Lastly, the study sample was solely collected from Pakistan. This indicates that the study results could not be generalized to the foreign population. Pakistani society is more collectivistic and thus seems familiar with the dependency on the interpersonal relationships prevailing within an organization. In this vein, the significance of servant leadership and perceived supervisor support is more striking in Pakistani culture. Future researchers could conduct a crosscultural study exploring the effect of culture on the leadership processes, employee voice, and their performance. Eventually, our study results show that a servant leader can play an active role in the psychological empowerment of the employees during a crisis. Studies in the future might study the effect of servant leadership on different knowledge areas of management across psychological empowerment dimensions (goal-setting, role clarification, interpersonal process, and problem-solving). Another fruitful area for future research is examining the impact of servant leadership on task performance during the crisis through various mediating/moderating variables such as managerial skills and team building.

CONCLUSION

Overall, the results of this study present important theoretical and practical contributions by further exploring SL and other aspects related to employee team performance in a virtual workplace in the context of a crisis such as COVID-19. In particular, we found that SL has a direct and indirect (psychological empowerment) effect on the task performance of employees operating in a virtual work setting during the pandemic crisis. At last, we uncovered that workers having high PSS strengthens the relationship between SL and task performance. We added to literature, knowledge, and understanding about SL and task performance during the crisis.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because due to privacy reasons. Requests to access the datasets should be directed to the corresponding authors.

AUTHOR CONTRIBUTIONS

MZ, SZ, and ZJ contributed to the conception and design of the study. MA and MZ organized the database. MA and SZ performed the statistical analysis. MZ, SZ, MA, and ZJ wrote the first draft of the manuscript. DC, MZ, MA, MZ, NC-B, and SZ wrote the sections of the manuscript. All authors contributed to the manuscript revision, read, and approved the submitted version.

FUNDING

ACKNOWLEDGMENTS

REFERENCES

Aboramadan, M. (2020). Servant leadership and followers' creativity: does climate for creativity matter? *Evid. Based HRM Glob. Forum Empirical Scholarsh.* 9, 1–17.

Aboramadan, M., and Dahleez, K. A. (2021). The impact of perceived servant leadership traits and safety climate on task performance and risk-taking behavior in times of crisis. *Leadersh. Health Serv.* doi: 10.1108/LHS-05-2021-0049 [Epub ahead of print].

Aboramadan, M., Dahleez, K., and Hamad, M. H. (2020). Servant leadership and academics outcomes in higher education: the role of job satisfaction. *Int. J. Org. Anal.* 29, 562–584.

Aga, D. A., Noorderhaven, N., and Vallejo, B. (2016). Transformational leadership and project success: the mediating role of team-building. *Int. J. Project Manage.* 34, 806–818.

Alavi, S., Habel, J., Guenzi, P., and Wieseke, J. (2018). The role of leadership in salespeople's price negotiation behavior. *J. Acad. Market. Sci.* 46, 703–724. doi: 10.1007/s11747-017-0566-1

Ali, A., Ahmad, S., and Saeed, I. (2018). Ethical leadership and organizational citizenship behavior: mediating role of organizational justice: a case study of education sector. *Abasyn J. Soc. Sci.* 11, 386–399.

Ali, M., Zhang, L., Shah, S. J., Khan, S., and Shah, A. M. (2020). Impact of humble leadership on project success: the mediating role of psychological empowerment and innovative work behavior. *Leadersh. Org. Dev. J.* 41, 349–367. doi: 10.1108/LODJ-05-2019-0230

Ali, M., Zhang, L., Zhang, Z., Zada, M., Begum, A., Han, H., et al. (2021). Can leaders' humility enhance project management effectiveness? Interactive effect of top management support. *Sustainability* 13:9526. doi: 10.3390/su13179526

Alsabbagh, M., and Khalil, A. (2016). The impact of leadership styles on organizational learning (an empirical study on the education sector in Damascus city). *Int. J. Acad. Res. Bus. Soc. Sci.* 6, 197–216.

Andriani, S., Kesumawati, N., and Kristiawan, M. (2018). The influence of the transformational leadership and work motivation on teachers performance. *Int. J. Sci. Technol. Res.* 7, 19–29.

Bandura, A. (1986). *Social Foundation of Thought and Action.* Englewood Cliffs, NJ: prentice Hall.

Bartsch, S., Weber, E., Büttgen, M., and Huber, A. (2020). Leadership matters in crisis-induced digital transformation: how to lead service employees effectively during the COVID-19 pandemic. *J. Serv. Manage.* 32, 71–85. doi: 10.1108/josm-05-2020-0160

Battilana, J., Gilmartin, M., Sengul, M., Pache, A.-C., and Alexander, J. A. (2010). Leadership competencies for implementing planned organizational change. *Leadersh. Q.* 21, 422–438.

Berson, Y., Halevy, N., Shamir, B., and Erez, M. (2015). Leading from different psychological distances: a construal-level perspective on vision communication, goal setting, and follower motivation. *Leadersh. Q.* 26, 143–155.

Binyamin, G., and Brender-Ilan, Y. (2018). Leaders's language and employee proactivity: enhancing psychological meaningfulness and vitality. *Eur. Manage. J.* 36, 463–473.

Boonstra, A. (2013). How do top managers support strategic information system projects and why do they sometimes withhold this support? *Int. J. Project Manage.* 31, 498–512. doi: 10.1016/j.ijproman.2012.09.013

Brière, M., Le Roy, J., and Meier, O. (2021). Linking servant leadership to positive deviant behavior: the mediating role of self-determination theory. *J. Appl. Soc. Psychol.* 51, 65–78.

Carnevale, J. B., and Hatak, I. (2020). Employee adjustment and well-being in the era of COVID-19: implications for human resource management. *J. Bus. Res.* 116, 183–187. doi: 10.1016/j.jbusres.2020.05.037

Carte, T. A., Chidambaram, L., and Becker, A. (2006). Emergent leadership in self-managed virtual teams. *Group Decis. Negot.* 15, 323–343. doi: 10.1007/s10726-006-9045-7

Chen, T.-J., and Wu, C.-M. (2020). Can newcomers perform better at hotels? Examining the roles of transformational leadership, supervisor-triggered positive affect, and perceived supervisor support. *Tourism Manage. Perspect.* 33:100587. doi: 10.1016/j.tmp.2019.100587

Chen, Y., Liu, B., Zhang, L., and Qian, S. (2018). Can leader "humility" spark employee "proactivity"? The mediating role of psychological empowerment. *Leadersh. Org. Dev. J.* 39, 326–339.

Chiang, C.-F., and Hsieh, T.-S. (2012). The impacts of perceived organizational support and psychological empowerment on job performance: the mediating effects of organizational citizenship behavior. *Int. J. Hosp. Manage.* 31, 180–190. doi: 10.1016/j.ijhm.2011.04.011

Chua, C. E. H., Lim, W.-K., Soh, C., and Sia, S. K. (2012). *Enacting Clan Control in Complex IT Projects: A Social Capital Perspective.* Minneapolis, MN: University of Minnesota.

Cole, M. S., Bruch, H., and Vogel, B. (2006). Emotion as mediators of the relations between perceived supervisor support and psychological hardiness on employee cynicism. *J. Organ. Behav.* 27, 463–484. doi: 10.1002/job.381

Collings, D. G., Nyberg, A. J., Wright, P. M., and McMackin, J. (2021). Leading through paradox in a COVID-19 world: human resources comes of age. *Hum. Resour. Manage. J.* 31, 819–833. doi: 10.1111/1748-8583.12343

Cooke, F. L., Wang, J., and Bartram, T. (2019). Can a supportive workplace impact employee resilience in a high pressure performance environment? An investigation of the Chinese banking industry. *Appl. Psychol.* 68, 695–718. doi: 10.1111/apps.12184

Coyle-Shapiro, J. A., and Shore, L. M. (2007). The employee–organization relationship: where do we go from here? *Hum. Resour. Manage. Rev.* 17, 166–179. doi: 10.1016/j.hrmr.2007.03.008

Craven, M., Liu, L., Mysore, M., and Wilson, M. (2020). *COVID-19: Briefing Note*, 2nd Edn. New York, NY: McKinsey & Company.

De Clercq, D., Bouckenooghe, D., Raja, U., and Matsyborska, G. (2014). Servant leadership and work engagement: the contingency effects of leader–follower social capital. *Hum. Resour. Dev. Q.* 25, 183–212. doi: 10.1002/hrdq.21185

Demir, A., Maroof, L., Khan, N. U. S., and Ali, B. J. (2020). The role of E-service quality in shaping online meeting platforms: a case study from higher education sector. *J. Appl. Res. High. Educ.* 13, 1436–1463. doi: 10.1108/JARHE-08-2020-0253

Dulebohn, J. H., and Hoch, J. E. (2017). *Virtual Teams in Organizations.* London: Elsevier.

Eisenberger, R., Stinglhamber, F., Vandenberghe, C., Sucharski, I. L., and Rhoades, L. (2002). Perceived supervisor support: contributions to perceived organizational support and employee retention. *J. Appl. Psychol.* 87:565. doi: 10.1037/0021-9010.87.3.565

Farid, T., Iqbal, S., Saeed, I., Irfan, S., and Akhtar, T. (2021). Impact of supportive leadership during Covid-19 on nurses' well-being: the mediating role of psychological capital. *Front. Psychol.* 12:695091. doi: 10.3389/fpsyg.2021.695091

Feiz, D., Dehghani Soltani, M., and Farsizadeh, H. (2019). The effect of knowledge sharing on the psychological empowerment in higher education mediated by organizational memory. *Stud. High. Educ.* 44, 3–19. doi: 10.1080/03075079.2017.1328595

Finsterwalder, J., and Kuppelwieser, V. G. (2020). Equilibrating resources and challenges during crises: a framework for service ecosystem well-being. *J. Serv. Manage.* 31, 1107–1129. doi: 10.1108/josm-06-2020-0201

Gedro, J., Allain, N. M., De-Souza, D., Dodson, L., and Mawn, M. V. (2020). Flattening the learning curve of leadership development: reflections of five women higher education leaders during the Coronavirus pandemic of 2020. *Hum. Resour. Dev. Int.* 23, 395–405. doi: 10.1080/13678868.2020.1779911

Greenleaf, R. K. (2002). *Servant Leadership: A Journey Into the Nature of Legitimate Power and Greatness.* Mahwah, NJ: Paulist Press.

Hannah, S. T., Uhl-Bien, M., Avolio, B. J., and Cavarretta, F. L. (2009). A framework for examining leadership in extreme contexts. *Leadersh. Q.* 20, 897–919. doi: 10.1016/j.leaqua.2009.09.006

Harju, L. K., Schaufeli, W. B., and Hakanen, J. J. (2018). A multilevel study on servant leadership, job boredom and job crafting. *J. Manage. Psychol.* 33, 2–14. doi: 10.1108/JMP-08-2016-0237

Haroon, O., and Rizvi, S. A. R. (2020). COVID-19: media coverage and financial markets behavior-a sectoral inquiry. *J. Behav. Exp. Finance* 27:100343. doi: 10.1016/j.jbef.2020.100343

Hayes, A. F. (2017). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach.* New York, NY: Guilford Publications.

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: current research status and future research directions. *Front. Psychol.* 12:748237. doi: 10.3389/fpsyg.2021.748237

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020). Linking work-related and non-work-related supervisor–subordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus. Manage.* doi: 10.1057/s41291-020-00137-9

Herhausen, D., De Luca, L. M., Miceli, G. N., Morgan, R. E., and Schoegel, M. (2017). When does customer-oriented leadership pay off? An investigation of Frontstage and backstage service teams. *J. Serv. Res.* 20, 409–425. doi: 10.1177/1094670517714059

Hobfoll, S. E. (2011b). "Conservation of resources theory: its implication for stress, health, and resilience," in *The Oxford Handbook of Stress, Health, and Coping*, ed. S. Folkman (Oxford: Oxford University Press), 127–147.

Hobfoll, S. E. (2011a). Conservation of resource caravans and engaged settings. *J. Occup. Organ. Psychol.* 84, 116–122. doi: 10.1111/j.2044-8325.2010.02016.x

Hu, J., and Liden, R. C. (2011). Antecedents of team potency and team effectiveness: an examination of goal and process clarity and servant leadership. *J. Appl. Psychol.* 96:851.

Huang, R., Zmud, R. W., and Price, R. L. (2010). Influencing the effectiveness of IT governance practices through steering committees and communication policies. *Eur. J. Inform. Syst.* 19, 288–302. doi: 10.1057/ejis.2010.16

Hunter, E. M., Neubert, M. J., Perry, S. J., Witt, L., Penney, L. M., and Weinberger, E. (2013). Servant leaders inspire servant followers: antecedents and outcomes for employees and the organization. *Leadersh. Q.* 24, 316–331. doi: 10.1016/j.leaqua.2012.12.001

Jeung, C.-W., and Yoon, H. J. (2016). Leader humility and psychological empowerment: investigating contingencies. *J. Manage. Psychol.* 31, 1122–1136. doi: 10.1108/jmp-07-2015-0270

Kabadayi, S., O'Connor, G. E., and Tuzovic, S. (2020). The impact of coronavirus on service ecosystems as service mega-disruptions. *J. Serv. Market.* 34, 809–817.

Kanwal, N., Zafar, M. S., and Bashir, S. (2017). The combined effects of managerial control, resource commitment, and top management support on the successful delivery of information systems projects. *Int. J. Project Manage.* 35, 1459–1465. doi: 10.1016/j.ijproman.2017.08.007

Khan, J., Saeed, I., Ali, A., and Nisar, H. G. (2021). The mediating role of emotional exhaustion in the relationship between abusive supervision and employee cyberloafing behaviour. *J. Manage. Res.* 160–178. doi: 10.29145/jmr/81/080107

Khan, J., Usman, M., Saeed, I., Ali, A., and Nisar, H. (2022). Does workplace spirituality influence knowledge-sharing behavior and work engagement in work? Trust as a mediator. *Manage. Sci. Lett.* 12, 51–66.

Khattak, S. R., Saeed, I., and Tariq, B. (2018). Corporate sustainability practices and organizational economic performance. *Glob. Soc. Sci. Rev.* 3, 343–355. doi: 10.31703/gssr.2018(iii-iv).22

Khattak, S. R., Saeed, I., Rehman, S. U., and Fayaz, M. (2020). Impact of fear of COVID-19 pandemic on the mental health of nurses in Pakistan. *J. Loss Trauma* 1–15.

Kossek, E. E., Petty, R. J., Bodner, T. E., Perrigino, M. B., Hammer, L. B., Yragui, N. L., et al. (2018). Lasting impression: transformational leadership and family supportive supervision as resources for well-being and performance. *Occup. Health Sci.* 2, 1–24. doi: 10.1007/s41542-018-0012-x

Kottke, J. L., and Sharafinski, C. E. (1988). Measuring perceived supervisory and organizational support. *Educ. Psychol. Meas.* 48, 1075–1079.

Kumar Bandyopadhyay, S., Goyal, V., and Dutta, S. (2020). Problems and solutions due to mental anxiety of IT professionals work at home during COVID-19. *Psychiatr. Danubina* 32, 604–605.

Laschinger, H. K. S., Wilk, P., Cho, J., and Greco, P. (2009). Empowerment, engagement and perceived effectiveness in nursing work environments: does experience matter? *J. Nurs. Manage.* 17, 636–646. doi: 10.1111/j.1365-2834.2008.00907.x

Lee, J., and Peccei, R. (2007). Perceived organizational support and affective commitment: the mediating role of organization-based self-esteem in the context of job insecurity. *J. Organ. Behav.* 28, 661–685.

Lee, M. C. C., Idris, M. A., and Tuckey, M. (2019). Supervisory coaching and performance feedback as mediators of the relationships between leadership styles, work engagement, and turnover intention. *Hum. Resour. Dev. Int.* 22, 257–282. doi: 10.1080/13678868.2018.1530170

Li, Y., Castano, G., and Li, Y. (2018). Perceived supervisor support as a mediator between Chinese university teachers' organizational justice and affective commitment. *Soc. Behav. Pers. Int. J.* 46, 1385–1396.

Liao, C. (2017). Leadership in virtual teams: a multilevel perspective. *Hum. Resour. Manage. Rev.* 27, 648–659.

Liden, R. C., Wayne, S. J., and Sparrowe, R. T. (2000). An examination of the mediating role of psychological empowerment on the relations between the job, interpersonal relationships, and work outcomes. *J. Appl. Psychol.* 85:407. doi: 10.1037/0021-9010.85.3.407

Liden, R. C., Wayne, S. J., Liao, C., and Meuser, J. D. (2014). Servant leadership and serving culture: influence on individual and unit performance. *Acad. Manage. J.* 57, 1434–1452. doi: 10.5465/amj.2013.0034

Liden, R. C., Wayne, S. J., Meuser, J. D., Hu, J., Wu, J., and Liao, C. (2015). Servant leadership: validation of a short form of the SL-28. *Leadersh. Q.* 26, 254–269.

Liden, R. C., Wayne, S. J., Zhao, H., and Henderson, D. (2008). Servant leadership: development of a multidimensional measure and multi-level assessment. *Leadersh. Q.* 19, 161–177.

MacKenzie, S. B., Podsakoff, P. M., and Rich, G. A. (2001). Transformational and transactional leadership and salesperson performance. *J. Acad. Market. Sci.* 29, 115–134.

Madlock, P. E. (2018). The influence of leadership style on telecommuters in the insurance industry: a contingency theory approach. *J. Leadersh. Account. Ethics* 15, 73–85.

Mallén, F., Domínguez-Escrig, E., Lapiedra, R., and Chiva, R. (2019). Does leader humility matter? Effects on altruism and innovation. *Manage. Decis.* 58, 967–981. doi: 10.1108/MD-11-2018-1180

May, D. R., Gilson, R. L., and Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *J. Occup. Organ. Psychol.* 77, 11–37. doi: 10.1348/096317904322915892

McColl-Kennedy, J. R., and Anderson, R. D. (2002). Impact of leadership style and emotions on subordinate performance. *Leadersh. Q.* 13, 545–559. doi: 10.1016/s1048-9843(02)00143-1

McGovern, P., Gratton, L., Hope-Hailey, V., Stiles, P., and Truss, C. (1997). Human resource management on the line? *Hum. Resour. Manag. J.* 7, 12–29. doi: 10.1111/j.1748-8583.1997.tb00286.x

Mihhailova, G., Oun, K., and Türk, K. (2011). Virtual work usage and challenges in different service sector branches. *Baltic J. Manage.* 6, 342–356. doi: 10.1108/17465261111167984

Muganda, N., and Pillay, K. (2013). Forms of power, politics and leadership in asynchronous virtual project environment: an exploratory analysis in South Africa. *Int. J. Manag. Projects Bus.* 6, 457–484. doi: 10.1108/ijmpb-11-2011-0075

Namasivayam, K., Guchait, P., and Lei, P. (2014). The influence of leader empowering behaviors and employee psychological empowerment on customer satisfaction. *Int. J. Contemp. Hosp. Manage.* 26, 69–84. doi: 10.1108/ijchm-11-2012-0218

Nifadkar, S., Tsui, A. S., and Ashforth, B. E. (2012). The way you make me feel and behave: supervisor-triggered newcomer affect and approach-avoidance behavior. *Acad. Manage. J.* 55, 1146–1168. doi: 10.5465/amj.2010.0133

Oreg, S., and Berson, Y. (2019). Leaders' impact on organizational change: bridging theoretical and methodological chasms. *Acad. Manage. Ann.* 13, 272–307. doi: 10.5465/annals.2016.0138

Owens, B. P., and Hekman, D. R. (2012). Modeling how to grow: an inductive examination of humble leader behaviors, contingencies, and outcomes. *Acad. Manage. J.* 55, 787–818. doi: 10.5465/amj.2010.0441

Owens, B. P., Johnson, M. D., and Mitchell, T. R. (2013). Expressed humility in organizations: implications for performance, teams, and leadership. *Organ. Sci.* 24, 1517–1538. doi: 10.1287/orsc.1120.0795

Park, R., and Jang, S. J. (2017). Mediating role of perceived supervisor support in the relationship between job autonomy and mental health: moderating role of valueŬmeans fit. *Int. J. Hum. Resour. Manage.* 28, 703–723.

Parris, D. L., and Peachey, J. W. (2013). A systematic literature review of servant leadership theory in organizational contexts. *J. Bus. Ethics* 113, 377–393. doi: 10.1007/s10551-012-1322-6

Peoples, T. M. (2021). *Factors Affecting the Productivity and Satisfaction of Virtual Workers*. Minneapolis, MN: Walden University.

Podsakoff, N. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88, 879–903. doi: 10.1037/0021-9010.88.5.879

Purcell, J., Kinnie, N., Swart, J., Rayton, B., and Hutchinson, S. (2008). *People Management and Performance*. London: Routledge.

Rathi, N., and Lee, K. (2017). Understanding the role of supervisor support in retaining employees and enhancing their satisfaction with life. *Pers. Rev.* 46, 1605–1619. doi: 10.1108/PR-11-2015-0287

Rhoades, L., and Eisenberger, R. (2002). Perceived organizational support: a review of the literature. *J. Appl. Psychol.* 87:698. doi: 10.1037/0021-9010.87.4.698

Ridgeway, C. L. (2003). *Leadership and Power: Identity Processes in Groups and Organizations*. London: Sage, 65.

Saeed, I., Khan, M., Ullah, A., Ibrahim, S., Irshad, P., Bashir, S., et al. (2015). Effect of transformational leadership on employee organizational commitment: moderating role of emotional intelligence. *J. Econ. Manage. Trade* 6, 276–283. doi: 10.9734/bjemt/2015/15273

Saleem, F., Zhang, Y. Z., Gopinath, C., and Adeel, A. (2020). Impact of servant leadership on performance: the mediating role of affective and cognitive trust. *Sage Open* 10:2158244019900562.

Schepers, J., Jong, A. D., Ruyter, K. D., and Wetzels, M. (2011). Fields of gold: perceived efficacy in virtual teams of field service employees. *J. Serv. Res.* 14, 372–389. doi: 10.1177/1094670511412354

Scott-Young, C., and Samson, D. (2008). Project success and project team management: evidence from capital projects in the process industries. *J. Operations Manage.* 26, 749–766. doi: 10.1016/j.jom.2007.10.006

Seibert, S. E., Wang, G., and Courtright, S. H. (2011). Antecedents and consequences of psychological and team empowerment in organizations: a meta-analytic review. *J. Appl. Psychol.* 96:981. doi: 10.1037/a0022676

Sigall, H., and Mills, J. (1998). Measures of independent variables and mediators are useful in social psychology experiments: but are they necessary? *Pers. Soc. Psychol. Rev.* 2, 218–226. doi: 10.1207/s15327957pspr0203_5

Sigler, T. H., and Pearson, C. M. (2000). Creating an empowering culture: examining the relationship between organizational culture and perceptions of empowerment. *J. Qual. Manage.* 5, 27–52. doi: 10.1016/s1084-8568(00)00011-0

Sousa, M., and van Dierendonck, D. (2017). Servant leadership and the effect of the interaction between humility, action, and hierarchical power on follower engagement. *J. Bus. Ethics* 141, 13–25. doi: 10.1007/s10551-015-2725-y

Spears, L. (1995). "Servant leadership and the Greenleaf legacy," in *Reflections on Leadership: How Robert K. Greenleaf's Theory of Servant-Leadership Influenced Today's top Management Thinkers*, eds D. van Dierendonck and K. Patterson (London: Palgrave Macmillan), 1–14.

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: dimensions, measurement, and validation. *Acad. Manage. J.* 38, 1442–1465. doi: 10.1111/jonm.12045

Spreitzer, G. M., and Cameron, K. S. (2012). "A path forward: assessing progress and exploring core questions for the future of positive organizational scholarship," in *The Oxford Handbook of Positive Organizational Scholarship*, eds G. M. Spreitzer and K. S. Cameron (Oxford: Oxford University Press), 1034–1048.

Stoker, J. I., Garretsen, H., and Soudis, D. (2019). Tightening the leash after a threat: a multi-level event study on leadership behavior following the financial crisis. *Leadersh. Q.* 30, 199–214. doi: 10.1016/j.leaqua.2018.08.004

Sun, L., Hu, C., Liu, W., Zhang, W., Duan, J., Li, Z., et al. (2020). The psychological dilemma of Chinese ocean crews. *J. Coast. Res.* 103, 668–673. doi: 10.2112/si103-136.1

Sverdlik, N., Oreg, S., and Berson, Y. (2020). When do leaders initiate changes? The roles of coping style and organization members' stability-emphasizing values. *Appl. Psychol.* 69, 1338–1360. doi: 10.1111/apps.12224

Tecco, J. M. (2020). Mental health research in times of pandemic. *Psychiatr. Danubina* 32(Suppl. 1), 4–4.

Thomas, K. W., and Velthouse, B. A. (1990). Cognitive elements of empowerment: an "interpretive" model of intrinsic task motivation. *Acade. Manage. Rev.* 15, 666–681. doi: 10.2307/258687

Tian, Q., Zhang, L., and Zou, W. (2014). Job insecurity and counterproductive behavior of casino dealers–the mediating role of affective commitment and moderating role of supervisor support. *Int. J. Hosp. Manage.* 40, 29–36.

Turner, J. R., and Müller, R. (2005). The project manager's leadership style as a success factor on projects: a literature review. *Project Manage. J.* 36, 49–61. doi: 10.1177/875697280503600206

Uhl-Bien, M., and Arena, M. (2018). Leadership for organizational adaptability: a theoretical synthesis and integrative framework. The *Leadersh. Q.* 29, 89–104. doi: 10.1016/j.leaqua.2017.12.009

Van Dierendonck, D. (2011). Servant leadership: a review and synthesis. *J. Manage.* 37, 1228–1261.

Van Dierendonck, D., and Patterson, K. (2015). Compassionate love as a cornerstone of servant leadership: an integration of previous theorizing and research. *J. Bus. Ethics* 128, 119–131. doi: 10.1007/s10551-014-2085-z

Wang, K., and Yin, J. (2020). Effects of work engagement on professional identity of young teachers in China's ocean colleges—perspective of psychological capital. *J. Coast. Res.* 103, 236–239. doi: 10.2112/si103-051.1

Williams, L. J., and Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *J. Manage.* 17, 601–617. doi: 10.1177/014920639101700305

Yoshida, D. T., Sendjaya, S., Hirst, G., and Cooper, B. (2014). Does servant leadership foster creativity and innovation? A multi-level mediation study of identification and prototypicality. *J. Bus. Res.* 67, 1395–1404.

Zhang, X. (2015). *Transformational Leadership Increases Self-Determination and Positively Impacts Hospitality Frontline Employees*. UNLV Thesis. Las Vegas: University of Nevada.

Zhang, X., and Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Acad. Manage. J.* 53, 107–128. doi: 10.5465/amj.2010.48037118

Zhang, Y., Waldman, D. A., Han, Y.-L., and Li, X.-B. (2015). Paradoxical leader behaviors in people management: antecedents and consequences. *Acad. Manage. J.* 58, 538–566.

Check for updates

The Influence of Self-Serving Leadership on Deviant Behaviors in the Workplace: A Moderated Mediation Model

Liangcan Liu[1], Zhitao Wan[1]*, Yanping Lin[1] and Xu Wang[2]

[1] School of Business Administration, Guizhou University of Finance and Economics, Guiyang, China, [2] Personnel Division, Guizhou University, Guiyang, China

Self-serving leadership is a typical example of destructive leadership that has negative effects on its subordinates and organization. According to social identity theory, we propose a theoretical model that self-serving leadership induces employee interpersonal deviance and organizational deviance through organization identification, and we explore the moderating role of moral identity in this relationship. Based on survey data collected from 377 questionnaires by using a three-wave time lagged design, structural equation modeling results showed that (1) there was a significant positive correlation between self-serving leadership and employees' deviant behavior, (2) organizational identification partially mediates the relationship between self-serving leadership and employees' deviant behavior, and (3) employees' moral identity negatively moderates the relationship between self-serving leadership and employees' organizational identification. The findings further extend the research on the influence of self-serving leadership on employee workplace deviance. They also reveal the mechanisms and boundary conditions of the effect of self-serving leadership on employee workplace deviance.

Keywords: self-serving leadership, organizational identification, moral identity, interpersonal deviance, organizational deviance

INTRODUCTION

Since the beginning of organizational behavior research, theory and research have focused on constructive leadership and its effects (Rafferty and Restubog, 2011). Researchers have focused mainly on identifying the characteristics or behaviors of leaders that produce positive results, such as strong work performance, project success, and employees' innovative behavior. Leadership and its effects have both constructive and destructive elements. Further, negative leadership has a more significant impact on organization members' behavior compared to positive leadership (Jiang and Gu, 2016). In recent years, as reports on the "dark side" of leadership and leadership behavior have increased, self-serving leadership has begun to attract academic attention. Self-serving leadership is a typical example of destructive leadership (Schmid et al., 2017), in which a leader prioritizes their own needs and interests over the needs of their subordinates and the organization's goals (Camps et al., 2012). In management practice, leaders do not always think of collective interests

(Rafferty and Restubog, 2011), and they often use organizational resources to advance the personal purpose (Camps et al., 2012).

Existing research indicates that self-serving leadership has many adverse consequences for teams and their members (Schyns and Schilling, 2013). Current studies focus mainly on the mechanisms and negative effects of self-serving leadership on employees from the perspectives of social exchange theory and social cognition theory. From the social exchange perspective, self-serving leadership can disrupt the balance of costs and benefits with employees, lead to psychological trauma (Camps et al., 2012), make employees distrust their leaders and destroys cooperation based on trust (Decoster et al., 2021), reduce affective commitment to supervisors (Mao et al., 2019b), cause negative emotions among employees (Camps et al., 2012), induce employees' desire for retaliation and supervisor-directed deviance (Decoster et al., 2021), and encourage employees' counterproductive work behavior (Mao et al., 2019b) and deviance from leaders' instructions (Schyns and Schilling, 2013). Additionally, to restore the exchange balance, employees will inhibit their willingness to cooperate (Decoster et al., 2014), reduce their satisfaction with leaders and their organizational citizenship behavior, increase their turnover intentions (Ritzenhöfer et al., 2019), decrease their motivation to voice (Liu et al., 2017). At the team level, studies have revealed that self-serving leadership harms team performance (Mao et al., 2019a) and destroys team creativity and knowledge sharing (Peng et al., 2019). From the social cognitive perspective, self-serving leadership will arouse employees' uncertainty about their outcomes, leading them to experience negative emotions (Camps et al., 2012). Moreover, when employees ascribe selfishness to a leader, it will reduce their satisfaction and OCB toward the leader and increase their intentions to abandon the leader (Ritzenhöfer et al., 2019). Meanwhile, viewed within the cognitive-affective processing system framework (Mischel and Shoda, 1995), self-serving leadership triggers moral disengagement and negative emotions among employees, thus producing deviant behavior (Zhou et al., 2021). Concerning the boundary conditions of self-serving leadership's negative impact on employees, existing research indicates that organizational budget policy (Decoster et al., 2014), ethical climate (Decoster et al., 2021), employee perceptions of distributive justice (Camps et al., 2012), employee power distance orientation (Mao et al., 2019b), and justice sensitivity (Zhou et al., 2021) are important contingent factors that influence the relationship between self-serving leadership and employee behavior. As an essential reference point for employee behavior, a supervisor's behavior is important in shaping employee behavior (Sulea et al., 2013). Deviance at work is a harmful extra-role behavior that is intentionally carried out by employees, violates organizational principles, and poses a menace to the organization and its members (Bennett and Robinson, 2000). It is typical negative behavior in the workplace. It can bring substantial economic losses to enterprises (Robinson and Bennett, 1995).

Existing research has shown that there are complex cognitive and emotional mechanisms (e.g., moral disengagement, anger, etc.), underlying self-serving leadership's effect on employees' deviant behaviors (Zhou et al., 2021). However, beyond these mechanisms, we must also explore other cognitive factors (e.g., organizational identification) and emotional factors (e.g., workplace anxiety). Moreover, existing research explains the mechanism of self-serving leadership mainly using social exchange theory and social cognition theory, and it is necessary to consider other theoretical orientations (e.g., social identity theory). Therefore, this study introduces organizational identification as a mediating variable to better understand why self-serving leadership leads to employees' deviant behavior and appeals to social identity theory to explain this mediating mechanism. Meanwhile, individual characteristics determine the degree or direction of leadership influence (Zhang and Liu, 2018). Specifically, employees with different characteristics may have different reactions to the same leadership behavior. Additionally, culture plays an important role in shaping individuals' beliefs, opinions, attitudes, and behaviors (Hofstede, 2001). Therefore, this paper also examines the contingent effect of differences in employees' moral identity on the relationship between self-serving leadership and employee deviant behavior in the Asian cultural context.

Ashworth and Mael introduced social identity theory into the field of organizational behavior research. Social identity theory (Turner et al., 1987) holds that when an organization meets employees' needs for security, self-realization, and belonging, individuals classify themselves as members of that organization, which enhances employees' identification with and emotional attachment to the organization (Blader et al., 2017) and encourages employees to defend the organizational interests (Van Dick et al., 2006). However, when employees' organizational identification is weak, they distance themselves from the organization and are indifferent to its interests, which can easily produce behaviors that are not beneficial to the organization.

Self-serving leadership conveys harmful intentions to subordinates, making subordinates afraid of being exploited and hesitant to take risks (Liu et al., 2017), as well as fearful of uncertainty (Camps et al., 2012). Because the supervisor is the spokesperson of the organization, their behavior also represents the organization's attitude towards employees. Therefore, employees who suffer from self-serving leadership will lowering their emotional commitment (Mao et al., 2019a) and have weaker organizational identification (Liu et al., 2017), encouraging workplace deviance.

Therefore, In light of social identity theory, this research will explore an intermediate process in which self-serving leadership influence employee deviance via organizational identification. Furthermore, in order to reveal the relationship more comprehensively, this study will further explore the moderated effect of moral identity in this relationship. Based on the self-regulation mechanism of moral behavior, moral identity take important effect on understanding employees' moral behavior (Watts and Ronald Buckley, 2017). Moral identity is "a self-concept formed based on a series of moral characteristics," which describes individual differences in moral terms (Aquino and Reed, 2002). It is an important boundary condition affecting individuals' deviant behavior (Mulder and Aquino, 2013). We hypothesize that the negative effects of self-serving leadership on employees' organizational identification are also impacted

by their level of moral identity. Individuals with high moral identification have more likelihood of noticing morality-related information (DeCelles et al., 2012). When employees perceive that their moral values are consistent with the ethical norms of the organization, they will enhance their identification with the organization (Wang et al., 2017). According to this logic, when employees and organization have different ethical norms, it will have a negative impact on employees' identification with the organization. We consider the effects may be complicated. Different cultures affect subordinates' views of and reactions to leaders' behaviors (Zhang and Liu, 2018). The strength of individuals' moral identity is not only affected by their level of moral cognition but also restricted by situational factors (Shao et al., 2011). Due to the legitimacy of managers' hostility to subordinates, maintaining hierarchical status and respect for authority is characteristics of Asian culture (Zhang and Liu, 2018). We surmise that higher moral identities of employees may buffer the detrimental influence of self-serving leadership on their organizational identification in an Asian cultural context.

In terms of social identity theory, this study concentrate on how self-serving leadership exert influence on employees' deviance in the workplace, explores the mediating effect of organizational identification, and analyzes how moral identity modifies it, as well as makes two major theoretical contributions. First, this research reveals the influencing mechanism of self-serving leadership on employees' workplace deviant behavior in terms of organizational identification and enriches leadership theory. Second, this study introduces moral identity in Asian culture to illustrate the link between self-serving leadership and organizational identification, making some contributions to the localization research of self-serving leadership (see **Figure 1**).

LITERATURE REVIEW AND HYPOTHESES

Self-Serving Leadership and Deviant Behavior in the Workplace

Self-serving leaders will prioritize their own interests over those of their subordinates and organizations (Camps et al., 2012), which have negative impact on the organization and subordinates (Haynes et al., 2015). Following this logic, we hypothesize that as a typical negative behavior in the workplace (Kluemper et al., 2013), employee deviance may be induced by self-serving leadership, including interpersonal deviance toward the leader as the source of aggression as well as toward innocent colleagues, and organizational deviance such as retaliation against the organization (Kluemper et al., 2015). First, leadership style can positively impact organizational ethical climate (Grojean et al., 2004), which affects employees' behaviors (Wimbush and Shepard, 1994). According to social learning theory (Bandura, 1977), individuals learn by observing and imitating role models' behaviors. Employees who are exposed to self-serving leaders observe self-serving behaviors, acquire self-serving values, and then engage in self-serving behaviors themselves (Haynes et al., 2015), and avoid prosocial behavior (Liu et al., 2017). Therefore,

self-serving leadership creates an organizational climate in which members' putting their own interests first is acceptable and will not be punished (Peng et al., 2019), leading employees to follow self-interested cognitive and behavioral norms (Vardaman et al., 2014) and engage in unethical behavior (Wimbush and Shepard, 1994). Second, according to negative reciprocal norms, there is a need to eliminate the imbalance of exchange between the two sides, achieve self-protection (Biron, 2010), and address perceptions of injustice (Mitchell and Ambrose, 2007). The party who is treated unfairly may behave negatively toward self-serving leaders (Camps et al., 2012). When there is a conflict of interests between leaders and subordinates, self-serving leaders may pursue their interests at the expense of subordinates (Peng et al., 2019) and even attribute their subordinates' achievements to themselves (Schmid et al., 2017). In confront of this situation, subordinates feel a sense of threat that their resources are expended (Mao et al., 2019a) and that there is a gap between their efforts and expected benefits. In turn, this can make subordinates inclined to take revenge to restore the balance (Carlsmith et al., 2002). Some studies have also shown that employees seek revenge against the person who has wronged them to reestablish a feeling of fairness and avoid future aggression (Aquino and Thau, 2008; De Dreu and Nauta, 2009). Simultaneously, when leaders lack sympathy for or even exploit their subordinates, subordinates perceive that their interests are threatened (Peng et al., 2019), their psychological safety is harmed, and they experience negative emotions, such as intense fear (Peng et al., 2019). Subordinates usually take specific actions (Tice and Bratslavsky, 2000) to address negative emotions, with deviant behavior toward their leader (Spector and Fox, 2002). In addition, the more employees trust their organization and its leaders, the more they will feel attached to the organization and its members and the less they will engage in deviant behaviors (Bennett and Stamper, 2001). Self-serving leaders violate employees' expectations, cause crises of trust, and engender employees' desire for revenge (Decoster et al., 2021). Therefore, in response to leaders' self-serving behavior and the need to prevent further threats, employees who believe they are being treated unequally will intentionally deviate from leaders' instructions to retaliate. Furthermore, in addition to deviant behavior directed at supervisors, employees may also engage in deviant behavior toward their colleagues. According to the theory of displaced aggression (Burton et al., 2012), due to certain inhibitory factors, frustrated individuals cannot directly vent their emotions to the source of frustration and instead must attack surrogate objects. Due to the power imbalance between leaders and employees, deviant behaviors toward leaders may cause employees to suffer punishment and counter-retaliation, such as losing opportunities for salary increases or promotions. Therefore, there is a risk of deviant behavior directed at leaders. To avoid the possible danger, employees may direct their hostility or deviance toward targets with less obvious status differences, such as colleagues.

Simultaneously, due to the dual representation of leaders, leaders are often regarded as agents of organizations. Leader-member exchange entails social exchange both between leaders and employees and in the "spillover effect" between organizations and employees (Rupp and Cropanzano, 2002). If self-serving
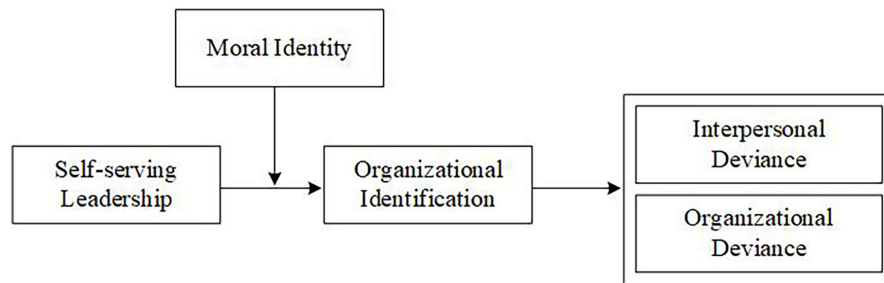
FIGURE 1 | Theoretical model.

leaders pursue their own interests at the expense of their subordinates, employees may interpret this as the organization's encroachment on their interests, regard the leaders' self-serving behaviors as behaviors representing the organization, and then follow negative reciprocal norms and engage in deviant behaviors. Additionally, the organization has moral and legal responsibility for leaders' behavior (Shoss et al., 2013). Therefore, employees will attribute leaders' self-serving behavior to the organization to some extent, which will have a detrimental impact on organization-member exchange, as a consequence, employees are more inclined to participate in deviant behaviors that are destructive to the organization. We thus propose the following hypotheses.

H1a: Self-serving leadership is positively correlated with interpersonal deviance.

H1b: Self-serving leadership is positively correlated with organizational deviance.

Mediating Role of Organizational Identification

Social identity theory (Turner et al., 1987) holds that when the organization meets employees' needs for security, self-realization, and belonging, individuals will classify themselves as members of that organization. Such classification will improve employees' identity, foster attachment to the organization (Blader et al., 2017), and make employees act to support the organization (Van Dick et al., 2006). As a special form of social identification, organizational identification is defined as individuals taking themselves as part of the organization and thus belonging to it. As an important part of organizational context, leaders' behavior significantly impacts employees' identity (He and Brown, 2013). Self-serving leadership can be considered an unethical leadership behavior (Peng et al., 2019), in which actions are beneficial to leaders themselves and taking advantage of others' interests (DeCelles et al., 2012). Typical examples include leaders diverting scarce resources toward themselves, pilfering recognition from subordinates, and evading responsibility (Rus et al., 2010). In the organizational context, self-serving leadership is more common than hostile and aggressive behaviors associated with abusive supervision (Schmid et al., 2017). Studies show that subordinates will interpret leaders' self-serving behaviors as hostile, perceiving

the risk of exploitation (Liu et al., 2017), reducing their emotional commitment, and producing more counterproductive behaviors (Mao et al., 2019b). Accordingly, we hypothesize that self-serving leadership will reduce employees' identification with the organization.

First, an important mission of leaders is to motivate subordinates to contribute to the organization by influencing their self-concept (van Knippenberg et al., 2004), which is a significant component of identity (Tajfel and Turner, 1986). An effective leader should transform the subordinate's identity from self-oriented to group-oriented, but a leader's selfish behavior will hinder this process (Epitropaki et al., 2017). Self-serving leadership also weakens employees' trust in leaders (Decoster et al., 2021). As supervisors are the organization's spokespeople, their behavior also represents organizations' attitudes towards employees (Aryee et al., 2007). When leaders are self-serving, this will make employees are less emotionally attached to their organization (Mao et al., 2019a). Second, self-serving leadership threatens subordinates' perception of control. Individuals tend to maintain control over the surrounding environment to reduce uncertainty (Friedland et al., 1992). In the organizational environment, the leader is responsible for allocating resources, and their selfish behavior damages subordinates' resources (Mao et al., 2019a). When faced with selfish leaders, subordinates will feel more uncertainty, less control over personal achievements (Camps et al., 2012), and more helplessness (Rothbaum et al., 1982), leading to the decline of organizational identification. Finally, as the main object of employees' interpersonal communication in the organization (Tekleab and Taylor, 2003), employees expect a safe work environment, respect, and fairness (Salin and Notelaers, 2017). Leaders' self-serving behavior makes subordinates feel that their interests (i.e., respect and fairness) are violated, leading employees to feel excluded by the organization and harming their sense of identity to the organization.

Organizational identification is an important predictor of employees' attitudes and behavior (Tajfel and Turner, 1986). Strong organizational identification can inhibit deviant behavior. When the higher the organizational identification employees are, the stronger awareness of being part of the organization for theirs (Ashforth and Mael, 1989) and strongly associate organizational goals with personal development, stimulating their initiative (Dutton et al., 1994) and promoting group achievements. This

is true even if their contributions and efforts are not encouraged by the organization's salary system (Organ, 1988). Employees with strong organizational identification have strong collective awareness (Brewer and Gardner, 1996). When collective interests conflict with individual interests, these employees are willing to prioritize the organization, effectively reducing deviance. These employees also integrate personal identity and organizational identification, which can strengthen cooperation to achieve organizational goals and reduce interpersonal conflict (Liu and Phillips, 2011). Therefore, employees with strong organizational identification actively contribute to their organization and avoid interpersonal conflicts that are unfavorable to the organization, mitigating interpersonal deviance.

According to the analysis above, we surmise that self-serving leadership's effect on employees' deviance may occur through the mediator of organizational identification. When people recognize they're a part of a particular group, they will also realize the emotional significance and value brought to them by other members of the group (Sillince and Golant, 2018), encouraging employees to support the organization. Self-serving leadership makes employees recognize the gap between their efforts and expected returns, leads to perceptions of being exploited, reduces emotional attachment to the organization, and then stimulates employees to exhibit interpersonal and organizational deviant behaviors in social exchanges. Consequently, we propose the following hypotheses.

H2a: Employee organizational identification mediates the effect of self-serving leadership on interpersonal deviance.

H2b: Employee organizational identification mediates the effect of self-serving leadership on organizational deviance.

Moderating Effect of Moral Identity

As an important composition factor of self-concept, moral identity is formed by some typical moral qualities of an individual (e.g., kindness, compassion, fairness, friendliness, generosity, diligence, helpfulness, honesty, etc.; Aquino and Reed, 2002). It consists of two aspects. First, internalization refers to the stability of moral characteristics in the self-concept or self-schema. Second, symbolization refers to the degree of expression of moral characteristics in moral behavior (Aquino and Reed, 2002). An individual's moral identity has a positive impact on inducing their internal motivation (He et al., 2014), which has a self-regulating mechanism and can regulate an individual's attitudes and behavior (Skubinn and Herzog, 2016). Employees' moral identity may mitigate the negative effects of self-serving leadership on employees' organizational identification. On the one hand, research has shown that employees with strong moral identity can build positive interpersonal relationships. Individuals with strong moral identity are more inclusive (Choi and Winterich, 2013), ready to reorient their focus from themselves to others (Moshman, 2011), which establishes trust between employees and leaders (Dutton et al., 2010) and promotes a high level of leader-member exchange (Graen and Uhl-Bien, 1995). This is

important for several reasons. First, high-quality relationships between leaders and followers increase employees' tolerance for injustice, allow them to focus on more positive factors, and urge them to return goodwill in different ways (Kamdar and Van Dyne, 2007). Second, high-quality relationships improve reciprocal exchange among group members (Hantula, 2009) and promote open communication between leaders and employees (Vinarski-Peretz et al., 2011), enhance mutual understanding (Liao et al., 2010), give employees a more positive outlook on the behavior of others in the organization (including self-serving leadership), and make employees believe that leaders' benefit distribution is reasonable. On the other hand, different cultures emphasize different norms of interpersonal communication, and subordinates' environment affects their views of and reactions to leaders' behaviors (Zhang and Liu, 2018). The strength of individuals' moral identity is not only affected by their level of moral cognition but also restricted by situational factors (Shao et al., 2011). Culture can influence individuals' level of moral cognition (Mikula and Wenzel, 2000), thus affecting individuals' moral identity (Shao et al., 2011), leading to differences in moral judgments and evaluations of the same phenomenon (Zhang and Liu, 2018). In Western cultures, employees are expected to be treated with dignity and respect by their supervisors (Hofstede, 2001). Individuals with strong moral identity pay more attention to morally relevant information (DeCelles et al., 2012), and have stronger awareness of cognitive processing of such information (Eisenbeiss and Knippenberg, 2015), and are more aware of moral problems and responsive to behaviors that violate social norms (Aquino and Reed, 2002). The more strongly subordinates perceive their leaders' behaviors as violating moral norms, the more strongly they perceive injustice from their superiors (Zhang and Liu, 2018), losing trust in leaders (Decoster et al., 2021), experiencing negative emotions (Camps et al., 2012), and sometimes engaging in retaliatory behavior (Decoster et al., 2021). In contrast, Asian cultures uphold the legitimacy of managers' hostility to subordinates, promoting hierarchical status and respect for authority (Zhang and Liu, 2018). Some scholars studied the relationship between ethical leadership and moral disengagement based on samples from China and the United States, and found that moral identity has different moderating effects. They consider that the culture may explain the difference (Moore et al., 2019). Therefore, we argue that in Asian cultures, subordinates may not regard leaders' self-serving behaviors as immoral, which makes employees with strong moral identity less sensitive to moral cues in organizational situations and mitigates employees' negative emotions (including feelings of injustice).

Accordingly, we can speculate that moral identity can take a moderating role between self-serving leadership and organizational identification. Employees with high moral identity prefer to establish trust with leaders and colleagues, have high-quality leader-member exchange, improve the collection and processing of leadership information, and pay greater attention to the favorable aspects of leadership, reducing the disadvantageous influence of self-serving leadership on organizational identification. Meanwhile, in Asian cultures, subordinates with strong moral identity are less sensitive to

moral cues of leadership, even to their leaders' unethical behavior. On the contrary, employees with weak moral identity cannot establish trusting relationships with their leaders and colleagues, maintaining a low level of leader-member exchange. They can only rely on simple clues to form an understanding of leaders' behavior. Therefore, the negative impact of self-serving leadership on employees' organizational identification is amplified by a more unfavorable impression of a leader's behavior. We propose the following hypotheses.

> H3: Moral identity mitigates the negative effect of self-serving leadership on employees' organization identification; for employees with low moral identity, this effect is stronger than for those with high moral identity.

Moreover, we present a moderated mediation model of self-serving leadership affecting employees' deviant behavior. As shown in **Figure 1**, under the influence of self-serving leadership's self-identity orientation to employees and the perception that their own interests have been violated, employees with weak moral identity are more sensitive to the moral information contained in self-serving leadership. Leadership represents the organization (Aryee et al., 2007); therefore, for employees with weak moral identity, self-serving leadership has a greater negative impact on employees' organizational identification and is more likely to lead to deviant behavior. However, in Asian cultural contexts, employees with strong moral identity will be less sensitive to leaders' moral cues. Meanwhile, employees with strong moral identity easily establish high-quality leader-member exchange, such that employees pay more attention to leaders' positive qualities. Therefore, employees with strong moral identity have a more positive evaluation of self-serving leadership, which alleviates its negative impact on employees' organizational identification and makes employees less likely to engage in deviant workplace behavior. As a consequence, we posit the final hypotheses.

> H4a: Moral identity moderates the indirect effect of self-serving leadership on interpersonal deviance through organizational identification, such that the indirect effect is weaker when moral identity is higher.

> H4b: Moral identity moderates the indirect effect of self-serving leadership on organizational deviance through organizational identification, such that the indirect effect is weaker when moral identity is higher.

MATERIALS AND METHODS

Sample and Procedure
Data were collected from full-time employees of various organizations located in china, involving finance, education, healthcare, information technology, manufacturing, retail and other industries. We administered surveys via mail. We asked Master of Tourism Administration (MTA) and Master of Business Administration (MBA) students from a university in

western China to serve as organizational contacts in exchange for course credit. All the students were working full-time. We instructed them to invite three to four subordinates under their direct management or three to four colleagues who were willing to participate. This convenience sampling technique has been used successfully by a variety of researchers (Greenbaum et al., 2012; Mitchell et al., 2015). Ultimately, we received contact information for 441 potential study participants.

The study featured three phases of data collection to limit common method bias (Podsakoff et al., 2012). We deemed 2 weeks to be an appropriate interval between phases (for a similar approach, see Eva et al., 2020). Additionally, to match participants' questionnaires for the three phases, we assigned codes for the participants invited by the students and marked them on the envelopes containing the notes and questionnaires before administration.

To improve participants' motivation and increase the questionnaire response rate, we took three measures. First, the researchers emphasized to students and participants that the survey data were for research purposes only and would be completely confidential. To ensure confidentiality, we placed a strip on each envelope that was sealed after the questionnaire was complete. Second, we provided participants with an inexpensive but practical gift. Third, the research activities had a practical incentive for student in that they would receive course credit only upon their acquaintance's completion of the questionnaire.

At Time 1 (T1), We ask participants to evaluate their perceived leadership style and moral identity and to provide personal background information. We issued 441 questionnaires, of which 436 were returned (recovery rate = 98.9%). At Time 2 (T2), approximately 2 weeks later, participants evaluated organizational identification. We issued 436 questionnaires at T2, of which 433 were returned (recovery rate = 99.3%). At Time 3 (T3), approximately 2 weeks after that, participants evaluated workplace deviant behavior. We issued 433 questionnaires at T3, of which 431 were returned (recovery rate = 99.5%). After all data collection, we screened the questionnaires, eliminating ones with regular answers and many missing data for the main variables. Finally, we obtained 377 valid questionnaires, an effective rate of 87.07%. The descriptive characteristics of the samples are shown in **Table 1**.

Measures
Since the measurements adopted in our research were created in Western countries, we employed a translation and back-translation method (Brislin, 1970) to ensure the reliability and validity of their Chinese versions. The final survey was formed through several rounds of group discussions. Except for demographic variables, all measures used Likert five-point scoring (1 = "strongly disagree" and 5 = "strongly agree").

Self-Serving Leadership (SL)
We assessed SL using a four-item scale borrowed by Camps et al. (2012). Participants rated their agreement with statements about their direct supervisor's behavior (e.g., "My superior does not show consideration for his/her followers, only for him/herself"). Cronbach's α for this scale was 0.93.

TABLE 1 | Descriptive characteristics of samples (N = 377).

Characteristic	Category	Number	Percentage (%)	Characteristic	Number	Number	Percentage (%)
Gender	Male	150	39.8	Age	$\leq$25 years	39	10.3
	Female	227	60.2		26 $\sim$35 years	262	69.5
Education	Junior high school degree or below	1	0.3		36 $\sim$45 years	58	15.4
	High school or vocational high school degree	14	3.7		>45 years	18	4.8
	Junior college and Bachelor degree	300	79.6				
	Master degree	62	16.4	Time working with supervisor	<2 years	180	47.7
Tenure	$\leq$5	211	56		2 $\sim$5 years	124	32.9
	6$\sim$10	116	30.8		6 $\sim$10 years	60	15.9
	11 $\sim$20	33	8.8		>10 years	13	3.4
	$\geq$21	17	4.5				

TABLE 2 | Confirmatory factor analysis and model comparison.

Model	χ^2	df	$\Delta \chi^2/\Delta$ df	CFI	TLI	RMSEA	SRMR
1. Five factors: SL; OI; ML; WDB-I; WDB-O	770.76	314	–	0.93	0.92	0.06	0.04
2. Four factors a: SL; OI; ML; WDB-I+WDB-O	982.93	318	212.17 (4)***	0.90	0.89	0.08	0.05
3. Four factors b: SL; OI+ML; WDB-I; WDB-O	1793.31	318	1022.55 (4)***	0.78	0.76	0.11	0.13
4. Three factors: SL+OI+ML; WDB-I; WDB-O	2835.45	321	2064.69 (7)***	0.62	0.59	0.14	0.16
5. Two factors: SL+OI+ML; WDB-I+WDB-O	3046.30	323	2275.54 (9)***	0.59	0.56	0.15	0.16
6. Single factors: SL+OI+ML+WDB-I+WDB-O	4014.04	324	3243.28 (10)***	0.45	0.40	0.17	0.16

N = 377. SL, self-serving leadership; OI, organizational identification; MI, moral identity; WDB-I, interpersonal deviance; WDB-O, organizational deviance, ***p < 0.001.

Moral Identity (MI)

We assessed MI using a five-item scale that was suggested by Aquino and Reed (2002). Participants were shown nine moral characteristics that they may use to characterize themselves (e.g., caring, compassionate, fair, generous) and assess how much they agreed with a set of statements concerning their internalization of these characteristics (e.g., "It would make me feel good to be a person who has these characteristics"). Cronbach's α for this scale was 0.89.

Organizational Identification (OI)

We assessed OI base on the six-item scale adopted by Mael and Ashforth (1992). Participants rated their agreement with statements about their identification with the organization (e.g., "When I talk about my organization, I usually say 'we' rather than 'they'"). Cronbach's α for this scale was 0.88.

Workplace Deviant Behavior (WDB)

We assessed WDB using a 12-item scale developed by Liao et al. (2004). Six items assessed perceptions of organizational deviance (WDB-O). Respondents indicated behaviors targeted at their current company (e.g., "damaged property belonging to your employer"). The remaining six items assessed perceptions of interpersonal deviance (WDB-I). Respondents indicated behaviors targeted at coworkers (e.g., "publicly embarrassed someone at work"). Cronbach's α values for interpersonal deviance and organizational deviance were 0.91 and 0.86, respectively.

Control Variables

Following other studies (Aquino and Douglas, 2003; Berry et al., 2007), we assessed employees' age, gender, education, tenure, and time working with their current direct supervisor as control variables.

RESULTS

Confirmatory Factor Analysis

We constructed six models and conducted confirmatory factor analyses (CFAs) adopting Amos 24 to evaluate discriminate validity for the hypothesized model. The results of CFA given in **Table 2** indicate that the proposed five-factor model fitted the indices well (χ^2 = 770.76, df = 314, CFI = 0.93, TLI = 0.92, RMSEA = 0.06, SRMR = 0.04). This showed that the five core constructs of this study (self-serving leadership, organizational identification; moral identity; interpersonal deviance; organizational deviance) all had a good discrimination validity. Additionally, when items' standardized factor loadings exceed 0.6 (Bagozzi, 1981), composite reliability (CR) exceeds 0.7, and average variance extracted (AVE) exceeds 0.5, the scale is considered to have good convergent validity (Fornell and Larcker, 1981). As shown in **Table 3**, the standardized factor loadings of most survey items exceeded 0.6 (MI-3 = 0.56), and the CR and AVE values of each dimension met the criteria, indicating that the scale had good convergent validity. Meanwhile, we adopt the heterotrait–monotrait ratio (HTMT) created by Henseler et al. (2015) to test the discriminant validity.

TABLE 3 | Convergent validity and discrimination validity analysis.

Variable	Items	Item reliability	Composite reliability	Convergence validity
		STD.LOADING	CR	AVE
1. SL	4	0.80—0.94	0.93	0.76
2. OI	6	0.66—0.81	0.89	0.56
3. MI	5	0.56—0.89	0.89	0.62
4. WDB-I	6	0.73—0.88	0.92	0.65
5. WDB-O	6	0.69—0.78	0.88	0.54

N = 377. SL, self-serving leadership; OI, organizational identification; MI, moral identity; WDB-I, interpersonal deviance; WDB-O, organizational deviance.

TABLE 4 | Analysis of HTMT discriminant validity.

	MI	OI	SL	WDB-I	WDB-O
MI					
OI	0.24				
SL	0.14	0.28			
WDB-I	0.23	0.26	0.35		
WDB-O	0.20	0.32	0.39	0.83	

Heterotrait-Monotrait Ratio (HTMT); SL, self-serving leadership; OI, organizational identification; MI, moral identity; WDB-I, interpersonal deviance; WDB-O, organizational deviance.

Compare with traditional discriminant validity assessment methods, heterotrait–monotrait ratio (HTMT) approaches are more reliable to detect discriminant validity issues (Henseler et al., 2015). The calculation HTMT ratio was conducted by using the plugin specially developed for AMOS 24 by Gaskin et al. (2019). If the value of the HTMT is higher than the threshold of 0.85, we conclude that there is a lack of discriminant validity (Henseler et al., 2015). As shown in **Table 4**, the HTMT value between each pair of factors lower than 0.85, indicates the five variables involved in this study are distinguishable. Further, the study adopted three phases to collect data, effectively controlling for common method bias (Siemsen et al., 2009).

Descriptive Statistics and Correlations

Table 5 shows means, standard deviations, inter-correlations, and alpha coefficient of main research variables. The diagonal shows the measures' internal consistency coefficients.

Self-serving leadership was positively impact on interpersonal deviance ($r = 0.32$, $p < 0.01$) and organizational deviance ($r = 0.34$, $p < 0.01$) and negatively related to organizational identification ($r = -0.25$, $p < 0.01$). Organizational identification was negatively correlated with interpersonal deviance ($r = -0.23$, $p < 0.01$) and organizational deviance ($r = -0.28$, $p < 0.01$).

Hypothesis Testing

Table 6 summarizes the results of the regression analyses. In Model 4, self-serving leadership was positively impact on interpersonal deviance ($\beta = 0.32$, $p < 0.001$), and in Model 7, self-serving leadership was positively impact on organizational deviance ($\beta = 0.34$, $p < 0.001$). These results support Hypotheses 1a and 1b.

We adopted the mediating effect test proposed by Baron and Kenny (1987). First, in Models 4 and 7, self-serving leadership predicted interpersonal deviance and organizational deviance. This satisfied the first criterion for the test. Second, in Model 2, self-serving leadership predicted organizational identification ($\beta = -0.25$, $p < 0.001$), satisfying the second criterion. Third, in Models 5 and 8, self-serving leadership and organizational identification predicted interpersonal deviance ($\beta = 0.28$, $p < 0.001$ and $\beta = -0.17$, $p < 0.01$, respectively) and organizational deviance ($\beta = 0.29$, $p < 0.001$ and $\beta = -0.21$, $p < 0.001$), satisfying the third criterion. These findings suggested that self-serving leadership indirectly affected employees' interpersonal and organizational deviance, which occurred through organizational identification. Specifically, self-serving leadership weakens employees' organizational identification, which induces interpersonal deviance and organizational deviance. This meant that Hypotheses 2a and 2b were supported.

To more rigorously test the mediating effect, we also adopted the bootstrap method recommended by Preacher and Hayes (2008) and utilized the PRODCLIN program of

TABLE 5 | Means, standard deviations, and correlations.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Sex T1	0.40	0.49										
2. Age T1	2.15	0.65	0.13**									
3. Education T1	3.12	0.44	0.03	−0.16**								
4. Tenure T1	1.62	0.83	0.07	0.62**	−0.16**							
5. Time working with supervision T1	1.75	0.85	0.07	0.39	−0.15**	0.53**						
6. SL T1	1.76	0.97	0.05	0.05	0.15**	−0.01	0.02	(0.93)				
7. MI T1	4.34	0.71	−0.07	−0.04	0.02	−0.04	0.03	−0.13*	(0.89)			
8. OI T2	3.87	0.75	0.01	−0.06	−0.04	−0.06	−0.09	−0.25**	0.21**	(0.88)		
9. WDB-I T3	1.33	0.58	0.05	0.02	0.02	0.07	0.02	0.32**	−0.21**	−0.23**	(0.91)	
10. WDB-O T3	1.24	0.46	0.08	0.01	0.06	0.04	0.02	0.34**	−0.17**	−0.28**	0.74**	(0.86)

N = 377; Reliability estimates are reported in the diagonal. SL, self-serving leadership; OI, organizational identification; MI, moral identity; WDB-I, interpersonal deviance; WDB-O, organizational deviance, *p < 0.05, **p < 0.01. T1 = Time 1; T2 = Time 2; T3 = Time 3.

TABLE 6 | Hierarchical regression results for the direct and mediation models.

Variable	OI		WDB-I			WDB-O		
	M1	M2	M3	M4	M5	M6	M7	M8
Sex	0.03	0.04	0.05	0.04	0.04	0.08	0.06	0.07
Age	−0.04	−0.01	−0.03	−0.06	−0.06	−0.02	−0.05	−0.06
Education	−0.06	−0.02	0.02	−0.03	−0.03	0.06	0.01	0.01
Tenure	0.00	−0.01	0.10	0.11	0.11	0.06	0.07	0.07
Time working with supervisor	−0.09	−0.08	−0.02	−0.03	−0.05	0.01	−0.00	−0.02
SL		−0.25***		0.32***	0.28***		0.34***	0.29***
OI					−0.17**			−0.21***
F	1.00	4.75**	0.66	7.59***	8.27***	0.90	8.86***	10.57***
R^2	0.01	0.07	0.01	0.11	0.14	0.01	0.13	0.17
ΔR^2		0.06		0.10	0.03		0.11	0.04

$N = 377$. SL, self-serving leadership; OI, organizational identification; MI, moral identity; WDB-I, interpersonal deviance; WDB-O, organizational deviance, **$p < 0.01$, ***$p < 0.001$.

TABLE 7 | The indirect effects of self-serving leadership on dependent variables.

Item	Path	Point estimate/Index		Bootstrapping (95% CIs)		Program PRODCLIN (95% CIs)	
			SE	Lower	Upper	Lower	Upper
Totle effect	SL–WDB-I	0.19	0.03	0.13	0.25		
Direct effect	SL–WDB-I	0.17	0.03	0.11	0.23		
Indirect effect	SL–WDB-I	0.02	0.01	0.01	0.04		
Indirect effect	SL–OI– WDB-I	0.01				0.01	0.04
Totle effect	SL –WDB-O	0.16	0.02	0.12	0.21		
Direct effect	SL–WDB-O	0.14	0.02	0.09	0.18		
Indirect effect	SL–WDB-O	0.02	0.01	0.01	0.04		
Indirect effect	SL–OI—WDB-O	0.01				0.01	0.04

$N = 377$. SL, self-serving leadership; OI, organizational identification; MI, moral identity; WDB-I, interpersonal deviance; WDB-O, organizational deviance.

MacKinnon et al. (2007). We analyzed confidence intervals based on 5,000 bootstrap samples (Preacher and Hayes, 2008).

As shown in **Table 7**, the mediating effects of organizational identification in the relationships of self-serving leadership on interpersonal deviance and self-serving leadership on organizational deviance were 0.02 and 0.02, respectively. The 95% confidence intervals – which were [0.01, 0.04] and [0.01, 0.04], respectively – did not include zero. Using the PRODCLIN program (MacKinnon et al., 2007), we found significant indirect effects of self-serving leadership on interpersonal deviance and organizational deviance via organizational identification ($\beta = 0.1$, 95% CI [0.01, 0.04] and $\beta = 0.1$, 95% CI [0.01, 0.04], respectively). These results indicated that organizational identification had a significant mediating effect in these relationships, lending further support to H2a and H2b.

We multiplied self-serving leadership (centered) and moral identity as an interaction term to verify H3. As shown in **Table 8**, the regression result from Model 3 indicates that this interaction term significantly predicted organizational identification ($\beta = 0.14$, $p < 0.01$).

Moreover, this study adopted simple slope analysis to describe the difference of the impact of self-serving leadership on organizational identification with different levels of moral identity. As plotted in **Figure 2**, When the employee has a high moral identity, the adverse influence of self-serving leadership on the employee's organizational identification was weaker. On the contrary, when the employees' moral identity was weak, self-serving leadership had a strong adverse impact on organizational identification. Thus, further supporting H3.

We further examined the moderated mediation model posited in H4a and H4b by employing the MODMED macro v3.5 (model 7) (Hayes, 2013). First, the dependent variable was regressed with the control variables, independent variable, mediator, moderator, and interaction term. The statistically significant effect of self-serving leadership × moral identity in the regression equations for organizational identification ($\beta = 0.14$, $p < 0.01$) implied that moral identity significantly moderated the indirect impact of self-serving leadership on organizational identification. Second, We assess two sets of effects at the high and low levels of the moral identity. The result is presents in **Table 9**, When

Variable	OI		
	M1	M2	M3
Sex	0.03	0.05	0.05
Age	−0.04	−0.01	−0.01
Education	−0.06	−0.03	−0.01
Tenure	0.00	0.00	0.00
Time working with supervisor	−0.09	−0.10	−0.10
SL		−0.22***	−0.23***
MI		0.19***	0.18***
SL × MI			0.13**
F	1.00	6.31***	6.52***
R^2	0.01	0.11	0.12
ΔR^2		0.10	0.02

$N = 377$. SL, self-serving leadership; OI, organizational identification; MI, moral identity; WDB-I, interpersonal deviance; WDB-O, organizational deviance, **$p < 0.01$, ***$p < 0.001$.
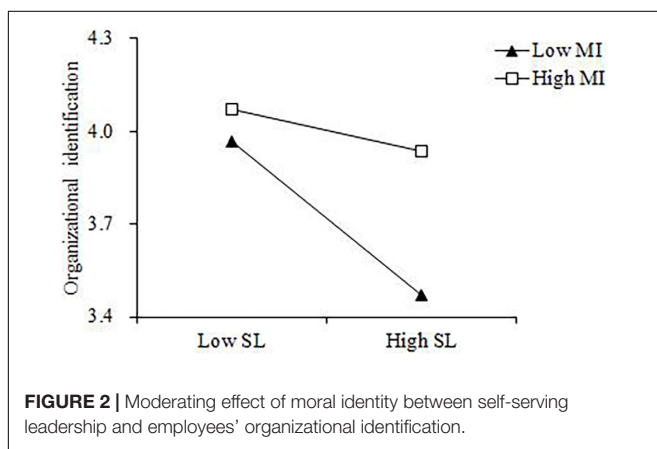
FIGURE 2 | Moderating effect of moral identity between self-serving leadership and employees' organizational identification.

TABLE 9 | Moderated mediation of interpersonal deviance and organizational deviance across levels of moral identity.

Level (Moderator)	SL – OI - WDB-I			SL – OI - WDB-O		
	Indirect effect	SE	95%CI	Indirect effect	SE	95%CI
Low MI	0.04	0.01	[0.02, 0.06]	0.04	0.01	[0.02, 0.06]
Middle MI	0.02	0.01	[0.01, 0.04]	0.02	0.01	[0.01, 0.04]
High MI	0.01	0.01	[−0.01, 0.03]	0.01	0.01	[−0.00, 0.03]

$N = 377$. SL, self-serving leadership; OI, organizational identification; MI, moral identity; WDB-I, interpersonal deviance; WDB-O, organizational deviance. Low MI represents mean −1 SD, and high MI represents mean + 1 SD; S.E., standard error; BC, bias-corrected; CI, confidence interval.

employees' moral identity is low, indirect effects were significant (interpersonal deviance: indirect effect = 0.04, CI [0.02, 0.06], excluding zero; organizational deviance: indirect effect = 0.04, CI [0.02, 0.06], excluding zero) but not significant in the high moral identity condition (interpersonal deviance: indirect effect = 0.01, CI [−0.01, 0.03]; organizational deviance: indirect effect = 0.01, CI [−0.00, 0.03], including zero). The results

implying that when employees with low moral identity, the mediating impact of organizational identification was stronger. However, the influences were non-existent when employee moral identity was high. Third, to further assess the presence of moderated mediation, we examined the index of moderated mediation obtained by PROCESS (Hayes, 2015). We found that moral identity moderated the indirect relationship between self-serving leadership and interpersonal deviance with an index of −0.02 (95% CI [−0.04, −0.00]), and it moderated the indirect relationship between self-serving leadership and organizational deviance with an index of −0.02 (95% CI [−0.04, −0.00]). Neither confidence interval included zero. Therefore, H4a and H4b were confirmed.

DISCUSSION

From social identity theory perspective, we propose a theoretical model that self-serving leadership induces employee interpersonal deviance and organizational deviance through organization identification, and we explore the moderating role of moral identity in this relationship. Based on survey data collected from 377 questionnaires by using a three-wave time lagged design, We get following conclusions:

First, The main effect of self-serving leadership on employees' workplace deviance. Self-serving leadership positively correlated with employees' interpersonal deviance and organizational deviance. In other words, the more strongly employees perceive the self-serving behaviors of leaders, the more deviance they will behave in the workplace. This is consistent with most research results on negative leadership behavior (Mitchell and Ambrose, 2007; Vogel and Mitchell, 2015; Zhou et al., 2021). According to social learning theory and negative reciprocal norms, employees will observe and imitate leaders' self-serving behaviors by acquiring self-serving values. It can impact the organizational ethical climate in which members put their own interests first. When subordinates feel a sense of threat that their resources are exploited by the supervisor, they are inclined to take actions to restore the balance (Carlsmith et al., 2002). Thus, it induces deviant behavior of employees.

Second, we tested the mediating effect of organizational identification. The self-serving behavior of leaders in an organization will decrease employees' identification with the organization, thus increasing employees' deviance. According to Social identity theory, when the organization meets employees' needs for security, self-realization, and belonging, individuals will classify themselves as members of that organization, and motivate employees' positive attitudes and behavior to organization (Tajfel and Turner, 1986). Self-serving leadership, as an unethical leadership behavior (Peng et al., 2019), will make subordinates perceive the risk of exploitation (Liu et al., 2017) and control (Camps et al., 2012), It violates employee expectations of a safe work environment, respect, and fairness, which make them form a sense of exclusion by the organization and reduce their sense of belonging, and then harm their organizational identification, damage the emotions between employees and the organization,

make employees indifferent to the organization (Ashforth and Mael, 1989), induce workplace deviance of employees.

Third, we tested moderating effect of moral identity. This research reveals that the negative effect between self-serving leadership and organizational identification employees is stronger for employees with low moral identity than for those with high moral identity. Previous studies have shown that high moral identity makes individuals constrained by their own moral codes (Mulder and Aquino, 2013). They will condemn behavior that violates their moral code (Bandura, 1991). Compared with employees with low moral identity, employees with high moral identity pay more attention to information related to morality (Reed et al., 2007). Individuals tend to categorize themselves into groups that match their values (De Roeck et al., 2014). When the moral information displayed by the organizational context is consistent with the moral values of employees, employees will be more identified with the organization (Wang et al., 2017). This study reveals that when employees with high moral identity perceive the moral information of the supervisor is inconsistent with their own moral code, they will not exacerbate their negative impact on organizational identification. This finding suggests that the inclusiveness and positive interpersonal orientation of employees with high moral identity can promote high-quality leader-member exchange, and enhance the understanding of leaders' behavior, and thus incline to have a positive interpretation of leaders' self-serving behavior. Meanwhile, culture plays an important role in the formation of individual moral cognition (Shao et al., 2011). Different from western culture, subordinates in Asian culture context may think that leaders' selfish behaviors are not immoral, which reduces the sensitivity of employees with high moral identity to perceive leaders' self-serving behaviors, thus alleviating the negative impact of self-serving leadership on employees' organizational identification.

Theoretical Implications

First, previous researches on the influence of self-serving leadership on employee behavior are mainly based on social exchange theory (e.g., Decoster et al., 2021) and social cognition theory (e.g., Ritzenhöfer et al., 2019). Few studies have explored the indirect relationship between self-serving leadership and employees' workplace deviant behavior based on organizational identification. Organizational identification, as a sense of belonging to an organization, can effectively predict employees' behaviors (Tajfel and Turner, 1986). Therefore, this study hypothesized that self-serving leaders have indirect negative effects on employees' deviant behaviors through the mediating role of organizational identification, and conducted an empirical study to test it, which is a meaningful supplement to previous studies and enriches our understanding of the internal mechanism of self-serving leadership.

Second, this study proposes and tests the moderating role of moral identity as a boundary condition in the indirect relationship between organizational identification on self-serving leadership and deviant behavior. While Wang et al. (2017) found that when employees' value is coherent with their organization,

they will classify themselves into an organization and improve their organizational identification. Therefore, employees with high moral identity are more likely to classify themselves into an organization with ethical perception, and eventually feel a greater sense of organizational identification. According to this, when employees work with unethical leaders (e.g., self-serving leaders) who are not aligned with the values of employees, and amplifies negative perceptions of employees with high moral identity to the organizational identification. Our findings suggest that the effects may be more complicated. We consider the response of employee moral identity to leadership behavior in an Asian cultural contexts, and the moderating role of moral identity provides clues to our understanding how different cultures influence the effect of self-serving leadership. Although the research on self-serving leadership has gradually increased in recent years, most of the researches are still rooted in the western cultural background, and few studies on self-serving leadership considers different cultural backgrounds. This study, based on the influence of employee moral identity on the relationship between self-serving leadership and employee behavior in Asian cultural contexts, makes a theoretical contribution to the indigenous cultural study of self-serving leadership.

Practical Implications

This paper discusses how self-serving leaders induce workplace deviance through the mediating role of organizational identification and the boundary conditions of moral identity. The research results may help organizations devise targeted measures to reduce workplace deviance and its negative impact.

First, organizations should take actions to prevent supervisors' self-serving behavior. On the one hand, Some personality traits are related to self-serving behavior, such as narcissism (Nevicka et al., 2018). Therefore, to improve the selection mechanism of leaders, candidates with self-serving personality should be carefully examined. On the other hand, the organization should strengthen the supervision power of supervisors. Research shows that the more powerful is the leader, the more selfish will be his behavior (Bendahan et al., 2015). Therefore, organizations should guard against the negative effects of power, strengthen the system of effective restriction and supervision of power operation to prevent supervisors from abusing their power to seek improper interests. Finally, the specific department should take seriously to establish an interactive communication and feedback mechanism between employees and the organization to ensure that employees can feedback their opinions timely and effectively. Thus, employees can protect their legitimate rights and interests through formal channels rather than through deviant behaviors in the workplace.

Second, this research revealed the mediating role of organizational identification. Research shows that self-serving leadership can increase workplace deviance by undermining employees' organizational identification. This reminds managers to pay attention to improving the quality of employment relationships to cultivate employees' identification with the organization and a sense of belonging. On the one hand, the

organization shall give full respect and trust to employees, affirm their value and contribution. On the other hand, it needs to care about employees' lives and give them necessary help, which can make up for the weakening effect of self-serving leadership on employees' organizational identification and reduce employees' deviant behavior.

Finally, organizations should aim to enhance the level of employees' moral identity. Moral identity is beneficial for organizations to cultivate employees' organizational identification, enhance their sense of belonging to the organization, and improve their work enthusiasm (Van Dick et al., 2006). Therefore, we suggest that organizations pay closer attention to employees' professional ethics and incorporate moral training into employees' career development. Specifically, (1) moral identity should be used as a talent evaluation criterion, and candidates with high moral identity should be hired as often as possible; (2) organizations should train employees with weak moral identity to improve their moral identity; and (3) organizations should foster a positive, ethical corporate culture to promote the level of employees' moral identity.

Limitations and Future Research

Although this research has theoretical and practical significance, there are still some deficiencies. The first lies in data reporting. This study adopted the method of different times for data collection to reduce the effect of common method variance (CMV). However, due to the sensitive negative behavior surveyed in this study, there may be weaknesses or concealment with self-report data, as well as exaggeration of or hostility toward others' evaluation in the report of such behavior, so the data may not resemble reality completely. Therefore, future research could consider the combination of leader-employee mutual evaluation and peer mutual evaluation, expand the data pool, and utilize multimethod assessment.

Second, there is a limitation regarding the findings on intermediary mechanisms. According to social identity theory, our research demonstrated that organizational identification take mediating role in the relationship between self-serving leadership and workplace deviance, but multiple variables may be inclined to influence the associate of self-serving leadership on employees' workplace deviance (such as emotional factors). Therefore, future studies should explore the mediating mechanism from other perspectives.

Third, culture influences individuals' beliefs, attitudes, behaviors, and values (Hofstede, 2001). In contrast with western cultures, Asians generally accept managers' hostility to subordinates and maintain the hierarchy of supervisors and subordinates, so as to respect authority. Employees with a strong moral identity are less sensitive to the moral information contained in self-serving leadership, thereby reducing their intentions to engage in deviant behavior. This study examined the influence of self-serving leadership on employees' attitudes and behaviors while considering cultural values. Future studies could extend this approach to explore specific cultural values, such as Confucianism, traditionalism, and collectivism.

Fourth, from the perspective of social identity, this study analyzes the influence of self-serving leadership on employees'

deviant behaviors. It only proves the influence of individual factors on employees' deviant behaviors. However, work environment factors also play an important role in influencing employees' behaviors (Salancik and Pfeffer, 1978). Therefore, future research can explore the influence of self-serving leadership on employees' deviant behaviors from work environment factors, such as team ethical climate, team cultural norms, and team trust, to ensure systematic and comprehensive research.

CONCLUSION

From the perspective of organizational identification, our research investigated the impact of self-serving leadership on employees' workplace deviance. The present study adopted social identity theory to explore the impact of organizational identification on self-serving leadership and interpersonal deviance and organizational deviance. Through a longitudinal questionnaire survey of 377 employees, we found that self-serving leadership positively affects interpersonal deviance and organizational deviance. Furthermore, employees' organizational identification make a mediating impact on this process. Additionally, employee with low moral identity can exacerbate the influence of self-serving leadership on interpersonal deviance and organizational deviance and further strengthen the mediating effect of organizational identification in the relationship of self-serving leadership on interpersonal deviance and organizational deviance. In conclusion, the empirical results reveal that self-serving leadership can induce employees' deviant behavior. It is worth mentioning that individuals with strong moral identity can effectively resist the impact of negative leadership. The results help to enrich both trait and behavioral theories of leadership. With this research, we hope to lay the groundwork for future studies that are relevant to these topics.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

AUTHOR CONTRIBUTIONS

LL and ZW: conceptualization and funding acquisition. YL and XW: data collection, writing, review, and editing. ZW: formal analysis and project administration. ZW and YL: writing – original draft preparation. All authors contributed to the article and approved the submitted version.

FUNDING

REFERENCES

Aquino, K., and Douglas, S. (2003). Identity threat and antisocial behavior in organizations: the moderating effects of individual differences, aggressive modeling, and hierarchical status. *Organ. Behav. Hum. Decis. Process.* 90, 195–208. doi: 10.1016/S0749-5978(02)00517-4

Aquino, K., and Reed, A. (2002). The self-importance of moral identity. *J. Pers. Soc. Psychol.* 83, 1423–1440. doi: 10.1037//0022-3514.83.6.1423

Aquino, K., and Thau, S. (2008). Workplace victimization: aggression from the target's perspective. *Annu. Rev. Psychol.* 60, 717–741. doi: 10.1146/annurev. psych.60.110707.163703

Aryee, S., Sun, L. Y., Chen, Z. X., and Debrah, Y. A. (2007). Antecedents and outcomes of abusive supervision: test of a trickle-down model. *J. Appl. Psychol.* 92, 191–201. doi: 10.1037/0021-9010.92.1.191

Ashforth, B. E., and Mael, F. (1989). Social identity theory and the organization. *Acad. Manag. Rev.* 14, 20–39. doi: 10.2307/258189

Bagozzi, R. P. (1981). Evaluating structural equation models with unobservable variables and measurement error: a comment. *J. Mark. Res.* 18, 375–381. doi: 10.2307/3150979

Bandura, A. (1977). *Social Learning Theory*. Hoboken, NJ: Prentice Hall, doi: 10. 1177/105960117700200317

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organ. Behav. Hum. Decis. Process.* 50, 248–287. doi: 10.1016/0749-5978(91)90022-L

Baron, R., and Kenny, D. (1987). The moderator-mediator variable distinction in social psychological research. *J. Pers. Soc. Psychol.* 51, 1173–1182. doi: 10.1037/ 0022-3514.51.6.1173

Bendahan, S., Zehnder, C., Pralong, F. P., and Antonakis, J. (2015). Leader corruption depends on power and testosterone. *Leadersh. Q.* 26, 101–122. doi: 10.1016/j.leaqua.2014.07.010

Bennett, R., and Robinson, S. (2000). Development of a measure of workplace deviance. *J. Appl. Psychol.* 85, 349–360. doi: 10.1037/0021-9010.85.3.349

Bennett, R., and Stamper, C. L. (2001). Corporate citizenship and deviancy: a study of discretionary work behavior. *Int. Res. Bus. Diplines* 3, 265–284. doi: 10.1016/S1074-7877(02)03015-5

Berry, C., Ones, D., and Sackett, P. (2007). Interpersonal deviance, organizational deviance, and their common correlates: a review and meta-analysis. *J. Appl. Psychol.* 92, 410–424. doi: 10.1037/0021-9010.92.2.410

Biron, M. (2010). Negative reciprocity and the association between perceived organizational ethical values and organizational deviance. *Hum. Relat.* 63, 875–897. doi: 10.1177/0018726709347159

Blader, S. L., Patil, S., and Packer, D. J. (2017). Organizational identification and workplace behavior: more than meets the eye. *Res. Organ. Behav.* 37, 19–34. doi: 10.1016/j.riob.2017.09.001

Brewer, M. B., and Gardner, W. (1996). Who is this 'we'? Levels of col-lective identity and self representation. *J. Pers. Soc. Psychol.* 71, 83–93. doi: 10.1037/ 0022-3514.71.1.83

Brislin, R. W. (1970). Back-translation for cross- cultural research. *J. Cross Cult. Psychol.* 1, 185–216. doi: 10.1177/135910457000100301

Burton, J., Hoobler, J., and Scheuer, M. (2012). Supervisor workplace stress and abusive supervision: the buffering effect of exercise. *J. Bus. Psychol.* 27, 271–279. doi: 10.1007/s10869-011-9255-0

Camps, J., Decoster, S., and Stouten, J. (2012). My share is fair, so i don't care: the moderating role of distributive justice in the perception of leaders' self-serving behavior. *J. Pers. Psychol.* 11, 49–59. doi: 10.1027/1866-5888/a00 0058

Carlsmith, K., Darley, J., and Robinson, P. (2002). Why do we punish? Deterrence and just deserts as motives for punishment. *J. Pers. Soc. Psychol.* 83, 284–299. doi: 10.1037//0022-3514.83.2.284

Choi, W. J., and Winterich, K. P. (2013). Can brands move in from the outside how moral identity enhances out-group brand attitudes. *J. Mark.* 77, 96–111. doi: 10.1509/jm.11.0544

De Dreu, C. K. W., and Nauta, A. (2009). Self-interest and other-orientation in organizational behavior: implications for job performance, prosocial behavior, and personal initiative. *J. Appl. Psychol.* 94, 913–926. doi: 10.1037/a0014494

De Roeck, K., Marique, G., Stinglhamber, F., and Swaen, V. (2014). Understanding employees' responses to corporate social responsibility: mediating roles of overall justice and organisational identification. *Int. J. Hum. Resour. Manag.* 25, 91–112. doi: 10.1080/09585192.2013.781528

DeCelles, K. A., DeRue, D. S., Margolis, J. D., and Ceranic, T. L. (2012). Does power corrupt or enable? When and why power facilitates self-interested behavior. *J. Appl. Psychol.* 97, 681–689. doi: 10.1037/a0026811

Decoster, S., Stouten, J., and Tripp, T. M. (2014). Followers' reactions to self-serving leaders: the influence of the organization's budget policy. *Am. J. Bus.* 29, 202–222. doi: 10.1108/ajb-12-2013-0076

Decoster, S., Stouten, J., and Tripp, T. M. (2021). When employees retaliate against self-serving leaders: the influence of the ethical climate. *J. Bus. Ethics* 168, 195–213. doi: 10.1007/s10551-019-04218-4

Dutton, J. E., Dukerich, J. M., and Harquail, C. V. (1994). Organizational Images and member identification. *Adm. Sci. Q.* 39, 239–263. doi: 10.2307/2393235

Dutton, J. E., Roberts, L. M., and Bednar, J. (2010). Pathways for positive identity construction at work: four types of positive identity and the building of social resources. *Acad. Manag. Rev.* 35, 265–293. doi: 10.5465/amr.35.2.zok265

Eisenbeiss, S., and Knippenberg, D. (2015). On ethical leadership impact: the role of follower mindfulness and moral emotions. *J. Organ. Behav.* 36, 182–195. doi: 10.1002/job.1968

Epitropaki, O., Kark, R., Mainemelis, C., and Lord, R. G. (2017). Leadership and followership identity processes: a multilevel review. *Leadersh. Q.* 28, 104–129. doi: 10.1016/j.leaqua.2016.10.003

Eva, N., Newman, A., Miao, Q., Wang, D., and Cooper, B. (2020). Antecedents of duty orientation and follower work behavior: the interactive effects of perceived organizational support and ethical leadership. *J. Bus. Ethics* 161, 627–639. doi: 10.1007/s10551-018-3948-5

Fornell, C., and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* 18, 39–50. doi: 10.1177/002224378101800104

Friedland, N., Keinan, G., and Regev, Y. (1992). Controlling the uncontrollable: effects of stress on illusory control. *J. Pers. Soc. Psychol.* 63, 923–931. doi: 10.1037//0022-3514.63.6.923

Gaskin, J., James, M., and Lim, J. (2019). "*Master Validity Tool*," AMOS Plugin. *Gaskination's StatWiki*. Available online at: http://statwiki.kolobkreations.com/ index.php?title=Main_Page (accessed January 29, 2022).

Graen, G. B., and Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: applying a multi-level multi-domain perspective. *Leadersh. Q.* 6, 219–247. doi: 10.1016/1048-9843(95)90036-5

Greenbaum, R. L., Mawritz, M. B., and Eissa, G. (2012). Bottom-line mentality as an antecedent of social undermining and the moderating roles of core self-evaluations and conscientiousness. *J. Appl. Psychol.* 97, 343–359. doi: 10.1037/ a0025217

Grojean, M. W., Resick, C. J., Dickson, M. W., and Smith, D. B. (2004). Leaders, values, and organizational climate: examining leadership strategies for establishing an organizational climate regarding ethics. *J. Bus. Ethics* 55, 223–241. doi: 10.1007/s10551-004-1275-5

Hantula, D. A. (2009). Inclusive leadership: the essential leader-follower relationship. *Psychol. Rec.* 59, 701–704. doi: 10.1007/BF03395688

Hayes, A. F. (2013). *Introduction To Mediation, Moderation, And Conditional Process Analysis: A Regression-Based Approach*. New York, NY: The Guilford Press, doi: 10.1111/jedm.12050

Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivariate Behav. Res.* 50, 1–22. doi: 10.1080/00273171.2014.962683

Haynes, K. T., Josefy, M., and Hitt, M. A. (2015). Tipping point: managers' self-interest, greed, and altruism. *J. Leadersh. Organ. Stud.* 22, 265–279. doi: 10.1177/ 1548051815585171

He, H., and Brown, A. D. (2013). Organizational identity and organizational identification: a review of the literature and suggestions for future research. *Gr. Organ. Manag.* 38, 3–35. doi: 10.1177/1059601112473815

He, H., Pham, H. Q., Baruch, Y., and Zhu, W. (2014). Perceived organizational support and organizational identification: joint moderating effects of employee exchange ideology and employee investment. *Int. J. Hum. Resour. Manag.* 25, 2772–2795. doi: 10.1080/09585192.2014.908315

Henseler, J., Ringle, C. M., and Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Mark. Sci.* 43, 115–135. doi: 10.1007/s11747-014-0403-8

Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*, 2nd Edn. Thousand Oaks: Sage, doi: 10.1016/S0005-7967(02)00184-5

Jiang, W., and Gu, Q. (2016). How abusive supervision and abusive supervisory climate influence salesperson creativity and sales team effectiveness in China. *Manag. Decis.* 54, 455–475. doi: 10.1108/MD-07-2015-0302

Kamdar, D., and Van Dyne, L. (2007). The joint effects of personality and workplace social exchange relationships in predicting task performance and citizenship performance. *J. Appl. Psychol.* 92, 1286–1298. doi: 10.1037/0021-9010.92.5.1286

Kluemper, D. H., DeGroot, T., and Choi, S. (2013). Emotion management ability: predicting task performance, citizenship, and deviance. *J. Manage.* 39, 878–905. doi: 10.1177/0149206311407326

Kluemper, D. H., McLarty, B. D., and Bing, M. N. (2015). Acquaintance ratings of the Big Five personality traits: incremental validity beyond and interactive effects with self-reports in the prediction of workplace deviance. *J. Appl. Psychol.* 100, 237–248. doi: 10.1037/a0037810

Liao, H., Joshi, A., and Chuang, A. (2004). Sticking out like a sore thumb: employee dissimilarity and deviance at work. *Pers. Psychol.* 57, 969–1000. doi: 10.1111/j.1744-6570.2004.00012.x

Liao, H., Liu, D., and Loi, R. (2010). Looking at both sides of the social exchange coin: a social cognitive perspective on the joint effects of relationship quality and differentiation on creativity. *Acad. Manag. J.* 53, 1090–1109. doi: 10.5465/amj.2010.54533207

Liu, H., Ting-Ju Chiang, J., Fehr, R., Xu, M., and Wang, S. (2017). How do leaders react when treated unfairly? Leader narcissism and self-interested behavior in response to unfair treatment. *J. Appl. Psychol.* 102, 1590–1599. doi: 10.1037/apl0000237

Liu, Y., and Phillips, J. S. (2011). Examining the antecedents of knowledge sharing in facilitating team innovativeness from a multilevel perspective. *Int. J. Inf. Manage.* 31, 44–52. doi: 10.1016/j.ijinfomgt.2010.05.002

MacKinnon, D. P., Fairchild, A. J., and Fritz, M. S. (2007). Mediation analysis. *Annu. Rev. Psychol.* 58, 593–614. doi: 10.1146/annurev.psych.58.110405.085542

Mael, F., and Ashforth, B. E. (1992). Alumni and their alma mater: a partial test of the reformulated model of organizational identification. *J. Organ. Behav.* 13, 103–123. doi: 10.1002/job.4030130202

Mao, J. Y., Zhang, Y., Chen, L., and Liu, X. (2019b). Consequences of supervisor self-interested behavior: a moderated mediation. *J. Manag. Psychol.* 34, 126–138. doi: 10.1108/JMP-04-2018-0170

Mao, J. Y., Chiang, J. T. J., Chen, L., Wu, Y., and Wang, J. (2019a). Feeling safe? A conservation of resources perspective examining the interactive effect of leader competence and leader self-serving behaviour on team performance. *J. Occup. Organ. Psychol.* 92, 52–73. doi: 10.1111/joop.12233

Mikula, G., and Wenzel, M. (2000). Justice and social conflict. *Int. J. Psychol.* 35, 126–135. doi: 10.1080/002075900399420

Mischel, W., and Shoda, Y. (1995). A cognitive-affective system theory of personality: reconceptualizing invariances in personality and the role of situations. *Psychol. Rev.* 102, 246–286. doi: 10.1037/0033-295x.102.2.246

Mitchell, M. S., Vogel, R. M., and Folger, R. (2015). Third parties' reactions to the abusive supervision of coworkers. *J. Appl. Psychol.* 100, 1040–1055. doi: 10.1037/apl0000002

Mitchell, M., and Ambrose, M. (2007). Abusive supervision and workplace deviance and the moderating effects of negative reciprocity beliefs. *J. Appl. Psychol.* 92, 1159–1168. doi: 10.1037/0021-9010.92.4.1159

Moore, C., Mayer, D. M., Chiang, F. F. T., Crossley, C., Karlesky, M. J., and Birtch, T. A. (2019). Leaders matter morally: the role of ethical leadership in shaping employee moral cognition and misconduct. *J. Appl. Psychol.* 104, 123–145. doi: 10.1037/apl0000341

Moshman, D. (2011). *Adolescent Rationality and Development: Cognition, Morality, and Identity*, 3rd Edn. New York, NY: Psychology Press, doi: 10.4324/9780203835111

Mulder, L. B., and Aquino, K. (2013). The role of moral identity in the aftermath of dishonesty. *Organ. Behav. Hum. Decis. Process.* 121, 219–230. doi: 10.1016/j.obhdp.2013.03.005

Nevicka, B., Van Vianen, A. E. M., De Hoogh, A. H. B., and Voorn, B. C. M. (2018). Narcissistic leaders: an asset or a liability? Leader visibility, follower responses, and group-level absenteeism. *J. Appl. Psychol.* 103, 703–723. doi: 10.1037/apl0000298

Organ, D. W. (1988). *Organizational Citizenship Behaviour: The Good Soldier Syndrome*. Lexington, MA: Lexington Books.

Peng, J., Wang, Z., and Chen, X. (2019). Does self-serving leadership hinder team creativity? A moderated dual-path model. *J. Bus. Ethics* 159, 419–433. doi: 10.1007/s10551-018-3799-0

Podsakoff, P. M., MacKenzie, S. B., and Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annu. Rev. Psychol.* 63, 539–569. doi: 10.1146/annurev-psych-120710-100452

Preacher, K. J., and Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behav. Res. Methods* 40, 879–891. doi: 10.3758/BRM.40.3.879

Rafferty, A. E., and Restubog, S. L. D. (2011). The influence of abusive supervisors on followers' organizational citizenship behaviours: the hidden costs of abusive supervision. *Br. J. Manag.* 22, 270–285. doi: 10.1111/j.1467-8551.2010.00732.x

Reed, A., Aquino, K., and Levy, E. (2007). Moral identity and judgments of charitable behaviors. *J. Mark.* 71, 178–193. doi: 10.1509/jmkg.71.1.178

Ritzenhöfer, L., Brosi, P., Spörrle, M., and Welpe, I. M. (2019). Satisfied with the job, but not with the boss: leaders' expressions of gratitude and pride differentially signal leader selfishness, resulting in differing levels of followers' satisfaction. *J. Bus. Ethics* 158, 1185–1202. doi: 10.1007/s10551-017-3746-5

Robinson, S., and Bennett, R. (1995). A typology of deviant workplace behaviors: a multidimensional scaling study. *Acad. Manag. J.* 38, 555–572. doi: 10.2307/256693

Rothbaum, F., Weisz, J. R., and Snyder, S. S. (1982). Changing the world and changing the self: a two process model of perceived control. *J. Pers. Soc. Psychol.* 42, 5–37. doi: 10.1037/0022-3514.42.1.5

Rupp, D. E., and Cropanzano, R. (2002). The mediating effects of social exchange relationships in predicting workplace outcomes from multifoci organizational justice. *Organ. Behav. Hum. Decis. Process.* 89, 925–946. doi: 10.1016/S0749-5978(02)00036-5

Rus, D., van Knippenberg, D., and Wisse, B. (2010). Leader self-definition and leader self-serving behavior. *Leadersh. Q.* 21, 509–529. doi: 10.1016/j.leaqua.2010.03.013

Salancik, G. R., and Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Adm. Sci. Q.* 23, 224–253. doi: 10.2307/2392563

Salin, D., and Notelaers, G. (2017). The effect of exposure to bullying on turnover intentions: the role of perceived psychological contract violation and benevolent behaviour. *Work Stress* 31, 355–374. doi: 10.1080/02678373.2017.1330780

Schmid, E. A., Pircher Verdorfer, A., and Peus, C. (2017). Shedding light on leaders' self-interest: theory and measurement of exploitative leadership. *J. Manage.* 45, 1401–1433. doi: 10.1177/0149206317707810

Schyns, B., and Schilling, J. (2013). How bad are the effects of bad leaders? A meta-analysis of destructive leadership and its outcomes. *Leadersh. Q.* 24, 138–158. doi: 10.1016/j.leaqua.2012.09.001

Shao, P., Resick, C. J., and Schaubroeck, J. M. (2011). Ethical leadership and motivation: examining promotion and prevention regulatory FOCI. Acad. Manag. 2011 Annu. Meet. - West Meets East Enlightening. *Balanc. Transcending AOM* 2011, 1–6. doi: 10.5464/AMBPP.2011.150.a

Shoss, M. K., Eisenberger, R., Restubog, S. L. D., and Zagenczyk, T. J. (2013). Blaming the organization for abusive supervision: the roles of perceived organizational support and supervisor's organizational embodiment. *J. Appl. Psychol.* 98, 158–168. doi: 10.1037/a0030687

Siemsen, E., Roth, A., and Oliveira, P. (2009). Common method bias in regression models with linear, quadratic, and interaction effects. *Organ. Res. Methods* 13, 456–476. doi: 10.1177/1094428109351241

Sillince, J. A. A., and Golant, B. D. (2018). Making connections: a process model of organizational identification. *Hum. Relat.* 71, 349–374. doi: 10.1177/0018726717733528

Skubinn, R., and Herzog, L. (2016). Internalized moral identity in ethical leadership. *J. Bus. Ethics* 133, 249–260. doi: 10.1007/s10551-014-2369-3

Spector, P. E., and Fox, S. (2002). An emotion-centered model of voluntary work behavior: some parallels between counterproductive work behavior and organizational citizenship behavior. *Hum. Resour. Manag. Rev.* 12, 269–292. doi: 10.1016/S1053-4822(02)00049-9

Sulea, C., Fine, S., Fischmann, G., Sava, F. A., and Dumitru, C. (2013). Abusive supervision and counterproductive work behaviors. *J. Pers. Psychol.* 12, 196–200. doi: 10.1027/1866-5888/a000097

Tajfel, H., and Turner, J. C. (1986). The social identity theory of intergroup behavior. *Psychol. Intergr. Relat.* 13, 7–24. doi: 10.1016/j.jvb.2004.05.005

Tekleab, A. G., and Taylor, M. S. (2003). Aren't there two parties in an employment relationship? Antecedents and consequences of organization-employee agreement on contract obligations and violations. *J. Organ. Behav.* 24, 585–608. doi: 10.1002/job.204

Tice, D. M., and Bratslavsky, E. (2000). Giving in to feel good: the place of emotion regulation in the context of general self-control. *Psychol. Inq.* 11, 149–159. doi: 10.1207/S15327965PLI1103

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., and Wetherell, M. S. (1987). *Rediscovering The Social Group: A Self-Categorization Theory*. New York, NY: Blackwell.

Van Dick, R., Ullrich, J., and Tissington, P. A. (2006). Working under a black cloud: How to sustain organizational identification after a merger. *Br. J. Manag.* 17, S69–S79. doi: 10.1111/j.1467-8551.2006.00479.x

van Knippenberg, D., van Knippenberg, B., De Cremer, D., and Hogg, M. A. (2004). Leadership, self, and identity: a review and research agenda. *Leadersh. Q.* 15, 825–856. doi: 10.1016/j.leaqua.2004.09.002

Vardaman, J. M., Gondo, M. B., and Allen, D. G. (2014). Ethical climate and pro-social rule breaking in the workplace. *Hum. Resour. Manag. Rev.* 24, 108–118. doi: 10.1016/j.hrmr.2012.05.001

Vinarski-Peretz, H., Binyamin, G., and Carmeli, A. (2011). Subjective relational experiences and employee innovative behaviors in the workplace. *J. Vocat. Behav.* 78, 290–304. doi: 10.1016/j.jvb.2010.09.005

Vogel, R. M., and Mitchell, M. S. (2015). The motivational effects of diminished self-esteem for employees who experience abusive supervision. *J. Manage.* 43, 2218–2251. doi: 10.1177/0149206314566462

Wang, W., Fu, Y., Qiu, H., Moore, J. H., and Wang, Z. (2017). Corporate social responsibility and employee outcomes: a moderated mediation model of organizational identification and moral identity. *Front. Psychol.* 8:1906. doi: 10.3389/fpsyg.2017.01906

Watts, L. L., and Ronald Buckley, M. (2017). A dual-processing model of moral whistleblowing in organizations. *J. Bus. Ethics* 146, 669–683. doi: 10.1007/s10551-015-2913-9

Wimbush, J. C., and Shepard, J. M. (1994). Toward an understanding of ethical climate: its relationship to ethical behavior and supervisory influence. *J. Bus. Ethics* 13, 637–647. doi: 10.1007/BF00871811

Zhang, J., and Liu, J. (2018). Is abusive supervision an absolute devil? Literature review and research agenda. *Asia Pacific J. Manag.* 35, 719–744. doi: 10.1007/s10490-017-9551-y

Zhou, F., Lu, L., Zhang, Y., and Zhang, J. (2021). The impact of self-serving leadership on employees' deviant behavior: a cognitive and affective dual-pathway model. *Manage. Rev.* 33, 237–248. doi: 10.14120/j.cnki.cn11-5057/f.2021.07.019

Between Multiple Identities and Values: Professionals' Identity Conflicts in Ethically Charged Situations

Lara Carminati[1][†] and YingFei Gao Héliot[2]†*

[1] *Faculty of Behavioral, Management and Social Sciences, University of Twente, Enschede, Netherlands,* [2] *Surrey Business School, University of Surrey, Guildford, United Kingdom*

This study explored identity conflict dynamics in interpersonal interactions in professionals facing ethically charged situations. Through semi-structured interviews (*N* = 47), we conducted a qualitative study among doctors and nurses working for the English National Healthcare Service and analyzed the data with grounded theory approaches. Our findings reveal that identity conflict is triggered by three micro processes, namely cognitive and emotional perspective taking, as well as identifying with the other. In these processes, identity conflict is signaled by emotions and recognized as a clash not only *between* identities and their values, but also *within* one identity and its multiple values. Behavioral and psychological outcomes of identity conflict involve seeking peer support, doing reflective practices and identity growth. This article contributes to identity literature by providing a multilevel approach of identity conflict dynamics able to account for both interpersonal and intrapsychic processes, deeply hold values and emotions, as well as crucial behavioral and psychological consequences.

Keywords: identity conflict dynamics, interpersonal and intrapersonal processes, behavioral and psychological responses, emotions, identity values

INTRODUCTION

Due to the more complex and diverse nature of today's society, professionals are increasingly asked to juggle different identities at their workplaces (Wright et al., 2017). Even though these identities guide people's attitudes and behaviors, given their dynamic nature (Ashforth and Schinoff, 2016), enacting and managing multiple identities can be challenging (Ahuja et al., 2019). Consequently, when identities are triggered simultaneously, but are incongruent, identity conflict may arise (Brown, 2017).

Identity conflict is defined as a sense of discrepancy between the beliefs, norms and expectations held by an individual (Horton et al., 2014). Studies have provided strong theoretical and empirical bases for understanding the optimal strategies to solve identity conflict, ranging from identity integration or assimilation to identity separation or compartmentalization, or even identity annihilation (Kreiner et al., 2006; Petriglieri, 2011; Ramarajan and Reid, 2013). Research has also explored boundary conditions that can ameliorate individuals' perception of identity conflict. For instance, Héliot et al. (2020) have identified psychological safety as a key factor in reducing potential identity conflicts and therefore contributing to individuals' wellbeing and effectiveness.

Nonetheless, this research has generally overlooked the unraveling of identity conflict dynamics in interpersonal interactions (Ashforth and Schinoff, 2016; Islam, 2020; Ramarajan and Reid, 2020). Given the vital relational component that is intrinsic in individuals' identities to provide meanings to the self (Brewer and Gardner, 1996), understanding individuals' perception of identity conflict in such interactions becomes pivotal in order to elucidate identity dynamics (Caza et al., 2018).

Yet, research on identity and identity conflict has mostly focused on identities in their entirety, as 'monolithic entities,' without doing a more profound exploration of the role played by those deeply held values and associated emotions that constitute identities and can initiate processes of identity conflict (Wright et al., 2017; Ahuja et al., 2019). Values are the pillars from which individuals define who they are and how they should act (Schwartz, 2016). They are at the heart of many professions and are strongly linked to emotions, since individuals who value their identities, and the meanings associated with them, also have an emotional investment and attachment to such values and identities (Wright et al., 2017). Hence, since identities are "value-soaked" (Ashforth and Schinoff, 2016, p. 122), unpacking the role that values and emotions play in identity conflict dynamics becomes paramount to understanding individuals' behaviors. Nevertheless, with just few notable exceptions (Croft et al., 2015; Wright et al., 2017), scholars have not explored identity conflict at a deeper cognitive and emotional level and its link with individuals' actions, or barely investigated how individuals respond behaviorally when threatened by identity conflict (Petriglieri, 2011; Ramarajan and Reid, 2013). Little is still understood about how professionals navigate the tensions around their values and emotions when experiencing identity conflict in interpersonal interactions and the consequences of such conflict on their behavior.

Thus, we set out to discern these dynamics within the medical context through an inductive, qualitative study of healthcare professionals working for the National Healthcare Service (NHS) in England. We paid attention to how such professionals perceive, and respond to, identity conflict and moral struggles when interacting with their patients in ethically charged situations[1]. In broad terms, our findings suggest that professionals experience identity conflict as being triggered by interpersonal micro processes that can activate latent, contrasting values and emotions, and that they respond by actively seeking support from peers or through reflective practices. Surprisingly, in our results conflict is generally perceived as a positive contribution to personal growth. This study thus unpacks the deeper components of identity conflict and describes how individuals engage in a series of interpersonal dynamics that can shape individuals' subsequent behaviors. We also suggest new directions for identity and decision-making literatures, as well as insights for professionals and organizations into how to reduce individuals' moral struggles.

More specifically, we make three key contributions. Firstly, we extend current identity literature by considering rarely studied contextual and interpersonal dynamics when exploring intrapsychic identity conflict in professionals (Ashforth and Schinoff, 2016; Ramarajan et al., 2017; Caza et al., 2018; Carminati and Gao Héliot, 2021). This multilevel perspective (Islam, 2020; Carminati and Gao Héliot, 2021) allows us to better explain, and grasp, the equilibrium between the self and the surrounding environment, especially when the latter may function as a trigger of identity conflict. Secondly, we advance identity research by unraveling how values, together with emotions, are linked to identity dynamics and can influence the perception and responses to identity conflict (Wright et al., 2017; Ahuja et al., 2019; Huhtala et al., 2020). Lastly, we extend pivotal theoretical studies on identity conflict consequences (Petriglieri, 2011; Ramarajan and Reid, 2013) by further identifying behavioral responses that individuals may implement when experiencing identity conflict in ethically charged circumstances, as well as novel psychological consequences characterized by positive connotations.

The remainder of the article is structured as follows. After providing a brief review of the current identity approaches and virtue ethics perspectives in relation to professionals and ethically charged circumstances, we detail our data collection and analysis methods, followed by the main results of our investigation. Lastly, we discuss our findings and conclude the article by highlighting its limitations, directions for future research and practical implications.

THEORETICAL BACKGROUND

Identity and Identity Conflict

Recent identity approaches have underlined that identity conflict reflects a discrepancy between "values, beliefs, norms and demands inherent in individual and group identities" (Horton et al., 2014, p. 6) and emerges when individuals feel they must give precedence to one set of meanings and behaviors over another to satisfy particular identity-based expectations (Ramarajan, 2014). Even though identity conflict is mostly an intrapersonal experience (Ramarajan et al., 2017), identity conflict dynamics do not happen in a vacuum and deserve to be explored in more complex, real-world scenarios. Such a real-world exploration will enhance our understanding of how identities are dynamically co-constructed, revised and re-arrange in relation to often neglected contextual triggers (Alvesson et al., 2008; Caza et al., 2018; Ramarajan and Reid, 2020). Indeed, a vital aspect of self-meanings are individuals' relational identities or individuals' self-understanding in relation to others (Brewer and Gardner, 1996; Sluss and Ashforth, 2007; Islam, 2020). Hence, this article specifically focuses on how interpersonal interactions can trigger intrapsychic identity conflicts, i.e., those conflicts that unravel within individuals' mind and self.

Values, Emotions and Behaviors

In such intrapsychic conflicts, values play a salient role. Values have been defined as guiding principles, motivators and the foundation of people's attitudes and behaviors in organizations

---

[1]Examples of ethically charged situations are: resuscitation status, withholding and withdrawing medical therapies, palliative care, coma, vegetative state, and brain death.

(Schwartz, 2016), especially in professionals. Professionals possess unique knowledge and skills that can benefit and bring value to society (Macdonald, 1995). Values, such as commitment, fairness and altruism, go beyond self-interest, power and privileges and represent the key moral drivers for professionals' identities and actions (Wright et al., 2017; Huhtala et al., 2020). Since professionals are subject to external demands and societal expectations (Ramarajan and Reid, 2020), they rely on values – and their associated actions–to create and express a sense of being competent when enacting a specific work identity (Caza et al., 2018). Still, as if identities were monolithic entities, scholars have paid limited attention to investigating identity at a deeper level and have missed the importance of values in influencing professionals' identity conflicts, behaviors and interactions at the workplaces. This holds particularly true when considering that the same values have the potential of being interpreted differently (Wright et al., 2017), hence influencing identification processes and creating a kaleidoscope of remarkably different outcomes.

To understand how values can impact these processes, we integrated recent identity theory approaches and identity conflict literature (Ramarajan, 2014; Ramarajan et al., 2017) with virtue-based ethical approaches from the decision-making literature. In these person-centered approaches, individuals' behaviors reflect the virtues guiding people's choices of action and become indicative of individuals' moral character (Uhlmann and Zhu, 2014; Uhlmann et al., 2015). Indeed, building on the fact that individuals' moral behaviors are driven by universal values representing ethical principles (Kohlberg, 1969), research on ethical decision making has provided an alternative lens for the vital role of values in individuals' choices and in reflecting those identities that individuals have prioritized in ethical dilemma situations. Ethical dilemmas are defined as conflicts between two possible moral imperatives, neither of which is unambiguously preferable nor in which obeying one would result in transgressing another (Kidder, 1995). Given this definition and the fact that all values are fundamentally moral (Frankena, 1973), we associate identity conflict to ethical dilemmas and adopt a value-oriented perspective on identity. Going beyond course-grained conceptualization of identities, this perspective helps us to extend our current knowledge of identity conflict by unpacking intrapsychic identity dynamics and accounting for nuances – e.g., in relation to emotions – that could be otherwise lost without a filigree approach. Hence, by focusing on the values constituting individuals' multiple identities, virtue-ethics approaches could help to address how individuals perceive identity conflict and respond to it.

Devoting attention to the role of values in identity dynamics also brings interest in the part played by emotions (Schwartz, 2016). Research has underlined that emotions are strictly connected to professionals' values because people who are "committed to the values of an institution [profession] really care and [...] have high cognitive and emotional investment in the institution [professional] order" (Wright et al., 2017, p. 204). Since professionals' values are interlaced with others' best interests, then whether an action is perceived as right or wrong may generate morally inclined emotions (Haidt, 2003). Recent studies have started exploring the constitutive power of emotions in identity construction (Cascón-Pereira and Hallier, 2012; Croft et al., 2015; Ahuja et al., 2019) and there is growing acknowledgment that emotions can affect the processes and outcomes of identity work (Caza et al., 2018; Winkler, 2018). However, little is still known about the role of emotions, especially morally driven ones, in relation to values and identity conflict.

Similarly, scarce research has explored behavioral consequences of identity conflict dynamics. Theoretical framework and empirical studies have dedicated most of their attention to the psychological outcomes of identity conflict experiences (Ramarajan and Reid, 2013; Karelaia and Guillén, 2014; Carminati and Gao Héliot, 2021). As to what people actually do and how they react in response to it has had less investigating (Caza et al., 2018). Since individuals' behaviors are driven by their identities, values and emotions (Brown, 2017), what people do can significantly reflect what happens in their minds and is felt in their hearts. This is especially true when people are struggling within themselves to be both professionally effective and conscientiously moral at the same time (Bardon et al., 2017; Huhtala et al., 2020). Hence, to understand individuals' behavior in a specific situation, it is important to trace back and link the action to individuals' values and emotions, and thus explore the identity conflict-behavior relationship.

To sum up, the overarching goal of our study is to investigate interpersonal and intrapsychic dynamics of identity conflict, as well as to understand its consequences on professionals' behaviors. We aim to achieve this by developing initial answers to the following research questions: (i) How is identity conflict perceived in interpersonal interactions and experienced at a deeper level in ethically charged situations?; and (ii) What are the potential behavioral responses to identity conflict in ethically charged situations?

RESEARCH METHODOLOGY

Research Design

We conducted an inductive, qualitative study using grounded theory approaches (Strauss and Corbin, 1990) for two reasons: (i) grounded theory approaches are often opted for when the researchers' focus is on human behavior patterns and key participants' actions, as well as contextual and processual elements surrounding the experience under examination (Suddaby, 2006); (ii) since their purpose is to develop theoretical insights into how individuals understand and make sense of reality subjectively, they are appropriate for studying a deeply subjective phenomenon like identity conflict (Suddaby, 2006). Through an interpretive discursive lens (Miles and Huberman, 1994), our purpose was to produce a rich account of, and explore, participants' voices, as well as interpret and give meaning to their narratives in order to extend current theories from the spontaneous emergence of novel themes (Strauss and Corbin, 1990).

Justification of Sampling and Context

We investigated how healthcare professionals, namely doctors and nurses, working for the English NHS perceive and react to

identity conflict and moral struggles in interpersonal interactions when facing ethically charged situations. Although doctors and nurses have specific and different medical identities that are associated with their medical training and education, they also share a common medical identity related to their belonging to the healthcare workforce. This healthcare population has both unique and generalizable characteristics, making it a peculiar one to study.

Healthcare professionals are not only considered as working in a prototypical profession (Strauss, 1975; Pratt et al., 2006), but are also constantly involved in interactions with patients since the doctor/nurse-patient relationship is a core element of the ethical and professional principles they abide by Diamond-Brown (2016). Indeed, whilst doctors and nurses' professional identity is grounded in a codified system of values and principles by which they should abide as part of their profession (Ruitenberg, 2016), the application of these principles is not always straightforward, especially when dealing with patients' lives (Birchley, 2012). Consequently, their personal and professional values, together with their emotions (e.g., empathy, compassion, etc.), are often heavily questioned during the daily clinical and medical activities, leading to moral impasses and ethical dilemmas (Borgstrom et al., 2010; Genuis and Lipp, 2013; Kälvemark et al., 2004). Therefore, compared to broader workforces, healthcare professionals involved in ethically charged situations face stronger ethical identity conflict, because of the sensitive and moral nature of their job (Borgstrom et al., 2010).

However, contributing to making identity conflict dynamics more generalizable (Eisenhardt, 1989), like many other professionals (e.g., lawyers or politicians), doctors and nurses' work is in the eye of the public, which can accentuate the intensity of their identity conflict even more (Kreiner et al., 2006), especially in ethically charged situations. They also engage in various extra activities, ranging from managing hospital resources, treatments costs and making decisions about quality of life (Genuis and Lipp, 2013), which may further put pressure on them. Additionally, as in other professions, in the healthcare profession there are multiple layers of specialization, differentiation and qualification levels. Therefore, we made sure that our sample was remarkably diversified to reflect the complexity of this professional world. We purposively selected 12 hospitals for their characteristics, such as the services provided (e.g., palliative care, oncology, gynecology, and intensive care), size (small, medium and large hospitals providing the services we were interested in), personnel (e.g., junior and senior consultants, specialist nurses, matrons, and senior nurses) and location (to cover the breadth of the National Healthcare Service within England). These characteristics help to add both in-depth descriptions and generalizability. Hence, doctors and nurses represent an exemplary profession that can significantly experience identity conflict between their professional and personal values at the workplace, especially in ethically charged situations.

These situations have become increasingly frequent and challenging in today's society. They represent one of the most common circumstances preceding death in Western countries (Rietjens et al., 2012) and more than 50% of European and American doctors perceived ethical struggles in these situations (Hurst et al., 2005, 2007). Hence, ethically charged circumstances can exacerbate the dynamics of identity conflict making them more observable. These characteristics make ethically charged situations suitable for representing an extreme and unique context (Eisenhardt, 1989). Indeed, changes in social mores over the 20th Century have given rise to uncertainty and created room for subjective interpretations of the course of actions in ethical collision situations (Genuis and Lipp, 2013). Although some constitutive principles of medical ethics exist to guide healthcare professionals in their duties, responsibilities and conduct (Birchley, 2012), as to *how* healthcare professionals should act to avoid moral impasses is a delicate matter (Borgstrom et al., 2010; Ruitenberg, 2016).

As exemplified by the COVID-19 pandemic, ethically charged situations can make doctors and nurses' professional identities and values quiver (Segers, 2020; Chirico et al., 2021). Horton et al. (2014) have noted that change events can be key triggers of identity conflict since they may invoke multiple identities with different values and role-based expectations. Similarly, we focused on ethically charged situations since in these circumstances healthcare professionals call upon their multiple but potentially contrasting personal and professional values, regarding for instance what constitutes quality of life or human dignity, and which emotions to display in each situation (Ruitenberg, 2016). The emerging identity conflict can impact healthcare professionals' psychological outcomes (Genuis and Lipp, 2013) and decision making (Hurst et al., 2005), as well as patient care and the quality of the healthcare system (Kälvemark et al., 2004). Consequently, ethically charged are possibly the most complex circumstances that healthcare professionals may encounter. Nonetheless, to pursue the correct action, an identity conflict of moral nature must be faced and resolved. Hence, ethically charged situations will enable more transparent observations of healthcare professionals' perception of, and responses to, identity conflict (Eisenhardt, 1989). Therefore, our sample and context offered a unique opportunity to explore both how identity conflict is perceived in interpersonal interactions and behavioral responses to identity conflict in ethically charged situations.

Research Instruments

We interviewed a total of 50 healthcare professionals (21 doctors, 11 = F and 10 = M, and 29 nurses, 25 = F and 4 = M) during the period March-June 2018. The first 3 interviews were conducted as a pilot and helped the first author to refine the interview protocol for the other 47 main in-depth interviews. Ethical approval to conduct the research was obtained from the University Ethics Committee and the Health Research Authority, and data were safely stored on the University computer, protected by a password. The interviews were semi-structured and conducted face to face ($N = 43$) or *via* video conferencing ($N = 4$) by the first author at the participants' workplaces. We chose semi-structured interviews since they were deemed appropriate to probe more deeply into identity conflict perception and they are particularly effective at uncovering people's sense of self and identity (Miles and Huberman, 1994). They were audio

recorded and transcribed verbatim, concealing the participants' identity and personal information. Names used in this article are pseudo names. The interviews, on average 60 min in length, followed a standard set of 20 questions (see **Supplementary Appendix A** for a selection of the interview protocol) to facilitate the identification and comparison across the emerging themes (Miles and Huberman, 1994) and were formulated following organizational and medical studies on the topic (Hurst et al., 2005; Kreiner et al., 2006).

The doctors and nurses were asked about: (a) the motivation behind their decision to become a doctor or a nurse in their specialty; (b) the various professional and personal values associated with their multiple identities and roles; (c) their perception of a personal struggle, conflict or ethical dilemma they experienced in their clinical practice; (d) the reasons why they deemed struggle/dilemma to be particularly important to them and the role played by the multiple identity values they associated with; (e) their views regarding Baby Charlie's case, a recent and dramatic ethical dilemma in the United Kingdom involving an infant with a genetic and degenerative disease; and (f) what they did when experiencing their conflict at work.

Data Analysis

We analyzed the data iteratively, going back and forth between our data, and an emerging structure of themes and theoretical arguments (Strauss and Corbin, 1990; Miles and Huberman, 1994). This process entailed a constant comparison and recoding of previously coded texts with new coded sentences, as well as looking for further evidence in our data any time a new conceptual category emerged. Hence, it involved discarding some schemes, collapsing similar codes, and varying others. During this phase, we had regular and long discussions regarding our interpretations and structure of the data and codes. We relied strictly on the language used by the participants to frame issues and concepts in our findings to maintain a connection with the raw data. We also read up on a broad range of topics, from identity values to emotions, and from ethical decision making to interpersonal dynamics, to understand in a mutual process how existing research could help us refine our emerging insights from the data, and how these insights could, in turn, contribute to the existing literature. After coding 38 interviews we found no additional new codes in the remaining 9 transcripts. The absence of new codes gave us confidence that we had reached saturation, the point at which further data would yield redundant responses and confirm existing insights (Strauss and Corbin, 1990).

We also conducted case-comparisons of codes between doctors and nurses to understand whether and how these two professions varied systematically in their perception of identity conflict. Overall, our exploration of the cases revealed more similarities than differences in terms of their experience of ethical struggles. This may be due to the fact that the interviewed nurses had great autonomy and independence in their decision-making capacity. It is also worth noting that all the participants experienced identity conflict in terms of clashing values and emotions. However, our analysis also revealed some variations in the behavioral responses associated with identity

conflict: whilst both doctors and nurses tended to rely equally on their peers for advice and support, nurses were the ones that engaged the most in reflective practices. Nonetheless, all the healthcare professionals moved through the same processes of identification with the other (i.e., the patient) in terms of triggers of identity conflict. Therefore, we built a new framework based on healthcare professionals' commonalities in identity conflict dynamics.

Regarding our first research question, i.e., how identity conflict is perceived in interpersonal interactions and experienced at a deeper level in ethically charged situations, we established second-order themes that captured both the intrapersonal perception of identity conflict and the interpersonal dynamics leading to such conflict perception. Concerning our second research question, i.e., what are individuals' behavioral responses to identity conflict in ethically charged situations, we included first-order themes, namely 'seeking support from peers and through reflective practices,' 'stop/change in career,' as well as an interesting second-order theme related to the positive psychological consequences of facing identity conflict in the long term. **Figure 1** summarizes our data analysis and the themes that emerged. The NVivo11 software program was used to organize the data and for the analysis.

FINDINGS

We present our findings in relation to each research question. To gain maximum parsimony, we interlace both the first order and second order findings throughout this section to provide a well-grounded structure and an in-depth description of our data. **Supplementary Appendix B Tables 1, 2** provide further illustrative quotes and how they relate to the first-order themes. We begin by presenting the findings related to the first research question.

Healthcare Professionals' Perception of Identity Conflict

Two key themes were developed for our first research question from the participants' dialog about their perception of identity conflict in the workplace, namely 'Interpersonal triggers of identity conflict' and 'Intrapersonal signals of identity conflict.' The first theme illustrates the three interpersonal processes responsible for instigating identity conflict in the participants. The second theme unpacks the cognitive and emotional recognitions able to alert the healthcare professionals that an inner identity conflict was about to happen.

Interpersonal Triggers of Identity Conflict

All the participants spoke passionately about the numerous values – sometimes also referred to as "attributes" or "principles" in the medical literature (Halligan, 2008; Abbasinia et al., 2020; Birchley, 2021) – driving and supporting their professions, from pursuing 'patient best interest' to 'being their advocate' and 'establishing a connection with them.' Since it was crucial for them to respect these values as they were associated with the interactional dynamics that constitute their professional-patient

FIGURE 1 | Data structure.
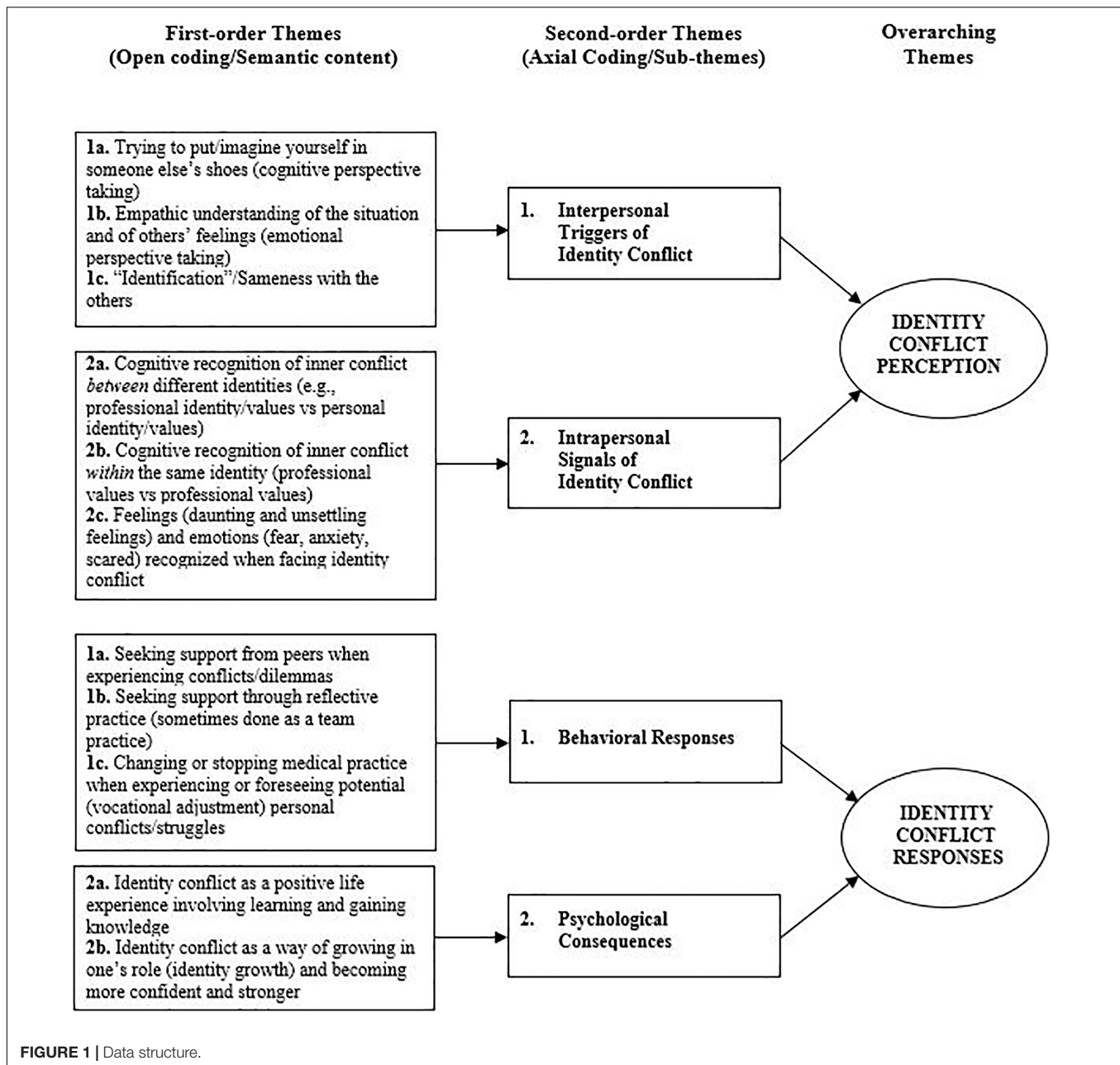
relationship, the first derived micro process was the cognitive ability to take the other's perspective. Establishing a connection and a first point of contact with their patients facilitated the fulfilment of the participants' professional roles. As this nurse highlighted:

> I think that, personally and professionally, it's vital to recognize how things can be seen from other people's perspectives [. . .] you need to put yourself in other people's shoes to really understand your patient and their family. . .and do your job, really. (Sarah, Nurse, Female)

The participants balanced this process of putting themselves in their patients' shoes carefully because 'you need to translate "what would be ok for me?" into "what is good for my patient?", since what might work for me, might not work for somebody else.' (Tony, Nurse, Male).' Trying to maintain this fine balance entailed exercising a strong psychological control over personal beliefs and principles.

Such cognitive connection with patients was also associated with a second micro process, namely developing an empathic understanding of, and concern for, their patients. The ability to understand others' feelings was described by the participants as a pillar of the healthcare professional-patient relationship because it enabled one to understand better what the patients were experiencing through compassion, sympathy and empathy. As this nurse noted:

I could understand, I could feel what she was going through. . .and I couldn't help putting myself in her situation and thinking, if I were in that situation what decisions would I make? [. . .] and I think we all do that, you can't stop doing that, you can't stop feeling that way. . .it was so emotional. (Rachel, Nurse, Female)

However, this powerful cognitive and emotional process of understanding others' thoughts and emotions through perspective taking was a double-edged sword. On the one hand, imagining other people's thoughts and feelings helped the healthcare professionals to recognize what was important for their patient and how to meet their expectations. On the other hand, by clouding any rational and objective decision making, it could make their professional judgment waver, and an already ethically charged decision making situation even harder. The fine equilibrium between professional and personal values and emotions was difficult to sustain, especially in ethically charged situations, due to the high cognitive and emotional demands placed upon healthcare professionals. The participants acknowledged that, in critical situations, getting emotionally closer to patients was inevitable and this, together with influences from personal values, could lead to experiencing conflict. As if trying to balance the instability of her identities by asserting a distinction between her "selves" (i.e., "I," "me," and "my") and her patient (Harding et al., 2014), an oncology doctor described:

I could understand her worries and it really made me cry. . .it struck a chord [. . .] I think I probably struggled with my decision because I could see her point of view on saying 'I want more treatment'. . .but then, because of my experience, and knowing how this disease goes and how she would probably feel worse with the treatment, I knew it would be deleterious for her. . .but how could I say 'no'?. (Mary, Doctor, Female)

Similarly, on recalling a dramatic event involving a drunken mum causing a car accident in which her little son died, this other nurse noted:

I felt for her. . .I could really feel for her [. . .] so the moral conflict for me was that I knew that when she left that resus room, she would be arrested and would never see her little boy again [. . .] but I knew that, at some point, I had to say, and I did say, 'we need to go, I need to take you outside'. (Becky, Nurse, Female)

Thus, cognitive and emotional perspective taking was perceived as something necessary for providing high-quality care, but also as interfering with clinical decision making. This paradoxical nature of perspective taking processes grabbed our attention because they seemed to exacerbate the identity conflict experience, by activating the moral values and emotions that are constitutive of those identities the participants had in common with their patients. Indeed, sharing values and emotions could facilitate a third micro process of identification with the other, i.e., the patient. It was clear from the participants' words that there was an interpersonal perception of identity conflict due to a sense of 'sameness' functioning as a trigger. By identifying with their patients, the participants' professional values and identities were hindered by the more personal values, emotions and identities

stimulated in that specific circumstance. Such an interpersonal process was depicted well by this doctor in palliative care:

It's seeing people who are in very similar situations to ourselves. . .so, I'm a young mother and I struggle when I look after a young mum, because it is too much like my own situation [. . .] I truly think that the danger for me really comes when you start to draw parallels between somebody else's situation and your own. (Jess, Doctor, Female)

The fact that the participants could connect strongly with the person in front of them stimulated doubts, reconsiderations and uncertainty about the way they should have acted compared to what they would have done if they had truly followed their medical identity. For instance:

Last year I was looking after a chap who was my age, he was a medic, he was married with two young children under the age of ten like mine [. . .] I think that this experience particularly stayed with me because there was that kind of strong connection. . .you know, you relate to that family, because they are a similar sort of people, similar upbringing, similar background [. . .] So, I think the difficult bit for me was probably my ability to relate to his position. . .I could see myself lying in that bed and thinking 'What would I want someone to do in that scenario?' [. . .] I am not ashamed, I felt conflicted really. . .it was a terrible situation, there was nothing left. (Luke, Doctor, Male)

Emotions also played a crucial role in this process of identification because they functioned as the fastest route channeling the process. Transcending the social roles and creating insecure identity positions, emotions fueled the sense of similarity between the healthcare professionals and patients and stimulating the conflict. As this nurse said:

I think my conflict was that it felt personal. . .personal because of the patient age, because she was nearly the same age as me, which makes it a bit more real. . .and you can put yourself in that person's position and in her family's position, because you know how you would feel if it was a relative of yours. . .and I suppose that's where the emotions come in, because, you know, this is just how you would feel. . .you would feel upset, particularly knowing what's going to happen. (Emily, Nurse, Female)

Thus, the breaking point of the perfect balance between professional and personal values and emotions was a series of combined and interrelated micro processes unraveling at an interpersonal level. These interpersonal processes of perspective taking and identification were strongly interlaced and concerned the dynamics of values and emotions inherent in the healthcare profession and represent the 'why' the participants experienced the conflict. Indeed, the unfolding of such dynamics in ethically charged situations created a sense of misalignment from an ideal condition of alignment. The result is a conflict, struggle, or dilemma that the healthcare professionals perceived in their clinical practice. The following section now addresses how the participants experienced conflicting values and identities.

Intrapersonal Signals of Professional Identity Conflict

As just shown, identity conflict was triggered and initiated by processes of interpersonal interaction in the professional-patient relationship. These interpersonal experiences of identity

conflict, spilling over to how the professionals position themselves in relation to their own identities and values, set in motion intrapersonal experiences along three dimensions (i.e., a cognitive recognition of inner conflict *between* identities, a cognitive recognition of inner conflict *within* identities and an emotional recognition of inner conflict), which function as signals of identity conflict.

Firstly, there was a cognitive recognition of the inner conflict related to a tension *between* their professional and personal identities and the moral values linked to them. The participants' perception of struggles, uncertainty and indecisions was indeed linked to their inherent sense of morality. One of the most common conflicts was between their medical identity and their family identity, since the participants often called upon their values of being a mother, a father, a daughter or a son, to judge, make decisions or evaluate the challenging situations they were facing in terms of what was the *right* course of action. This nurse said, for instance:

> Obviously, as a mother I have some values and those values tell you that you would fight for your children, wouldn't you? But then looking at it from a nursing point of view, with my professional hat on, you would also agree with the doctors' decision, because it's about the child, not the family [...] Still, I don't know...It's such a destroying situation, isn't it?. (Anne, Nurse, Female)

Similarly, the participants' religious identity was significantly involved in a conflict with their professional identity. As the quote below shows, the moral values underpinning the religious identity were the main reasons for the identity conflict experience since they were clashing and causing uneasiness within the participants' professional identity:

> Some areas of Christianity believe very strongly that you must always accept any treatment, push for every treatment, you have to prolong life as much as possible because it allows God to do a miracle and if you 'give up' then how can God to do that? [...] but the trouble for me is...some Christians I've come across, even in a professional context, won't even let themselves think about what might happen if this miracle doesn't occur... that's actually a real problem for me, because maybe you are putting somebody through something futile which, in itself, is unethical and unprofessional. (Jess, Doctor, Female)

These types of conflicts clearly reflect those identities and values that the healthcare professionals deemed salient and central to themselves and that were activated by the specific situation they were in. In this sense, the three micro processes highlighted before can trigger an identity conflict involving all the different identities considered in their entirety. However, we also pinpointed a second type of inner conflict.

This conflict unfolded *within* the participants' professional identity and *between* its values. They stressed that medicine is both a science and an art, a 'balance between the analytical aspect of the practice, where you come to a judgment in which you could have conflicting evidence, and the human side of the practice' (Alex, Doctor, Male). Such an intrinsic nature of medicine implies that there is room for subjective interpretations of some medical principles (Birchley, 2012), which also means that medical principles can be 'bent' depending on the influence of other

values, beliefs or emotions that can be associated with them. In ethically charged situations, some healthcare professionals may perceive some medical values as less binding, less straightforward, or even contrasting, leading to inner conflicts. For instance, this doctor in palliative care spoke about assisted suicide:

> It's a real dilemma, because as a medic you don't want to let the patient down, because you can't control their pain appropriately [...] It's a conflict in the sense that one side of me says that [assisted suicide] is the right thing, because the patient should have the autonomy to decide...but the other side of me says that, as a doctor, my values are to save lives...we are trained not to cause harm, that's such a core principle for us, and that's a big problem [...] So, I don't know, maybe it's me, my morality, but it's as if the whole concept of 'do not harm' has a double effect [...] So, your values of being a doctor and saving lives conflict with your duty of care to the patient. (Matt, Doctor, Male)

In this case, the two medical values of the participant's professional identity were perceived as clashing due to some associated moral values important to the participant, resulting in one specific medical principle rather than the other. Similarly, this doctor in oncology noted:

> I suppose, a lot of the ethical decisions that often come with End-of-Life are related to 'how far do you take the treatments' or 'when do you stop?' 'When is it time to stop investigating and stop doing things [...]?' So, I suppose the conflict for me is 'How much do you do things? And 'How much do you not do things?' [...] Because 'is living a long but miserable life better than having a short but happy life?' It should be up to the patient to decide, but sometimes it's not always possible. (Fran, Doctor, Male)

What emerges from these quotes is a set of medical values and principles which coexist in, and belong to, the same professional identity, but are potentially connected to other values that are fundamentally moral and deal with the 'rightness' of doing an action. The *leitmotiv* here is thus the intrinsic moral nature of the values generating the identity conflict. Deciding which principles or values should be prioritized depended on the situation and the patient, as well as the cognitive and emotional demand involved, and can lead the individuals to experience a moral conflict within the same identity. In this sense, identities are multifaceted and polyhydric entities in which each value can play an independent and important role in triggering the conflict.

Lastly, the third recognition of identity conflict we identified was related to the participants' emotions and their roles in ethically charged situations. Adding a more 'visceral' dimension and perspective to the notion of identity conflict, healthcare professionals described how they felt when they experienced the conflict. An oncology doctor noted:

> I think you feel unsettled in yourself if you are battling with something...it's something you can't put to bed, it's niggling there [...] for the rest of the clinic I was a bit upset and thinking 'what are you going to do? What are you going to do?' in the back of my mind, and I couldn't concentrate. (Katy, Doctor, Female)

As for values, these emotions were interlinked with the *right* course of action the participants aimed to pursue and, as such, could be considered as inherently moral. Indeed, the emotions

and feelings the participants experienced reflected the potential behavioral responses they should prepare themselves to engage in. Here, the emotions acted like a signal for the individuals, that a tough cognitive decision and its subsequent behavior needed attention:

> I'm probably a bit anxious, you know, as to what kinds of responses are meant to be made and how I would I respond to it [the conflict] . . .Would I be prepared? So, I'm probably scared not be ready enough to do what I think is the right thing to do [. . .] I guess, I feel a certain level of uncertainty. . .anxious that you are getting it wrong and what the implications of what that will be, both ethically and legally. . .you want to please people, but sometimes it's not that easy to go down that route, sometimes you can't, you simply can't. . .and so you feel frustrated and helpless. (Tom, Doctor, Male)

Morally entwined emotions were thus a constituent part of identity conflict. They warned individuals not only about the emergence of the conflict, indicating dissonance and discomfort, but also during the conflict about the potential outcomes and actions stemming from choosing a value over the others. In this sense, by going beyond the sense-making mechanisms, they guide the enactment and the establishment of the self that the individual has opted for.

Healthcare Professionals' Responses to Identity Conflict

Our second research question unraveled how healthcare professionals responded behaviorally to the perception of identity conflict in ethically charged situations. As illustrated in **Figure 1**, the healthcare professionals reported a series of behavioral responses, ranging from searching and receiving peer support, to reflecting about and changing their practice, as well as positive psychological consequences of identity conflict on their identity.

Behavioral Responses to Identity Conflict

Seeking peer support was the first theme the participants described in response to what they did when they perceived a conflict. This was particularly interesting because healthcare professionals are often associated with the idea of autonomous and 'solo-person' jobs. A doctor in palliative care said:

> We do not work in isolation, it's not just me, about myself [. . .] so, if I felt there was something I just didn't feel right about, and maybe I was struggling with, I would go to my peers and sit down and ask 'can we reflect on this please?'. . .in my experience this is kind of the only way to approach dilemmas. . .to have a lot of different inputs, to come and talk about. . .[. . .] sometimes just identifying and voicing the conflict you are in can be really, really helpful for you and for everyone to know. (Birgit, Doctor, Female)

Similarly, this experience is shared by a nurse:

> "I think what I probably find the best part of dilemmas is recognizing that it's not a solo person job or responsibility. . .it is not down to me to solve, it's not down to me to find a solution, and it's very interesting to hear all the points of views of the other people in the team. . .and very advantageous to have someone else saying "hang on a minute, have you thought about that?" [. . .] and

when you evaluate it, you realize the benefits of being part of a team" (Miriam, Nurse, Female)

Hence, sharing personal struggles with the 'peer fraternity or sorority,' was a common practice that both the doctors and nurses pursued actively in order to find a solution to the dilemma or conflict they were experiencing especially since 'there aren't clear answers for a lot of the dilemmas we face, so you are very dependent on what the fraternity or sorority would do in a similar situation.' (Hannah, Doctor, Female).

The second theme manifests the way the participants responded to identity conflict through reflective practice. The goal of this practice, which was sometimes done as group reflection and was especially common among nurses, was to improve clinical practices 'with the idea of "would I have done anything differently?" and revaluate what you think is right or would do differently next time.' (Eva, Nurse, Female). This holds especially true for ethically charged events. According to this doctor, moral conflicts are cases in medicine that, by nature, lead healthcare professionals to reflect on and conduct an introspective analysis:

> You know, you go back on things when you've been affected, and those [conflicts] are certainly significant events, so are meant to affect you, one way or the other, probably not on the spot, so you probably think about what you have actually done, and ask 'have I done the right thing? Have I not done the right thing?'. . .you may doubt a bit, but then, you know, you reflect. . .and reflecting is probably the way, or I find it's my way of dealing with these events. (Will, Doctor, Male)

Echoing the same concept:

> I suppose that what you learn from being a nurse is following a kind of reflective practice [. . .] when I'm speaking to staff around death and dying, it [reflective practice] helps me to emphasize those learning experiences a bit more and it takes a lot of reflecting [. . .] so, when things are more challenging, and they might go wrong, you kind of reflect with your team and hopefully learn from it. (Erwin, Nurse, Male)

Hence, when the participants perceived conflicts or dilemmas they could rely on the help of others, their peers, with whom they could either discuss the struggle they were experiencing or reflect on it later on, to be prepared for similar, future cases. Lastly, the participants responded to identity conflict through more drastic actions, such as making changes in, or stopping, their practice. Although this theme was not frequent, we found that the cases in which it did happen illustrated a remarkable behavioral response to identity conflict perception. For instance, this nurse decided to withdraw temporarily from the nursing profession due to a strong conflict she could not cope with:

> The impact it [the conflict] had on me afterwards and the cost of it was difficult. . .I left nursing [. . .] that was the point when I thought 'I'm not ready yet, I need to get some life experience and do some other things and then come back to this'. . .and that's what I have done. (Lauren, Nurse, Female)

Similarly, a gynecology doctor explained how her conflicting values led her to stop doing social termination of pregnancy:

I have stopped doing social terminations of pregnancy because I found them too difficult…I found that I was struggling with it ethically and morally because, quite often, patients would come in and that would be their second or third termination […] and I just stopped because it felt wrong. (Claire, Doctor, Female)

Only a few participants opted for such a dramatic change as a result of experiencing identity conflict and throughout the interviews we found an answer to this. Healthcare professionals go through a long training that allows them to realize which specialty they feel more aligned with. This doctor explained clearly that healthcare professionals tend to choose the path that they know may cause them less conflict:

I guess, one of the reasons I would never be able to work in obs and gynae is because, I think, there would frequently be tensions in me because I believe most heartedly that termination is not ok…and it's not something I can condone, it's not something I could be involved in. (Jess, Doctor, Female)

However, since the differences between medical areas are numerous, some of them might not be detectable during training. Additionally, personal values can change over the course of one's life, and what was acceptable at a young age might become unacceptable with maturity and critical life events. For instance, the doctor who stopped doing social termination of pregnancy noted:

I was always able to do it by looking at it more medically rather than looking at it from a life point of view…but now I see it more as a life than a very early embryo, a bunch of cells […] I suppose earlier in my career, I probably thought 'oh, it's only a bunch of cells, it's not a life, it's not a baby, it's just an early embryo' […] I think the change started when I was trying to get pregnant and I had a miscarriage […] so now I can't do it anymore. (Claire, Doctor, Female)

Hence, the healthcare professionals tackled conflicts in their practice with a series of behavioral responses that could allow them to cope promptly or subsequently with such struggles. The participants also spoke unsolicitedly of the psychological consequences of the identity conflict. Since the insights they provided were of great interest to this study, we report in the following section our interpretation of the participants' psychological responses to the perception and experience of conflicting values and identities.

Psychological Consequences of Identity Conflict

The participants spoke about identity conflict as having positive psychological consequences on their self. These consequences were reached through a long process that unfolded over time, leading to a personal development of learning and gaining life experience. As noted by this nurse:

It [conflict] changed my practice in the sense that my career changed direction, but I don't think it affected it negatively […] I suppose, if there was any impact it was positive and that was good, I wouldn't change anything […] so, I would say that it has definitely had a positive impact on me. (Lauren, Nurse, Female)

Also, the fact that the participants could gain real life experience through facing personal conflicts was seen as beneficial for their clinical and medical practice:

Dealing with those kinds of conflicts has always, and will, put me in a better position next time…so, even if you don't get exactly the same situation, but similar situations, I will be able to manage that conflict […] a lot of it will always affect your future clinical practice…it adds to your experience, doesn't it? (Laura, Nurse, Female)

Strictly related to gaining life experience, the learnt outcomes equipped and enriched the healthcare professionals with knowledge that could then be applied to other future critical cases. Indeed, by taking the 'lesson learnt' on board and holding on to that experience for future circumstances, the participants acknowledged that:

Everything teaches us every day…we're all in a sort of learning journey and it might not be even something like "I've learnt this fact and this fact," sometimes it's more nuanced than that…it's just something in that kind of situation taught me something, even if it's not a fact. (Karen, Doctor, Female)

Hence, perceiving identity conflict seems to start a virtuous process of personal development and change, based on the accumulation of life experience and beneficial learning outcomes. Additionally, the experience of identity conflict stimulated the participants' sense of personal growth and increased maturity and self-awareness:

When you experience dilemmas, you change…inevitably…It just doesn't happen overnight and I think it's the same with any kind of conflict or struggle you face…you grow with your role, with your knowledge, with your experience…it's maturing really […] and also I think it's about feeling more comfortable in your own skin and in your own belief. (Maddy, Doctor, Female)

Overall, time played a pivotal role in allowing the participants to develop a positive perception of the conflicts they experienced thanks to the processes of learning and personal growth. These processes prompted a sense of gaining knowledge, confidence and maturity that the participants treasured and made use of to tackle ethically charged cases in their practice.

DISCUSSION

A Multilevel Model of Identity Conflict

The findings of our empirical analysis are depicted in **Figure 2**. Our results suggest that identity conflict can arise due to interpersonal micro processes, namely cognitive and emotional perspective taking and identification with the other. These micro processes can trigger latent, contrasting values and emotions to which individuals respond by actively seeking support from peers or through reflective practices, and rarely leaving or changing their profession. The overall experience of conflicting identity values has positive consequences on the participants, ranging from learning and gaining knowledge, to maturing and feeling personal growth. In the following two sections we explain how

FIGURE 2 | Illustration of findings.
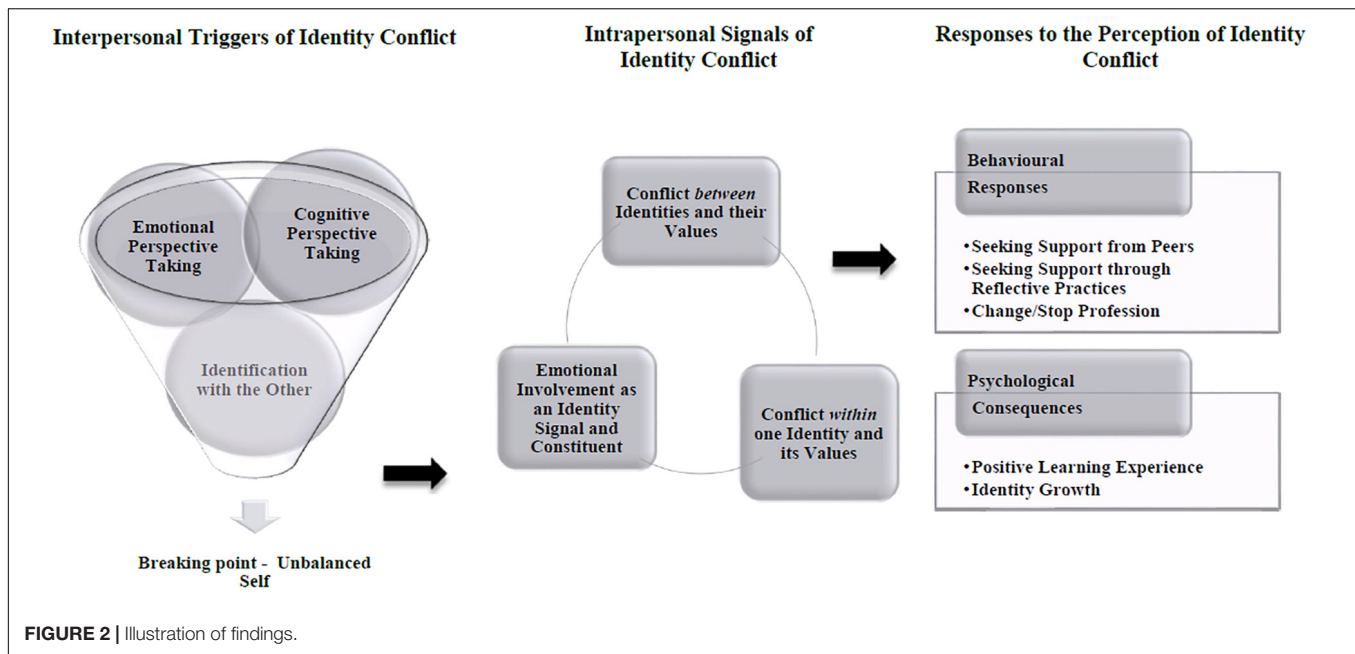
the findings relate to both our research questions and contribute to current literature, respectively.

Healthcare Professionals' Perception of Identity Conflict

In the first research question, we sought to respond to how identity conflict in interpersonal interactions is perceived and experienced at a deeper level in ethically charged situations. Building on a relational conceptualization of self, and consistent with the principle that our social relationships inform our self (Brewer and Gardner, 1996; Islam, 2020), the first contribution of this article to identity dynamics literature is the development and inclusion of interpersonal processes as potential triggers of identity conflict. Our findings show that identity conflict perception is strongly associated with cognitive and emotional perspective-taking processes, which affect the activation of professional and personal identities, adding to the inner notions of salience and centrality of more traditional identity theory approaches (Stryker and Serpe, 1982; Mitchell and Boyle, 2015). Hence, our study draws on, and merges, well-established intrapersonal dynamics with less explored interpersonal processes and unpacks identity conflict throughout its multilevel dimensions (Horton et al., 2014; Islam, 2020; Carminati and Gao Héliot, 2021). Identity construction has a strong relational component in professionals that makes them accountable to others and subject to various social controls (Ramarajan and Reid, 2020). Understanding their patient's perspective enables healthcare professionals to establish a strong cognitive and emotional connection with them (Calvard et al., 2021). However, such a connection, a vital principle of the healthcare professional-patient relationship (Diamond-Brown, 2016), can function as a double-edged sword and challenge the distinction between the identities

constituting their "selves" (Harding et al., 2014). Indeed, perspective taking initiates the third micro process identified herein, i.e., identification with the other. This process can activate shared and potentially less salient personal identities and values. In this sense, interpersonal relationships blur the boundaries between the self and the others (Sluss and Ashforth, 2007; Islam, 2020). Given the emotional and cognitive dimensions associated with perspective taking processes (Williams, 2012; Calvard et al., 2021) and identification with the other (Sluss and Ashforth, 2007), we believe that interpersonal interactions can give a meaningful explanation to identity conflict dynamics by representing one of the initial conditions generating those disharmonious feelings and values activated in the conflict.

Supported by virtue ethics insights and their focus on individuals' moral characters rather than actions (Uhlmann and Zhu, 2014; Uhlmann et al., 2015), our second contribution to recent strands of identity theories is an in-depth understanding of the perception of identity conflict dynamics that goes beyond a misalignment between identities (Ramarajan and Reid, 2013; Ramarajan, 2014) and includes a tension between the values constituting those identities. More specifically, we extend identity conflict literature by focusing on the multiplicity of the values and imperatives involved in identity conflict and how they can influence professionals' decision making. Research has shown how values, driving forces of identity formation, can spur individuals' self-expression, self-verification, consistency and authenticity (Wright et al., 2017). By considering identities as multifaceted and polyhydric constructs, rather than monolithic entities, we bring this forward to now include the role of multiple values interacting in identity conflict dynamics. This interaction can shape the degree of (in)congruence between individuals' multiple identities (Héliot et al., 2020), as well as influence professionals' judgments and subsequent actions

(Huhtala et al., 2020). Indeed, we find that identity conflict not only can happen between values belonging to different identities, but also between values that are associated with one, same identity, i.e., the participants' professional identity. This is because the same professional values have the potential of being interpreted differently (Wright et al., 2017) due to the presence of other personal and intrinsically moral values that are triggered by the interpersonal processes at stake. Thus, illuminated by the focus on values, our study offers a deeper understanding of the sources of intrapsychic conflicts that professionals may experience in ethically charged situations.

In this regard, some participants reported identity conflict due to related moral values associated with their professional identity. Nielsen (2016) underlined that moral agency issues are part of the work of professionals and practitioners since they need to choose continuously between different principles and rules at work. In this sense, individuals seek for practical wisdom to define their identities appropriately as moral agents (Huhtala et al., 2020). This is in line with recent research on phronetic identity (Bardon et al., 2017), which is a "narrative in which an individual describes him or herself as questing for the wisdom to make appropriate decisions in ambiguous and equivocal situations, driven by the desire to do what is (notionally) right and good" (Bardon et al., 2017, p. 958). Phronetic identity is always *in-fieri*, in the process of becoming, since the quest of the 'right' way of doing things is informed and driven by a strong rational and emotional attachment to people (Bardon et al., 2017; Ramarajan and Reid, 2020). The participants in our study establish a strong attachment with their patients. By showing that the conflict they experienced can be interpreted as the unfolding and becoming of their phronetic identity through their professional and personal values, we thus offer fresh insights into how professionals perceive the interplay between moral values, identity conflict and ethical decision making.

Lastly, we contribute to the literature on identity dynamics by unraveling how emotions can act as a warning signal of an emerging identity conflict and a plausible way out of it. Research so far has shown that emotions are involved in the experience of identity-threatening situations (Cascón-Pereira and Hallier, 2012; Croft et al., 2015; Winkler, 2018) and have an agentic role in identity meaning construction and development (Ahuja et al., 2019). Extending this further, our study shows that emotions are reciprocally interlaced with the cognitive work of sense-making and sense-giving through which individuals try to make sense of ambiguous or unexpected events (Heaphy, 2017; Caza et al., 2018). Indeed, participants' emotions can facilitate cognitive processes through their connection with values. Thus, through values, emotions are able to stir individuals to pursue the *right* course of action. Here, the emotions felt by participants are intrinsically of a moral nature since they motivate individuals to take action that could benefit others or the social order (Haidt, 2003; Huhtala et al., 2020). Hence, emotions function as a moral signal and a cue for individuals to act upon those identity values that were activated in the conflict. Building on studies reporting how felt emotions can influence individuals' interpretation and action orientation (Heaphy, 2017), we also see emotions as reflexive processes that can help individuals to look back to gain

that self-consistency they aim to achieve, but which is temporarily lost in the identity conflict. Thus, through reflexivity, individuals can better understand and manage their emotions ultimately enhancing their emotional intelligence (Stanley, 2021), which can foster better decision making, lower exhaustion and stress, as well as help in delivering high-standard quality of care (Martin et al., 2015; Szczygiel and Mikolajczak, 2018). Therefore, our findings show how skilled professionals attempt to calibrate the emotions involved in their experience of identity conflict, so as to engage in sense-making and sense-giving, and, subsequently, act morally following those identity values they deemed more appropriate in that situation.

Healthcare Professionals' Responses to Identity Conflict

Our second research question contributes to identity conflict literature by identifying some of the responses that individuals implement when experiencing conflicting identity values in ethically charged circumstances. Our findings thus extend current theoretical research on identity dynamics (see: Petriglieri, 2011; Ramarajan and Reid, 2013) by outlining unexplored behavioral responses and novel psychological outcomes as of identity conflict consequences following interpersonal interactions.

Firstly, even though the medical literature alludes to the healthcare profession as a job characterized by autonomy and independence (Hurst et al., 2005), our findings show that the participants rely greatly on their peers for support in challenging situations. Indeed, support stemming from expert peers, compared to managers or other authorities, is more likely to influence critical decisions (Mitchell and Boyle, 2015) and favor self-verification, needed to affirm one's identity (Stryker and Serpe, 1982; Tajfel and Turner, 1986). Additionally, research has shown that peers' help is critical in processing individuals' own emotions and developing empathic accounts (Heaphy, 2017; de Lange et al., 2020). The approval of the medical community also functions as a way whereby healthcare professionals can strengthen their values and try to solve potential identity conflict (Wright et al., 2017). Hence, seeking support from peers can help in coming to terms with the conflicting values and emotions causing struggles and dilemmas in professionals. We thus suggest that peer support, as an element of the context that can influence intrapsychic processes (Islam, 2020), can be considered as a buffering condition ameliorating the negative outcomes ascertained by the literature in relation to identity conflict.

Secondly, our findings highlight the importance of undertaking reflective practices for healthcare professionals. Individuals in complex ever-changing organizations are constantly involved in identity conflict since they deal with critical challenges and the existential worries that accompany them (Caza et al., 2018). Making a purposive effort to devote time and thoughts to reflect on previous challenging experiences can help to improve decision-making skills, thanks to a virtuous learning cycle (de Graaf, 2019). Reflexivity is thus produced through processes of experiential learning whereby values can be maintained by reflective professionals and practitioners

(Wright et al., 2017). Hence, responses to identity conflict can also be developmental (Ramarajan and Reid, 2020), since the voluntary enactment of this 'reflection-on-action' can facilitate and stimulate learning in individuals by developing abilities to draw analogies and comparisons between different critical cases (de Graaf, 2019). Such abilities may then lead individuals to learn about themselves and think more flexibly about their personal struggles (Ramarajan and Reid, 2020), thus favoring the resolution of the identity conflict experienced at the workplace. Therefore, undertaking reflective practices can help healthcare professionals to lessen the discomfort caused by conflicting values.

Our study also offers empirical support for a recent perspective on identity conflict that underlines its positive influence on individuals in the long run and its relationship with identity change (Horton et al., 2014). Events can foster momentum in individual's trajectory, nudge its direction and serve as tipping points for radical changes (Ashforth and Schinoff, 2016). Traditionally, empirical identity conflict research has been mostly cross-sectional and has associated the experience of identity conflict with negative psychological outcomes (Brook et al., 2008; Karelaia and Guillén, 2014). Nonetheless, our findings highlight that positive identity growth is not only perceived as a long-run consequence of identity conflict, but also as a sense of maturity and confidence built on facing such a conflict. Recent research conducted in the NHS on the influence of religion in workplaces has indeed underlined that in some cases, identity conflict can positively contribute to personal thriving (Héliot, 2022). Hence, delineating this growth allows us to add a novel temporal dimension to individuals' identity conflict, able to address that the way individuals react to identity conflict is grounded in their past and present experiences and can positively shape their future personal self-perception and self-development.

PRACTICAL IMPLICATIONS

Our study reveals that identity conflict in ethically charged situations is not only triggered by intrapersonal dynamics but also interpersonal interactions. Viewing identity conflict through this multilevel dimension allows us to bring fresh insights into understanding how people can cope promptly with identity conflict. Our study encourages policy makers and HR to offer prevention plans and create a psychologically safe work environment (Héliot et al., 2020). It also spurs professionals to be more aware and mindful of the values and the emotions experienced in ethically charged situations. Since both values and emotions may have a moral side, they could trigger and signal identity conflict in interpersonal interactions and might pose a threat to professionals' psychological and behavioral outcomes during their daily practices. Those professionals who have high chances of experiencing identity conflict must discover who they want to be and how they want to act in order to establish not only an internal consistency, but also a genuine connection with their patients and be effective in their practice. By doing so, they would also be able to pursue a *right* course of action and be true to themselves.

LIMITATIONS AND FUTURE RESEARCH

Like all research, our work has limitations that need to be noted. Firstly, our study was only conducted across English NHS Trusts. Although this healthcare context provides an optimal setting for investigating with transparency the processes we were interested in, its peculiarity, country specificity, ethnicity and cultural background as well as extreme nature may limit the generalizability of our findings. Therefore, we encourage exploring other ethically charged cases that could stimulate identity conflict in different professional contexts. Similarly, although healthcare can be considered as a prototypical profession (Strauss, 1975; Pratt et al., 2006), studying other professionals, e.g., lawyers, would be helpful to assess whether the processes and dynamics found herein could also occur there. Secondly, at the time of the data collection, COVID-19 pandemic had not stricken, yet. Since we acknowledge that some results, such as peer social support, could be different had the research been conducted during or after the pandemic, we call for future studies to explore how our findings could be now different due to the pandemic. Lastly, considering that people bring in and leave out different levels of depths of themselves at their workplaces, we recommend exploring a complementary phenomenon of identity conflict, namely identity enhancement (Ramarajan et al., 2017), to unravel how multiple identities and values can enhance each other and how individuals manage the delicate balance with identity conflict.

CONCLUSION

Due to the complexity and diversity of today's society and organizations, professionals are more exposed to face identity conflict in their workplaces. In this article, we proposed a multilevel model of identity conflict by exploring its interpersonal and intrapsychic dynamics, together with its behavioral and psychological consequences on individuals. Illuminated by the critical case of healthcare professionals in ethically charged situations, such multilevel exploration allowed us to grasp the fine equilibrium between the self and the surrounding environment. In so doing, we were also able to unravel how values and emotions are interlinked to identity conflict, as well as how peer support and identity growth represent crucial responses to identity conflict in ethically charged circumstances. Since we believe that similar identity conflict dynamics can occur in several other professions and organizational contexts, we call for quantitative research to further investigate the processes and the mechanisms suggested in this model in professionals facing ethically charged situations.

DATA AVAILABILITY STATEMENT

The datasets presented in this article are not readily available because of the sensitive topics discussed and the reference to

healthcare organizations. Requests to access the datasets should be directed to LC, l.carminati@utwente.nl.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by University of Surrey Ethics Committee. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

Both authors listed have made a substantial, direct, and intellectual contribution to the work, and approved it for publication.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.813835/full#supplementary-material

REFERENCES

Abbasinia, M., Ahmadi, F., and Kazemnejad, A. (2020). Patient advocacy in nursing: A concept analysis. *Nurs. Eth.* 27, 141–151. doi: 10.1177/0969733019832950

Ahuja, S., Heizmann, H., and Clegg, S. (2019). Emotions and identity work: Emotions as discursive resources in the constitution of junior professionals' identities. *Hum. Relat.* 72, 988–1009. doi: 10.1177/0018726718785719

Alvesson, M., Ashcraft, K., and Thomas, R. (2008). Identity matters: Reflections on the construction of identity scholarship in organization studies. *Organization* 15, 5–28. doi: 10.1177/1350508407084426

Ashforth, B. E., and Schinoff, B. S. (2016). Identity under construction: How individuals come to define themselves in organizations. *Annu. Rev. Organ. Psych.* 3, 111–137. doi: 10.1146/annurev-orgpsych-041015-062322

Bardon, T., Brown, A. D., and Pezé, S. (2017). Identity regulation, identity work and phronesis. *Hum. Relat.* 70, 940–965. doi: 10.1177/0018726716680724

Birchley, G. (2012). A clear case for conscience in healthcare practice. *J. Med. Eth.* 38, 13–17. doi: 10.1136/jme.2011.043653

Birchley, G. (2021). The theorisation of 'best interests' in bioethical accounts of decision-making. *BMC Med. Eth.* 22:1–18. doi: 10.1186/s12910-021-00636-0

Borgstrom, E., Cohn, S., and Barclay, S. (2010). Medical professionalism: Conflicting values for tomorrow's doctors. *J. Gen. Intern. Med.* 25, 1330–1336. doi: 10.1007/s11606-010-1485-8

Brewer, M. B., and Gardner, W. (1996). Who is this". *We*"? Levels. Collect. Identity Self Representat. J. Pers. Soc. Psychol. 71:83. doi: 10.1037/0022-3514.71.1.83

Brook, A. T., Garcia, J., and Fleming, M. A. (2008). The effects of multiple identities on psychological well-being. *Pers. Soc. Psychol. B.* 34, 1588–1600. doi: 10.1177/0146167208324629

Brown, A. D. (2017). Identity work and organizational identification. *Int. J. Manage. Rev.* 19, 296–317. doi: 10.1111/ijmr.12152

Calvard, T., Cherlin, E., Brewster, A., and Curry, L. (2021). Building Perspective-Taking as an Organizational Capability: A Change Intervention in a Health Care Setting. *J. Manage. Inquir.* 1–15. doi: 10.1177/10564926211039014

Carminati, L., and Gao Héliot, Y. (2021). Multilevel dynamics of moral identity conflict: professional and personal values in ethically-charged situations. *Ethics & Behav* 1–18. doi: 10.1080/10508422.2021.2004891

Cascón-Pereira, R., and Hallier, J. (2012). Getting that certain feeling: the role of emotions in the meaning, construction and enactment of doctor managers' identities. *Brit. J. Manage.* 23, 130–144. doi: 10.1111/j.1467-8551.2011.00748.x

Caza, B. B., Vough, H., and Puranik, H. (2018). Identity work in organizations and occupations: Definitions, theories, and pathways forward. *J. Organ. Behav.* 39, 889–910. doi: 10.1002/job.2318

Chirico, F., Nucera, G., and Magnavita, N. (2021). Protecting the mental health of healthcare workers during the COVID-19 emergency. *B. J. Psych. Int.* 18, 1–2. doi: 10.1192/bji.2020.39

Croft, C., Currie, G., and Lockett, A. (2015). The impact of emotionally important social identities on the construction of a managerial leader identity: a challenge for nurses in the English National Health Service. *Organ. Stud.* 36, 113–131. doi: 10.1177/0170840614556915

de Graaf, F. J. (2019). Ethics and behavioural theory: How do professionals assess their mental models? *J. Bus. Ethics* 157, 933–947. doi: 10.1007/s10551-018-3955-6

de Lange, A. H., Pak, K., Osagie, E., van Dam, K., Christensen, M., Furunes, T., et al. (2020). An open time perspective and social support to sustain in healthcare work: results of a two-wave complete panel study. *Front. Psychol.* 11:1308. doi: 10.3389/fpsyg.2020.01308

Diamond-Brown, L. (2016). The doctor-patient relationship as a toolkit for uncertain clinical decisions. *Soc. Sci. Med.* 159, 108–115. doi: 10.1016/j.socscimed.2016.05.002

Eisenhardt, K. M. (1989). Building theories from case study research. *Acad. Manage. Rev.* 14, 532–550. doi: 10.4135/9781473915480.n52

Frankena, W. (1973). *Ethics*. 2nd edition. New Jersey: Prentice-Hall, Inc, doi: 10.1086/292670

Genuis, S. J., and Lipp, C. (2013). Ethical diversity and the role of conscience in clinical medicine. *Int. J. Fam. Med.* 1, 1–19. doi: 10.1155/2013/587541

Haidt, J. (2003). "The moral emotions," in *Handbook of Affective Sciences*, eds R. J. Davidson, K. R. Scherer, and H. H. Goldsmith (Oxford, U.K: Oxford University Press), 852–870.

Halligan, A. (2008). The importance of values in healthcare. *J. R. Soc. Med.* 101, 480–481. doi: 10.1258/jrsm.08k019

Harding, N., Lee, H., and Ford, J. (2014). Who is 'the middle manager'? *Hum. Relat.* 67, 1213–1237. doi: 10.1177/0018726713516654

Heaphy, E. D. (2017). "Dancing on hot coals": How emotion work facilitates collective sensemaking. *Acad. Manage. J.* 60, 642–670. doi: 10.5465/amj.2014.0101

Héliot, Y. F., Gleibs, I. H., Coyle, A., Rousseau, D. M., and Rojon, C. (2020). Religious identity in the workplace: A systematic review, research agenda, and practical implications. *Hum. Resour. Manage.* 59, 153–173. doi: 10.1002/hrm.21983

Héliot, Y. F. G. (2022). *'Influencing & Supporting Religious Identity in the NHS through Faith Competency'*. Guildford: University of Surrey.

Horton, K. E., Bayerl, P. S., and Jacobs, G. (2014). Identity conflicts at work: An integrative framework. *J. Organ. Behav.* 35, 6–22. doi: 10.1002/job.1893

Huhtala, M., Fadjukoff, P., and Kroger, J. (2020).). Managers as moral leaders: Moral identity processes in the context of work. *J. Bus. Ethics* 172, 639–652. doi: 10.1007/s10551-020-04500-w

Hurst, S. A., Hull, S. C., DuVal, G., and Danis, M. (2005). How physicians face ethical difficulties: a qualitative analysis. *J. Med. Ethics* 31, 7–14. doi: 10.1136/jme.2003.005835

Hurst, S. A., Perrier, A., Pegoraro, R., Reiter-Theil, S., Forde, R., Slowther, A. M., et al. (2007). Ethical difficulties in clinical practice: Experiences of European doctors. *J. Med. Ethics* 33, 51–57. doi: 10.1136/jme.2005.014266

Islam, G. (2020). Psychology and business ethics: A multi-level research agenda. *J. Bus. Ethics*. 165, 1–13. doi: 10.1007/s10551-019-04107-w

Kälvemark, S., Höglund, A. T., Hansson, M. G., Westerholm, P., and Arnetz, B. (2004). Living with conflicts-ethical dilemmas and moral distress in the health care system. *Soc. Sci. Med.* 58, 1075–1084. doi: 10.1016/s0277-9536(03)00279-x

Karelaia, N., and Guillén, L. (2014). Me, a woman and a leader: Positive social identity and identity conflict. *Organ. Behav. Hum. Dec.* 125, 204–219. doi: 10.1016/j.obhdp.2014.08.002

Kidder, R. M. (1995). *How Good People Make Tough Choices*. New York: Morrow.

Kohlberg, L. (1969). *Stage and sequence*. Handbook of Socialization Theory and Research. New York: McGraw Hill.

Kreiner, G. E., Hollensbe, E. C., and Sheep, M. L. (2006). Where is the "Me" among the "We"?: Identity work and the search for optimal balance. *Acad. Manage. J.* 49, 1031–1057. doi: 10.5465/amj.2006.22798186

Macdonald, K. M. (1995). *The Sociology of the Professions*. Thousand oaks: SAGE Publications.

Martin, E. B., Mazzola, N. M., Brandano, J., Luff, D., Zurakowski, D., and Meyer, E. C. (2015). Clinicians' recognition and management of emotions during difficult healthcare conversations. *Patient Edu. Couns.* 98, 1248–1254. doi: 10.1016/j.pec.2015.07.031

Miles, M. B., and Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded SourceBook (2nd ed.)*. Thousand Oaks, CA: Sage, doi: 10.2307/1163741

Mitchell, R., and Boyle, B. (2015). Professional diversity, identity salience and team innovation: The moderating role of openmindedness norms. *J. Organ. Behav.* 36, 873–894. doi: 10.1002/job.2009

Nielsen, R. P. (2016). Action research as an ethics praxis method. *J. Bus. Ethics*, 135, 419–428. doi: 10.1007/s10551-014-2482-3

Petriglieri, J. L. (2011). Under threat: Responses to and the consequences of threats to individuals' identities. *Aca. Manage. Rev.* 36, 641–662. doi: 10.5465/amr.2011.65554645

Pratt, M. G., Rockmann, K. W., and Kaufmann, J. B. (2006). Constructing professional identity: The role of work and identity learning cycles in the customization of identity among medical residents. *Aca. Manage. J.* 49, 235–262. doi: 10.5465/amj.2006.20786060

Ramarajan, L. (2014). Past, present and future research on multiple identities: Toward an intrapersonal network approach. *Aca. Manage. Ann.* 8, 589–659. doi: 10.1080/19416520.2014.912379

Ramarajan, L., and Reid, E. (2013). Shattering the myth of separate worlds: Negotiating non-work identities at work. *Aca. Manage. Rev.* 38, 621–644. doi: 10.5465/amr.2011.0314

Ramarajan, L., and Reid, E. (2020). Relational reconciliation: Socializing others across demographic differences. *Aca. Manage. J.* 63, 356–385. doi: 10.5465/amj.2017.0506

Ramarajan, L., Rothbard, N. P., and Wilk, S. L. (2017). Discordant vs. harmonious selves: The effects of identity conflict and enhancement on sales performance in employee–customer interactions. *Aca. Manage. J.* 60, 2208–2238. doi: 10.5465/amj.2014.1142

Rietjens, J. A., Deschepper, R., Pasman, R., and Deliens, L. (2012). Medical end-of-life decisions: Does its use differ in vulnerable patient groups? A systematic review and meta-analysis. *Soc. Sci. Med.* 74, 1282.b–1287.b. doi: 10.1016/j.socscimed.2011.12.046

Ruitenberg, C. W. (2016). The overlapping spheres of medical professionalism and medical ethics: A conceptual inquiry. *Ethics Edu.* 11, 79–90. doi: 10.4324/9781315121352-7

Schwartz, S. H. (2016). "Basic individual values: Sources and consequences," in *Handbook of Value*, eds T. Brosch, D. Sander, F. Clément, J. A. Deonna, E.

Fehr, and P. Vuilleumier (Oxford: Oxford University Press), 63–84. doi: 10.1093/acprof:oso/9780198716600.003.0004

Segers, C. (2020). Psychological resilience, burnout syndrome, and stress-related psychiatric disorders among healthcare professionals during the COVID-19 crisis. *Psychosoc. Iss. Hum. Resour. Manage.* 8, 7–12. doi: 10.22381/pihrm8120201

Sluss, D. M., and Ashforth, B. E. (2007). Relational identity and identification: Defining ourselves through work relationships. *Aca. Manage. Rev.* 32, 9–32. doi: 10.5465/amr.2007.23463672

Stanley, S. (2021). Professional competencies in social work students: emotional intelligence, reflective ability and empathy-a comparative and longitudinal analysis. *Soc. Work Edu.* 40, 827–842. doi: 10.1080/02615479.2020.1724933

Strauss, A., and Corbin, J. (1990). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. London: Sage, doi: 10.4135/9781452230153

Strauss, A. L. (1975). *Professions, Work, and Careers*. Piscataway: Transaction Publishers.

Stryker, S., and Serpe, R. T. (1982). "Commitment, identity salience, and role behavior: Theory and research example," in *Personality, Roles, and Social Behavior*, eds W. Ickes and E. S. Knowles (Netherlands: Springer), 199–218. doi: 10.1007/978-1-4613-9469-3_7

Suddaby, R. (2006). From the editors: What grounded theory is not. *Aca. Manage. J.* 49, 633–642. doi: 10.5465/amj.2006.22083020

Szczygiel, D. D., and Mikolajczak, M. (2018). Emotional intelligence buffers the effects of negative emotions on job burnout in nursing. *Front. Psychol.* 9:2649. doi: 10.3389/fpsyg.2018.02649

Tajfel, H. C., and Turner, J. C. (1986). "The social identity theory of intergroup behavior," in *Psych Intergr Relat, vol. 2*, eds S. Worchel and W. G. Austin (Chicago: Nelson-Hall), 7–24. doi: 10.4324/9780203505984-16

Uhlmann, E. L., Pizarro, D. A., and Diermeier, D. (2015). A person-centered approach to moral judgment. *Pers. Psychol. Sci.* 10, 72–81. doi: 10.1177/1745691614556679

Uhlmann, E. L., and Zhu, L. (2014). Acts, persons, and intuitions: Person-centered cues and gut reactions to harmless transgressions. *Soc. Psychol. Pers. Sci.* 5, 279–285. doi: 10.1177/1948550613497238

Williams, M. (2012). "Perspective taking: Building positive interpersonal connections and trustworthiness one interaction at a time," in *Oxford Handbook of Positive Organizational Scholarship*, eds K. Cameron and G. Spreitzer (Oxford: Oxford University Press), 1–18. doi: 10.1093/acprof:oso/9780199756087.003.0009

Winkler, I. (2018). Identity work and emotions: A review. *Int. J. Manage. Rev.* 20, 120–133. doi: 10.1111/ijmr.12119

Wright, A. L., Zammuto, R. F., and Liesch, P. W. (2017). Maintaining the values of a profession: Institutional work and moral emotions in the emergency department. *Aca. Manage. J.* 60, 200–237. doi: 10.5465/amj.2013.0870

Status Competition and Implicit Coordination: Based on the Role of Knowledge Sharing and Psychological Safety

Jiuling Xiao[1], Yushan Xue[1], Yichen Peng[2]* and Jiankang Wang[3]

[1]School of Business, Nanjing Audit University, Nanjing, China, [2]School of Business Administration, Nanjing University of Finance & Economics, Nanjing, China, [3]School of Public Administration, Nanjing Audit University, Nanjing, China

Implicit coordination is an important research topic in the field of social cognition. Previous studies have studied implicit coordination behavior from the perspective of team mental model but ignored the internal mechanism of individual status competition motivation on implicit coordination behavior. Based on the differences of status competition motivation, the individual status competition motivation is divided into prestige-type and dominant-type. With knowledge sharing as the mediating variable and psychological safety as the moderating variable, this research constructed a process model of the influence of status competition motivation on implicit coordination behavior. The empirical study was carried out with a sample of 367 employees of 44 enterprises. The research results show the following findings: (1) Status competition has a differentiated impact on implicit coordination. Prestige-type status competition has a significant positive impact on implicit coordination behavior, while dominant-type status competition has a significant negative impact on implicit coordination behavior. (2) Knowledge sharing plays a mediating role between status competition (prestige-type status competition and dominant-type status competition) and implicit coordination. (3) Psychological safety positively moderates the relationship between prestige-type status competition, dominant-type status competition, and knowledge sharing. The research results provide a new perspective for the field of implicit coordination; reveal the mechanism of status competition motivation in implicit coordination, which is of great significance to the practice of enterprise team management and human resource management.

Keywords: implicit coordination, dominant-type status competition, prestige-type status competition, knowledge sharing, psychological safety

INTRODUCTION

Many enterprise coordination practices show that in a complex, dynamic, and uncertain environment, when employees are faced with high pressure and high load tasks, they will often adjust the coordination mode. Employees tend to change the explicit coordination to the implicit coordination, to reduce the process losses, improve coordination efficiency, and

achieve task objectives (Stout et al., 1999; Colman and Gold, 2018; Stefanini et al., 2020). According to the theory of organizational coordination, coordination is the act of working together harmoniously by the employees, and the act of managing interdependencies between activities performed to achieve a goal (Malone and Crowston, 1992). According to the different coordination modes, it can be divided into explicit coordination and implicit coordination (Rico et al., 2008; Chang et al., 2017). Explicit coordination refers to visible and external coordination patterns under regulations or through interventions by administrators, including mutual communication, direct monitoring, standard operation procedures, or behavioral regulation plans, rules, and objectives (Blickensderfer et al., 2010; Fisher et al., 2012). On the contrary, implicit coordination refers to adjustment behavior driven by deep cognition, that is, the adjustment by team members of their behavioral model according to their anticipated tasks and other team members' needs (Chang et al., 2017; Rico et al., 2019).

Implicit coordination and explicit coordination are two very important forms of coordination in an enterprise. Explicit coordination mainly focuses on the use of task organization mechanisms, such as work plans, meetings, and operation manuals, as well as communication mechanisms, such as oral, written, formal, and informal (Espinosa et al., 2004). Implicit coordination is an adjustment behavior driven by deep cognition, which is a behavior spontaneously generated by employees. Explicit coordination is explicit, conscious, and perceptible, while implicit coordination is spontaneous, unconscious, and imperceptible (Cannon-Bowers et al., 1993; Wittenbaum et al., 1996; Espinosa et al., 2004).

We believe that previous studies generally focus on explicit coordination and emphasize the important role of explicit coordination on operational performance, but this only provides a relatively static picture of operation. While their importance is indisputable, explicit coordination mechanisms reveal only one aspect of coordination. Scholars generally believe that "good coordination is almost imperceptible," that is, implicit coordination is more natural than explicit coordination, and can provide stronger coordination and higher productivity for enterprises. Through the study of cognitive field, we believe that the concept of coordination expands the understanding of the coordination contribution of enterprise employees in the interaction process. Therefore, how to promote the implicit coordination behavior among enterprise employees, lower coordination costs, and process losses, and improve coordination effectiveness has become the focus of modern enterprises (Kachra and White, 2008; Uitdewilligen et al., 2018).

In recent years, organizational research scholars have introduced status research from the field of sociology to the field of management, which is used to explain related management phenomena and problems within and between organizations (Magee and Galinsky, 2008; Piazza and Castellucci, 2014). In contrast to sociologists who apply the concept of status to a wide range of social situations, organizational and management researchers apply it to micro situations, such as competitive environments, markets, organizations, or teams. They tend to

seek the positive outcomes that status produces in the field of management (Lee and Jeung, 2018; Lam, 2021).

Since enterprise production is a kind of group behavior, the knowledge mastered by individual employees needs to interact with the knowledge of other employees to produce value. Enterprise employees have different divisions of labor, majors, and knowledge backgrounds. By connecting employees of different majors with corresponding jobs, they can not only play their respective roles, but also promote their own knowledge growth through specialization. However, the cooperation of employees with different backgrounds and professions will bring about conflicts in cognition, relationship, procedures, etc., especially status competition, which is one of the important factors affecting employee cooperation, communication, and coordination.

Status is a very important attribute of an individual in an enterprise (Berger et al., 1972; Anderson et al., 2001; Magee and Galinsky, 2008). Status differences in an enterprise will affect the degree of respect, access to resources, influence on others, and ultimately affect the behavior motivation of individuals. For example, when employees think their status is low, in the need of self-esteem and self-actualization, they will expect to obtain higher status through status-competitive behavior (Berger et al., 1980; Gandz and Murray, 1980; Anderson et al., 2008; Cheng et al., 2013).

Status competition is the effort of employees to change their relative status in the enterprise. Based on different competitive motivations, it can be divided into the prestige-type status competition based on prosocial motivation and the dominant-type status competition based on self-interest motivation (Bendersky and Hays, 2012). Enterprise management practice finds that the motivation of status competition will affect knowledge sharing, experience exchange, and information transfer among employees, especially making the implicit coordination behavior increasingly complicated (Banks et al., 2016; Lee et al., 2017).

When studying the mechanism of employees' status competition motivation on implicit coordination, knowledge sharing is one of the important perspectives. Cheng et al. (2013) show that prestige-type status competition motivation and dominant-type status competition motivation are positive predictors of an individuals' interpersonal liking or rejection in the organization. According to social classification theory, in the process of gaining status, employees will socially classify certain characteristics and behaviors of individuals with different motivations and show inconsistent social interaction patterns. Individuals with prestige-type motivation usually show generous and friendly behaviors and will get more praise and preference in interpersonal interactions. To reward the recognition and respect of other employees, they will increase knowledge sharing behaviors. Individuals with dominant-type motivation rarely show interpersonal sensitivity or sympathy for other employees of the enterprise and are easily disgusted and rejected by other employees, thereby reducing their own knowledge sharing behaviors.

It is clear from the above analysis that status differences and status demands can cause individuals to develop

prestige-type and dominant-type status competition, and make individuals receive different treatment in the enterprise, such as welcome or exclusion, which affects their decision making and behavioral choices for sharing or hiding knowledge. According to motivated information processing model, individual behavior is not only influenced by their needs and motivations but may also be influenced by the weighting of certain situational factors. Psychological safety is a common feeling of mutual support among employees, which can prompt individuals to change from self-orientation to collective orientation and make more beneficial altruistic behaviors. When employees feel safe, they will have positive learning behavior or innovation behavior (He et al., 2020; Wu and Chen, 2021). Psychological safety will affect employees' knowledge sharing behavior. When employees perceive a high sense of psychological safety, to consolidate or improve their status in the enterprise, they are more inclined to share knowledge or information, are willing to form better interpersonal relationships and common cognition, and will produce more positive implicit coordination behaviors. Conversely, when the level of psychological safety is low, employees tend to be cautious and conservative, like to hide their knowledge and use it as a political resource to protect their status. Based on this, this research introduces psychological safety as a moderator variable to explore the mechanism of individual competitive motivation, knowledge sharing, and implicit coordination behavior.

In conclusion, status competition motivation often becomes an important factor to stimulate employees' implicit coordination behavior. Employees with different status competition motivation have different cognition of knowledge sharing, which will have substantial influence on implicit coordination behavior. Therefore, this paper will refer to the logical framework of coordination theory, incorporate the concept of status competition into the field of organizational coordination, systematically study the relationship between status competition motivation and implicit coordination behavior, and test the mediating role of knowledge sharing and the moderating role of psychological safety. The research results can enrich theoretical research in the field of organizational coordination and provide reference for enterprise team management and human resources management in the field of practice.

THEORETICAL BASIS AND RESEARCH HYPOTHESIS

According to cognitive theory, motivation is an intrinsic drive that determines behavior. The production of employees' implicit coordination behavior also has its intrinsic motivation, among which information (knowledge) sharing is one of the main incentives. The motivated information processing model believes that individual decision making is an information processing process (Hinsz et al., 1997). What information is shared, and the quality of information sharing and integration is influenced by two distinct motivations, epistemic motivation, and social motivation. Epistemic motivation is employees' willingness to make the effort to understand something comprehensively and

accurately; social motivation is an individual's preference for distributing outcomes among themselves and others (De Dreu et al., 2006). Epistemic motivation determines the depth of information processing, while social motivation determines the direction of information processing. The two motivations work together and ultimately determine the quality of decision making (De Dreu et al., 2008).

According to this theory, the internal motivation of employees will affect their behavior; especially the social motivation of employees determines the way and path of information processing to some extent. When employees have prosocial motivation (prestige-type status competition motivation), they are more willing to think about problems and obtain information (knowledge) from the perspective of others, resulting in more willingness to cooperate and share information. Under the influence of prosocial motivation, employees will produce more positive role behaviors (including in-role behavior and out-role behavior), tend to consider themselves and others as a whole to consider joint benefits, and regard cooperation or win-win as the key. When employees have self-interested motivation (dominant-type status competition motivation), they tend to pursue profit maximization, ignore, or even belittle the achievements of others, and regard gaining their own rights as the key to competition. Relevant studies have shown that employees' intrinsic motivation has a good predictive effect on emotional experience, creative behavior, cooperation persistence, job satisfaction, etc. (Grant and Berry, 2011; Cortina, 2017). Individuals with prosocial motivations can redouble their efforts to maximize joint benefits based on mutual trust. Only on the basis of information processing and knowledge sharing can individuals obtain more comprehensive resources and make more reasonable judgments and decisions, which provide an important foundation for employees to generate implicit coordination behaviors. That is, knowledge sharing, to a certain extent, can determine the communication among employees, which is conducive to promoting the integration of different knowledge and laying a foundation for employees to predict or adjust their behavior.

In addition, since implicit coordination is an effective prediction of employees' behavior based on each other, it is built on the basis that employees share information or knowledge related to tasks or work with each other and form common cognition. That is, when employees form a consistent cognition of tasks or work goals through knowledge sharing, they can effectively predict the actions and needs of other employees (Rico et al., 2008; Butchibabu et al., 2016). Therefore, implicit coordination requires employees to share more knowledge; sufficient knowledge sharing is the precondition for the formation of implicit coordination. However, due to the different motivation of status competition among employees, there will be differences in knowledge sharing, including sharing willingness, sharing content, sharing methods, and approaches (Estrada et al., 2016). Specifically, employees with prestige-type status competition motivation will take the initiative to help others, share key knowledge, and spread core information to gain respect, which is conducive to the formation of a harmonious working atmosphere in the enterprise and the establishment of mutual

trust (Flynn et al., 2006; Cheng et al., 2013). Employees with dominant-type status competition motivation are reluctant to share their knowledge. Due to the difficulty in measuring the value of shared knowledge, the uncertainty of knowledge contribution, and the fear of free-riding effect, employees are reluctant to make efforts, which will lower the intrinsic work motivation and reduce mutual help behavior.

Status Competition and Implicit Coordination

The obstacle to the implicit coordination of employees is that the coordination contribution cannot be clearly defined, and compensation incentives cannot explicitly compensate employees for the enterprise benefits brought about by implicit coordination (Willer, 2009). However, by providing status resources (such as management ranks), the relationship between status competition behavior and implicit coordination can be established to solve the marginal contribution problem in achieving enterprise task goals.

When individuals realize that their status is low, out of the needs of self-esteem and self-value realization, they will improve their own status level through competitive behavior, that is, the adjustment of status can motivate employees to increase work engagement and create higher personal performance (Nahapiet and Ghoshal, 1998; Kleinbaum and Stuart, 2014). However, the different motivations of individuals determine that they adopt different ways of status competition. Prestige-type status competitors have prosocial motivations and tend to show behaviors such as proactively helping others and proactively sharing information, while dominant-type status competitors have self-interest motivations and are prone to unethical behaviors that harm the interests of others. The former considers status competition to achieve task goals, while the latter considers status competition to achieve individual ends (Loch et al., 2000; Huberman et al., 2004). Therefore, employees with prestige-type status competition motivation will actively anticipate the needs of other employees and adjust their behaviors to gain their own reputation in the enterprise, thereby establishing and consolidating their own status. While employees with dominant-type status competition, motivation prefers not to participate in or even hinder the coordination of others in order to preserve their own resource value and prevent the loss of status.

According to the coordination theory, when dealing with the interdependence of employees, the employees of the prestige-type status competition motivation will be willing to help others and share key information due to their prosocial motivation. It is easy to form a harmonious working atmosphere in the enterprise, and employees have a more trusting relationship and a sense of cooperation and collaboration. When employees are faced with high-risk work tasks, they tend to share risks, resulting in closer interdependence, which is conducive to the generation of implicit coordination behavior (Rico et al., 2019; Espinosa et al., 2021).

Therefore, prestige-type status competition motivation will promote the generation of employees' implicit coordination behavior. On the contrary, employees with dominant-type status competition motivation are prone to unethical behaviors due to their self-interested motivations and are prone to mutual suppression, malicious exclusion, marginalization, and mutual shirk, resulting in tense interpersonal relationships and fierce competition atmosphere. When employees are faced with high-risk work tasks, they will choose to avoid responsibilities and risks, destroy the interdependence among employees, make management more difficult, and it is difficult to form an effective implicit coordination behavior (Lowry et al., 2013).

Therefore, employees who engage in dominant-type status competition motivation may hinder the coordination behaviors of others or be unwilling to participate in them, ultimately hindering the formation of implicit coordination. However, employees who adopt prestige-type status competition motivation may provide more communication behaviors, which will have a positive impact on implicit coordination. This paper proposes the following hypotheses:

H1a: Prestige-type status competition positively affects implicit coordination.

H1b: Dominant-type status competition negatively affects implicit coordination.

The Mediating Role of Knowledge Sharing

The role of knowledge sharing on implicit coordination is reflected in the following aspects. Knowledge sharing helps employees to obtain key information about task work and facilitates the formation of common cognition (Gagné et al., 2019). Knowledge sharing can change employees' attitudes, perspectives, or perceptions about the path to achieving task goals (Shteynberg and Galinsky, 2011). Knowledge sharing helps to improve mutual understanding among employees and better promote interdependence (Huber and Lewis, 2010; Randolph-seng and Norris, 2011).

The successful experience of many enterprises shows that employees must reach a common understanding in performing tasks and coordinating behaviors, which can be better positioned to anticipate the needs and actions of other employees, thereby increasing work performance (Cannon-Bowers et al., 1993). Knowledge sharing helps employees to develop distributed expertise, form shared and accurate common cognition, and thus enhance individual's full understanding of others' behavior, intention, and cognition (Bock et al., 2005; Navimipour and Charband, 2016). Knowledge sharing can also increase the familiarity and trust among employees, increase the frequency of communication and interaction, and more accurately understand the mental models of other employees, thus making it easier to form implicit coordination (Klimoski and Mohammed, 1994; Stenius et al., 2017; Singh et al., 2021).

According to coordination theory, coordination is the process of managing interdependence. When interdependence is high, employees can share and coordinate their task inputs (such as information, knowledge, and other resources) to complete the work smoothly (Alper et al., 1998). Conversely, employees may be split and work individually. Through knowledge sharing, enterprise employees can not only quickly understand what other employees are doing, but also can predict what other employees may do or need (Lewis and Herndon, 2011; Mell

et al., 2014; Choi et al., 2020). Based on the altruistic motivations, prestige-type status competitors give help to others, thus forming a high interdependence relationship, which is conducive to promoting the formation of implicit coordination through knowledge sharing. On the contrary, the dominant-type status competitors have a more tense relationship with other employees. The self-interested motivations destroy the interdependence with other employees; easily produce knowledge hiding behaviors, and cause obstacles to implicit coordination (He et al., 2021).

It can be seen that prestige-type status competitors with altruistic motivations have a strong willingness to share knowledge (Bendersky and Hays, 2012) and will gain respect by helping others and sharing key information, which can promote implicit coordination behavior. Dominant-type status competitors with self-interested motivations pay more attention to personal goals and are unwilling to contribute knowledge to achieve goals, which will inhibit implicit coordination. Therefore, this paper proposes the following hypotheses:

H2a: Knowledge sharing plays a mediating role in the relationship between prestige-type status competition and implicit coordination.
H2b: Knowledge sharing plays a mediating role in the relationship between dominant-type status competition and implicit coordination.

The Moderating Role of Psychological Safety

At the individual level, psychological safety is a feature that reflects an individual's internal psychological state and self-perception (Schein and Bennis, 1965). It is a general feeling and common belief that individuals support each other, that is, it is safe to take interpersonal risks in an enterprise. The establishment of this common belief is rooted in mutual trust, mutual respect, and mutual care among employees. It is also rooted in the perception of employees that their self-image, status, and career will not suffer negative consequences when expressing and presenting themselves (Kahn, 1990; He et al., 2020). Employees have a sense of risk sharing in the context of psychological safety, which is a driving force for free, open, candid communication and coordination (Edmondson, 1999; Newman et al., 2017). High psychological safety promotes employees' willingness to share knowledge, experiences, and practices, and to agree on tasks goals. It also frees employees from concerns about expressing opinions and discussing issues, as well as letting others know about their expected actions. Low psychological safety will make enterprise employees worry that their shared knowledge will be used to harm their own interests (Zeng et al., 2020).

Prestige-type status competitors gain respect from others through unique skills, knowledge, character, etc., thereby increasing their influence over other employees of the enterprise, such as cooperation, mutual trust, and respect for others. Therefore, when the sense of psychological safety is higher, due to the establishment of prestige, the love of self-esteem, and the desire for status, prestige-type status competitors will not be worried and anxious, dare to speak up, have the courage to admit mistakes, and actively share knowledge.

When dominant-type status competitors feel psychologically safe, they are encouraged to express different information and opinions, and to communicate freely without fear of negatively affecting their status (Kahn, 1990). Employees with dominant-type status motivations will change their previous suppression methods and pay more attention to the mistakes and deficiencies of others. That is, by actively speaking, expressing their own opinions, controlling the behavior of other employees, and taking the initiative to improve their status, they increase their confidence in participating in task and goal discussions. Therefore, this paper proposes the following hypotheses:

H3a: Psychological safety has a moderating role in the relationship between prestige-type status competition and knowledge sharing, that is, the higher the level of psychological safety, the stronger the positive effect of prestige-type status competition on knowledge sharing.
H3b: Psychological safety has a moderating role in the relationship between dominant-type status competition and knowledge sharing, that is, the higher the level of psychological safety, the weaker the negative impact of dominant-type status competition on knowledge sharing.

The conceptual mode of this research is shown in **Figure 1**.

RESEARCH METHODS

Samples and Procedures

The data of this research come from Jiangsu, Shanghai, Beijing, Zhejiang, and other places in China, covering task teams in manufacturing enterprises, service enterprises, high-tech enterprises, and so on. To ensure data quality, questionnaires were filled out by task employees. In the formal research stage, we used professional research companies and important contacts of enterprises and other channels. And we distributed questionnaires through the enterprise WeChat group, Email, APP, and personal contact information in the form of network link. Before filling in the questionnaires, we obtained the consent of the managers of the human resources departments of each enterprise and explained the purpose, process, and confidentiality matters of the survey to the respondents, to ensure that the respondents could fill in the questionnaires according to the real situation.

A total of 500 questionnaires were distributed in this survey, and 420 questionnaires were recovered, with a recovery rate of 84%. After eliminating invalid questionnaires, 367 valid questionnaires were obtained, and the effective recovery rate reached 91.75%. **Table 1** shows the organizational characteristics, and **Table 2** shows the employee characteristics.

Measurement of Variables

The scales used in this research are all mature scales proposed by previous scholars, and the scales were translated into Chinese according to the procedures of translation and retranslation, to ensure the consistency of the original meaning in different semantic contexts. All measurement items in the questionnaire are based on a five-point Likert scale, where 1 means "completely disagree" and 5 means "completely agree."

FIGURE 1 | The conceptual mode of this research.
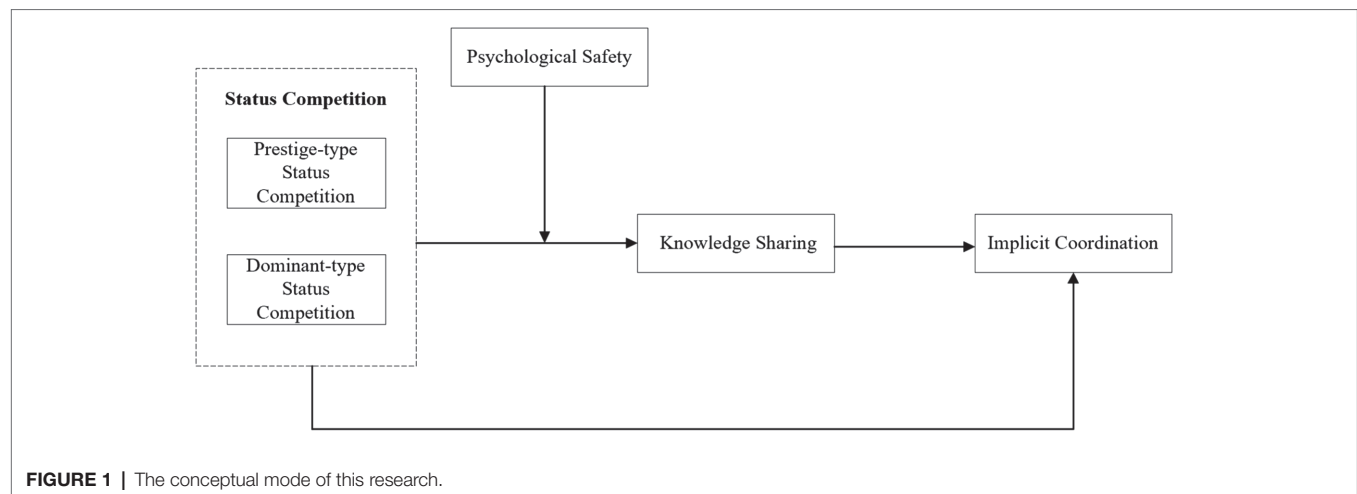
TABLE 1 | Characteristics of organizations.

Size (%)		Date of establishment (%)		Industry type (%)		Location (%)	
<50	43.20%	<3	13.60%	Manufacturing	40.90%	Jiangsu	68.2%
51~500	20.50%	3~5	11.40%	Service	13.60%	Shanghai	11.4%
501~1,000	15.90%	6~10	15.90%	Wholesale	13.60%	Beijing	4.5%
1,001~5,000	18.20%	>10	59.10%	High-tech	18.20%	Zhejiang	2.3%
>5,000	18.10%			Others	13.70%	Others	13.6%

TABLE 2 | Characteristics of employees.

Gender (%)		Age (%)		Education level (%)		Years in the company (%)		Years in the team (%)	
Male	53.10%	<24	12.50%	High school or below	11.20%	<1	21.80%	<6 months	17.40%
Female	46.90%	25–30	22.10%	Junior college	25.30%	1~2	28.10%	7–12 months	18.80%
		31–35	39.20%	Bachelor degree	55.90%	3~5	24.50%	1–3 years	29.70%
		36–40	2.50%	Master	5.50%	6~10	15.50%	4–6 years	14.20%
		41–45	13.40%	Doctor	2.10%	>10	10.10%	>7 years	19.90%
		>46	10.30%						

Status Competition

Referring to the measurement items of Huberman et al. (2004) and Bendersky and Hays (2012) this paper uses 11 items to measure the status competition behavior and adjust it according to specific situations. The prestige-type status competition includes five items, such as "The rest of the enterprise employees respects me" and "I am often asked for advice and help at work." The scale's internal consistency coefficient is 0.633. The dominant-type status competition includes six items, such as "I often try to achieve my goals regardless of what other people think" and "I try to control others and not allow others to control me." The scale's internal consistency coefficient is 0.903.

Implicit Coordination

This paper uses the implicit coordination measurement scale developed by Rico et al. (2008) and Khan et al. (2010), which includes eight measurement items, such as: "I can anticipate the actions of employees without communication" and "I adapt

my approach to achieve the task' shared goals." The scale's internal consistency coefficient is 0.780.

Knowledge Sharing

This paper refers to the measurement items of Bock et al. (2005) and uses six items to measure knowledge sharing willingness, including explicit knowledge sharing and implicit knowledge sharing, such as: "I often share my documents and reports with other employees" and "I will share my working methods and models with other employees." The scale's internal consistency coefficient is 0.859.

Psychological Safety

This paper refers to the psychological safety scale of Edmondson (1999) and adjusts it in combination with specific situations, using five measurement items, including "If I make a mistake at work, others will complain about me" and "In an enterprise,

I can ask questions and stick to my opinion." The scale's internal consistency coefficient is 0.563.

Control Variables

Previous studies suggest that demographic variables, such as gender, age, and education level and factors such as the length of time an individual has joined a company and a team can affect the motivation or behavior of employees' knowledge sharing and implicit coordination. Most empirical studies on status competition and implicit coordination also use these variables as control variables (Chang et al., 2017; He et al., 2021). Therefore, the control variables considered in this research include gender, age, education level, years in the company, and years in the team.

DATA ANALYSIS AND RESULTS

Descriptive Statistics and Correlation Analysis

The descriptive statistics and correlation analysis results of the main research variables involved in this research are shown in **Table 3**. It can be seen from **Table 3** that prestige-type status competition and knowledge sharing ($r = 0.299$, $p < 0.01$) and implicit coordination behavior ($r = 0.343$, $p < 0.01$) are significantly positively correlated. Knowledge sharing and implicit coordination are also significantly positively correlated ($r = 0.520$, $p < 0.01$). Dominant-type status competition was significantly negatively correlated with knowledge sharing ($r = -0.293$, $p < 0.01$) and significantly negatively correlated with implicit coordination behavior ($r = -0.184$, $p < 0.01$). In addition, there was a significant positive correlation between psychological safety and implicit coordination ($r = 0.265$, $p < 0.01$). All main research variables were roughly moderately correlated, and in the same direction as the previous hypothesis, suitable for further analysis.

Common Method Biases Test

This paper mainly uses two methods to test the common method deviation: one is to use the Harman single factor test method. And use the principal component analysis method to conduct exploratory factor analysis on all test items, a total of eight factors are separated out. The first factor explains only 25.729% of the total variance, which is much less than 50%, that is, there is no single factor explaining most of the variance. The second is to use confirmatory factor analysis to

build a competitive model to test the fitting effect of sample data. The specific analysis results are shown in **Table 4**. The five-factor model has the best fitting effect with the observed data ($\chi^2/df = 2.732$, RMSEA = 0.072, CFI = 0.838, TLI = 0.821, SRMR = 0.089).

Hypothesis Testing

For the research hypothesis, firstly, hierarchical regression analysis was used to examine the direct effect of status competition on implicit coordination behavior, the mediating effect of knowledge sharing, and the moderating effect of psychological safety. The specific regression results are shown in **Tables 5**, **6**.

Direct Effect Test

After controlling for demographic variables such as gender, age, and education level, it can be seen from Model 5 in **Table 5** that prestige-type status competition has a significant positive impact on implicit coordination ($\beta = 0.371$, $p < 0.001$), H1a is supported. From Model 10 in **Table 6**, the direct effect of dominant-type status competition on implicit coordination is significantly negative ($\beta = -0.186$, $p < 0.001$), H1b is supported.

Mediating Effect Test

Examining the mediating effect of knowledge sharing between prestige-type status competition and implicit coordination. Based on the direct effect of Model 5 prestige-type status competition on implicit coordination in **Table 5**, knowledge sharing is further added to the regression equation. The analysis results are shown in Model 7. The results show that the knowledge sharing of employees is significantly positively correlated with their implicit coordination behavior ($\beta = 0.469$, $p < 0.001$), and the positive effect of prestige-type status competition on the implicit coordination behavior of employees was weakened, but still significant ($\beta = 0.227$, $p < 0.001$), which means that knowledge sharing plays a mediating role between prestige-type status competition and implicit coordination relationship, H2a is supported.

In addition, knowledge sharing plays a mediating role between dominant-type status competition and implicit coordination. Based on the direct effect of Model 10 dominant-type status competition on implicit coordination in **Table 6**, knowledge sharing is further added to the regression equation. The analysis results are shown in Model 12. The results show that knowledge sharing of employees is positively correlated with their implicit

TABLE 3 | Descriptive statistics and correlations among all variables.

Variables	M	SD	1	2	3	4	5
1. Prestige-type status competition	3.718	0.727	1				
2. Dominant-type status competition	2.22	0.966	−0.036	1			
3. Knowledge sharing	4.095	0.673	0.299**	−0.293**	1		
4. Psychological safety	3.837	0.387	0.135*	0.080	0.058**	1	
5. Implicit coordination	3.600	0.654	0.343**	0.520**	0.505**	0.265**	1

*N = 367. *p < 0.05; **p < 0.01.*

TABLE 4 | Results of the confirmatory factor analysis for the main variables.

	χ^2	df	χ^2/df	RMSEA	CFI	TLI	SRMR
Single-factor model: WDW+ZDW+KS+PS+IC	2579.702	405	6.370	0.127	0.484	0.445	0.125
Two-factor model: WDW and ZDW+KS+PS+IC	2262.767	404	5.601	0.117	0.559	0.525	0.120
Three-factor model: WDW and ZDW and KS+PS+IC	1464.296	402	3.643	0.087	0.716	0.692	0.103
Four-factor model: WDW and ZDW and KS and PS+IC	1162.926	399	2.915	0.076	0.819	0.802	0.088
Five-factor model: WDW and ZDW and KS and PS and IC	1079.043	395	2.732	0.072	0.838	0.821	0.089

WDW, prestige-type status competition; ZDW, dominant-type status competition; KS, knowledge sharing; PS, psychological safety; and IC, implicit coordination. The evaluation standard of index goodness of fit is: χ^2/df<3.2, RMSEA<0.08, CFI>0.76, TLI>0.74, and SRMR<0.103. N=367.

TABLE 5 | Regression analysis of prestige-type status competition.

	Knowledge sharing			Implicit coordination			
	M1	M2	M3	M4	M5	M6	M7
Gender	−0.025	−0.001	0.002	0.189	0.235*	0.200*	0.235**
Age	0.046	0.001	−0.006	−0.061	−0.102*	−0.076*	−0.102**
Education level	0.004	0.010	0.027	0.023	0.029	0.024	0.023
Years in the company	−0.130*	−0.081*	0.006*	0.014	0.016	0.075	0.070
Years in the team	0.112	0.060	0.005	0.048	0.027	−0.013	−0.016
Prestige-type status competition		0.217***	0.313***		0.371***		0.227***
Knowledge sharing						0.521***	0.469***
Psychological safety			0.043				
Prestige-type status competition* psychological safety			0.123**				
R^2	0.018	0.104	0.112	0.019	0.146	0.293	0.347
R^2 Change		0.089	0.102		0.127	0.274	0.329
Adjusted R^2	0.004	0.088	0.091	0.004	0.130	0.281	0.333
F	1.304	6.479***	5.351***	1.307	9.344***	23.563***	24.866***

*$p<0.05$; **$p<0.01$; ***$p<0.001$.*

TABLE 6 | Regression analysis of dominant-type status competition.

	Knowledge sharing			Implicit coordination			
	M1	M8	M9	M4	M10	M11	M12
Gender	−0.025	0.008	0.001	0.189	0.184	0.200*	0.177
Age	0.046	0.072	−0.002	−0.061	−0.029	−0.076	−0.058
Education level	0.004	0.028	0.033	0.023	0.030	0.024	0.020
Years in the company	−0.130*	−0.122*	0.014	0.014	0.019	0.075	0.075
Years in the team	0.112	0.126*	0.006	0.048	0.066	−0.013	−0.001
Dominant-type status competition		−0.316**	−0.334***		−0.186***		−0.030
Knowledge sharing						0.521***	0.494***
psychological safety			0.123*				
Dominant-type status competition* psychological safety			0.074*				
R^2	0.018	0.023	0.121	0.019	0.048	0.293	0.277
R^2 Change		0.089	0.113		0.033	0.274	0.261
Adjusted R^2	0.004	0.009	0.101	0.004	0.031	0.281	0.261
F	1.304	7.044***	5.852**	1.307	2.775*	23.563***	17.840***

*$p<0.05$; **$p<0.01$; ***$p<0.001$.*

coordination behavior ($\beta=0.494$, $p<0.001$), and the dominant-type status competition becomes insignificant on the implicit coordination behavior of employees, which means that knowledge sharing plays a mediating role between the dominant-type status competition and the implicit coordination, H2b is supported.

Moderating Effect Test

The analysis results of the moderating effect are shown in Model 3. The interaction term of prestige-type status competition and psychological safety has a positive impact on knowledge sharing ($\beta = 0.123$, $p < 0.01$), that is, the higher the psychological safety level of employees, the stronger the positive effect of prestige-type status competition on knowledge sharing, H3a is supported.

To show the moderating effect of psychological safety on the relationship between prestige-type status competition and knowledge sharing, this paper calculates the difference of the influence of prestige-type status competition on knowledge sharing under different levels of psychological safety, taking the mean value lower than and higher than one standard deviation, respectively. When psychological safety is relatively low, the influence coefficient of prestige-type status competition on knowledge sharing is 0.2534 ($p < 0.001$); while when psychological safety is relatively high, the influence coefficient of prestige-type status competition on knowledge sharing is 0.4097 ($p < 0.001$).

For employees with a higher level of psychological safety, prestige-type status competition has a more obvious role in promoting knowledge sharing. Compared with the low psychological safety situation, the promotion effect of prestige-type status competition on knowledge sharing behavior is strengthened in the high psychological safety situation. That is, psychological safety enhances the positive effect of prestige-type status competition on knowledge sharing and has a positive moderating effect on the relationship between the two.

For the moderating effect of psychological safety on the relationship between dominant-type status competition and knowledge sharing, we first analyze the dominant-type status competition and psychological safety. Then, construct the interaction term of dominant-type status competition and psychological safety, and put it psychological safety into the regression equation of dominant-type status competition on knowledge sharing. The analysis results are shown in Model 9. The interaction term of dominant-type status competition and psychological safety has a significant positive impact on knowledge sharing ($\beta = 0.074$, $p < 0.05$), indicating that psychological safety significantly affects the relationship between independent variable and dependent variable, H3b is supported. The same method is used to calculate the difference of the influence of dominant-type status competition on knowledge sharing under different psychological safety levels.

When psychological safety is relatively high, the influence coefficient of dominant-type status competition on knowledge sharing is -0.2663 ($p < 0.001$). While when psychological safety is relatively low, the influence coefficient of dominant-type status competition on knowledge sharing is -0.4165 ($p < 0.001$). Compared with low-level psychological safety, high-level psychological safety will weaken the negative impact of dominant-type status competition on knowledge sharing.

DISCUSSION AND CONCLUSION

Theoretical Contribution

This paper divides the status competition motivations into prestige-type and dominant-type. Through empirical research,

this paper explores the influence mechanism of individual status competition motivation on implicit coordination behavior, analyzes the mediating role of knowledge sharing, and the moderating role of psychological safety between status competition and knowledge sharing. The research results show that employees' status competition motivation has different effects on implicit coordination behavior. The prestige-type status competition has a positive effect on implicit coordination, while the dominant-type status competition has a negative effect on implicit coordination. The conclusion of the research further verifies the view of Cheng et al. (2013), that is, the motivations of employees for status pursuit mainly include dominant-type status competition motivation and prestige-type status competition motivation. The former regard status as an asset and try to gain dominance over resources and others by seeking status; the latter regard status as a responsibility and gain honor and respect by implementing altruistic behavior. Although employees attach great importance to status resources and their symbols, they also have preferences in specific practice. Enterprise employees with different motivations have different focuses and have different attitudes and behaviors toward implicit coordination.

Knowledge sharing plays a mediating role in the relationship between status competition motivations and implicit coordination behavior. Prestige-type status competition promotes employees' implicit coordination behavior by positively influencing knowledge sharing, while dominant-type competition weakens employees' implicit coordination behavior by negatively affecting knowledge sharing. Enterprise employees with different status competition motivations have different views on knowledge sharing, which will affect the common cognition of tasks and group goals and have different degrees of influence on implicit coordination behavior.

Psychological safety moderates the effect of status competition on knowledge sharing. That is, when the degree of psychological safety is higher, the positive effect of prestige-type status competition on knowledge sharing behavior is enhanced, while the negative effect of dominant-type status competition on knowledge sharing behavior is weakened.

This paper has the following theoretical contributions. First, this paper analyzes the characteristics of different status competition behaviors and promotes research in the field of status competition. Status is the master-subordinate relationship that employees are in an enterprise and the level difference between different employees. It is one of the very important attributes of an individual in an enterprise. Status competition is the innate instinct of human beings, in the need of self-esteem and self-realization, employees are eager to obtain a higher reputation and status in the enterprise. The positive and negative effects of status competition largely depend on the motivation of competitors, that is, the motivation and purpose of employees' use of status. Prestige-type status competition employees have prosocial motivations and see status competition as a signal of personal competence and a means to achieve corporate goals. They pay more attention to honor, prestige, and others' evaluation of themselves, and are eager to be recognized by others. To maintain and gain dignity

and self-esteem, they will show more organizational citizenship behaviors, such as helping others or sharing key information (He et al., 2019). Dominant-type status competition employees have self-interest motivations and see status competition to achieve their goals. They gain more power and rewards behind their status, and often use unethical means to undermine the work performance of others to increase their chances of winning in the competition. By introducing different status competition motivations and analyzing their behavioral characteristics, this research finds different influence mechanisms of status competition motivations on implicit coordination behavior, which further enriches the research in the field of status competition and promotes the cross research in the field of status competition and organization coordination.

Second, this research explores the influence mechanism of implicit coordination behavior from the perspective of individual status competition motivation, which enriches the research in the field of coordination. Coordination of work teams is a general phenomenon that aims to integrate and adjust the actions, knowledge, and goals of interdependent employees to achieve a common goal (Rico et al., 2008). While explicit coordination is explicit, conscious, and perceptible, implicit coordination emphasizes spontaneous, unconscious, and imperceptible coordination. Previous studies on implicit coordination are mostly based on cognitive or knowledge perspectives, focusing on the distribution of enterprise knowledge and expertise, cognitive structure of employees, team situational models, etc., but less attention is paid to the perspective of individual motivation, especially the influence of status, power, structure, etc. (Bunderson and Boumgarden, 2010; Van Der Vegt et al., 2010; Bunderson and Reagans, 2011). In traditional enterprise research, the vast majority of studies default to the assumption that there is no status difference among employees, and employees are completely equal in the process of cooperation. This assumption cannot truly characterize the structural relationships of employees in specific practices. Due to individual differences in abilities, personalities, etc., informal status differences will form among employees (Nembhard and Edmondson, 2006). Status differences affect implicit coordination among employees. Therefore, from the perspective of status competition motivation, we deeply explore the influence path and mechanism on employees' implicit coordination behavior, which is helpful to enrich the research in coordination field.

Third, this study incorporates psychological safety into the research framework of status competition-knowledge sharing. It expands the boundary conditions of the influencing factors of knowledge sharing and enriches the empirical research on psychological safety as a moderator variable. Psychological safety has always been an important research topic in the field of psychology. It mainly reflects the internal psychological state and self-perception of employees, and has an important impact on learning behavior, suggestion behavior, innovative behavior, work engagement and involvement, and work performance. Based on previous research, this paper further confirms the moderating effect of psychological safety in prestige-type status competition-knowledge sharing and dominant-type status competition-knowledge sharing from the individual level,

indicating that psychological safety can provide some situational conditions. Under the condition of high psychological safety, the employees of the enterprise feel the general support and common belief within the enterprise and are more able to actively carry out knowledge sharing activities, which is conducive to the formation of common cognition among employees, and then promotes the formation of implicit coordination behaviors.

Practical Inspiration

This research has strong practical significance. First, organizational managers need to pay attention to the motivation of status competition among employees and guide them to conduct reasonable status competition. Status competition has some adverse effects on employees. For example, in order to gain recognition from others, employees may reduce their own output through group restrictions; in order to legitimize their own status, employees may increase the capital of status competition through conspiracy and other methods, leading to interpersonal tension and intense competition atmosphere within the enterprise; and communication and negotiation may not be effective means to resolve status conflicts and may have a destructive impact on the growth of enterprises. Therefore, organizational managers need to take measures to intervene and manage employees' status competition and persuade employees to follow the principle of maximizing organizational interests to participate in status competition through benign interaction. In addition, the status hierarchy in an enterprise is dynamic and unstable, and there is also a winner-take-all effect, which can easily lead to the solidification of status. Therefore, managers should design open and flexible status granting standards according to the situation of enterprise management practice and guide the motivation of status competition. No matter what motivations employees have for status competition, appropriate status granting standards can promote employees to change themselves from self-oriented to team-oriented, to share more knowledge, and then promote the formation of implicit coordination behaviors.

Second, managers should strengthen the fairness management within the enterprise and create an organizational atmosphere of mutual trust, fairness, and smooth communication. Fairness has an important impact on employees. Once corporate employees believe that there is a problem with fairness, unproductive competition will easily occur, resulting in waste of resources and a decline in status incentives. Based on social comparison theory, low-status employees are more sensitive to the perception of fairness in status competition than high-status employees. For low-status employees, they prefer to use prestige-type status competition to gain recognition and respect from other employees (Blader and Chen, 2011). When they perceive higher fairness, they have a stronger willingness to share knowledge and expect to gain more recognition and higher prestige in the enterprise. And when they perceive that the competition for status is unfair, they will hide their knowledge to preserve their status. Conversely, for high-status employees, when they perceive fairness, they hide their knowledge to avoid low-status employees posing a threat to their own status. Currently, they tend to

adopt the dominant-type status competition (Anderson et al., 2020). Therefore, enterprises need to pay attention to the motivation of employees' status pursuit, formulate corresponding measures to maintain the fairness in the status adjustment mechanism, and give full play to the role of status incentives (Witkower et al., 2020).

Third, managers should maintain status stability and improve the psychological safety of employees. Status has the characteristics of stability and self-sustainment (Bothner et al., 2011). Employees' perceptions of status stability will affect the behavioral choice of hiding or sharing knowledge. For example, for high-status employees, if they think their status is stable, they will perceive a higher sense of psychological safety (Kahn, 1990) and have more autonomy. To maintain their status, they will choose to actively share knowledge to improve the overall level of implicit coordination. For low-status employees, due to their low level of psychological safety, they will be more conservative in their actions and have weaker motivation to improve their status. They are more inclined to hide their knowledge and use it as a political resource to preserve their status in the enterprise (Pai and Bendersky, 2019; Bendersky and Brockner, 2020). When the status of enterprise employees' changes, the motivation for status competition will also change. For example, low-status employees often gain status through prestige-type status competition behavior, while to maintain their original status, high-status employees often take dominant-type status competition behavior. Therefore, enterprises need to maintain the stability of their internal status and enhance the psychological safety of employees, to effectively stimulate employees' knowledge sharing and implicit coordination behavior.

Limitations and Future Research

This research still has the following limitations, which needs to be further improved in the follow-up research. First, in terms of research design, this research mainly uses empirical research to verify the theoretical model, and the research results are also discussed based on cross-sectional data. Future research can provide more convincing evidence for the research hypothesis through vertical research and distribute the questionnaires at different time points to explore the changes in the implicit coordination behavior of employees at different time points. Secondly, this paper mainly discusses the relationship between employees' status competition motivation and implicit coordination behavior from the individual level but does not clearly distinguish

leaders and employees. Team leaders with different management styles may have different status competition motivations. In the future, the two types of personnel can be distinguished for in-depth research. Finally, some potential research directions are worth continuing to explore, such as further subdivision of status competition or consideration of other mediating variables to better understand the operating mechanism. Compared with prestige and dominance, existing studies have begun to focus on the relationship between complaisant, coercive (Ketterman and Maner, 2021), and status competition, and the role of workplace exclusion and cognitive trust in it.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

AUTHOR CONTRIBUTIONS

JX designed the research and completed the manuscript. YX and JW designed the research with JX and proposed the discussion. YP revised and checked the whole manuscript in the revision process. All authors contributed to the design and conceptualization of the manuscript, as well as to review and edit the manuscript. All authors contributed to the article and approved the submitted version.

FUNDING

REFERENCES

Alper, S., Tjosvold, D., and Law, K. S. (1998). Interdependence and controversy in group decision making: antecedents to effective self-managing teams. *Organ. Behav. Hum. Decis. Process.* 74, 33–52. doi: 10.1006/obhd.1998.2748

Anderson, C., Ames, D. R., and Gosling, S. D. (2008). Punishing hubris: the perils of overestimating one's status in a group. *Personal. Soc. Psychol. Bull.* 34, 90–101. doi: 10.1177/0146167207307489

Anderson, C., Hildreth, J. A. D., and Sharps, D. L. (2020). The possession of high status strengthens the status motive. *Personal. Soc. Psychol. Bull.* 46, 1712–1723. doi: 10.1177/0146167220937544

Anderson, C., John, O. P., Keltner, D., and Kring, A. M. (2001). Who attains social status? Effects of personality and physical attractiveness in social groups. *J. Pers. Soc. Psychol.* 81, 116–132. doi: 10.1037/0022-3514.81.1.116

Banks, G. C., Pollack, J. M., and Seers, A. (2016). Team coordination and organizational routines: bottoms up—and top down. *Manag. Decis.* 54, 1059–1072. doi: 10.1108/MD-07-2014-0442

Bendersky, C., and Brockner, J. (2020). Mistreatment from peers can reduce the effects of respectful treatment from bosses, and respectful peers can offset mistreatment from bosses. *J. Organ. Behav.* 41, 722–736. doi: 10.1002/job.2441

Bendersky, C., and Hays, N. A. (2012). Status conflict in groups. *Organ. Sci.* 23, 323–340. doi: 10.1287/orsc.1110.0734

Berger, J., Cohen, B. P., and Zelditch, M. (1972). Status characteristics and social interaction. *Am. Sociol. Rev.* 37, 241–255. doi: 10.2307/2093465

Berger, J., Rosenholtz, S. J., and Zelditch, M. (1980). Status organizing processes. *Annu. Rev. Sociol.* 6, 479–508. doi: 10.1146/annurev.so.06.080180.002403

Blader, S. L., and Chen, Y. R. (2011). What influences how higher-status people respond to lower-status other? Effects of procedural fairness, outcome favorability, and concerns about status. *Organ. Sci.* 22, 1040–1060. doi: 10.1287/orsc.1100.0558

Blickensderfer, E. L., Reynolds, R., Salas, E., and Cannon-Bowers, J. A. (2010). Shared expectations and implicit coordination in tennis doubles teams. *J. Appl. Sport Psychol.* 22, 486–499. doi: 10.1080/10413200.2010.507497

Bock, G., Zmud, R. W., Kim, Y., and Lee, J. (2005). Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social-psychological factors, and organizational climate. *MIS Q.* 29, 87–111. doi: 10.2307/25148669

Bothner, M. S., Kim, Y., and Smith, E. B. (2011). How does status affect performance? Status as an asset vs. status as a liability in the PGA and NASCAR. *Organ. Sci.* 23, 416–433. doi: 10.1287/orsc.1110.0679

Bunderson, J. S., and Boumgarden, P. (2010). Structure and learning in self-managed teams: why "bureaucratic" teams can be better learners. *Organ. Sci.* 21, 609–624. doi: 10.1287/orsc.1090.0483

Bunderson, J. S., and Reagans, R. E. (2011). Power, status, and learning in organizations. *Organ. Sci.* 22, 1182–1194. doi: 10.1287/orsc.1100.0590

Butchibabu, A., Sparano-Huiban, C., Sonenberg, L., and Shah, J. (2016). Implicit coordination strategies for effective team communication. *Hum. Factors* 58, 595–610. doi: 10.1177/0018720816639712

Cannon-Bowers, J. A., Salas, E., and Converse, S. (1993). "Shared mental models in expert team decision making," in *Individual and Group Decision Making: Current Issues.* ed. N. J. Castellan (Hillsdale, NJ: Erlbaum), 221–246.

Chang, H., Lin, C., Chen, C., and Ho, Y. (2017). Explicit and implicit team coordination: development of a multidimensional scale. *Soc. Behav. Personal.* 45, 915–929. doi: 10.2224/sbp.5893

Cheng, J. T., Tracy, J. L., Foulsham, T., Kingstone, A., and Henrich, J. (2013). Two ways to the top: evidence that dominance and prestige are distinct yet viable avenues to social rank and influence. *J. Pers. Soc. Psychol.* 104, 103–125. doi: 10.1037/a0030398

Choi, G., Nam, C., Kim, S., Jung, H. J., and Lee, C. H. (2020). Where does knowledge-sharing motivation come from? The case of third-party developer in mobile platforms. *J. Knowl. Manag.* 24, 1681–1704. doi: 10.1108/JKM-08-2019-0449

Colman, A. M., and Gold, N. (2018). Team reasoning: solving the puzzle of coordination. *Psychon. Bull. Rev.* 25, 1770–1783. doi: 10.3758/s13423-017-1399-0

Cortina, M. D. (2017). Adaptive flexibility, cooperation, and prosocial motivations: the emotional foundations of becoming human. *Psychoanal. Inq.* 37, 436–454. doi: 10.1080/07351690.2017.1362920

De Dreu, C. K. W., Beersma, B., Stroebe, K., and Euwema, M. C. (2006). Motivated information processing, strategic choice, and the quality of negotiated agreement. *J. Pers. Soc. Psychol.* 90, 927–943. doi: 10.1037/0022-3514.90.6.927

De Dreu, C. K. W., Nijstad, B. A., and van Knippenberg, D. (2008). Motivated information processing in group judgment and decision making. *Personal. Soc. Psychol. Rev.* 12, 22–49. doi: 10.1177/1088868307304092

Edmondson, A. C. (1999). Psychological safety and learning behavior in work teams. *Adm. Sci. Q.* 44, 350–383. doi: 10.2307/2666999

Espinosa, J. A., Armour, F., and Boh, W. F. (2021). Implicit coordination and Enterprise architecting effectiveness. *IEEE Trans. Eng. Manag.* 99, 1–17. doi: 10.1109/tem.2021.3109219

Espinosa, J. A., Lerch, F. J., and Kraut, R. E. (2004). "Explicit versus implicit coordination mechanisms and task dependencies: one size does not fit all," in *Team Cognition: Understanding the Factors That Drive Process and Performance.* eds. E. Salas and S. M. Fiore (Washington, DC: American Psychological Association), 107–129.

Estrada, I., Faems, D., and Faria, P. D. (2016). Coopetition and product innovation performance: The role of internal knowledge sharing mechanisms and formal knowledge protection mechanisms. *Ind. Mark. Manag.* 53, 56–65. doi: 10.1016/j.indmarman.2015.11.013

Fisher, D. M., Bell, S. T., Dierdorff, E. C., and Belohlav, J. A. (2012). Facet personality and surface-level diversity as team mental model antecedents: implications for implicit coordination. *J. Appl. Psychol.* 97, 825–841. doi: 10.1037/a0027851

Flynn, F. J., Reagans, R. E., Amanatullah, E. T., and Ames, D. R. (2006). Helping one's way to the top: self-monitors achieve status by helping others and knowing who helps whom. *J. Appl. Soc. Psychol.* 91, 1123–1137. doi: 10.1037/0022-3514.91.6.1123

Gagné, M., Tian, A. W., Soo, C. W., Zhang, B., Ho, K. S., and Hosszu, K. (2019). Different motivations for knowledge sharing and hiding: the role of motivating work design. *J. Organ. Behav.* 40, 783–799. doi: 10.1002/job.2364

Gandz, J., and Murray, V. V. (1980). The experience of workplace politics. *Acad. Manag. J.* 23, 237–251. doi: 10.2307/255429

Grant, A. M., and Berry, J. W. (2011). The necessity of others is the mother of invention: intrinsic and prosocial motivations, perspective taking, and creativity. *Acad. Manag. J.* 54, 73–96. doi: 10.5465/amj.2011.59215085

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: current research status and future research directions. *Front. Psychol.* 12:748237. doi: 10.3389/fpsyg.2021.748237

He, P., Peng, Z., Zhao, H., and Estay, C. (2019). How and when compulsory citizenship behavior leads to employee silence? A moderated mediation model based on moral disengagement and supervisor-subordinate guanxi views. *J. Bus. Ethics* 155, 259–274. doi: 10.1007/s10551-017-3550-2

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020). Linking work-related and non-work-related supervisor subordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus. Manag.* doi: 10.1057/s41291-020-00137-9 [Epub ahead of print].

Hinsz, V., Tindale, R. S., and Vollrath, D. A. (1997). The emerging conceptualization of groups as information processors. *Psychol. Bull.* 121, 43–64. doi: 10.1037/0033-2909.121.1.43

Huber, G. P., and Lewis, K. (2010). Cross-understanding: implications for group cognition and performance. *Acad. Manag. Rev.* 35, 6–26. doi: 10.5465/amr.35.1.zok6

Huberman, B. A., Loch, C. H., and ÖNçüler, A. (2004). Status as a valued resource. *Soc. Psychol. Q.* 67, 103–114. doi: 10.1177/019027250406700109

Kachra, A., and White, R. E. (2008). Know-how transfer: the role of social, economic/competitive, and firm boundary factors. *Strateg. Manag. J.* 29, 425–445. doi: 10.1002/smj.668

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Acad. Manag. J.* 33, 692–724. doi: 10.5465/256287

Ketterman, A. B., and Maner, J. K. (2021). Complaisant or coercive? The role of dominance and prestige in social influence. *Pers. Individ. Differ.* 177:110814. doi: 10.1016/j.paid.2021.110814

Khan, M. M., Lodhi, S. A., and Makki, M. (2010). Moderating role of team working environment between team implicit coordination and performance. *South African J. Bus. Manag.* 4, 2743–2752. doi: 10.5897/ajbm.9000418

Kleinbaum, A. M., and Stuart, T. E. (2014). Network responsiveness: the social structural microfoundations of dynamic capabilities. *Acad. Manag. Perspect.* 28, 353–367. doi: 10.5465/amp.2013.0096

Klimoski, R., and Mohammed, S. (1994). Team mental model: construct or metaphor? *J. Manag.* 20, 403–437. doi: 10.1016/0149-2063(94)90021-3

Lam, W. M. (2021). A theory of status and coordination in organizations. *Oxf. Econ. Pap.* 73, 837–855. doi: 10.1093/oep/gpaa025

Lee, J. W., and Jeung, C. (2018). Employee status and the consequences of perceived organizational support. *J. Pers. Psychol.* 17, 75–82. doi: 10.1027/1866-5888/a000198

Lee, J., Min, J., and Lee, H. (2017). Setting a knowledge boundary across teams: knowledge protection regulation for inter-team coordination and team performance. *J. Knowl. Manag.* 21, 254–274. doi: 10.1108/JKM-04-2016-0163

Lewis, K., and Herndon, B. (2011). Transactive memory systems: current issues and future research directions. *Organ. Sci.* 22, 1254–1265. doi: 10.1287/orsc.1110.0647

Loch, C. H., Stout, S. K., and Huberman, B. A. (2000). Status competition and performance in work groups. *J. Econ. Behav. Organ.* 43, 35–55. doi: 10.1016/S0167-2681(00)00107-4

Lowry, P. B., Roberts, T. L., and Romano, N. C. (2013). What signal is your inspection team sending to each other? Using a shared collaborative interface to improve shared cognition and implicit coordination in error-detection teams. *Int. J. Hum. Comput. Stud.* 71, 455–474. doi: 10.1016/j.ijhcs.2012.11.004

Magee, J. C., and Galinsky, A. D. (2008). Social hierarchy: the self-reinforcing nature of power and status. *Acad. Manag. Ann.* 2, 351–398. doi: 10.5465/19416520802211628

Malone, T. W., and Crowston, K. (1992). *Toward an Interdisciplinary Theory of Coordination, Center for Coordination Science.* Cambridge, MA: MIT Press.

Mell, J. N., Knippenberg, D. V., and Ginkel, W. P. (2014). The catalyst effect: the impact of transactive memory system structure on team performance. *Acad. Manag. J.* 57, 1154–1173. doi: 10.5465/amj.2012.0589

Nahapiet, J., and Ghoshal, S. (1998). Social capital, intellectual capital, and the organizational advantage. *Acad. Manag. Rev.* 23, 242–266. doi: 10.5465/amr.1998.533225

Navimipour, N. J., and Charband, Y. (2016). Knowledge sharing mechanisms and techniques in project teams: literature review, classification, and current trends. *Comput. Hum. Behav.* 62, 730–742. doi: 10.1016/j.chb.2016.05.003

Nembhard, M. I., and Edmondson, A. A. (2006). Making it safe: the effects of leader inclusiveness and professional status on psychological safety and improvement efforts in health care teams. *J. Organ. Behav.* 27, 941–966. doi: 10.1002/job.413

Newman, A., Donohue, R., and Eva, N. (2017). Psychological safety: a systematic review of the literature. *Hum. Res. Manage. R.* 27, 521–535. doi: 10.1016/j.hrmr.2017.01.001

Pai, J., and Bendersky, C. (2019). Team status conflict. *Curr. Opin. Psychol.* 33, 38–41. doi: 10.1016/j.copsyc.2019.07.001

Piazza, A., and Castellucci, F. (2014). Status in organization and management theory. *J. Manag.* 40, 287–315. doi: 10.1177/0149206313498904

Randolph-seng, B., and Norris, J. I. (2011). Cross-understanding in groups: how to "cross Over" Without "dying". *Acad. Manag. Rev.* 36, 420–422. doi: 10.5465/amr.2010.0177

Rico, R., Gibson, C. B., Sánchez-Manzanares, M., and Clark, M. A. (2019). Building team effectiveness through adaptation: team knowledge and implicit and explicit coordination. *Organ. Psychol. Rev.* 9, 71–98. doi: 10.1177/2041386619869972

Rico, R., Sánchez-Manzanares, M., Gil, F., and Gibson, C. (2008). Team implicit coordination processes: a team knowledge–based approach. *Acad. Manag. Rev.* 33, 163–184. doi: 10.5465/amr.2008.27751276

Schein, E. H., and Bennis, W. G. (1965). *Personal and Organizational Change Through Group Methods: The Laboratory Approach.* New York: Wiley.

Shteynberg, G., and Galinsky, A. D. (2011). Implicit coordination: sharing goals with similar others intensifies goal pursuit. *J. Exp. Soc. Psychol.* 47, 1291–1294. doi: 10.1016/j.jesp.2011.04.012

Singh, S. K., Mazzucchelli, A., Vessal, S. R., and Solidoro, A. (2021). Knowledge-based HRM practices and innovation performance: role of social capital and knowledge sharing. *J. Int. Manag.* 27:100830. doi: 10.1016/j.intman.2021.100830

Stefanini, A., Aloini, D., and Gloor, P. (2020). Silence is golden: the role of team coordination in health operations. *Int. J. Oper. Prod. Manag.* 40, 1421–1447. doi: 10.1108/IJOPM-12-2019-0792

Stenius, M., Haukkala, A., Hankonen, N., and Ravaja, N. (2017). What motivates experts to share? A prospective test of the model of knowledge-sharing motivation. *Hum. Res. Manag.* 56, 871–885. doi: 10.1002/hrm.21804

Stout, R. J., Cannon-Bowers, J. A., Salas, E., and Milanovich, D. M. (1999). Planning, shared mental models, and coordinated performance: an empirical link is established. *Hum. Factors* 41, 61–71. doi: 10.1518/001872099779577273

Uitdewilligen, S., Rico, R., and Waller, M. J. (2018). Fluid and stable: dynamics of team action patterns and adaptive outcomes. *J. Organ. Behav.* 39, 1113–1128. doi: 10.1002/job.2267

Van Der Vegt, G. S., De Jong, S. B., Bunderson, J. S., and Molleman, E. (2010). Power asymmetry and learning in teams: the moderating role of performance feedback. *Organ. Sci.* 21, 347–361. doi: 10.1287/orsc.1090.0452

Willer, R. (2009). Groups reward individual sacrifice: The status solution to the collective action problem. *Am. Sociol. Rev.* 74, 23–43. doi: 10.1177/000312240907400102

Witkower, Z., Tracy, J. L., Cheng, J. T., and Henrich, J. (2020). Two signals of social rank: prestige and dominance are associated with distinct nonverbal displays. *J. Pers. Soc. Psychol.* 118, 89–120. doi: 10.1037/pspi0000181

Wittenbaum, G. M., Stasser, G., and Merry, C. J. (1996). Tacit coordination in anticipation of small group task completion. *J. Exp. Soc. Psychol.* 32, 129–152. doi: 10.1006/jesp.1996.0006

Wu, Y. J., and Chen, J. C. (2021). Stimulating innovation with an innovative curriculum: a curriculum design for a course on new product development. *Int. J. Manag. Educ. Oxf.* 19:100561. doi: 10.1016/j.ijme.2021.100561

Zeng, H., Zhao, L., and Zhao, Y. (2020). Inclusive leadership and taking-charge behavior: roles of psychological safety and thriving at work. *Front. Psychol.* 11:62. doi: 10.3389/fpsyg.2020.00062

Servant Leadership Behavior at Workplace and Knowledge Hoarding: A Moderation Mediation Examination

Shagufta Zada[1,2]*, Jawad Khan[3†], Imran Saeed[4], Zhang Yong Jun[1]*, Alejandro Vega-Muñoz[5†] and Nicolás Contreras-Barraza[6†]

[1] Business School, Henan University, Kaifeng, China, [2] Department of Business Administration, ILMA University, Karachi, Pakistan, [3] Department of Business Administration, Iqra National University, Peshawar, Pakistan, [4] Institute of Business and Management Sciences, The University of Agriculture, Peshawar, Pakistan, [5] Public Policy Observatory, Universidad Autónoma de Chile, Santiago, Chile, [6] Facultad de Economía y Negocios, Universidad Andres Bello, Santiago, Chile

Servant leadership practice honesty, stewardship, and high moral standards while prioritizing the needs of subordinates. The moral concern of a servant leadership is to support others and put the needs of others first. We investigated the relationship between servant leadership, psychological safety, and knowledge hoarding in accordance with social learning theory in a survey of 347 workers across 56 teams. The results of this study illustrate that servant leadership is negatively associated with knowledge hoarding and positively associated with psychological safety. We also found that a mastery climate moderated the relationship between servant leadership and knowledge hoarding. This study highlights the theoretical and practical implications that contribute to the body of knowledge. It helps organizations that the presence of servant leadership may discourage knowledge hoarding by providing a psychologically safe mastery climate.

Keywords: mastery climate, psychological safety, knowledge hoarding, servant leadership, workplace

INTRODUCTION

Employees who hide, hoard, or simply refuse to share knowledge with others in their organization are becoming a rising issue in today's workplace. It is disruptive and has a significant impact on the lack of productivity in the workplace (Flynn et al., 2022). It seems that employees who purposefully hoard knowledge will be met by similar selfish conduct on the part of their coworkers, which will eventually harm them and reduce their ability to be creative (Wu J. et al., 2021). Organizations are developing new working methods. Our typical business problems are layered with additional challenges: new ways of functioning, keeping employee's safe and addressing layoffs, furloughs, and loss of revenue (Newman and Newman, 2021). Negative consequences on the global economy have adverse social implications (i.e., good health and well-being, poverty, quality education, etc.). We need servant leadership that helps employees emotionally and cognitively to survive and face all those challenges efficiently (Obi et al., 2020). Servant leader's primary moral objective and obligation are to serve their employees (Lumpkin and Achen, 2018). They put the needs of their subordinates first, rather than their own self-interests (Hunter et al., 2013). Leaders who practice servant leadership make certain their subordinates in developing their career professionally and even in terms of their physical well-being (Latif and Marimon, 2019). Leaders who transfer

their services to their workers are more likely to develop talented, knowledgeable, and motivated individuals who, in turn enhance the overall operations and management of the organization (Abdulmuhsin et al., 2021). Scholars have studied servant leadership and its positive effect on employees and organizations extensively in the past (Saleem et al., 2020). Servant leadership was positively related to employees work engagement, workplace spirituality, work motivation, individual and team performance, and organization effectiveness (Baloch et al., 2021). Servant leadership also plays a crucial role in reducing employee's turnover, CWB, employee cynicism, and job stress (Erkutlu and Chafra, 2017). Previous studies on servant leadership and knowledge management have been divided (Hunter et al., 2013; He et al., 2021). Most studies have examined the relationship between servant leadership and employee knowledge sharing behavior, but there is a dire need of to examine servant leadership with knowledge hoarding behavior. Knowledge hiding and knowledge hoarding are two different concepts, knowledge hiding is intentional act to hide and conceal knowledge when someone request while knowledge hoarding is purposely keeping information and knowledge to themselves.

According to a poll of 1700 newspaper readers conducted by The Globe and Mail, employees are more prone to hoard knowledge from their coworkers than sharing it publicly. A similar study conducted in China, 46% of those polled admitted that they hoarding knowledge at their work place (Peng, 2013). For Fortune 500 businesses, this turn in to a yearly loss of $31.5 billion in revenue Babcock (2004). Organizations face a huge cost of knowledge hoarding; therefore, leaders must figure out to prevent it from happening in their organizations. When describing unethical conduct in organizations, in such situation servant leadership is one of the good choice (Wah et al., 2007; Lumpkin and Achen, 2018). Servant leaders may positively influence their teams' moral standards by serving as positive role models, enforcing better moral standards *via* the use of punishments and incentives, and showing concern and care for their workers (Hunter et al., 2013; Sun et al., 2020b). In general, most employees consider it unethical and detrimental to the interests of the company and its employees to hoard knowledge (Serenko, 2019). Knowledge hoarding may also be deemed improper in an atmosphere characterized by high service levels (Oliveira et al., 2021).

This research was based on Bandura's social learning theory (Bandura, 1977) and evaluated a connection between servant leadership and knowledge hoarding in the workplace. According to social learning theory, individuals try to follow leader's behavior and actions in the workplace (Wu J. et al., 2021). Servant leadership communication with their subordinates regarding what is wrong or right through open communication (Latif and Marimon, 2019; He et al., 2020). Therefore, social learning theory is helpful to explain the social learning process through which followers adopt the learning approach (Wu J. et al., 2021). This approach helps employees to less hoard their knowledge under servant leadership. Attitude, subjective norms, and perceived behavioral control all play a key role in employees' desire to share their expertise with their co-workers in a servant leadership style. Understanding how servant leadership impacts

workers' knowledge-hoarding behavior is based on findings from social learning theory (Bandura, 1977). It also looks at how servant leadership affects employee knowledge hoarding *via* psychological mechanisms. It is more probable that employees will have a high level of psychological safety when their supervisors exhibit servant leadership by emphasizing mutual respect which is beyond the interpersonal trust.

Psychological safety—"Psychological safety is a multi-dimensional, dynamic phenomenon that concerns team members' perception of whether it is safe to take interpersonal risks at work" (Liang et al., 2012; Ali et al., 2021). Additionally, by emphasizing psychological safety as a critical motivator for workers to express themselves, share their ideas, and exchange knowledge (Iqbal et al., 2020). Here in this study, we examine the servant leadership role in psychological safety, which we further studied with knowledge hoarding. A necessary boundary condition of the supposed causal chain is also identified, further developing our servant leadership model and knowledge hoarding. In terms of knowing how to prevent knowledge hoarding occurring from the organization's perspective, creating a mastery climate is essential. Knowledge hoarding is done for three reasons: (1) employees hoard knowledge so that they become irreplaceable. (2) It might be nerve-wracking to put oneself out there. What if your coworkers or superiors have anything terrible to say about you? (3) Employees will be less inclined to divulge their "secrets" if your company favors individual achievements over collective ones. Social learning and psychological well-being are essential (Sendjaya et al., 2019; Saeed et al., 2022a). A mastery climate, in which workers' efforts, collaboration, understanding, and self-development are valued, is also assumed by theorists while developing their ideas.

Employees may see knowledge hoarding as a detrimental behavior in a mastery climate since it hinders the reciprocal advantages of knowledge sharing, such as developing skills in their teams (Bari et al., 2019). The research on knowledge hoarding has also emphasized the importance of mastery climate as a critical contextual moderator (Caniëls et al., 2019; He et al., 2019). As a result, we propose exploring the moderating function of mastery climate to determine the boundary conditions of the servant leadership–knowledge concealment relationship. Furthermore, our theoretical viewpoint and empirical findings make significant contributions to the literature on organizational behavior and knowledge management, both of which are key areas of study in their respective fields. The relation between servant leadership and knowledge hoarding is limited and has not been studied in the past. Therefore, studying the role of servant leadership with knowledge hoarding is our main of the research, and linking the mechanism between servant leadership and knowledge hoarding is limited. Abdullah et al. (2019) examined the direct link between ethical leadership and knowledge hoarding in the past. Still, this study is novel to explore the servant leadership role and mediation (psychological safety) and moderating role of (i.e., mastery climate). The target population was students in laboratory settings in previous studies, but this study used full-time employees from actual work settings.

Researchers believe that activities carried out in laboratories may fail to elicit the kinds of solid affective reactions needed to
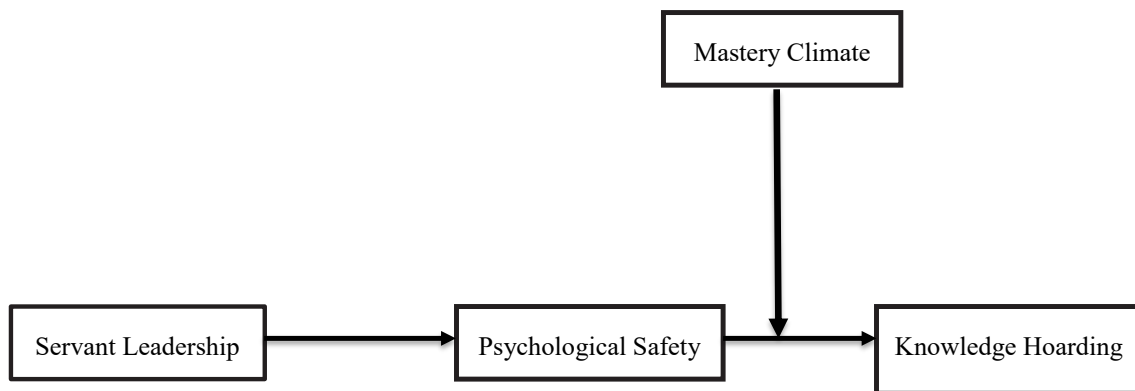
FIGURE 1 | Conceptual model.

uncover the underlying causes of immoral behavior since they are not stimulating enough (Shin, 2014). A further limitation of laboratory testing may be that it cannot accurately recreate the long-term connections and dynamics that occur in real-world work scenarios (Tsai et al., 2012). Thus, in this research, we are interested in determining how and when servant leadership is associated with confidential information in the workplace. First, our data show that servant leadership and information hoarding negatively correlate. Second, a mediation framework is developed based on social learning theory that connects servant leadership to knowledge hoarding *via* psychological safety. Third, mastery climate was examined as a boundary condition between negative association of servant leadership and knowledge hoarding. Fourth, to affect knowledge hoarding, we evaluate the connection between psychological safety and mastery atmosphere. Additionally, the cross-level design and the two-phase data gathering technique were used in this work, which both contribute to the production of more relevant and dependable results. Our study model is shown in **Figure 1**.

THEORETICAL BACKGROUND AND HYPOTHESES

Servant Leadership and Knowledge Hoarding

Servant leadership is defined as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and promoting such conduct to followers through two-way communication, reinforcement, and decision-making" (Reed et al., 2011). Andersen (2018) defined that servant leadership consists of two essential attributes. The first one is related to their moral conduct, where servant leaders have trustworthiness, caring, and stewardship qualities. Second the management component, wherein service leaders influence their followers through their actions, encourage helping behavior in the organization, and discourage immoral behavior (Andersen, 2018). Establishing high standards for followers and mentoring them to keep them accountable for acceptable behavior while still

treating them equitably (Latif and Marimon, 2019). According to social learning theory, social conduct is learnt through observing and copying the behavior of others in social situations. The technique of mentorship, which is explained by social learning theory, allows servant leaders to intentionally or unintentionally affect the conduct of their subordinates in this manner (Bandura, 1977). Social learning theory helps us to analyze the relationship between servant leadership and knowledge hoarding. Following social learning theory, people gain knowledge through the actions and behaviors of their mentorship. Through this role-modeling process, individuals learn appropriate behavior and activities that help them act decently. According to Liden et al. (2014), leaders' show and serves moral conduct and influence others through punishment and rewards approaches. Such an approach is reliable in followers in inducing moral behavior. They are seen as appealing and credible role models because of their position as servant leaders in organizations. When it comes to employees, servant leaders provide employees significant hints about how they might act in a servant-like manner instead of engaging in unethical practices like knowledge hoarding (Song et al., 2015). Employees that follow a servant leader are more likely to engage in the servant or good behaviors (Iqbal et al., 2020). Because of this, servant leaders may give incentives to their employees for participating in cooperative behaviors such as knowledge sharing while discouraging immoral behaviors such as knowledge hoarding (Iqbal et al., 2020). In sum, it is stated that there is a negative relationship between servant leadership and knowledge hoarding by influencing or adequately helping followers. Through their actions, followers can differentiate between wrong and right in the workplace. To be a servant leader, one must put the interests of others instead of one's own, demonstrate empathy and care, and work for the betterment of their team members and organization (Wu J. et al., 2021). As they develop connections with their subordinates and provide developmental opportunities, servant leaders may help their organizations successfully implement knowledge management practices (Abdulmuhsin et al., 2021).

Hypothesis 1: There is a negative association between servant leadership and knowledge hoarding.

Servant Leadership and Psychological Safety

Workers' psychological safety will improve in the presence of servant leadership. Leaders who have servants behavior follow the workplace rules and treat others how they want to be treated (Erkutlu and Chafra, 2017). When leaders practice servant leadership, they exhibit sensitivity, thoughtfulness, and caring for their employees by reminding them that their first duty is the psychological safety of their subordinates (Andersen, 2018). It is believed that servant leaders' actions may "trickle-down" to their subordinates. According to social learning theory, examines how both environmental and cognitive variables interact to impact human learning and behavior in order to understand how people learn and behave, which in turn may encourage others who observe the generally uniform acts of servant leaders toward their colleagues to follow their example (Martin et al., 2016). When servant leaders engage honestly and openly with their workers, they create a win-win scenario for everyone involved. Mutual respect and inter-personal trust emerge between leaders and their followers due to this connection (Obi et al., 2020). Additionally, the past study has shown that when employees see servant leaders' interpersonal behaviors like compassion, excitement, devotion, and empathy, they feel more psychologically safe (Ma et al., 2021). Employees' psychological safety is increased by servant leaders, who create an environment where they feel comfortable expressing their thoughts views and making choices (Ma et al., 2021; Saeed et al., 2022a,b). According to Edmondson (1999), people in a condition of psychological safety are characterized by their ability to be engaged, respected, and cherished. They are confident that if they speak out, ask questions, or make mistakes, they will not be embarrassed, sidelined, or penalized in any way. It is a safe space where servant leaders may be open and honest with their followers. In empirical study shows that psychological safety is associated with servant leadership (Brohi et al., 2021; Khan et al., 2022b), and it shows that it is an essential psychological mechanism in organizations (Brohi et al., 2021).

> **Hypothesis 2:** There is a positive association between servant leadership and psychological safety.

Psychological Safety and Knowledge Hoarding

Knowledge hoarding—"when employees purposely keep critical knowledge to themselves—is a fairly common phenomenon found in companies of all sizes." It's an uphill battle to create a culture of knowledge sharing (Connelly et al., 2012). It is common for employees to keep their knowledge hidden from one another, and the level of trust between coworkers influences how each replies when asked for knowledge in the workplace (Connelly et al., 2012). There are two reasons why knowledge hoarding is negatively associated with psychological safety. First, psychological safety is a consequence of mutual respect and trust between people who are close to one another, which is a key aspect that is the opposite of hoarding knowledge (Connelly et al., 2012). Psychological safety refers to the degree to which a person feels free to be open and honest about their feelings

and actions without fear of repercussions to their self-perception, social standing, or professional prospects. People are more likely to feel psychologically secure when they have connections with their coworkers based on mutual trust and support (Kahn, 1990). Having excellent psychological safety means that individuals may trust their colleagues and not be ashamed or penalized for expressing themselves since interpersonal situations are not harmful (Zhang and Bartol, 2010). Instead, someone who has a low sense of psychological safety may develop sentiments of distrust toward their coworkers, believing that they would do them harm (Connelly et al., 2012). Obi et al. (2020), have claimed that interpersonal mistrust can affect an individual's knowledge hoarding practices. The inability to place faith in one's coworkers may lead to hoarding information from one's colleagues, which indicates poor psychological safety. Second, high levels of psychological safety encourage employees to share work-related knowledge with others and are less afraid of the recipient's feedback (Zhao and Jiang, 2021; Zada et al., 2022a). Ehrhart (2004) argues that having regular conversations with coworkers on work-related events promotes the development of shared meanings and collective assessments of workplaces. Thus, the likelihood of employees expressing opinions with one another and fostering a culture of knowledge sharing amongst themselves increases when they feel comfortable and safe in their workplace (Connelly et al., 2012).

> **Hypothesis 3:** There is a negative relationship between psychological safety and knowledge hoarding.

The Mediating Role of Psychological Safety

The emotional trust between leaders and followers must be considered when evaluating the quality of social interaction between the two parties. For leaders to be trusted by their followers, trust creates the strong bond between leader and their followers. Trust in the leader has a favorable impact on various outcomes, including organizational citizenship behavior, performance, and satisfaction (Chughtai, 2016; Sun et al., 2020a). According to Edmondson and Lei (2014), one of the most critical factors that contribute to psychological safety is a workplace that encourages open communication and mutual respect amongst co-workers and the ability to share information (Ullah et al., 2021; Khan et al., 2022a). Many studies have also stated that leaders who demonstrate an embodied service attitude and create an atmosphere of service help their employees to experience psychological safety (Liden et al., 2014; Zada et al., 2022a,b). Having a psychologically safe environment would alleviate any concerns about team members' reactions that make the member feel ashamed or frightened. In an environment where people feel safe and do not fear the ramifications of taking interpersonal risks, people are less inclined to hoard knowledge. A servant leadership create good environment which fosters this kind of climate. In particular, prior studies have shown that servant leadership may prevent knowledge hoarding (Song et al., 2015; Zhuang et al., 2021). Psychological safety is seen as a crucial precondition for exchanging knowledge (Edmondson et al., 2004; Zada et al., 2021), and the importance of servant leadership in

enhancing psychological safety cannot be overstated (Eva et al., 2019). Through the creation of psychological safety, servant leadership is logically expected to reduce the tendency of its followers to hoard their knowledge (Sendjaya, 2015; Wu S. et al., 2021). This suggests that servant leadership is a significant antecedent to psychological safety, reducing the likelihood of knowledge hoarding. Thus, we hypothesize that:

> **Hypothesis 4:** The link between servant leadership and knowledge hoarding is mediated by psychological safety.

The Moderating Effect of Mastery Climate

According to Ĉerne et al. (2014), a situational factor that effect knowledge hoarding behavior has been identified as mastery climate. Furthermore, theories of social learning and psychological safety expressly imply the presence of a mastery climate. As a consequence of the increased psychological safety given by a high mastery atmosphere, the connection between servant leadership and knowledge hoarding should be reduced. Moreover, an environment of mastery may lessen the desire to hoard knowledge (Nerstad et al., 2013). To achieve success in a mastery climate, a significant focus must be placed on teamwork (Ĉerne et al., 2014). Employees actually should be less inclined to participate in knowledge hoarding as long as their actions are communicated to be publicly acknowledged, anticipated, and rewarded in this manner. A study of Poortvliet and Giebels (2012) indicates that this propensity may be ascribed to employees' desire to continue seeking methods to develop themselves, and they are unable to admit this by hoarding information. It is possible that employees in a mastery workplace will be more motivated to recognize their self-improvement. They put greater emphasis on it, promoting their skill development by engaging in less knowledge hoarding behavior and seeking constructive cooperation. Knowledge hoarding is affected by psychological safety and mastery climate from an interactionist approach. Several factors contribute to reduced knowledge hoarding practices, such as a high level of psychological safety, an internal urge to discuss and share work-related information, and an atmosphere of mastery in the workplace (Ames and Archer, 1988). Work environments that promote, value, and reward knowledge-sharing efforts should increase the likelihood of people with high psychological safety participating in such activities (Siemsen et al., 2009). Knowledge hoarding is more likely to be practiced by people who have a poor sense of psychological safety or live in an environment that discourages the communication or sharing of information and ideas. Therefore, psychological safety encourages team members to take risks and lessens the motive for knowledge hoarding in a climate with a high level of mastery. We therefore hypothesize:

> **Hypothesis 5:** A mastery climate will moderate the link between psychological safety and knowledge hoarding. The higher the level of mastery climate the weaker the relation and vice versa.

Leaders may create psychological safety in their organizations by fostering the mastery climate, attitudes, and behaviors among members of their organizations. Mastery climates—in which team members appreciate each other's contributions, care about their well-being, and have influence into how the team works—are the most essential driver of psychological safety and therefore prevent knowledge hoarding. We hypothesized that a mastery climate would have a conditional influence on the strength of the indirect link between ethical leadership and knowledge hoarding, as seen in **Figure 1**, revealing a pattern of moderated mediation between the variables in our study. Specifically, we hypothesize that in a high (low) mastery climate, there is a low (high) relationship between psychological safety and knowledge hoarding.

> **Hypothesis 5a:** Mastery climate will impact how servant leadership and knowledge hoarding are mediated through psychological safety; when the mastery climate is high, the indirect effect of servant leadership on knowledge hoarding will be low.

MATERIALS AND METHODS

Sample and Procedure

We gathered data from subordinates and supervisors working in various corporate sectors in Pakistan to compile the research study data was collected from (47.23% in textile; 32.45% in information technology; 20.32% in manufacturing). The author could access the participants because of their professional and personal connections(s). One of the authors contacted the team supervisors to inform them of the study's findings. The departments of the organizations were considered teams. The questionnaires were distributed in two parts: subordinates and the supervisors (T1 and T2). Before being delivered, the questionnaires were coded with a unique identification code to match both phases' questionnaires. Under the condition that they could acquire a copy of the results, the teams agreed to participate. Participation was entirely optional, and respondents were guaranteed that their replies would remain anonymous. We told them that all given information will be deleted from the database to protect the participants' privacy. The data collection was done in two rounds, each separated by 6 weeks, to minimize the possible common method biases identified by Podsakoff et al. (2003). Data collection should not be delayed for an excessively long or concise period, according to Podsakoff et al. (2012). Leadership styles and employee turnover may disturb employee's perceptions if the time lag is too long (Babalola et al., 2017). However, if the time lag is too small, employees will go with the same approach as previous (Babalola et al., 2017). As a result, 6 weeks should be the ideal time lag to choose (Babalola et al., 2017). In phase one, 356 responses were obtained from 382 workers polled regarding servant leadership and psychological safety, knowledge hoarding and demographics (93.1%). Eighty-eight supervisors were questioned for their thoughts on the mastery climate, and we got responses out of 77 (87.5%). In the second phase, we reach out to respondents who participated in the first phase. Three hundred and fifty-six employees and 77 supervisors responded to the study and submitted their

completed surveys. Respondents with missing data were excluded from the final sample (Shin et al., 2012). At last we received (287 employees and 60 supervisors) data as a final sample for analysis. Their demographic statistics show that the male participation ratio was 72.32%, with an average of 34.51 years. A total of 76.2% of employees participated with a master's degree or above.

Measures
Servant Leadership
The Servant leader scale adopted from Liden et al. (2015), was employed in the current study. It consists of 7 items with good to excellent Cronbach alpha values (α = 0.95).

Knowledge Hoarding
We used a 4-item scale developed by Evans et al. (2014) to assess knowledge hoarding. Sample items from this scale included "I keep news about what I am doing secret from others until the appropriate time" (α = 0.92).

Psychological Safety
The 5-item scale developed by Liang et al. (2012) was used to assess psychological safety. A sample item is "Nobody in my unit will pick on me even if I have different opinions" (α = 0.80).

Mastery Climate
We used Nerstad et al. (2013) a 6-item scale to assess mastery climate. A sample item is "In my department/workgroup, team members are encouraged to cooperate and exchange thoughts and ideas mutually" (α = 0.75).

Control Variables
Employee's demographics (age, gender, and educational level) have impacted workers' knowledge practices in the past (Connelly et al., 2012; Zhao et al., 2016; Fong et al., 2018). Thus, we controlled demographic variables in this study. Furthermore, educational levels of employees have been controlled (1 = Secondary school certificate; 2 = HSSC; 3 = master; 4 = M.Phil./Ph.D.). Employees genders were coded (Female = 0 and Male = 1).

RESULTS

Descriptive Statistics
Correlation and scale reliability are shown in **Table 1**, together with mean values and standard deviations. All of the research variables' correlations were in the predicted directions, as indicated in **Table 1**, and all of the study variables were internally consistent. The servant leadership of workers was shown to be positive correlated with psychological safety (r = 0.32, p < 0.01) and negatively related to knowledge hoarding (r = −0.146, p > 0.05). Furthermore, employees' psychological safety was negatively related to knowledge hoarding (r = −0.172, p < 0.01). The data reliability was further tested by rho_A mechanism, the results shows (see **Table 1**) that all values are greater the cutoff scores of 0.7 (Dijkstra and Henseler, 2015; Henseler et al., 2015). The convergent validity was determined by evaluating factors loading, composite reliability and average variance extracted (see **Table 2**), all values are in acceptable range (CR < 0.7, and AVE < 0.5), thus confirming composite validity. The discriminant validity was checked through HTMT ratio, the results shows in **Table 3**, that all values are below than 0.85, confirming discriminant validity (Henseler et al., 2015).

Construct Validity
Before testing the study hypotheses, we followed (Anderson and Gerbing, 1988) recommendations and by examined the variables' construct validity. We used AMOS 18.0 to run a series of confirmatory factor analyses (CFA) to investigate the construct uniqueness of our model's four primary variables. Our servant leadership, psychological safety, and knowledge hoarding measurements all originated from the same source. With all fit indices falling within acceptable ranges, the four-factor model generated adequate results (χ^2 = 213.34, CFI = 0.92, TLI = 0.91, RMSEA = 0.06, SRMR = 0.03). The four-component model was compared to a one-factor model, which comprised of a single factor (χ^2 = 632.43, CFI = 0.57, TLI = 0.37, RMSEA = 0.42, SRMR = 0.47) (see **Table 4**).

Common Method Variance
There is a risk of common bias while the data were gathered from a single source (Podsakoff et al., 2003). According to Chang et al. (2010), Harman's single factor test was employed to investigate

TABLE 1 | Mean, standard deviation, correlations, reliability, and rho_A.

Mean		SD	1	2	3	4	5	6	7	8	Rho_A
1. Gender	3.7291	1.003									–
2. Age	3.9107	0.928	0.042								–
3. Education	3.9539	1.113	0.115*	0.315**							–
4. Service	4.1354	1.099	0.274**	0.423**	0.413**						–
5. Servant leadership	3.7974	0.852	0.022	0.0314	0.378**	0.333**	(0.82)				(0.84)
6. Mastery climate	2.5533	1.048	0.016	0.0247	0.083	0.0175	0.308**	(0.86)			(0.87)
7. Psychological safety	4.0403	0.7396	0.043	0.0312	0.0213	0.098	0.322**	0.166**	(0.79)		(0.81)
8. Knowledge hoarding	2.4515	1.064	−0.005	0.0127	−0.025	−0.033	−0.146*	0.061**	−0.172*	(0.83)	(0.85)

*Correlation is significant at the 0.05 level (two-tailed). **Correlation is significant at the 0.01 level (two-tailed).

TABLE 2 | Factors loadings.

Items	CR	AVE	Loadings
Servant leadership	**0.93**	**0.63**	
Item 1			0.81
Item 2			0.77
Item 3			0.82
Item 4			0.76
Item 5			0.81
Item 6			0.77
Item 7			0.82
Knowledge hoarding	0.85	0.60	
Item 1			0.73
Item 2			0.77
Item 3			0.82
Item 4			0.78
Item 5			0.84
Item 6			0.73
Item 7			0.79
Item 8			0.69
Item 9			0.82
Item 10			0.74
Item 11			0.86
Item 12			0.83
Psychological safety	**0.89**	**0.59**	
Item 1			0.76
Item 2			0.77
Item 3			0.72
Item 4			0.81
Item 5			0.73
Mastery climate	**0.92**	**0.58**	
Item 1			0.81
Item 2			0.77
Item 3			0.69
Item 4			0.81
Item 5			0.73

TABLE 3 | Heterotrait–monotrait ratio of correlations (HTMTs).

Variables	1	2	3
Servant leadership	–	–	–
Knowledge hoarding	0.76	–	–
Mastery climate	0.83	0.79	–
Psychological safety	0.82	0.79	0.81

this issue. The results showed that the variation explained by a single component was 24.23%, which is far less than the 50% cutoff score. Further, to confirm the common method biasness, we compare different models with the four-factor model. The

results show that our four-factor model best fits the one-factor model. This confirms that there is no issue of common method biasness in the current study (see **Table 4**).

Hypothesis Testing

For our direct research hypothesis, we analyzed the data in **Table 5**. As shown in Hypothesis 1, a negative relation exists between servant leadership and knowledge hoarding ($B = -0.057$, SE $= 0.67$). Hypothesis 2 stated that servant leadership is positively linked with psychological safety ($B = 0.452^{***}$, SE $= 0.040$). Furthermore, Hypothesis 3 shows a negative association between psychological safety and knowledge hoarding ($B = -0.104$, SE $= 0.077$). Moreover, Hypothesis 4, which illustrates the mediation results of our study, we used the bootstrapping method (Preacher and Hayes, 2004), utilizing the Process macro Model 4 (Hayes and Rockwood, 2017). The CI for the indirect effect of servant leadership on knowledge hoarding through psychological safety does not include "0" (-0.1675, -0.0117), supporting the existence of partial mediation (see **Table 6**). Next, to test Hypothesis 5, we assessed the (psychological safety × mastery climate) interaction term for predicting knowledge hoarding. This interaction term is significant ($\beta = -0.34$, $p < 0.001$, CL $=$ LLCI $= -0.1675$, ULCI $= -0.0117$) (see **Table 7**). The link between psychological safety and knowledge hoarding is moderated by mastery climate as a simple slop test shows in **Figure 2**. When mastery climate was high, the relation will be weak. To test the moderation mediation effect in Hypothesis 6, we applied (Hayes and Preacher, 2013; Hayes, 2017) macro model 7. The 95% bootstrap confidence intervals for the conditional indirect impact of servant leadership on knowledge hoarding through psychological safety at the low level (-1 SD) were generated by this approach (MacKinnon et al., 2004) and Mean level of the mastery climate did not contain zero (LLCI $= 0.2157$, ULCI $= 0.4350$), respectively, at the moderator's high ($+1$ SD) level, they did not have zero (LLCI $= 0.5216$ ULCI $= 0.8351$), indicating that mastery climate serves as a moderator against the indirect effect of servant leadership on knowledge hoarding, *via* psychological safety, in support of Hypothesis 6 (**Table 8**).

DISCUSSION

Grounded on social learning theory, we examined the link between servant leadership and knowledge hoarding. The findings indicate that servant leadership and knowledge

TABLE 4 | Confirmatory factor analyses and construct validity.

Model's	RMSEA	CFI	TLI	SRMR	AIC	BIC	X^2 (df)	ΔX^2 (df)
Four-factor model (SL, PS, MC, and KH)	0.06	0.92	0.91	0.03	913	1254	213.34*** (81)	–
Three-factor model (SL&PS, MC, and KH)	0.21	0.62	0.73	0.22	2523	2754	511.41*** (83)	214.33***
Three-factor model (SL&MC, PS, and KH)	0.25	0.74	0.67	0.25	3256	3562	533.31*** (84)	324.21***
One-factor model (SL + KH + MC + PS)	0.42	0.57	0.37	0.47	4512	5142	632.43*** (85)	512.65***

***Correlation is significant at the 0.001 level (two-tailed). AIC, Akaike information criteria; BIC, Bayesian information criteria; CFI, comparative fit index; RMSEA, root mean square error of approximation; SRMR, standardized root mean square residual; TLI, Tucker–Lewis index.

TABLE 5 | Regression results.

Variables	Psychological safety		Knowledge hoarding	
	B	**SE**	**B**	**SE**
Age	0.04	0.07	0.01	0.01
Gender	−0.06	0.05	0.02	−0.16
Age	0.01	0.02	−0.03	−0.17
Education	−0.02	0.04	0.06	0.03
Service	0.09	0.07	0.04	0.08
SL	0.452***	0.040	−0.057**	0.67
PS			−0.104**	0.077
Mediator				
Psychological safety			−0.086**	0.039
Moderator				
PS × MC			−0.349**	0.077

*****Correlation is significant at the 0.001 level (two-tailed). **Correlation is significant at the 0.01 level (two-tailed).*

TABLE 6 | Mediation analysis.

Mediating variable	Effect	BootSE	BootLLCI	BootULCI
Psychological safety	−0.0860**	0.0394	−0.1675	−0.0117

***Correlation is significant at the 0.01 level (two-tailed). LLCI, lower limit 95% confidence interval; ULCI, upper limit 95% confidence interval.*

hoarding are negatively associated. Our research looked at the mediating function of psychological safety, and the findings revealed that psychological safety is a partial mediator in this relationship. A mastery climate was used as a moderator between psychological safety and knowledge hoarding, and results stated that mastery climate moderates the negative association

TABLE 7 | Moderation analysis.

Model	**B**	**SE**	**t**	**LLCI**	**ULCI**
Constant	−1.534*	0.8035	−1.9092	−3.1146	0.0463
Psychological safety	0.560**	0.1881	2.9795	0.1905	0.9305
Mastery climate	2.103***	0.3347	6.2856	1.4455	2.7622
Interaction	−0.349***	0.0771	−4.5362	−0.5011	−0.1980

*****Correlation is significant at the 0.05 level (two-tailed). **Correlation is significant at the 0.01 level (two-tailed). ***Correlation is significant at the 0.001 level (two-tailed).*

TABLE 8 | Moderated mediation model.

Mediator	Level	Conditional indirect effect	SE	LLCI	ULCI
Psychological safety	Low	0.3253***	0.0558	0.2157	0.4350
	High	0.6784***	0.0797	0.5216	0.8351
	Differences	0.3531***	0.239	0.3039	0.4001

*****Correlation is significant at the 0.001 level (two-tailed). Moderator values are the mean and ±1 SD, LLCI, lower limit 95% confidence interval; ULCI, upper limit 95% confidence interval.*

between psychological safety and knowledge hoarding. Further, in situations where the mastery climate was strong rather than low, the indirect influence of servant leadership on knowledge hoarding *via* psychological safety was less apparent than in situations where the mastery climate was inadequate or non-existent.

Theoretical Implications

Several theoretical additions are made to the literature on servant leadership and knowledge hoarding due to this research. First, Positive leader behaviors influence the development

FIGURE 2 | Interaction effect.
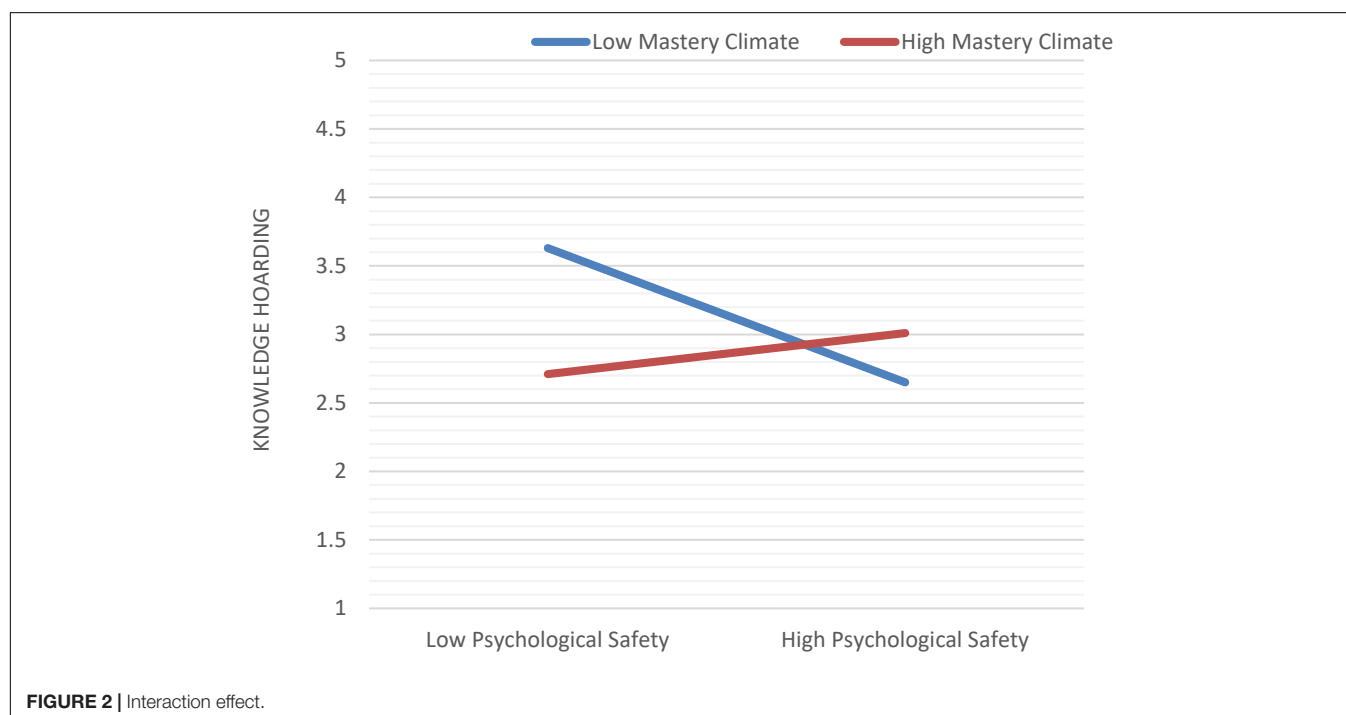
of knowledge hoarding practices, and our results add to a deeper understanding of this impact. Previous research on the relationship between leadership and knowledge management has mostly focused on finding successful knowledge management activities, such as knowledge sharing (Xiao et al., 2017). Servant leadership and knowledge sharing have been studied by Bavik et al. (2018). On the other hand, the effect of leadership on detrimental knowledge behaviors such as knowledge hoarding has been largely unexplored until recently (Connelly et al., 2012). Participants in their research, on the other hand, were full-time workers. This is the first research to look specifically at the relationship between servant leadership and knowledge hoarding in the workplace, and it is the first of its kind in the workplace. Second, according to the results, psychological safety was shown to be a key intervening element in the link between servant leadership and knowledge hoarding. According to social learning theory and the psychological safety viewpoint, servant leadership may contribute to the growth of employees' psychological safety, preventing knowledge hoarding. Overall, the findings demonstrate the potential advantages of servant leadership and the fact that its impact on knowledge hoarding is mediated *via* the psychological safety of those who follow it. Third, the outcomes of this study show that the indirect link between servant leadership and knowledge hoarding through psychological safety is contingent on the existence of a mastery climate in the organization. Psychological safety has a more significant influence on knowledge hoarding in a low mastery environment than in a high mastery climate, as seen in **Figure 2**. Additionally, as a consequence of this study, we have been able to identify the contextual boundary elements that impact the nature of the servant leadership–knowledge hoarding relationship. This is an important addition in the body of knowledge. Fourth, this study proved that psychological safety and mastery environment affect knowledge hoarding. It also looked into mastery climate as a mediator in the link between psychological safety and knowledge hoarding. Lastly, with Edwards and Lambert (2007) moderated mediation technique, we observed that psychological safety has a considerable impact on the relationship between servant leadership and knowledge hoarding, depending on the level of mastery climate in the organization.

Practical Implications

The findings of our research also have managerial implications. First, we urge managers to put the needs of their teams and organizations ahead of their interests. Managers do not place a high value on achieving their personal goals. They need to help their employees to attain a goal (Khan et al., 2022c). Organizational progress and well-being should be manager's primary concern, not personal gain. On the other hand, traditional leadership is characterized by the amassing and exercise of authority by a person at the "head of the pyramid." The servant-leader shares authority prioritizes the needs of others, and encourages employees to reach their full potential. This kind of endeavor is beneficial since it can increase the psychological safety of each employee. Workers who report feeling secure in their positions are less likely to engage in knowledge hoarding. Organizations can provide training programs to cultivate leaders'

professionalism give examples of serving conduct that leaders should demonstrate in their management policies and day-to-day behavior. Establish formal and informal mentoring programs to assist leaders in improving their serving leadership abilities. Second, the findings of our study indicate that a mastery atmosphere seems to be an ideal work environment for lowering employees' propensity to hoard their knowledge. Organizations may reduce the incidence of knowledge hoarding practices by cultivating a mastery environment that encourages learning, cooperation, and skill development. Managers, for example, may foster a mastery atmosphere by offering particular training and development programs that enable workers to acquire job-related abilities, recognize the importance of teamwork, and recognize the conditions for success and failure during task completion. Also, to facilitate communication and knowledge exchange, managers might establish institutionalized platforms or channels. They may be advantageous in developing a mastery climate, which will prevent the occurrence of knowledge hoarding from happening. Third, the outcomes of our research demonstrated that psychological safety plays an essential role in controlling the relationship between servant leadership and knowledge hoarding in organizations. To protect the psychological safety of their employees, managers should take proactive measures. Psychological safety is dynamic and may be enhanced *via* healthy leader-member interactions (Frazier et al., 2017). Managers, for example, should communicate with workers openly and transparently and offer them a psychologically stable workplace. The perceived psychological safety of workers will increase due to this, and knowledge hoarding practices will be reduced.

Limitations and Suggestions for Future Research

Every study has some limitations that should be addressed in the future. This study also has some limitations. First, this study was examined at individual and team levels. Therefore, we have to control demographics at both levels. However, organizational culture plays a crucial role in knowledge management (i.e., knowledge sharing, knowledge hoarding) and effect employees knowledge hoarding behavior. Future research should control organization culture. Second, our sample is from Pakistani corporate culture, where trust matters among individuals compared to other organizational factors. Many organizations are family-run and have reference base jobs in some scenarios. Our study results are therefore not generally applicable to other countries. The different organization have a different culture that influences employees. Accordingly, we suggest that the same conceptual model be tested in other settings. We have grounded this study based on social learning theory and examined the link between servant leadership and knowledge hoarding. Further, it is suggested to link other approaches to this model, i.e., social cognitive theory. It is also suggested that other potential mediators should be used in the future, i.e., psychological capital and psychological empowerment may minimize employees' intention toward knowledge hoarding. In addition, we have used mastery climate as a potential moderator in this study because such climate believes in support, cooperation and emphasis on

team and individual development. Further, it is suggested to study other potential moderators, i.e., organization commitment and interpersonal trust. For example, Connelly et al. (2012) indicated that when employees are committed to organization are less likely to hoard knowledge, because they view responding to coworkers' requests as their professional responsibility. To effectively create, share, and utilize knowledge in teams, individuals must trust one another. To be successful in a team environment, it is critical to have complete faith in the group's ability to work together and share information. These processes are influenced by the degree of interpersonal trust relationships.

CONCLUSION

Effective knowledge management is impossible without effective leadership. A leader is thus the one who should establish an organization that fosters the development, sharing, and application of new knowledge inside organizations. This study provides a negative association between servant leadership and knowledge hoarding. Servant leadership play a key role in knowledge sharing among employees. Further, psychological safety mediates this relationship significantly. Furthermore, this study illustrates that mastery climate plays a moderating role in between psychological safety and knowledge hoarding, presence of mastery climate weakens the link between psychological safety and knowledge hoarding. The integrated model illustrates that the importance of servant leadership that encourage and cultivate safe atmosphere to prevent knowledge hoarding in the organization. This study is important to body of knowledge by

introducing new leadership style with knowledge hoarding, that is unexplored till date. With these findings in mind, this work serves as a helpful study for further research into additional components and processes that impede knowledge hoarding.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

AUTHOR CONTRIBUTIONS

SZ, JK, ZJ, and IS contributed to the conception and design of the study. SZ organized the database. JK performed the statistical analysis. SZ, JK, and IS wrote the first draft of the manuscript. ZJ, AV-M, and NC-B wrote sections of the manuscript. All authors contributed to manuscript revision, read, and approved the submitted version.

FUNDING

REFERENCES

Abdullah, M. I., Dechun, H., Ali, M., and Usman, M. (2019). Ethical leadership and knowledge hiding: a moderated mediation model of relational social capital, and instrumental thinking. *Front. Psychol.* 2019:2403. doi: 10.3389/fpsyg.2019.02403

Abdulmuhsin, A. A., Zaker, R. A., and Asad, M. M. (2021). How exploitative leadership influences on knowledge management processes: the moderating role of organisational citizenship behaviour. *Internat. J. Org. Anal.* 29, 529–556. doi: 10.1108/ijoa-09-2020-2424

Ali, M., Zhang, L., Zhang, Z., Zada, M., Begum, A., Han, H., et al. (2021). Can leaders' humility enhance project management effectiveness? Interactive effect of top management support. *Sustainability* 13:9526. doi: 10.3390/su13179526

Ames, C., and Archer, J. (1988). Achievement goals in the classroom: students' learning strategies and motivation processes. *J. Educ. Psychol.* 80, 260–267. doi: 10.1037/0022-0663.80.3.260

Andersen, J. A. (2018). Servant leadership and transformational leadership: From comparisons to farewells. *Leadership Org. Dev. J.* 2018:53.

Anderson, J. C., and Gerbing, D. W. (1988). Structural equation modeling in practice: a review and recommended two-step approach. *Psychol. Bull.* 103:411. doi: 10.1037/0033-2909.103.3.411

Babalola, S., Figueroa, M.-E., and Krenn, S. (2017). Association of mass media communication with contraceptive use in Sub-Saharan Africa: a meta-analysis of Demographic and Health Surveys. *J. Health Comm.* 22, 885–895. doi: 10.1080/10810730.2017.1373874

Babcock, P. (2004). Shedding light on knowledge management. *HR Magaz.* 49, 46–51.

Baloch, B. K., Malik, B., and Danish, M. (2021). Impact Of Servant Leadership on Thrive at Work with Mediating Effect of Workplace Spirituality. *Internat. J. Bus. Manag. Sci.* 2, 222–243.

Bandura, A. (1977). *Social learning theory*. New Jersey, NJ: Englewood Cliffs.

Bari, M. W., Abrar, M., Shaheen, S., Bashir, M., and Fanchen, M. (2019). Knowledge hiding behaviors and team creativity: the contingent role of perceived mastery motivational climate. *SAGE Open* 9:2158244019876297.

Bavik, Y. L., Tang, P. M., Shao, R., and Lam, L. W. (2018). Ethical leadership and employee knowledge sharing: exploring dual-mediation paths. *Leadersh. Q.* 29, 322–332.

Brohi, N. A., Mehmood, S. A., Erri, M. A., Mushtaque, T., Shah, I. A., and Khuhro, M. A. (2021). Compassionate Leadership is Key to Success: Role of Servant Leadership Style in Predicting Employees Trust in Leadership. *Psychol. Safety Turnov. Intent. Ilkogr. Online* 20, 5662–5672.

Caniëls, M. C., Chiocchio, F., and van Loon, N. P. (2019). Collaboration in project teams: the role of mastery and performance climates. *Internat. J. Proj. Manag.* 37, 1–13. doi: 10.1016/j.ijproman.2018.09.006

Černe, M., Nerstad, C. G., Dysvik, A., and Škerlavaj, M. (2014). What goes around comes around: knowledge hiding, perceived motivational climate, and creativity. *Acad. Manage. J.* 57, 172–192.

Chang, S.-J., Van Witteloostuijn, A., and Eden, L. (2010). *From the editors: Common method variance in international business research*, Vol. 41. New York, NY: Springer, 178–184.

Chughtai, A. A. (2016). Servant leadership and follower outcomes: mediating effects of organizational identification and psychological safety. *J. Psychol.* 150, 866–880. doi: 10.1080/00223980.2016.1170657

Connelly, C. E., Zweig, D., Webster, J., and Trougakos, J. P. (2012). Knowledge hiding in organizations. *J. Org. Behav.* 33, 64–88. doi: 10.3389/fpsyg.2021.748237

Dijkstra, T. K., and Henseler, J. (2015). Consistent partial least squares path modeling. *MIS Quart.* 39, 297–316. doi: 10.3389/fpsyg.2018.00174

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Adm. Sci. Q.* 44, 350–383.

Edmondson, A. C., Kramer, R. M., and Cook, K. S. (2004). Psychological safety, trust, and learning in organizations: a group-level lens. *Trust Dist. Org.* 12, 239–272.

Edmondson, A. C., and Lei, Z. (2014). Psychological safety: the history, renaissance, and future of an interpersonal construct. *Annu. Rev. Organ. Psychol. Organ. Behav.* 1, 23–43. doi: 10.1146/annurev-orgpsych-031413-091305

Edwards, J. R., and Lambert, L. S. (2007). Methods for integrating moderation and mediation: a general analytical framework using moderated path analysis. *Psychol. Methods* 12, 1–22. doi: 10.1037/1082-989X.12.1.1

Ehrhart, M. G. (2004). Leadership and procedural justice climate as antecedents of unit-level organizational citizenship behavior. *Person. Psychol.* 57, 61–94. doi: 10.1111/j.1744-6570.2004.tb02484.x

Erkutlu, H., and Chafra, J. (2017). Leaders' narcissism and organizational cynicism in healthcare organizations. *Internat. J. Workplace Health Manag.* 5, 346–363. doi: 10.1108/ijwhm-12-2016-0090

Eva, N., Robin, M., Sendjaya, S., Van Dierendonck, D., and Liden, R. C. (2019). Servant leadership: a systematic review and call for future research. *Leadership Q.* 30, 111–132. doi: 10.1016/j.leaqua.2018.07.004

Evans, J. M., Hendron, M. G., and Oldroyd, J. B. (2014). Withholding the ace: the individual-and unit-level performance effects of self-reported and perceived knowledge hoarding. *Organ. Sci.* 26, 494–510.

Flynn, G., Smith, D., and Kirwan, M. (2022). *Leadership, Ethics, and Law: A Response to the Coronavirus Pandemic Leadership and Business Ethics.* New York, NY: Springer, 19–39.

Fong, P. S., Men, C., Luo, J., and Jia, R. (2018). Knowledge hiding and team creativity: the contingent role of task interdependence. *Manage. Decis.* 56, 329–343. doi: 10.1108/MD-11-2016-0778

Frazier, M. L., Fainshmidt, S., Klinger, R. L., Pezeshkan, A., and Vracheva, V. (2017). Psychological safety: a meta-analytic review and extension. *Person. Psychol.* 70, 113–165. doi: 10.1111/peps.12183

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* New York, NY: Guilford publications.

Hayes, A. F., and Preacher, K. J. (2013). "Conditional process modeling: Using structural equation modeling to examine contingent causal processes," in *Structural equation modeling: A second course*, eds G. R. Hancock and R. O. Mueller (Charlotte: IAP Information Age Publishing), 219–266.

Hayes, A. F., and Rockwood, N. J. (2017). Regression-based statistical mediation and moderation analysis in clinical research: observations, recommendations, and implementation. *Behav. Res. Ther.* 98, 39–57. doi: 10.1016/j.brat.2016.11.001

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: current research status and future research directions. *Front. Psychol.* 2021:12.

He, P., Peng, Z., Zhao, H., and Estay, C. (2019). How and when compulsory citizenship behavior leads to employee silence: a moderated mediation model based on moral disengagement and supervisor–subordinate guanxi views. *J. Bus. Ethics* 155, 259–274. doi: 10.1007/s10551-017-3550-2

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020). Linking work-related and non-work-related supervisor–subordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus. Manag.* 2020, 1–22.

Henseler, J., Ringle, C. M., and Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Market. Sci.* 43, 115–135. doi: 10.1007/s11747-014-0403-8

Hunter, E. M., Neubert, M. J., Perry, S. J., Witt, L., Penney, L. M., and Weinberger, E. (2013). Servant leaders inspire servant followers: antecedents and outcomes for employees and the organization. *Leadership Q.* 24, 316–331. doi: 10.1016/j.leaqua.2012.12.001

Iqbal, A., Latif, K. F., and Ahmad, M. S. (2020). Servant leadership and employee innovative behaviour: exploring psychological pathways. *Leadership Org. Dev. J.* 2020:474.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Acad. Manag. J.* 33, 692–724. doi: 10.5465/256287

Khan, J., Saeed, I., Zada, M., Ali, A., Contreras-Barraza, N., Salazar-Sepúlveda, G., et al. (2022b). Examining Whistleblowing Intention: the Influence of

Rationalization on Wrongdoing and Threat of Retaliation. *Internat. J. Env. Res. Public Health* 19:1752. doi: 10.3390/ijerph19031752

Khan, J., Saeed, I., Fayaz, M., Zada, M., and Jan, D. (2022a). Perceived overqualification? Examining its nexus with cyberloafing and knowledge hiding behaviour: harmonious passion as a moderator. *J. Knowl. Manag.* 2022:700.

Khan, J., Usman, M., Saeed, I., Ali, A., and Nisar, H. (2022c). Does workplace spirituality influence knowledge-sharing behavior and work engagement in work? Trust as a mediator. *Manag. Sci. Lett.* 12, 51–66. doi: 10.5267/j.msl.2021.8.001

Latif, K. F., and Marimon, F. (2019). Development and validation of servant leadership scale in Spanish higher education. *Leaders. Org. Dev. J.* 40:41.

Liang, J., Farh, C. I., and Farh, J.-L. (2012). Psychological antecedents of promotive and prohibitive voice: a two-wave examination. *Acad. Manag. J.* 55, 71–92. doi: 10.5465/amj.2010.0176

Liden, R. C., Wayne, S. J., Liao, C., and Meuser, J. D. (2014). Servant leadership and serving culture: influence on individual and unit performance. *Acad. Manag. J.* 57, 1434–1452. doi: 10.5465/amj.2013.0034

Liden, R. C., Wayne, S. J., Meuser, J. D., Hu, J., Wu, J., and Liao, C. (2015). Servant leadership: validation of a short form of the SL-28. *Leadership Q.* 26, 254–269. doi: 10.1016/j.leaqua.2014.12.002

Lumpkin, A., and Achen, R. M. (2018). Explicating the synergies of self-determination theory, ethical leadership, servant leadership, and emotional intelligence. *J. Leadership Stud.* 12, 6–20. doi: 10.1002/jls.21554

Ma, Y., Faraz, N. A., Ahmed, F., Iqbal, M. K., Saeed, U., Mughal, M. F., et al. (2021). Curbing nurses' burnout during COVID-19: the roles of servant leadership and psychological safety. *J. Nurs. Manag.* 29, 2383–2391. doi: 10.1111/jonm.13414

MacKinnon, D. P., Lockwood, C. M., and Williams, J. (2004). Confidence limits for the indirect effect: distribution of the product and resampling methods. *Multiv. Behav. Res.* 39, 99–128. doi: 10.1207/s15327906mbr3901_4

Martin, S. R., Côté, S., and Woodruff, T. (2016). Echoes of our upbringing: how growing up wealthy or poor relates to narcissism, leader behavior, and leader effectiveness. *Acad. Manag. J.* 59, 2157–2177. doi: 10.5465/amj.2015.0680

Nerstad, C. G., Roberts, G. C., and Richardsen, A. M. (2013). Achieving success at work: development and validation of the motivational climate at work questionnaire (MCWQ). *J. Appl. Soc. Psychol.* 43, 2231–2250.

Newman, N., and Newman, D. (2021). Leadership behind masked faces: from uncertainty to resilience at a Jamaican academic library. *J. Acad. Librar.* 47:102377. doi: 10.1016/j.acalib.2021.102377

Obi, I. M. O., Bollen, K., Aaldering, H., Robijn, W., and Euwema, M. C. (2020). Servant Leadership, Third-Party Behavior, and Emotional Exhaustion of Followers. *Negot. Conflict Manag. Res.* 2021:12184.

Oliveira, M., Curado, C., and de Garcia, P. S. (2021). Knowledge hiding and knowledge hoarding: a systematic literature review. *Knowl. Proc. Manag.* 28, 277–294. doi: 10.1002/kpm.1671

Peng, H. (2013). Why and when do people hide knowledge? *J. Knowl. Manag.* 17, 398–415. doi: 10.1108/jkm-12-2012-0380

Podsakoff, P. M., MacKenzie, S. B., Podsakoff, N. P., and Lee, J. Y. (2003). The mismeasure of man (agement) and its implications for leadership research. *Leadership Q.* 14, 615–656. doi: 10.1016/j.leaqua.2003.08.002

Podsakoff, P. M., MacKenzie, S. B., and Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annu. Rev. Psychol.* 63, 539–569.

Poortvliet, P. M., and Giebels, E. (2012). Self-improvement and cooperation: how exchange relationships promote mastery-approach driven individuals' job outcomes. *Eur. J. Work Organ. Psychol.* 21, 392–425.

Preacher, K. J., and Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behav. Res. Methods Instrum. Comput.* 36, 717–731.

Reed, L. L., Vidaver-Cohen, D., and Colwell, S. R. (2011). A new scale to measure executive servant leadership: development, analysis, and implications for research. *J. Bus. Ethics* 101, 415–434. doi: 10.1007/s10551-010-0729-1

Saeed, I., Khan, J., Zada, M., Ullah, R., Vega-Muñoz, A., and Contreras-Barraza, N. (2022a). Towards Examining the Link Between Workplace Spirituality and Workforce Agility: exploring Higher Educational Institutions. *Psychol. Res. Behav. Manag.* 15:31. doi: 10.2147/PRBM.S344651

Saeed, I., Khan, J., Zada, M., Zada, S., Vega-Muñoz, A., and Contreras Barraza, N. (2022b). Linking Ethical Leadership to Followers' Knowledge Sharing: mediating Role of Psychological Ownership and Moderating Role of

Professional Commitment. *Front. Psychol.* 304:841590. doi: 10.3389/fpsyg.2022.841590

Saleem, F., Zhang, Y. Z., Gopinath, C., and Adeel, A. (2020). Impact of servant leadership on performance: The mediating role of affective and cognitive trust. *SAGE Open* 10:2158244019900562.

Sendjaya, S. (2015). *Personal and organizational excellence through servant leadership learning to serve, serving to lead, leading to transform.* New York, NY: Springer.

Sendjaya, S., Eva, N., Robin, M., Sugianto, L., ButarButar, I., and Hartel, C. (2019). Leading others to go beyond the call of duty: a dyadic study of servant leadership and psychological ethical climate. *Person. Rev.* 49, 620–635. doi: 10.1108/pr-08-2018-0285

Serenko, A. (2019). Knowledge sabotage as an extreme form of counterproductive knowledge behavior: conceptualization, typology, and empirical demonstration. *J. Knowl. Manag.* 2019:7.

Shin, H. S. (2014). "The second phase of global liquidity and its impact on emerging economies," in *Volatile Capital Flows in Korea*, eds K. Chung, S. Kim, H. Park, C. Choi, and H. S. Shin (New York, NY: Palgrave Macmillan), 247–257.

Shin, S. J., Kim, T. Y., Lee, J. Y., and Bian, L. (2012). Cognitive team diversity and individual team member creativity: a cross-level interaction. *Acad. Manage. J.* 55, 197–212.

Siemsen, E., Roth, A. V., Balasubramanian, S., and Anand, G. (2009). The influence of psychological safety and confidence in knowledge on employee knowledge sharing. *Manuf. Serv. Oper. Manage.* 11, 429–447.

Song, C., Park, K. R., and Kang, S.-W. (2015). Servant leadership and team performance: The mediating role of knowledge-sharing climate. *Soc. Behav. Person.* 43, 1749–1760. doi: 10.2224/sbp.2015.43.10.1749

Sun, L., Lee, M., and Ji, Y. (2020b). The Promotion of Marine Animation on the Cultural Consciousness of the Audience from the Perspective of Cognitive Psychology. *J. Coast. Res.* 103, 1149–1152. doi: 10.2112/si103-240.1

Sun, L., Hu, C., Liu, W., Zhang, W., Duan, J., Li, Z., et al. (2020a). The Psychological Dilemma of Chinese Ocean Crews. *J. Coast. Res.* 103, 668–673. doi: 10.2112/si103-136.1

Tsai, W.-H., Tsai, M.-H., Li, S.-T., and Lin, C. (2012). Harmonizing firms' knowledge and strategies with organizational capabilities. *J. Comp. Inform. Syst.* 53, 23–32.

Ullah, R., Zada, M., Saeed, I., Khan, J., Shahbaz, M., Vega-Muñoz, A., et al. (2021). Have you heard that—"GOSSIP"? Gossip spreads rapidly and influences broadly. *Internat. J. Env. Res. Public Health* 18:13389. doi: 10.3390/ijerph182413389

Wah, C. Y., Menkhoff, T., Loh, B., and Evers, H.-D. (2007). Social capital and knowledge sharing in knowledge-based organizations: an empirical study. *Internat. J. Knowl. Manag.* 3, 29–48. doi: 10.4018/jkm.2007010103

Wu, J., Liden, R. C., Liao, C., and Wayne, S. J. (2021). Does manager servant leadership lead to follower serving behaviors? It depends on follower self-interest. *J. Appl. Psychol.* 106:152. doi: 10.1037/apl0000500

Wu, S., Zhang, K., Parks-Stamm, E. J., Hu, Z., Ji, Y., and Cui, X. (2021). Increases in anxiety and depression during COVID-19: a large longitudinal study from China. *Front. Psychol.* 12:2716. doi: 10.3389/fpsyg.2021.706601

Xiao, Y., Zhang, X., and de Pablos, P. O. (2017). How does individuals' exchange orientation moderate the relationship between transformational leadership and knowledge sharing? *J. Knowl. Manag.* 21, 1622–1639. doi: 10.1108/jkm-03-2017-0120

Zada, M., Zada, S., Ali, M., Yong Jun, Z., Contreras Barraza, N. E., and Castillo, D. (2022a). How classy servant leader at workplace? Linking servant leadership and task performance during the COVID-19 crisis: a moderation and mediation approach. *Front. Psychol.* 2022:195. doi: 10.3389/fpsyg.2022.810227

Zada, M., Zada, S., Khan, J., Saeed, I., Zhang, Y. J., Vega-Muñoz, A., et al. (2022b). Does Servant Leadership Control Psychological Distress in Crisis? Moderation and Mediation Mechanism. *Psychol. Res. Behav. Manag.* 15:607. doi: 10.2147/PRBM.S354093

Zada, S., Wang, Y., Zada, M., and Gul, F. (2021). Effect of mental health problems on academic performance among university students in Pakistan. *Int. J. Ment. Health Promot.* 23, 395–408. doi: 10.1176/appi.ps.202000005

Zhang, X., and Bartol, K. M. (2010). Linking empowering leadership and employee creativity: the influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Acad. Manag. J.* 53, 107–128. doi: 10.5465/amj.2010.48037118

Zhao, H., and Jiang, J. (2021). Role stress, emotional exhaustion, and knowledge hiding: the joint moderating effects of network centrality and structural holes. *Curr. Psychol.* 2021, 1–13. doi: 10.1080/14778238.2021.1876536

Zhao, H., Xia, Q., He, P., Sheard, G., and Wan, P. (2016). Workplace ostracism and knowledge hiding in service organizations. *Int. J. Hosp. Manage.* 59, 84–94.

Zhuang, M., Zhu, W., Huang, L., and Pan, W.-T. (2021). Research of influence mechanism of corporate social responsibility for smart cities on consumers' purchasing intention. *Lib. Hi Tech.* 2021, 0737–8831.

Influence of Crowdsourcing Innovation Community Reference on Creative Territory Behavior

Wei Xiao[1], Xiao-Ling Wang[1]* and Yan-Ning Cao[2]

[1] Department of Human Resource Management at Shanghai Normal University, Shanghai, China, [2] College of Philosophy, Law and Political Science at Shanghai Normal University, Shanghai, China

Crowdsourcing innovation community has become an important platform for enterprises to gather group wisdom. However, how the crowdsourcing innovation community plays a reference role in creative crowdsourcing participation is unclear. Based on the reference group theory, taking online impression management as the explanatory framework, this study explores the impact of crowdsourcing innovation community reference on the creative territory behavior, and the differences in the crowdsourcing innovation community reference effect among members of different community age groups. A total 524 valid two-stage questionnaires were collected. The empirical analysis results show that under the influence of informational reference and utilitarian reference of the crowdsourcing innovation community, community members are significantly more likely to adopt acquired impression management (AIM) than defensive impression management (DIM); under the influence of value expressive reference of the crowdsourcing innovation community, the possibility of adopting DIM behavior is significantly greater than that of adopting AIM behavior; compared with DIM behavior, AIM behavior has a more inhibitory effect on creative territory behavior. Interestingly, there are different community reference effects among members of different community age groups. In particular, the positive contribution of the elder members is not as good as that of the newcomers. The above research conclusions not only confirm the influence of crowdsourcing community reference on crowd participation decision making but also provide theoretical and practical enlightenment for exploring the cooperation mechanism of crowdsourcing innovation.

Keywords: crowdsourcing innovation community reference, reference group, online impression management, creative territory behavior, conformity effect

INTRODUCTION

Howe (2006) put forward the concept of crowdsourcing, which is a kind of free and voluntary outsourcing of tasks previously performed by employees to non-specific (and often large) public volunteers. With the rise of group wisdom, Tencent Cloud, Xiao MI Community, iHaier, and Dell Creative Storm Community have brought a large number of users into the crowdsourcing innovation system in an efficient and low-cost way and achieved remarkable innovation results (Afuah and Tucci, 2012; Bayus, 2013). But it is not easy for companies to operate crowdsourcing

innovation communities to collect rich and valuable creatives such as product experience, improvement suggestions, and new product ideas. Hung et al. (2015) pointed out that only 3–10% of the members of large crowdsourcing communities in China will provide creativity and ideas to enterprises in crowdsourcing communities. The vast majority of crowdsourcing communities have worrying bottlenecks of creativity shortage, knowledge hiding, diving, and hitchhiking in innovation interactions (Mair and Georg, 2017). Therefore, to successfully attract and motivate the collective wisdom contribution of users, it is necessary to have a deep understanding of the role of crowdsourcing innovation communities in creative crowdsourcing participation.

In the literature, it has been found that the innovation mode of crowdsourcing does not necessarily bring about the sharing of creative resources (Michelucci and Dickinson, 2016). Creative territory behavior leads to creative resource hoarding and knowledge sharing failure (Thorgren et al., 2012). In view of individuals, territory or sharing is a social dilemma people usually face (Stouten et al., 2006). According to the theory of social resources (Peng, 2013), individuals tend to have territorial behavior tendencies and expressions toward the objects they perceive ownership. It is noteworthy that compared with other tangible resources, the ownership boundary of a creative idea is more ambiguous, flexible, and permeable, which makes the owners more likely to take creative territory behavior to establish, identify, maintain, or reconstruct their creative ideas (Avey et al., 2009; Chang et al., 2015). The formation mechanism of creative territory behavior has been explored from the perspectives of technical support (Chen et al., 2014; Xiao et al., 2022), personal motivation (Liao et al., 2013), social identity (Peng, 2013), and social network (Elderham and Da Silva, 2015). However, the above research studies mainly focused on the network node attributes and network relations at the micro-level of crowdsourcing community, and lack attention to the overall group attributes of crowdsourcing innovation communities, so the explanation of the crowdsourcing innovation cooperation mechanism is insufficient.

According to the reference group theory, the reference group is an important channel for people living in various groups as social animals to obtain interpersonal support, make an interpersonal comparison, and form subjective cognition of life (Thorgren et al., 2012). Participating in online community interaction has become a common way of life, as members of the crowdsourcing community (Cheung et al., 2014), their decision making of crowdsourcing innovation participation is bound to be influenced by the reference of the community and other members. Nevertheless, it remains to be verified whether reference group theory has explanatory power in the crowdsourcing innovation mode. Since crowdsourcing innovation community has the characteristics of anonymity, full-time and physical absence, traditional social clues, and norms such as income, status, and class are gradually declining (Cheung et al., 2011). The social relationship between makers and crowdsourcing enterprises, makers and makers in the crowdsourcing community is an impromptu,

loose and borderless competition–cooperation relationship (Martin, 2016).

Benabou and Tirole (2003) pointed out that, extrinsic reward and impression management are important factors of individual economic behaviors. Impression management, which means people's psychological tendency to be viewed positively and avoid being viewed negatively by other members of the community, has become an important motivation for users to participate in community activities (Michikyan et al., 2015). Different from open-source community, virtual brand community, and social community, the crowdsourcing innovation community has the dual attributes of innovation participation and online social networking (Yan et al., 2019). However, most scholars study internal and external motivation from the perspective of user innovation or enterprise innovation, while a few scholars study the two attributes of the crowdsourcing innovation community from the perspective of impression management (Wu and Chen, 2021; Xiao and Huo, 2021). The trend of people's impression management from offline to online has also attracted the attention of the literature (Shi et al., 2014). However, impression management is more widely studied in the face-to-face than an online interaction mode (Kaur, 2016). There is a reasonable prospect that the relatively new variable of online impression management will provide a possible psychological explanation mechanism for understanding the influence effect of crowdsourcing innovation community reference (Al-Shatti and Ohana, 2021).

Based on the group reference theory, taking network impression management as the interpretation framework, this study constructs and verifies the theoretical model of the influence of crowdsourcing innovation community reference on creative territory behavior. This study contributes to the literature in several ways. First, by introducing the group reference theory into the research field of creative territory, the formation mechanism of creative territory behavior under the crowdsourcing innovation community reference is explored. It breaks through the limitation of previous studies focusing only on the micro-mechanism of the crowdsourcing community and provides a relatively middle-level theoretical perspective to explore the collaborative mechanism of crowdsourcing innovation. Second, since the explanatory power of reference group theory in the crowdsourcing innovation model remains to be verified, this study constructs and verifies the theoretical model of the influence of crowdsourcing innovation community reference on creative territory behavior to extend the explanatory power of reference group theory to virtual crowdsourcing community. Third, this study uses network impression management as an explanatory framework to reveal the black box of crowdsourcing creative interaction, which provides a possible psychological explanation mechanism for understanding the influence of crowdsourcing innovation community reference. Relevant research conclusions also provide management suggestions for crowdsourcing enterprises to identify and build crowdsourcing innovation communities and formulate effective incentive strategies for crowdsourcing innovation participation.

LITERATURE REVIEW

Crowdsourcing Innovation Community Reference

Reference group theory (Hyman, 1942) provides an effective theoretical perspective for studying the social psychological phenomena between individuals and groups. As social animals, people will inevitably contact and interact with different groups in daily life. Therefore, they will be affected by the tangible and intangible effects of groups. The reference group refers to the imaginary or real groups that have an important impact on individual beliefs, attitudes, or behaviors (Klandermans, 1993). When individuals express their behavior based on the views or values of a specific group, this group is the reference group. From the perspective of the extension of reference groups, reference groups may be accessible in daily life, or they may not have practical contact in the virtual network. With more and more social activities moving from offline to online, participating in online community interaction has become a way of life (Cheung et al., 2014). The research shows that the network reference group can not only have a direct impact on users' online information collection behavior (Kim et al., 2016), tourism network use behavior (Berger and Rand, 2008), online purchase (Escalas and Bettman, 2003), but also have an indirect impact on users' behavior through the intermediary role of variables such as trust (Racherla et al., 2012) and emotion (White and Dahl, 2006).

Considering the crowdsourcing innovation community as the reference group, and focusing on the comparison or reference framework provided by the network reference group for its members' attitudes, values, and behavior decisions, this study aims to explore the impact of crowdsourcing innovation community reference on community members. By recognizing the reference group as a multi-dimensional construct (Escalas and Bettman, 2003; Pechmann and Wang, 2010), crowdsourcing innovation community reference can be summarized as informational reference, utilitarian reference, and value expressive reference. Informational reference refers to the information from crowdsourcing community and other members' help to improve the cognitive ability of community members. Utilitarian reference refers to the behavior that community members take to meet the expectations of the group to obtain the appreciation of the crowdsourcing community or avoid punishment. Value expressive reference comes from the internalization of group values and norms by community users.

Online Impression Management

Impression management is the internal consciousness and motivation of individual self-image display and catering to others' recognition of self-image (Viswesvaran et al., 2001; Bao et al., 2010). With the continuous development of Internet technology, many social activities begin to be transferred to the network, which makes the formation and effectiveness of interpersonal impressions divorced from the real social scene. Michikyan et al. (2014) put forward the concept of online impression management and pointed out that to strengthen or build a self-image completely different from the real society, Internet users will adopt different impression management strategies on various real name or non-real name network platforms. Unlike WeChat moments, which focuses on social networking with acquaintances, Internet platforms and media such as microblog, WeChat group, and crowdsourcing communities enable netizens to choose, contact, and communicate with people who have common hobbies, attitudes, and values (Wu and Zheng, 2019). In the process of multiple community exchanges and interactions such as likes, comments, and posts through crowdsourcing communities, makers do form self-concept through role-playing and identity construction, especially making ideal-self and virtual-self visible (Kozinets et al., 2008).

According to the differences in causes and functions, impression management is divided into acquired impression management (AIM) and defensive impression management (DIM) (Jain, 2012). AIM aims to make others view their efforts positively and seek recognition by presenting positive aspects of themselves. DIM aims to avoid others' negative views of themselves by weakening their shortcomings. In the crowdsourcing innovation community, people want to get a positive evaluation and do not want to get a negative evaluation. Therefore, they will control or manage their online impression through knowledge and creative activities (Ramaswamy, 2005). However, due to different motives, some users may adopt AIM, while others adopt DIM. When users want to repair or improve their reputation, they will adopt AIM strategies, such as actively undertaking community tasks, participating in posting, and showing their innovation ability. In case of negative events, DIM strategies shall be adopted to weaken their shortcomings or avoid others' negative views of themselves, such as denial, defense, apology, compensation, correction, and deletion of posts.

Based on the group reference theory, taking network impression management as the interpretation framework, the theoretical model of the influence of crowdsourced innovation community reference on creative territory behavior was constructed as shown in **Figure 1**.

Crowdsourcing Innovation Community Reference and Online Impression Management

Informational Reference and Online Impression Management

Informational influence is mainly manifested in that individuals can get information related to product innovation and creative experience by participating in the group interaction and communication of crowdsourcing community (Thorgren et al., 2012). Usually, individuals expect to have enough information before making decisions. Since the environment is full of various uncertainties, makers often collect a large amount of relevant information, ideas, and knowledge by paying attention to the words,

FIGURE 1 | Theoretical model of the relationship between crowdsourcing innovation community reference and creative territory behavior.
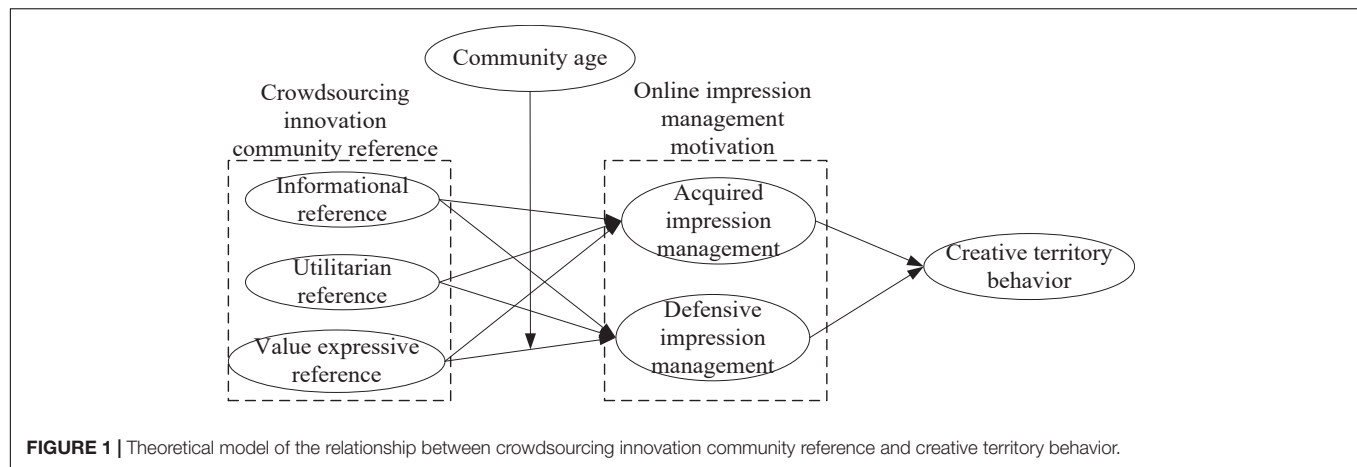
pictures, and videos shared by online communities, to acquire innovation knowledge and improve product creativity skills.

In daily community life, users often contact and communicate with various reference groups. In all kinds of intentional or unintentional interactions, users get a lot of information. In the process of crowdsourcing, heterogeneous knowledge and creativity wander and couple to generate new information (Cheung et al., 2011). As useful information, the behaviors, ideas, and opinions of the community and its members are beneficial to improve the cognitive ability of individual makers and drive individual makers to adopt AIM behavior. From the perspective of social capital, the mutually beneficial relationship between knowledge co-creators can promote the formation of an emotion-based trust relationship, so as to increase the quantity and quality of mutual knowledge sharing (Brown et al., 2014). Thorgren et al. (2012) also believed that the interdependent cooperation parties are more inclined not to protect their knowledge, but to share all kinds of knowledge with a strong will and a more open mind, and ensure that each other can absorb it.

Therefore, this study puts forward the following hypothesis:

> **H$_{1a}$:** Information reference is positively associated with acquired impression management.

> **H$_{1b}$:** Information reference is negatively associated with defensive impression management.

TABLE 1 | Confirmatory factor analysis results.

Variables	Factor loading	Cronbach's α	KMO
Informational reference	0.743	0.868	0.912
Utilitarian reference	0.760	0.902	0.916
Value expressive reference	0.681	0.875	0.908
Acquired impression management	0.851	0.932	0.872
Defensive impression management	0.773	0.839	0.849
Creative territory behavior	0.898	0.895	0.746

Utilitarian Reference and Online Impression Management

The normative influence of the reference group refers to the tendency to meet the expectations of others (Burnkrant and Cousineau, 1975). Among them, utilitarian reference focuses on individuals' compliance with the expectations of others to gain rewards or avoid punishment (Bearden et al., 1989). For the crowdsourcing innovation community members, participating in crowdsourcing innovation has two utilitarian motives: ability display and self-learning. First, for reasons such as dissatisfaction with existing products or wanting to improve products according to their wishes, users will interact with enterprises through a convenient crowdsourcing innovation community and participate in enterprise value co-creation (Ramaswamy, 2005). Second, for users who aim at learning, participating in crowdsourcing innovation actively is also the best choice. Rioux and Penner (2001) found that motivated by positive impression management motivation, individuals who want to improve their self-image are usually more willing to take risks, put forward positive suggestions, or actively provide help when other community members need it.

When individuals pay attention to the dynamics of the community and other members, they will take it as the reference object for their participation in decision making in crowdsourcing community creative activities. Syn and Oh (2015) pointed out that social participation is a powerful utilitarian driving force to promote members' knowledge sharing. Geng and Shen (2019) believed that utilitarian social expectation is one of the most important motivations for users to participate in knowledge sharing. When individuals choose to adapt to the default standards and norms of the group, make their attitudes and values converge with the group, and express their recognition and love for others in the community to integrate into the group, utilitarian influence will occur. Users' public self-expression and display in the community is an important positive means of relationship promotion, and stronger self-presentation motivation will correspondingly cause more positive feedback from other users (Bareket-Bojmel et al., 2001). Therefore, under the utilitarian reference of the crowdsourcing innovation community, it is a common impression management behavior

Model fitting index	χ^2/df	GFI	CFI	AGFI	RMSEA
Ideal range	≤3	≥0.9	≥0.9	>0.5	<0.08
Model fitting value	2.448	0.908	0.907	0.761	0.075

GFI, goodness-of-fit index; CFI, comparative fit index; AGFI, adjusted goodness-of-fit index; RMSEA, root mean square error of approximation.

for members to express positive emotions to the greatest extent to present and maintain a positive self-image.

Therefore, this study puts forward the following hypothesis:

H2a: Utilitarian reference is positively associated with acquired impression management.

H2b: Utilitarian reference is negatively associated with defensive impression management.

Value Expressive Reference and Online Impression Management

Value expressive reference emphasizes the value cognition and emotional dependence of individuals on their special social group identity (Bass, 1985). Generally speaking, when facing a certain society or group, people will refer to the characteristics of a specific society or group to determine their belonging and make corresponding contributions to the community, to obtain the recognition of the community and other members. Pagliaro et al. (2010) showed that the group pressure caused by the behavior of others in the community will make members worry that if they cannot be consistent with the behavior of others, they will not be recognized by the group or even excluded. Chen and Chen (2017) studied the tourism online community and found that customers' recognition will significantly affect their value co-creation behavior. It was believed that in China's society dominated by "Guanxi" and "Mianzi," the identity of an insider is valued by members (Li et al., 2017; He et al., 2019).

In the context of a virtual online community, individual identity is no longer limited by traditional social reference dimensions (such as class, status, bureaucracy), and their cooperative innovation behavior is more affected by trust (Lee et al., 2013), value perception (Martin, 2016), and sense of belonging (Nambisan and Baron, 2010). Although a crowdsourcing innovation community is an informal and loose tribe, its members still pursue a kind of community identity (Tsang et al., 2013). Grant and Mayer (2009) found that value expressive reference has a positive impact on affinity organizational citizenship behavior, but has a negative impact on challenging organizational citizenship behavior. The characteristics of the crowdsourcing community, such as anonymity, full-time, and few constraints (Cheung et al., 2011), make people in a "streaking" state, so the value expression of every word and action in the community is likely to be amplified and misinterpreted. It can be seen that under the value expressive reference of a crowdsourcing innovation community, members need to be more careful to maintain a balance between advantages and credibility in the process of impression construction. If individuals pay too much attention to the advantages of impression and earn "Mianzi" too actively

(Tsang et al., 2013), they might be counterproductive, that is, they cannot be recognized by the community.

Therefore, this study puts forward the following hypothesis:

H3a: Value expressive reference is negatively associated with acquired impression management.

H3b: Value expressive reference is positively associated with defensive impression management.

Moderating Effect of Community Age

If different indicators of community reference have different effects on impression management, do these referential effects remain stable across different groups? Empirical studies in the field of consumption have found that brand age will affect consumers' self-interpretation, and then affect the attribution of consumers' reference group and consumers' brand identity (Stephens et al., 2007). Less experienced consumers prefer independent self-interpretation, while experienced consumer groups prefer interdependent self-interpretation (Kraus and Keltner, 2009). Similar to the consumer scene, in the workplace, elder employees generally have the characteristics of abiding by norms, obeying authority and system, while new employees have the characteristics of pursuing self-independence and distinctive personalities (Grant and Mayer, 2009). Bolino et al. (2015) pointed out that the behavior of impression management requires the consumption of cognitive resources, emotional resources, and physical strength of the behavior subject. Since the new and elder members have different impression management motives, their impression management behavior is likely to be different.

For elder members, first, may have gained a certain community reputation and formed a relatively fixed community impression, so it is difficult for them to improve an individual image through general innovative participation behavior (Bolino et al., 2015). Second, there may be job burnout, which is increasingly tired, sleepy, and even tired of community innovation contribution. Third, they may have exhausted their talents, and the difficulty of innovation is relatively high. For newcomers, the positive images such as community reputation and community status are blank, and they have expectations for the future. Second, new members usually bring new heterogeneous resources such as knowledge, thinking, and values (Brown et al., 2014). Finally, just as the so-called "newborn calves are not afraid of tigers," the enthusiasm and vitality of new members is a contribution to innovation performance. It can be seen that the longer the community age of the crowdsourcing members are, the more cautious and negative they will be about participating in crowdsourcing innovation. The shorter the community age of the members, the more positive they will be to participate in crowdsourcing innovation.

Therefore, this study puts forward the following hypothesis:

H$_{4a}$: Community age positively moderates the relationship between crowdsourcing innovation community reference and defensive impression management.

H$_{4b}$: Community age negatively moderates the relationship between crowdsourcing innovation community reference and acquired impression management.

Online Impression Management and Creative Territory Behavior

The performance prediction effect of impression management is context dependent. DIM causes damage to the public social environment, while AIM promotes the public social environment (Delgado-Rodríguez et al., 2018). Rioux and Penner (2001) pointed out that if the two impression management motives of acquisition and protection can be effectively distinguished, their impact on user behavior may be clearer. Usually, individuals have an exclusive propensity to possess the perceived object, that is, what people usually say "this is mine, not yours." Online impression management, as an important part of personal self-image management in the network situation, especially the strong desire for recognition and the fear of losing reputation, plays an important role in the online interaction among community members. This study agrees with Rioux and Penner (2001) and believes that in the crowdsourcing community with many complex interpersonal interactions, the relationship between impression management strategy and creative territory behavior is multidimensional.

Members driven by AIM hope to prove to other community members that they are willing and able to implement innovation activities through the sharing or contribution of knowledge and creativity, even if this is not what they really want to do (Nambisan and Baron, 2010). Positive impression management motivation can accelerate the process of group assimilation or alienation because few people in the group are willing to develop relationships with members with poor image and disrespect (Tsang et al., 2013). Therefore, they are more inclined to win a good reputation and appreciation in the community through creative contribution and sharing. On the contrary, community members with DIM motivation lack the motivation to establish a self-image consistent with the group identity. Under the threat of negative evaluation, they rarely take the initiative to show and express themselves in the group. They usually choose to dive or free ride in crowdsourcing community innovation activities, or wrap themselves in an information "cocoon room" (Lee et al., 2013; He et al., 2020). To sum up, for DIM, defensive behaviors such as deleting posts or carefully following posts will promote the formation of creative territory. For AIM, whether it is for positive self-improvement or to meet the expectations of the crowdsourcing community, it can inhibit the creative territory behavior of community members.

Therefore, this study puts forward the following hypothesis:

H$_{5a}$: Defensive impression management positively associates with creative territory behavior.

H$_{5b}$: Acquired impression management negatively associates with creative territory behavior.

MATERIALS AND METHODS

Sample and Data Collection

The data collection of this study is based on the professional data research platform named Questionnaire Star. Members from 15 crowdsourcing innovation communities such as Tencent Cloud, Alibaba Cloud, Xiao MI Community, iHaier, and Dell Creative Storm Community were selected as subjects. The community members who are active and influential in crowdsourcing innovation activities are invited to fill in the questionnaire, and the reward of 100% winning and a random amount was provided. The survey data of this study was collected in two stages. The first stage (from 1 December 2020 to 15 December 2020) mainly collects the basic information of subjects (such as gender, age, education level, position, and community age) and the data of crowdsourcing innovation community reference. In the second stage (from 1 September 2021 to 15 September 2021), participants in the first stage were invited to evaluate online impression management and creative territory behavior.

To facilitate the data matching of the two-stage questionnaire survey, each subject's questionnaire is given a number. The 232 questionnaires that only participated in the first stage and were missing in the second stage were excluded, and a total of 563 questionnaires were recovered. Furthermore, after eliminating the invalid questionnaires with the "Z character" rule and missing more than 10%, 524 valid questionnaires were finally obtained, and the effective recovery rate of the questionnaire was 96.63%. The proportion of male and female samples was 53.5 and 46.15%, respectively. The proportion of samples of different ages was 30.77, 42.66, 24.83, and 1.75%. The proportion of samples with different educational backgrounds was 20.98, 50.7, and 21.33%. The proportion of samples of different positions was 28.32, 23.08, 34.27, and 14.34%.

Variables and Measurement

We used the 10-item scale developed by Escalas and Bettman (2003) to measure the crowdsourcing innovation community reference, and revise the expression of the scale according to the characteristics of the crowdsourcing innovation community, items including, "if community members make serious improper remarks, they will be excluded or disqualified from community membership." We used a 13-item scale developed by Bolino et al. (2015) to measure online impression management, items including, "when other members of the community have an adverse impression on me due to my post, it bothers me." For the measurement of creative territory behavior, referring to the measurement scale of territory behavior of non-physical objects by Avey et al. (2009), and combing with the situational characteristics of crowdsourcing creativity, the relevant expression of the scale was modified, four items including, "I feel I need to protect my creative ideas from being used by others."

The above variables are latent variables, Likert-7 scale (1 = totally disagree, 7 = totally agree) was used for the corresponding measurement items. As an explicit variable, the community age is set as follows: 1 = less than 6 months; 2 = 7–12 months; 3 = 1–2 years; 4 = 2–5 years; 5 = more than 5 years. In addition, referring to previous research on crowdsourcing innovation community, gender (1 = male, 2 = female), age (1 = 19–20 years, 2 = 21–30 years, 3 = 31–40 years, 4 = 41–50 years, 5 = more than 50 years), education level (1 = high school/technical secondary school and below, 2 = College, 3 = undergraduate, 4 = master and above), and position (1 = ordinary employees, 2 = grass-roots managers, 3 = middle managers, 4 = senior managers) were used as control variables in this study.

Common Method Variance

Several procedures are used to minimize the impact of common method bias. First, a statement is provided at the beginning of the questionnaire to explain the research purpose and ensure the anonymity of the answers. Second, in the introduction, it is pointed out that there is no right or wrong answer to reduce the anxiety of the respondents. Third, the items belonging to the same construct and dimension will not appear at the same time. Fourth, the order of items in each questionnaire is as different as possible.

The following three statistical tests show that there is no serious common method bias in the questionnaire measurement. First, the exploratory factor analysis (EFA) was used to analyze all the items in the questionnaire by Harman single factor method. When a factor accounted for more than 50% of the variance of the variable, there was a common method deviation. The 30 measurement items were analyzed by unrotated principal components factor analysis. All measurement items were aggregated into 6 factors with eigenvalues greater than 1. The first factor explained 29.13% of the variation and less than 40%, indicating that there was no high explanation rate of the variance of a single factor. Second, whether only one factor can be extracted from the sample data is tested. The results show that the hypothetical theoretical model can distinguish significantly (χ^2/df = 153.5, $p < 0.001$) from the single-factor model, and has a higher fitting ability. Third, the common method factor is added to the structural equation model as a potential variable, and the change of the structural equation model-fitting after adding the potential variable is compared. The test results show that the fitting degree of the model to the data was not significantly improved after adding the common method deviation factor ($\Delta \chi^2 / \Delta$ df = 8.76).

RESULTS

Reliability and Validity Test

SPSS 24.0 was used to test the reliability of the sample data to judge the stability of the scale (see **Table 1**). The results show that Cronbach's α coefficients of all the variables are greater than 0.8. Therefore, the scale has good internal consistency. All latent variables passed KMO sample measurement and Bartlett's spherical test, which is suitable for confirmatory factor analysis. The results of factor analysis show that the measurement items of the same variable are distributed in the same factor. The factor loads of all variables exceed the acceptable critical value of 0.5, and the minimum factor load is 0.681.

Amos24.0 was used for model fitting validity analysis in this study (see **Table 2**). It can be seen that the fitting effect of the sample data on the hypothetical model is ideal, and the verification of the research hypothesis can be carried out. In addition, this study used the average variance extracted (AVE) value and combined reliability (CR) value to test the convergent validity of the research data. The lowest CR of all variables was 0.756, exceeding the critical value of 0.7. According to the test results of the AVE, the AVE values of all variables are greater than 0.5, which shows that the quality of the model is good. At the same time, the square root of the AVE value is higher than the correlation coefficient among variables, providing adequate discriminant validity.

Hypothesis Test

Crowdsourcing Innovation Community Reference and Online Impression Management

Referring to the relationship between crowdsourcing innovation community reference and online impression management (AIM/DIM), the test was divided into two steps: (1) regression analysis of all control variables; (2) the control variables were added, and the independent variables were analyzed by AIM/DIM.

As is shown in **Table 3**, first, gender, age, education, and position have no significant impact on AIM and DIM. Second, informational reference has a significant positive impact on AIM (M_2, β = 0.633, $p < 0.001$), and has a significant negative effect on DIM (M_6, β = −0.371, $p < 0.001$), so H_{1a} and H_{1b} was verified. Third, utilitarian reference has a significant positive impact on AIM (M_3, β = 0.580, $p < 0.001$), and has a significant negative effect on DIM (M_7, β = −0.394, $p < 0.001$) was verified. Finally, value expressive reference has a significant negative impact on AIM (M_7, β = −0.117, $p < 0.01$), and has a significant positive effect on DIM (M_8, β = 0.148, $p < 0.001$), so H_{3a} and H_{3b} was verified.

Moderating Effect of Community Age

The moderating effect of community age was tested in three steps: (1) AIM/DIM was used to conduct regression analysis on crowdsourcing innovation community reference; (2) the moderating variable (community age) was added for regression analysis; (3) the interaction items after centralized treatment (crowdsourcing innovation community reference × community age) were added for regression analysis. The results are shown in **Table 4**.

As shown in **Table 4**, the minimum F value of M_4–M_6 is 32.3 ($p < 0.001$), indicating that there is a significant linear relationship in the model. The corresponding ΔR^2 are 0.116, 0.261, and 0.267, indicating that the explanatory power of the model is improving, and the latter model is better than the former model. In M_4, community age and interaction item

TABLE 3 | Regression analysis results of the relationship between crowdsourcing innovation community reference and online impression management (AIM/DIM).

Variables	AIM				DIM			
	M_1	M_2	M_3	M_4	M_5	M_6	M_7	M_8
Gender	0.040	−0.061	−0.048	−0.009	−0.146	−0.087	0.087	−0.084
Age	−0.035	−0.023	−0.079	−0.070	−0.042	−0.049	0.012	0.003
Education	−0.152	−0.105	−0.145	−0.130	−0.035	−0.063	0.040	−0.063
Position	0.032	0.013	0.030	0.055	−0.030	0.008	0.001	−0.030
Informational reference		0.633***				−0.371***		
Utilitarian reference			0.580***				−0.394***	
Value expressive reference				−0.117**				0.148***
ΔR^2	−0.004	0.214	0.165	0.032	−0.004	0.205	0.216	0.170
F	0.7	15.0***	11.2***	2.7***	0.7	14.3***	15.2***	11.6***

***p < 0.001; **p < 0.01. AIM, acquired impression management; DIM, defensive impression management.

TABLE 4 | Hierarchical regression analysis results of the moderating effect of crowdsourcing community members' community age.

Variables	AIM			DIM		
	M_1	M_2	M_3	M_4	M_5	M_6
Crowdsourcing innovation community reference	0.696***	0.574***	0.566***	−0.393**	−0.346**	−0.327***
Community age		0.410***	−0.421***		0.190***	0.199***
Crowdsourcing innovation community reference × community age			−0.048*			0.082*
ΔR^2	0.118	0.334	0.347	0.116	0.261	0.267
F	35.5***	65.5***	43.7***	34.9***	46.3***	32.3***

***p < 0.001; **p < 0.01; *p < 0.05. AIM, acquired impression management; DIM, defensive impression management.

(crowdsourcing innovation community reference × community age) were added in turn. As in M_5 ($\beta = 0.190$, $p < 0.001$), and M_6 ($\beta = 0.082$, $p < 0.05$), the results showed that the interaction term had a significant positive moderating effect on DIM, so H_{4a} was verified.

Similarly, the minimum F value of M_1–M_3 is 35.5 ($p < 0.001$), indicating that there is a significant linear relationship in the model. The corresponding ΔR^2 are 0.118, 0.334, and 0.347, indicating that the explanatory power of the model is improving, and the latter model is better than the former model. In M_1, community age and interaction item (crowdsourcing innovation community reference × community age) were added in turn. As in M_2 ($\beta = -0.410$, $p < 0.001$) and M_3 ($\beta = -0.048$, $p < 0.05$), the results show that the interaction term has a significant negative moderating effect on AIM, so H_{4b} is verified.

Furthermore, by adding and subtracting 1 SD from the average community age of community members, the samples were divided into two groups: long community age and short community age. The moderating effect map was drawn as seen in **Figures 2**, **3**). As shown in **Figure 2**, the community age of community members positively moderates DIM, the slopes of long and short community age curves are negative, and the slope of a long community age curve is significantly lower than that of the short community age curve. As shown in **Figure 3**, the community age of community members negatively moderates AIM, and the slope of the short community age curve is significantly greater than that of the long community age curve.
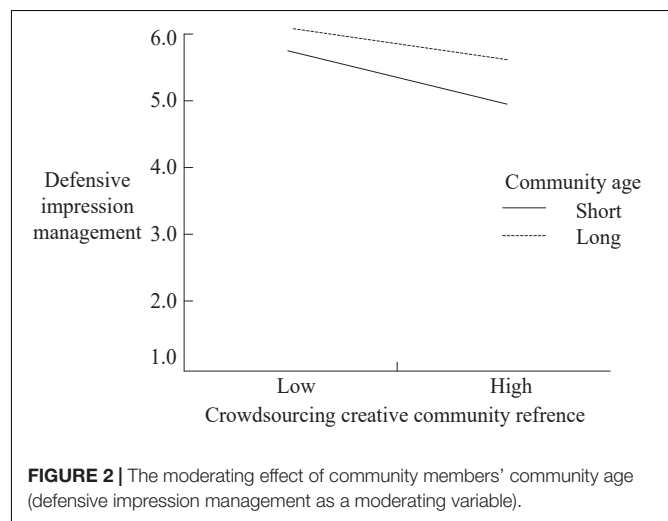
FIGURE 2 | The moderating effect of community members' community age (defensive impression management as a moderating variable).

Online Impression Management and Creative Territory Behavior

To test the impact of online impression management (AIM/DIM) on crowdsourcing members' creative territory behavior, the dependent variable creative territory behavior was regressed to acquired/DIM. It can be seen from **Table 5** that AIM ($p < 0.001$, $\beta = -0.201$) has a significantly negative impact on creative territory behavior, and DIM ($p < 0.001$, $\beta = 0.346$) has a significantly positive impact on creative territory behavior, so

FIGURE 3 | The moderating effect of community members' community age (defensive impression management as a moderating variable).
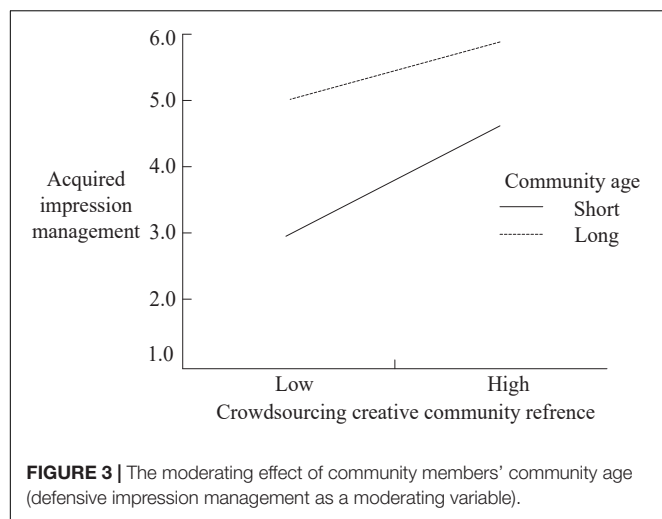
H_{5a} and H_{5b} is verified. The reason why DIM has a significant positive impact on creative territory behavior may be that in the crowdsourcing innovation community, conservative behaviors such as apology, compensation, and correction are not beneficial to the creative contribution, while behaviors such as deleting posts, denying, and defending will have a greater negative effect.

DISCUSSION AND CONCLUSION

Conclusion

This study introduces the reference group theory into the research field of crowdsourcing innovation. Taking online impression management as the explanatory framework, this study constructs and verifies the theoretical model of the impact of crowdsourcing innovation community reference on the creative territory behavior. The conformity effect, which is what we usually call "following the crowd," was confirmed in crowdsourcing. When individuals are influenced (guided or exerted pressure) by the reference group, their decision-making behavior will change in the direction consistent with the majority or mainstream opinion of the community. It is believed that only by providing effective reference strategies for crowdsourcing innovation communities, activating the positive/active online impression management motivation of makers, can crowdsourcing enterprises break the psychological

TABLE 5 | Regression analysis results of the relationship between AIM/DIM and creative territory behavior.

Variables	Creative territory behavior
AIM	−0.201***
DIM	0.346***
ΔR^2	0.137
F	21.3***

***p < 0.001. AIM, acquired impression management; DIM, defensive impression management.

ownership line of maker members' creativity, alleviate their creative territory behavior, and improve crowdsourcing innovation performance finally.

Theoretical Implication

By introducing the reference group theory into the research field of crowdsourcing innovation, this study breaks through the limitation of previous studies focusing only on the micro-mechanism of the crowdsourcing community, and provides a relatively middle-level theoretical perspective to explore the collaborative mechanism of crowdsourcing innovation. First, the informational reference and utilitarian reference of the crowdsourcing innovation community have a significant positive impact on AIM and a significant negative impact on DIM. The value expressive reference of the crowdsourcing innovation community has a significant negative impact on AIM and a significant positive impact on DIM. This is consistent with the research conclusions of other reference situations. For example, Geng and Shen (2019) found that informational reference and utilitarian reference are significantly positively correlated with users' willingness to share knowledge from different cultural perspectives, while insider identity perception has a positive impact on employees' voice (Li et al., 2017). According to the group reference theory (Hyman, 1942; Kim et al., 2016), human beings, as a social animal, need to have a sense of belonging to a specific group and tend to identify and attach to the members of the group. More importantly, following the transformation of people's social interaction principle from "social survival" to "community survival" (Heinonen and Strandvik, 2015; Puschmann and Rainer, 2016), this study attempts to extend the explanatory power of reference group theory to crowdsourcing innovation communities. The above research results provide a relatively middle-level theoretical perspective for crowdsourcing enterprises to effectively stimulate group wisdom.

Second, this study uses online impression management as an explanatory framework to reveal the black box of crowdsourcing creative interaction, which provides a possible psychological explanation mechanism for understanding the influence of crowdsourcing innovation community reference. It was found that AIM has a significant inhibitory effect on the creative territory behavior of the crowdsourcing innovation community, while DIM has a positive incentive effect on the creative territory behavior. Therefore, the crowdsoucing innovation community reference can indirectly affect the creative territory behavior by stimulating the online impression management motivation and behavior of community members. This study not only provides a research idea for the future in-depth discussion on how to reduce or even reverse the creative territory behavior of its members in the crowdsourcing community dominated by the independent innovation of individual makers (Al-Shatti and Ohana, 2021) but also inspires more research of crowdsourcing innovation to highlight the subject identity and initiative of the majority of makers to the greatest extent, to reshape the cultural capital in creative labor (Liang, 2015; He et al., 2021).

Third, this study also verified the moderating effect of community age in the relationship between crowdsourcing innovation community reference and online impression

management. The longer the community age of crowdsourcing innovation community members, the stronger the motivation for DIM, and the shorter the community age, the stronger the motivation behavior for AIM. The traditional view holds that elder members have more experience and ability in innovation performance (Chen and Chen, 2017; Tang et al., 2019), but this study shows that in the crowdsourcing innovation community with the dual attributes of group innovation and online social networking, the elders show fewer positive characteristics than the newcomers, such as job burnout and worldly sophistication. This provides theoretical support for enterprises to spit out the elder and accept the new in the community.

Practical Implication

First, crowdsourcing community information management. This study proves that maker members prefer to adopt AIM behavior under the informational reference of the crowdsourcing innovation community. Since general users are limited to the lack of professional knowledge and are difficult to participate in deep innovation. Crowdsourcing enterprises can conduct innovation-oriented online interactions with customers to guide users to participate in innovation. Furthermore, maker members who pursue value co-creation generally have the psychology of reciprocity. Enterprises can regularly share relevant information and knowledge, or organize experts to answer members' questions in the community in time to help maker members grow.

Second, crowdsourcing community social management. This study proves that maker members prefer to adopt AIM behavior under the utilitarian reference of the crowdsourcing community. Therefore, crowdsourcing enterprises can design effective user incentive mechanisms to strengthen and maintain the good image and status of users who actively participate in the crowdsourcing community. Because it is easier for people to choose to contact and refer to people with the same characteristics as themselves, enterprises can give users who actively participate in innovation the same title or grade to enhance the reference value of these users. Combined with the strong comparison psychology of Chinese people, enterprises can stimulate users' mentality of being unwilling to be behind others and encourage users to actively look for the possibility of creativity.

Third, crowdsourcing community standard management. This study shows that under the value expressive reference of the crowdsourcing innovation community, users tend to adopt DIM behavior, which has a certain inhibition on the creative contribution of the crowdsourcing innovation community. Enterprises can create a positive innovation atmosphere in the crowdsourcing innovation community and improve users' cognitive threshold of group requirements, to stimulate community users to actively join and improve their creative performance. Information asymmetry makes it difficult to distinguish between good actors and good soldiers, so the standard for the community to confirm good should be higher than that for bad. Enterprises can set up community user levels according to users' creative contributions. When other users actively participate in crowdsourcing innovation, users who

prefer DIM behavior are forced to participate in innovation for fear of being labeled or excluded.

Fourth, crowdsourcing community member growth management. This study shows that in the crowdsourcing innovation community, community age positively regulates DIM behavior and negatively regulates AIM behavior. Therefore, attracting new members and eliminating some elder members has become a realistic choice for enterprises. When designing various incentive measures, the community annual leave can be set as a negative index. Take various ways to encourage more users to join the crowdsourcing innovation community.

Limitations and Future Research Directions

This study also has some limitations, which need to be improved in future research. First, this study introduces the reference group theory into the research field of crowdsourcing innovation for the first time to explore its impact on the creative territory behavior of crowdsourcing community members. In the future, the perspective of reference group theory can be used to explain more crowd-based innovation dilemmas (such as competition vs. cooperation, class vs. equality, egoism vs. altruism), and provide more possible solutions to the tragedy of the commons in the field of crowdsourcing. Second, this study focuses on the different influence dimensions of crowdsourcing innovation community reference. Other characteristics of crowdsourcing innovation communities, such as crowdsourcing innovation community support, can be considered in the future. Third, the data collection of this study adopts the phased pairing method for the questionnaire survey. Future research can also be combined with paired samples, diversified data surveys, and other methods to reduce the impact of common method deviation.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

AUTHOR CONTRIBUTIONS

WX: conceptualization, methodology, formal analysis, software, and writing – original draft preparation. X-LW: formal analysis, visualization, and supervision. Y-NC: data collection and writing – review and editing. All authors have read and agreed to the final version of the manuscript.

FUNDING

REFERENCES

Afuah, A., and Tucci, C. L. (2012). Crowdsourcing as a solution to distant search. *Acad. Manag. Rev.* 37, 355–375. doi: 10.5465/amr.2010.0146

Al-Shatti, E., and Ohana, M. (2021). Impression management and career related outcomes: a systematic literature review. *Front. Psychol.* 12:701694. doi: 10.3389/fpsyg.2021.701694

Avey, J. B., Avolio, B. J., Crossley, C. D., and Luthans, F. (2009). Psychological ownership: theoretical extensions, measurement and relation to work outcomes. *J. Organ. Behav.* 30, 173–191. doi: 10.1002/job.583

Bao, Y., Zhou, K., and Su, C. (2010). Face consciousness and risk aversion: do they affect consumer decision-making? *Psychol. Market.* 20, 733–755. doi: 10.1002/mar.10094

Bareket-Bojmel, L., Moran, S., and Shahar, G. (2001). Strategic self-presentation on facebook: personal motives and audience response to online behavior. *Comp. Hum. Behav.* 55, 788–795. doi: 10.1016/j.chb.2015.10.033

Bass, B. M. (1985). *Leadership and Performance Beyond Expectations*. London: Macmillan, 191. doi: 10.2307/258081

Bayus, B. L. (2013). Crowdsourcing new product ideas over time: an analysis of the Dell Idea-Storm community. *Manag. Sci.* 59, 226–244. doi: 10.2139/ssrn.1979557

Bearden, W. O., Netemeyer, R. G., and Teel, J. E. (1989). Measurement of consumer susceptibility to interpersonal influence. *J. Consum. Res.* 15, 473–481. doi: 10.1086/209186

Benabou, R., and Tirole, J. (2003). Intrinsic and extrinsic motivation. *Rev. Econ. Stud.* 70, 489–520. doi: 10.1111/1467-937X.00253

Berger, J., and Rand, L. (2008). Shifting signals to help health: using identity signaling to reduce risky health behaviors. *J. Consum. Res.* 35, 509–518. doi: 10.1086/587632

Bolino, M. C., Hsiung, H., Harvey, J., and LePine, J. A. (2015). "Well, I'm tired of trying"! Organizational citizenship behavior and citizenship fatigue. *J. Appl. Psychol.* 100, 56–74. doi: 10.1037/a0037583

Brown, G., Lawrence, T., and Robingson, S. L. (2014). Psychological ownership, territorial behavior and being perceived as a team contributor. *Person. Psychol.* 67, 463–485. doi: 10.1111/peps.12048

Burnkrant, R. E., and Cousineau, A. (1975). Informational and normative social influence in buyer behavior. *J. Consum. Res.* 2, 206–215. doi: 10.1086/208633

Chang, C. M., Hsu, M. H., and Lee, Y. J. (2015). Factors influencing knowledge-sharing behavior in virtual communities: a longitudinal investigation. *Inform. Syst. Manag.* 32, 331–340. doi: 10.1080/10580530.2015.1080002

Chen, C., and Chen, C. J. (2017). The role of customer participation for enhancing repurchase intention. *Manag. Decis.* 55, 547–562. doi: 10.1108/MD-06-2016-0380

Chen, H. L., Fan, H. L., and Tsai, C. C. (2014). The role of community trust and altruism in knowledge sharing: an investigation of a virtual community of teacher professionals. *Educ. Technol. Soc.* 17, 168–179.

Cheung, C., Lee, M., and Jin, X. (2011). "Customer engagement in an online social platform: a conceptual model and scale development," in *Proceedings of the International Conference on Information Systems, ICIS 2011, December 4-7, 2011* (Shanghai: DBLP).

Cheung, C., Lee, M., and Lee, Z. (2014). Understanding the continuance intention of knowledge sharing in online communities of practice through the post-knowledge-sharing evaluation processes. *J. Assoc. Inform. Sci. Technol.* 64, 1357–1374.

Delgado-Rodríguez, N., Hernández-Fernaud, E., Rosales, C., Díaz-Vilela, L., Isla-Díaz, R., and Díaz-Cabrera, D. (2018). Contextual performance in academic settings: the role of personality, self-efficacy, and impression management. *J. Work. Organ. Psychol.* 34, 63–68. doi: 10.5093/jwop2018a8

Elderham, G. R., and Da Silva, N. (2015). The impact of digital technology on the generation and implementation of creative ideas in the workplace. *Comp. Hum. Behav.* 42, 5–11. doi: 10.1016/j.chb.2013.10.041

Escalas, J. E., and Bettman, J. R. (2003). You are what they eat: the influence of reference groups on consumers' connections to brands. *J. Consum. Psychol.* 13, 339–348. doi: 10.1207/S15327663JCP1303_14

Geng, R. L., and Shen, J. (2019). Research on knowledge sharing behavior motivation of social network users from different cultural perspectives. *J. Chin. Library* 41, 239–249. doi: 10.13530/j.cnki.jlis.190005

Grant, A. M., and Mayer, D. M. (2009). Good soldieries and good actors: pro-social and impression management motives as interactive predictors of affiliation citizenship behaviors. *J. Appl. Psychol.* 94, 900–912. doi: 10.1037/a0013770

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: current research status and future research directions. *Front. Psychol.* 12:737–748. doi: 10.3389/fpsyg.2021.748237

He, P., Peng, Z., Zhao, H., and Estay, C. (2019). How and when compulsory citizenship behavior leads to employee silence? A moderated mediation model based on moral disengagement and supervisor-subordinate Guanxi views. *J. Bus. Ethics* 155, 259–274. doi: 10.1007/s10551-017-3550-2

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020). Linking work-related and non-work-related supervisor-subordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus. Manag.* 1–22. doi: 10.1057/s41291-020-00137-9

Heinonen, K., and Strandvik, T. (2015). Customer-dominant logic: foundations and implications. *J. Serv. Market.* 29, 472–484. doi: 10.1108/JSM-02-2015-0096

Howe, J. (2006). The rise of crowdsourcing. *Wired* 14, 1–4. doi: 10.1186/s12879-020-05433-5

Hung, S. Y., Lai, H. M., and Chou, Y. C. (2015). Knowledge-sharing intention in professional virtual communities: a comparison between posters and lurkers. *J. Assoc. Inform. Sci. Technol.* 66, 2494–2510. doi: 10.1002/asi.23339

Hyman, H. H. (1942). The psychology of status. *Arch. Psychol.* 269.

Jain, A. K. (2012). Impression management as the moderator of the relationship between emotional intelligence and organizational citizenship behavior. *J. Behav. Appl. Manag.* 13, 11–24. doi: 10.21818/001c.17888

Kaur, P. (2016). Underpinnings of user participation in innovation on online communication platforms. *Serv. Sci.* 8, 249–262. doi: 10.1371/currents.dis.22247d6293d4109d09794890bcda1878

Kim, E., Ratneshwar, S., Roesler, E., and Chowdhury, T. G. (2016). Attention to social comparison information and brand avoidance behaviors. *Market. Lett.* 27, 259–271. doi: 10.1007/s11002-014-9333-y

Klandermans, B. (1993). A theoretical framework for comparisons of social movement participation. *Sociol. Forum.* 8, 383–402. doi: 10.1007/BF01115051

Kozinets, R. V., Hemetsberger, A., and Schau, H. J. (2008). The wisdom of consumer crowds collective innovation in the age of networked marketing. *J. Macro Market.* 28, 339–354. doi: 10.1177/0276146708325382

Kraus, M. W., and Keltner, D. (2009). Signs of socioeconomic status: a thin-slicing approach. *Psychol. Sci.* 20, 99–106. doi: 10.1111/j.1467-9280.2008.02251.x

Lee, Y. L., Sparks, B., and Butcher, K. (2013). Service encounters and face loss: issues of failures, fairness, and context. *Int. J. Hosp. Manag.* 34, 384–393. doi: 10.1016/j.ijhm.2012.12.001

Li, Y. P., Zheng, X. Y., and Liu, Z. H. (2017). Research on the influence mechanism of insider identity perception on employee suggestion behavior based on resource conservation theory. *J. Manag.* 14, 196–204. doi: 10.3969/j.issn.1672-884x.2017.02.005

Liang, M. (2015). Reconstruction of cultural capital in knowledge labor– taking e-internet company as an example. *Soc. Dev. Res.* 64–85.

Liao, C., To, P. L., and Hsu, F. C. (2013). Exploring knowledge sharing in virtual communities. *Online Inform. Rev.* 37, 891–909. doi: 10.1108/OIR-11-2012-0196

Mair, J., and Georg, R. (2017). Capturing the dynamics of the sharing economy: institutional research on the plural forms and practices of sharing economy organizations. *Technol. Forecast. Soc. Change* 125, 11–20. doi: 10.1016/j.techfore.2017.05.023

Martin, C. T. (2016). The sharing economy: a pathway to sustainability or a nightmarish form of neoliberal capitalism? *Ecol. Econ.* 12, 149–159. doi: 10.1016/j.ecolecon.2015.11.027

Michelucci, P., and Dickinson, J. L. (2016). The power of crowds. *Science* 35, 32–33. doi: 10.1126/science.aad6499

Michikyan, M., Dennis, J., and Subrahmanyam, K. (2015). Can you guess who i am? Real, ideal, and false self-presentation on Facebook among emerging adults. *Emerg. Adulth.* 3, 55–64. doi: 10.1177/2167696814532442

Michikyan, M., Subrahmanyam, K., and Dennis, J. (2014). Can you tell who i am? Neuroticism, extraversion, and online self-presentation among young adults. *Comp. Hum. Behav.* 33, 179–183. doi: 10.1016/j.chb.2014.01.010

Nambisan, S., and Baron, R. A. (2010). Different roles, different strokes: organizing virtual customer environments to promote two types of customer contributions. *Organ. Sci.* 21, 554–572. doi: 10.1287/orsc.1090.0460

Pagliaro, S., Ellemers, N., Barreto, M., and Leach, C. W. (2010). Individual VS. Collective identity management strategies: the role of group norms and personal gain. *Psicol. Soc.* 3, 387–402.

Pechmann, C., and Wang, L. (2010). Effects of indirectly and directly competing reference group messages and persuasion knowledge: implications for educational placements. *J. Market. Res.* 47, 134–145. doi: 10.1509/jmkr.47.1.134

Peng, H. (2013). Why and when do people hide knowledge? *J. Knowl. Manag.* 17, 398–415. doi: 10.1108/JKM-12-2012-0380

Puschmann, T., and Rainer, M. (2016). Sharing economy. *Bus. Inform. Syst. Eng.* 58, 93–99. doi: 10.1002/asi.23552

Racherla, P., Mandviwalla, M., and Connolly, D. J. (2012). Factors affecting consumers' trust in online product reviews. *J. Consum. Behav.* 11, 94–104. doi: 10.1002/cb.385

Ramaswamy, V. (2005). Co-creating experiences with customers: new paradigm of value creation. *TMTC J. Manag.* 56–78. doi: 10.1093/intqhc/mzw051

Rioux, S. M., and Penner, L. A. (2001). The causes of organizational citizenship behavior: a motivational analysis. *J. Appl. Psychol.* 86, 1306–1314. doi: 10.1037/0021-9010.86.6.1306

Shi, Z. M., Wu, L. F., and Kuang, Z. Y. (2014). How can face consciousness reverse selfish behavior? The impact of social value orientation on ecological consumption. *J. Market. Sci.* 59–81. doi: 10.3969/j.issn.978-7-302-34281-6.2014.02.005

Stephens, N. M., Markus, H. R., and Townsend, S. S. M. (2007). Choice as an act of meaning: the case of social class. *J. Pers. Soc. Psychol.* 93, 814–830. doi: 10.1037/0022-3514.93.5.814

Stouten, J., De Cremer, D., and van Dijk, E. (2006). Violating equality in social dilemmas: emotional and retributive reactions as a function of trust, attribution, and honesty. *Pers. Soc. Psychol. Bull.* 32, 894–906. doi: 10.1177/0146167206287538

Syn, S. Y., and Oh, S. (2015). Why do social network site users share information on facebook and twitter? *J. Inform. Sci.* 41, 553–569. doi: 10.1177/0165551515585717

Tang, X., Zhang, K., and Su, H. (2019). A research on product innovation performance in the virtual brand community of the internet. *Sci. Res. Manag.* 40, 215–223.

Thorgren, S., Wincent, J., and O'rtqvist, D. (2012). Unleashing synergies in strategic networks of SMEs: the influence of partner fit on corporate entrepreneurship. *Int. Small Bus. J.* 30, 453–471. doi: 10.1177/0266242610375292

Tsang, K. K., Ng, T. K., and Wang, Y. (2013). Ingratiation, Renqing, Mianzi and attraction: a Guanxi perspective. *Sci. J. Pure Appl. Sci.* 2, 95–105. doi: 10.14196/sjpas.v2i2.449

Viswesvaran, C., Ones, D., and Hough, L. M. (2001). Do impression management scales in personality inventories predict managerial job performance ratings? *Int. J. Select. Assess.* 9, 277–289. doi: 10.1111/1468-2389.00180

White, K., and Dahl, D. W. (2006). To be or not to be? The influence of dissociative reference groups on consumer preferences. *J. Consum. Psychol.* 16, 404–414. doi: 10.1207/s15327663jcp1604_11

Wu, T., and Zheng, Y. (2019). Is impression management through status updates successful? Meta-accuracy and judgment accuracy of big five personality traits based on status updates from social network sites in China. *Front. Psychol.* 10:1192. doi: 10.3389/fpsyg.2019.01192

Wu, Y. J., and Chen, J.-C. (2021). Stimulating innovation with an innovative curriculum: a curriculum design for a course on new product development. *Int. J. Manag. Educ.* 19:100561. doi: 10.1016/j.ijme.2021.100561

Xiao, W., and Huo, W. W. (2021). Research on the creative idea exemplary effect under crowdsourcing innovation mode. *Stud. Sci. Sci.* 39, 1517–1527. doi: 10.16192/j.cnki.1003-2053.20210521.003

Xiao, W., Wang, X., Xia, S., and Jones, P. (2022). What drives creative crowdsourcing? An exploratory study on the persuasion of digital storytelling. *Sci. Technol. Soc.* 27, 23–45. doi: 10.1177/09717218211025355

Yan, J. Y., Qian, Y. F., and Qing, F. (2019). Research on value co-creation behavior of customers at different levels in product innovation community – taking MIUI community as an example. *Manag. Rev.* 31, 58–70.

When Do Coworkers' Idiosyncratic Deals Trigger Social Undermining?— The Moderating Roles of Core Self-Evaluations and Conscientiousness

Jingwen Wang and Jun Ma*

School of Management, Shanghai University, Shanghai, China

Idiosyncratic deals are personalized work arrangements negotiated between enterprises and employees based on employees' abilities and needs, previous studies have focused more on their positive effects on i-dealers and neglected the negative effects on peers in the process of interpersonal interaction. In view of this, this study explores the effects of coworkers' idiosyncratic deals on employees' social undermining and the internal mechanism based on social comparison theory. This study tested the theoretical model with a sample of 331 employees from six enterprises in China. The results showed that the interaction between perceptions of coworkers' receiving idiosyncratic deals and low core self-evaluations stimulated employees' feelings of relative deprivation, which triggered social undermining toward i-dealers. At the same time, employees' conscientiousness could weaken the positive effect of relative deprivation on social undermining. Therefore, it reveals the negative peer effect of idiosyncratic deals and provides theoretical and practical implications for preventing the interpersonal harm doing caused by idiosyncratic deals.

Keywords: idiosyncratic deals, relative deprivation, social undermining, core self-evaluations, conscientiousness

INTRODUCTION

Corporate practices show that employee contributions are increasingly power-law distributed rather than the traditional normal distribution (Aguinis et al., 2012), meaning that organizational competitiveness depends on the value created by a small number of employees. To better motivate and retain these core employees, HRM practices are increasingly transitioning to a more idiosyncratically approach (Liao et al., 2016). A typical example is idiosyncratic deals proposed by Rousseau (2001). As an idiosyncratic working arrangement negotiated between employees and organizations that benefit both parties, including more flexible working hours, more opportunities for career development, and higher pay incentives, it has gained considerable attention as an HR strategy to improve employees' loyalty and performance.

Studies have found that idiosyncratic deals have a significant positive impact on the recipients. They can increase recipients' positive emotions (Van der Heijden et al., 2021), job performance (Maltarich et al., 2017; Kong et al., 2020), helping behavior (Guerrero and Challiol-Jeanblanc,

2016), and organizational citizenship behavior (Anand et al., 2018). Existing studies mostly focus on the positive effects on idiosyncratic deals recipients, only a few studies have paid attention to its negative effects on non-recipients. For example, it has been found that idiosyncratic deals can reduce peer motivation (Giarratana et al., 2018), deviant behaviors (Kong et al., 2020), and performance (Abdulsalam et al., 2021). However, these studies mostly started from an inter-individual perspective. The negative effects of idiosyncratic deals during the interpersonal interaction process on non-recipients still need to be further explored. Thus, to further understand the mechanisms in idiosyncratic deals on interpersonal relationships for improving the incentive effect, a deeper investigation is necessary.

Indeed, as a typical differentiation within an organization, idiosyncratic deals are reflected in the fact that recipients have more development opportunities, more resources, or more flexible work arrangements than non-recipients. Individuals are often accompanied by self-serving biases in the attribution process. When employees perceive that only core employees achieve idiosyncratic deals, they will change their perceptions (Garg and Fulmer, 2017) and feel the psychological gap. The horizontal comparison will make them think that the organization gives them fewer resources than i-deals, which may create a sense of relative deprivation. To eliminate the negative psychological experience of self-threatening and improve self-evaluations (Yu and Duffy, 2016), peers will take measures to vent their grievances and change the state (He et al., 2019). When they consider they have little potential for self-improvement through effort, they are likely to reduce coworkers' achievements through harm doing behaviors. Social undermining behavior is an aggressive tool hindering the success of others and preventing others from establishing positive interpersonal relationships, which can fill the psychological gap of the perpetrator. Specially, social undermining is a covert and safe harmful behavior. The negative effects on others will not be immediately apparent, on the one hand, this can reduce the perpetrator's guilt; on the other hand, it is also a safe means, not easily detected by others.

Research has shown that in the process of social comparison, people with different personality characteristics respond in different ways to the same comparison target and have different effects on the individual (Seidlitz et al., 1997), so exploring their important roles in the process of social comparison is an inevitable issue (Yu et al., 2018). Further, according to social comparison theory, we argue that the effects of perceptions of coworkers' receiving i-deals on social undermining may vary depending on peers' personality characteristics (core self-evaluations and conscientiousness). First, we tested the moderating effect of core self-evaluations on the relationship between perceptions of coworkers' receiving i-deals and relative deprivation. Cohen-Charash (2009) stated that individuals' reactions to social comparisons depend on their evaluations of themselves. Individuals with low core self-evaluations tend to believe they cannot achieve similar performance as i-dealers in the future and experience a sense of relative deprivation. This provides a theoretical basis for us to find the boundary

condition of the effect between perceptions of coworkers' receiving i-deals and relative deprivation. Second, the level of employees' conscientiousness determines their achievement orientation and the attitude of responsibility for work (Costa and McCrae, 1992). It affects the way he or she works (Borghuis et al., 2017). It has been indicated that those high in conscientiousness tend to be achievement-oriented, able to work firmly toward their goals (Mount and Barrick, 1998), and follow ethical principles (McFerran et al., 2010). This can influence the effect of relative deprivation on social undermining in both cognitive and emotional aspects. Thus, this study chose conscientiousness as a moderator in the model and proposed that high level of conscientiousness may weaken the relationship between relative deprivation and social undermining.

In summary, based on social comparison theory, this paper introduces relative deprivation as a mediating variable, core self-evaluations, and conscientiousness as moderating variables, and constructs a two-stage mediating moderated model, aiming to investigate the mechanisms of the negative effects of coworkers' idiosyncratic deals and how to mitigate such negative effects in order to help organizations better leverage idiosyncratic deals.

THEORY AND HYPOTHESES

Perceptions of Coworkers' Receiving I-Deals, Core Self-Evaluations, and Relative Deprivation

Organizations are becoming more and more dependent on talents with specialized skills, and competition among organizations is increasingly becoming a competition for talents. In order to attract employees, organizations have to meet the special requirements of employees in certain aspects. Therefore, idiosyncratic deals have become an important motivational strategy for organizations to attract and retain core employees (Rousseau et al., 2006), and employees who have been given idiosyncratic deals have more initiative at work compared to other employees in the organization, which leads to variability in the compensation benefits received by different employees. This often stimulates a sense of inequity among peers and brings about negative peer effects (Abdulsalam et al., 2021).

Relative deprivation is defined as an individual's or a group's perception of their own inferiority in comparison with a given standard, which results in an angry or resentful emotional response (Smith et al., 2012). Relative deprivation occurs when individuals compare what they have been given with what others have received and feel that they have less than they deserve (Smith et al., 2012), with subsequent negative emotions and cognitions (Khan et al., 2013). In summary, the sense of relative deprivation is a response brought about by upward comparisons made by individuals in unfavorable status (Wood, 1989), which assesses the extent to which individuals perceive themselves to be in unfavorable status.

Idiosyncratic deals as a unique motivational approach, only a very small number of core employees in the organization can achieve. When employees have a high level of perceptions of coworkers' receiving i-deals, it means that employees consider

that their colleagues have gained more trust, attention, and respect in their interactions with leaders (Guerrero et al., 2016), have a higher status, and enjoy more opportunities and benefits (Ng and Lucianetti, 2016a). However, perceptions of coworkers' receiving i-deals do not necessarily lead to negative effects (Garg and Fulmer, 2017), there are specific boundary conditions.

It is noteworthy that personality characteristics play an important role in the process of social comparison (Seidlitz et al., 1997). Therefore, exploring their role in the process of social comparison is an inevitable issue (Yu et al., 2018). It has been found that how an individual reacts to unfavorable social comparisons is influenced by perceived controllability, i.e., the individual's perceived ability to make a difference (Cohen-Charash, 2009). Core self-evaluations consist of four basic characteristics: self-esteem, generalized self-efficacy, neuroticism (emotional stability), and locus of control (Judge et al., 1998), and is the most basic evaluation of an individual's abilities and values (Zhao and Shi, 2018). Research has shown that employee core self-evaluation acts as a moderating variable that affects employees' reactions and attitudes toward certain behaviors (Chang et al., 2012). Individuals with low core self-evaluation perceive themselves as less capable of solving problems and controlling things, and they need to rely on external information to regulate their motivation and behavior (Kluemper et al., 2018). Employees with low core self-evaluation feel powerless in the face of stress and threats (Judge et al., 1998) and often have a sense of being out of control when faced with challenges in their lives (Aryee et al., 2017). In comparison with i-deals, on the one hand, individuals with low core self-evaluation are more sensitive to negative information (Chang et al., 2012), feel pressured and threatened when faced with core employees gaining idiosyncratic deals they do not have, creating a sense of relative deprivation and taking steps to compensate for this psychological gap (Chen et al., 2021); on the other hand, low core self-evaluation employees have low evaluations of their own abilities, they tend to focus on their own failures and shortcomings, believe that they are not capable of achieving similar achievements as i-dealers, and are unable to change the status quo no matter how hard they try (Ng and Lucianetti, 2016b), and these feelings will lead to a negative psychological experience in comparison, thus creating a sense of relative deprivation. In contrast, individuals with high core self-evaluations tend to have a strong sense of control over their work. They believe that through hard work they will achieve similar opportunities and resources as i-dealers in the future and view i-dealers as role models. Therefore, this paper proposes that as:

> *Hypothesis 1*: Perceptions of coworkers' receiving i-deals interacting with core self-evaluations are positively related to relative deprivation. That is, under the condition of low core self-evaluations, perceptions of coworkers' receiving i-deals are positively related to relative deprivation.

Relative Deprivation as a Mediator

Social comparison theory indicates that unfavorable comparative information can threaten an individual's sense of self-value and that this threat must be managed and controlled by some

behavioral strategy to counteract further threats to oneself (Buunk and Gibbons, 2007).

According to Folger and Martin's (1986) model of relative deprivation response, when individuals experience feelings of deprivation, they have two options: (1) self-improvement (e.g., working harder, exhibiting more organizational citizenship behaviors) and pursuing constructive change (e.g., expressing their concerns to leaders); (2) exhibiting stress symptoms and negative attitudes (e.g., increased stress, decreased health, decreased job satisfaction counterproductive work behaviors, and workplace injuries). Employees' positive or negative reactions to these two sorts of reactions are determined by the possibility and extent to which their situation will change in the future (Bolino and Turnley, 2009).

Duffy et al. (2002) proposed that social undermining refers to covert behaviors that chronically and intentionally impede the establishment and maintenance of positive interpersonal relationships with others, interfere with their success at work, and undermine their good reputations. As an aggressive tool, for example, withholding information, gossiping, putting others down, and "cold violence." Social undermining not only has a negative impact on their mood, well-being, self-efficacy (Duffy et al., 2006), and interpersonal relationships (Hershcovis and Barling, 2010), but also has the potential to reduce their reputation and job performance (Duffy et al., 2006).

The sense of relative deprivation consists of two components: a cognitive component, which refers to comparisons with others and an emotional component, which refers to the negative emotions arising from perceived differences between oneself and others (Tougas et al., 2005). When employees perceptions of coworkers' receiving i-deals are high, it means that i-deals receive more resources, opportunities, and have higher status. The horizontal comparison will generate a sense of relative deprivation. On the one hand, from the cognitive point of view, employees with low core self-evaluation believe that they are powerless to change the status quo and perceive the situation as a negative social comparison that brings individuals suspicion and competition (He et al., 2020). On the other hand, in terms of emotions, feelings of relative deprivation can bring about negative emotions of anger and resentment. Studies have shown that when employees experience a sense of relative deprivation, they will take steps to mitigate threatening feelings (Yu et al., 2018).

Therefore, individuals with low core self-evaluations believe that uncontrollable factors have deprived them of the resources and opportunities to which they are entitled, which will bring a sense of relative deprivation. The contrast effect of this upward comparison amplifies their perceptions of difference and exaggerates the threat to self-esteem and status that challenges bring (Cohen-Charash and Mueller, 2007). Because they have little potential for self-improvement through effort, they are more likely to reduce coworkers' achievements through harm doing behaviors in order to improve their negative self-evaluations. For example, Yu et al. (2018) found that when departmental leaders faced threats to their subordinates' self-esteem, if they did not have the potential to outperform their

subordinates, they would devalue them through abusive supervision to enhance their own sense of self-worth.

Harm doing behaviors are diverse and social undermining is chosen because it is a hidden behavior and the manifestation of their adverse effects is a gradual process. In contrast to social undermining, destructive acts such as killing, physical assault, or defacing property are blatant with direct and high impacts. Social undermining does not necessarily destroy interpersonal relationships, good reputation, or working ability if committed once or twice. On the contrary, if continued over time, the adverse effect will accumulate. Social undermining as a discreet and covertly harmful behavior whose adverse effects on others are a gradual process (Reh et al., 2018). This means that the negative effects of social undermining toward core employees who have been given idiosyncratic deals will not be immediately apparent. On the one hand, the cost of social undermining does not appear in large concentrations, this reduces the guilt of the perpetrator, making it more likely to unconsciously break through the bottom line of self and continue to implement the blocking behavior, which paralyzes the perpetrator to some extent. On the other hand, it is a secure means of concealment, not easily detected. Therefore, employees with a high sense of relative deprivation are more likely to choose social undermining as a destructive behavior to hinder the success of core employees. Therefore, this paper proposes that as:

Hypothesis 2: Under the condition of low core self-evaluations, relative deprivation mediates the relationship between perceptions of coworkers' receiving i-deals and social undermining.

Conscientiousness as a Moderator

Research shows that personality characteristics play an important role in the process of social comparison (Yu et al., 2018). Conscientiousness is one of the Big Five personality factors and is related to an individual's typical level of motivation or will, it refers to whether an individual has a high level of achievement orientation and responsible attitude toward work (Costa and McCrae, 1992).

Relative deprivation manifests through both cognitive and emotional aspects that promote social undermining, and conscientiousness can moderate the effect of relative deprivation on social undermining from both aspects. On the one hand, from the cognitive point of view, when employees have a high level of perceptions of coworkers' receiving i-deals, they believe that they cannot change the status quo and are unable to achieve similar accomplishments as i-deals through their efforts and take social undermining behaviors to bridge the psychological gap and reduce their sense of self-threat. Existing research suggests that a person's level of conscientiousness affects the way they work (Borghuis et al., 2017). When a sense of relative deprivation arises, conscientiousness can change employees' cognition. Those high in conscientiousness tend to be achievement-oriented and able to work firmly toward their goals (Mount and Barrick, 1998). When faced with coworkers'

i-deals, they will persistently improve themselves to reach their goals. This will reduce their likelihood of engaging in social undermining behaviors. However, those low in conscientiousness tend to procrastinate and have less self-discipline when performing their job duties (Renn et al., 2011). The lack of self-discipline and inefficient characteristics may make it difficult for them to achieve similar accomplishments as i-dealers, which increases the likelihood of taking social undermining behaviors.

On the other hand, in terms of emotional aspect, relative deprivation contains negative emotions such as anger and resentment. When feeling a sense of relative deprivation, conscientiousness can relieve employees' negative emotions, which will reduce social undermining behaviors. Those high in conscientiousness consider it their responsibility to do the right thing and follow ethical principles (McFerran et al., 2010) and see it as their responsibility to take care of the well-being of others and have an obligation to give back to the organization (Zhang et al., 2019). When faced with coworkers' i-deals, this sense of responsibility and morality can alleviate the negative emotional experience of employees. At the same time, those low in conscientiousness tend to approach their work in a less disciplined manner (Moon, 2001) and they are less concerned with moral responsibility (McFerran et al., 2010). This will aggravate employees' attention to negative emotions and engage in more social undermining behaviors. Therefore, we propose the following hypothesis:

Hypothesis 3: Conscientiousness moderates the relationship between relative deprivation and social undermining. When employee conscientiousness is low, the effect of relative deprivation on social undermining is stronger.

Finally, this paper proposes that under the condition of low core self-evaluations, employees have negative evaluations of themselves, perceive that they cannot reach their coworkers' achievements no matter how hard they work so that coworkers' i-deals can stimulate a sense of relative deprivation, a perception that they are being deprived of resources and opportunities, and trigger social undermining. Research has shown that the level of conscientiousness affects the way individuals work (Demerouti, 2006). When employees perceive that coworkers gain idiosyncratic deals, employees in low conscientiousness are more concerned with the loss of their own resources, exacerbating the sense of threat and are more likely to trigger social undermining in order to balance negative emotions. Therefore, employees in low conscientiousness who feel relatively deprived are more likely to trigger social undermining. Integrating the above four hypotheses, we further propose that as:

Hypothesis 4: Under the condition of low core self-evaluations, perceptions of coworkers' receiving i-deals stimulate employees' feelings of relative deprivation and trigger social undermining, at the same time, employees who develop feelings of relative deprivation are more likely to trigger social undermining when their conscientiousness is low.

In summary, this paper proposes a two-stage moderated mediation model (see **Figure 1**), aiming to test whether perceived coworkers' i-deals lead employees to engage in social undermining and to explore its mechanisms to prevent social undermining in the workplace.

MATERIALS AND METHODS

Participants and Procedures

The study was conducted in cooperation with the Hebei Provincial Administration of Market Supervision. The sample covers six enterprises (involving financial, technology, communication, and new material industries) in Hebei province, China. Firstly, we got permission from the top management of each company for data collection. In order to ensure that the surveyed enterprises implement idiosyncratic i-deals, we randomly interviewed some employees from those enterprises. We asked managers to let employees enter a conference room in groups of 10 each, and participants sat down randomly. To ensure the validity and reliability of the data filled in by the employees, we asked the department head not to be present when the employees filled in the questionnaire. Each participant was given a souvenir with a university logo to thank them for their participation.

In order to reduce the potential common method bias, data were collected in two waves with a two-week interval (Reis and Wheeler, 1991), and questionnaires were strictly coded throughout the process. At time1, participants were asked to report their perceptions of coworkers' receiving i-deals, core self-evaluations, relative deprivation, and demographic variables. At time 2, researchers asked them to report their conscientiousness and social undermining imposed on i-dealers. The questionnaires were collected by the surveyors on the spot after the respondents completed. The research team finally obtained 331 valid responses, with a return rate of 83%. Overall, 51.96% were male, the average age was 37.55, the average organizational tenure was 6.3 years, and 82.78% held a bachelor's degree or above.

Measures

In order to ensure the local applicability of the measurement, two-way translation was used (Brislin, 1980) and experts were invited to assess the appropriateness and rigor of the questionnaire. The statistical software used for data analysis was Mplus 7.4 and SPSS 23.0.

Perceptions of Coworkers' Receiving I-Deals

Perceptions of coworkers' receiving i-deals were measured with Ng and Lucianetti (2016a) 6-item scale. A sample item of the perceptions of coworkers' receiving i-deals scale reads as: "Some of my coworkers have successfully negotiated training opportunities that are different from what I have." We used Likert-type scales ranging from 1 (strongly disagree) to 5 (strongly agree). The Cronbach's alpha of the scale was 0.88.

Core Self-Evaluations

Core self-evaluations were measured with Judge et al. (2003) 12-item scale. A sample item of the core self-evaluations (CSEs) scale reads as: "I am confident I get success I deserve in life." We used a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The Cronbach's alpha of the scale was 0.89.

Relative Deprivation

Relative deprivation was measured with Callan et al. (2011) 5-item scale. A sample item of the relative deprivation scale reads as: "I feel deprived when I think about what I have compared to what other people like me have." We used a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). The Cronbach's alpha of the scale was 0.89.

Conscientiousness

Conscientiousness was measured with the 8-item scale by Saucier (1994) from the Big Five personality measurement by Goldberg (1992). Respondents rated the accuracy of keywords describing their characteristics, including "practical," "systematic," and "efficient." Responses to these items were made on 7-point scales 1 (extremely inaccurate) and 7 (extremely accurate). The Cronbach's alpha of the scale was 0.88.
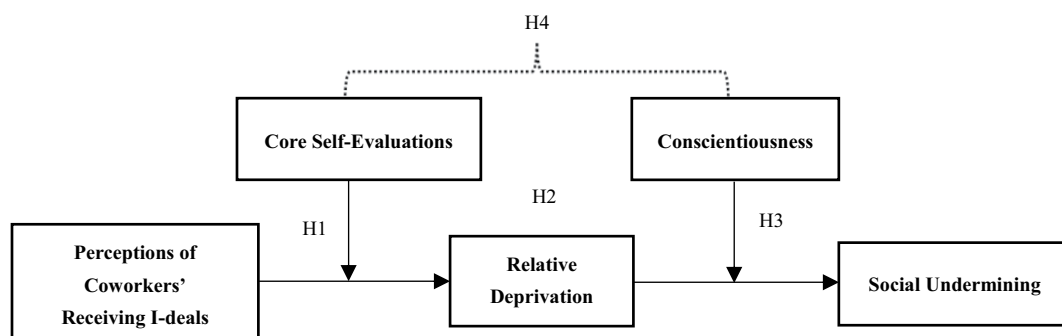
FIGURE 1 | Conceptual model.

Social Undermining

Social undermining was measured with Duffy et al. (2012) 6-item scale. The introductory sentence is "To what extent do you engage in the following behaviors to i-dealers in your organization?" A sample item of the social undermining scale reads as: "I sometimes talk bad about them behind their backs." The items had seven Likert-type response options. The Cronbach's alpha of the scale was 0.89.

Control Variables

This study controlled for the effects of employee demographics, including gender, age, education, and organizational tenure. In addition, we add dummy variables of enterprises to rule out the influence of situational variables at the organizational level.

RESULTS

Confirmatory Factor Analysis

First, this study conducted an analysis (CFA) to examine the validity of the five key variables in the model (perceptions of coworkers' receiving i-deals, relative deprivation, social undermining, core self-evaluations, and conscientiousness). We used Chi-square, the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean residual (SRMR) to assess model fit. As shown in **Table 1**, the results indicated that the absolute and relative fit indices of the five-factor model ($\chi^2 = 1245.940$, $df = 619$, $CFI = 0.900$, $RMSEA = 0.055$, $IFI = 0.901$) were closer to the standard values compared to the four competing models. Therefore, the scale used in this study has good discriminant validity. The CMV factor was subsequently added to the five-factor model to assess the common method bias. It was found that the six-factor model had limited improvement in $RMSEA$, CFI, and TLI, all of which were less than 0.05 (Bagozzi and Yi, 1990), indicating that there was no serious common method bias in this study.

Descriptive Analyses

Table 2 shows means, standard deviations, and correlation analyses. Perceptions of coworkers' receiving i-deals are positively correlated with relative deprivation ($r = 0.385$, $p < 0.001$) and social undermining ($r = 0.223$, $p < 0.01$). Relative deprivation is

positively correlated with social undermining turn ($r = 0.318$, $p < 0.001$). These results preliminary provided support for subsequent hypotheses testing.

Test of Hypotheses

We use Mplus7.4 software and apply Bootstrap sampling interval estimation method for hypothesis testing, setting the number of replicate samples at 20000, and if 95% confidence interval (CI) does not include 0, the indirect effect is significant.

In the first step, we tested H1, X*W1 → M. The results in **Table 3** showed that the interaction of perceptions of coworkers' receiving i-deals (X) and core self-evaluations (W1) is negatively related to relative deprivation (M; $\beta = -0.265$, $p < 0.001$). **Figure 2** shows the plot of the effect of perceptions of coworkers' receiving i-deals (X) on relative deprivation (M) for the two conditions of low and high core self-evaluations (W1). As shown in **Figure 2**, the effect was significant and positive only under the condition of low core self-evaluations. Hence, H1 was supported.

In the second step, we tested H2, X*W1 → M → Y. **Table 4** shows that when the core self-evaluations (W1) are low, the indirect effect is significant ($P_{YM}*P_{MX} = 0.757 \times 0.326 = 0.247$), 95% CI = [0.119, 0.416]. This implies that under the condition of low core self-evaluations (W1), the high perceptions of coworkers' receiving i-deals (X) will trigger social undermining (Y) by generating a stronger sense of relative deprivation (M). Therefore, H2 is supported.

In the third step, we tested H3, the moderating effect of conscientiousness (W2). The result in **Table 5** revealed that the relationship between relative deprivation (M) and social undermining (Y) was significant and positive when conscientiousness (W2) was low ($\beta = 0.436$, $p < 0.001$) but was not significant when conscientiousness (W2) was high ($\beta = 0.037$, n.s.). **Figure 3** shows a plot of this relationship. Hence, H3 was supported.

In the fourth step, we tested the indirect effect hypothesis 4 of the full model, X*W1 → M*W2 → Y. As shown in **Table 6**, the indirect effect of perceptions of coworkers' receiving i-deals (X) on social undermining (Y) through relative deprivation (M) was significant ($P_{YM}*P_{MX} = 0.757 \times 0.429 = 0.325$, 95% CI = [0.175, 0.526], and the total effect is 0.572, 95% CI = [0.349, 0.798]). **Figure 4** shows the plot of the indirect effect of perceptions of coworkers' receiving i-deals (X) on social

TABLE 1 | Results of confirmatory factor analyses.

Model	χ^2	df	χ^2/df	RMSEA	CFI	IFI	TLI
One-factor model	5405.043	629	8.593	0.152	0.240	0.244	0.195
Two-factor model	4369.751	628	6.958	0.134	0.404	0.408	0.368
Three-factor model	3358.578	626	5.365	0.115	0.565	0.568	0.537
Four-factor model	2387.548	623	3.832	0.093	0.719	0.721	0.700
Five-factor model	1245.940	619	2.013	0.055	0.900	0.901	0.893
Six-factor model	957.523	584	1.640	0.044	0.941	0.941	0.932

One-factor model = PCRI + CSEs + RD + C + SU; two-factor model = PCRI + CSEs + RD + C, and SU; three-factor model = PCRI; CSEs + RD + C, and SU; four-factor model = PCRI, CSEs + C, RD, and SU; five-factor model = PCRI, CSEs, RD, C, and SU; PCRI, perceptions of coworkers' receiving i-deals; CSEs, core self-evaluations; RD, relative deprivation; C, conscientiousness; and SU, social undermining.

TABLE 2 | Means, SDs, and correlation analyses.

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Gender	1.52	0.50	-									
2. Age	2.76	1.21	0.040	-								
3. Education	3.25	0.93	0.084	−0.144**	-							
4. Tenure	2.82	1.28	0.038	0.353***	−0.060	-						
5. Type of enterprises	2.54	1.11	−0.090	−0.004	−0.152*	0.065	-					
6. Perceptions of coworkers' receiving i-deals	3.62	0.84	0.063	−0.003	−0.081	0.001	0.364*	-				
7. Relative deprivation	3.97	1.32	0.001	−0.140*	−0.043	−0.068	0.385*	0.385***	-			
8. Core self-evaluations	3.76	1.30	0.050	0.085	0.017	−0.001	−0.057	−0.057	−0.025	-		
9. Social undermining	4.04	1.57	0.116*	−0.074	0.010	−0.072	0.151*	0.223***	0.318***	0.129*	-	
10. Conscientiousness	3.88	1.24	−0.082	0.076	−0.011	−0.043	−0.082	−0.082	−0.074	−0.033	−0.153**	-

I-deals, idiosyncratic deals; SD, standard deviation; and N = 331. Two tailed.
$*p < 0.05$; $**p < 0.01$; $***p < 0.001$.

TABLE 3 | Bootstrapping results for moderating effect of W1 and W2.

Path	Effect	Boot S.E.	[95% CI]
X → M	0.415***	0.081	[0.249, 0.567]
X * W1 → M	−0.265***	0.059	[−0.378, −0.144]
M → Y	0.254**	0.083	[0.088, 0.415]
M * W2 → Y	−0.142*	0.062	[−0.257, −0.014]

N = 331. Two tailed; Bootstrap = 20,000.
$*p < 0.05$; $**p < 0.01$; $***p < 0.001$.

undermining (Y) through relative deprivation (M) for the four combinations of low and high core self-evaluations (W1) and conscientiousness (W2). As shown in **Figure 4**, the indirect effect was significant and positive only under the combination of low core self-evaluations (W1) and low conscientiousness (W2); under the other conditions, there was no significant indirect effect of perceptions of coworkers' receiving i-deals (X) on social undermining (Y). Hence, H4 was supported.

DISCUSSION

Drawing on social comparison theory, this study proposed and tested a moderated mediation model to explain the mechanisms through which perceptions of coworkers' receiving idiosyncratic deals affect social undermining and how to resolve this negative impact. The results of the study found that under the condition of low core self-evaluations, perceptions of coworkers' receiving idiosyncratic deals positively influenced relative deprivation and promoted social undermining. At the same time, conscientiousness negatively moderated the relationship between feelings of relative deprivation and social undermining. The study reveals the negative consequences of idiosyncratic deals from a third-party perspective, providing theoretical and practical insights into the study of idiosyncratic deals and social undermining.

Theoretical Implications

This paper has several theoretical implications. First, it reveals the incentive dilemma of idiosyncratic deals within the organization. Due to limited resources are often invested in a few core employees in order to maximize organizational benefits. This practice certainly has good effects on the organization: it not only creates an atmosphere of striving for excellence within the organization, on the other hand, but also makes i-dealers representative of the organization's goals, providing a model for other employees. However, we found that i-dealers who receive idiosyncratic deals are more likely to be treated as objects of social undermining. As Lam et al. (2011) suggest, core employees are not as glamorous as they appear, and organizations should pay special attention to their victimized behaviors. Moreover, this negative behavior then affects the organizational climate, so that i-dealers are forced to deal with interpersonal distractions. At the same time, in a highly collaborative organization, if other colleagues do not cooperate, i-dealers will not be able to maintain high performance and high work motivation (He et al., 2021). This will affect organizational performance and put it in a core employee motivation dilemma.
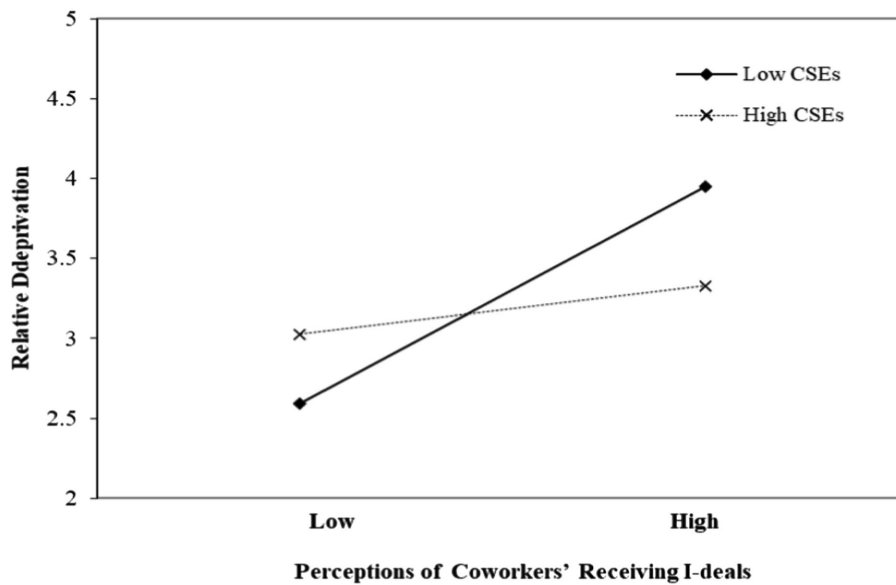
FIGURE 2 | The moderating effect of core self-evaluations (CSEs) on the relationship between perceptions of coworkers' receiving i-deals and relative deprivation.

TABLE 4 | Analysis results of moderated mediation effect (core self-evaluations).

Variable		Stage 1	Stage 2	Direct effects	Indirect effects	Total effects
		$X \rightarrow M$	$M \rightarrow Y$	$X \rightarrow Y$	$(P_{YM}*P_{MX})$	$(P_{YX}+[P_{YM}*P_{MX}])$
		[95% CI]	[95% CI]	[95% CI]	[95% CI]	[95% CI]
	High	0.072	0.326***	0.246*	0.024	0.269*
		[−0.136, 0.280]	[0.167, 0.479]	[0.030, 0.447]	[−0.040, 0.105]	[0.049, 0.471]
Core self-evaluations	Low	0.757***	0.326***	0.246*	**0.247****	0.493***
		[0.527, 0.980]	[0.167, 0.479]	[0.030, 0.447]	**[0.119, 0.416]**	[0.291, 0.691]
	Difference	−0.685***	0	0	**−0.223****	−0.223**
		[−0.978, −0.373]	-	-	**[−0.408, −0.099]**	[−0.408, −0.099]

N = 331. Two tailed; Bootstrap = 20,000.
*p < 0.05; **p < 0.01; ***p < 0.001.
Bold values prove the hypothesis 1.

TABLE 5 | Analysis results of moderated mediation effect (conscientiousness).

Variable		Stage 1	Stage 2	Direct effects	Indirect effects	Total effects
		$X \rightarrow M$	$M \rightarrow Y$	$X \rightarrow Y$	$(P_{YM}*P_{MX})$	$(P_{YX}+[P_{YM}*P_{MX}])$
		[95% CI]	[95% CI]	[95% CI]	[95% CI]	[95% CI]
	High	0.380***	0.037	0.226*	0.014	0.240*
		[0.443, 0.756]	[−0.231, 0.285]	[0.029, 0.411]	[−0.138, 0.180]	[0.033, 0.445]
Conscientiousness	Low		0.436***		**0.166****	0.391***
			[0.258, 0.606]		**[0.147, 0.405]**	[0.295, 0.668]
	Difference	0	−0.399**	0	**−0.152***	−0.152*
		-	[−0.672, −0.090]	-	**[−0.435, −0.060]**	[−0.435, −0.060]

N = 331. Two tailed; Bootstrap = 20,000.
*p < 0.05; **p < 0.01; ***p < 0.001.
Bold values prove the hypothesis 2.
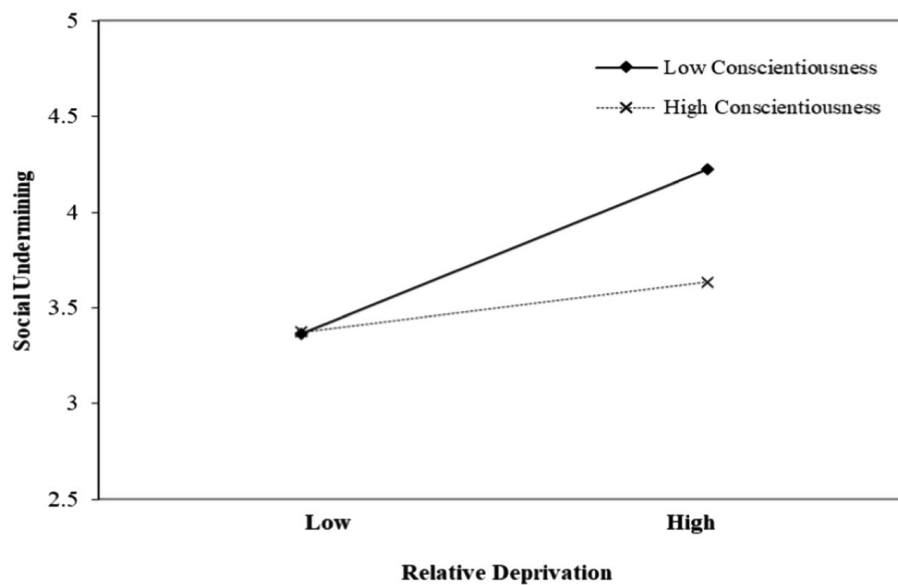
FIGURE 3 | The moderating effect of conscientiousness on the relationship between relative deprivation and social undermining.

TABLE 6 | Analysis results of moderated mediation effect of two stage.

Variable		Stage 1	Stage 2	Direct effects	Indirect effects	Total effects
		X → M	M → Y	X → Y	(PYM*PMX)	(PYX+[PYM*PMX])
		[95% CI]	[95% CI]	[95% CI]	[95% CI]	[95% CI]
High core self-evaluations	High conscientiousness	0.072	0.078	0.247*	0.006	0.252*
		[−0.136, 0.280]	[−0.185, 0.332]	[0.042, 0.446]	[−0.015, 0.077]	[0.051, 0.448]
	Low conscientiousness	0.072	0.429***	0.247*	0.031	0.278*
		[−0.136, 0.280]	[0.248, 0.600]	[0.042, 0.446]	[−0.054, 0.135]	[0.061, 0.483]
Low core self-evaluations	High conscientiousness	0.757***	0.078	0.247*	0.059	0.306*
		[0.527, 0.980]	[−0.185, 0.332]	[0.042, 0.446]	[−0.136, 0.268]	[0.064, 0.549]
	Low conscientiousness	0.757***	0.429***	0.247*	**0.325***	**0.572***
		[0.527, 0.980]	[0.248, 0.600]	[0.042, 0.446]	**[0.175, 0.526]**	**[0.349, 0.798]**

N = 331. Two tailed; Bootstrap = 20,000.
*p < 0.05; ***p < 0.001.
Bold values prove the hypothesis 4.

Second, this study contributes to i-deals literature by exploring the negative effect of coworker idiosyncratic deals on non-recipients during interpersonal interactions. Since satisfying the individualized needs of core employees to achieve a win-win situation for both the organization and the idiosyncratic dealers, existing research has focused on the positive effects of idiosyncratic deals on recipients, relatively neglecting the feelings of third-party employees in organizational tripartite contexts. Only a few studies found that idiosyncratic deals can reduce peer motivation (Giarratana et al., 2018), deviant behaviors (Kong et al., 2020), and performance (Abdulsalam et al., 2021). However, these studies ignore its potential negative effects during interpersonal interactions. In response to the call of Ng (2017) for more research to explore the potential negative effects of idiosyncratic deals, this study finds that idiosyncratic deals will also lead to social undermining, enriching the

expansion of research on idiosyncratic deals' negative effects of interpersonal relationships.

Third, this study contributes to social comparison theory by revealing that core self-evaluations and relative deprivation are important mechanisms that promote social undermining for coworkers' idiosyncratic deals. The findings show that under the condition of low core self-evaluations, perceptions of coworkers' receiving idiosyncratic deals positively affect the sense of relative deprivation and generates social undermining. Although some scholars have explored the negative effects of idiosyncratic deals (Ng, 2017; Abdulsalam et al., 2021; Zhang et al., 2021), there remains a critical question that needs to be addressed as: what are the negative effects of coworker idiosyncratic deals trading during interpersonal interactions and under what boundary conditions do perceptions of coworkers' receiving idiosyncratic deals have negative effects? According to social comparison
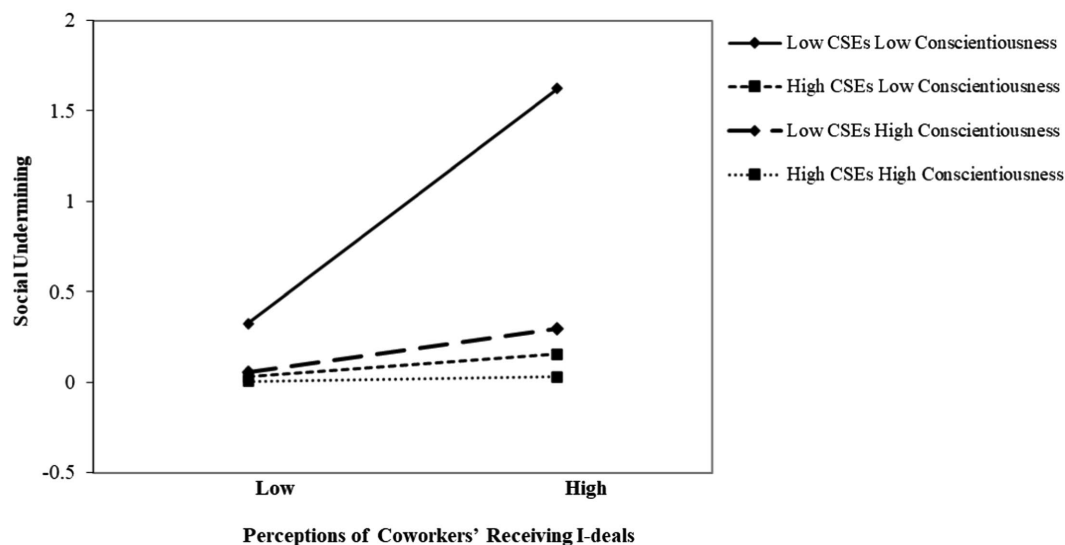
FIGURE 4 | Moderated indirect effect of perceptions of coworkers' receiving i-deals on social undermining (*via* relative deprivation) at low and high levels of CSEs and conscientiousness.

theory, personality characteristics play an important role in the process of social comparison. We found that this depends on employees' core self-evaluations. For individuals with low core self-evaluations, the presence of i-dealers can be a threat to their workplace status. In other words, individuals' core self-evaluations are important boundary conditions for the negative effects of idiosyncratic deals. This finding strongly supports the view of Collins (1996) that self-evaluations can have a decisive impact on the outcome of upward social comparison. The study extends the application of social comparison theory in the field of idiosyncratic deal research.

Fourth, personality characteristics play an important role in the process of attribution (Yu et al., 2018), this paper reveals that conscientiousness moderators the effect between relative deprivation and social undermining. Specifically, we showed that those high in conscientiousness tend to be confident in fact of challenges and work harder. In contrast, employees in low conscientiousness are considered to be unorganized and undisciplined, those developed feeling of relative deprivation in these characteristics are more likely to engage in social undermining. In this way, we demonstrated that not all employees will engage in social undermining when they perceive coworkers' idiosyncratic deals.

Practical Implications

The results of this study also provide some practical insights for organizations and employees. When organizations need to use idiosyncratic deals to motivate and attract core employees, the following approaches can be taken to minimize negative feedback from non-recipients.

First, as an important psychological resource for individuals, core self-evaluations can alleviate the generation of relative deprivation. Therefore, although core self-evaluations have individual stability and innate nature, external factors also have

an important influence on it. Leaders can improve employees' core self-evaluations by shaping good leadership styles. For example, benevolent leaders can effectively stimulate employees' self-esteem and self-efficacy, thus increasing their overall core self-evaluations levels, while abusive leaders tend to undermine employees' self-confidence, making their core self-evaluations lower (Antonakis et al., 2012).

Second, managers can create an open access to idiosyncratic deals, instead of filling the psychological gap through social undermining. On the one hand, enterprises can set up unions to collect employees' voice, communicate with management to help managers choose more effective work arrangements and personnel policies (Fang et al., 2019), and improve the motivational effect of idiosyncratic deals. On the other hand, the existing incentive system only focuses on the core employees. Therefore, managers can expand the range of recipients of idiosyncratic deals and set different assessment standards according to the difference of employees' ability and then reward them according to the elite incentive method, so that employees in any echelon can get idiosyncratic deals, thus activating the sense of alignment and excellence within the organization.

Third, employees who have obtained idiosyncratic deals should increase extra-role behaviors (e.g., organizational citizenship behaviors). Because the i-dealers are seen as having more rewards by the non-recipients, increasing payoffs can not only indirectly restore the "give-reward" imbalance of the non-recipients, but also help the i-dealers establish good collegial relationships and reduce resistance at work.

In addition, strict rules and regulations can be established and employees can be informed of the cost of social undermining to reduce the destructive behavior among employees; regular internal seminars are held, where i-dealers take the initiative to share their experience and skills, so that employees can feel that the performance gap is narrowing; and actively create a relaxed

and harmonious team atmosphere, and hold regular group activities to increase the intimacy of the relationship between employees.

Limitations and Future Research

There are some limitations in this study. First, this study explored the relationship between coworker idiosyncratic deals and social undermining based on social comparison theory. Research shows that different types of idiosyncratic deals can have different motivational effects on employees. Future research could explore in depth the effects of different types of idiosyncratic deals, such as the impact of flexible idiosyncratic deals and developmental idiosyncratic deals, pre-work (ex-ante) idiosyncratic deals, and post-work (ex-post) idiosyncratic deals on for non-recipients.

Second, this study considers the boundary conditions and the mechanisms underlying the social undermining of perception coworkers' receiving idiosyncratic deals from the perspective of personality characteristics. Although from the perspective of social comparison theory, personality characteristics are a non-negligible factor in the process of individual social comparison. However, compared with the situational variables at the organizational level, such as organizational climate, organizational mechanism design, and organizational context, personality characteristics have strong immutability, and the boundary role of organizational mechanism, organizational climate, and organizational context in the process of idiosyncratic deals generating social undermining can be further explored in the future to expand the practical value and theoretical significance of idiosyncratic deals.

Third, although this study adopted a multi-temporal data collection approach, the causal relationship between the variables is difficult to be fully determined due to the limitations of the questionnaire paradigm. It is recommended that future studies use a combination of experiments (e.g., showing subjects videos of their colleagues negotiating idiosyncratic deals with their leaders and successfully reaching consensus) and questionnaires to further explore this issue in order to improve the credibility of the findings.

Finally, our study sample is limited to the Chinese context, so it is uncertain to what extent these findings can be generalized beyond the Chinese culture, and the generalizability of the findings in the Western context needs to be further verified. Future cross-cultural studies can be conducted to better explore the mechanisms and boundary conditions of the impact of idiosyncratic deals on social undermining in different cultural contexts.

CONCLUSION

Drawing on social comparison theory, this study revealed the mechanisms of the mediating effects of the relative deprivation between perceptions of coworkers' receiving idiosyncratic deals and social undermining. This study also found that core self-evaluations and conscientiousness play moderating roles. The results advance understandings of how perceptions of coworkers' receiving idiosyncratic deals impact social undermining, providing theoretical and practical insights for human resource personnel.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

FUNDING

REFERENCES

Abdulsalam, D., Maltarich, M., Nyberg, A., Reilly, G., and Martin, M. (2021). Individualized pay-for-performance arrangements: peer reactions and consequences. *J. Appl. Psychol.* 106, 1202–1223. doi: 10.1037/apl0000820

Aguinis, H., Gottfredson, R., and Joo, H. (2012). Using performance management to win the talent war. *Bus. Horiz.* 55, 609–616. doi: 10.1016/j.bushor.2012.05.007

Anand, S., Hu, J., Vidyarthi, P., and Liden, R. C. (2018). Leader-member exchange as a linking pin in the idiosyncratic deals—performance relationship in workgroups. *Leadersh. Q.* 29, 698–708. doi: 10.1016/j.leaqua.2018.07.005

Antonakis, J., Day, D., and Schyns, B. (2012). Leadership and individual differences: at the cusp of a renaissance. *Leadersh. Q.* 23, 643–650. doi: 10.1016/j.leaqua.2012.05.002

Aryee, S., Walumbwa, F., Mondejar, R., and Chu, C. (2017). Core self-evaluations and employee voice behavior. *J. Manag.* 43, 946–966. doi: 10.1177/0149206314546192

Bagozzi, R. P., and Yi, Y. (1990). Assessing method variance in multitrait-multimethod matrices: the case of self-reported affect and perceptions at work. *J. Appl. Psychol.* 75, 547–560. doi: 10.1037/0021-9010.75.5.547

Bolino, M., and Turnley, W. (2009). Relative deprivation among employees in lower-quality leader-member exchange relationships. *Leadersh. Q.* 20, 276–286. doi: 10.1016/j.leaqua.2009.03.001

Borghuis, J., Denissen, J., Oberski, D., Sijtsma, K., Meeus, W., Branje, S., et al. (2017). Big five personality stability, change, and codevelopment across adolescence and early adulthood. *J. Pers. Soc. Psychol.* 113, 641–657. doi: 10.1037/pspp0000138

Brislin, R. W. (1980). *Translation and Content Analysis of Oral and Written Material.* Boston, MA: Allyn and Bacon.

Buunk, A., and Gibbons, F. (2007). Social comparison: the end of a theory and the emergence of a field. *Organ. Behav. Hum. Decis. Process.* 102, 3–21. doi: 10.1016/j.obhdp.2006.09.007

Callan, M., Shead, N., and Olson, J. (2011). Personal relative deprivation, delay discounting, and gambling. *J. Pers. Soc. Psychol.* 101, 955–973. doi: 10.1037/a0024778

Chang, C., Ferris, D., Johnson, R., Rosen, C., and Tan, J. (2012). Core self-evaluations: a review and evaluation of the literature. *J. Manag.* 38, 81–128. doi: 10.1177/0149206311419661

Chen, S., Fan, Y., Zhang, G., and Zhang, Y. (2021). Collectivism-oriented human resource management on team creativity: effects of interpersonal harmony and human resource management strength. *Int. J. Hum. Resour. Manag.* 32, 3805–3832. doi: 10.1080/09585192.2019.1640765

Cohen-Charash, Y. (2009). Episodic envy. *J. Appl. Soc. Psychol.* 39, 2128–2173. doi: 10.1111/j.1559-1816.2009.00519.x

Cohen-Charash, Y., and Mueller, J. (2007). Does perceived unfairness exacerbate or mitigate interpersonal counterproductive work behaviors related to envy? *J. Appl. Psychol.* 92, 666–680. doi: 10.1037/0021-9010.92.3.666

Collins, R. L. (1996). For better or worse: the impact of upward social comparison on self-evaluations. *Psychol. Bull.* 119, 51–69. doi: 10.1037/0033-2909.119.1.51

Costa, P. T., and McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI–R) and NEO Five Factor (NEO-FFI) Inventory Professional Manual.* Odessa, FL: Psychological Assessment Resources.

Demerouti, E. (2006). Job characteristics, flow, and performance. *J. Occup. Health Psychol.* 11, 266–280. doi: 10.1037/1076-8998.11.3.266

Duffy, M., Ganster, D., and Pagon, M. (2002). Social undermining in the workplace. *Acad. Manag. J.* 45, 331–351. doi: 10.2307/3069350

Duffy, M., Ganster, D., Shaw, J., Johnson, J., and Pagon, M. (2006). The social context of undermining behavior at work. *Organ. Behav. Hum. Decis. Process.* 101, 105–126. doi: 10.1016/j.obhdp.2006.04.005

Duffy, M. K., Scott, K. L., Shaw, J. D., Tepper, B. J., and Aquino, K. (2012). A social context model of envy and social undermining. *Acad. Manage. J.* 55, 643–666.

Fang, T., Ge, Y., and Fan, Y. (2019). Unions and the productivity performance of multinational enterprises: evidence from China. *Asian Bus. Manag.* 18, 281–300. doi: 10.1057/s41291-018-00052-0

Folger, R., and Martin, C. (1986). Relative deprivation and referent cognitions: distributive and procedural justice effects. *J. Exp. Soc. Psychol.* 22, 531–546. doi: 10.1016/0022-1031(86)90049-1

Garg, S., and Fulmer, I. (2017). Ideal or an ordeal for organizations? The spectrum of co-worker reactions to idiosyncratic deals. *Organ. Psychol. Rev.* 7, 281–305. doi: 10.1177/2041386617733136

Giarratana, M., Mariani, M., and Ingo, W. (2018). Rewards for patents and inventor behaviors in industrial research and development. *Acad. Manag. J.* 61, 264–292. doi: 10.5465/amj.2015.0633

Goldberg, L. (1992). The development of markers for the big-five factor structure. *Psychol. Assess.* 4, 26–42. doi: 10.1037//1040-3590.4.1.26

Guerrero, S., and Challiol-Jeanblanc, H. (2016). Idiosyncratic deals and helping behavior: the moderating role of i-deal opportunity for co-workers. *J. Bus. Psychol.* 31, 433–443. doi: 10.1007/s10869-015-9421-x

Guerrero, S., Jeanblanc, H., and Veilleux, M. (2016). Development idiosyncratic deals and career success. *Career Dev. Int.* 21, 19–30. doi: 10.1108/CDI-08-2015-0115

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: current research status and future research directions. *Front. Psychol.* 12:748237. doi: 10.3389/fpsyg.2021.748237

He, P., Peng, Z., Zhao, H., and Estay, C. (2019). How and when compulsory citizenship behavior leads to employee silence? A moderated mediation model based on moral disengagement and supervisor-subordinate guanxi views. *J. Bus. Ethics* 155, 259–274. doi: 10.1007/s10551-017-3550-2

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020). Linking work-related and non-work-related supervisor-subordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus. Manag.* doi: 10.1057/s41291-020-00137-9

Hershcovis, M., and Barling, J. (2010). Towards a multi-foci approach to workplace aggression: a meta-analytic review of outcomes from different perpetrators. *J. Organ. Behav.* 31, 24–44. doi: 10.1002/job.621

Judge, T., Erez, A., Bono, J., and Thoresen, C. (2003). The core self-evaluations scale: development of a measure. *Pers. Psychol.* 56, 303–331. doi: 10.1111/j.1744-6570.2003.tb00152.x

Judge, T., Locke, E., Durham, C., and Kluger, A. (1998). Dispositional effects on job and life satisfaction: the role of core evaluations. *J. Appl. Psychol.* 83, 17–34. doi: 10.1037//0021-9010.83.1.17

Khan, A., Quratulain, S., and Crawshaw, J. (2013). The mediating role of discrete emotions in the relationship between injustice and counterproductive work behaviors: a study in Pakistan. *J. Bus. Psychol.* 28, 49–61. doi: 10.1007/s10869-012-9269-2

Kluemper, D., Mossholder, K., Ispas, D., Bing, M., Iliescu, D., and Ilie, A. (2018). When core self-evaluations influence employees' deviant reactions to abusive supervision: the moderating role of cognitive ability. *J. Bus. Ethics* 159, 435–453. doi: 10.1007/s10551-018-3800-y

Kong, D. T., Ho, V., and Garg, S. (2020). Employee and coworker idiosyncratic deals: implications for emotional exhaustion and deviant behaviors. *J. Bus. Ethics* 164, 593–609. doi: 10.1007/s10551-018-4033-9

Lam, C. K., Van, D., Walter, F., and Huang, X. (2011). Harming high performers: a social comparison perspective on interpersonal harming in work teams. *J. Appl. Psychol.* 96, 588–601.

Liao, C., Wayne, S., and Rousseau, D. (2016). Idiosyncratic deals in contemporary organizations: a qualitative and meta-analytical review. *J. Organ. Behav.* 37, S9–S29. doi: 10.1002/job.1959

Maltarich, M., Nyberg, A., Reilly, G., Abdulsalam, D., and Martin, M. (2017). Pay-for-performance, sometimes: an interdisciplinary approach to integrating economic rationality with psychological emotion to predict individual performance. *Acad. Manag. J.* 60, 2155–2174. doi: 10.5465/amj.2015.0737

McFerran, B., Aquino, K., and Duffy, M. (2010). How personality and moral identity relate to individuals' ethical ideology. *Bus. Ethics Q.* 20, 35–56. doi: 10.5840/beq20102014

Moon, H. (2001). The two faces of conscientiousness. *J. Appl. Psychol.* 86, 533–540. doi: 10.1037/0021-9010.86.3.535

Mount, M., and Barrick, M. (1998). Five reasons why the "big five" article has been frequently cited. *Pers. Psychol.* 51, 849–857. doi: 10.1111/j.1744-6570.1998.tb00743.x

Ng, T. (2017). Can idiosyncratic deals promote perceptions of competitive climate, felt ostracism, and turnover? *J. Vocat. Behav.* 99, 118–131. doi: 10.1016/j.jvb.2017.01.004

Ng, T., and Lucianetti, L. (2016a). Goal striving, idiosyncratic deals, and job behavior. *J. Organ. Behav.* 37, 41–60. doi: 10.1002/job.2023

Ng, T., and Lucianetti, L. (2016b). Within-individual increases in innovative behavior and creative, persuasion, and change self-efficacy over time: a social-cognitive theory perspective. *J. Appl. Psychol.* 101, 14–34. doi: 10.1037/apl0000029

Reh, S., Tröster, C., and Van Quaquebeke, N. (2018). Keeping (future) rivals down: temporal social comparison predicts coworker social undermining via future status threat and envy. *J. Appl. Psychol.* 103, 399–415. doi: 10.1037/apl0000281

Reis, H., and Wheeler, L. (1991). Studying social interaction with the Rochester interaction record. *Adv. Exp. Soc. Psychol.* 24, 269–318. doi: 10.1016/S0065-2601(08)60332-9

Renn, R., Allen, D., and Huning, T. (2011). Empirical examination of the individual-level personality-based theory of self-management failure. *J. Organ. Behav.* 32, 25–43. doi: 10.1002/job.667

Rousseau, D. (2001). The idiosyncratic deal: flexibility versus fairness? *Organ. Dyn.* 29, 260–273. doi: 10.1016/S0090-2616(01)00032-8

Rousseau, D., Ho, V., and Greenberg, J. (2006). I-deals: idiosyncratic terms in employment relationships. *Acad. Manag. Rev.* 31, 977–994. doi: 10.5465/AMR.2006.22527470

Saucier, G. (1994). Mini-markers: a brief version of Goldberg's unipolar big-five markers. *J. Pers. Assess.* 63, 506–516. doi: 10.1207/s15327752jpa6303_8

Seidlitz, L., Wyer, R. S., and Diener, E. (1997). Cognitive correlates of subjective well-being: the processing of valenced life events by happy and unhappy persons. *J. Res. Pers.* 31, 240–256. doi: 10.1006/jrpe.1997.2184

Smith, H., Pettigrew, T., Pippin, G., and Bialosiewicz, S. (2012). Relative deprivation. *Personal. Soc. Psychol. Rev.* 16, 203–232. doi: 10.1177/1088868311430825

Tougas, F., Rinfret, N., Beaton, A. M., and Roxane, D. (2005). Policewomen acting in self-defense: can psychological disengagement protect self-esteem from the negative outcomes of relative deprivation? *J. Pers. Soc. Psychol.* 88, 790–800. doi: 10.1037/0022-3514.88.5.790

Van der Heijden, B., Nauta, A., Fugate, M., De Vos, A., and Bozionelos, N. (2021). Ticket to ride: I-deals as a strategic HR tool for an employable work force. *Front. Psychol.* 12:769867. doi: 10.3389/fpsyg.2021.769867

Wood, J. (1989). Theory and research concerning social comparisons of personal attributes. *Psychol. Bull.* 106, 231–248. doi: 10.1037/0033-2909. 106.2.231

Yu, L., and Duffy, M. K. (2016). *A Social-contextual View of Envy in Organizations: From both Enviers and Envied Perspectives[M].* New York: Oxford University Press.

Yu, L., Duffy, M., and Tepper, B. (2018). Consequences of downward envy: a model of self-esteem threat, abusive supervision, and supervisory leader self-improvement. *Acad. Manag. J.* 61, 2296–2318. doi: 10.5465/amj. 2015.0183

Zhang, G., Chen, S., Fan, Y., and Dong, Y. (2019). Influence of leaders' loneliness on voice-taking: the role of social self-efficacy and performance pressure. *Int. J. Ment. Health Promot.* 21, 13–29. doi: 10.32604/ IJMHP.2019.010730

Zhang, X., Deng, H., Xia, Y., and Lan, Y. (2021). Employability paradox: the effect of development idiosyncratic deals on recipient employees' turnover intention. *Front. Psychol.* 12:696309. doi: 10.3389/fpsyg.2021.696309

Zhao, X., and Shi, C. (2018). The relationship between regulatory emotional self-efficacy and core self-evaluation of college students: the mediation

effects of suicidal attitude. *Front. Psychol.* 9:598. doi: 10.3389/ fpsyg.2018.00598

Does Self-Sacrifice Make Me Great? Research on the Relationship Between Employee Conscientiousness and Pro-Social Rule Breaking

Xiayi Liu[1], Hongqing Wang[2]* and Xiajun Liu[1]

[1] School of Business Administration, Huaqiao University, Quanzhou, China, [2] School of Business, Nanjing Audit University, Nanjing, China

Based on the theory of purposeful work behavior, this study proposed that the two facets of employee conscientiousness, namely duty orientation and achievement orientation, have opposite effects on pro-social rule breaking (PSRB). We also explored the moderating effect of employees' task characteristic (job autonomy) and social characteristic (leader reward omission) on the above relationships. Using two-wave data collected from 216 employee-supervisor dyads, we found that duty orientation was positively related to PSRB, while achievement orientation was negatively related to PSRB. Further, job autonomy, by amplifying employees' perceived meaningfulness of their higher-order implicit goals, can strengthen the positive effect of duty orientation and the negative effect of achievement orientation on PSRB. Similarly, leader reward omission could also activate the negative effect of achievement orientation and PSRB, but not significantly moderate the positive relationship between duty orientation and PSRB. By separating the distinct role of facet-specific personality, our study sheds light on the relationship between employee conscientiousness and PSRB.

Keywords: duty orientation, achievement orientation, leader reward omission, job autonomy, pro-social rule breaking

INTRODUCTION

Conscientiousness has previously been observed to have a negative impact on destructive employees' workplace deviance (Kluemper et al., 2015; Guay et al., 2016). This is not surprising considering that conscientious individuals are self-disciplined, careful, and morally scrupulous (Barrick and Mount, 1991; Costa et al., 1991). In line with this view, current researchers reasoned consistently that conscientious employees are less likely to engage in pro-social rule breaking (PSRB) behaviors (Dahling et al., 2012; Vardaman et al., 2014).

Yet, our study argues that we should take a deeper exploration and research on the relationship between employee conscientiousness and PSRB for the following two reasons: Firstly, there are significant differences between workplace deviance and PSRB in their intrinsic motivation. Workplace deviance is mainly driven by employees' self-interested or hostile motives (Judge et al., 2006), whereas PSRB "is characterized by voluntary divergence from organizational norms with honorable intentions to benefit the organization or its stakeholders." (Dahling et al., 2012, p. 22). Therefore, PSRB is prone to induce a mixed motivational situation for individual employee: he/she must select between violating organizational rules and regulations to help their organization or turning a blind eye to avoid the

risk of punishment or social ostracization associated with PSRB (Vardaman et al., 2014). Secondly, conscientiousness proved to comprise more narrow dimensions, which mark important individual differences (e.g., Costa et al., 1991; Moon, 2001; Roberts et al., 2005). Researchers ignoring those differences might not achieve maximum validity when examining the effects of conscientiousness on work-related outcomes, especially workplace behaviors involving a decision dilemma (Ashton, 1998; Moon, 2001; Chae et al., 2019). Hence, taking conscientiousness as a general factor might insufficiently reveal its effect on PSRB.

We try to address this issue by further exploring the relationship between conscientiousness and PSRB by adopting the narrow-trait approach. Specifically, due to the motivational dilemma involving PSRB, we divide conscientiousness into two well-established distinct facets, namely duty orientation (other-centered) and achievement orientation (self-centered) (Moon, 2001). Differentiating these two facets is critical given their disparate implications for similar interpersonal dilemmatic situations, such as knowledge sharing (Chae et al., 2019), voice behavior (Tangirala et al., 2013), commitment escalation (Moon, 2001), et al. Basing on the theory of purposeful work behavior (TPWB) (Barrick et al., 2013), we propose that duty orientation is positively related to PSRB due to its other-centered implicit high-order goals, whereas achievement orientation is negatively related to PSRB for its self-centered purposeful motivational strivings.

Further, according to TPWB, work environments can facilitate or hind the effect of personality traits on individuals' purposeful work striving. Generally, these environments can be broken down into two main categories: task characteristic and social characteristic (Barrick et al., 2013). As one of the five core components of work characteristics, job autonomy gives employees freedom in carrying out work. Employees with higher job autonomy should have a greater influence on how a task is performed (Hackman and Oldham, 1975). In this regard, they are more likely to choose behaviors following their implicit high-order goals. Besides, employees also make judgments about their behaviors according to information sources provided by their leaders (He et al., 2020a). Leader reward omission, a common passive–avoidant type of leadership behavior (Peng et al., 2021; Wang et al., 2021), should serve as a critical social characteristic that influences employees' perceived risks and costs associated with PSRB. Therefore, this study chooses job autonomy as a task characteristic and leader reward omission as a social characteristic to further verify that the two facets of conscientiousness have opposite effects on PSRB.

By doing so, our research makes two major theoretical contributions to existing literature. Firstly, we extend understanding regarding the relationship between employee conscientiousness and PSRB. Prior studies found that conscientiousness, as a general factor, is negatively related to PSRB (Dahling et al., 2012; Vardaman et al., 2014). However, we found that the two narrow traits of conscientiousness, namely duty orientation and achievement orientation, have disparate effects on PSRB. By delineating the distinct roles of the two facets of conscientiousness, our study helps people to better understand conscientious employee's choice under dilemmatic situations, echoing prior calls for a narrow use of personality

in the workplace (Ashton, 1998; Moon, 2001; Dudley et al., 2006). Secondly, we provide initial evidence regarding the validity of TPWB (Barrick et al., 2013). Our results support the notion that the high-order implicit goals associated with traits will guide and direct the unique patterns of people's thoughts, emotions, and behavior. Moreover, our study further validates TPWB by examining the moderating role of job autonomy as a task characteristic and leader reward omission as a social characteristic.

THEORY AND HYPOTHESES

Theory of Purposeful Work Behavior

To explicate the disparate effects, this study adopts TPWB (Barrick et al., 2013) as the overarching theoretical framework. A core tenet of TPWB is that it is the implicit high-order goals associated with the five-factor-model (FFM) traits that determine an individual's experienced meaningfulness, which, in turn, triggers motivated workplace behavior. In addition, TPWB posits that an individual's task and social characteristics may facilitate his or her perceived meaningfulness when they act in concert with the purposeful work strivings (Barrick et al., 2013). Briefly, TPWB proposed that an employee's workplace behavior depends on the joint effects of their personality traits and job characteristics. Prior studies have adopted this theory to explain personality differences in predicting various workplace outcomes, such as work-email activity, job performance, work engagement, organizational citizenship behaviors, and counterproductive workplace behaviors (Frieder et al., 2018; Smith and Denunzio, 2019; Er and Saw, 2020). Taking into account the differential motivations underlying duty orientation (other-centered) and achievement orientation (self-centered), we believe TPWB is appropriate for revealing the distinct effects of duty orientation and achievement orientation on PSRB as well as the moderating role of job autonomy and leader reward omission.

Two Facets of Conscientiousness and PSRB

PSRB refers to those behaviors that employees actively violate formal organization regulations, policies, or prohibitions with the aim to promote the well-being of the whole organization or thier stakeholders (Morrison, 2006). Employees often fall into a moral dilemma when facing the decision-making situation involving PSRB. Employees who choose to engage in PSRB might help improve customer satisfaction, ameliorate organization structure and management system, and promote work quality, while they themselves might be punished for violating organizational rules and regulations or receive unfavorable evaluations from their leaders and colleagues (Morrison, 2006; Dahling et al., 2012). For those who choose to avoid PSRB, they can protect their own interests at the expense of the organization's or stakeholders' benefits (Morrison, 2006; Vardaman et al., 2014). Taking together, due to the dilemmatic nature of PSRB, whether or not engaging in this behavior is largely determined by one's inner pursuit.

According to TPWB, we first argue that duty orientation is positively related to PSRB. Although employees with duty

orientation and achievement orientation are all characterized by diligence and having high performance in their work, the implicit high-order goals behind them are of significant differences. Employees with higher duty orientation tend to be other-centered, adhere to ethical principles, and persist in doing what they believe is right. Prior studies found that those employees are more likely to avoid escalation of commitment at the expense of their personal reputation (Moon, 2001), to voice even if it might elicit their leaders' antipathy and threaten their self-image (Tangirala et al., 2013), and to engage in knowledge-sharing behavior, despite the threat of personal value or privilege loss (Chae et al., 2019). According to TPWB, we suggest that the other-centered motivation behind duty-oriented employees is more likely to prompt them to engage in PSRB behavior. This is because such behavior is beneficial for the organization's and its stakeholders' benefits (Morrison, 2006), which is in accord with their implicit high goals. As such, we proposed that:

H1: Duty orientation is positively related to PSRB behavior.

By contrast, we argue that achievement-oriented employees are more likely to avoid PSRB. Employees with higher achievement orientation are self-centered and care more about personal career success. Although they are also very hardworking and efficient at work, they are more concerned about personal gains and losses associated with their behavior and often evaluate whether such behavior is conducive to leadership emergence (Marinova et al., 2013). Consequently, such employees are reluctant to engage in behaviors that are beneficial for others while risky to themselves. For instance, they will remain silent because of the personal risks caused by voice behavior (Tangirala et al., 2013), hide their knowledge for the potential position or privilege loss risk after knowledge-sharing (Chae et al., 2019; He P. et al., 2021), or even turn a blind eye to the difficulties encountered by colleagues with the aim to outperform others (Marinova et al., 2013). According to TPWB, when facing the PSRB dilemma, achievement-oriented employees are more likely to avoid this behavior because such behavior is risky to themselves, which is inconsistent with their implicit self-center goals. As such, we proposed that:

H2: Achievement orientation is negatively related to PSRB behavior.

Moderating Effects of Job Autonomy and Leader Reward Omission

Personality literature has long suggested that research on the effects of individual personality should not ignore the role of environmental factors (Funder, 2006; Zaccaro et al., 2018). TPWB holds that external environmental factors can activate or inhibit individuals' sense of the meaningfulness of the goals they pursued and which, in turn, affect their work behavior (Barrick et al., 2013). As stated above, job autonomy and leader reward omission represent critical task and social characteristics, respectively, that influence employees' perceived meaningfulness of their implicit high-order goals. Hence, this paper examines the moderating roles of job autonomy and leader reward omission to further verify H1 and H2.

Job autonomy refers to the degree to which employees perceive themselves to be able to control and determine working methods, arrangements, and standards (Breaugh, 1985). When employees perceive higher levels of job autonomy in their work, they feel less control from their leaders or organizations, and more freedom to determine what to do in their daily work (Morgeson et al., 2005). Given the voluntary, while rule-violating nature of PSRB, we proposed that employees with high job autonomy are more likely to make decisions about engaging in PSRB or not in accordance with their implicit higher-order goals. Unlike compulsory citizenship behavior (He et al., 2020b), the voluntary nature of PSRB leaves some space for employees to decide to engage in it or not.

In this case, higher job autonomy might amplify the impact of personal motivation on workplace behaviors (Mischel, 1977; Barrick et al., 2013). Specifically, for duty-oriented employees, higher job autonomy allows them to insist on doing what they believe to be right. As such, when facing a PSRB dilemma, they are more likely to engage in such behavior because it can satisfy their implicit other-centered goal. On the contrary, achievement-oriented employees are more likely to avoid PSRB because such behavior is inconsistent with their pursuit of personal success.

On the contrary, when employees perceive lower levels of job autonomy, they feel more control over their work and less freedom for decision-making, which may decrease their sense of organizational responsibility and psychological ownership (Pattnaik and Sahoo, 2021). In this situation, all employees have to do their work according to the organization job description strictly. That is to say, neither duty-oriented employees nor achievement-oriented employees can decide to engage in PSRB or not when facing such a moral dilemma. Hence, we proposed that lower job autonomy might hind the impacts of duty-oriented and achievement-oriented employees' high-implicit goals on PSRB behavior. Taking together, we argue that high job autonomy could amplify the positive relationship between duty orientation and PSRB and the negative relationship between achievement orientation and PSRB. Based on the above analysis, this article proposed that:

H3a: The positive relationship between duty orientation and PSRB becomes stronger when job autonomy is high.

H3b: The negative relationship between achievement orientation and PSRB becomes stronger when job autonomy is high.

Leader reward omission, a typical passive leadership style, refers to such kind of leaders who do not reward subordinates for their high performance at work (Hinkin and Schriesheim, 2008). In this case, employees might feel that they do not get the praise, encouragement, and respect they deserve, which will consequently be tied to a series of negative results. Prior studies found that leader reward omission can undermine subordinates' trust toward their leaders, increase employees' perceived cost at work, and consequently reduce workplace feedback-seeking behavior (Zhang et al., 2020). That is to say, leader reward omission discourages employees' willingness to take risks and the consequences under uncertain situations (Dirks, 2000).

According to TPWB, we suggest that leader reward omission will not affect the relationship between duty orientation and PSRB. The reason is that the other-centered motivation behind duty-orientation employees enables them to be immune to extrinsic rewards and punishments, sticking to doing what they believe to be right. In brief, leader reward omission will not affect duty-oriented employees' perceived meaningfulness of PSRB. However, leader reward omission will strengthen the negative relationship between employees' achievement orientation and PSRB. This is because leader reward omission can strengthen achievement-oriented employees' perceived risks and costs for engaging in PSRB behavior, which runs counter to their implicit high-order goals for personal success. To be specific, high leader reward omission leaves subordinates unable to obtain performance feedback and organizational recognition, this may signal to employees that the organization denies its value. This will make employees feel great threat, insecurity, and inequitable treatment when engaged in PSRB behavior (Wang et al., 2021). Therefore, when leader reward omission is higher, achievement-oriented employees are more likely to avoid engaging in such behavior as much as possible for the sake of promotion safety. Based on the above analysis, this article proposed that:

H4a: Leader reward omission does not moderate the relationship between duty orientation and PSRB.

H4b: The negative relationship between achievement orientation and PSRB becomes stronger when leader reward omission is high.

To sum up, the conceptual model is displayed in **Figure 1**.

MATERIALS AND METHODS

Participants and Procedure

To test our hypotheses, we collected data from 4 Chinese companies that represent diverse industries, including manufacturing, insurance, e-commerce, and software. We send out two-stage surveys: a focal employee survey and a supervisor survey. Focal employees rated their demographic characteristics, duty orientation, achievement orientation, leader reward omission, and job autonomy, and three months later, supervisors completed items related to the focal employee's PSRB. With the assistance of internal coordinators (human resource personnel), we first made clear to participants the scientific research purpose only and the confidentiality of our survey. After completion, participants were instructed to return the survey directly to the researchers, in closed envelopes.

We sent out surveys to 248 employees and their immediate supervisors. 225 employees returned completed surveys, representing a response rate of 90.73%. A total of 231 supervisors' surveys were received, yielding a response rate of 93.15%. Because of missing data, the final matched sample of employee-supervisor dyads was 216.

Of the 216 employees, 95 (44.0%) were male and 121(56.0%) were female. Age was coded into four categories (along with the percentage of sample in each category): below 30 years (32.4%),

31 to 40 years (26.9%), 41 to 50 years (26.9%), over 51 years (13.9%). In terms of education, 26.9% had a high school diploma or lower, 25.0% had completed a college degree, 33.3% held a bachelor degree, 18.5% had postgraduate qualifications or higher. Tenure was reported for four bands: less than 3 years (24.1%), 4 to 6 years (24.1%), 7 to 9 years (33.3%), over 10 years (18.5%).

Measures

We used a response format of 5-point scales (1 = strongly disagree to 5 = strongly agree, unless otherwise noted). To ensure all items can be clearly understood by every participant, we translate the English scales into Chinese following a back-translation procedure.

Duty orientation was measured with an established 8-item scale from the 240-item Revised NEO Personality Inventory (Costa and McCrae, 1992). A sample item reads "I adhere strictly to my ethical principles." The coefficient α in this study was 0.903.

Achievement orientation was also evaluated using 8 items from the 240-item Revised NEO Personality Inventory (Costa and McCrae, 1992). A sample item was "I strive to achieve all I can." The coefficient α in this study was 0.903.

Job autonomy was rated using 3 items from Spreitzer (1995). A sample item reads "I have significant autonomy in determining how I do my job." The coefficient α in this study was 0.758.

Leader reward omission was measured using a 6-item scale from Hinkin and Schriesheim (2008). Sample items include "I often perform well in my job and still receive no praise from my manager" and "My good performance often goes unacknowledged by my manager." The coefficient α in this study was 0.797.

PSRB was measured with a 13-items scale that was developed by Dahling et al. (2012). A sample item reads "This employee breaks organizational rules or policies to do his/her job more efficiently." The coefficient α in this study was 0.964.

Control variables: To exclude alternative explanations, consistent with previous studies, we selected some demographic variables as the control variables (Bernerth and Aguinis, 2016). Specifically, employee gender (1 = male, 2 = female), age (1 = below 30 years, 2 = 31 to 40 years, 3 = 41 to 50 years, 4 = over 51 years), education (1 = high school diploma or lower, 2 = college degree, 3 = bachelor degree, 4 = postgraduate qualifications or higher), and tenure (1 = less than 3 years, 2 = 4 to 6 years, 3 = 7 to 9 years, 4 = over 10 years).

Data Analysis

In this study, SPSS statistical software was used for descriptive statistics, reliabilities, and correlations analyses, as well as common method variance, normal distribution, and hypothesis test. Confirmatory factor analyses were performed by Mplus Version 7.4.

RESULTS

Confirmatory Factor Analyses

Before testing the proposed model in our study, we first carried out confirmatory factor analyses (CFA) to assess whether the
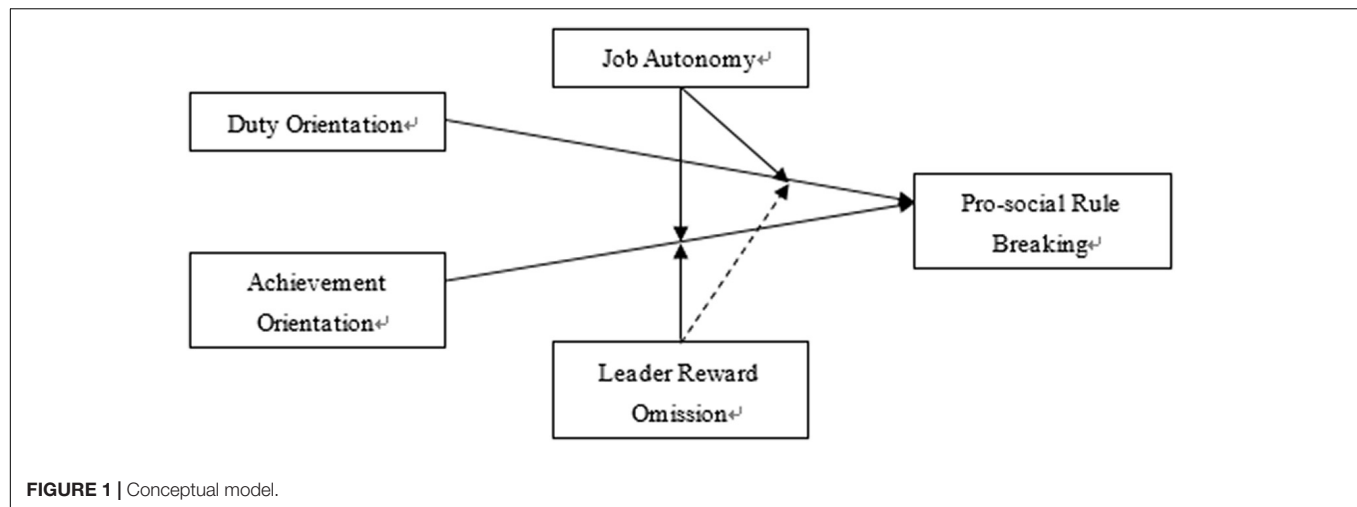
FIGURE 1 | Conceptual model.

TABLE 1 | Results of the confirmatory factor analyses of study variables.

Model	χ^2	df	χ^2/df	CFI	TLI	RMSEA	Δ χ^2(Δ df)
5-factor:DO, AO, RO, JA, PSRB	1146.998	655	1.75	0.908	0.901	0.059	-
4-factor:DO, AO, RO + JA, PSRB	1360.644	659	2.06	0.869	0.860	0.070	213.646 (4)
4-factor:DO + AO, RO, JA, PSRB	1936.315	659	2.94	0.761	0.745	0.095	789.317 (4)
3-factor:DO + AO + PSRB, RO, JA	2852.993	662	4.32	0.590	0.564	0.124	1705.995 (7)
2-factor:DO + AO + PSRB, RO + JA	3056.580	664	4.60	0.552	0.526	0.129	1909.582 (9)
1-factor:DO + AO + PSRB + RO + JA	3365.627	665	5.06	0.494	0.465	0.137	2218.629 (10)

n = 216. DO, duty orientation; AO, achievement orientation; RO, leader reward omission; JA, job autonomy.

scales used in our study, namely duty orientation, achievement orientation, leader reward omission, job autonomy, and PSRB, have eligible discriminant validity. Based on the methods recommended by Anderson and Gerbing (1988), we firstly tested the Chi-square differences between our five-factor baseline model and five alternative models to see which model mostly fit the data. The results in **Table 1** suggested that our five-factor model provided significantly better fit than the other five alternative models (χ^2 = 1146.998, df = 655, CFI = 0.908, TLI = 0.901, RMSEA = 0.059) (Steiger, 1990; Kline, 2015). As such, the results support the distinctiveness of key variables, enhancing our confidence in testing the following hypotheses.

Descriptive Statistics

Table 2 provided the descriptive statistics, reliabilities, and correlations of the variables in our study. Consistent with our hypotheses, duty orientation was positively related to PSRB (r = 0.162, p < 0.05), whereas achievement orientation had a negative correlation with PSRB (r = −0.237, p < 0.001), which provides preliminary support for H1 and H2. The test of normal distribution mainly includes two elements, namely skewness and kurtosis. Those with skewness value less than 3 and kurtosis value less than 10 can be considered as basically conforming to a normal distribution (Kline, 2015). In this study, the maximum skewness of each variable is 2.443, and the maximum kurtosis is 5.277. The results suggest that our data conform to normal distribution.

Common Method Variance

In order to test for common method bias, we performed Harman's single-factor test. The unrotated factor analysis results revealed that the first factor only accounts for 26.41% of the variance, which is well below the threshold of 50%. Thus, common method variance is not a serious threat in our study.

Hypothesis Testing

We first performed a multicollinearity test before hypotheses testing. The results showed that variance inflation factor (VIF) values of each model were between 1.030 and 1.172, and tolerance coefficients were between 0.880 and 0.971, indicating that there was no serious multicollinearity problem in our study. We formally tested our hypothesized model using hierarchical regression analysis (see **Table 3**). The results of M2 in **Table 3** suggested that after controlling for employees' gender, age, education, and tenure, duty orientation was positively related to PSRB (β = 0.227, p < 0.001) while achievement orientation was negatively related to PSRB (β = −0.216, p < 0.01). This supported our hypotheses that the two facets of conscientiousness had opposite effects on PSRB. Thus, H1 and H2 were confirmed.

H3a and H3b stated that job autonomy strengthened the positive and negative effects of duty orientation and achievement orientation on PSRB, respectively. The results of M3(b) in **Table 3** indicated that job autonomy positively and significantly moderated the positive relationship between duty orientation and PSRB (β = 0.165, p < 0.01), and the results of M4(b) in

TABLE 2 | Descriptive statistics and correlations for study variables.

Variables	M	SD	1	2	3	4	5	6	7	8
(1). Gender [a]	0.44	0.50								
(2). Age	2.22	1.05	0.079							
(3). Education	2.28	0.94	0.071	0.167*						
(4). Tenure	2.46	1.05	−0.071	0.058	0.088					
(5). DO	3.60	0.76	−0.075	−0.153*	−0.022	−0.041				
(6). AO	3.55	0.77	−0.213**	−0.183**	−0.161*	−0.110	0.256***			
(7). RO	2.81	0.54	0.077	−0.029	0.084	0.046	−0.018	−0.063		
(8). JA	2.77	0.98	−0.132	−0.221**	0.103	0.033	0.085	0.076	−0.092	
(9). PSRB	1.66	0.74	0.096	0.027	0.429***	0.177**	0.162*	−0.237***	0.004	0.298***

n = 216. *p < 0.05, **p < 0.01, ***p < 0.001(two-tailed). [a] Employee gender was coded as 0, female; 1, male.

TABLE 3 | Results of hierarchical regression modeling equation predicting PSRB.

						PSRB						
Variable	M₁	M₂	M₃		M₄		M₅		M₆	
			M3(a)	M3(b)	M4(a)	M4(b)	M5(a)	M5(b)	M6(a)	M6(b)
Gender	0.081	0.053	0.124*	0.113	0.080	0.067	0.097	0.089	0.052	0.038
Age	−0.058	−0.055	0.029	0.030	−0.017	−0.014	−0.034	−0.040	−0.084	−0.087
Education	0.420***	0.393***	0.379***	0.379***	0.359***	0.326***	0.422***	0.423***	0.406***	0.406***
Tenure	0.149*	0.135*	0.149*	0.136*	0.124*	0.118*	0.158*	0.141*	0.134*	0.129*
DO		0.227***	0.168**	0.173**			0.179**	0.172**		
AO		−0.216**			−0.173**	−0.197**			−0.165***	−0.178**
JA			0.263***	0.255***	0.277***	0.260***				
RO							−0.043	−0.027	−0.053	−0.022
DO*JA				0.165**						
AO*JA						−0.142*				
DO*RO								−0.106		
AO*RO										-0.204**
R²	0.213	0.284	0.307	0.334	0.307	0.325	0.246	0.257	0.239	0.280
ΔR²		0.071	0.094	0.027	0.094	0.018	0.033	0.011	0.026	0.041
F	14.257***	13.819***	15.441***	14.892***	15.441***	14.295***	11.363***	10.256***	10.960***	11.538***

n = 216. *p<0.05, **p<0.01, ***p<0.001 (two-tailed).

Table 3 revealed that job autonomy negatively and significantly moderated the negative relationship between achievement orientation and PSRB ($\beta = -0.142$, $p < 0.05$). We plotted the interactions to better illustrate the moderation effects (as shown in **Figures 2**, **3**; Aiken and West, 1991). In **Figure 2**, simple slope analyses suggested that there was a positive relationship between duty orientation and PSRB when job autonomy was high (1 *SD* above the mean; $\beta = 0.332$, $t = 4.105$, $p < 0.001$) but a non-significant relationship when job autonomy was low (1 *SD* below the mean; $\beta = 0.014$, $t = 0.184$, $p > 0.05$). As such, H3a was supported. In **Figure 3**, simple slope analyses revealed that achievement orientation and PSRB was negatively related when job autonomy was high (1 *SD* above the mean; $\beta = -0.323$, $t = -3.689$, $p < 0.001$) but was insignificantly related when job autonomy was low (1 *SD* below the mean; $\beta = -0.070$, $t = -0.946$, $p > 0.05$), supporting H3b.

H4a and H4b posited that leader reward omission did not moderate the positive relationship between duty orientation and PSRB while strengthened the negative effects of achievement

orientation on PSRB, respectively. As presented in M5(b) in **Table 3**, leader reward omission had no moderating effect on the relationship between duty orientation and PSRB ($\beta = -0.106$, $p > 0.05$), yet a negative moderating effect on the relationship between achievement orientation and PSRB ($\beta = -0.204$, $p < 0.01$). **Figure 4** shows that achievement orientation was negatively related to PSRB only when leader reward omission was high (1 *SD* above the mean; $\beta = -0.386$, $t = -4.303$, $p < 0.001$), but this relationship was insignificant when leader reward omission was low (1 *SD* below the mean; $\beta = 0.030$, $t = 0.358$, $p > 0.05$). Thus, hypothesis 4a and hypothesis 4b received support.

DISCUSSION

Using TPWB as an overarching framework, the present study examines the effects of two different facets of employees'

FIGURE 2 | Moderating effect of job autonomy between duty orientation and PSRB.

FIGURE 4 | Moderating effect of leader reward omission between achievement orientation and PSRB.

FIGURE 3 | Moderating effect of job autonomy between achievement orientation and PSRB.
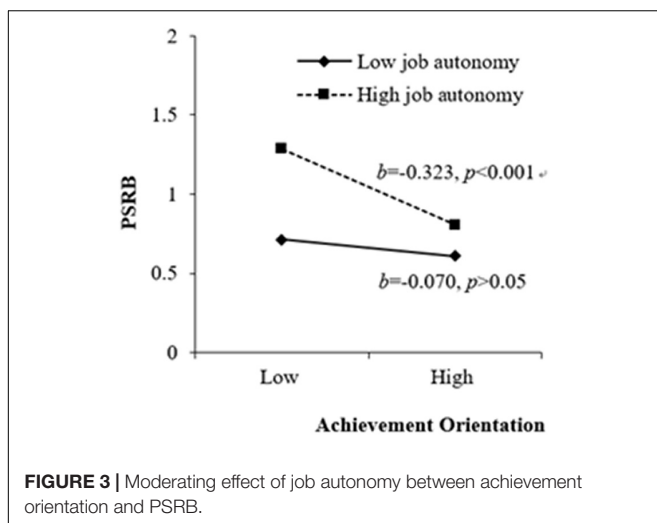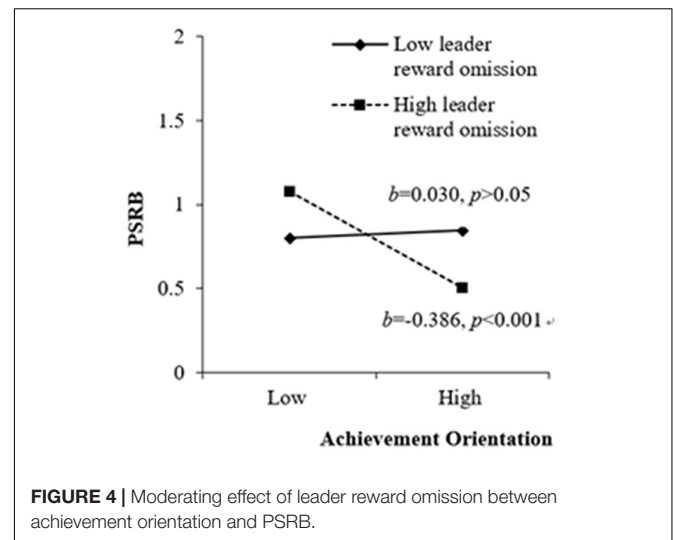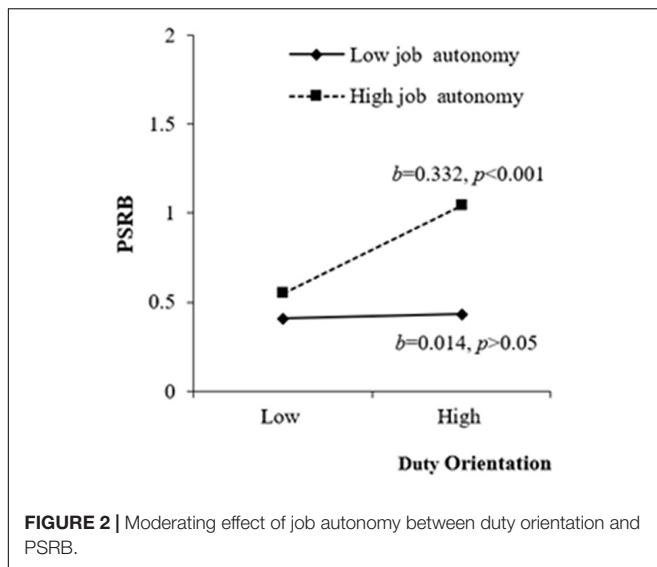
conscientiousness (duty orientation and achievement orientation) on a common workplace dilemma, namely, PSRB. Further, we also adopt job autonomy and leader reward omission as important boundary conditions to verify the above relationships. Our empirical results suggested that: (1) Duty orientation positively predicts PSRB, while achievement orientation negatively predicts PSRB. (2) Job autonomy positively moderates the relationship between duty orientation and PSRB, and negatively moderates the relationship between achievement orientation and PSRB. (3) Leader reward omission negatively moderates the relationship between achievement orientation and PSRB, but does not moderate the relationship between duty orientation and PSRB significantly. Our results expand and enrich previous research results about the linkage between employees' conscientiousness and PSRB behavior (Morrison, 2006; Vardaman et al., 2014), which has strong theoretical and practical implications for theory development and management practice.

Theoretical Implications

This study contributes to existing research in three major ways. Firstly, our findings help clarify the relationship between employee conscientiousness and PSRB behavior by highlighting the disparate effects of duty orientation and achievement orientation. Prior studies have demonstrated a consistent relationship between a broad factor of conscientiousness and PSRB (Morrison, 2006; Vardaman et al., 2014). While this might conceal the divergent impact of different facets of conscientiousness on PSRB. As suggested, "a more narrow use of conscientiousness will be beneficial" (Moon, 2001, p. 537) when examining its effects on workplace behaviors that involves self-orientation and other-orientation. Accordingly, our study addresses the repeated calls for research to analyze the effects of personality traits on a narrower conceptualization (Hogan and Roberts, 2015).

Secondly, our study provides a deeper and more comprehensive understanding on the intention of PSRB. Most empirical studies view PSRB as a kind of risky behavior that violates organizational rules and regulations (Wang and Shi, 2021), which is not consistent with Morrison's (2006) original definition, where PSRB was regarded as a social dilemma for agents themselves. Drawing on TPWB, our study empirically reveals that PSRB is actually a moral dilemma for conscientious employees from the implicit higher-order goals view. In this regard, our study helps researchers to better understand the nature of PSRB.

Thirdly, our study also contributes to the literature on situational variation in trait expression. Prior studies have stressed the critical role of situations in conditioning the impact of traits on behaviors (Funder, 2006; Zaccaro et al., 2018). Our study addresses this call by examining the moderating of job autonomy and leader reward omission. Specifically, we found that job autonomy might amplify the positive effect of duty orientation and the negative of achievement orientation on PSRB, and leader reward omission could strengthen the negative of achievement orientation on PSRB. These results demonstrate

the necessity and importance of incorporating task and social characteristics as contextual factors in examining the effects of certain personality traits.

Practical Implications

Our study also yields several important practical implications. Firstly, managers should pay attention to discern various facets of conscientiousness, which might lead to divergent outcomes. Although most studies have consistently stressed the critical role of conscientiousness in improving employees' work performance, our results suggest that such a view might be misleading. As shown in our study, conscientious employees with duty orientation are more likely to engage in PSRB to promote the benefits of the organization and stakeholders, despite the personally risky potential associated with such behavior. On the contrary, conscientious employees with achievement orientation tend to avoid PSRB for the sake of their own interests. That is to say, employees might be conscientious for different intentions. As such, organizations that require employees' PSRB in the turbulent situation must learn how to evaluate the various motivations behind employees' conscientiousness.

Secondly, our study also suggests that job autonomy and leader reward omission can serve as critical boundary conditions on the relationship between the two facets of conscientiousness and PSRB. In this case, supervisors should delegate more authority to duty-orientated employees to stimulate their PSRB. By contrast, to promote achievement-orientated employees' PSRB behavior, supervisors should pay more attention to monitoring their contribution to the job and appreciate their good performance on time. These practices can help prevent achievement-orientated employees from being overly self-interested and turning a blind eye to the benefits of the whole organization.

Thirdly, organizations should be more tolerant toward employees' PSRB behavior. Due to the moral dilemmatic nature of PSRB, it is not hard to conclude that employees who choose to engage in PSRB put organizational interests ahead of their personal benefits. In this case, these employees should not be punished severely for violating organizational rules and regulations. On the contrary, organizations should show respect to and reward employees for engaging in PSRB bravely. If so, other employees can also choose to engage in PSRB when facing a similar moral dilemma, which can significantly improve organizational flexibility and competitiveness.

Limitations and Future Research Directions

There are still some limitations of this study that should be noted. Firstly, although we adopted a two-stage, multi-source method to collect data, the duty orientation, achievement data, job autonomy, and leader reward omission data were all collected from employees. As such, there is inevitably common method bias and socially desirable responding in our data. Hence, future research can use experimental methods, objective data, or archival data to repeat this research to improve the robustness of our results. Secondly, we did not incorporate binary tenure

as a control variable in our study. Binary tenure refers to the period in which a follower had worked with his or her leader. Although some prior studies have shown that dyadic tenure has no significant effect on PSRB (Zhu et al., 2018; Chen et al., 2019; He B. et al., 2021), we believe binary tenure might have a great impact on leader-member exchange and guanxi, which, in turn, influence employees' psychological safety in engaging extra-role workplace behaviors (Sparrowe and Liden, 2005; He et al., 2019). As such, we call for future research to control binary tenure in their studies regarding employee-supervisor dyads. Thirdly, our research paid little attention to the intervening mechanisms between the two facets of conscientiousness and PRSB. Actually, duty orientation and achievement orientation might influence employees' PSRB through different paths. For example, duty orientation and achievement orientation may influence PSRB through different role identification (Tangirala et al., 2013). Finally, future studies can explore the relationship between employee conscientiousness and PSRB by identifying critical boundary conditions. By revealing the disparate effects of the two facets of conscientiousness on PSRB, this paper provides a deeper understanding of the relationship. However, future research can further explore whether employee conscientiousness has opposite effects on PSRB under different levels of the same boundary condition, such as environmental uncertainty.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

Written informed consent was obtained from the individual(s) for the publication of any potentially identifiable images or data included in this article.

AUTHOR CONTRIBUTIONS

XyL wrote the original draft of the manuscript and analyzed the data. HW and XjL revised the manuscript. All authors contributed to the design and conceptualization of the manuscript, as well as to reviewing and editing the manuscript.

FUNDING

REFERENCES

Aiken, L. S., and West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park, CA: Sage.

Anderson, J. C., and Gerbing, D. W. (1988). Structural equation modeling in practice: a review and recommended two-step approach. *Psychol. Bull.* 103, 411–423. doi: 10.1037/0033-2909.103.3.411

Ashton, M. C. (1998). Personality and job performance: the importance of narrow traits. *J. Organ. Behav* 19, 289–303. doi: 10.1002/(SICI)1099-1379(199805)19: 3<289::AID-JOB841>3.0.CO;2-C

Barrick, M. R., and Mount, M. K. (1991). The big five personality dimensions and job performance: a meta-analysis. *Pers. Psychol.* 44, 1–26. doi: 10.1111/j.1744-6570.1991.tb00688.x

Barrick, M. R., Mount, M. K., and Li, N. (2013). The theory of purposeful work behavior: the role of personality, higher-order goals, and job characteristics. *Acad. Manage. Rev.* 38, 132–153. doi: 10.5465/amr.10.0479

Bernerth, J. B., and Aguinis, H. (2016). A critical review and best-practice recommendations for control variable usage. *Pers. Psychol.* 69, 229–283. doi: 10.1111/peps.12103

Breaugh, J. A. (1985). The measurement of work autonomy. *Hum. Relat.* 38, 551–570. doi: 10.1177/001872678503800604

Chae, H., Park, J., and Choi, J. N. (2019). Two facets of conscientiousness and the knowledge sharing dilemmas in the workplace: contrasting moderating functions of supervisor support and coworker support. *J. Organ. Behav.* 40, 387–399. doi: 10.1002/job.2337

Chen, Y., Wang, L., Liu, X., Chen, H., Hu, Y., and Yang, H. (2019). The trickle-down effect of leaders' pro-social rule breaking: joint moderating role of empowering leadership and courage. *Front. Psychol.* 9:2647. doi: 10.18032/kaaba.2017.30.4.689

Costa, P. T., and McCrae, R. R. (1992). Professional manual: revised NEO personality inventory (NEO-PI-R) and NEO five-factor inventory (NEO-FFI). *Psychol. Assess. Resour. Differ.* 35, 1285–1292. doi: 10.1007/978-0-387-79948-3_2000

Costa, P. T., Mccrae, R. R., and Dye, D. A. (1991). Facet scales for agreeableness and conscientiousness: a revision of the NEO personality inventory. *Pers. Indiv. Differ.* 12, 887–898. doi: 10.1016/0191-8869(91)90177-D

Dahling, J. J., Chau, S. L., Mayer, D. M., and Gregory, J. B. (2012). Breaking rules for the right reasons? An investigation of pro-social rule breaking. *J. Organ. Behav.* 33, 21–42. doi: 10.1002/job.730

Dirks, K. T. (2000). Trust in leadership and team performance: evidence from ncaa basketball. *J. Appl. Psychol.* 85, 1004–1012. doi: 10.1037/0021-9010.85.6.1004

Dudley, N. M., Orvis, K. A., Lebiecki, J. E., and Cortina, J. M. (2006). A meta-analytic investigation of conscientiousness in the prediction of job performance: examining the intercorrelations and the incremental validity of narrow traits. *J. Appl. Psychol.* 91, 40–57. doi: 10.1037/0021-9010.91.1.40

Er, A., and Saw, B. (2020). Personality differences as predictors of action-goal relationships in work-email activity. *Comput. Hum. Behav.* 103, 67–79. doi: 10.1016/j.chb.2019.09.022

Frieder, R. E., Wang, G., and Oh, I. S. (2018). Linking job-relevant personality traits, transformational leadership, and job performance via perceived meaningfulness at work: a moderated mediation model. *J. Appl. Psychol.* 103, 324–333. doi: 10.1037/apl0000274

Funder, D. C. (2006). Towards a resolution of the personality triad: persons, situations, and behaviors. *J. Res. Pers.* 40, 21–34. doi: 10.1016/j.jrp.2005. 08.003

Guay, R. P., Choi, D., Oh, I.-S., Mitchell, M. S., Mount, M. K., and Shin, K.-H. (2016). Why people harm the organization and its members: relationships among personality, organizational commitment, and workplace deviance. *Hum. Perform.* 29, 1–15. doi: 10.1080/08959285.2015.1120305

Hackman, J. R., and Oldham, G. R. (1975). Development of the job diagnostic survey. *J. Appl. Psychol.* 60, 159–170. doi: 10.1037/h0076546

He, B., He, Q., and Sarfraz, M. (2021). Inclusive leadership and subordinates' pro-social rule breaking in the workplace: mediating role of self-efficacy and moderating role of employee relations climate. *Psychol. Res. Behav. Ma.* 14, 1691–1706. doi: 10.2147/PRBM.S333593

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: current research status and future research directions. *Front. Psychol.* 12:748237. doi: 10.3389/fpsyg.2021.748237

He, P., Peng, Z., Zhao, H., and Estay, C. (2019). How and when compulsory citizenship behavior leads to employee silence: a moderated mediation model based on moral disengagement and supervisor–subordinate guanxi views. *J. Bus. Ethics.* 155, 259–274. doi: 10.1007/s10551-017-3550-2

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020a). Linking work-related and non-work-related supervisor–subordinate relationships to knowledge hiding: a psychological safety lens. *Asian. Bus. Manag.* 1–22. doi: 10.1057/s41291-020-00137-9 [Epub ahead of print].

He, P., Zhou, Q., Zhao, H., Jiang, C., and Wu, Y. J. (2020b). Compulsory citizenship behavior and employee creativity: creative self-efficacy as a mediator and negative affect as a moderator. *Front. Psychol.* 11:1640. doi: 10.3389/fpsyg.2020. 01640

Hinkin, T. R., and Schriesheim, C. A. (2008). An examination of 'nonleadership': from laissez-faire leadership to leader reward omission and punishment omission. *J. Appl. Psychol.* 93, 1234–1248. doi: 10.1037/a0012875

Hogan, J., and Roberts, B. W. (2015). Issues and non-issues in the fidelity–bandwidth trade-off. *J. Organ. Behav.* 17, 627–637. doi: 10.1002/(SICI)1099-1379(199611)17:63.0.CO;2-F

Judge, T. A., Scott, B. A., and Ilies, R. (2006). Hostility, job attitudes, and workplace deviance: test of a multilevel model. *J. Appl. Psychol.* 91, 126–138. doi: 10.1037/0021-9010.91.1.126

Kline, R. B. (2015). *Principles and Practice of Structural Equation Modeling*. New York, NY: Guilford publications.

Kluemper, D. H., McLarty, B. D., and Bing, M. N. (2015). Acquaintance ratings of the big five personality traits: incremental validity beyond and interactive effects with self-reports in the prediction of workplace deviance. *J. Appl. Psychol.* 100, 237–248. doi: 10.1037/a0037810

Marinova, S. V., Moon, H., and Kamdar, D. (2013). Getting ahead or getting along? The two-facet conceptualization of conscientiousness and leadership emergence. *Organ. Sci.* 24, 1257–1276. doi: 10.1287/orsc.1120.0781

Mischel, W. (1977). "The interaction of person and situation," in *Personality at the Crossroads: Current Issues in Interactional Psychology*, eds D. Magnusson and N. S. Endle (Hillsdale, NJ: Erlbaum), 333–352.

Moon, H. (2001). The two faces of conscientiousness: duty and achievement striving in escalation of commitment dilemmas. *J. Appl. Psychol.* 86, 533–540. doi: 10.1037/0021-9010.86.3.535

Morgeson, F. P., Delaney-Klinger, K., and Hemingway, M. A. (2005). The importance of job autonomy, cognitive ability, and job-related skill for predicting role breadth and job performance. *J. Appl. Psychol.* 90, 399–406. doi: 10.1037/0021-9010.90.2.399

Morrison, E. W. (2006). Doing the job well: an investigation of pro-social rule breaking. *J. Manage.* 32, 5–28. doi: 10.1177/0149206305277790

Pattnaik, S. C., and Sahoo, R. (2021). Transformational leadership and organizational citizenship behaviour: the role of job autonomy and supportive management. *Manag. Res. Rev.* 44, 1409–1426. doi: 10.1108/MRR-06-2020-0371

Peng, Q., Zhong, X., Liu, S., Zhou, H., and Ke, N. (2021). Job autonomy and knowledge hiding: the moderating roles of leader reward omission and person–supervisor fit. *Pers. Rev.*. doi: 10.1108/PR-03-202 0-0133 [Epub ahead of print].

Roberts, B. W., Chernyshenko, O. S., Stark, S., and Goldberg, L. R. (2005). The structure of conscientiousness: An empirical investigation based on seven major personality questionnaires. *Pers. Psychol.* 58, 103–139. doi: 10.1111/j.1744-6570. 2005.00301.x

Smith, R. W., and Denunzio, M. M. (2019). Examining personality—job characteristic interactions in explaining work outcomes. *J. Res. Pers.* 84, 64–138. doi: 10.1016/j.jrp.2019.103884

Sparrowe, R. T., and Liden, R. C. (2005). Two routes to influence: Integrating leader-member exchange and social network perspectives. *Admin. Sci. Quart.* 50, 505–535. doi: 10.2189/asqu.50.4.505

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: dimensions, measurement, and validation. *Acad. Manage. J.* 38, 1442–1465.

Steiger, J. H. (1990). Structural model evaluation and modification: an interval estimation approach. *Multivar. Behav. Res.* 25, 173–180. doi: 10.1207/s15327906mbr2502_4

Tangirala, S., Dishan, K., Vijaya, V., and Parke, M. R. (2013). Doing right versus getting ahead: the effects of duty and achievement orientations

on employees' voice. *J. Appl. Psychol.* 98, 1040–1050. doi: 10.1037/a003 3855

Vardaman, J. M., Gondo, M. B., and Allen, D. G. (2014). Ethical climate and pro-social rule breaking in the workplace. *Hum. Resour. Manage.* 24, 108–118. doi: 10.1016/j.hrmr.2012.05.001

Wang, F., and Shi, W. (2021). Inclusive leadership and pro-social rule breaking: the role of psychological safety, leadership identification and leader-member exchange. *Psychol. Rep.* 124, 2155–2179. doi: 10.1177/00332941209 53558

Wang, T., Cao, Z., Zhong, X., and Chen, C. (2021). Self-regulation failure? The influence mechanism of leader reward omission on employee deviant behavior. *Front. Psychol.* 12:558293. doi: 10.3389/fpsyg.2021.558293

Zaccaro, S. J., Green, J. P., Dubrow, S., and Kolze, M. (2018). Leader individual differences, situational parameters, and leadership outcomes: a comprehensive review and integration. *Leadership. Quart.* 29, 2–43. doi: 10.1016/j.leaqua.2017. 10.003

Zhang, X., Qian, J., Wang, B., and Chen, M. (2020). The role of reward omission in empowering leadership and employee outcomes: a moderated mediation model. *Hum. Resour. Manag. J.* 30, 226–243. doi: 10.1111/1748-8583. 12260

Zhu, J., Xu, S., Ouyang, K., Herst, D., and Farndale, E. (2018). Ethical leadership and employee pro-social rule-breaking behavior in China. *Asian. Bus. Manag.* 17, 59–81. doi: 10.1057/s41291-018-0031-0

frontiers | Frontiers in Psychology

Does Technostress Increase R&D Employees' Knowledge Hiding in the Digital Era?

Zhengang Zhang[1,2], Baosheng Ye[1,2], Zhijun Qiu[1], Huilin Zhang[3] and Chuanpeng Yu[2,4]*

[1] *School of Business Administration, South China University of Technology, Guangzhou, China,* [2] *Guangzhou Institute of Digital Innovation, Guangzhou, China,* [3] *Economics Department, City University of New York, New York, NY, United States,* [4] *Department of Tourism Management, South China University of Technology, Guangzhou, China*

Technostress as an antecedent factor exploring knowledge hiding continues to be seldomly discussed in the digital era. Based on the job demand-resource theory, this article introduces work exhaustion as a mediator variable and constructs a model that the five sub-dimensions of technostress (i.e., overload, invasion, complexity, insecurity, and uncertainty) affect knowledge hiding for R&D employees. Similarly, this study analyzes the moderation of workplace friendship as the resource buffering effect. Based on data from the 254 questionnaires of the two-stage survey, empirical results show that: (1) Techno-invasion, techno-insecurity, and techno-complexity have significant positive effects on work exhaustion, and techno-invasion has the greatest effect. However, techno-overload and techno-uncertainty have no significant relationship with work exhaustion. (2) Work exhaustion plays a mediating role in the relationships between the three aspects of technostress (techno-invasion, techno-insecurity, techno-complexity) and knowledge hiding; However, its mediating effects are insignificant in the relationships between the two aspects of technostress (techno-overload and techno-uncertainty) and knowledge hiding. (3) Workplace friendship negatively moderates the relationships between the two aspects of technostress (techno-invasion and techno-insecurity) and work exhaustion, leading to less knowledge hiding. Nonetheless, its negative moderation for the relationships between the two aspects of technostress (techno-overload and techno-uncertainty) and work exhaustion are insignificant. Empirical results further show that workplace friendship positively moderates the relationship between techno-complexity and work exhaustion.

Keywords: knowledge hiding, techno-invasion, techno-insecurity, techno-complexity, techno-overload, techno-uncertainty, work exhaustion, workplace friendship

INTRODUCTION

Knowledge management is important for R&D employees to carry out innovative activities, and enterprises continue to take measures to promote knowledge sharing among R&D employees (Serenko and Bontis, 2016; Wu and Chen, 2021). Knowledge sharing is one of the core processes of knowledge management, which is "a relational act based on a sender-receiver relationship that incorporates communicating one's knowledge to others as well as receiving others knowledge" (Foss et al., 2009, p. 873). This definition indicates that knowledge-sharing behavior consists of both donating knowledge and collecting knowledge (De Vries et al., 2006). Knowledge donating emphasizes

that the knowledge sender communicates personal intellectual capital to others, while knowledge collecting emphasizes that the knowledge recipient actively consults others for their intellectual capital (De Vries et al., 2006). However, organizations do not "own" the employees' intellectual assets, and there are various counterproductive knowledge behaviors where employees fail to share their knowledge, facing the problem of knowledge-hiding behavior (Connelly et al., 2019; Bari et al., 2020). Knowledge hiding is defined as an act whereby "a person deliberately tries to conceal the knowledge required by others" (Connelly et al., 2012). That is, when employees are asked to provide knowledge by their colleagues, they deliberately conceal knowledge rather than share it. Research shows that knowledge hiding has serious negative outcomes (Connelly et al., 2019; He et al., 2021a). For example, knowledge hiding impedes the exchange and flow of knowledge within an organization (Connelly et al., 2012) and reduces employees' levels of organizational commitment and innovation (Serenko and Bontis, 2016), to name a few. Especially, knowledge hiding will have a great negative effect on the work for the group of the R&D employees in terms of the knowledge-intensive industry (Jha and Varkkey, 2018). How to reduce the knowledge hiding behavior of the R&D employees has become an important research issue. Scholars have researched to explore the antecedents of knowledge hiding behavior from various theoretical perspectives (Zhao et al., 2019; Khalid et al., 2020; Yao et al., 2020a,b; Zhao and Jiang, 2021). These studies about knowledge hiding antecedents can be classified as three aspects: individual factors, team and interpersonal factors, and organizational factors (Sofyan et al., 2021). However, prior research on R&D employees' knowledge hiding behavior from the perspective of digital technology stress remains scarce. Hence, exploring new insights into the link between technology stress and knowledge hiding is needed.

Digital technology has created a new business environment and opened up a new path for enterprise development (Yu et al., 2020b). The outbreak of COVID-19 accelerates the digital transformation process (Kudyba, 2020). For example, *WeCom*, Tencent's dedicated product for business communication and office collaboration, reached 180 million active users with more than 10 million companies and organizations in 2021. Despite enjoying the positive role of digital technology, employees also bear some negative impacts (Saleem et al., 2021). Technostress refers to a kind of psychological state caused by a person's inability to cope with new ICTs in a healthy way, which consists of five dimensions, including techno-overload, techno-invasion, techno-insecurity, techno-complexity, and techno-uncertainty (Tarafdar et al., 2007, 2015). A growing body of literature has shown that technostress can cause a host of negative outcomes (Bondanini et al., 2020), such as reduced performance (Ragu-Nathan et al., 2008; Tarafdar et al., 2015; Yener et al., 2020), decreased organizational commitment and job satisfaction (Ragu-Nathan et al., 2008), discontinued use of social networking services (Maier et al., 2015), as well as increased turnover intention, work-family conflict, and family burnout (Harris et al., 2021). Surprisingly, however, the potential effect of technostress on knowledge-related behavior has received relatively little attention. It is of great importance to fill such

an unexplored gap in the literature, as knowledge has become an essential prerequisite for organizational survival and success in the knowledge-based economy (Peng, 2013). Consistent with the extensive evidence that technostress leads to a variety of dysfunctional behaviors (La Torre et al., 2019), and the emerging research calls for more attention for the triggers of technological turbulence on intra-organizational hiding (Arias-Perez and Velez-Jaramillo, 2021), we infer that technostress may also evoke knowledge hiding and propose the research question that does technostress increase R&D employees' knowledge hiding? Specifically, how do five dimensions of technostress individually influence knowledge hiding?

Based on the job demand-resource (JD-R) theoretical framework, this study explores *how* five sub-dimensions of technostress affect R&D employees' knowledge hiding and examines *when* to buffer the negative effect of technostress by introducing work exhaustion as a mediator variable and workplace friendship as a moderator. First, this paper used Vosviewer software to summarize the existing research and constructs a research framework model on the basis of JD-R theory. Second, this paper puts forward some hypotheses, including the direct and indirect effects and moderation effects between technostress and knowledge hiding. Third, this paper thoroughly introduces the research methods, including questionnaires, measurement, and statistical analysis tools. Fourth, this paper describes the analysis process and results of the study. Finally, this paper discusses the conclusions, theoretical and practical significance of the conclusions, and puts forward the future research direction. Our study results provide the reference for enterprises to reduce the knowledge hiding behaviors of the R&D employees.

LITERATURE AND THEORETICAL FOUNDATION

Literature Review

Knowledge hiding can be understood as consisting of three different facets, including evasive hiding, playing dumb, and reasonable hiding (Connelly et al., 2012). Evasive hiding means that the knowledge hider provides incorrect knowledge to the requester or pretends to agree to help but actually attempts to delay; playing dumb means that the knowledge hider pretends not to know or understand the problem of the knowledge requestor; reasonable hiding means that the knowledge hider explains to the requester why the required knowledge is not provided, such as being required to keep the required knowledge confidential (Connelly et al., 2012). According to the above statements, evasive hiding and playing dumb often involve high deception (Connelly and Zweig, 2015; Zhao et al., 2019; Peng et al., 2021), and this study emphasizes the negative effects of knowledge hiding on individuals and organizations. Although people may pretend to hide their knowledge through reasonable hiding, it also has many benefits for an enterprise in terms of carrying out the enterprise's secret system, obeying the superior's order or the department rule, and its deception is low (Connelly et al., 2012). In addition, a large number of scholars believe that

reasonable hiding is different in nature from evasive hiding and playing dumb (Zhao et al., 2019; Peng et al., 2021). Hence, this study utilized only two dimensions of knowledge hiding, namely, evasive hiding and playing dumb.

Since the concept of knowledge hiding was proposed, many studies have explored the antecedents and consequences of this behavior, and the consequences of knowledge hiding have focused on the impact on performance and innovation (see **Figure 1**, each color represents a cluster).

First, literature cluster 1 focuses on the antecedent variables for knowledge hiding. Specifically, the frequencies of antecedents (frequency = 24), work (frequency = 14), and behavior (frequency = 12) in cluster 1 are higher (see **Table 1**), which show that the cluster focuses on the antecedent variables of knowledge hiding. These antecedents for knowledge hiding can arise from the perspective of individual, interpersonal/team, and organizational levels (Sofyan et al., 2021). The individual factors can be seen in aspects such as role stress (Zhao and Jiang, 2021), compulsory citizenship behavior (He et al., 2019), and feelings of psychological ownership (Peng, 2013). The interpersonal factors include aspects such as workplace bullying (Yao et al., 2020b)

and ostracism (Serenko and Bontis, 2016), and the team level factors involve aspects such as team motivational climate (Černe et al., 2014). In addition, the organizational-level determinants include aspects such as leader-member exchange (Zhao et al., 2019) and organizational knowledge culture (Serenko and Bontis, 2016). For example, Zhao and Jiang (2021) analyzed the impact of role stress on knowledge hiding from the perspective of social network theory and role theory. Zhao and Liu (2021) explored the perceptions of corporate hypocrisy on knowledge hiding on the basis of social cognitive theory.

Second, literature cluster 2 focuses on the consequences of knowledge hiding behavior, which can be seen from the high frequency of keywords occurrence, such as consequences (frequency = 15), workplace (frequency = 10), and climate (frequency = 7; see **Table 1**). Current research explores the consequences of knowledge hiding mainly from the individual and team aspects (He et al., 2021a). In terms of individual aspects, the existing research has examined the effects of knowledge hiding on individual job performance, psychological status and attitude, workplace behavior, and supervisor-subordinate/coworker relationships (He et al., 2021b). For

FIGURE 1 | An overview of the knowledge hiding literature. The database is "web of science core collection," and the retrieval condition is "topic = knowledge hiding." To ensure data accuracy, we carefully selected studies that fit the definition given by Connelly et al. (2012) and retained research articles, review articles, and online publications. This process yielded 182 articles (Retrieved on December 1, 2021).

TABLE 1 | Clustering analysis of knowledge hiding literature (Clusters 1–4).

Label		Cluster Occurrences	Label		Cluster Occurrences
Antecedents	1	24	Consequences	2	15
Work	1	14	Workplace	2	10
Behavior	1	12	Climate	2	7
Management	1	9	Commitment	2	5
Information	1	6	Multilevel	2	5
Self	1	5	Impact	2	4
Attitudes	1	4	Employees	2	3
Perceptions	1	4	Engagement	2	3
Personality	1	4			
Trust	1	4			
Job satisfaction	1	3			
Performance	3	20	Innovation	4	8
Moderating role	3	11	Perspective	4	6
Mediating role	3	9	Diversity	4	5
Empirical evidence	3	5	Leadership	4	5
Motivation	3	5	Exchange	4	3
Task interdependence	3	4	Model	4	3
Conservation	3	3			
Teams	3	3			

example, Bari et al. (2020) analyzed the influence of different dimensions of knowledge hiding on employee silence. In terms of team aspects, prior studies have found that knowledge hiding has significant negative effects on team performance (Zhang and Min, 2019), team creativity (Fong et al., 2018), team viability (Wang et al., 2018), team learning, and absorptive capability (Fong et al., 2018; Zhang and Min, 2019). For example, Zhang and Min (2019) investigated the effect that knowledge hiding influences project team performance through team learning.

Third, literature cluster 3 focused on the mechanism and moderation that knowledge hiding affects performance, which is shown in the higher frequency of performance (frequency = 20), moderating role (frequency = 11), and mediating role (frequency = 9; see **Table 1**). For example, Ain et al. (2021) examined the relationship between knowledge hiding and extra-role performance, considering the mediating role of emotional exhaustion and the moderating role of political skills. Khoreva and Wechtler (2020) explored the different facets of knowledge hiding on individual-level job performance as well as the mediating role of employee wellbeing.

Finally, literature cluster 4 focused on the impact of knowledge hiding on innovation, which is displayed by the higher frequency of innovation (frequency = 8), perspective (frequency = 6), and diversity (frequency = 5; see **Table 1**). The main logic is that knowledge hiding reduces the positive effect of knowledge diversification for innovation. For example, Zhang and Min (2019) explored the impact of knowledge hiding on team product R&D innovation performance. Bogilovic et al. (2017) used social exchange theory and social classification theory to put forward that individual knowledge hiding is negatively related to individual creativity.

Unfortunately, following the above analysis, studies rarely deal with the analysis of factors concerning the technology stress that we believe can also become triggers for knowledge hiding. With the acceleration of digital transformation, more and more enterprises use digital technology (Arias-Perez and Velez-Jaramillo, 2021), and it also promotes employee technostress because of the increased work overload, excessive technology dependence, demands for enhanced productivity, and a constant need to adapt to emerging ICT (information and communications technologies) applications, functionalities, and workflows (Srivastava et al., 2015). Existing literature does not explain the impact of technostress on R&D employee knowledge hiding, therefore further studies are required.

Research Model

We construct a model that explains *why* and *when* technostress increases R&D employee knowledge hiding following the JD-R theory. As for the same research question, we may obtain different conceptual models from different theoretical perspectives. In this study, we derived a conceptual model on the basis of the JD-R theory (see **Figure 2**) to answer the research question of "Does technostress increase R&D employee knowledge hiding in the digital era?" The entire logic is as follows.

First, the premise of applying the JD-R theory is to identify clearly two broad categories of work conditions, namely, job demands and job resources. In the JD-R theory, job demands are defined as "those aspects of the job that require individual physical and/or psychological efforts or costs" (Demerouti et al., 2001; Bakker and Demerouti, 2017). Simply, job demands are the "negative aspects of the job" that consume individual energy at work, such as work overload, time pressure, and challenging demands, among others (Ingusci et al., 2021). Considering that technostress requires physical and psychological efforts from the R&D employee, we consider technostress as a job demand. Job resources are "those aspects of the job that are functional in achieving work goals, reduce job demand, or stimulate personal growth, learning, and development" (Demerouti et al., 2001; Bakker and Demerouti, 2017). They are the "positive aspects" in the work, and the examples of job resources include work autonomy, feedback relating to performance, and social support (Ingusci et al., 2021). The R&D employees with a high level of workplace friendship can obtain support and help from their colleagues to promote the achievement of work goals and reduce the psychological and physiological costs associated with job demands (Chang et al., 2016). Therefore, we regard workplace friendship as a kind of job resource.

Second, the JD-R theory provides an explanation logic for the research question of "does technostress increase R&D employee knowledge hiding in the digital era?" after identifying the theoretical premise. Following the energy-sapping process of the JD-R theory, individuals are prone to consume resources due to high job demands (Bakker and Demerouti, 2007). The insufficient resources (or exhaustion) will easily increase the negative performance (Bakker and Demerouti, 2007). The strong technostress represents the high job demands to respond to digital technology. Under high job demands, the R&D employees will exhaust resources to cope with the higher technostress

FIGURE 2 | Conceptual framework.
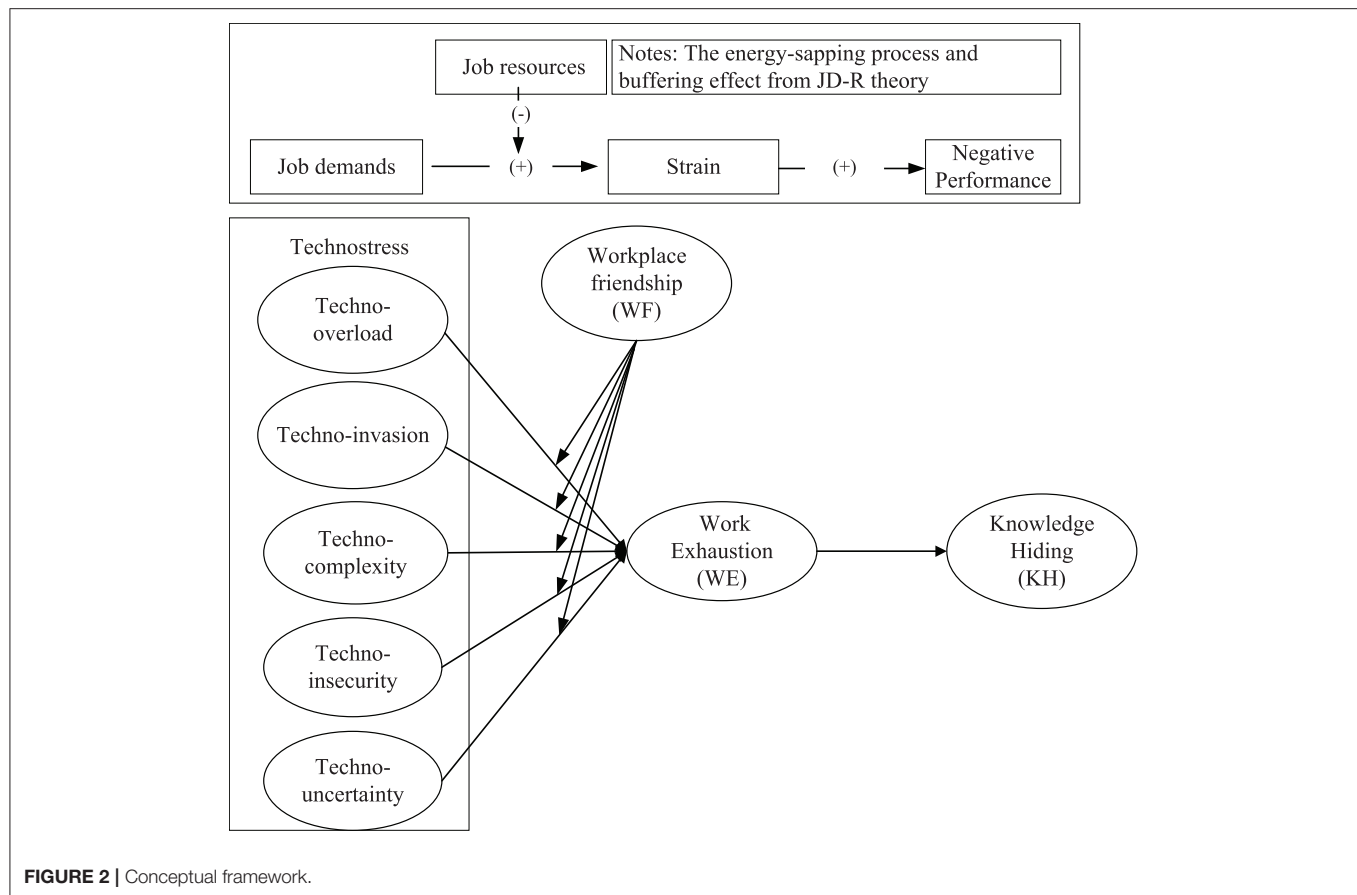
(Santuzzi and Barber, 2018), and the insufficient resources will increase knowledge hiding (Montani et al., 2020), which is a kind of a negative outcome.

Moreover, the JD-R theory provides a "resource buffering" hypothesis (Bakker and Demerouti, 2017), which can be used to explain the moderation of workplace friendship. The job resources can buffer the high job demands on the loss of psychological resources. That is, job resources can mitigate the negative impact of job demands on employees (Bakker et al., 2005). According to this theoretical logic, workplace friendship, as a working resource, may reduce the effect of technostress on work exhaustion and further reduce the mediation relationships of "technostress (including 5 dimensions)-work exhausting-knowledge hiding." The introduction of workplace friendship can be understood primarily through the following reasons. The moderating effect is considered to indicate that, under certain conditions, the main effect relationship may be insignificant or low. Hence, if workplace friendship has a buffering effect, it can interfere with the relationship between technostress and work exhaustion, helping the enterprise better reduce the effects of technostress on knowledge hiding.

Based on the JD-R theory, we explore the mechanism of technostress, influencing knowledge hiding through work exhaustion and analyze the buffering effect of workplace friendship. Under the background of the digital age, this research contributes new findings on the effects of technology stress and connects the seams with knowledge hiding.

HYPOTHESIS DEVELOPMENT

Technostress and R&D Employee Work Exhaustion

Work exhaustion is defined as "long-term, intense physical, emotional, and cognitive stress resulting from prolonged exposure to specific working conditions or stressors" (De Merouti et al., 2003). According to the JD-R theory, when faced with higher job demands, employees tend to consume resources to respond (Bakker and Demerouti, 2017). As resources are depleted, employees are likely to fall into a state of insufficient resources. When R&D employees cannot obtain sufficient resources to meet their job demands, they will fall into a state of work exhaustion. The relationships between the five dimensions of technostress and work exhaustion are as follows.

Techno-overload means that employees work more, longer, and faster due to digital technology use (Tarafdar et al., 2007; Shadbad and Biros, 2020). That is, employees work quickly on a tight schedule and handle huge loads (Ragu-Nathan et al., 2008). First, digital technology allows the R&D employees to accomplish work faster and more efficiently, and these processes require

them to complete additional work in the same amount of time (Ingusci et al., 2021). An increase in work intensity leads to an increase in resource consumption for R&D employees, and as a result, the lack of resources will lead to work exhaustion. Second, digital technology has brought more electronic information through the email, Internet or phone, among others. The increasing electronic information compels employees to feel a sense of "information fatigue" (Barley et al., 2011). The long hours and frequent responses to electronic information consume the personal resources of the R&D employees, ultimately leading to work exhaustion.

Techno-invasion is when digital technology intrudes the employee's personal life and interferes with work-family balance as employees can be contacted anytime and anywhere (Ragu-Nathan et al., 2008). First, the use of digital technology has led to nearly constant contact, leading the R&D employees to feel that they are never free of digital technology, and their time and personal spaces have been invaded (Ragu-Nathan et al., 2008). The evaporation of the balance between individuals' private lives and work might also lead to a feeling of work exhaustion (Yener et al., 2020). Second, the large amounts of work-related emails or information force employees' life time and space to be allocated to work (Sofyan et al., 2021). Under this condition, the R&D employees lose their passion for work, which eventually lead to work exhaustion.

Techno-complexity refers to the circumstances in which an employee is inexpert in using digital technology and needs to spend time and energy to gain knowledge (Tarafdar et al., 2007; Shadbad and Biros, 2020). First, the development of digital technology has brought additional complex knowledge and skills, and learning the complexity of concepts and terminology makes the R&D employees feel overwhelmed and frustrated (Tarafdar et al., 2015). Then, the R&D employees easily feel work exhaustion. Second, understanding new concepts and terms requires an enormous amount of time and effort for the R&D employees, which allows for less rest time outside work. The lack of rest exhausts the resources of R&D employees, which ultimately affects their working state and brings them into work exhaustion.

Techno-insecurity is when the employees feel they may lose their jobs either by computerization of job tasks or having less knowledge about digital technology than others (Tarafdar et al., 2007). First, digital technology has made the work of the R&D employees fungible, and the use of artificial intelligence and robots can carry out to work, which substitutes for employees (Arias-Perez and Velez-Jaramillo, 2021). The unsafe feeling of job substitution will lead the R&D employees to work exhaustion. Second, if the employees have no solid knowledge and skills in digital technology, then they will face the threat of unemployment. The fear of unemployment will compel employees to be in a long-term negative mood and eventually lead to work exhaustion.

Techno-uncertainty refers to the constant changes and upgrades in digital technology that puts new pressure on employees (Tarafdar et al., 2007). Under this situation, the rapid transformation of digital technology has reduced the morale of the R&D employees (Tarafdar et al., 2015), and it puts forward new requirements for employees' work content and knowledge

structure (Shadbad and Biros, 2020). These uncertainties threaten employees' diminished control over their jobs, selves, and technology, consequently increasing work exhaustion.

To sum up, the R&D employees experience five dimensions of technology stressors, which consume their personal resources and trap them in work exhaustion. Hence, hypotheses 1a—1e are proposed:

Hypothesis 1: Techno-overload (1a), techno-invasion (1b), techno-complexity (1c), techno-insecurity (1d), or techno-uncertainty (1e) are positively correlated with R&D employee work exhaustion.

Work Exhaustion and R&D Employees' Knowledge Hiding

According to the JD-R theory, when an individual's psychological resources are insufficient, inducing negative work results is easy. Work exhaustion, which is considered a low psychological resource state, can reduce the employee's enthusiasm for work and convey unsafe signals (Zhao and Jiang, 2021). In addition, work exhaustion may cause employees to feel physically and mentally exhausted, lack of purpose and morale, and indifferent to organizational affairs (Zhao and Jiang, 2021). Then, the R&D employees would be less likely to have the will, time, and energy to deal with knowledge requests (Guo et al., 2021). In this case, employees may choose to hide knowledge when facing knowledge requests from other people to avoid further consumption of personal resources. In other words, work exhaustion increases the likelihood of R&D employees' knowledge hiding behavior. Based on this assumption, hypothesis 2 is proposed.

Hypothesis 2: Work exhaustion is positively correlated with R&D employees' knowledge hiding.

Mediating Effect of Work Exhaustion

The JD-R theory indicates when employees are faced with high job demands, these demands will lead to work exhaustion and, in turn, result in negative work outcomes (Bakker and Demerouti, 2017). Following this logic, if the R&D employees perceive high technostress, it will lead to a state of work exhaustion and then increase knowledge-hiding behavior. In the case of higher technostress, the R&D employees tend to expend their personal resources to relieve stress. The more personal resource consumption increases the likelihood of work exhaustion, leading to knowledge hiding behavior to avoid further consumption of personal resources for sharing knowledge. Hence, work exhaustion acts as a mediator between technostress and knowledge hiding. Considering hypotheses 1a—1e and hypothesis 2, the logic of work exhaustion playing a mediator between the five dimensions of technostress and knowledge hiding is as follows.

If the R&D employees experience techno-overload, they have to deal with heavy work in a short time and frequently respond to electronic information (Tarafdar et al., 2007; Ragu-Nathan et al., 2008). On the one hand, the R&D employees need to deal with multiple tasks simultaneously *via* digital technology. The processing of multiple tasks require the R&D employees to invest additional resources, and insufficient resources can easily lead to work exhaustion. The R&D employees surrounded

in work exhaustion are more inclined to hide knowledge to prevent further depletion of resources. On the other hand, the techno-overload also results in "information fatigue" for the R&D employees (Barley et al., 2011). That is, the R&D employees have received a large amount of information by using digital technology. Additionally, identifying relevant information and setting practical cut-offs and priorities regarding new information become difficult. In the process, the R&D employees consume a substantial amount of psychological resources and easily fall into work exhaustion. Then, they can easily choose to hide their knowledge to prevent further depletion of the resources.

When the R&D employees feel the stress of techno-invasion, they have to work anytime and anywhere due to digital technology (Ragu-Nathan et al., 2008; Tarafdar et al., 2015). They do not get adequate rest and easily fall into work exhaustion. The R&D employees who are caught in exhaustion can easily choose to hide knowledge to reduce further consumption of resources. Furthermore, the R&D employees perceive that they are working all day and have no private space (Srivastava et al., 2015), which easily blurs the boundary between work and home and makes the employees feel disgusted with their work in terms of work-family conflict (Gaudioso et al., 2017; Sofyan et al., 2021), leading them to choose to hide their knowledge.

The complexity of digital technology induces the R&D employees' need to invest time and energy to seek further knowledge (Shadbad and Biros, 2020). The more resource consumption to learn can easily lead to the R&D employees falling into work exhaustion. The R&D employees feel very tired of their work and are reluctant to share knowledge with other employees. Furthermore, owing to the techno-complexity, the R&D employees are unlikely to use technology to work and thus fall into work exhaustion. In these circumstances, the R&D employees tend to hide their knowledge.

Under the insecurity of digital technology, the R&D employees are worried that digital technology will replace their jobs. This kind of worry can easily lead to a sense of tension and anxiety, which, in turn, leads to work exhaustion. The R&D employees with work exhaustion are likely to hide their knowledge. In addition, if the R&D employees lack continuous learning ability, they are worried that employees with higher digital skills will replace their jobs (Shadbad and Biros, 2020). This peer pressure among colleagues increases the psychological burden, resulting in work exhaustion. Employees are reluctant to share their knowledge and choose to hide it.

When the R&D employees perceive high technological uncertainty, it puts forward new requirements for the employees' work content and knowledge structure because the pace of digital transformation is extremely fast (Shadbad and Biros, 2020). These uncertainties threaten employees' diminished control over their jobs, selves, and technology, increasing work exhaustion. Under the situation of work exhaustion, the R&D employees would choose to hide their knowledge to express their dissatisfaction. Based on the above propositions, hypotheses 3a—3e are proposed.

Hypothesis 3: Work exhaustion acts as a mediator between the five aspects of technostress [techno-overload (3a),

techno-invasion (3b), techno-complexity (3c), techno-insecurity (3d), techno-uncertainty (3e)] and knowledge hiding.

Moderating Effect of Workplace Friendship

The JD-R theory holds a hypothesis of "buffering effect," which indicates that job resources buffer the relationships between job demands and work exhaustion. For employees with several job resources, the relationships between job demands and work exhaustion will be weak (Bakker and Demerouti, 2017). In this study, we regard workplace friendship as a job resource and technostress as a job demand, assuming that workplace friendship plays a moderating role between technostress and work exhaustion.

Workplace friendship is "a kind of non-coercive interpersonal relationship formed on the basis of voluntary principle" (Wright, 1984). It consists of two dimensions, including workplace friendship opportunity and workplace friendship prevalence (Nielsen et al., 2000), which can be understood that mutual trust, commitment, and shared interests or values exist (Berman et al., 2002). Workplace friendship is considered in the study as a job resource that buffers the depletion of staff resources due to high job demands. For employees with a high level of workplace friendship, maintaining friendly interpersonal relationships with colleagues is possible in the workplace, which can meet the emotional needs of individuals in the workplace. At the same time, a high level of workplace friendship can increase their enthusiasm and confidence in coping with work, which can help them continue working or reduce stress more quickly in the face of technostress. A high level of workplace friendship means positive relationships, which creates a pleasant and relaxing work environment and helps mitigate the effects of technostress on work exhaustion.

Under higher workplace friendship, the R&D employees obtain other emotional resources provided by the enterprise and they are willing to invest more energy for the enterprise. Then the techno-overload is less likely to cause work exhaustion. Likewise, workplace friendship satisfies the emotional, belonging needs of the R&D employees (Yu et al., 2021) and can compensate for the lack of time with family members caused by techno-invasion. Furthermore, high workplace friendship can encourage the R&D employees to learn new knowledge and skills from one another, reducing the relationship between techno-complexity and work exhaustion. In addition, workplace friendship creates a relaxed, enjoyable, and harmonious work environment (Yu et al., 2021), which creates a feeling of safety and optimism among the R&D employees about their tasks, reducing the relationship between techno-insecurity and work exhaustion. Finally, workplace friendship allows the R&D employees to gain additional support from their colleagues (Yu et al., 2021). They can acquire further technical information and update their knowledge structure in time, better weakening the relationship between techno-uncertainty and work exhaustion. Based on the above analysis, we propose hypotheses 4a–4e.

Hypothesis 4: Workplace friendship will negatively moderate the relationships between the five dimensions of technostress [techno-overload (4a), techno-invasion (4b), techno-complexity (4c), techno-insecurity (4d), techno-uncertainty (4e)] and work

exhaustion. When workplace friendship is high, the relationships between the five dimensions of technostress [techno-overload (4a), techno-invasion (4b), techno-complexity (4c), techno-insecurity (4d), techno-uncertainty (4e)] and work exhaustion will be weaker.

METHODS

Questionnaire Design, Sample, and Data Collection

Since technostress, work exhaustion, and workplace friendship are the psychological perception variables that are difficult with second-hand data to measure, this article uses self-reported scales to measure them following the guidance of Zhao and Jiang (2021). In addition, a prior study indicated that this method is reasonable (Huo et al., 2016). The data collected at the same time period may lead to common method biases (Podsakoff et al., 2003), causing the illusory correlations in the estimation results. Therefore, the data collections were conducted at two time periods to reduce the potential impact of common method biases. Given the difficulty of two-time data collection, we chose a professional research firm to assist us for two reasons: First, choosing a professional research firm is preferable because the scattered R&D employees could be accessed in a short time period and at a low cost (Khan et al., 2020). Second, the firm has an extensive list of samples and can minimize missing values by using some techniques, because the respondents were not allowed to proceed to the next question if they did not answer the current one and thus ensured high survey quality.

The respondents were the R&D employees, and the survey period was from November to December 2021. In Time 1, we collected the variables including techno-overload, techno-invasion, techno-complexity, techno-insecurity, techno-uncertainty, friendship opportunity, friendship prevalence, and related control variables. A total of 455 questionnaires were distributed to the R&D employees, and 355 valid questionnaires were returned (78.0%). In Time 2, the respondents who had completed the valid questionnaire in Time 1 were required to assess the level of work exhaustion and knowledge hiding (including evasive hiding and playing dumb). A total of 254 respondents returned their valid questionnaires (71.5%). **Table 2** presents the details of the sample.

Measurement

The measurement scales were derived from existing literature, and we made certain modifications according to our study context. Guided by the practice of relevant literature (Yu et al., 2020a), we designed the scales following three steps. Step one was to collect relevant scales, considering some criteria including the degree of match with the research object, the reliability and validity, and the cited frequency of the scale. Step two was to use the "back translation" method to provide the respondents with scales in Mandarin Chinese. That is, for the English scales, we first invited two researchers with good English to translate the items into Mandarin Chinese, and then two other researchers translated it from Mandarin Chinese to English to check the accuracy of translation. Step three was to consult two scholars

TABLE 2 | Description of the sample ($N = 254$).

Profile of respondents	Class	Frequency	%
Gender	Female	85	33.5
	Male	169	66.5
Age (in years)	<25	41	16.1
	25–35	196	77.2
	>35	17	6.7
Education	Bachelor degree	199	78.3
	Master and Doctor degree	55	21.7
Rank	Manager	48	18.9
	Supervisor	93	36.6
	Employee	113	44.5
Working tenure (in years)	<3	53	20.9
	3–5	95	37.4
	>5	108	41.7

who specialized in organizational behavior research and two managers from the human resources management department to listen to their opinions for the scale items. While not changing the basic structure of the translated scale, we revised and improved the item expressions following the opinions of the scholars and the managers and finally formed the measurement scale. All the measures were rated using a seven-point Likert-type scale from "1 = totally disagree" to "7 = totally agree." The specific sources of the scales are as follows:

Knowledge hiding, which includes two dimensions of "evasive hiding" and "playing dumb," is derived from Connelly et al. (2012). In our study, we measured the influence of the R&D employees who deliberately pretend to hide knowledge requested by others, emphasizing the negative impact of knowledge hiding behavior on the enterprise. Hence, we excluded the dimension of reasonable hiding that may somewhat have a positive effect on the enterprise to measure knowledge hiding in our analysis. The scales of evasive hiding (four items) and playing dumb (four items) are also used by Zhao et al. (2019) and Arias-Perez and Velez-Jaramillo (2021).

The technostress scale is adapted from Tarafdar et al. (2015), including five dimensions. Techno-overload measures the use of digital technology to have increased work requirements and workload of R&D employees. Techno-invasion measures the use of digital technology to have invaded private life, blurred the work-family boundary of R&D employees, and aggravated work-family conflict. Techno-complexity measures the need for R&D employees to invest extra time and energy in learning and mastering digital technology or encounters the difficulties or frustrations in learning new digital technologies. Techno-insecurity measures R&D employees' perception of their work possibilities which is replaced by technology or replaced by employees with higher digital technology literacy. Techno-uncertainty measures the continuous acceleration of digital technology updates, which makes it difficult for R&D employees to respond.

A five-item scale derived from Moore (2000) was used to access the work exhaustion construct. It measures the negative psychological feelings of the R&D employees who feel that their psychological resources are insufficient to cope with work needs.

Workplace friendship is revised with reference to the scale of Nielsen et al. (2000) in the Chinese context. Chinese scholars Sun and Jiao (2012) have verified the revised scale, which showed good reliability and validity. The scale included two dimensions: friendship opportunity (five items) and friendship prevalence (four items). Friendship opportunities measure the atmosphere and environment that the R&D employees perceive that the organization creates for them to build friendships at work. Friendship prevalence measures the quality and the degree of interdependence of the relationship among the R&D employees.

This study controlled the influence of relevant variables for reducing the possible alternative interpretation of the model relationship. Prior studies have suggested that gender, age, education, tenure, and position grade may affect employees' knowledge hiding behavior (Zhao and Jiang, 2021) and interfere with the explanatory power of the research model, which are controlled in this study. Gender was coded with a binary variable, 1 for male and 0 for female. Two dummy variables were set for age, and 0 represented over 35 years old, which was used as the reference group. The first dummy variable (coded as 1) represented 25–35 years old, and another dummy variable (coded as 1) represented 25 years old and under. Education was coded with a binary variable: 0 represented master and doctor's degree, and 1 represented bachelor's degree. Position grade was also set with two dummy variables: 0 represented the manager position, which was the reference group. In the first dummy variable, 1 represented the supervisor position, while 1 in another dummy variable represented the employee position.

Statistical Analysis Tools

This article used Partial Least Squares-Structural Equation Modeling (PLS-SEM) for estimation, and the analysis tool was Smart PLS 3.0 software. Compared with the covariance-based structural equation modeling (CB-SEM), which is based on the covariance matrix, PLS-SEM can be a more suitable approach for our research model. Likewise, this method is also widely used in management research, especially some studies on knowledge hiding (Bari et al., 2020; Koay et al., 2020; Arias-Perez and Velez-Jaramillo, 2021). PLS-SEM has gradually become the mainstream questionnaire analysis tool in recent years. Specifically, the reasons for using the PLS-SEM tools in this study are as follows.

First, this article adopts the second-order construct for measuring knowledge hiding (including evasive hiding, playing dumb) and workplace friendship (including friendship opportunity and friendship prevalence). The PLS-SEM method can handle the second-order model more conveniently (Hair et al., 2017). Second, this article evaluates the moderation of latent variables for workplace friendship and analyzes the effect size of the moderation effects. Regarding the factor indeterminacy that limits CB-SEM's usefulness for moderation analyses, PLS-SEM is particularly suitable for integrating the interaction term(s) into the path mode as the method has practically no limitations (Ringle et al., 2020), which fits our

study. Likewise, the f square index of the PLS-SEM software can evaluate the effect size of moderation effect. Third, based on the collected literature, we found that exploring the influence mechanism and moderating effect on knowledge hiding from the perspective of technical stress is in its infancy. Therefore, this article is an exploratory research, and we focused on the explained variance for knowledge hiding and workplace exhaustion. The PLS-SEM is based on maximizing explained variance, and the R^2 is the proportion of total variance explained rather than that which is the proportion of common variance explained for CB-SEM (Hair et al., 2017), making it suitable for this study. Furthermore, PLS-SEM has lower requirements for basic statistical assumptions. Especially when the sample size is not particularly large, the estimated results are robust, which is more in line with the actual sample size of this study (the valid sample is 254).

According to the recommendations of Anderson and Gerbing (1988), we first report the results of the measurement model (the outer model), and then report the results of the structural model (the inner model).

ANALYSIS AND RESULTS

Measurement Model
Reliability and Validity Analysis

Firstly, this paper evaluates the factor loading value of the measurement item. According to the suggestions of Hair et al. (2017), the factor loading value of the item should be >0.7. If the item is lower than 0.7 but >0.4, the composite reliability (CR) of the construct is not improved after deleting the item, and then the item can be retained. The item with very low loading (below 0.4) should always be eliminated from the construct. As shown in **Table 3**, the factor loading values of evasive hiding (0.792–0.876), playing dumb (0.834–0.873), techno-invasion (0.786–0.849), friendship prevalence (0.823–0.879) all satisfy the suggested criterion. For the variables of techno-complexity (Item 4), techno-insecurity (Item 2), work exhaustion (Items 4 and 5) and friendship opportunity (Items 1 and 2), their factor loading values are lower than 0.7 but >0.5. We attempted to delete the items and found that the composite reliability of variables had not been improved. Meanwhile, considering that the factor loading values are >0.5 (still in the acceptable range), they are retained in this paper. However, as for the items of techno-overload (Items 1 and 5), techno-complexity (Item 1) and techno-uncertainty (Item 3), which are lower than 0.4, four items were deleted. And these three constructs, including techno-overload, techno-complexity, techno-uncertainty, still have good composite reliability and validity (see **Tables 4**, **5** below), indicating deleting the items is acceptable.

Secondly, the reliability, convergence, and discriminant validity were evaluated. **Table 4** shows all variables of the Cronbach's α, except for techno-overload, are >0.7, and the composite reliability (CR) values are >0.819, meeting the recommended criteria value above 0.7 (Hair et al., 2017). As for the techno-overload, although its Cronbach's α is 0.654, the composite reliability (CR) value is 0.803, which is still in the acceptable range. The average variance-extracted (AVE) values

TABLE 3 | The constructs, items, and measurement model (N = 254).

Construct and items	F. L
Evasive hiding (EH)	
When my colleagues asked me the required knowledge, I	—
1. Agreed to help him/her but never really intended to	0.870
2. Agreed to help him/her but instead gave him/her information different from what he/she wanted	0.792
3. Told him/her that I would help him/her out later but stalled as much as possible	0.876
4. Offered him/her some other information instead of what he/she really wanted	0.796
Playing dumb (PD)	—
When my colleagues asked me the required knowledge, I	
1. Pretended that I did not know the information	0.871
2. Said that I did not know, even though I did	0.873
3. Pretended I did not know what he/she was talking about	0.834
4. Said that I was not very knowledgeable about the topic	0.872
Techno-overload	
1. I am forced by this digital technology to work much faster (deleted).	0.290
2. I am forced by this digital technology to do more work than I can handle.	0.714
3. I am forced by this digital technology to work with very tight time schedules.	0.768
4. I am forced to change my work habits to adapt to new digital technologies.	0.816
5. I have a higher workload because of increased digital technology complexity (deleted).	0.141
Techno-invasion	
1. I spend less time with my family due to this digital technology	0.845
2. I have to be in touch with my work even during my vacation due to this digital technology.	0.786
3. I have to sacrifice my vacation and weekend time to keep current on new digital technologies.	0.795
4. I feel my personal life is being invaded by this digital technology.	0.849
Techno-complexity	
1. I do not know enough about this digital technology to handle my job satisfactorily (deleted).	0.355
2. I need a long time to understand and use new digital technologies.	0.869
3. I do not find enough time to study and upgrade my digital technology skills	0.822
4. I find new recruits to this organization know more about computer technology than I do.	0.691
5. I often find it too complex for me to understand and use new digital technologies.	0.840
Techno-insecurity	
1. I feel constant threat to my job security due to new digital technologies.	0.777
2. I have to constantly update my skills to avoid being replaced.	0.638
3. I am threatened by coworkers with newer digital technology skills.	0.788
4. I do not share my knowledge with my coworkers for fear of being replaced.	0.838
5. I feel there is less sharing of knowledge among coworkers for fear of being replaced.	0.842
Techno-uncertainty	
1. There are always new developments in the digital technologies we use in our organization	0.969

(Continued)

TABLE 3 | Continued

Construct and items	F. L
2. There are constant changes in computer software in our organization.	0.534
3. There are constant changes in computer hardware in our organization (deleted).	0.160
4. There are frequent upgrades in computer networks in our organization.	0.717
Work exhaustion	
1. I feel emotionally drained from my work.	0.807
2. I feel used up at the end of the work day.	0.820
3. I feel fatigued when I get up in the morning and have to face another day on the job.	0.811
4. I feel burned out from my work.	0.653
5. Working all day is really a strain for me.	0.633
Friendship opportunity	
1. I have the opportunity to get to know my coworkers.	0.631
2. I am able to work with my coworkers to collectively solve problems.	0.596
3. In my organization, I have the chance to talk informally and visit with others.	0.732
4. Communication among employees is encouraged by my organization.	0.814
5. Informal talk is tolerated by my organization as long as the work is completed.	0.725
Friendship prevalence	
1. I have formed strong friendships at work.	0.823
2. I socialize with coworkers outside of the workplace	0.863
3. I can confide in people at work.	0.879
4. Being able to see my coworkers is one reason why I look forward to my job.	0.796

F.L., factor loading.

of all variables are >0.562, meeting the recommended standard of >0.5.

Furthermore, the discriminant validity is measured by two approaches, including the Fornell–Larcker criterion and the heterotrait–monotrait ratio (HTMT). For the Fornell–Larcker criterion, the square root of the AVE values on the diagonal in bold characters is greater than its highest Pearson correlation with any other variables in **Table 4**, showing that the discriminant validity has been established (Fornell and Larcker, 1981). Considering when the factor loading values are high and their differences are slight (e.g., all indicator loadings vary between 0.6 and 0.8), the detection power of the Fornell-Larcker criterion performs very poorly (Hair et al., 2017). As a remedy, the latest HTMT is adopted to further analyze. This test method is mainly based on the logic that "the average of the monotrait-heteromethod correlations (i.e., the correlations of indicators within the same construct) should be greater than the average of the heterotrait-heteromethod correlations (i.e., the correlations of indicators across constructs measuring different phenomena)" (Henseler et al., 2015). If the ratio value between the average of the heterotrait-heteromethod correlations and the average of the monotrait-heteromethod correlations is <0.9, it indicates that there is discriminant validity between variables. **Table 5**

TABLE 4 | Reliability and convergent discriminant validity analysis ($N = 254$).

	1	2	3	4	5	6	7	8	Cronbach's α	CR	AVE
1. Knowledge hiding	**0.849**								0.907	0.954	0.720
2. Techno-overload	0.098	**0.767**							0.654	0.810	0.588
3. Techno-invasion	0.239	0.440	**0.820**						0.838	0.891	0.672
4. Techno-complexity	0.189	0.286	0.358	**0.808**					0.824	0.882	0.653
5. Techno-insecurity	0.308	0.331	0.422	0.575	**0.780**				0.839	0.885	0.609
6. Techno-uncertainty	−0.026	0.333	0.104	0.273	0.168	**0.761**			0.815	0.796	0.579
7. Work exhaustion	0.486	0.164	0.479	0.285	0.362	−0.043	**0.749**		0.801	0.864	0.562
8. Workplace friendship	−0.275	0.105	−0.097	0.074	0.000	0.398	−0.284	**0.768**	0.858	0.927	0.590

Squared root of the average variance extracted values in bold are on the diagonal. Pearson's correlations are below the diagonal.

TABLE 5 | Heterotrait-monotrait ratio test ($N = 254$).

	1	2	3	4	5	6	7	8
1. Knowledge hiding								
2. Techno-overload	0.133							
3. Techno-invasion	0.264	0.592						
4. Techno-complexity	0.216	0.399	0.419					
5. Techno-insecurity	0.339	0.463	0.508	0.679				
6. Techno-uncertainty	0.052	0.514	0.142	0.427	0.313			
7. Work exhaustion	0.559	0.227	0.587	0.351	0.451	0.085		
8. Workplace friendship	0.330	0.184	0.151	0.143	0.139	0.468	0.354	

shows that the values of HTMT ratio are <0.9 (Henseler et al., 2015), which, once again, supports that the variables have good discriminant validity.

Common Method Variance

Since self-reported questionnaires may lead to the problem of common method variance (CMV), this paper adopted two methods, including the design of study's procedures and post-statistical tests, to control and identify the impact of common method biases (Podsakoff et al., 2003). For the design of study's procedures, firstly, the questionnaire hides the introduction of the research purpose and the meaning of the variables to minimize the social desirability bias (Yu et al., 2020a). Secondly, all measurement items were randomly assigned in the questionnaire to control retrieval cues prompted by the question context, and some items were also reversed to examine whether the respondents were responsible for answering. Moreover, this paper promised to protect the anonymity of the respondents and told them that the answers filled in were not right or wrong so that they could reduce their concerns about the survey and answer questions as honestly as possible.

For the post-statistical test, first, following the method used by Liang et al. (2007), we added a common method factor, which incorporated all the principal constructs' indicators. Then, we calculated average indicator's variances, which were substantively explained by the constructs and by the common method factor (CMV). **Table 6** indicates that the average substantive variance of indicators $(R1)^2$ was 0.640, while the average method-based variance $(R2)^2$ was just only 0.007, and the ratio of these two

is about 91:1. Likewise, most method factor loadings were also insignificant, suggesting that the method variance was small (Sheng et al., 2020). Second, Harman's single-factor test was used (Podsakoff et al., 2003). The results show that the first factor without rotation can only explain the variance of 19.769% (the total explanatory variance is 68.925%), which is lower than the 50% criterion, showing that the impact of common method variance was not enough to affect results.

Hence, given the above procedures' control design and post-statistical tests, we contend that CMV is not a concern in this study, laying a solid foundation for further empirical tests.

Structural Model Analysis

Before the hypothesis testing, we had used the variance inflation factor (VIF) index to assess the collinearity problem. The results show that the VIF values for the variables, including techno-overload (VIF = 1.510), techno-invasion (VIF = 1.578), techno-complexity (VIF = 1.741), techno-security (VIF = 1.761), techno-uncertainty (VIF = 1.515), and workplace friendship (VIF = 1.279), which all meet the rule of thumb that being smaller than the value of 5 (Hair et al., 2017). Hence, the collinearity is not critical in this study. In the structural model analysis, in order to test whether the path coefficient was significant, this paper used the bootstrap method to repeatedly create 5,000 samples (each sample size is 254) so as to produce the more robust values of standard error (SE). For the result of structural model analysis, if the bias-corrected 95% confidence interval (CI) does not contain zero, it is significant.

Direct Effect Analysis

Table 7 shows the structural model outcomes after controlling the influence of demographic variables. The relationships between techno-complexity and work exhaustion ($\beta = 0.140$, SE = 0.061, $p < 0.05$), techno-invasion and work exhaustion ($\beta = 0.300$, SE = 0.067, $p < 0.001$), techno-insecurity and work exhaustion ($\beta = 0.175$, SE = 0.066, $p < 0.001$) are positive and significant. H1b, H1c, and H1d are supported by empirical data. The standardized regression coefficients of techno-overload on work exhaustion ($\beta = −0.035$, SE = 0.038, $p > 0.05$), techno-uncertainty on work exhaustion ($\beta = −0.055$, SE = 0.042, $p > 0.05$) are not significant; H1a and H1e are not supported. In addition, compared with the relationships of techno-complexity on work exhaustion, and techno-insecurity

TABLE 6 | Common method bias analysis ($N = 254$).

Construct	Indicator	Substantive factor loading (R1)	(R1)^2	Method factor loading (R2)	(R2)^2
Evasive hiding (EH)	EH1	0.785***	0.616	0.109	0.012
	EH 2	0.787***	0.619	0.009	0.000
	EH 3	0.896***	0.803	−0.031	0.001
	EH 4	0.871***	0.759	−0.093	0.009
Playing dumb (PD)	PD1	0.827***	0.684	0.065	0.004
	PD2	0.843***	0.711	0.045	0.002
	PD3	0.846***	0.716	−0.019	0.000
	PD4	0.934***	0.872	−0.091	0.008
Techno-overload (TE-OVER)	TE-OVER2	0.685***	0.469	0.039	0.002
	TE-OVER3	0.820***	0.672	−0.013	0.000
	TE-OVER4	0.735***	0.540	0.037	0.001
Techno-invasion (TE-INVA)	TE-INVA1	0.822***	0.676	0.019	0.000
	TE-INVA2	0.850***	0.723	−0.085	0.007
	TE-INVA3	0.857***	0.734	−0.053	0.003
	TE-INVA4	0.756***	0.572	0.116	0.013
Techno-complexity (TE-COM)	TE-COM2	0.877***	0.769	−0.022	0.000
	TE-COM3	0.850***	0.723	−0.042	0.002
	TE-COM4	0.764***	0.584	−0.060	0.004
	TE-COM5	0.744***	0.554	0.120	0.014
Techno-insecurity (TE-INS)	TE-INS1	0.768***	0.590	0.015	0.000
	TE-INS2	0.752***	0.566	−0.108	0.012
	TE-INS3	0.773***	0.598	0.021	0.000
	TE-INS4	0.816***	0.666	0.017	0.000
	TE-INS5	0.800***	0.640	0.038	0.001
Techno-uncertainty (TE-UNC)	TE-UNC1	0.818***	0.669	−0.018	0.000
	TE-UNC2	0.866***	0.750	0.045	0.002
	TE-UNC4	0.878***	0.771	−0.028	0.001
Work exhaustion (WE)	WE1	0.786***	0.618	0.033	0.001
	WE2	0.443***	0.196	0.215*	0.046
	WE3	0.540***	0.292	0.121*	0.015
	WE4	0.972***	0.945	−0.179	0.032
	WE5	0.905***	0.819	−0.099	0.010
Friendship Opportunity (FO)	FO1	0.680***	0.462	0.069	0.005
	FO2	0.531***	0.282	−0.208*	0.043
	FO3	0.754***	0.569	0.073	0.005
	FO4	0.805***	0.648	0.005	0.000
	FO5	0.726***	0.527	0.035	0.001
Friendship Prevalence (FP)	FP1	0.823***	0.677	0.007	0.000
	FP2	0.872***	0.760	0.036	0.001
	FP3	0.889***	0.790	0.041	0.002
	FP4	0.775***	0.601	−0.091	0.008
Average			0.640		0.007

*$p < 0.05$; ***$p < 0.001$.

on work exhaustion, the standardized regression coefficient for the relationship between techno-overload and work exhaustion is the largest ($0.300 > 0.175 > 0.140$).

The relationship between work exhaustion and knowledge hiding is positive and significant ($\beta = 0.465$, SE $= 0.067$, $p < 0.001$); H2 is supported. Furthermore, the significantly positive relationships between knowledge hiding and evasive hiding ($\beta = 0.916$, SE $= 0.014$, $p < 0.001$), knowledge hiding and playing dumb ($\beta = 0.921$, SE $= 0.014$, $p < 0.001$) indicate that the second-order construct of knowledge hiding is supported.

Indirect Effect Analysis

The mediation effect was examined by Sobel test and bootstrap. Firstly, the Sobel test method shows that the indirect paths of "techno-complexity− >work exhaustion− >knowledge hiding" (Sobel Z-value is 2.249, $p < 0.05$), "techno-invasion− >work exhaustion− >knowledge hiding" (Sobel Z-value is 3.739, $p < 0.001$), "techno-insecurity− >work exhaustion− > knowledge hiding" (Sobel Z-value is 2.386, $p < 0.05$) are significant. H3b, H3c, and H3d are supported. However, "techno-overload− >work exhaustion− > knowledge hiding" is not significant (Sobel Z-value is 0.938, $p > 0.05$), and "techno-uncertainty− >work exhaustion− >knowledge hiding" (Sobel Z-value is 1.287, $p > 0.05$) is also not significant. Since the premise assumption of the Sobel test method is based on the normal distribution, it usually does not conform to the normal distribution after multiplying the path coefficients (Hair et al., 2017). Therefore, this study used the bootstrap method to further test the robustness of mediation effect.

Secondly, 5,000 bootstrap samples are drawn from the original sample (254 observations are drawn each time) with replacement in bootstrapping. Replacement indicates that, each time, an observation is drawn at random from the sampling population and is returned to the sampling population before the next observation is drawn (Hair et al., 2017). The Smart-PLS software uses the 5,000 bootstrap samples to estimate the indirect effects. The estimates of the 5,000 coefficients form a bootstrap distribution, which can be viewed as an approximation of the sampling distribution (Hair et al., 2017). Based on this distribution, we can obtain standard error and test the significance of the indirect effect.

Table 8 shows that the indirect paths of "techno-invasion− >work exhaustion− >knowledge hiding" (indirect effect, 0.139, bias-corrected 95% CI $= 0.069$ to 0.220, not including zero), "techno-complexity− >work exhaustion− > knowledge hiding" (indirect effect, 0.065, bias-corrected 95% CI $= 0.016$ to 0.146, not including zero), "techno-insecurity− >work exhaustion− >knowledge hiding" (indirect effect, 0.081, bias-corrected 95% CI $= 0.020$ to 0.156, not including zero) are significant. H3b, H3c, and H3d are supported again. However, "techno-uncertainty− >work exhaustion− >knowledge hiding" is not significant (indirect effect, −0.026, bias-corrected 95% CI $= -0.093$ to 0.017, including zero), and "techno-overload− >work exhaustion− >knowledge hiding" (indirect effect, −0.016, bias-corrected 95% CI $= -0.087$ to 0.033, including zero) is not significant. H3a and H3e are not supported.

TABLE 7 | Hypothesized direct effects (*N* = 254).

Direct effects	Coefficient	Bootstrap 5,000 times output		
		SE	*t*-value	*p*-value
Techno-complexity— >Work exhaustion	0.140	0.061	2.279	0.023
Techno-invasion— >Work exhaustion	0.300	0.067	4.477	0.000
Techno-insecurity— >Work exhaustion	0.175	0.066	2.637	0.009
Techno-uncertainty— >Work exhaustion	−0.055	0.042	1.312	0.190
Techno-overload— >Work exhaustion	−0.035	0.038	0.935	0.350
Work exhaustion— >Knowledge hiding	0.465	0.067	6.982	0.000
Knowledge hiding— >Evasive hiding (second order construct)	0.916	0.014	64.017	0.000
Knowledge hiding— >Playing dumb (second order construct)	0.921	0.014	66.111	0.000
Techno-complexity— >Knowledge hiding (control)	−0.016	0.045	0.355	0.722
Techno-insecurity— >Knowledge hiding (control)	0.169	0.073	2.319	0.021
Techno-invasion— >Knowledge hiding (control)	−0.024	0.051	0.459	0.646
Techno-overload— >Knowledge hiding (control)	0.015	0.043	0.354	0.724
Techno-uncertainty— >Knowledge hiding (control)	−0.055	0.055	0.991	0.322
Gender— >Knowledge hiding (control)	−0.041	0.041	0.986	0.324
Gender— >Work exhaustion (control)	0.063	0.041	1.528	0.127
Position state2— >Knowledge hiding (control)	−0.107	0.072	1.489	0.137
Position state2->Work exhaustion (control)	0.119	0.062	1.931	0.054
Working years1->Knowledge hiding (control)	0.067	0.058	1.157	0.248
Working years1— >Work exhaustion (control)	0.086	0.054	1.588	0.113
Working years2— >Knowledge hiding (control)	0.078	0.053	1.466	0.143
Working years2— >Work exhaustion (control)	0.064	0.047	1.373	0.170
Education— >Knowledge hiding (control)	0.057	0.039	1.458	0.145
Education->Work exhaustion (control)	−0.049	0.044	1.128	0.260
Age1— >Knowledge hiding (control)	−0.105	0.083	1.262	0.207
Age1— >Work exhaustion (control)	0.067	0.073	0.920	0.358
Age2— >Knowledge hiding (control)	−0.032	0.056	0.567	0.571
Age2— >Work exhaustion (control)	0.134	0.076	1.776	0.076
Position state1— >Knowledge hiding (control)	−0.185	0.080	2.300	0.022
Position state1— >Work exhaustion (control)	0.152	0.070	2.179	0.030

TABLE 8 | The indirect effect of hypothesized paths (*N* = 254).

Paths	Estimate	Bootstrap 5,000 times bias-corrected intervals		
		95% lower	95% upper	Significance
Techno-invasion— >Work exhaustion— >Knowledge hiding	0.139	0.069	0.220	Yes
Techno-complexity— >Work exhaustion— >Knowledge hiding	0.065	0.016	0.142	Yes
Techno-insecurity— >Work exhaustion— >Knowledge hiding	0.081	0.020	0.156	Yes
Techno-uncertainty— >Work exhaustion— >Knowledge hiding	−0.026	−0.093	0.017	No
Techno-overload— >Work exhaustion— >Knowledge hiding	−0.016	−0.087	0.033	No

Moderation of Workplace Friendship

The orthogonalizing approach was used for creating interaction terms when conducting the moderation analysis of workplace friendship. Compared with the product indicator approach and the two-stage approach, the orthogonalizing approach can minimize the estimation bias in terms of point accuracy, and it can yield high prediction accuracy (Hair et al., 2017). **Figure 3** shows that the interaction term of techno-invasion and workplace friendship on work exhaustion is negative and significant ($\beta = -0.154$, SE = 0.067, $p < 0.05$). H4b is supported. The interaction term of techno-insecurity and workplace friendship on work exhaustion is also negative and significant ($\beta = -0.147$, SE = 0.080, $p < 0.05$). H4d is supported. However, the interaction term of techno-complexity and workplace friendship on work exhaustion is positive and significant ($\beta = 0.224$, SE = 0.065, $p < 0.001$), which is opposite to the original hypothesis (from a negative relationship to positive). H4c is not supported. The interaction term of techno-overload and workplace friendship on work exhaustion is negative but not significant ($\beta = -0.072$, SE = 0.063, $p > 0.05$). H4a is not supported. The interaction term of techno-uncertainty and workplace friendship on work exhaustion is negative but not significant ($\beta = -0.078$, SE = 0.056, $p > 0.05$). H4e is not supported.s

Furthermore, in order to evaluate the moderation effect, this study used the f^2 index in Smart-PLS for the effect size of workplace friendship moderation (Hair et al., 2017). The specific calculation formula is as follows:

FIGURE 3 | The moderation analysis for workplace friendship ($N = 254$).
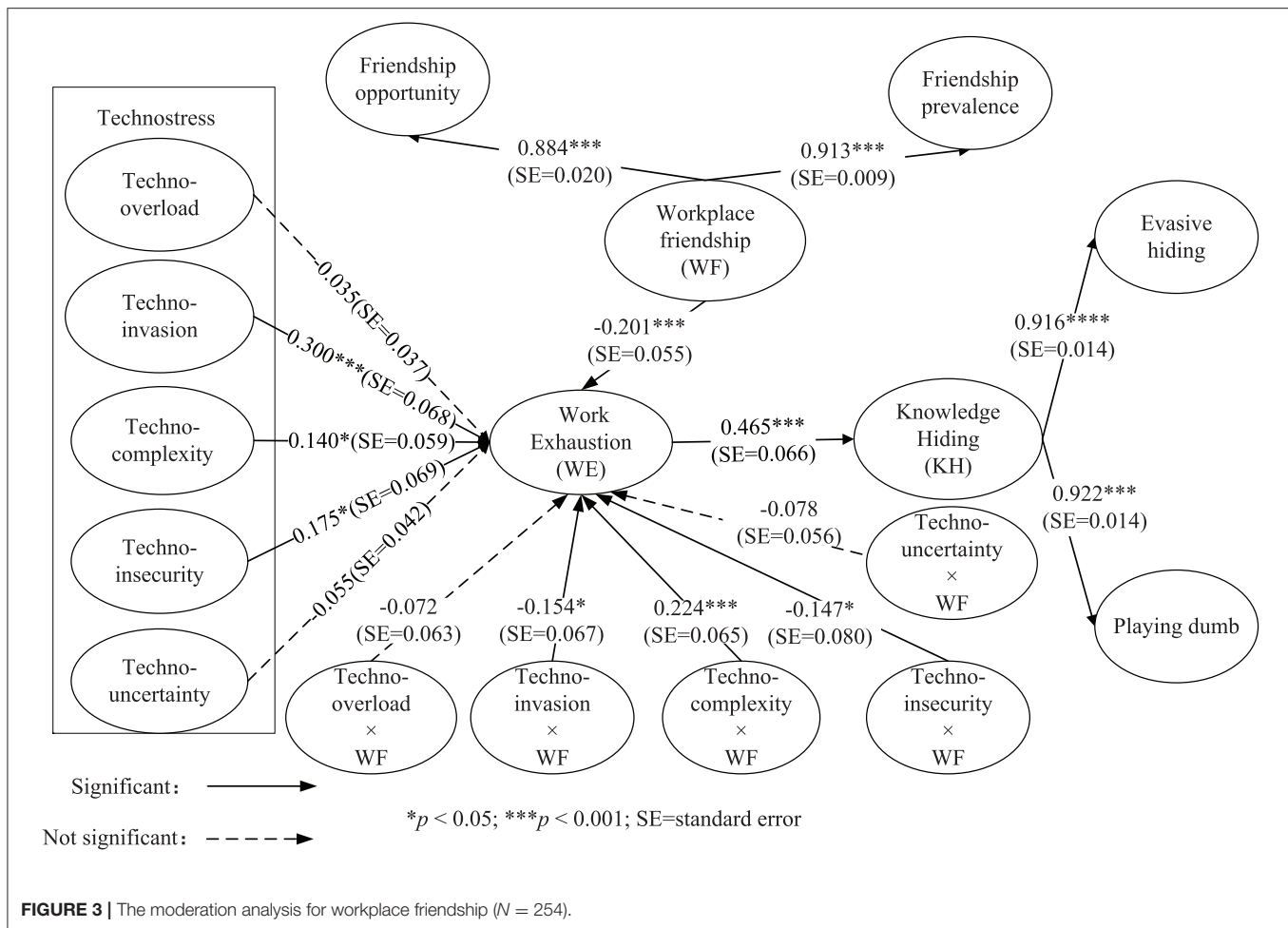
$$f^2 = \frac{R^2\text{included} - R^2\text{excluded}}{1 - R^2\text{included}}$$

Note(s): Where R^2 included and R^2 excluded are the R^2 values of the endogenous latent variable when the interaction term of the moderator model is included in or excluded from the PLS path model.

The effect size of workplace friendship for the relationships that technostress (including five dimensions) on work exhaustion are evaluated. When the interaction term of techno-invasion and workplace friendship is included in the model, the R^2 for work exhaustion is 0.463, while, after excluding the interaction term, the R^2 for work exhaustion is reduced to 0.448. According to the above formula calculation, the effect size value for the interaction term of techno-invasion and workplace friendship on work exhaustion is 0.028.

Following the same steps, when the interaction term of techno-insecurity and workplace friendship is included in or excluded from the PLS path model, the R^2 of work exhaustion is 0.463 and 0.449, respectively. And the value of effect size for the interaction term of techno-insecurity and workplace friendship

on work exhaustion is 0.026. The R^2 of work exhaustion is 0.463 and 0.425 when including or excluding the interaction term of techno-complexity and workplace friendship, and its effect size is 0.071. When the interaction term of techno-overload and workplace friendship is included in and excluded from the model, the R^2 of work exhaustion is 0.463 and 0.460, respectively, and its effect size is 0.006. The R^2 of work exhaustion is 0.463 and 0.459, respectively, when including or excluding the interaction term of techno-uncertainty and workplace friendship, and its effect size is 0.007.

According to the criterion of Kenny and Judd (2019), the values of 0.005, 0.01, and 0.025, respectively, represent the small, medium, and large effect size. Then the moderation of workplace friendship on the relationships between the two aspects of technostress (techno-invasion and techno-insecurity) and work exhaustion are at a large level, which further supports H4b and H4d. Although the effect size of workplace friendship for the relationship between techno-complexity and work exhaustion is at a large level, it is in the opposite direction to the hypothesis. In addition, the moderation effect size of workplace friendship for the relationships between the two aspects of technostress (techno-overload and techno-uncertainty) and work exhaustion is at the low level. H4a and H4e are not supported again.

FIGURE 4 | The interaction of techno-invasion and WF on work exhaustion (*N* = 254).

FIGURE 5 | The interaction of techno-insecurity and WF on work exhaustion (*N* = 254).
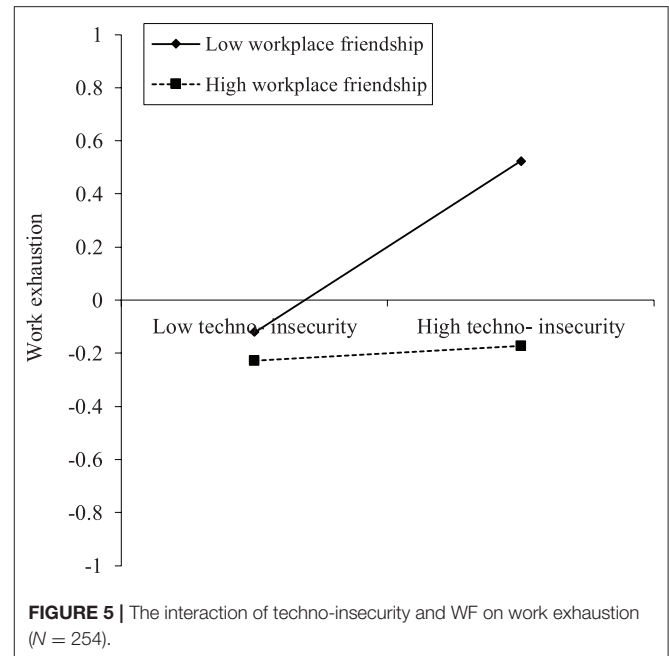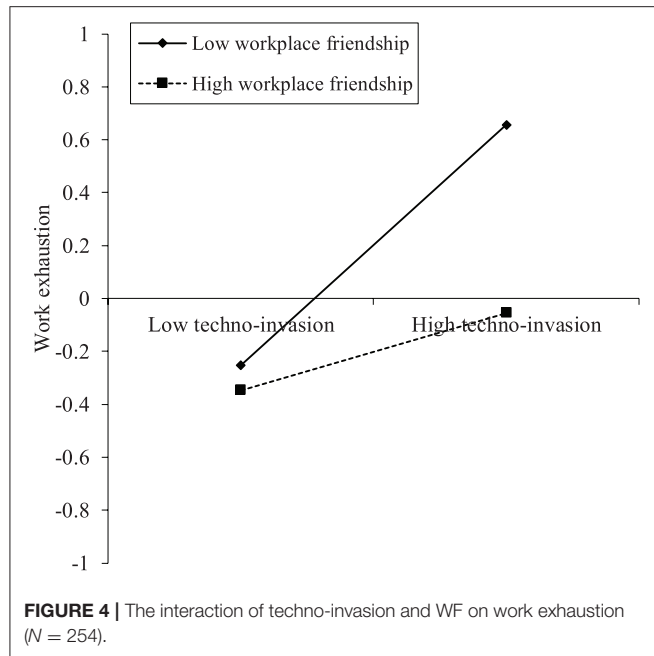
The slope plots are used to illustrate the results of the supported moderation hypothesis. **Figure 4** indicates that workplace friendship has a negative moderation on the relationship between techno-invasion and work exhaustion, where the x-axis represents techno-invasion and the y-axis work exhaustion. The relationship between techno-invasion and work exhaustion becomes stronger with low levels of workplace friendship. For high levels of workplace friendship, the slope is much flatter. Hence, with high levels of the workplace friendship, the relationship between techno-invasion and work exhaustion becomes weaker. Following the same logic, **Figure 5** shows that, with high levels of the workplace friendship, the relationship between techno-insecurity and work exhaustion becomes weaker. The results of **Figures 4**, **5** support the H4b and H4d again.

Furthermore, this study examined the moderation effect of workplace friendship on the mediation effects of work exhaustion between the two aspects of technostress (techno-invasion and techno-insecurity) and knowledge hiding. The study adopted the index of moderated mediation suggested by Hayes (2015). The moderated mediation effect (denoted as ω) can be written as follows:

$$\omega = (a_{1or2} + a_3 WF)b \qquad (1)$$
$$\omega = a_{1or2}b + a_3 WFb \qquad (2)$$

Note(s): WF = workplace friendship.

In the above equations, a_{1or2} (techno-invasion/techno-insecurity on work exhaustion), b (work exhaustion on knowledge hiding), and a_3 (the interaction term on work exhaustion) are estimated coefficients. Hayes (2015) calls $a_3 b$ as the index of moderated mediation, which "is a quantification of the effect of (the moderator) on the indirect effect of (the

predictor) on (the outcome variable) through (the mediator)." In order to test the index significance, the bootstrapping was used to generate a bootstrap confidence interval. **Table 9** shows that the index value ($a_3 b = 0.144$) for the indirect effect of "techno-invasion$\rightarrow$WE$\rightarrow$KH" is significant at 0.05. And the index value ($a_3 b = 0.136$) for the indirect effect of "techno-insecurity$\rightarrow$WE$\rightarrow$KH" is significant at 0.1. Specifically, **Table 9** shows that, when the workplace friendship is high (+ 1SD), the indirect effect that techno-invasion on knowledge hiding through work exhaustion is not significant ($\beta = 0.068$, SE = 0.047, $p > 0.1$), and the indirect effect of techno-insecurity on knowledge hiding through work exhaustion is likewise not significant ($\beta = 0.013$, SE = 0.055, $p > 0.1$), which indicates that workplace friendship can weaken the mediating effect of work exhaustion between the two aspects of technostress (techno-invasion and techno-insecurity) and knowledge hiding. When workplace friendship is high, the indirect effects of work exhaustion between the two aspects of technostress (techno-invasion and techno-insecurity) and knowledge hiding are not significant.

CONCLUSION AND IMPLICATIONS

Findings and Discussions

Technostress as an antecedent factor exploring knowledge hiding continues to be seldomly discussed in the digital era. Based on the job demand-resource theory, this article introduces work exhaustion as a mediator variable and constructs a model that the five sub-dimensions of technostress (i.e., overload, invasion, complexity, insecurity, and uncertainty) affect knowledge hiding for the R&D employees. Similarly, this study analyzes the moderation of workplace friendship as the resource buffering effect. On the basis of the 254 questionnaires of the two-stage

TABLE 9 | Moderated mediation test (N = 254).

Indirect effect	Index for moderated mediation	SE	p	Significance
Techno-invasion— >WE— >KH	0.144	0.066	<0.05	Yes
Techno-insecurity— >WE— >KH	0.136	0.075	<0.1	Yes
Moderator: WF	Indirect effect	SE	p	Significance
+1SD	Techno-invasion— >WE— >KH = 0.068	0.047	>0.1	No
−1SD	Techno-invasion— >WE— >KH = 0.212	0.052	<0.001	Yes
+1SD	Techno-insecurity— >WE— >KH = 0.013	0.055	>0.1	No
−1SD	Techno-insecurity— >WE— >KH = 0.149	0.043	<0.001	Yes

WE, work exhaustion; KH, knowledge hiding; WF, workplace friendship; SE, standard error; SD, standard deviation.

survey, it empirically tests the research model. The findings are as follows.

Techno-invasion, techno-insecurity, and techno-complexity have significant positive effects on work exhaustion, and techno-invasion has the greatest effect. However, techno-overload and techno-uncertainty have no significant relationship with work exhaustion based on our empirical results. These findings suggest that not all five dimensions of technostress will lead to work exhaustion but when the situations where the R&D employees' personal and professional lives are blurred due to digital technology, where the R&D employees feel they may lose their own work replaced by technology, and where the R&D employees are unfamiliar with digital technology and need to spend a lot of time and energy for learning. And when digital technology prompts R&D employees to work anytime, anywhere without a dividing line between work and family life is the most likely to cause employees to suffer from work exhaustion (Bauwens et al., 2021). The possible reason why the relationships between the two aspects of technostress (techno-overload, techno-uncertainty) and work exhaustion are insignificant is as follows. Techno-overload emphasizes that employees need to deal with more work information and conduct multiple works simultaneously (Ragu-Nathan et al., 2008). Considering that the R&D employees are engaged in knowledge-intensive work, obtaining further information from different sources can easily promote their confidence and self-efficacy for their R&D work (Liao et al., 2021). In the current era of "information explosion" (Alzahrani and Seth, 2021), employees may be more adaptable to the stress of techno-overload and will not significantly experience work exhaustion. Moreover, the constant change/upgrade in digital technologies creates uncertainty, and it has become normal in today's rapidly changing times (Teece et al., 2016). Specifically, digital technology changes more and more rapidly, especially for the electronic information equipment, which launches a new version every year. People are adapting to the rapidly changing world of technology, and, when the R&D employees feel technical uncertainty, it results in imperceptible work exhaustion.

Work exhaustion plays a mediating role in the relationships between the three aspects of technostress (techno-invasion, techno-insecurity, techno-complexity) and knowledge hiding. However, its mediating effects are insignificant in

the relationships between the two aspects of technostress (techno-overload and techno-uncertainty) and knowledge hiding. These findings suggest that the three dimensions of technostress, including invasion, insecurity, and complexity, will affect the R&D employees' knowledge hiding through the internal mechanism of work exhaustion, supporting the core opinion of the JD-R theory that "higher job demands are likely to exhaust employees' resources and lead to a state of exhaustion, therefore resulting in negative consequences" (Bakker and Demerouti, 2017). However, the result that techno-overload and techno-uncertainty cannot affect knowledge hiding through work exhaustion again supports the result of hypothesis 1, indicating that not all five dimensions of technostress will affect R&D knowledge hiding through work exhaustion but only three dimensions of techno-invasion, techno-insecurity, and techno-complexity.

Workplace friendship negatively moderates the relationships between the two aspects of technostress (techno-invasion and techno-insecurity) and work exhaustion, leading to less knowledge hiding. Nonetheless, its negative moderation for the relationships between the two aspects of technostress (techno-overload and techno-uncertainty) and work exhaustion are insignificant. Moreover, the empirical results show that workplace friendship positively moderates the relationship between techno-complexity and work exhaustion. Some findings support the "resource buffering effect" derived from the JD-R theory, which indicates that we should pay extra attention to high workplace friendship when weakening the relationships between the two aspects of technostress (techno-invasion and techno-insecurity) and work exhaustion, in order to reduce knowledge hiding. The insignificant moderation of workplace friendship for the relationships between the two aspects of technostress (techno-overload and techno-uncertainty) and work exhaustion further support the results in hypothesis 1. However, empirical analysis yielded a surprising result that workplace friendship positively moderates the relationship between techno-complexity and work exhaustion. This finding is contrary to the "resource buffering" effect of the JD-R theory. The possible reason is that although the benefits of workplace friendship are many, the challenges also exist, including devoting time to the friendship and distraction from work (Morrison and

Nolan, 2007; Hood et al., 2017). In a high workplace friendship environment, the better relationships among colleagues can largely cause R&D employees to waste a considerable amount of time building relationships, leading to less time to learn the complex technology, compelling R&D employees to face more technical complexity which is likely to increase their work exhaustion.

Theoretical Implications

This paper expounds on the theoretical contribution, following the logic of the theoretical composition, including construct, relationship, mechanism, and context (Colquitt and Zapata-Phelan, 2007).

We introduce the technostress construct into the field of R&D employee knowledge hiding, adding a new insight into the antecedents of knowledge hiding. Through a systematic literature review, we found that, although certain literature explores the antecedents of knowledge hiding from the individual-level factors, including demographic variables, personality traits (Anaza and Nowlin, 2017; Pan et al., 2018), and cognitive and psychological aspects (Wu, 2020; He et al., 2021b), the existing research scarcely explores knowledge hiding from the perspective of digital technology stress. On the basis of the perspective of technical stress, this study creatively introduces the concept of technostress, explores its influence on knowledge hiding, and carefully analyzes the influence of five sub-dimensions (i.e., overload, invasion, complexity, insecurity, and uncertainty). The concept of technostress was introduced into the field of knowledge hiding antecedent variables, theoretically increasing the formation and explanation of the knowledge hiding of the R&D employees in the context of the digital age and better helping people understand the negative role of digital technology in knowledge hiding. Our work is one of the pioneering studies in the analysis of knowledge hiding in the digital age because the most recent studies have continued to explore knowledge hiding in relation to classic organizational phenomena, occurring regularly in the context of the pre-digital era (Arias-Perez and Velez-Jaramillo, 2021), such as distrust (Xiong et al., 2021) or workplace gossip and bullying (Yao et al., 2020a,b).

The individual effects of five technostress dimensions on work exhaustion are analyzed, making some theoretical contributions from the relationship element of theory. Although a few of the existing studies have explored the relationship between technostress and work burnout (Yener et al., 2020), relatively few studies exist on a detailed analysis of techno-invasion, techno-insecurity, techno-complexity, techno-overload, and techno-uncertainty on work exhaustion. The extant literature has described technostress as a second-order construct in an aggregated form without the individual impact of different dimensions (Yener et al., 2020; Harris et al., 2021). This study rigorously analyzes the relationship among five dimensions of technostress and work exhaustion and finds that the relationship of techno-invasion on work exhaustion has the largest effect, which can help people understand the difference in the impact of different dimensions of technostress for work exhaustion.

We studied the internal process that different dimensions of technostress have impacts on knowledge hiding from the perspective of work exhaustion, further elaborating the mechanism that technostress increases knowledge hiding. The existing research explores the internal mechanism of knowledge hiding from the perspective of Islamic work ethics (Khalid et al., 2018), moral disengagement (Zhao and Xia, 2019), and psychological contract breach (Ghani et al., 2020). In our study, the influence mechanism of "technostress (five dimensions)-work exhaustion-knowledge hiding" indicates the formation of knowledge hiding for the R&D employees and can better help people understand the inner process that technostress (five dimensions) on knowledge hiding. We also responded to the research direction of "more work is needed to provide comprehensive studies on the generating mechanisms for knowledge hiding" proposed by He et al. (2021a).

The workplace friendship contextual exploration can extend the understanding on how to buffer the negative effect of technostress. Existing research focuses on the perspective of technological self-efficacy (Tarafdar et al., 2015), psychological entitlement (Harris et al., 2021), and time management (Yener et al., 2020) when exploring the moderation for the relationship between technostress and outcome variables. However, prior studies lack consideration from the perspective of workplace friendship. The empirical results find that workplace friendship can significantly and negatively moderate the relationships between the two aspects of technostress (techno-invasion, techno-insecurity) and work exhaustion, leading to less knowledge-hiding behavior. We apply the JD-R theory to the contextual effect of digital technology stress on knowledge hiding, helping people understand how to reduce the impact of digital technology stress on knowledge hiding and addressing the call that "more work is needed to study the respective coping strategies of knowledge hiding" (He et al., 2021a).

Practical Implications

The study provides the R&D managers with an understanding of the impact of technostress on knowledge hiding. Most managers are concentrated on understanding what digital technologies can do *for* you, but they pay little attention to considering what digital technologies can do *to* you. In today's world, the outbreak of COVID-19 accelerates the digital transformation process. Organizations are more likely to implement, upgrade, and assimilate digital technologies more than ever, and employees have to deal with the effect of technostress. Technostress plays a critical role in driving knowledge hiding, and the R&D managers should endeavor to relieve the negative effect by implementing relevant training and support.

First, the R&D department managers ought to be attuned to the factors that induce the three kinds of technostress, including techno-invasion, techno-insecurity, and techno-complexity, to ease the stress on the employees because the empirical results show that they will significantly affect the knowledge hiding of the R&D employees through work exhaustion. The R&D department managers need to pay special attention to the invasion of digital technology for the lives of the R&D employees. By developing workplace policies, the R&D department can allow employees not to process work information immediately during off-duty hours *via* digital technology. In addition, the

R&D department should also conduct psychological counseling for the employees to let them realize that digital technology will not completely replace their jobs. The R&D employees can better enhance their competitiveness and be able to meet the job requirements in the digital age by earnestly learning digital technology knowledge. Furthermore, before adopting new technologies, the R&D department should develop the R&D employees' technical competence by offering technical training so that the employees can fully understand the changes and impacts of new digital technologies on their work. After grasping the relevant knowledge of digital technology, the R&D employees can psychologically weaken the sense of complexity about new technologies.

Second, the R&D department needs to pay special attention to the work exhaustion among the R&D employees, because it plays a mediator role in the relationships between the three aspects of technostress (techno-invasion, techno-insecurity, techno-complexity) and knowledge hiding. If the R&D employees show symptoms of work exhaustion, the R&D department needs immediate psychological counseling to get rid of it as much as possible to better reduce the behavior of knowledge hiding.

Third, the R&D department needs to create a good atmosphere of workplace friendship. This study found that workplace friendship can significantly reduce the relationships between the two aspects of technostress (techno-invasion and techno-insecurity) and work exhaustion, leading to less knowledge hiding. These findings show that the R&D department should create a good atmosphere for the R&D employees to establish better workplace friendship and weaken the influence of techno-invasion and techno-insecurity on knowledge hiding. However, the establishment of workplace friendship environment cannot reduce the impact of techno-complexity on work exhaustion. This finding suggests that the R&D department should reduce the generation of techno-complexity through technology training as described above to reduce its negative impact.

Future Research Direction

Future research needs to explore the relationships between the two aspects of technostress (techno-overload and techno-uncertainty) and work exhaustion, and the moderating effect of workplace friendship on the relationships between the three aspects of technostress (techno-overload, techno-uncertainty, and techno-complexity) and work exhaustion. Based on the JD-R theory, this paper argues that techno-overload and techno-uncertainty affect work exhaustion significantly, and workplace friendship negatively moderates the relationships between the three aspects of technostress (techno-overload, techno-uncertainty, and techno-complexity) and work exhaustion. However, the empirical results do not support the theoretical hypothesis results. Although this paper tentatively gives certain explanations, whether it is a problem from the theory or the empirical test process can not be answered by only one empirical test. Thus, another empirical tests will be needed in the future.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

AUTHOR CONTRIBUTIONS

ZZ and BY conceived and designed the work and analyzed and interpreted the data. CY collected the data. ZQ and BY drafted the article. ZZ, CY, and HZ are responsible for the modifications. All authors contributed to the article and approved the submitted version.

FUNDING

REFERENCES

Ain, N. U., Azeem, M. U., Sial, M. H., and Arshad, M. A. (2021). Linking knowledge hiding to extra-role performance: the role of emotional exhaustion and political skills. *Knowl. Manag. Res. Pract.* 2021, 1–14. doi: 10.1080/14778238.2021.1876536

Alzahrani, L., and Seth, K. P. (2021). The impact of organizational practices on the information security management performance. *Information* 12:398. doi: 10.3390/info12100398

Anaza, N. A., and Nowlin, E. L. (2017). What's mine is mine: a study of salesperson knowledge withholding and hoarding behavior. *Ind. Mark. Manag.* 64, 14–24. doi: 10.1016/j.indmarman.2017.03.007

Anderson, J. C., and Gerbing, D. W. (1988). Structural equation modeling in practice: a review and recommended two-step approach. *Psychol. Bull.* 103:411. doi: 10.1037/0033-2909.103.3.411

Arias-Perez, J., and Velez-Jaramillo, J. (2021). Understanding knowledge hiding under technological turbulence caused by artificial intelligence and robotics. *J. Knowl. Manag.* 16:58. doi: 10.1108/JKM-01-2021-0058

Bakker, A. B and Demerouti, E (2017). Job demands–resources theory: taking stock and looking forward. *J. Occup. Health. Psychol.* 22, 273–285. doi: 10.1037/ocp0000056

Bakker, A. B., and Demerouti, E. (2007). The job demands-resources model: state of the art. *J. Manage. Psychol.* 22, 309–328. doi: 10.1108/02683940710733115

Bakker, A. B., Demerouti, E., and Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. *J. Occup. Health. Psychol.* 10, 170–180. doi: 10.1037/1076-8998.10.2.170

Bari, M. W., Ghaffar, M., and Ahmad, B. (2020). Knowledge-hiding behaviors and employees' silence: mediating role of psychological contract breach. *J. Knowl. Manag.* 24, 2171–2194. doi: 10.1108/JKM-02-2020-0149

Barley, S. R., Meyerson, D. E., and Grodal, S. (2011). E-mail as a source and symbol of stress. *Organ. Sci.* 22, 887–906. doi: 10.1287/orsc.1100.0573

Bauwens, R., Denissen, M., Van Beurden, J., and Coun, M. (2021). Can leaders prevent technology from backfiring? Empowering leadership as a double-edged sword for technostress in care. *Front. Psychol.* 12:702648. doi: 10.3389/fpsyg.2021.702648

Berman, E. M., West, J. P., and Richter, J., Maurice N. (2002). Workplace relations: friendship patterns and consequences (according to managers). *Public. Admin. Rev.* 62, 217–230. doi: 10.1111/0033-3352.00172

Bogilovic, S., Cerne, M., and Skerlavaj, M. (2017). Hiding behind a mask? Cultural intelligence, knowledge hiding, and individual and team creativity. *Eur. J. Work Organ. Psychol.* 26, 710–723. doi: 10.1080/1359432X.2017.1337747

Bondanini, G., Giorgi, G., Ariza-Montes, A., Vega-Muñoz, A., and Andreucci-Annunziata, P. (2020). Technostress dark side of technology in the workplace: a scientometric analysis. *Int. J. Environ. Res. Public Health*. 17:8013. doi: 10.3390/ijerph17218013

Černe, M., and Nerstad, C. G. L., Dysvik, A., and Škerlavaj, M. (2014). What goes around comes around: knowledge hiding, perceived motivational climate, and creativity. *Acad. Manage. J*. 57, 172–192. doi: 10.5465/amj.2012.0122

Chang, H.-T., Chou, Y.-J., Liou, J.-W., and Tu, Y.-T. (2016). The effects of perfectionism on innovative behavior and job burnout: team workplace friendship as a moderator. *Pers. Individ. Differ*. 96, 260–265. doi: 10.1016/j.paid.2016.02.088

Colquitt, J. A., and Zapata-Phelan, C. P. (2007). Trends in theory building and theory testing: a five-decade study of the Academy of Management Journal. *Acad. Manage. J*. 50, 1281–1303. doi: 10.5465/amj.2007.28165855

Connelly, C. E., Cerne, M., Dysvik, A., and Skerlavaj, M. (2019). Understanding knowledge hiding in organizations. *J. Organ. Behav*. 40, 779–782. doi: 10.1002/job.2407

Connelly, C. E., and Zweig, D. (2015). How perpetrators and targets construe knowledge hiding in organizations. *Eur. J. Work Organ. Psychol*. 24, 479–489. doi: 10.1080/1359432X.2014.931325

Connelly, C. E., Zweig, D., Webster, J., and Trougakos, J. P. (2012). Knowledge hiding in organizations. *J. Organ. Behav*. 33, 64–88. doi: 10.1002/job.737

De Merouti, E., Bakker, A. B., Vardakou, I., and Kantas, A. (2003). The convergent validity of two burnout instruments. *Eur. J. Psychol. Assess*. 19, 12–23. doi: 10.1027//1015-5759.19.1.12

De Vries, R. E., Van den Hooff, B., and De Ridder, J. A. (2006). Explaining knowledge sharing: the role of team communication styles, job satisfaction, and performance beliefs. *Commun. Res*. 33, 115–135. doi: 10.1177/0093650205285366

Demerouti, E., Bakker, A. B., Nachreiner, F., and Schaufeli, W. B. (2001). The job demands-resources model of burnout. *J. Appl. Psychol*. 86:499. doi: 10.1037/0021-9010.86.3.499

Fong, P. S., Men, C., Luo, J., and Jia, R. (2018). Knowledge hiding and team creativity: the contingent role of task interdependence. *Manag. Decis*. 56, 329–343. doi: 10.1108/MD-11-2016-0778

Fornell, C., and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res*. 18, 39–50. doi: 10.1177/002224378101800104

Foss, N. J., Minbaeva, D. B., Pedersen, T., and Reinholt, M. (2009). Encouraging knowledge sharing among employees: how job design matters. *Hum. Resour. Manage*. 48, 871–893. doi: 10.1002/hrm.20320

Gaudioso, F., Turel, O., and Galimberti, C. (2017). The mediating roles of strain facets and coping strategies in translating techno-stressors into adverse job outcomes. *Comput. Hum. Behav*. 69, 189–196. doi: 10.1016/j.chb.2016.12.041

Ghani, U., Teo, T., Li, Y., Usman, M., Islam, Z. U., Gul, H., et al. (2020). Tit for tat: abusive supervision and knowledge hiding-the role of psychological contract breach and psychological ownership. *Int. J. Environ. Res. Public Health*. 17:1240. doi: 10.3390/ijerph17041240

Guo, L. M., Cheng, K., Luo, J. L., and Zhao, H. D. (2021). Trapped in a loss spiral: how and when work alienation relates to knowledge hiding. *Int. J. Hum. Resour. Manag*. 30:1937672. doi: 10.1080/09585192.2021.1937672

Hair, J. F., Sarstedt, M., Ringle, C. M., and Gudergan, S. P. (2017). *Advanced Issues in Partial Least Squares Structural Equation Modeling*. New York, NY: Sage Publications.

Harris, K. J., Harris, R. B., Valle, M., Carlson, J., Carlson, D. S., Zivnuska, S., et al. (2021). Technostress and the entitled employee: impacts on work and family. *Inf. Technol*. 2021:348. doi: 10.1108/ITP-07-2019-0348

Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivar. Behav. Res*. 50, 1–22. doi: 10.1080/00273171.2014.962683

He, P., Peng, Z., Zhao, H., and Estay, C. (2019). How and when compulsory citizenship behavior leads to employee silence? A moderated mediation model based on moral disengagement and supervisor-subordinate guanxi views. *J. Bus. Ethics*. 155, 259–274. doi: 10.1007/s10551-017-3550-2

He, P. X., Jiang, C. L., Xu, Z. X., and Shen, C. A. (2021a). Knowledge hiding: current research status and future research directions. *Front. Psychol*. 12:19. doi: 10.3389/fpsyg.2021.748237

He, P. X., Sun, R., Zhao, H. D., Zheng, L. L., and Shen, C. G. (2021b). Linking work-related and non-work-related supervisor-subordinate relationships to

knowledge hiding: a psychological safety lens. *Asian. Bus. Manag*. 22:9. doi: 10.1057/s41291-020-00137-9

Henseler, J., Ringle, C. M., and Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *J. Acad. Mark. Sci*. 43, 115–135. doi: 10.1007/s11747-014-0403-8

Hood, A. C., Cruz, K. S., and Bachrach, D. G. (2017). Conflicts with friends: a multiplex view of friendship and conflict and its association with performance in teams. *J. Bus. Psychol*. 32, 73–86. doi: 10.1007/s10869-016-9436-y

Huo, W., Cai, Z., Luo, J., Men, C., and Jia, R. (2016). Antecedents and intervention mechanisms: a multi-level study of R&D team's knowledge hiding behavior. *J. Knowl. Manag*. 20, 880–897. doi: 10.1108/JKM-11-2015-0451

Ingusci, E., Signore, F., Giancaspro, M. L., Manuti, A., Molino, M., Russo, V., et al. (2021). Workload, techno overload, and behavioral stress during covid-19 emergency: the role of job crafting in remote workers. *Front. Psychol*. 12:1141. doi: 10.3389/fpsyg.2021.655148

Jha, J. K., and Varkkey, B. (2018). Are you a cistern or a channel? Exploring factors triggering knowledge-hiding behavior at the workplace: evidence from the Indian R&D professionals. *J. Knowl. Manag*. 22, 824–849. doi: 10.1108/JKM-02-2017-0048

Kenny, D. A., and Judd, C. M. (2019). The unappreciated heterogeneity of effect sizes: implications for power, precision, planning of research, and replication. *Psychol. Methods* 24, 578–589. doi: 10.1037/met0000209

Khalid, M., Bashir, S., Khan, A. K., and Abbas, N. (2018). When and how abusive supervision leads to knowledge hiding behaviors: an Islamic work ethics perspective. *Leadersh. Organ. Dev. J*. 39, 794–806. doi: 10.1108/LODJ-05-2017-0140

Khalid, M., Gulzar, A., and Khan, A. K. (2020). When and how the psychologically entitled employees hide more knowledge? *Int. J. Hosp. Manag*. 89:10. doi: 10.1016/j.ijhm.2019.102413

Khan, S. U., Liu, X.-,d., Liu, C., Khan, I. U., and Hameed, Z. (2020). Understanding uncertainty dimensions and Internet stock trading service in China from a social cognitive perspective. *Inf. Technol. People*. 34, 812–834. doi: 10.1108/ITP-02-2019-0062

Khoreva, V., and Wechtler, H. (2020). Exploring the consequences of knowledge hiding: an agency theory perspective. *J. Manage. Psychol*. 35, 71–84. doi: 10.1108/JMP-11-2018-0514

Koay, K. Y., Sandhu, M. S., Tjiptono, F., and Watabe, M. (2020). Understanding employees' knowledge hiding behaviour: the moderating role of market culture. *Behav. Inf. Technol*. 18:31073. doi: 10.1080/0144929X.2020.1831073

Kudyba, S. (2020). COVID-19 and the acceleration of digital transformation and the future of work. *Inf. Syst. Res*. 37, 284–287. doi: 10.1080/10580530.2020.1818903

La Torre, G., Esposito, A., Sciarra, I., and Chiappetta, M. (2019). Definition, symptoms and risk of techno-stress: a systematic review. *Int. Arch. Occup. Environ. Health*. 92, 13–35. doi: 10.1007/s00420-018-1352-1

Liang, H., Saraf, N., Hu, Q., and Xue, Y. (2007). Assimilation of enterprise systems: the effect of institutional pressures and the mediating role of top management. *MIS Quart*. 31, 59–87. doi: 10.2307/25148781

Liao, J., Chen, J., and Mou, J. (2021). Examining the antecedents of idea contribution in online innovation communities: a perspective of creative self-efficacy. *Technol. Soc*. 66:101644. doi: 10.1016/j.techsoc.2021.101644

Maier, C., Laumer, S., Weinert, C., and Weitzel, T. (2015). The effects of technostress and switching stress on discontinued use of social networking services: a study of Facebook use. *Inf. Syst. J*. 25, 275–308. doi: 10.1111/isj.12068

Montani, F., Vandenberghe, C., Khedhaouria, A., and Courcy, F. (2020). Examining the inverted *U*-shaped relationship between workload and innovative work behavior: the role of work engagement and mindfulness. *Hum. Relat*. 73, 59–93. doi: 10.1177/0018726718819055

Moore, J. E. (2000). One road to turnover: an examination of work exhaustion in technology professionals. *MIS Quart*. 24, 141–168. doi: 10.2307/3250982

Morrison, R. L., and Nolan, T. J. U. o. A. B. R. (2007). Too much of a good thing? Difficulties with workplace friendships. *Univ. Auckland Bus. Rev*. 9, 33–41. Available online at: https://fliphtml5.com/snjt/hyjy/basic/

Nielsen, I. K., Jex, S. M., and Adams, G. A. (2000). Development and validation of scores on a two-dimensional workplace friendship scale. *Educ. Psychol. Meas*. 60, 628–643. doi: 10.1177/00131640021970655

Pan, W., Zhang, Q. P., Teo, T. S. H., and Lim, V. K. G. (2018). The dark triad and knowledge hiding. *Int. J. Inf. Manage*., 42, 36–48. doi: 10.1016/j.ijinfomgt.2018.05.008

Peng, H. (2013). Why and when do people hide knowledge? *J. Knowl. Manag.* 17, 398–415. doi: 10.1108/JKM-12-2012-0380

Peng, H., Bell, C., and Li, Y. R. (2021). How and when intragroup relationship conflict leads to knowledge hiding: the roles of envy and trait competitiveness. *Int. J. Confl. Manage.* 32, 383–406. doi: 10.1108/IJCMA-03-2020-0041

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., and Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88, 879–903. doi: 10.1037/0021-9010.88.5.879

Ragu-Nathan, T., Tarafdar, M., Ragu-Nathan, B. S., and Tu, Q. (2008). The consequences of technostress for end users in organizations: conceptual development and empirical validation. *Inf. Syst. Res.* 19, 417–433. doi: 10.1287/isre.1070.0165

Ringle, C. M., Sarstedt, M., Mitchell, R., and Gudergan, S. P. (2020). Partial least squares structural equation modeling in HRM research. *Int. J. Hum. Resour. Man.* 31, 1617–1643. doi: 10.1080/09585192.2017.1416655

Saleem, F., Malik, M. I., Farid, M. F., and Qamar, S. (2021). Technostress and employee performance nexus during covid-19: training and creative self-efficacy as moderators. *Front. Psychol.* 12:4515. doi: 10.3389/fpsyg.2021.595119

Santuzzi, A. M., and Barber, L. K. (2018). Workplace telepressure and worker wellbeing: the intervening role of psychological detachment. *J. Occup. Health.* 2, 337–363. doi: 10.1007/s41542-018-0022-8

Serenko, A., and Bontis, N. (2016). Understanding counterproductive knowledge behavior: antecedents and consequences of intra-organizational knowledge hiding. *J. Knowl. Manag.* 20, 1199–1224. doi: 10.1108/JKM-05-2016-0203

Shadbad, F. N., and Biros, D. (2020). Technostress and its influence on employee information security policy compliance. *Inf. Technol. People* 35, 119–141. doi: 10.1108/ITP-09-2020-0610

Sheng, H., Yang, P., and Feng, Y. (2020). How to inspire customers *via* social media. *Ind. Manage. Data. Syst.* 120, 1041–1057. doi: 10.1108/IMDS-10-2019-0548

Sofyan, Y., De Clercq, D., and Shang, Y. F. (2021). Detrimental effects of work overload on knowledge hiding in competitive organisational climates. *Asia Pac. J. Hum. Resour.* 31:12317. doi: 10.1111/1744-7941.12317

Srivastava, S. C., Chandra, S., and Shirish, A. (2015). Technostress creators and job outcomes: theorising the moderating influence of personality traits. *Inf. Syst. J.* 25, 355–401. doi: 10.1111/isj.12067

Sun, J., and Jiao, H. (2012). Workplace friendship in the context of Chinese organizations. *Econ. Manag.* 34, 62–70. doi: 10.19616/j.cnki.bmj.2012.12.009

Tarafdar, M., Pullins, E. B., and Ragu-Nathan, T. (2015). Technostress: negative effect on performance and possible mitigations. *Inf. Syst. J.* 25, 103–132. doi: 10.1111/isj.12042

Tarafdar, M., Tu, Q., Ragu-Nathan, B. S., and Ragu-Nathan, T. (2007). The impact of technostress on role stress and productivity. *J. Manage. Inform. Syst.* 24, 301–328. doi: 10.2753/MIS0742-1222240109

Teece, D., Peteraf, M., and Leih, S. (2016). Dynamic capabilities and organizational agility: risk, uncertainty, and strategy in the innovation economy. *Calif. Manage. Rev.* 58, 13–35. doi: 10.1525/cmr.2016.58.4.13

Wang, Y., Han, M. S., Xiang, D., and Hampson, D. P. (2018). The double-edged effects of perceived knowledge hiding: empirical evidence from the sales context. *J. Knowl. Manag.* 23, 279–296. doi: 10.1108/JKM-04-2018-0245

Wright, P. H. (1984). Self-referent motivation and the intrinsic quality of friendship. *J. Soc. Per. Relati.* 1, 115–130. doi: 10.1177/0265407584011007

Wu, D. (2020). Empirical study of knowledge withholding in cyberspace: integrating protection motivation theory and theory of reasoned behavior. *Comput. Hum. Behav.* 105:106229. doi: 10.1016/j.chb.2019.106229

Wu, Y. J., and Chen, J. C. (2021). Stimulating innovation with an innovative curriculum: A curriculum design for a course on new product development. *Int. J. Manag. Educ.* 19:100561. doi: 10.1016/j.ijme.2021.100561

Xiong, C., Chang, V., Scuotto, V., Shi, Y. J., and Paoloni, N. (2021). The social-psychological approach in understanding knowledge hiding within international R&D teams: an inductive analysis. *J. Bus. Res.* 128, 799–811. doi: 10.1016/j.jbusres.2019.04.009

Yao, Z., Luo, J., and Zhang, X. (2020a). Gossip is a fearful thing: the impact of negative workplace gossip on knowledge hiding. *J. Knowl. Manag.* 24, 1755–1775. doi: 10.1108/JKM-04-2020-0264

Yao, Z., Zhang, X., Luo, J., and Huang, H. (2020b). Offense is the best defense: the impact of workplace bullying on knowledge hiding. *J. Knowl. Manag.* 24, 675–695. doi: 10.1108/JKM-12-2019-0755

Yener, S., Arslan, A., and Kilin,ç, S. (2020). The moderating roles of technological self-efficacy and time management in the technostress and employee performance relationship through burnout. *Inf. Technol. People.* 34, 1890–1919. doi: 10.1108/ITP-09-2019-0462

Yu, C., Ye, B., Lin, C., and Wu, Y. J. (2020a). Can smart city development promote residents' emotional wellbeing? Evidence from China. *IEEE Access* 8, 116024–116040. doi: 10.1109/ACCESS.2020.3004367

Yu, C., Zhang, Z., Lin, C., and Wu, Y. J. (2020b). Can data-driven precision marketing promote user AD clicks? Evidence from advertising in WeChat moments. *Ind. Mark. Manag.* 90, 481–492. doi: 10.1016/j.indmarman.2019.05.001

Yu, S., Liu, S., and Wu, N. (2021). Job insecurity and employees' extra-role behaviors: moderated mediation model of negative emotions and workplace friendship. *Front. Psychol.* 12:631062. doi: 10.3389/fpsyg.2021.631062

Zhang, Z., and Min, M. (2019). The negative consequences of knowledge hiding in NPD project teams: the roles of project work attributes. *Int. J. Proj. Manag.* 37, 225–238. doi: 10.1016/j.ijproman.2019.01.006

Zhao, H., and Jiang, J. R. (2021). Role stress, emotional exhaustion, and knowledge hiding: the joint moderating effects of network centrality and structural holes. *Curr. Psychol.* 13:9. doi: 10.1007/s12144-021-01348-9

Zhao, H., and Liu, W. (2021). Employee perceptions of corporate hypocrisy and knowledge hiding: roles of moral identity and organization-based self-esteem. *J. Knowl. Manag.* 2021:216. doi: 10.1108/JKM-03-2021-0216

Zhao, H., Liu, W., Li, J., and Yu, X. (2019). Leader–member exchange, organizational identification, and knowledge hiding: the moderating role of relative leader–member exchange. *J. Organ. Behav.* 40, 834–848. doi: 10.1002/job.2359

Zhao, H., and Xia, Q. (2019). Nurses' negative affective states, moral disengagement, and knowledge hiding: the moderating role of ethical leadership. *J. Nurs. Manag.* 27, 357–370. doi: 10.1111/jonm.12675

Impacts of Corporate Social Responsibility on Employees' Mental Fatigue: Employees' Ethical Perspective

Linlin Zheng[1], Wenzhuo Li[2], Amsalu K. Addis[3,4]*, Di Ye[1] and Yashi Dong[1]

[1]Business School, Huaqiao University, Quanzhou, China, [2]Business School, HoHai University, Nanjing, China, [3]School of Business, Hubei University, Wuhan, China, [4]Research Center of Open Economy, Hubei University, Wuhan, China

With the rise of cost of living and coronavirus disease 2019 (COVID-19) global pandemic therewithal, finding reliable measures to reduce employees' mental fatigue has become a great challenge. In this context, scholars have mainly focused on solutions for relieving employees' mental fatigue from the perspective of human resource management but barely from employees' ethical perspectives and that of internal and external corporate social responsibility (CSR) and employees' ethics. This study uses hierarchical regression analysis and attempts to formulate and analyze the relationship between CSR, perceptions of corporate hypocrisy, and employees' mental fatigue along with the mediating role of ethical egoism and altruistic choice. It also conceptualizes models and develops various hypotheses and theoretical logic. A total of 250 questionnaires were distributed, and 176 valid responses were subsequently gathered. The results show that employees' mental fatigue significantly reduces when either internal or external CSR has a positive impact on employees' altruistic choice and significantly increases either internal or external CSR has a negative effect on ethical egoism. Similarly, reducing perceptions of corporate hypocrisy can enhance the positive impact of external CSR on altruistic choice, which consequently reduces employees' mental fatigue.

Keywords: corporate social responsibility, ethical egoism, mental fatigue, altruistic choice, corporate hypocrisy

INTRODUCTION

Because of the current coronavirus disease 2019 (COVID-19) global pandemic, medical staffs across the world have been treating confirmed cases, which appear to be increasing at an uncontrollable rate. Medical staffs have also been experiencing psychological breakdowns due to inadequate medical protection, consequently making the situation increasingly difficult. In 2020, the European Society of Medical Oncology released the results of a questionnaire survey that demonstrated that the mental fatigue suffered by medical staffs was severe, with 38% of the respondents having experienced severe mental fatigue and 66% of the respondents believing that they could not go back to the same working condition as before (Banerjee et al., 2021). Indeed, an increase of employees' mental fatigue in the medical industry greatly lowers medical efficiency and ability to intervene in public health incidents. Therefore, organizations need to

assume certain responsibilities to handle such matters, besides, corporate social responsibility (CSR) should also be required to strengthen employees commitment and engagement at work (Boutmaghzoute and Moustaghfir, 2021); this needs extensive attention for two simple reasons. On the one hand, employees bear heavy responsibility in their daily work (Collier and Esteban, 2007), and their attitudes and responses to CSR in turn encourage corporates to actively undertake social responsibility to keep employees motivated. On the other hand, employees are the most valuable resources of the corporates, and the corporate competition clearly depends on the job satisfaction, psychological strength, motivation, and well-being of employees. If a corporation provide extensive attention to CSR without corporate hypocrisy, it can obtain a competitive advantage (Karaibrahimoglu, 2010; Bahman et al., 2014).

Additionally, a good reputation for corporations that engage in CSR can help attract potential employees, keep them once hired, maintain their confidence and performance, and safeguard them from "mental fatigue" (Branco and Rodrigues, 2006). The disclosure of employees' dissatisfaction with a corporation's CSR would largely influence the development of the corporation's potential resources and efficiency (Branco and Rodrigues, 2006). As a result, eliminating corporate hypocrisy, transparency, acknowledging social responsibility, and proper utilization of CSR decision-making concepts to deal with their employees' mental fatigue could build a favorable image among employees. On the contrary, a poor reputation of corporations that engage in CSR activities result in a negative external stakeholder's reaction, which could also have a direct or indirect influence on employees' satisfaction with the corporation for various reasons including workload (Branco and Rodrigues, 2006). Employees observe the corporation to have a good reputation and flawless CSR decision-making. Similarly, corporations require employees to show allegiance and obedient behavior. Although employees have a considerable stake in the success of the corporation due to employment position and source of income, their dissatisfaction with either internal or external CSR will result in their quitting work. Thus, studying the relationship between CSR and employees' mental fatigue from the ethical perspective of employees has very important theoretical and practical significance.

Furthermore, there is a phenomenon observed among some corporations where they pay more attention to work quality and efficiency based on the need of cost control. This causes employees to work harder, which leads to severe mental fatigue that in turn affects the operating conditions of corporations; thus, mental fatigue has become a concern for corporations. Research on employees' mental fatigue began with the work of Freudenberger, who was the first to examine the concept from the perspective of clinical psychology (Freudenberger, 1975); according to this concept, employees develop negative mental states and behaviors because they exceed the limits of their work ability and cannot meet the goals and requirements set by a corporation. In addition, scholars described mental fatigue as experiencing psychological symptoms such as emotional exhaustion and depersonalization, resulting in low levels of accomplishment in individuals (Maslach et al., 2001). Similarly,

emotional disorders and psychological burdens have a negative effect on work motivation and efficiency. Moreover, scholars articulated that employees' mental fatigue directly affects the productivity and achievement of organizational goals (Wu and Wu, 2019). Therefore, this issue has attracted extensive attention from the academic community.

Early research on the causes of "mental fatigue" focused on the following two paradigms: first – exploring the causes at the individual level: age, gender, marital status, and educational background; second – investigating the causes at the situation level, such as working environment, professional characteristics, and leadership style. Since 1990s, research on the causes of employees' mental fatigue has gained attention from the relationship perspective of employees and corporations' micro-social responsibility, which reflects the company culture and working environment. For instance, Iverson et al. (1998) proposed that colleagues and managers' support would mediate the relationship between role stress and mental fatigue (Iverson et al., 1998). Similarly, they found that support from colleagues lowers emotional exhaustion, while encouragement from leaders reduces depersonalization; both types of support allow employees to experience lower levels of mental fatigue and enhance personal accomplishment (Iverson et al., 1998). In addition, Maslach et al. (2001) identified a correlation between work stress and mental fatigue and observed that support from leaders is more important than support from colleagues in reducing employees' mental fatigue. Besides internal organizational relationships that can influence employees' mental fatigue, an increasing sense of CSR can impact employees' mental fatigue to a certain extent (Shao et al., 2017). However, it is undeniable that several corporates are guilty of making profit at the expense of their employees (Glavas, 2016). To alleviate their operating pressure under environmental changes, these corporates frequently ignore their social responsibility and ethics and fail to utilize CSR decision-making concepts to deal with their employees' mental fatigue as well as addressing the expectations of stakeholders and shareholders. A previous study has shown that individual ethical cognitive differences directly affect employees' perspectives, prospects, and perceptions of organizational behavior, including the performance of CSR, and then affect employees' work attitudes and behavioral performance (Ellis, 2009). Therefore, from the perspective of employees' ethics, this study can more intuitively investigate and demonstrate the overall relationships between CSR and employees' mental fatigue in the workplace.

Although corporations have concerns about employees' welfare and demands, their main intention is to encourage employees to work harder and prioritize the corporation's efficiency goals (Richter et al., 2020), which puts employees under pressure and makes them exhausted in fulfilling the corporation's goals. Some scholars have noted that a corporation's responsibility toward its stakeholders' interests and environmental protection positively affects its employees' sense of organizational identity, enhances employees' self-worth and self-esteem, encourages employees to adopt positive attitudes and behaviors, and reduces their mental fatigue (Farooq et al., 2016). Besides, employees have different perceptions based on CSR orientation when

facing internal and external stakeholder issues (Farooq et al., 2016). This is specifically reflected in the finding by Scheidler et al. (2019): a corporation's excessive preference for external CSR has a negative impact on employees, while its preference for internal CSR has a positive effect on employees. The imbalance between internal and external CSR leads to different emotional responses among employees. It thus be a practical and effective way to study the antecedents of employees' mental fatigue from a CSR perspective. To date, research on the relationship between different aspects of CSR and employees' mental fatigue as well as the impact of CSR on employees' well-being has remained minimal.

This study argues that employees' personal ethics and perceptions of corporate hypocrisy are the keys to resolving the issues of employees' mental fatigue as well as promoting the corporation's development factors. Personal ethical ideologies can be classified into altruistic choices with the motivation to improve the welfare of others and ethical egoism with the motivation to promote personal well-being (Forsyth, 1992). Furthermore, corporations' external pursuit for community harmony and global well-being promotes consumers' altruistic choices, while their internal pursuit for product uniqueness and quality excellence fosters consumers' egoism. The ethical egoism in question shows that CSR affects different aspects of customers' ethical ideologies. When employees perceive that a corporation actively assumes CSR, they will have a stronger dedication, tend to make altruistic choices, and thus engage in less counterproductive behavior. Similarly, Kung et al. (2021) studied employees' daily emotional exhaustion, health, positive mood, and other pro-social behaviors and concluded that employees' health was positively associated with their positive mood and negatively related to their emotional exhaustion; they further examined the relationship between organizational behavior and employees' ethical ideologies (Kung et al., 2021). However, relevant studies are insufficient, and there is no clear answer as to how corporations can guide employees to make different ethical choices through CSR decision-making tools to improve their behavior and reduce mental fatigue.

Regarding the study of employee behavior, scholars often conduct additional research on employees' perceptions of corporate hypocrisy. Several studies from the literature marked that when a corporation's values are inconsistent with its actual operation, employees perceive that as corporate hypocrisy (Argyris, 1974; Runkel et al., 1976). Moreover, when a corporate actively promotes external CSR but neglects internal CSR, or shows inconsistency between its statements and performances, employees develop an aversion toward the corporate; this in turn leads to negative emotions and counter-productive behavior (Yang and Diefendorff, 2010).

Most studies have focused on the prevention of employees' mental fatigue, yet they lack a more comprehensive understanding concerning how and why employees' mental fatigue sets in and the impacts of both internal and external CSR on employees' well-being. Thus, many companies cannot find a correct way to fulfill or compensate both internal and external CSR and their overall impact on employees. This study contributes to filling that gap by exploring the relationship between internal and external CSR and employees' mental fatigue and attempts to answer the following fundamental research questions through a series of studies and methodological approaches:

1. What is the relationship between internal and external CSR and the ethical ideology of employees?
2. Does internal or external CSR affect employees' mental fatigue by influencing their ethical ideology?
3. How do employees' perceptions of corporate hypocrisy affect their ethical ideology?

Furthermore, this study connects CSR, employees' ethical ideology, perceptions of corporate hypocrisy, and employees' mental fatigue; creatively integrates cross-professional knowledge, constructs innovative models, and new theoretical logic; and lays the foundation for future scholars on related subjects.

This study uses stakeholder theory and important sociological theories to jointly analyze organizational factors and employee behavior in the workplace. The two theories lay a solid theoretical and practical foundation for the formation of research logic and frameworks, hypothesis proposals, and research development. Under the stakeholder theory, employees are important stakeholders in the company. As participants in the company's operation, employees' behavior, attitude, and cognition can be influenced by organizational factors. Simultaneously, employees also influence the operation and development of the company; understanding this vicious circle of process provides a sufficient theoretical and practical basis for researchers in the field. Under sociological theories, this study mentioned four important theories, which are logically interconnected and complement each other with regard to explanatory variables, in order to provide theoretical and practical support and understand the interactions and relationships among employees, the corporation, and the environment.

THEORETICAL FOUNDATION AND HYPOTHESES DEVELOPMENT

Stakeholder Theory

As a management concept, CSR has always been inseparable from stakeholders (Tokoro, 2007; Žukauskas et al., 2018). CSR can generally be understood as the path through which a company performs a balance of social, environmental, and economic imperatives while upholding the anticipation of stakeholders (O'Riordan and Fairbrass, 2008). In 1963, the Stanford Research Institute put forward the stakeholder theory whereby an interest group that supports the survival of a corporation divides it into stakeholders and non-stakeholders based on their impact on the survival of the corporation (Berman et al., 1999; O'Riordan and Fairbrass, 2008). Since then, the definition of stakeholders has led to much controversy (Tokoro, 2007; Žukauskas et al., 2018). Freeman's stakeholder theory states that a corporation's stakeholders include those that can be affected by the corporation and further classified stakeholders into internal and external stakeholders, which in turn, has different levels such as primary and secondary

(Freeman, 1984). Frost defined direct and indirect stakeholders according to the market transaction relationship between stakeholders and corporations (Frost, 1995), whereas Clarkson (1994, 1995) described primary and secondary stakeholders based on the closeness of the relationship between a group and a corporation. In addition, Sheldon suggested in his book *The Philosophy of Management* that a corporation's business objectives should consider not only the interests of stakeholders but also those of other shareholders (Sheldon, 2003). Compared with previous research, the current stakeholder classification affords greater flexibility, yet it is not possible to find a standard and unified clarification as well as classification. Overall, the method of dividing stakeholders by the boundary of a corporation has gradually become a mainstream subject of discussion recognized by the academic community (Farooq et al., 2016). Freeman and Dmytriyev (2017) proved the correlation between CSR research and stakeholder theory: they both have the same goal of value creation, and they also found that some disputes of CSR can be overcome by balancing stakeholders' demands. Moreover, an increasing number of scholars have adopted this method of dividing stakeholders based on the classification of social responsibility (Miles, 2017). The application of stakeholder theory on CSR can help scholars establish a coherent and comprehensive theoretical basis in the field of social problems in management (Dmytriyev et al., 2021). Nonetheless, corporations should ensure good stakeholder management from both the inside and outside of the corporation, which prompted this study to divide CSR into internal and external based on the classification of stakeholders. As obvious, employees are fundamental internal stakeholders and have a direct stake in the corporation.

Sociological Theories

The social exchange theory is also known as the theory of reciprocity (Cropanzano and Mitchell, 2005). According to the theory, once employees feel that a company cares about them, they will further contribute to the corporation, become proactive in their work, seek personal performance improvement, and concurrently bolster the company to achieve its organizational goals. Scholars have used social exchange theory to analyze the behavioral motivation of employees participating in CSR activities in the corporations. For example, Slack et al. (2015) pointed out that the social exchange mechanism encourages employees to return a favor to the corporations when they receive benefits from CSR activities. Social exchange theory is the basis for the conceptualization and operation of internal CSR. It has a strong connection with internal CSR between corporation and employees (Mory et al., 2016), which partially explains the relationship between internal CSR and employees' mental fatigue.

Social comparison theory is one among the sociological theories and is alternatively called the fairness theory (Jiang, 2016). Employees' enthusiasm toward their work is closely related to their perception of the fairness of a corporation's distribution policy. Employees compare their treatment with the treatment of external stakeholders and use the results of the comparison to evaluate the value of their behavior. If there

is a large deviation from the self-set psychological value, the deviation will be reduced by employees' behavioral change. When employees find out that the treatment they receive is better than that of external stakeholders, the employees believe that they enjoy a higher degree of recognition and respect. In return, employees may increase their efforts and extend their working time; this simultaneously reduces mental fatigue at the workplace. Lemke and Vries (2021) pointed out that social comparison theory can tap into the potential positive or negative effects on individual behavior to explain the reasons for behavior change. This theory provides ideas and a basis for this study to deeply explore the hypothesis related to the causes of employees' mental fatigue.

Additionally, social learning theory states that human behavior is the result of the interaction between human cognition and the environment and that human behavior will gradually become spontaneous by humans learning and imitating from role models. CSR could imperceptibly guide employees' altruistic choices and encourage them to actively make greater efforts toward fulfilling organizational goals. In recent years, numerous scholars have used this theory to study individual antisocial and pro-social behavior, employees' workplace deviant behavior, and interpret CSR into personal actions (Kabiri et al., 2020; Qi et al., 2020; Tekleab et al., 2020). Social learning theory provides a comprehensive social framework to explain individual motivation for this study.

Furthermore, social cognitive theory posits that the environment, cognitive factors, and human behavior constitute a continuous, dynamic, interactive, and reciprocal relationship. There is a two-way relationship between these factors, i.e., individual behavior is a combination of cognition and environmental factors (Wu and Wu, 2019). According to the social cognitive theory, the evaluation of employees' internal and external images of their company is highly related to their behavior choices and value creation (Almeida and Coelho, 2019). When an individual's perception clashes with existing ideas, they will experience cognitive dissonance (Dragone et al., 2019). Consequently, employees reduce the pressure caused by dissonance through behavioral change to maintain balanced perceptions. This theory provides theoretical support for explaining the possibility of corporate social responsibility and employee performance.

These four theories complement each other with regard to explanatory variables. Social learning theory emphasizes the influence of the environment on individual behavior, while social cognitive theory emphasizes the influence of individual cognition in the environment on their behavior. Thus, the two theories effectively illustrate the process of the influence of organizational factors on employees' behavior. Besides, social exchange theory and social comparison theory are the most influential conceptual paradigms in organizational behavior, which complement the employees' behavioral adjustment process and the factors affecting their work performance. Social exchange theory clarifies the reciprocal exchange process between a corporation and its employees, and it explains the impact of the actual economic resource development of the company and the rewards provided by the company to employees based

on their attitude and behavior at work as well as their perception of organizational behavior. Social comparison theory is the concept that employees determine their own social and personal worth by evaluating their own abilities, attitudes, and traits in the corporation in comparison to others and then adjusting their behavior accordingly. These two theories also complement each other, which makes the hypothesis derivation logic of this study more rigorous and coherent.

Hypothetical Reasoning

Relationship Between CSR and Employees' Ethical Ideology and Mental Fatigue

According to the social exchange theory and social comparison theory, if a corporation provides good salary and welfare benefits, creates a good organizational atmosphere, and broadens promotion channels, then its employees will in return make altruistic choices in favor of the corporation, such as by increasing their working time and maintaining the company's image (Akarsu et al., 2020). This demonstrates the presence of social exchange relationship between internal CSR and individual behavior. Corporations and employees form a mutually beneficial relationship, which should allow incentives to guide employees making altruistic ethical decisions. Based on this, the following hypothesis is proposed:

> *H1*: When internal CSR prompts employees to make altruistic choices, employees' mental fatigue will reduce.

According to social learning theory, it cannot be ruled out that corporations attach great importance to internal CSR and establish an organizational culture considering the greater internal interests (Kim et al., 2020); this encourages employees to increase personal interests and form a benignly competitive relationship with their colleagues and external stakeholders. A continuous competitive relationship makes employees excessively concerned about the gain and loss of their interests and fails to secure the expected interest would affect employees' enthusiasm for work, which increases the possibility of them developing mental fatigue. Based on this point, the following hypothesis is proposed:

> *H2*: When internal CSR guides employees to promote ethical egoism, employees' mental fatigue will increase.

According to social cognitive theory, the active undertaking of external CSR helps establish a responsible corporation, promotes a strong integration of a corporation's values and employees' personal values, and creates an altruistic organizational structure that encourages employees to take the initiative of assuming more work responsibility (Saleem et al., 2021). Moreover, the higher an corporation's degree of fulfillment to external CSR, the more helpful it would be in improving employees' work performance, learning initiatives, and altruistic behavior (Littlejohn and Foss, 2009). In other words, employees gain a sense of honor and belong to a collective family in the context of a corporation, motivating them to make more altruistic choices and their workplace engagement (Dutton

et al., 1994). This will imperceptibly instigate employees' altruistic choice, which encourages them to make greater efforts toward fulfilling organizational goals and reduces mental fatigue. Based on this, the following hypothesis is proposed:

> *H3*: When external CSR promotes employees to make altruistic choices, employees' mental fatigue will reduce.

Employees compare their remuneration with that of stakeholders outside the corporation to judge whether the corporation's recognition of their behavior value is reasonable (Jiang, 2016). When there is a large deviation between expectation and actual perception, employees will take actions to reduce the deviation and balance the psychological gap. However, in this case, they only have the leeway of deciding to lower their job involvement, resulting in an increasing mental fatigue. Based on this, the following hypothesis is proposed:

> *H4*: When external CSR enhances employees' ethical egoism, employees' mental fatigue will increase.

The Role of Perceptions of Corporate Hypocrisy

Corporate hypocrisy occurs when a company promise to do something in the name of corporate social responsibility but then does something quite opposite (Miao and Zhou, 2020; Chang and Cho, 2021; Tiwari et al., 2021). When a corporation prioritizes internal CSR than external CSR, employees perceive it as the corporation being more willing to bring direct benefits or allocate resources to the corporation as well as its employees (Wu et al., 2020a). Contrarily, when a corporation operates for the purpose of making a profit, employees imitate the hypocritical behavior of corporation, which could affect their feedback psychology and voluntary contributions (Kim et al., 2020) and result in egoism (Dragone et al., 2019). Besides, when employees realize that there is a dissonance between their own remuneration and the corporate's external interests, they assume that the corporation ignores their contribution, which leads to staff turnover, egoism, and rebellion (Miller and Flores, 2007). Conversely, the greater the employees trust in the company, the more they would be committed to and focused on promoting company interests (Thau et al., 2007). In particular, perceptions of corporate hypocrisy weaken employees' altruistic choices and tend to enhance their ethical egoism. Based on this fact, the following hypothesis is proposed:

> *H5*: Stronger perceptions of corporate hypocrisy weaken the positive impact of internal CSR on employees' altruistic choices and enhance the positive impact of internal CSR on employees' ethical egoism.

According to social comparison theory, when a corporation pays too much attention to external social responsibility while ignoring internal social responsibility, employees will think that the corporation attaches a low value to their work, and they will thus perceive the corporation as hypocritical (Miller et al., 2015). With stronger perceptions of corporate hypocrisy, employees'

sense of identity is reduced, and they would therefore pay more attention to their own interests (ethical egoism) within the company (Sidgwick, 2011). It means that external CSR does not subtly stimulate employees' altruistic choices (Thyer and Myers, 1998). Based on the above analysis, the following hypothesis is advanced:

H6: Stronger perceptions of corporate hypocrisy weaken the positive impact of external CSR on employees' altruistic choices and enhance the positive impact of external CSR on employees' ethical egoism.

Theoretical Model

It is assumed that the internal and/or external CSR affects employees' mental fatigue by influencing either employees' altruistic choice or ethical egoism (Jia et al., 2019). Corporate hypocrisy, as a moderating variable, changes the direction and degree of the relationship between CSR and employee's ethical ideologies. The research model is shown in **Figure 1**.

DATA AND METHODS

Research Design and Data Collection

This study included responses of employees from different industries and corporations who are working in various employment positions in Chinese provinces, namely Henan, Gansu, Shanxi, and Fujian province. Data were gathered from randomly selected employees by adopting qualitative semi-structural interviews and questionnaires in two phases. The first stage of interview with managers laid the foundation for the design of questionnaires, whereas the second stage of interview with employees is to

confirm whether the feedback of the questionnaire can be replicated in the small-scale questionnaire survey. The first stage is a small-scale pre-survey. A total of 250 questionnaires were distributed, and 176 valid responses were collected. The questionnaire was divided into six parts. The first part is to mainly understand the basic information of the respondents, and the other five parts focus on the information about employees' mental fatigue, internal CSR, external CSR, perceptions of corporate hypocrisy, ethical egoism, and altruistic choice (discussed in the section below). Based on the collected data, this study analyzed and clarified the relationship among the employees' mental fatigue, internal CSR, external CSR, perceptions of corporate hypocrisy, ethical egoism, and altruistic choice. The study utilized the SPSS software to conduct the statistical analysis of the data and to scientifically analyze the mechanism of internal CSR and external CSR on employees' mental fatigue from a theoretical and empirical perspective. Furthermore, available literature has also been reviewed.

The responses were measured using a 5-point Likert-type scale, with the corresponding score for responses to each question survey ranging as "strongly agree" (5 points), "agree" (4 points), "uncertain" (3 points), "disagree" (2 points), and "strongly disagree" (1 point). As an ethical consideration, the respondents volunteered to participate in the study and provided written consent before answering the questionnaire. They were told that they could discontinue their participation at any time without any consequences. To ensure anonymity, personal information was kept in a master file that was separate from the dataset used for the study analysis.

We chose respondents from various levels of gender, age, working years, and working position. Regarding the respondents' gender composition, there were more women than men by a
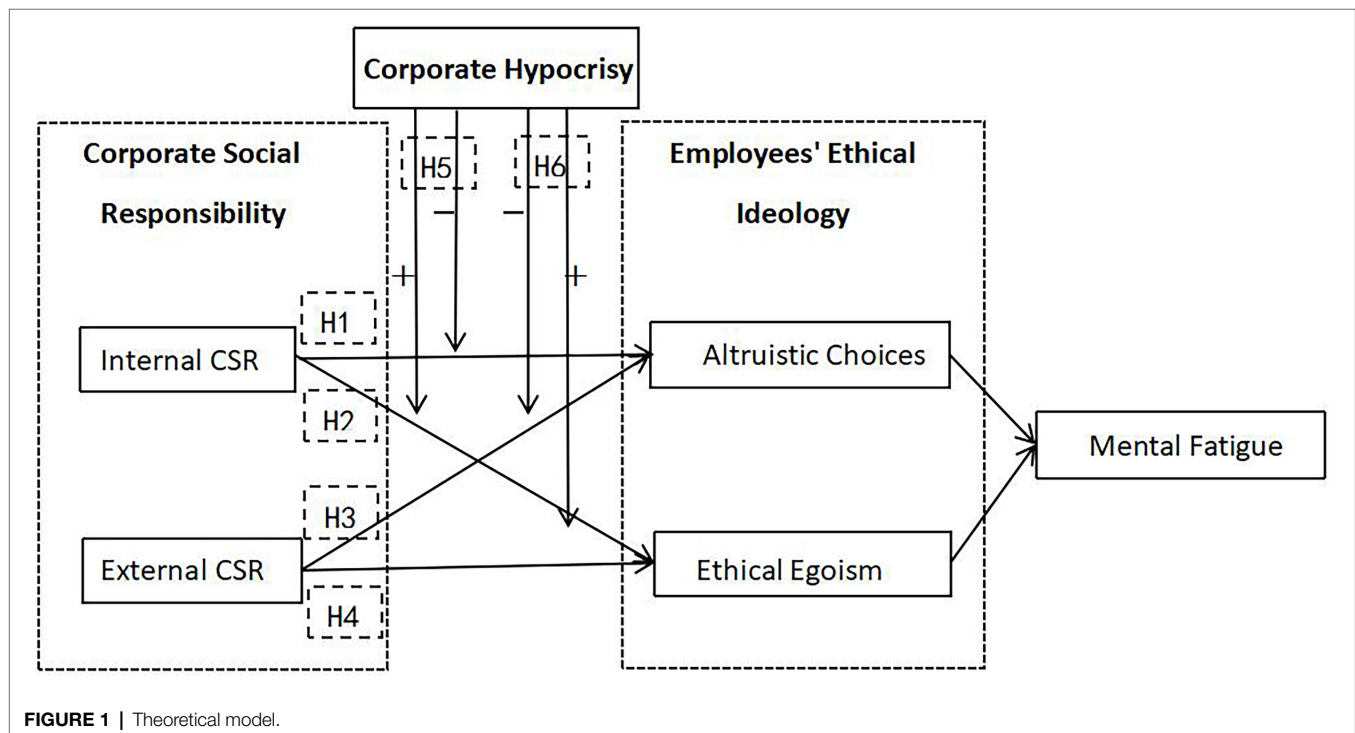
FIGURE 1 | Theoretical model.

slight margin. There were no deviations in the gender characteristics. The respondents were grouped by age, namely, 24 years and below (18.18%), 25–34 years (23.86%), 35–44 years (33.52%), and 45–54 years (22.73%). The age distributions of the surveyed employees were uniform and covered all age groups, which reduces the data bias caused by a concentration in younger age groups. For the respondents' working years, while more than half has worked for more than 9 years, participants in the other age groups were evenly distributed, and the experienced employees have a clear understanding of the implementation of internal and external CSR, which improved the accuracy of data collection. Similarly, the proportions of respondents in different working positions were random. Conclusively, the questionnaire's data collection could be deemed reliable and comprehensive.

Data Measurement

Scale of Internal CSR (Four Items)

Scale of internal CSR refers to the measurement of Fortune Index in Griffin and Mahon's research (Griffin and Mahon, 1997), selecting the indicators of "talent attraction, cultivation and use" to measure the internal employee responsibility performance. We integrate scales and make final measurement indicators that include information transparency and attractive remuneration incentives for employees, the working environment and management of employees, promotion and salary adjustment, and training.

Scale of External CSR (Five Items)

Scale of external CSR refers to the reactive defensive accommodative and proactive (RDAP) model developed by Clarkson (1995) and fortune index. According to the fortune index, the evaluation of corporate community and environmental social responsibility is determined, and the indicators such as innovation, product and service quality, and community and environmental responsibility are selected to evaluate the performance of corporates' responsibility and important external stakeholders such as industry, customers, community and society; referring to the RDAP model, selecting indicators such as environmental protection, social donation, education investment, community, and competitive relationship to supplement the assessment of corporates' responsibility for public stakeholders and market competition participation. After comprehensive consideration, the final measurement indicators include corporate charity and education aid, products, publicity information and after-sales services, fair competition with competitors, employment opportunities and facilities for the community, and environmental protection and technological innovation for the country.

Scale of Perception of Corporate Hypocrisy (Three Items)

Scale of perception of corporate hypocrisy refers to scales developed by Wagner et al. (2009) and Fassin and Buelens (2011). Wagner et al.'s (2009) scale focuses on the individual's perception of inconsistent information, such as inconsistent CSR behavior and ability and inconsistent matching between

behavior and events. While Fassin and Buelens (2011) focus on the corporate's own attributes, such as CSR behavior motivation, execution strength, and communication degree. We integrate scales and make final measurement indicators include employees' attitude toward CSR, employees' awareness of the purpose of CSR, and employees' understanding of the motivation for CSR.

Scale of Altruistic Choices (Four Items)

According to the subscale of altruistic behavior in the Chinese organizational citizenship behavior scale, which was developed by Farh et al. (1997) and MacKenzie et al. (1991), final measurement indicators include employees' willingness to share information with colleagues, willingness to help new colleagues, work engagement and voluntary sacrifice, and the balance between their values and interest.

Scale of Ethical Egoism (Four Items)

According to the employee self-interest behavior scale, adapted by Gkorezis and Bellou (2016), and the dimension of "personal initiative" in the organizational citizenship behavior scale, developed by MacKenzie et al. (1991), final measurement indicators include knowledge retention, pursuing personal development, giving priority to personal interests, and unwillingness to cooperate in a team.

Scale of Mental Fatigue (Five Items)

This part refers to the Maslach Burnout Inventory (MBI) and improved version, proved by Dolan et al. (2015), final measurement indicators include employees' work enthusiasm, recognition for the employees' work value and significance, the possibility of employees achieving their career goals, the attitude of employees toward challenges at work, and willingness of employees to overcommit their time to a task.

Data Analysis

As illustrated in **Table 1**, external corporate social responsibility is significantly positively correlated with altruistic choice ($p < 0.01$) and negatively correlated with mental fatigue ($p < 0.01$). Similarly, mental fatigue was negatively correlated with altruistic choice ($p < 0.01$) and positively correlated with egoistic choice ($p < 0.01$). The correlation analysis lays a foundation for further research about the causal relationship between variables.

Reliability Analyses and Validity Test

The validity and reliability of the scales used in research are important factors that enable the research to yield healthy results (Roberts and Priest, 2006; Sürücü and Maslakci, 2020). The primary purpose is to test the accuracy of the study model and to demonstrate the rigor and trustworthiness of qualitative and quantitative research. In this case, this study used Cronbach's α and confirmatory factor analysis (CFA) for reliability analyses and validity test, respectively. Cronbach's α was developed by Lee Cronbach in 1951 to provide a measure of the internal consistency of a test or scale; it ranges between 0 and 1, with higher values indicating that the survey or questionnaire is

TABLE 1 | Means, standard deviations and correlation coefficient analyses of the variables.

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Gender	1.63	0.486	1									
2. Age	2.66	1.073	0.016	1								
3. Working years	3.70	1.605	0.038	0.683***	1							
4. Working position	1.75	1.240	−0.062	0.09	0.258***	1						
5. Internal CSR	2.100	0.836	−0.107	−0.006	−0.215***	−0.155**	1					
6. External CSR	2.078	0.746	−0.12	−0.081	−0.231***	−0.102	0.649***	1				
7. Enterprise hypocrisy	3.210	1.124	−0.019	0.068	0.104	−0.041	−0.218***	−0.117	1			
8. Altruistic choice	2.156	0.792	−0.129*	−0.031	−0.177**	−0.209***	0.570***	0.497***	−0.123	1		
9. Ethical egoism	3.459	0.967	−0.027	0.102	0.111	−0.005	−0.205***	−0.108	0.445***	−0.346***	1	
10. Mental fatigue	3.430	1.025	0.05	0.031	0.139*	0.133*	−0.314***	−0.207***	0.612***	−0.304***	0.400***	1

*$p < 0.01$, **$p < 0.05$, ***$p < 0.1$.

more reliable (Tavakol and Dennick, 2011). It is a way to measure the internal consistency and reliability of a questionnaire or survey by comparing the amount of shared variance or covariance among the items (Taber, 2018). SPSS 25.0 was used to test the reliability of the collected data. Thus, Cronbach's α coefficient for internal CSR, external CSR, perceptions of corporate hypocrisy, altruistic choice, ethical egoism, and mental fatigue were 0.961, 0.953, 0.958, 0.930, 0.923, and 0.952, respectively (see **Table 2**).

The result clearly demonstrated that the Cronbach's α value for each dimension are greater than the acceptable reliability, $\alpha = 0.80$ (Taber, 2018), which confirmed the reliability or consistency of the study data.

Confirmatory factor analysis (CFA), on the contrary, is a type of factor analysis used whether the designed scale (questionnaire) is valid for data collection and to test a factor regarding unmeasured sources of variability (Hoyle, 2012). The CFA is a method for calculating structural validity and the measurement part of the models (Prudon, 2015). Therefore, by using the CFA, covariance matrixes were computed and fit indices were carried out, then the general structure of the research questionnaire content and study model validity were checked. In **Table 3**, the results of the CFA of the research variables were obtained by using the data science analysis platform SPSSAU.

The standard of fit indices in the structural equation modeling (SEM): GFI should be >0.95 (Schermelleh-Engel et al., 2003), and the study result shows 0.806, just close to the acceptable score, this is because the GFI is known to depend on the sample size (Mulaik et al., 1989). RMR should be <0.08; represents the square-root of the difference between the residuals of the sample covariance matrix and the hypothesized model (Hooper et al., 2008). CFI should be >0.90 (Fan et al., 1999). NFI/NNFI/TLI should be >0.90 (Byrne, 1994; Schumacker and Lomax, 1996), and an NFI/NNFI of 0.95 indicates the model of interest improves the fit by 95 (Hooper et al., 2008). RMSEA should be <0.08 and a value closer to 0 represent a good fit (Chen et al., 2008). IFI > 0.90 is a good fit, but the index can exceed 1 (Hooper et al., 2008). The result in the CFA table clearly demonstrated that all the mentioned values are within the standard range. Overall, the research questionnaire content and study model is well constructed.

Common Method Deviation Test

The Harman single factor test was used to determine whether there is a common method deviation in the collected data. All items on the six-variable measurement scale were included in the exploratory factor analysis. The results showed that there were six factors with a characteristic root greater than one, and the maximum factor variance interpretation rate was 39.723% (see **Table 4**). It indicates that there is no serious common method deviation in this study.

If the total variance extracted by one factor exceeds 50%, there is common method bias in the study. Therefore, these data indicate that there is no problem with common method bias since the total variance extracted by one factor is 39.723%, and it is less than the recommended threshold of 50%.

RESULTS

The Mediating Effect of Ethical Ideology of Employees

As demonstrated in **Table 5**, the results of the regression analysis for internal CSR → altruistic choice showed that internal CSR has a positive impact on altruistic choice ($\beta = 0.508$, $p < 0.05$). On the contrary, the results of the regression analysis of internal CSR → mental fatigue showed that internal CSR has a significant negative impact on mental fatigue ($\beta = -0.347$, $p < 0.01$).When internal CSR → mental fatigue ($\beta = -0.347$, $p < 0.01$) compared with the results of the regression analysis of internal CSR → mental fatigue after altruistic choice was added as intermediary ($\beta = -0.235$, $p < 0.05$), although both have a significant negative impact on employees' mental fatigue, after adding altruistic choice as an intermediate variable, internal CSR has a reduced impact on mental fatigue. This asserted that there was a mediating effect between internal CSR and mental fatigue. The above result generally demonstrates that H1 is consistent.

The results of the regression analysis of internal CSR → ethical egoism showed that internal CSR has a negative impact on ethical egoism ($\beta = -0.250$, $p < 0.01$). However, the result of the regression analysis of internal CSR → mental fatigue after ethical egoism was added as an intermediate variable, and internal CSR was articulately demonstrated to have an increased statistically significant negative impact on mental fatigue ($\beta = -0.252$, $p < 0.01$). Concurrently, employees' tendency toward

TABLE 2 | Reliability statistics for each variable of the research model.

Items	Questionnaire contents	Factor loading	AVE	Cronbach's α coefficient
Internal CSR	Internal information disclosure and investor incentives	0.818	0.669	0.961
	Work environment optimization	0.799		
	Promotion and salary	0.850		
	Stage training	0.822		
External CSR	Corporate charity and public welfare assistance	0.850	0.748	0.953
	Products, publicity, and after-sales service	0.893		
	Play fairly with competitors	0.872		
	Community employment opportunities and facility construction	0.829		
	Environmental protection and technological innovation	0.879		
Corporate hypocrisy perception	Attitude toward corporate social responsibility	0.836	0.730	0.958
	The cognition of the purpose of corporate social responsibility	0.858		
	Understanding of the motivation for corporate social responsibility	0.869		
Altruistic choice	The willingness to share the information	0.814	0.687	0.930
	The will to help new colleagues	0.864		
	Work participation and voluntary sacrifice	0.791		
	A balance between values and interests	0.846		
Ethical egoism	Knowledge retention	0.865	0.742	0.923
	The pursuit of personal development	0.872		
	Personal interests are preferred	0.842		
	Do not want to team together	0.867		
Mental fatigue	Low enthusiasm for work	0.884	0.745	0.952
	Low recognition of work value and significance	0.883		
	The probability of achieving your career goals is low	0.904		
	Passive attitude toward the challenges and difficulties at work	0.835		
	Low willingness to commit to a task effectively and efficiently	0.806		
	Low enthusiasm for work	0.884		

TABLE 3 | Confirmatory factor analysis.

Common indicators	χ^2	df	GFI	RMR	CFI	NFI	NNFI	RMSEA
Value	536.094	260	0.806	0.042	0.945	0.900	0.937	0.078
Other indicators	TLI	IFI	–	–	–	–	–	–
Value	0.937	0.946	–	–	–	–	–	–

GFI, goodness of fit; RMR, root mean square residual; CFI, comparative fit index; NFI/NNFI, (non) normed fit index; RMSEA, root mean squared error of approximation; TLI, Tucker Lewis index; IFI, incremental fit index.

TABLE 4 | Total variance analysis.

Component	Initial eigenvalues			Extraction sums of squared loadings		
	Total	% of variance	Cumulative%	Total	% of variance	Cumulative%
1	9.931	39.723	39.723	9.931	39.723	39.723
2	5.096	20.383	60.106	5.096	20.383	60.106
3	2.46	9.839	69.945	2.46	9.839	69.945
4	1.734	6.938	76.882	1.734	6.938	76.882
5	1.322	5.286	82.168	1.322	5.286	82.168
6	1.044	4.177	86.345	1.044	4.177	86.345
...						
25	0.056	0.225	100			

ethical egoism increases mental fatigue. The result also clarifies that ethical egoism has a partial mediating effect between internal CSR and mental fatigue. Therefore, the result indicates that H2 is logical.

The results of the regression analysis of external CSR → altruistic choice showed that external CSR has a positive impact on altruistic choice ($\beta = 0.487$, $p < 0.01$). On the contrary, altruistic choice → mental fatigue has an increased significant negative impact ($\beta = -0.316$, $p < 0.01$). When these results were compared with the regression analysis results of external CSR → mental fatigue ($\beta = -0.234$, $p < 0.05$) after altruistic choice was added as an intermediate variable, the result clearly indicates

TABLE 5 | Mediation effects of employee ethical selection.

Variable	Mental fatigue							Altruistic choice			Ethical egoism		
	M 0-1	M 1-1	M 1-2	M 2-1	M 2-2	M 3-1	M 4-1	M 0-2	M 1-3	M 4-2	M0-3	M 3-2	M 4-3
Controlled variable													
Gender	0.108	0.046	0.018	0.067	0.025	0.088	0.103	-0.218*	-0.128	-0.133	-0.066	-0.111	-0.089
Age	-0.098	-0.031	-0.030	-0.076	-0.058	-0.064	-0.097	0.102	0.005	0.056	0.039	0.087	0.051
Working years	0.116	0.052	0.048	0.082	0.070	0.048	0.067	-0.110**	-0.016	-0.040	0.055	0.009	0.037
Work position	0.082	0.061	0.043	0.076	0.045	0.077	0.088	-0.110**	-0.079*	-0.098**	-0.027	-0.042	-0.030
Independent variable													
Internal CSR		-0.347***	-0.235**			-0.252***			0.508***			-0.250***	
External CSR				-0.234**	-0.080		-0.182*			0.487***			-0.128
Mediating variable													
Altruistic choice			-0.220**		-0.316***								
Ethical egoism						0.379***	0.409***						
F	1.678	4.189	4.155	2.345	3.387	8.42	7.475	4.143	18.074	13.371	0.678	2.076	0.857
R^2	0.038	0.11***	0.129***	0.065**	0.107***	0.230***	0.21	0.08***	0.347***	0.282***	0.016	0.058*	0.025

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

that external CSR has a reduced impact on mental fatigue. Therefore, we can understand that the intermediate variable (altruistic choice) has a complete mediating effect between external CSR and mental fatigue. As a result, H3 is compatible.

The result of regression analysis of external CSR→ethical egoism ($\beta = -0.128$, $p < 0.1$), it indicated that external CSR has a negative impact on ethical egoism. When this result compared with the result of regression analysis of external CSR→mental fatigue ($\beta = -0.234$, $p < 0.05$), it indicated that external CSR has a reduced significant impact on ethical egoism but increased impact on mental fatigue. Besides, ethical egoism has a significant positive impact on mental fatigue ($\beta = 0.409$, $p < 0.01$), and there is no mediating effect of ethical egoism existed between CSR and mental fatigue. Therefore, H4 is proved to be inconsistent.

Moderating Effect of Perceptions of Corporate Hypocrisy

From the perspective of internal CSR, by taking altruistic choice as the outcome variable and adding internal CSR, perceptions of corporate hypocrisy, and the interaction between them, it can be observed that the main effect was not affected by the addition of the interaction item. However, after all three variables were added, the analysis results showed that the coefficient of perceptions of corporate hypocrisy and its interaction was insignificant. This signifies that there was no moderating effect of perceptions of corporate hypocrisy between internal CSR and altruistic choice. When taking ethical egoism as the outcome variable, it was found that "internal CSR* perception of hypocrisy" had no significant effect on ethical egoism, which signifies that perceptions of corporate hypocrisy were not associated with a significant adjustment between internal CSR and ethical egoism. Consequently, H5 is shown to be inconsistent (**Table 6**).

On the contrary, from the perspective of external CSR, by taking altruistic choice as the outcome variable, external CSR, perceptions of corporate hypocrisy, and their interaction item were included in the regression. The moderating variables of perceptions of corporate hypocrisy and the interaction item were significant. There was a back-moderating effect on the relationship between external CSR and altruistic choice. Additionally, when taking ethical egoism as the outcome variable, both hypocrisy perception and "external CSR* perception of hypocrisy" have significant positive effects on ethical egoism. This signifies that perceptions of corporate hypocrisy played a moderating role in the relationship between external CSR and ethical egoism, and perceptions of corporate hypocrisy moderates the relationship between external CSR and ethical egoism. Therefore, H6 is proven to be logical and sound.

Simple Slope Test of Moderating Effect

Figure 2 shows that perceptions of corporate hypocrisy positively moderated the relationship between external CSR and employees' ethical egoism; high perceptions of corporate hypocrisy gave rise to a high tendency of ethical egoism in employees, which further proves that H6 is logical.

Incidentally, **Figure 3** illustrates that perceptions of corporate hypocrisy negatively moderate the relationship between external

TABLE 6 | Moderating effects of perception of hypocrisy.

	Altruistic choice							Ethical egoism						
	M 0-4	M 4-1	M 4-2	M 4-3	M 5-1	M 5-2	M 5-3	M 0-5	M 6-1	M6-2	M 6-3	M 7-1	M 7-2	M 7-3
Gender	−0.218**	−0.128	−0.128	−0.132	−0.133	−0.138	−0.158	−0.066	−0.111	−0.068*	−0.059	−0.089	−0.054	−0.034
Age	0.102	0.005	0.005	0.004	0.056	0.056	0.027	0.039	0.087	0.073	0.077	0.051	0.053*	0.082
Working years	−0.110**	−0.016	−0.016	−0.015	−0.04	−0.036	−0.031	0.055	0.009	−0.006	0.007	0.037	0.009	−0.004
Work position	−0.110**	−0.079*	−0.079*	−0.081*	−0.098**	−0.102**	−0.113***	−0.027	−0.042*	−0.011	−0.007	−0.03	−0.003	−0.009
Internal CSR		0.508***	0.506***	0.502***					−0.258***	−0.142**	−0.13			
External CSR					0.487***	0.479***	0.381***					−0.128	−0.068	−0.028
Perception of hypocrisy			−0.007	−0.015		−0.053	−0.105**			0.355***	0.375***		0.372***	0.423***
Internal CSR *Perception of hypocrisy				−0.018							0.046			
External CSR *Perception of hypocrisy							−0.168***							0.166**
F	4.143	18.074	14.979	12.79	13.371	11.382	11.391	0.678	2.076	7.817	6.747	0.857	7.348	7.137
R^2	0.088***	0.347***	0.347***	0.348***	0.282***	0.288***	0.322***	0.016	0.058*	0.217***	0.219***	0.025	0.207***	0.229***

*$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

CSR and employees' altruistic choices. In other words, high perceptions of corporate hypocrisy influence employees to have a low tendency of making altruistic choices, which demonstrates that H6 is consistent. This study complements the theory that external CSR may affect employees' mental fatigue due to the influence of factors such as employees' personal morality and ethical pursuits.

Corporate hypocrisy does not moderate the relationship between internal social responsibility and ethical egoism, as well as the relationship between internal social responsibility and altruistic choice. Based on the above results, the research model of this study can be conceptualized as given in **Figure 4**.

DISCUSSION

Theoretical Implications

Many studies regarding the impact of CSR on employees have mostly focused on the attitude of employees' toward organizational identity and emotional commitment. While some scholars have also paid attention to the impact of organizational factors on employees' mental fatigue, few have studied the impact of CSR on employees' mental fatigue without directly analyzing CSR and mental fatigue in a conceptual model (Thompson et al., 2019; Wu et al., 2020b). However, this study focuses on the relationship between CSR and mental fatigue, analyzes the integration of CSR and employees' mental fatigue, introduces employees' ethical ideologies as an intermediary variable, connects the concepts of CSR and employees' mental fatigue from different aspects, and explores how internal and external CSR affect ethical ideology.

Additionally, this study uses perceptions of corporate hypocrisy as a moderating variable, which makes the research path more accurate, and provides a reference for future research on CSR and related fields. It also analyzes the influences of CSR on employees' mental fatigue from the perspective of employees' ethics, aiming to enrich the research on the relationship between CSR and employee behavior, which is of great significance to theoretical and practical research innovation and development. Theoretically, this research contributed to the understanding of the multiple interactive relationships between CSR (internal and external) and mental fatigue: internal CSR → altruistic choices → mental fatigue, internal CSR → ethical egoism → mental fatigue, external CSR → altruistic choices → mental fatigue, external CSR → ethical egoism → mental fatigue, and further expanded the literature on the consequence of CSR and the antecedents of mental fatigue. Furthermore, this study found that perceptions of corporate hypocrisy strengthened the relationship between CSR and ethical egoism. Moreover, it introduces corporate hypocrisy factors that intensify the influence path of CSR on employee ethical ideology, which elevates the cross-field research on the topic related to employees' mental fatigue, and creatively puts forward a new path of the impact of internal and external social responsibility on employees' mental fatigue.

FIGURE 2 | External CSR and ethical egoism: moderating effect of perceptions of corporate hypocrisy.

FIGURE 3 | External CSR and altruistic choice: moderating effect of perceptions of corporate hypocrisy.
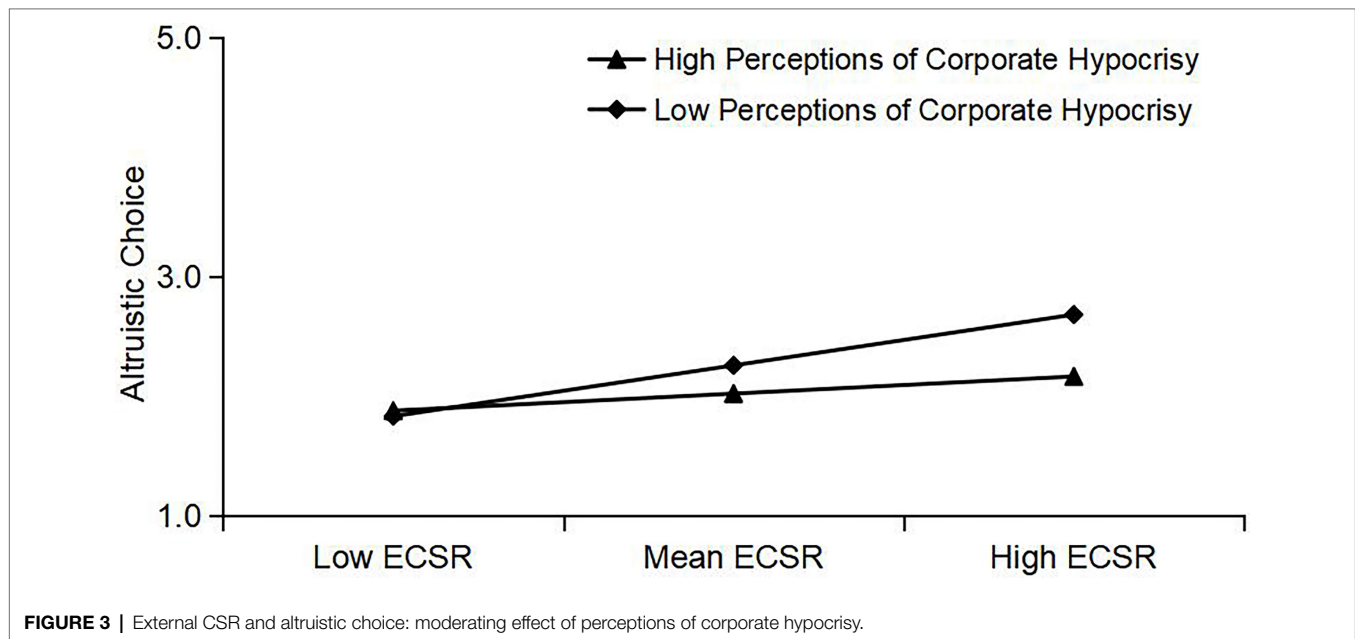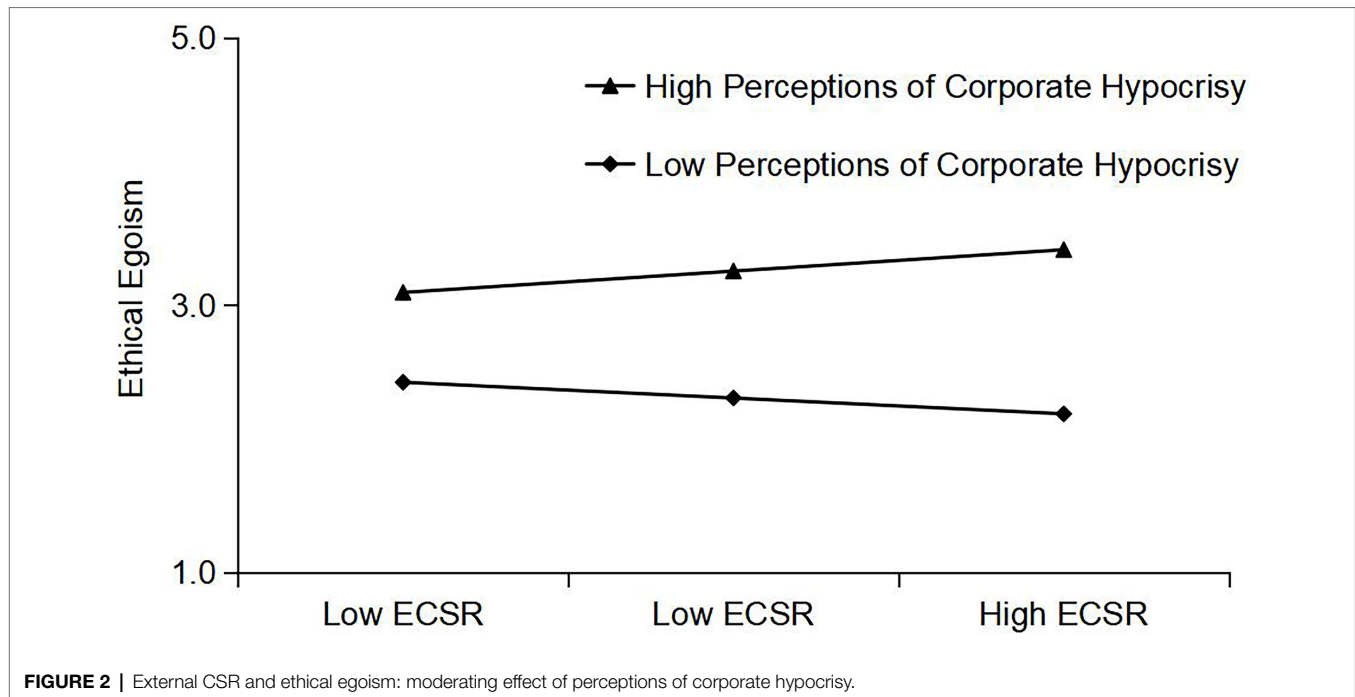
Managerial Implications

From a managerial perspective, this study offers various insights for corporations to reduce employees' mental fatigue, such as closely associating with human resource management development to improve working environments. In addition, it provides a concept for corporate managers to develop their employees' proclivity for making altruistic choices in order to reduce mental fatigue and strengthen ethical ideologies. In this regard, ethical ideologies are considered significant in the achievement of companies' CSR practices. Moreover, managers should also strengthen the internal and external CSR framework in order to convince their employees, reduce perceptions of corporate hypocrisy, and safeguard employees' mental health.

First, managers in corporations can improve their employees' working conditions and mental fatigue by implementing sound human resource management (HRM) practices. In the practice of HRM, for example, managers can direct employees to voluntarily participate in social services, as well as advise and
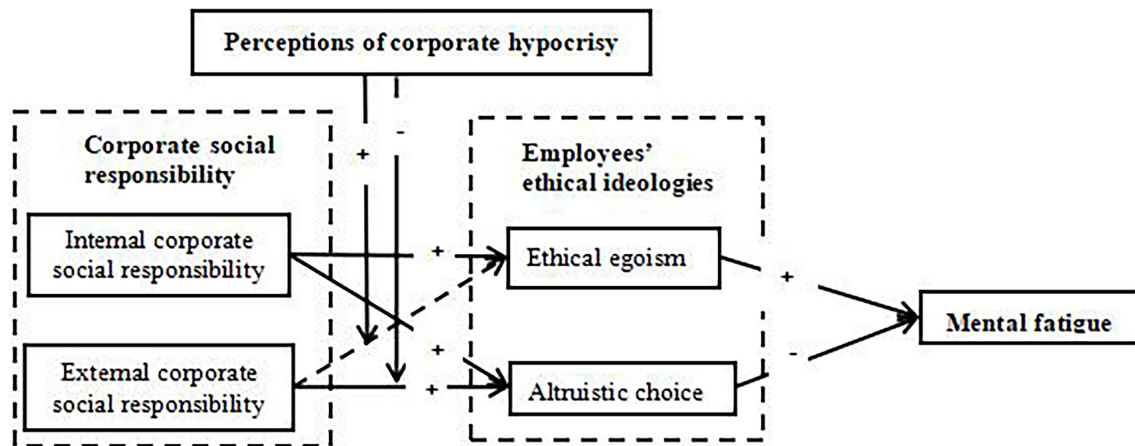
FIGURE 4 | Conceptualization and validation of the study model.

motivate other employees to make positive ethical choices as assessment indicators of job accomplishment and advancement. Similarly, this study urges corporations to reduce employees' negative perceptions related to corporate hypocrisy by increasing transparency in information disclosure, and reducing the information gap between employees and corporations. For instance, using a social responsibility column on a corporation's official website, documents and information related to the performance of the CSR can be shared and updated, and internal communications can be attended to using the intranet or newspapers, thus improving the performance of internal CSR, increasing employee satisfaction, establishing complaint mechanisms, and reducing mental fatigue caused by poor information can be achieved. This activity axiomatically serves to ameliorate employees' perceptions of corporate hypocrisy, lessen the gap between employees' personal income and salary, enhance the sense of organizational identity (Miao and Zhou, 2020), improve the working atmosphere (Almeida and Coelho, 2019), and reduce psychological fatigue (Iverson et al., 1998).

Second, this study also encourages corporations to proportionally implement internal and external CSR so as to reduce employees' mental fatigue. Corporations should increase the influence of internal and external CSR on employees' altruistic choices. When driven by a harmonious and friendly working environment and the unified goal of maximizing organizational interests, employees engage in altruistic choices more frequently than ethical egoism. It should be noted that CSR should not pay too much attention to external CSR or ignore internal CSR, because a corporation's internal CSR is closely related to individual interests and development and directly affects the ethical ideologies of employees. Corporations should pay attention to the rights and requirements of employees, provide them with appropriate treatment, create safe working environments, and even guide them in career development, which will minimize their mental fatigue, improve the overall performance of the corporation, and secure long-term sustainable development.

Meanwhile, it is crucial to stress that in the implementation of CSR, corporations should consider balancing the needs

of diverse beneficiary groups under internal and external social responsibility, rather than focusing solely on commercial profits. Corporations should earnestly consider the true demands of their internal and external stakeholders when carrying out their tasks. For example, although employees assist corporations in making product supply more efficient, high-quality outcomes, low-carbon emission, and so on, corporations should also see employees as key resources and consider providing corresponding incentives. Moreover, when managers in a corporation develop an internal and external social responsibility framework, it is important to aim at connecting the objectives of product improvement, business model innovation, and environmental sustainability with the needs of internal and external stakeholders.

In conclusion, the findings recommend that corporations cultivate an ethical atmosphere, pay attention to employees' ethical ideology, enhance the consistency of the company's values and goals, and reduce the influences, which can lead to mental fatigue. A reasonable ethical atmosphere within a corporation is an advantageous way to reduce employees' mental fatigue as it can help employees understand common values and organizational goals, which can weaken perceptions of corporate hypocrisy, guide and improve employees to make more altruistic choices, and allow altruistic choices to become part of employees' spontaneous ethical consciousness. Moreover, corporations should make their organizational ethical standards clear so the corporation can be quickly recognized and accepted by employees, which will be reflected in employees' altruistic behavior and may effectively enhance employees' pursuit of personal contributions at work.

Limitations and Future Research

This study fills the literature gaps in related fields and helps relevant organizations and corporations understand the impact of internal and external CSR on employees' behavior, specifically mental fatigue. However, this study has several limitations. The research did not focus on a specific industry or corporation, so the results may not represent the situation in all industries.

Moreover, the study did not examine whether the impact of CSR on employees' mental fatigue was different in different cultures. In other words, the scope of the sample collection was limited; cross-border and cross-cultural comparative studies could be carried out to increase the universality and applicability of the conclusions. Therefore, the results may not be applicable to groups with different cultural backgrounds. Incidentally, future research could be based on quantitative research combined with a fuzzy set qualitative comparative analysis method (Villalba-Ríos et al., 2022) to enhance the universality and persuasiveness of the research conclusion.

CONCLUSION

In the growing field of mental health research, this study attempted to formulate and analyze the relationship between CSR and mental fatigue, along with the mediating role of ethical ideologies, as well as the moderating role of perceptions of corporate hypocrisy. The study found that internal CSR has a significant positive impact on mental fatigue when ethical egoism is evoked and a significant negative impact on mental fatigue when altruistic choice is evoked. Additionally, altruistic choice has a significant mediating effect between CSR and mental fatigue, and ethical egoism has a partial mediating effect between CSR and mental fatigue. Moreover, perceptions of corporate hypocrisy enhance the positive guiding effect of CSR on employees' ethical egoism, while employees with egoism are more prone to mental fatigue. This study suggests that corporations should focus on employees' ethical ideologies by balancing different dimensions of CSR with appropriate ways to make altruistic choices become a part of employees' spontaneous ethical consciousness. Thus, employees' mental health can be safeguarded while achieving and sustaining organizational goals, this is a strategy that could be beneficial to all parties involved.

AUTHOR CONTRIBUTIONS

LZ: conceptualization, methodology, software, and writing–reviewing and editing. AA: writing–reviewing and editing and supervision. DY: investigation, data curation, and validation. WL and YD: writing–original draft preparation. All authors contributed to the article and approved the submitted version.

REFERENCES

Akarsu, T. N., Foroudi, P., and Melewar, T. (2020). What makes Airbnb likeable? Exploring the nexus between service attractiveness, country image, perceived authenticity and experience from a social exchange theory perspective within an emerging economy context. *Int. J. Hosp. Manag.* 91:102635. doi: 10.1016/j.ijhm.2020.102635

Almeida, M. d. G. M. C., and Coelho, A. F. M. (2019). The antecedents of corporate reputation and image and their impacts on employee commitment and performance: the moderating role of CSR. *Corp. Reputation Rev.* 22, 10–25. doi: 10.1057/s41299-018-0053-8

Argyris, C. (1974). Theory in practice: increasing profession. *Soc. Serv. Rev.* 49, 292–293. doi: 10.1086/643248

Bahman, S. P., Kamran, N., and Mostafa, E. (2014). Corporate social responsibility: a literature review. *Afr. J. Bus. Manag.* 8, 228–234. doi: 10.5897/AJBM12.106

Banerjee, S., Lim, K. H. J., Murali, K., Kamposioras, K., Punie, K., Oing, C., et al. (2021). The impact of COVID-19 on oncology professionals: results of the ESMO resilience task force survey collaboration. *ESMO Open* 6:100058. doi: 10.1016/j.esmoop.2021.100058

Berman, S. L., Wicks, A. C., Kotha, S., and Jones, T. M. (1999). Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance. *Acad. Manag. J.* 42, 488–506. doi: 10.5465/256972

Boutmaghzoute, H., and Moustaghfir, K. (2021). Exploring the relationship between corporate social responsibility actions and employee retention: a human resource management perspective. *Hum. Sys. Manag.* 40, 789–801. doi: 10.3233/HSM-211202

Branco, M. C., and Rodrigues, L. L. (2006). Corporate social responsibility and resource-based perspectives. *J. Bus. Ethics* 69, 111–132. doi: 10.1007/s10551-006-9071-z

Byrne, B. M. (1994). *Structural Equation Modeling with EQS and EQS/Windows.* Thousand Oaks, CA: SAGE Publications.

Chang, H. E., and Cho, S. H. (2021). The influence of social support on the relationship between emotional demands and health of hospital nurses: a cross-sectional study. *Healthcare* 9:115. doi: 10.3390/healthcare9020115

Chen, F., Curran, P. J., Bollen, K. A., Kirby, J., and Paxton, P. (2008). An empirical evaluation of the use of fixed cutoff points in RMSEA test statistic in structural equation models. *Socio. Meth. Res.* 36, 462–494. doi: 10.1177/0049124108314720

Clarkson, M.B. (1994). *A Risk Based Model of Stakeholder Theory.* Toronto: The Centre for Corporate Social Performance and Ethics

Clarkson, M. B. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *Acad. Manag. Rev.* 20, 92–117. doi: 10.2307/258888

Collier, J., and Esteban, R. (2007). Corporate social responsibility and organizational commitment. *Bus. Ethics: A Eur. Rev.* 16, 19–33. doi: 10.1111/j.1467-8608.2006.00466.x

Cropanzano, R., and Mitchell, M. S. (2005). Social exchange theory: an interdisciplinary review. *J. Manag.* 31, 874–900. doi: 10.1177/0149206305279602

Dmytriyev, S. D., Freeman, R. E., and Hrisch, J. (2021). The relationship between stakeholder theory and corporate social responsibility: differences, similarities, and implications for social issues in management. *J. Manag. Stud.* 58, 1441–1470. doi: 10.1111/joms.12684

Dolan, E. D., Mohr, D., Lempa, M., Joos, S., Fihn, S. D., Nelson, K. M., et al. (2015). Using a single item to measure burnout in primary care staff: a psychometric evaluation. *J. Gen. Intern. Med.* 30, 582–587. doi: 10.1007/s11606-014-3112-6

Dragone, M., Esposito, C., De Angelis, G., Affuso, G., and Bacchini, D. (2019). Pathways linking exposure to community violence, self-serving cognitive distortions and school bullying perpetration: a three-wave study. *Int. J. Environ. Res. Public Health* 17:188. doi: 10.3390/ijerph17010188

Dutton, J. E., Dukerich, J. M., and Harquail, C. V. (1994). Organizational images and member identification. *Adm. Sci. Q.* 39, 239–263. doi: 10.2307/2393235

Ellis, A. D. (2009). The impact of corporate social responsibility on employee attitudes and behaviors. *Acad. Manag. Ann. Meeting Proc.* 2009, 1–6. doi: 10.5465/AMBPP.2009.44251836

Fan, X., Wang, L., and Thompson, B. (1999). Effects of sample size, estimation methods, and model specification on structural equation modeling fit indexes. *Struc. Eq. Mod.* 6, 56–83. doi: 10.1080/10705519909540119

Farh, J. L., Earley, P. C., and Lin, S. C. (1997). Impetus for action: a cultural analysis of justice and organizational citizenship behavior in Chinese society. *Adm. Sci. Q.* 42, 421–444. doi: 10.2307/2393733

Farooq, O., Rupp, D. E., and Farooq, M. (2016). The multiple pathways through which internal and external corporate social responsibility influence organizational identification and multifoci outcomes: the moderating role of cultural and social orientations. *Acad. Manag. J.* 60, 954–985. doi: 10.5465/amj.2014.0849

Fassin, Y., and Buelens, M. (2011). The hypocrisy-sincerity continuum in corporate communication and decision making: a model of corporate social responsibility and business ethics practices. *Manag. Decis.* 49, 586–600. doi: 10.1108/00251741111126503

Forsyth, D. R. (1992). Judging the morality of business practices: the influence of personal moral philosophies. *J. Bus. Ethics* 11, 461–470. doi: 10.1007/BF00870557

Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Boston: Pitman Publishing.

Freeman, R. E., and Dmytriyev, S. (2017). Corporate social responsibility and stakeholder theory: learning from each other. *Symphonya. Emerg. Iss. Manag.* 2, 7–15. doi: 10.4468/2017.1.02freeman.dmytriyev

Freudenberger, H. J. (1975). The staff burn-out syndrome in alternative institutions. *Psychol. Psychother.* 12, 73–82. doi: 10.1037/h0086411

Frost, F. A. (1995). The use of stakeholder analysis to understand ethical and moral issues in the primary resource sector. *J. Bus. Ethics* 14, 653–661. doi: 10.1007/BF00871346

Gkorezis, P., and Bellou, V. (2016). The relationship between workplace ostracism and information exchange: the mediating role of self-serving behavior. *Manag. Decis.* 54, 700–713. doi: 10.1108/MD-09-2015-0421

Glavas, A. (2016). Corporate social responsibility and employee engagement: enabling employees to employ more of their whole selves at work. *Front. Psychol.* 7:796. doi: 10.3389/fpsyg.2016.00796

Griffin, J. J., and Mahon, J. F. (1997). The corporate social performance and corporate financial performance debate: twenty-five years of incomparable research. *Soc. Sci. Electro. Pub.* 36, 5–31. doi: 10.1177/000765039703600102

Hooper, D., Coughlan, J., and Mullen, M. R. (2008). Structural equation modelling: guidelines for determining model fit. *Electron. J. Bus. Res. Methods* 6, 53–60. doi: 10.21427/D7CF7R

Hoyle, R. H. (2012). "Confirmatory factor analysis," in *Encyclopedia of Social Science Research Methods*. eds. M. Lewis-Beck, A. Bryman and T. Liao (Thousand Oaks, CA: SAGE Publications), 169–175.

Iverson, R. D., Olekalns, M., and Erwin, P. J. (1998). Affectivity, organizational stressors, and absenteeism: a causal model of burnout and its consequences. *J. Vocational Behav.* 52, 1–23. doi: 10.1006/jvbe.1996.1556

Jia, Y., Yan, J., Liu, T., and Huang, J. (2019). How does internal and external CSR affect employees' work engagement? Exploring multiple mediation mechanisms and boundary conditions. *Int. J. Environ. Res. Public Health* 16(14), 2476. doi: 10.3390/ijerph16142476

Jiang, W. (2016). Limited public resources allocation model based on social fairness using an extended VIKOR method. *Kybernetes* 45, 998–1012. doi: 10.1108/K-05-2014-0108

Kabiri, S., Shadmanfaat, S., Smith, H., and Cochran, J. (2020). A social learning model of antisocial coaching behavior. *Int. J. Offender Therapy Comp. Criminol.* 64, 860–879. doi: 10.1177/0306624X19899608

Karaibrahimoglu, Y. Z. (2010). Corporate social responsibility in times of financial crisis. *Afr. J. Bus. Manag.* 4, 382–389.

Kim, H., Rhou, Y., Topcuoglu, E., and Kim, Y. G. (2020). Why hotel employees care about corporate social responsibility (CSR): using need satisfaction theory. *Int. J. Hosp. Manag.* 87:102505. doi: 10.1016/j.ijhm.2020.102505

Kung, Y. T., Chi, S. C., Chen, Y. C., and Chang, C. M. (2021). Using residual dynamic structural equation modeling to explore the relationships among employees' self-reported health, daily positive mood, and daily emotional exhaustion. *Healthcare* 9:93. doi: 10.3390/healthcare9010093

Lemke, M., and Vries, R. (2021). Operationalizing behavior change theory as part of persuasive technology: a scoping review on social comparison. *Front. Comp. Sci.* 3:656873. doi: 10.3389/fcomp.2021.656873

Littlejohn, S. W., and Foss, K. A. (2009). "Organizational identity theory," in *Encyclopedia of Communication Theory*. eds. S. W. Littlejohn and K. A. Foss (Thousand Oaks, CA: SAGE Publications Incorporated), 717–718.

MacKenzie, S. B., Podsakoff, P. M., and Fetter, R. (1991). Organizational citizenship behavior and objective productivity as determinants of managerial evaluations of salespersons' performance. *Organ. Behav. Hum. Decis. Process.* 50, 123–150. doi: 10.1016/0749-5978(91)90037-T

Maslach, C., Schaufeli, W. B., and Leiter, M. P. (2001). Job burnout. *Annu. Rev. Psychol.* 52, 397–422. doi: 10.1146/annurev.psych.52.1.397

Miao, Q., and Zhou, J. (2020). Corporate hypocrisy and counterproductive work behavior: a moderated mediation model of organizational identification and perceived importance of CSR. *Sustainability* 12, 1847. doi: 10.3390/su12051847

Miles, S. (2017). "Stakeholder theory classification, definitions and essential contestability," in *Stakeholder Management (Business and Society 360, Vol. 1)*. ed. D. M. Wasieleski (Bingley, UK: Emerald Publishing Limited), 21–47.

Miller, M. K., and Flores, D. (2007). "Social comparison theory," in *The Blackwell Encyclopedia of Sociology*. ed. G. Ritzer (Chichester: John Wiley & Sons).

Miller, M. K., Reichert, J., and Flores, D. (2015). "Social comparison," in *The Blackwell Encyclopedia of Sociology*. ed. G. Ritzer (Chichester: John Wiley & Sons).

Mory, L., Wirtz, B. W., and Göttel, V. (2016). Factors of internal corporate social responsibility and the effect on organizational commitment. *Int. J. Hum. Resour. Manag.* 27, 1393–1425. doi: 10.1080/09585192.2015.1072103

Mulaik, S. A., James, L. R., Van Alstine, J., Bennett, N., Lind, S., and Stilwell, C. D. (1989). Evaluation of goodness-of-fit indices for structural equation models. *Psychol. Bull.* 105, 430–445. doi: 10.1037/0033-2909.105.3.430

O'Riordan, L., and Fairbrass, J. (2008). Corporate social responsibility (CSR): models and theories in stakeholder dialogue. *J. Bus. Ethics* 83, 745–758. doi: 10.1007/s10551-008-9662-y

Prudon, P. (2015). Confirmatory factor analysis as a tool in research using questionnaires: a critique. *Comp. Psychol.* 4:03.CP.4.10. doi: 10.2466/03.CP.4.10

Qi, L., Liu, B., and Mao, K. (2020). Spare the rod and spoil the child? A study on employee workplace deviant behavior. *Nankai Bus. Rev. Int.* 11, 1–22. doi: 10.1108/NBRI-03-2018-0019

Richter, U. H., Shirodkar, V., and Shete, N. (2020). Firm-level indicators of instrumental and political CSR processes – a multiple case study. *Eur. Manag. J.* 39, 279–290. doi: 10.1016/j.emj.2020.07.004

Roberts, P., and Priest, H. (2006). Reliability and validity in research. *Nurs. Stand.* 20, 41–45. doi: 10.7748/ns.20.36.41.s58

Runkel, P. J., Argyris, C., and Schon, D. A. (1976). Theory in practice: increasing professional effectiveness. *J. High. Educ.* 47, 113. doi: 10.2307/1978718

Saleem, M., Qadeer, F., Mahmood, F., Han, H., Giorgi, G., and Ariza-Montes, A. (2021). Inculcation of green behavior in employees: a multilevel moderated mediation approach. *Int. J. Environ. Res. Public Health* 18:331. doi: 10.3390/ijerph18010331

Scheidler, S., Edinger-Schons, L. M., Spanjol, J., and Wieseke, J. (2019). Scrooge posing as Mother Teresa: how hypocritical social responsibility strategies hurt employees and firms. *J. Bus. Ethics* 157, 339–358. doi: 10.1007/s10551-018-3788-3

Schermelleh-Engel, K., Moosbrugger, H., and Müller, H. (2003). Evaluating the fit of structural equation models: tests of significance and descriptive goodness-of-fit measures. *Met. Psychol. Res.* 8, 23–74.

Schumacker, R. E., and Lomax, R. G. (1996). *A Beginner's Guide to Structural Equation Modeling. 4th Edn*. New York: Psychology Press.

Shao, B., Cardona, P., Ng, I., and Trau, R. (2017). Are prosocially motivated employees more committed to their organization? The roles of supervisors' prosocial motivation and perceived corporate social responsibility. *Asia Pac. J. Manag.* 34, 951–974. doi: 10.1007/s10490-017-9512-5

Sheldon, O. (2003). *The Philosophy of Management*. London: Routledge.

Sidgwick, H. (2011). *The Methods of Ethics*. Cambridge: Cambridge University Press. 7.

Slack, R. E., Corlett, S., and Morris, R. (2015). Exploring employee engagement with (corporate) social responsibility: a social exchange perspective on organisational participation. *J. Bus. Ethics* 127, 537–548. doi: 10.1007/s10551-014-2057-3

Sürücü, L., and Maslakci, A. (2020). Validity and reliability in quantitative research. *Bus. Manag. Stu. Int. J.* 8, 2694–2726. doi: 10.15295/bmij.v8i3.1540

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Res. Sci. Educ.* 48, 1273–1296. doi: 10.1007/s11165-016-9602-2

Tavakol, M., and Dennick, R. (2011). Making sense of Cronbach's alpha. *Int. J. Med. Educ.* 2, 53–55. doi: 10.5116/ijme.4dfb.8dfd

Tekleab, A. G., Reagan, P. M., Do, B., Levi, A., and Lichtman, C. (2020). Translating corporate social responsibility into action: a social learning perspective. *J. Bus. Ethics* 171, 741–756. doi: 10.1007/s10551-020-04447-y

Thau, S., Crossley, C., Bennett, R. J., and Sczesny, S. (2007). The relationship between trust, attachment, and antisocial work behaviors. *Hum. Relat.* 60, 1155–1179. doi: 10.1177/0018726707081658

Thompson, M. J., Carlson, D. S., Kacmar, K. M., and Vogel, R. M. (2019). The cost of being ignored: emotional exhaustion in the work and family domains. *J. Appl. Psychol.* 105, 186–195. doi: 10.1037/apl0000433

Thyer, B. A., and Myers, L. L. (1998). Social learning theory. *J. Hum. Behav. Soc. Environ.* 1, 33–52. doi: 10.1300/J137v01n01_03

Tiwari, M., Tiwari, T., Mishra, L., Sundararaj, V., and Rajesh, M. R. (2021). Corporate social responsibility and supply chain: a study for evaluating corporate hypocrisy with special focus on stakeholders. *Int. J. Finan. Econ.* 1–13. doi: 10.1002/ijfe.2483 [Epub ahead of print].

Tokoro, N. (2007). Stakeholders and corporate social responsibility (CSR): a new perspective on the structure of relationships. *Asian Bus. Manag.* 6, 143–162. doi: 10.1057/palgrave.abm.9200218

Villalba-Ríos, P., Barroso-Castro, C., and Vecino-Gravel, J. D. (2022). The influence of CEO profile on corporate social responsibility companies. A qualitative comparative analysis. *Corp. Soc. Respon. Environ. Manag.* 29, 356–366. doi: 10.1002/csr.2205

Wagner, T., Lutz, R. J., and Weitz, B. A. (2009). Corporate hypocrisy: overcoming the threat of inconsistent corporate social responsibility perceptions. *J. Mark.* 73, 77–91. doi: 10.1509/jmkg.73.6.77

Wu, T. J., Gao, J. Y., Wang, L. Y., and Yuan, K. S. (2020a). Exploring links between polychronicity and job performance from the person–environment fit perspective—The mediating role of well-being. *Int. J. Environ. Res. Public Health* 17:3711. doi: 10.3390/ijerph17103711

Wu, T. J., Wang, L. Y., Gao, J. Y., and Wei, A. P. (2020b). Social support and well-being of Chinese special education teachers – an emotional labor perspective. *Int. J. Environ. Res. Public Health* 17:6884. doi: 10.3390/ijerph17186884

Wu, Y. J., and Wu, T. (2019). Innovative work behaviors, employee engagement, and surface acting: a delineation of supervisor-employee emotional contagion effects. *Manag. Decis.* 57, 3200–3216. doi: 10.1108/MD-02-2018-0196

Yang, J., and Diefendorff, J. M. (2010). The relations of daily counterproductive workplace behavior with emotions, situational antecedents, and personality moderators: a diary study in Hong Kong. *Pers. Psychol.* 62, 259–295. doi: 10.1111/j.1744-6570.2009.01138.x

Žukauskas, P., Vveinhardt, J., and Andriukaitienė, R. (2018). *Corporate Social Responsibility as the Organization's Commitment against Stakeholders*. London: IntechOpen.

Check for updates

How Does Self-Sacrificial Leadership Foster Knowledge Sharing Behavior in Employees? Moral Ownership, Felt Obligation and Supervisor-Subordinate *Guanxi*

Xiaofeng Su[1], Xiaoli Jiang[2], Guihua Xie[1], Meijiao Huang[1]* and Anxin Xu[3]*

[1] College of Business Administration, Fujian Business University, Fuzhou, China, [2] College of Marxism, Minjiang University, Fuzhou, China, [3] College of Economics and Management, Fujian Agriculture and Forestry University, Fuzhou, China

Recent trends in the academic literature indicate growing interest in leadership for fostering employees' knowledge sharing. In this research, we integrate social cognitive theory and social exchange theory to explain how and when self-sacrificial leaders promote employee knowledge sharing. It is found that self-sacrificial leaders influences employees' knowledge sharing by nurturing employee moral ownership and a sense of obligation to the organization. We also found the moderating effect of supervisor-subordinate *guanxi* on the self-sacrificial leadership—employees' knowledge sharing link. We discuss the implications of these findings for understanding and promoting self-sacrificial leaders and employees' knowledge sharing behaviors in the workplace.

Keywords: self-sacrificial leadership, knowledge sharing, moral ownership, felt obligation, supervisor-subordinate *guanxi*

INTRODUCTION

In today's economy, knowledge has been considered as unique strategic source for organizational innovation, value transmission and the achievement of sustainable competitive advantages (Grant, 1996; Cabrera and Cabrera, 2005). In organizations, most managers would encourage employees to sharing knowledge. However, things usually go contrary to one's wishes. Many employees withhold their knowledge or play "dumb." Such phenomenon is called "knowledge hiding." Knowledge management consists of five processes, i.e., knowledge acquisition, knowledge coding and storage, knowledge sharing, knowledge creation and knowledge application (Hendriks, 1999; Sedighi et al., 2016). Emerging research has found that knowledge sharing is one of the biggest challenges. The knowledge required for organizational innovation and performance is mastered by individual employees, while the organization does not own employees' "knowledge/intellectual assets." Therefore, it has become a great challenge for leaders or managers to force employees to share knowledge with other members in the organization.

Many scholars have examined relevant factors that promote or hinder knowledge sharing from organizational level and individual level (Li et al., 2014; Xu et al., 2020). Yet, our understanding of how leaders foster employees' knowledge sharing remains quite limited. Leadership is a core feature of organizations—it is very difficult to think about organizations without thinking about who leads or manages them, and about how well they are led and managed (Hogg and van Knippenberg, 2003). Arguably, effective leadership is good at inspiring employees to adopt values, attitudes, and

goals, and to behave in ways that serve the organization as a collective, and that define membership of the organization (Burns, 1978; Bass, 1985). Thus, emerging studies have begun to discuss how different leadership styles influence employees' knowledge sharing (Wu, 2021). However, what kind of leadership is effective to stimulate employees' knowledge sharing is a question worth exploring.

Among the various types of leadership styles, self-sacrificial leadership shares similar connotations with employees' knowledge sharing, both of which places organizational interests before personal interests. According to social learning theory, "people are most likely to follow their role models if the role models' behavior produces valued outcomes, rather than unrewarding or punishing effects" (Bandura, 1977). This suggests that the impact of self-sacrificing leaders' impact on employees' knowledge sharing involves more than simple behavioral emulation. Despite these indications, we have limited insights into through what kind of psychological processes, self-sacrificial leaders, in their capacities as role models, shape employees' knowledge sharing, and under what conditions these relationships hold. Previous study have found that leaders who sacrifice themselves for organizations' benefits may inspire employees' ethical cognition (e.g., moral ownership) and felt obligation (e.g., responsibility, duty) (Den Hartog, 2015). Hence, this paper aims to examine the relationship between sacrificial leadership and the critical dual mediating roles of moral ownership and felt obligation. What's more, in the Chinese environment, another factor contributing to the effectiveness of managing staffs cannot be ignored. That is building and maintaining good *guanxi* (i.e., interpersonal connection) between managers and employees (Law et al., 2000). Therefore, we also incorporated the variable of supervisor-subordinate *guanxi* as the situational feature into the research framework, and examined the moderating effect of this variable on the relationship between self-sacrificial leadership and knowledge sharing, so as to clarify the boundary conditions of the theoretical model and enhance the research's effectiveness.

HYPOTHESIS DEVELOPMENT

Moral Essence of Self-Sacrificial Leadership

Self-sacrifice refers to an individual's willingness to suffer losses in order to uphold his beliefs and values (Yorges et al., 1999). The self-sacrificial leader at an organization shows that in the process of realizing the goals and missions of the organization, leaders are not afraid of the loss of personal interests and actively contribute to the interests of the organization. It is regarded as a typical characteristic of excellent leaders (De Cremer and van Knippenberg, 2004). Choi and Mai-Dalton (1998, 1999) were the first to systematically carry out the research on the self-sacrificing behavior of leaders, and proposed the concept of self-sacrificial leadership, which was defined as "leaders' total/partial abandonment, and/or permanent/temporary postponement of personal interests, privileges, or welfare" in the (1) division of

labor, (2) distribution of rewards, and (3) exercise of power (Choi and Mai-Dalton, 1999).

Specifically, in terms of division of labor, self-sacrificial leaders reject personal comfort and safety, and they proactively take on high-risk or arduous work tasks, and take responsibility for misfortunes, failures, accidents, or mistakes in the organization or team. In terms of distribution of rewards, in order to maintain or promote collective interests, leaders do not hesitate to give up or delay the acquisition of individual legitimate interests, such as welfare, salary or bonus. In terms of the exercise of power, self-sacrificial leaders do not use power for personal gains, and they are willing to give up or limit the privileges and enjoyment of individual positions.

Through three studies (one questionnaire and two laboratory experiments), Mulder and Nelissen (2010) found that self-sacrificial leaders demonstrate their ethics and cooperation motives and significantly enhance individual's response to social dilemmas, that is, they will prompt employees to strive beyond personal goals and contribute to collective goals and interests. In this sense, self-sacrificial leadership can be regarded as a series of moral behaviors. Emerging researches have shown that leaders play a key role in shaping employees' work behaviors, decision making, and work situations (Shao et al., 2011; Li et al., 2014). That is, employees may enact prosocial behaviors or workplace deviance because they observe and subsequently emulate the behaviors of role models in leadership positions.

Moral Essence of Knowledge Sharing

Knowledge sharing can be considered an important moral issue. Bavik et al. (2017) also point out that it is necessary and important to employ a moral lens, in order to explore how to foster knowledge sharing. In workplaces, to participate in knowledge sharing, especially tacit knowledge sharing is to consciously follow a course of action with the knowledge that doing so might incur risk or threat to the self. Employees that engage in knowledge sharing behavior may experience the loss of competitive advantages, professional authority and personal interests (Li et al., 2014; Su et al., 2018, 2021). Generally speaking, as a non-institutional arrangement, employees who participate in knowledge sharing can't receive explicit rewards. Therefore, although this kind of behavior can stimulate new ideas or methods, there will be various costs to actually implement it. These possibilities make it potentially challenging for leaders to foster in employees.

According to previous literature, knowledge sharing is a series of behaviors in which employees selectively transfer or contribute their acquired knowledge or professional skills to other members within an organization (Ipe, 2003; Saeed et al., 2022). But, researchers have also found that individuals usually face the "social dilemma" of whether to share or hide knowledge, and in most cases, individuals instinctively tend to hide and store knowledge rather than share their own knowledge (Liu and de Frank, 2013; Lu and Tu, 2018). On the one hand, knowledge sharing requires a lot of time and energy from the sharer. And tacit knowledge is the source of individual's competitive advantage in an organization. Hence, sharing knowledge may lead to the loss of individual competitive

advantages or personal authority (Su et al., 2018). At the same time, due to the low visibility and quantification of knowledge sharing, those who actively share knowledge are difficult to obtain equivalent rewards from the organization. From a rational point of view, the cost of knowledge sharing is much higher than the benefit, which goes against individuals' rationality. On the other hand, parts of knowledge, especially tacit knowledge, cannot be observed and recorded (Lu and Tu, 2018), and there is no formal penalty for employees who do not share knowledge. If employees tend to hide their knowledge instead of sharing, it may lead to negative impact on both employees' and organization' innovation, productivity and performances (Abdullah et al., 2019; Anser et al., 2021). So, knowledge sharing can also basically be considered as a moral challenge.

Self-Sacrificial Leadership, Moral Ownership, and Knowledge Sharing

According to social learning theory (Bandura, 1977), leaders set an example for their subordinates based on their authority and role norms. Front-line supervisors, in particular, are prime models because of their proximity to and frequency of interactions with employees (MacKenzie et al., 1999). They draw the attention of their subordinates when they set work objectives, emphasize behavioral standards, monitor progress, and provide feedback (Ogunfowora et al., 2021). Thus, daily interaction provides ample opportunities for subordinates to observe and imitate the leader's behavior (positive or negative). This may be more pronounced in the context of collectivist culture. Because in collectivist culture, individuals are more sensitive to interpersonal information, and their psychology and behavior are more susceptible to the influence of other people in the group, especially those important ones (e.g., direct leaders in the organization) (Tian and Li, 2015). In workplaces, how leaders deal with the situations they face and how they treat their subordinates usually defines their attributes of leadership (Zada et al., 2022a).

In the research fields of leadership, many leadership styles are similar with self-sacrificial leadership, such as transformational leadership, charismatic leadership, ethical leadership, and servant leadership. All of these leadership styles involve more or less sacrificing connotation. However, these leadership theories are relatively broad, vague or general in their specific descriptions of self-sacrificing behavior, while self-sacrificial leadership shows more specific, detailed, systematic and in-depth acts of leaders' self-sacrifice (Zhou and Long, 2017). Self-sacrificial leaders would emphasize that the mission and goals of the organization are the most important. Moreover, they focus on collective wellbeing, and may even give up their personal interests in order to achieve collective interests (Choi and Mai-Dalton, 1999; Zada et al., 2022b). Self-sacrificial leaders may become role models of employees, and exercise referential power over them, thereby motivating them to exhibit similar behaviors that advance the collective good (Li et al., 2014). We argue that knowledge sharing falls into this category of behavior. When leaders adopt a self-sacrificial leadership style, employees are more likely to exhibit knowledge sharing behaviors that promote the improvement

and enhancement of collective wellbeing. Thus, we posit the following hypothesis.

Hypothesis 1. Self-sacrificial leadership is positively related to employees' knowledge sharing.

Moral motivation is an important cognitive process that precedes moral action. Hannah and Avolio (2010) posit that the motivation to engage in ethical behavior begins when an individual takes responsibility for an ethical action in a given situation. That is, it is necessary to form a sense of moral ownership to initiate and motivate moral action. When leaders act as ethical role models, they actually show their subordinates how to successfully take ownership of the ethics of one's work context (Ogunfowora et al., 2021). Previous research has shown that leaders are substantially connected with knowledge sharing behaviors and have pivotal responsibilities in the success of the business by psychologically influencing workers to spread information (Wu and Lee, 2017; Saeed et al., 2022). When individuals emulate self-sacrificial leaders' behaviors, they will acquire and then internalize their moral values, standards and belief system, and thus forming a sense of psychological moral ownership. Thus, we posit the following hypothesis.

Hypothesis 2. Self-sacrificial leadership is positively related to employees moral ownership.

Once psychological ownership of moral values and standards becomes more strongly integrated into the sense of self, individuals will possess a strong desire to protect and maintain it (Pierce et al., 2003). Individuals with a strong sense of moral ownership will be less likely to "turn a blind eye" when tacit knowledge sharing is necessary for the development of an organization (Hannah et al., 2011). We propose that act of knowledge sharing is a behavioral response motivated by a desire to maintain internal consistency and sense of self by protecting the moral standards that one "owns." Hence, feelings of ownership are associated with a willingness to give up personal interests and sacrifice in the service of caring for and protecting the collective benefits of the organization. Thus, we posit the following hypothesis.

Hypothesis 3. Moral ownership mediates the relationship between self-sacrificial leadership and knowledge sharing.

Self-Sacrificial Leadership, Felt Obligation, and Knowledge Sharing

Felt obligation is defined as an individual's belief about whether he/she cares about the organization's wellbeing and helps to achieve the goals of organization (Eisenberger et al., 2001), which reflects and embodies the culturally universal norm of reciprocity principles in social interaction. As social agents, individuals are constantly under the influence of social norms that indicate the established or approved ways of thinking and behaving. According to Liang et al. (2012), individuals internalize the norm of reciprocity mainly through social learning, which constitutes a strong motivational drive (Liang et al., 2012). Researchers posit that self-sacrificial leaders have a strong sense of obligation to fulfill the responsibilities to their subordinates and the organization and to ensure that subordinates' welfare and goals of the organization are ultimately achieved. Leaders'

self-sacrificing behaviors and the associated personal losses and risks, also indicate a leader's high commitment to group or organizational goals and missions (Van Knippenberg and Hogg, 2003). According to the social learning theory, the self-sacrificing behavior of the leader will strengthen the employee's perception and awareness of the organization's responsibility through role modeling. Thus, we posit the following hypothesis.

Hypothesis 4. Self-sacrificial leadership is positively related to felt obligation.

In turn, employees will consider self-sacrificial leaders' benefit as a form of psychosocial support and generate positive emotions and attitudes for the role modes. So, they will feel an obligation to reciprocate by doing things that benefit the leader and the organization (Baranik et al., 2010). Literature on the formation of duty in organizations (McAllister and Ferris, 2016) holds that individuals act intentionally to benefit the collective (e.g., organization and work group) out of a sense of obligation that originates in basic principles of social exchange and mutual interdependence. Driven by a strong sense of responsibility to the organization, employees will be more proactive to explicit behaviors that are beneficial to the organization (Eisenberger et al., 2001). Applied to the current context, we posit that self-sacrificial leadership encourages employees to engage in knowledge sharing by fostering a nuanced sense of obligation to help the organization achieve its goals despite potential loss of advantages to the self. Extensive research highlights the direct contribution of knowledge sharing to the goals and successes of the organization, which is a manner consistent with the moral principles upheld and modeled by the self-sacrificial leader. Combined with the viewpoint of social exchange theory, this study proposes that when faced with the above-mentioned behaviors of self-sacrificial leaders, employees will not only have positive evaluations and perceptions of leaders, but also attribute them to the organization the leader represents, and reduce their fear of being "exploited" by the organization, and generate a sense of obligation to reward and actively contribute to the organization by sharing tacit knowledge with their colleagues. Thus, we posit the following hypothesis.

Hypothesis 5. Felt obligation mediates the relationship between self-sacrificial leadership and employees' knowledge sharing.

The Moderating Role of Supervisor-Subordinate *Guanxi*

In workplaces, supervisor-subordinate *guanxi* is defined as an informal personal relationship between superiors and subordinates through non-working interactions for instrumental purposes in fulfilling the collective objectives and interests (Law et al., 2000; He et al., 2020; Yang and Yang, 2020). Many authors have argued that *guanxi* is of particular relevance in managing Chinese staff. Compared with other countries, the overlap between work and social relations is much more pervasive in China. It is extremely hard for Chinese employees to imagine working in an organization in the absence of broad or far-reaching personal interactions with co-workers (Law et al., 2000). Superior-subordinate *guanxi* in the Chinese context is usually

built through non-work factors. It is an integration of contract and identity relationships, and has clear hierarchical differences.

Social exchange theory holds that the interaction between leaders and employees can be regarded as a social exchange relationship (Blau, 1964). Specifically, the code of conduct and advice of well-connected leaders can more easily influence the behavior of employees. Frequent personal interactions with supervisors provide ample opportunity for employees to gain insight into leaders' sacrificing behaviors for the long-term interests of the organization and also helps employees understand how the organization works. Based on the principle of reciprocity, employees will show behaviors that are beneficial to the development of the team and organization to repay the trust and support of leaders (Gao and Liu, 2021). Hence, employees will be more likely to share knowledge in order to contribute to the goals of the organization. On the contrary, employees with weaker *guanxi* between superiors and subordinates have no way to deeply understand the leader's code of self-sacrificial conduct, and it is also difficult to obtain the leader's personal guidance, and may be reluctant to share tacit knowledge. Thus, we posit the following hypothesis.

Hypothesis 6. Supervisor-subordinate *guanxi* moderates the direct effects of self-sacrificial leadership on employees' knowledge sharing. Specifically, the direct effects are positive and stronger when supervisor-subordinate *guanxi* is better and weaker when supervisor-subordinate *guanxi* is worse.

Based on the above analysis, the theoretical model in this paper is shown in **Figure 1**.

METHODS

Procedure and Participants

This study collects data through questionnaire survey. All of the respondents are postgraduate students of MBA (Master of Business Administration) courses from three universities in Fujian, China. Those who are full-time employees and currently have a direct supervisor are invited to participate in the survey and those who have no direct supervisor were not excluded. To avoid the effect of common method bias, this study collected relevant data from two sources. We collected data at two different points in time to strengthen the ability to make a causal inference and to reduce the influence of common method bias. Specifically, all the participants were given a file bag with two envelopes inside, which were marked differently, saying "YOU" and "YOUR SUPERVISOR." The questionnaires contained in the envelope marked "YOU" covering the variables of self-sacrificial leadership, moral ownership, felt obligation and demographic variables. The participants were required to complete the questionnaires during the class. And the questionnaires in the envelope marked "YOUR SUPERVISOR" were the items of employees' knowledge sharing. This envelope was brought back by the participant and given to their immediate supervisor to fill in the answers, and then taken back or emailed to us after completion.

With the help of university teachers, a total of 600 pairs of questionnaires were distributed. Five hundred and seventy-three MBA students completed the "YOU" survey and 526
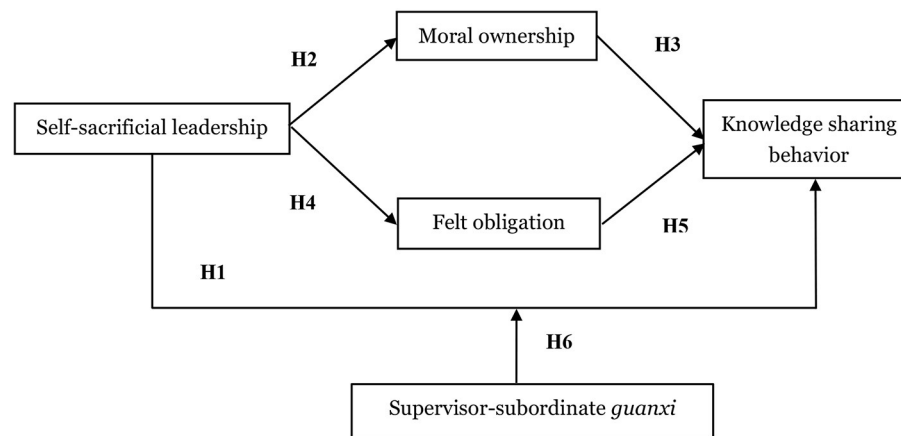
FIGURE 1 | Conceptual model.

were valid (87.67% valid response rate). And we received 513 questionnaires from "YOUR SUPERVISOR" survey, of which 505 were valid, with an effective recovery rate of 84.17%. By matching the employee questionnaire and the supervisor questionnaire according to the pre-marked coding, 481 sets of valid questionnaires were finally obtained, with a total valid response rate of 80.17%.

The sample is composed of relatively young respondents, 93.76% of whom are under the age of 45. More than half (52.18%) of the respondents in the sample were female. About 68.81% of respondents have worked for their current companies for 5 years or more, while 31.19% of respondents have spent <5 years for their current companies. In terms of education level, all employees graduated from vocational colleges or universities.

Measurements

The measurement scales of the key variables in this study were all adopted from the English literature. In order to ensure the accuracy of semantic connotation and the intelligibility of language expression for all items of the scale, we organized an editing group. Two overseas students were invited to participate in the group to do "translation and back translation" of the questionnaire items. The two students are good at both Chinese and English and their research field is leadership and organizational behavior. Except for control variables, participants rated their agreement on a five-point response scale (1 = strongly disagree to 5 = strongly agree). The questionnaire items of each variable were shown in **Table 1**.

(1) Self-Sacrificial Leadership. We used De Cremer and van Knippenberg (2004) five-item scale. Sample items are "My supervisor is willing to make personal sacrifices in the teams interest." Reliability estimate (i.e., Cronbach's α) is 0.941.

(2) Moral ownership. We used Hannah and Avolio's (2010) three-item moral ownership scale. Sample items are "I will not accept anyone in my group behaving unethically" and "I will assume responsibility to take action when I see an unethical act." Cronbach's α is 0.922.

(3) Felt obligation. We adapted four items from Ogunfowora et al.'s (2021) scale. Example items included "I feel a personal obligation to do whatever I can to help my (supervisor) organization achieve its goals" and "I would feel an obligation to take time from my personal schedule to help my (supervisor) organization if it needed my help." Cronbach's α is 0.935.

(4) Knowledge sharing. Knowledge sharing behavior of the employees was reported by their direct supervisor using Connelly et al. (2012) five-item scale. Cronbach's α is 0.928.

(5) Supervisor-subordinate *guanxi*. Employees were asked to rate their likelihood of exhibiting the behaviors/activities proposed by four items developed by Law et al. (2000). Cronbach's α is 0.940.

Control variables. Referring to previous related studies (Li et al., 2014; Tian and Li, 2015), we selected common demographic variables in organizational behavior, i.e., gender, age and working tenure as control variables.

Statistical Methods and Analytical Ideas

All statistical analyses were performed using SPSS 21.0 and Amos 24.0 in this study. First, confirmatory factor analysis was used to test the discriminant validity of the relevant scales. Secondly, SPSS 21.0 was used for descriptive statistical analysis; Finally, hierarchical regression analysis was used to examine self-sacrificial leadership, the relationship between leadership trust and employee knowledge sharing, and the moderating role of employee tradition.

RESULTS AND BRIEF DISCUSSION

Discriminant Validity and Common Bias Test

To test the discriminant validity between variables, the goodness of fit of each competing factor model was compared by confirmatory factor analysis. The results in **Table 1** show that the fitting indicators of the five-factor model (GFI = 0.811;

TABLE 1 | Discriminant validity and common bias test.

Constructs	X^2	df	X^2/df	GFI	CFI	NFI	RMSEA
Hypothesized five-factor model (SAC; MOR; OBL; SHAR; GUAN)	729.611	189	3.860	0.811	0.955	0.940	0.077
Five-factor model (SAC + MOR; OB; SHAR; GUAN)	1256.153	193	6.509	0.784	0.911	0.897	0.107
Three-factor model (SAC + MOR + OBL; SHAR; GUAN)	1404.031	196	7.163	0.774	0.899	0.884	0.113
Six-factor model (SAC; MOR; OBL; SHAR; GUAN; CMV)	550.643	167	3.297	0.907	0.968	0.955	0.069

SAC, self-sacrificial leadership; MOR, moral ownership; OBL, felt obligation; SHAR, knowledge sharing; GUAN, supervisor-subordinate guanxi; CMV, common method variance.

TABLE 2 | Means, standard deviations, AVE and correlations among study variables.

Construct	Mean	S.D.	Cronbach's α	CR	AVE	SAC	MOR	OBL	SHAR	GUAN
SAC	4.413	0.517	0.941	0.944	0.773	**0.879**				
MOR	4.342	0.555	0.922	0.922	0.799	0.764**	**0.894**			
OBL	4.335	0.566	0.935	0.936	0.784	0.745**	0.768**	**0.885**		
SHAR	4.352	0.519	0.928	0.932	0.732	0.823**	0.869**	0.821**	**0.856**	
GUAN	4.335	0.547	0.940	0.941	0.801	0.742**	0.820**	0.782**	0.855**	**0.895**

*S.D., standardized deviation; CR, composition reliability; AVE, average variance extracted. SAC, self-sacrificial leadership; MOR, moral ownership; OBL, felt obligation; SHAR, knowledge sharing; GUAN, supervisor-subordinate guanxi. The bold face diagonal values are the square roots of AVE. The values in the lower triangle are the Pearson correlation coefficients between the latent variables; **p < 0.01.*

CFI = 0.955; TLI = 0.940; RMSEA = 0.077) all meet the empirical standard and are significantly better than other factor models, which indicates that the research variables have good discriminant validity.

Referring to the research proposal of Podsakoff et al. (2003), Tang and Wen (2020), we tested the common method bias by adding a common method variance (CMV) to the hypothetical model. The results in **Table 1** show that after adding CMV, the fitness effect of the model is not significantly improved compared with the five-factor model, which indicates that the common method bias would not seriously interfere with the research conclusions. Therefore, this five-factor model was used for the further assessment of the structural model in the next step.

Reliability and Validity Tests

Before testing the research hypotheses, we assessed the reliability and validity of the measurement model. Reliability reflects the level of internal consistency of each construct in the research model, which is generally characterized and measured by Cronbach's α coefficient, CR (composition reliability) and AVE (average variance extraction). The results in **Table 2** shows that both the Cronbach's α coefficients and CR of all the latent variables are >0.7, and the AVE value is >0.6 (Fornell and Larcker, 1981). All of the values have reached the threshold of reliability requirements, which indicates an acceptable result for the reliability and convergent efficiency test.

Table 2 also shows the correlation coefficients of all the variables. It can be seen that the square root of the AVE value for each construct is greater than its correlation coefficient with the remaining variables, indicating that discriminant validity of the overall scale is supported.

Descriptive Statistics and Correlation Analysis

The descriptive statistics and correlation analysis of variables are shown in **Table 2**. The results show that self-sacrificial leadership is significantly positively correlated with knowledge sharing ($\beta = 0.823$, $p < 0.01$), moral ownership ($\beta = 0.764$, $p < 0.010$), and felt obligation ($\beta = 0.745$, $p < 0.01$). Moral ownership ($\beta = 0.869$, $p < 0.01$) and felt obligation ($\beta = 0.821$, $p < 0.01$) are also significantly positively correlated with knowledge sharing. The results are basically consistent with the expectation of the aforementioned research hypothesis.

Hypothetical Test

This study uses the hierarchical regression analysis method to test the aforementioned hypothesis, and the results are shown in **Tables 3**, **4**. We follow the three steps proposed by Baron and Kenny (1986) to test to the impact of self-sacrificial leadership on employees' knowledge sharing (Hypothesis 1), moral ownership (Hypothesis 2) and felt obligation (Hypothesis 4) as well as the mediating roles of moral ownership and felt obligation (Hypothesis 3 and Hypothesis 5). First, the relationship between the independent variable (self-sacrificial leadership) and the outcome variable (knowledge sharing) was examined. Then, the effect of the independent variable (self-sacrificial leadership) on the mediating variables (moral ownership and felt obligation, respectively) were tested. Finally, by adding the mediating variable, we tested whether the impact of the independent variable (self-sacrificial leadership) on the outcome variable (knowledge sharing) changed significantly.

Direct Effect Test

The developed hypotheses (shown in **Figure 1**) were tested by running regression analysis in SPSS21.0. **Table 3** shows

TABLE 3 | Results of direct and mediating effect test.

Construct	Knowledge sharing		Moral ownership	Knowledge sharing	Felt obligation	Knowledge sharing
	M1	M2	M3	M4	M5	M6
Gender	−0.114*	−0.048	−0.011	−0.050*	−0.020	−0.047*
Age	0.088	0.021	0.046	0.030	0.014	0.050*
Work tenure	−0.163**	−0.091**	−0.006	−0.013	−0.019	−0.007
Salary	−0.090*	−0.017	−0.024	−0.009	0.060	−0.051*
Self-sacrificial Leadership		0.804***	0.762***	0.378***	0.728***	0.473***
Moral ownership				0.573***		
Felt obligation						0.469***
R^2	0.067	0.69	0.586	0.820	0.560	0.780
Adj. R^2	0.059	0.687	0.582	0.817	0.556	0.778

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

the results of direct effect and indirect effect. In this part, knowledge sharing is added as the dependent variable to test the control variables and self-sacrificial leadership's direct impact on knowledge sharing. First, we examined the impact of the three control variables, i.e., gender, age and working tenure on knowledge sharing. Model 1 shows that employees' gender ($\beta = -0.114$, $p < 0.05$), working tenure ($\beta = -0.163$, $p < 0.01$) and salary ($\beta = -0.090$, $p < 0.05$) have significant negatively impacts on knowledge sharing. Based on M1, we included self-sacrificial leadership as the independent variable in Model 2. It is found that, self-sacrificial leadership ($\beta = 0.804$, $p < 0.001$) has a positive impact on knowledge sharing. Hence, hypothesis 1 is supported.

Mediating Effect Test

We further tested the mediating effect of moral ownership and felt obligation according to the procedures introduced by Wen et al. (2004), which has been used widely by scholars. The results have also been shown in **Table 3**. As we have tested the direct effect of self-sacrificial leadership and employees' knowledge sharing, we further examined the relationship between self-sacrificial leadership and the two mediating variables. As shown in M3 and M5, the independent variable self-sacrificial leadership is significantly related to the moral ownership ($\beta = 0.762$, $p < 0.001$) and felt obligation ($\beta = 0.728$, $p < 0.001$). Thus, Hypothesis 2 and 4 are both supported.

Based on M3 and M4, we add the two mediating variables, i.e., moral ownership ($\beta = 0.573$, $p < 0.001$) and felt obligation ($\beta = 0.469$, $p < 0.001$), both of which are significantly correlated with knowledge sharing. And, it is also found that the correlations between self-sacrificial leadership and knowledge sharing in M4 and M6 are still significant although their coefficients decreased. It indicates that both moral ownership and felt obligation have significant positive mediating effects between self-sacrificial leadership and employees' knowledge sharing. Hence, hypothesis 3 and 5 are supported.

Moderating Effect Test

Regarding the moderating effect of supervisor-subordinate *guanxi* on the relationship between self-sacrificial leadership

TABLE 4 | Results of moderating effect test.

Construct	Knowledge sharing			
	M8	M9	M10	M11
Gender	−0.108	−0.057*	−0.024	−0.017
Age	0.131**	0.056*	0.036	0.041*
Work	−0.050	−0.016	0.010	0.007
Salary	0.100*	−0.023	0.011	0.007
Self-sacrificial Leadership		0.814***	0.415***	0.444***
Supervisor-subordinate *guanxi*			0.540***	0.495***
Leadership × Supervisor-subordinate *guanxi*				0.110***
R^2	0.053	0.684	0.813	0.824
Adj. R^2	0.045	0.680	0.810	0.821

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

and knowledge sharing, this study adopts the procedures suggested by Baron and Kenny (1986). Before we conducted moderate analysis, we *z*-scored the data of independent variable (self-sacrificial leadership) and the moderating variable (supervisor-subordinate *guanxi*). After that, we calculated the interactive variable (Leadership × Supervisor-subordinate *guanxi*). The results of moderating effect are shown in **Table 4**. M9 and M10 shows that both self-sacrificial leadership and supervisor-subordinate *guanxi* have significant impacts on knowledge sharing. And M11 shows that the interactive variable has a significantly positive impact on knowledge sharing, which indicated that supervisor-subordinate *guanxi* plays a significant effect between self-sacrificial leadership and employees' knowledge sharing. Hence, Hypothesis 6 is supported.

GENERAL DISCUSSION

The present research was motivated by our limited understanding of how leader self-sacrificial leadership influences

employee's knowledge sharing. We empirically tested two alternate explanations derived from social cognitive and social exchange theories. Across the empirical study, we show that self-sacrificial leaders influence employee knowledge sharing by fostering in employees intrinsic moral ownership and an extrinsic sense of obligation (to the supervisor and organization). We also consistently find that supervisor-subordinate *guanxi* strengthened the direct effect of self-sacrificial leadership on employees' knowledge sharing.

Theoretical Implications

These findings have a number of theoretical implications. First, our research highlights the complementary roles that social learning and social exchange processes play in understanding how self-sacrificial leaders promote employees' knowledge sharing. In essence, self-sacrificial leadership is an embodiment of a leader's high level of moral character (Choi and Mai-Dalton, 1998). And Chinese social culture has always attached great importance to the moral quality of leaders (Ling et al., 1987). The results show that self-sacrificial leadership still has important value and plays an positive role in today's Chinese companies. The observation that self-sacrificial leaders encourage employees to share knowledge instead of hiding aligns with Bandura's (1977) point that intrinsic motivation is critical to understanding how leaders' role model influence employees' behavior. In addition, employees do not simply emulate behaviors from their leaders. Rather, they also learn from to develop personal moral ownership for some prosocial actions. Once moral ownership is acquired, it is difficult for employees to turn a blind eye when their supervisor or organizations need them to share knowledge for collective goals.

Second, our study shows that self-sacrificial leaders also foster employees' knowledge sharing by inculcating a strong sense of obligation to help their supervisors or the organization achieve collective performance or interests. To date, most scholars have largely overlooked the possibility that leaders may promote employees' knowledge sharing through social exchange-based processes. Our study extends the theoretical lens through which scholars can understand this phenomenon. Our findings show that in addition to cultivating intrinsic moral ownership for knowledge sharing, employees also enact such behavior out of a sense of moral duty or obligation for collective benefits.

Third, we show that although self-sacrificial leadership influence employees' knowledge sharing, the strength of these relationships depends, in part, on supervisor-subordinate *guanxi*. When subordinates has good *guanxi* with their leaders, they tend to have a better understanding of their leaders' self-sacrificial behaviors. They will be more willing to share tacit knowledge to promote the development of their organization.

Practical Implications

Our findings have practical implications for organizations. First, organizations should care about the personal character of the leaders because employees tend to learn from their supervisors as their role models. Self-sacrificial leaders' role modeling fosters in employees the motivation and obligation to share knowledge

for organizational benefits rather than hide it just for personal interests. Given that supervisors are salient ambassadors of the organization, organizations must exercise sound judgment when identifying or selecting individuals who are likely to possess the characteristics necessary to be effective models (Ogunfowora et al., 2021). Therefore, organizations can establish effective procedures and systems to screen and promote managers with a self-sacrificial leadership style, and develop this style of the managers through leadership training activities.

Second, our research also suggest that leaders can use two distinct strategies for promoting employees' knowledge sharing, i.e., by nurturing an intrinsic moral ownership and/or by cultivating their sense of obligation to help the organization to achieve collective goals. Training and development exercises should be implemented to teach leaders how to boost the ownership and sense of duty in their employees. For managers, they should often review their own leadership behaviors or methods, and strive to take the lead beyond self-interest and do their best for the collective interests and wellbeing, so as to motivate employees to actively contribute their strength and wisdom to the operation and development of the organization, and ultimately create the organization's competitive advantage and success.

Third, in order to stimulate employees knowledge sharing, organizations should promote the establishment of good relations between leaders and subordinates by providing leaders with relevant training, and improve their awareness and ability to establish good relations with subordinates. At the same time, organizations can also organize various activities to increase the opportunities for leaders to communicate with their subordinates and enhance their friendship. For leaders, they should care about the needs of employees in daily work, actively strengthen effective communication with employees, provide opportunities for them to undertake challenging tasks, and encourage and inspire employees to do some more creative work.

LIMITATIONS

Although our research has drawn some meaningful conclusions, there are still some limitation. First, this study focuses on the impact of self-sacrificial leadership on employees' individual behavior. In fact, the effect of self-sacrificial leadership can be further extended to the team level. Future research can examine the impact of self-sacrificial leadership on teams or departments. Second, we conducted the research in China, in which the cultural influence, e.g., on collectivism and the spirit of self-sacrificing, may be more manifest. Future research can compare the findings in different countries and regions. Finally, further research should consider other possible moderating variable.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

AUTHOR CONTRIBUTIONS

XS, MH, and AX contributed to the conception and design of the study. GX organized the database. XS performed the statistical analysis. XS and XJ wrote the first draft of the manuscript. MH and GX wrote sections of the manuscript. All authors contributed to manuscript revision, read, and approved the submitted version.

FUNDING

REFERENCES

Abdullah, M. I., Dechun, H., Ali, M., and Usman, M. (2019). Ethical leadership and knowledge hiding: a moderated mediation model of relational social capital, and instrumental thinking. *Front. Psychol.* 10, 2403. doi: 10.3389/fpsyg.2019.02403

Anser, M. K., Yousaf, Z., Yasir, M., Sharif, M., Nasir, M., Rasheed, M. I., et al. (2021). How to unleash innovative work behavior of SMEs' workers through knowledge sharing? Accessing functional flexibility as a mediator. *Eur. J. Innov. Manag.* 25, 233–248. doi: 10.1108/EJIM-11-2019-0332

Bandura, A. (1977). *Social Learning Theory*. Upper Saddle River, NJ: Prentice Hall.

Baranik, L. E., Roling, E. A., and Eby, L. T. (2010). Why does mentoring work? The role of perceived organizational support. *J. Vocat. Behav.* 76, 366–373. doi: 10.1016/j.jvb.2009.07.004

Baron, R. M., and Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *J. Pers. Soc. Psychol.* 51, 1173–1182. doi: 10.1037/0022-3514.51.6.1173

Bass, B. M. (1985). *Leadership and Performance Beyond Expectations*. New York, NY: Free Press.

Bavik, Y. L., Tang, P. M., Shao, R., and Lam, L. W. (2017). Ethical leadership and employee knowledge sharing: exploring dual-mediation paths. *Leadersh. Q.* 292, 322–332. doi: 10.1016/j.leaqua.2017.05.006

Blau, P. M. (1964). *Exchange and Power in Social Life*. New York, NY: John Wiley and Sons. doi: 10.2307/2091154

Burns, J. M. (1978). *Leadership*. New York, NY: Harper & Row.

Cabrera, E. F., and Cabrera, A. (2005). Fostering knowledge sharing through people management practices. *Int. J. Hum. Resour. Manag.* 16, 720–735. doi: 10.1080/09585190500083020

Choi, Y., and Mai-Dalton, R. R. (1998). On the leadership function of self-sacrifice. *Leadersh. Q.* 9, 475–501. doi: 10.1016/S1048-9843(98)90012-1

Choi, Y., and Mai-Dalton, R. R. (1999). The model of followers' responses to self-sacrificial leadership: an empirical test. *Leadersh. Q.* 10, 397–421. doi: 10.1016/S1048-9843(99)00025-9

Connelly, C. E., Zweig, D., Webster, J., and Trougakos, J. P. (2012). Knowledge hiding in organizations. *J. Organ. Behav.* 33, 64–88. doi: 10.1002/job.737

De Cremer, D., and van Knippenberg, D. (2004). Leader self-sacrifice and leadership effectiveness: The moderating role of leader self-confidence. *Organ. Behav. Hum. Decis. Process.* 95, 140–156. doi: 10.1016/j.obhdp.2004.04.002

Den Hartog, D. N. (2015). Ethical leadership. *Annu. Rev. Organ. Psychol. Organ. Behav.* 2, 409–434. doi: 10.1146/annurev-orgpsych-032414-111237

Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D., and Rhoades, L. (2001). Reciprocation of perceived organizational support. *J. Appl. Psychol.* 86, 42–51. doi: 10.1037/0021-9010

Fornell, C., and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* 18, 39–50. doi: 10.1177/002224378101800104

Gao, Y., and Liu, H. Y. (2021). How supervisor-subordinate guanxi influence employee innovative behavior: a moderated mediation model. *Psychol. Res. Behav. Manag.* 14, 2001–2014. doi: 10.2147/PRBM.S342875

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strateg. Manag. J.* 17, 109–122. doi: 10.1002/smj.4250171110

Hannah, S. T., and Avolio, B. J. (2010). Moral potency: building the capacity for character-based leadership. *Consult. Psychol. J.: Pract. Res.* 62, 291–310. doi: 10.1037/a0022283

Hannah, S. T., Avolio, B. J., and Walumbwa, F. O. (2011). Relationships between authentic leadership, moral courage, and ethical and pro-social behaviors. *Bus. Ethics Q.* 21, 555–578. doi: 10.5840/beq201121436

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020). Linking work-related and non-work-related supervisor-subordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus. Manag.* doi: 10.1057/s41291-020-00137-9. [Epub ahead of print].

Hendriks, P. (1999). Why share knowledge? The influence of ict on motivation for knowledge sharing. *Knowl. Process. Manag.* 6, 91–100. doi: 10.1002/(SICI)1099-1441(199906)6:23.0.CO;2-M

Hogg, M. A., and van Knippenberg, D. (2003). Social identity and leadership process in groups. *Adv. Exp. Soc. Psychol.* 35, 1–52. doi: 10.1016/S0065-2601(03)01001-3

Ipe, M. (2003). Knowledge sharing in organizations: a conceptual framework. *Hum. Resour. Dev. Rev.* 2, 337–359. doi: 10.1177/1534484303257985

Law, K. S., Wong, C. S., Wang, D. X., and Wang, L. H. (2000). Effect of supervisor–subordinate guanxi on supervisory decisions in China: an empirical investigation. *Int. J. Hum. Resour. Manag.* 11, 751–765. doi: 10.1080/09585190050075105

Li, R., Tian, X., and Sun, J. (2014). The mechanisms of how self-sacrificial leadership impacts on employee knowledge sharing. *Nankai Bus. Rev.* 17, 24–32. doi: 10.3969/j.issn.1008-3448.2014.05.004

Liang, J., Farh, C. I. C., and Farh, J. L. (2012). Psychological antecedents of promotive and prohibitive voice: a two-wave examination. *Acad. Manag. J.* 55, 71–92. doi: 10.5465/amj.2010.0176

Ling, W. Q., Chen, L., and Wang, D. (1987). Construction of CPM scale for leadership behavior assessment. *Acta Psychologica Sinica.* 19, 199–207.

Liu, Y. W., and de Frank, R. S. (2013). Self-interest and knowledge-sharing intentions: the impacts of transformational leadership climate and HR practices. *Int. J. Hum. Resour. Manag.* 24, 1151–1164. doi: 10.1080/09585192.2012.709186

Lu, X., and Tu, Y. (2018). To share or not to share: knowledge sharing in a social dilemma perspective. *Adv. Psychol. Sci.* 26, 2057–2067. doi: 10.3724/SP.J.1042.2018.02057

MacKenzie, S. B., Podsakoff, P. M., and Paine, J. B. (1999). Do citizenship behaviors matter more for managers than for salespeople? *J. Acad. Mark. Sci.* 27, 396–410. doi: 10.1177/0092070399274001

McAllister, C. P., and Ferris, G. R. (2016). The call of duty: a duty development model of organizational commitment. *Res. Person. Hum. Resour. Manag.* 34, 209–244. doi: 10.1108/S0742-730120160000034012

Mulder, L. B., and Nelissen, R. M. A. (2010). When rules really make a difference: the effect of cooperation rules and self-sacrificing leadership on moral

norms in social dilemmas. *J. Bus. Ethics*. 96, 57–72. doi: 10.1007/s10551-011-0795-z

Ogunfowora, B., Maerz, A., and Varty, C. T. (2021). How do leaders foster morally courageous behavior in employees? Leader role modeling, moral ownership, and felt obligation. *J. Organ. Behav.* 42, 483–503. doi: 10.1002/job.2508

Pierce, J. L., Kostova, T., and Dirks, K. (2003). The state of psychological ownership: Integrating and extending a century of research. *Rev. Gen. Psychol.* 7, 84–107. doi: 10.1037/1089-2680.7.1.84

Podsakoff, P. M., Mackenzie, S. B., Lee, J. Y., and Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88, 879–903. doi: 10.1037/0021-9010.88.5.879

Saeed, I., Khan, J., Zada, M., Zada, S., Vega-Muñoz, A., and Contreras-Barraza, N. (2022). Linking ethical leadership to followers' knowledge sharing: mediating role of psychological ownership and moderating role of professional commitment. *Front. Psychol.* 13, 841590. doi: 10.3389/fpsyg.2022.841590

Sedighi, M., van Splunter S; Brazier, F., van Beers, C., and Lukosch, S. (2016). Exploration of multi-layered knowledge sharing participation: the roles of perceived benefits and costs. *J. Knowl. Manag.* 20, 1247–1267. doi: 10.1108/JKM-01-2016-0044

Shao, P., Resick, C. J., and Hargis, M. B. (2011). Helping and harming others in the workplace: the roles of personal values and abusive supervision. *Hum. Relat.* 64, 1051–1078. doi: 10.1177/0018726711399940

Su, X., Lin, W., Wu, J., Zheng, Q., Chen, X., and Jiang, X. (2021). Ethical leadership and knowledge sharing: the effects of positive reciprocity and moral efficacy. *SAGE Open* 11, 215824402110218. doi: 10.1177/21582440211021823

Su, X., Xu, W., Zheng, M., and Zheng, Q. (2018). Ethical leadership and knowledge sharing: a dual-mediating path exploration. *J. Harbin Univ. Commerce* 6, 54–62.

Tang, D., and Wen, Z. (2020). Statistical approaches for testing common method bias: problems and suggestions. *J. Psychol. Sci.* 43, 215–223. doi: 10.16719/j.cnki.1671-6981.20200130

Tian, X. M., and Li, R. (2015). Can self-sacrificial leadership promote employee proactive behavior? The mediating effect of felt obligation and its boundary conditions. *Acta Psychol. Sin.* 47, 1472–1485. doi: 10.3724/SP.J.1041.2015.01472

Van Knippenberg, D., and Hogg, M. A. (2003). A social identity model of leadership effectiveness in organizations. *Res. Organ. Behav.* 25, 243–296. doi: 10.1016/s0191-3085(03)25006-1

Wen, Z., Zhang, L., Hou, T., and Liu, H. (2004). Testing and application of the mediating effects. *Acta Psychol. Sin.* 5, 614–620. doi: 10.1007/BF02911031

Wu, W. (2021). How ethical leadership promotes knowledge sharing: a social identity approach. *Front. Psychol.* 12, 727903. doi: 10.3389/fpsyg.2021.727903

Wu, W. L., and Lee, Y. C. (2017). Empowering group leaders encourages knowledge sharing: integrating the social exchange theory and positive

organizational behavior perspective. *J. Knowl. Manag.* 21, 474–491. doi: 10.1108/JKM-08-2016-0318

Xu, G., Huang, Y., and Tan, L. (2020). International justice and employee sharing hiding behavior: the mediating role of organizational identification and the moderating role of justice sensitivity. *China Soft Sci.* 125–132.

Yang, W. S., and Yang, S. L. (2020). Distributed leadership, organizational support, and new generation employees' proactive-reactive innovation behavior: based on the moderate of supervisor-subordinate guanxi and values fit. *J. Ind. Eng. Eng. Manag.* 34, 10–19. doi: 10.13587/j.cnki.jieem.2020.03.002

Yorges, S. L., Weiss, H. M., and Strickland, O. J. (1999). The effect of leader outcomes on influence, attributions, and perceptions of charisma. *J. Appl. Psychol.* 84, 428–436. doi: 10.1037/0021-9010.84.3.428

Zada, M., Zada, S., Ali, M., Jun, Z. Y., Contreras-Barraza, N., and Castillo, D. (2022a). How classy servant leader at workplace? Linking servant leadership and task performance during the COVID-19 crisis: a moderation and mediation approach. *Front. Psychol.* 13, 810227. doi: 10.3389/fpsyg.2022.810227

Zada, M., Zada, S., Khan, J., Saeed, I., Zhang, Y. J., Vega-Muñoz, A., et al. (2022b). Does servant leadership control psychological distress in crisis? Moderation and mediation mechanism. *Psychol. Res. Behav. Manag.* 15, 607. doi: 10.2147/PRBM.S354093

Zhou, R., and Long, L. (2017). Self-sacrificial leadership: A literature review and prospects. *Foreign Econom. Manag.* 39, 77–89. doi: 10.16538/j.cnki.fem.2017.11.006

APPENDIX

1. Self-sacrificial leadership

(1) My supervisor is willing to make personal sacrifices in the teams interest.
(2) My supervisor is willing to stand up for the team members interest, even when it is at the expense of his/her own interest.
(3) My supervisor is willing to risk his/her position, if he/she believes the goals of the team can be reached that way.
(4) My supervisor is always among the first to sacrifice free time, privileges, or comfort if that is important for the teams' mission.
(5) I can always count on my supervisor to help me in times of trouble, even if it is at costs to him/her.

2. Moral ownership

I will not accept anyone in my group behaving unethically.
I will assume responsibility to take action when I see an unethical act.
I will not tolerate anyone in my group who violates safety standards.

3. Felt obligation

(1) I feel a personal obligation to do whatever I can to help my (supervisor) organization achieve its goals ethically (achieve safety goals).
(2) I owe it to my (supervisor) organization to give 100% of my energy to attaining its goals in an ethical manner (its safety related goals while I am at work).
(3) I owe it to my (supervisor) organization to do what I can to ensure that my work is completed in an ethical manner (ensure that our workplace is safe).
(4) I would feel guilty if I did not meet my (supervisor's) organization's ethical standards (safety standards)

4. Knowledge sharing

(1) This coworker looks into my requests to make sure his/her answers were accurate.
(2) This coworker explains everything very thoroughly.
(3) This coworker answers all my questions immediately.
(4) This coworker tells me exactly what I need to know.
(5) This coworker goes out of his/her way to ensure that he/she understands my requests before responding.

5. Supervisor-subordinate's *guanxi*

(1) During holidays or after office hours, I would call my supervisor or visit him/her.
(2) I always actively share with my supervisor about my thoughts, problems, needs and feelings.
(3) I care about and have a good understanding of my supervisor's family and work conditions.
(4) When there are conflicting opinions, I will definitely stand on my supervisor's side.

frontiers | Frontiers in Psychology

How daily supervisor abuse and coworker support affect daily work engagement

Hongqing Wang[1] and Tianzhen Tang[2]*

[1]School of Business, Nanjing Audit University, Nanjing, China, [2]School of Business, Nanjing University, Nanjing, China

The purpose of this study was to explore the dynamic and intervention mechanisms of daily abusive experience affecting daily work engagement. Drawing on conservation of resources (COR) theory, we examine the effect of daily abusive supervision on daily work engagement through daily negative emotions from the resource consumption perspective, and the moderation effect of coworker support from the resource provision perspective. Using a daily diary approach and based on a sample of 73 employees for 5 consecutive days in China. The results reveal that daily abusive supervision has a significant negative effect on daily work engagement, daily negative emotions mediate this relationship, and coworker support had a cross-level moderating effect between daily abusive supervision and daily negative emotions. Our study shows ways to boost employees' daily work engagement and especially ways buffer the negative effect of abused experience on work engagement.

Introduction

Work engagement plays a vital role in fostering numerous desirable work behaviors (Arshad et al., 2021), such as job resourcefulness, life satisfaction, task and contextual performance, career satisfaction, organizational citizenship behaviors, creativity, subjective career success, flourishing at work, employee wellbeing, and organizational effectiveness (Ariza-Montes et al., 2018; Chen, 2019; Grobelna, 2019; Aggarwal et al., 2020; Chen et al., 2021; Herr et al., 2021; Weiss and Zacher, 2022). In other words, work engagement is crucial for organizations seeking to improve labor efficiency and attain a competitive advantage (Kulikowski and Sedlak, 2017; Huang et al., 2022). However, there is currently a "worldwide employee engagement crisis," as only 13% of employees working for organizations are engaged (Mann and Harter, 2016; Rafiq et al., 2019). Therefore, determining how to foster employees' work engagement has been increasingly studied by organizational researchers and practitioners.

As the provider of job resources, leadership behavior is a fundamental factor in determining employees' work engagement, and 70% of the variance in work engagement can be explained by leadership behavior, such as service leadership, self-leadership, paradoxical leadership, transformational leadership, authentic leadership, engaging leadership and empowering leadership (Cai et al., 2018; Kaya and Karatepe, 2020; Zheng et al., 2020; Dorssen et al., 2021; Fürstenberg et al., 2021; Tuin et al., 2021). However, leaders may not only provide resources for employees through positive leadership behaviors, but also consume employees' resources through destructive behaviors. As a typical form of destructive leadership, abusive supervision has been widely studied by organizational scholars, due to the presence of high power distance, abusive supervision is more common in the Chinese cultural context. Employees tend to see their supervisors as one of their greatest sources of resources, and abusive supervision might be a key source of resource loss (Hsu et al., 2021). Given the improbability of eliminating abusive supervision from organizational contexts (Kirrane et al., 2018), it is more meaningful to explore how abusive supervision affects work engagement and how to mitigate its negative effects (Huh and Lee, 2021).

Based on conservation of resources (COR) theory, abusive supervision has been conceived as the most important stressor in the workplace that may deplete employees' available emotional resources because their supervisors are unsupportive (Wang et al., 2020) and elicit employees' negative emotions, which in turn diminish employees' work engagement because negative emotions lead to a loss of physical and emotional resources that are necessary to sustain vitality, enthusiasm and concentration (Wang and Shi, 2020). COR theory holds that social support, among the job resources available in the workplace, plays a significant role in the buffering process enabling employees to deal with the detrimental influences of job stressors (Huh and Lee, 2021). Coworkers and leaders are the main sources of support for employees in an organization, since sources of support may need to be independent of sources of stressors because support from the same source that is provoking a stressor might be awkward and unproductive (Mayo et al., 2012). In addition, employees spend more time with their coworkers, and thus, it is very important to explore the effect of coworker support on abused employees' reactions.

Previous studies have generally conceptualized work engagement as a stable individual trait, while recent empirical evidence has shown that work engagement not only shows differences between individuals and can operate as a trait variable but also varies within a person over time and should be examined as a state variable; approximately one-third of the total variance in work engagement can be explained by within-person variation (Garrick et al., 2012; Kühnel et al., 2012). Researchers have found that abusive supervision is also a state variable; that is, supervisors exhibit more within-person than between-person variation in abusive behavior

(Barnes et al., 2015). Although revealing the within-person predictor of work engagement is useful for management practices, previous studies have paid insufficient attention to the effect of daily leadership behavior on work engagement (Kühnel et al., 2012).

As stated above, at the within-person level, we explore the mediating mechanism of leaders' daily abusive supervision on employees' daily work engagement through negative emotions. At the between-person level, we explore the cross-level moderating effect of coworker support between daily abusive supervision and daily negative emotions (see **Figure 1**). In sum, the contributions of this study to the literature are as follows. First, despite a recent increase in the literature on the use of job resources to mitigate the negative effects of abusive supervision, support regarding how increased work engagement, can be promoted under abusive supervision is scarce (Tepper, 2007; Khan et al., 2022). From the perspective of job resources, we reveal ways to improve the work engagement of employees who suffer from abusive supervision. Second, many studies on abusive supervision and work engagement have focused on between-person differences and ignored within-person differences. We explore the dynamic mechanism of daily abusive supervision on daily work engagement using a within-person approach, which is much more realistic than a between-person approach that considers all behavior occurring on different days as a whole and only examines averages values (Breevaart et al., 2016).

Literature review and hypothesis development

Daily abusive supervision and work engagement

Abusive supervision behaviors refer to any display of hostile verbal and non-verbal behavior, excluding physical contact. These behaviors are likely to vary on a day-to-day basis and can involve ridiculing subordinates in front of others; withholding important information; and using disparaging language, threats, and intimidation tactics (Barnes et al., 2015, p. 1420). COR theory proposes that when individuals face the threat of resource loss, people always seek to maintain existing resources or acquire new ones (Hobfoll and Shirom, 2001). When employees face abusive behavior from their leaders, they lose some coveted resources, such as status, position, self-esteem and energy (Mayo et al., 2012), and they cannot obtain more job resources from their leaders, such as information and encouragement. In addition, they need to spend more resources to deal with their abusive experience. In details, in order to avoid further the occurrence of abusive behavior, they need to spend more time and effort on their relationship with their leader
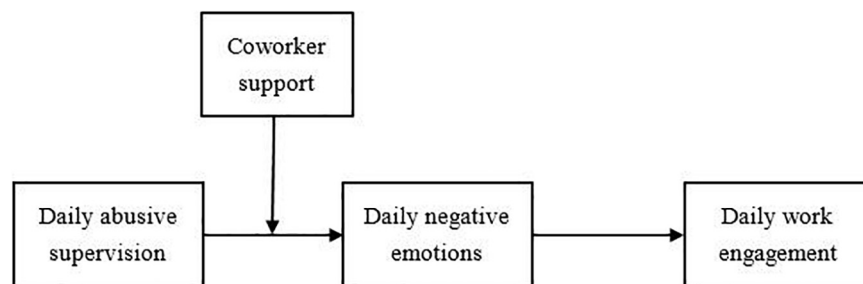
FIGURE 1
Theoretical framework.

(Arshad et al., 2021). Work engagement is a transient, positive, fulfilling, and work-related state of mind that fluctuates within individuals over a short period of time and is characterized by vigor, dedication, and absorption (Breevaart et al., 2014, p. 140). Vigor reflects a state of high energy at work, dedication refers to strong identification with enthusiasm for one's work, and absorption is characterized by being completely immersed in one's work (Schaufeli et al., 2002). These active states require abundant energy, which is a form of expression of high resources (Wang and Shi, 2020). As stated above, on the one hand, leader abusive behavior may result in abused employees objectively not having the adequate resources to devote to work engagement. On the other hand, abused employees are more likely to subjectively withhold work engagement for the sake of preserving remaining resources or avoiding a further depletion of resources (Ampofo, 2020). Bakker (2014) found that work engagement fluctuates on a daily basis and that this daily fluctuation is driven in part by negative employee experiences at work. Therefore, abusive supervision is negatively related to employee engagement.

H1. Daily abusive supervision is negatively related to daily work engagement.

The mediating role of daily negative mood

Behavior in organizations is intrinsically driven by members' emotional reactions to events in their environment; in fact, emotions play a central role in human behavior in general (Ashkanasy et al., 2017). According to COR theory, negative events in the workplace, such as being a victim of hostile behaviors or being exposed to negative interpersonal conflicts (Michel et al., 2016), may induce employees' negative emotional responses (Weiss and Cropanzano, 1996). First, these negative events will cause employees to perceive the threat of resource loss. In this case, on the one hand, individuals may have a series of emergency responses to protect and restore their

resources, such as emotional responses; on the other hand, employees may trigger negative emotions because they fear that they do not have enough resources to cope with negative events (Wang and Shi, 2020). Second, these unfair interpersonal interactions lead employees to predict that they will not receive a return on their investment of resources, which in turn elicits a negative emotional reaction (Wang et al., 2022). Abusive leaders display hostile verbal and/or non-verbal behaviors toward their subordinates, such as ridiculing or publicly criticizing subordinates and making aggressive eye contact (Tepper, 2000). In the case of abusive supervision, it can be expected that employees will appraise it as negative and unfair treatment; under the pressure of protecting existing resources and avoiding further depletion of resources, employees are prone to develop negative emotions or work-related affect related to abuse (Michel et al., 2016). Extant research has confirmed that when faced with such situations, subordinates who perceive that they have been subjected to abusive behavior may be more likely to experience a range of emotions including shame, anger, fear, anxiety, hostility (Peng et al., 2019; Korman et al., 2021).

According to COR theory, people's resources are threatened or lost after negative events, and they may experience negative emotions when they try to deal with primary resource loss. However, negative emotions also function as resource consumption, and they may trigger secondary resource loss; therefore, to avoid a further depletion of resources, they may engage in ineffective behaviors (Subramony et al., 2021; Thompson et al., 2022). In summary, one's emotional response to workplace events largely determines one's attitudes and subsequent behaviors (Carlson et al., 2011). As stated above, abusive supervision, as a negative workplace event, may trigger negative emotions. Negative emotions signal a threat to one's personal resources; when individuals focus on the source and coping strategies of negative emotions, their cognitive load may increase, which may then result in the loss of their cognitive and emotional resources (Beal et al., 2005; Greenidge and Coyne, 2014; Wang and Shi, 2020). Work engagement requires employees to direct all of their attention toward organizational goals, to feel connected to their work, and to believe that they

can deal with their job's demands; it denotes an active and positive work-related state characterized by a commitment to and mental involvement with work tasks (Swati, 2016). When a person is in a negative emotional state, their attention diverts from the work task to protect resources from further loss and subsequently leads to avoidance behavior and disengagement (Elliot, 2006) because these negative behaviors may help the victim feel better as a result of conserving their resources (Matta et al., 2014). Thus, negative emotions may cause an off-task focus and lead to a failure to provide the vitality, enthusiasm and concentration that are necessary for sustaining work engagement (Kuba and Scheibe, 2017), which aligns with Gkorezis et al.'s (2016) finding that negative emotions experience on Monday morning will be negatively associated with engagement during work on Monday.

H2. Daily negative emotion mediates the relationship between daily abusive supervision and daily work engagement.

The cross-level moderating role of coworker support

Conservation of resources theory holds that social support is an important resource for individuals having to cope with stressors, since it can both increase one's resource pool and can replace the resources that one lacks (Hobfoll, 1989). Coworker and supervisor support have long been identified as two important job resources that help employees deal with stressors at work (Kim et al., 2017). When employees experience abusive behavior from their supervisors, they need more coworker support because under these situations, abused employees may feel inconsistent and insincere even when the abusive supervisor is willing to offer them support (Mayo et al., 2012). Coworker support "refers to employees' beliefs about the extent to which coworkers provide them with desirable resources in the form of emotional support (e.g., showing concern) and instrumental assistance (e.g., helping with work tasks)" (Poon, 2011, p. 67). These beliefs contribute to achieving work goals, gaining humanistic care, fostering personal development, and reducing job stress (Bakker and Demerouti, 2007). Therefore, coworker support may buffer the effect of abusive supervision on negative emotions. First, coworkers may act as good listeners for abused employees which could help them vent their negative emotions effectively. Second, when abused employees share their abusive experiences with coworkers, coworkers may demonstrate sympathy, understanding and concern and friendly, warm relations. On the one hand, this support fulfills abused employees' needs for esteem, approval, and affiliation and then alleviates their negative emotional experiences with the organization (Tafvelin et al., 2019); on the other hand,

these emotional resources can make up for the loss of resources caused by abusive experiences, leaving employees with sufficient resources to regulate their negative emotions (Singh et al., 2019). Third, coworkers can share effective measures for abused employees to cope with leaders' abusive behaviors or provide new ideas that can help employees to develop new coping mechanisms (Mayo et al., 2012). These informational resources may relieve the negative emotions generated by abusive experiences.

H3. Coworker support moderates the relationship between daily abusive supervision and daily negative emotion.

Materials and methods

Participants and procedure

We used a daily diary survey to collect data. The survey included two questionnaires. Questionnaire A was mainly used to collect between-person variables, which included demographic variables and coworker support. Questionnaire B was mainly used to collect within-person variables, which included daily abusive supervision, daily negative emotions and daily work engagement. Consistent with previous studies, questionnaire A needed to be completed only once; questionnaire B was completed for 1 week, and participants completed the questionnaire once a day. The participants were mainly frontline employees of Chinese chain restaurants. The questionnaires were mainly conducted on site. We offered payment to increase participation: participants could obtain 10 yuan when they completed questionnaire B once, but they had to complete the questionnaire for 5 days before they were paid a total of 50 yuan. To match the questionnaires, in the first survey, we assigned the participants questionnaires marked with a code and asked them to remember their code. These codes were used to track each participant's payment, so that when he or she completed the questionnaires for the remaining 4 days, each participant could write this code on his or her questionnaires.

The final sample of participants who provided daily diary data for all 5 days consisted of 73 employees, which yielded a within-person sample of 365 responses. Among the 73 participants, 74% were men, and 26% were women. In terms of education, 15.1% participants were at the high school level, 41.1% were at the junior college level, 35.3% were at the undergraduate level, and 8.2% were at the graduate level or above. In terms of age, 43.8% participants were under 20 years old, 47.9% were aged 21 to 25, and 8.3% were older than 26 years old. The respondents were young on average because restaurant waiters in China tend to be young.

Measures

Since the participants were asked to complete the within-person questionnaire for 5 days, and they may feel burnout, so we measured all day-level variables using shortened versions of existing scales. Consistent with extant research, we chose three to five items for each day-level variable that had the highest loadings and could be administered on a daily basis. The between-person variables were measured using the original scales. All of the variables were measured on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree).

Daily abusive supervision

Abusive supervision, a day-level variable, was measured using a shortened scale with five items, which were derived from Tepper's (2000) scale. Example items include the following: "Today, my supervisor put me down in front of others" and "Today, my supervisor was rude to me." The Cronbach's alpha in our study was 0.86.

Daily negative emotion

Negative emotion was measured using a scale that consisted of three items, derived from Mackinnon et al.'s (1999) short form of the Positive and Negative Affect Schedule, consistent with previous studies. We selected three discrete negative emotions: anger, nervousness and distress. We chose these three items because they best represented emotions that are negative in hedonic tone and high in intensity (Matta et al., 2014). An example item is "Today, I felt anger." The internal consistency of negative emotion was 0.89.

Daily work engagement

Work engagement was measured using a shortened scale consisting of three items derived from the Utrecht Work Engagement Scale (Schaufeli, 2016). An example item is "Today, I felt strong and vigorous." The internal consistency of the three items was 0.70.

Coworker support

Coworker support was a between-person level variable that was measured only once. Therefore, coworker support was measured using Hammer et al.'s (2004) original scale, which comprises five items. An example item is "I receive help and support from my coworkers," and the internal consistency of the three items was 0.85.

Data analysis

For statistical analyses, we used SPSS to calculate descriptive statistics, reliabilities, and correlations, and we used HLM to calculate cross-level regression. In the daily diary research, the same person was surveyed for several days; thus, the data can be seen as two-level data, with each day's repeated measures (Level 1) nested within individuals (Level 2). We applied HLM to test this model.

Results

Preliminary analyses

The means, standard deviations and correlation coefficients of the main variables of this study are shown in Table 1. For the within-person level variables, the correlation coefficients were calculated using day-level variables. Daily abusive supervision had a significant relationship with daily negative emotions ($r = 0.41$, $p < 0.001$) and daily work engagement ($r = -0.49$, $p < 0.001$). Daily negative emotions were significantly related to daily work engagement ($r = -0.43$, $p < 0.001$). The correlation analysis results functioned as a preliminary test of the hypothesis. For the between-person level variables, the correlation coefficients were calculated using person-level variables. The intraclass correlation coefficients of the within-person variables ranged from 0.27 to 0.52, indicating that within-person variability could explain a considerable amount of the variance.

As shown in Table 2, the heterotrait-monotrait (HTMT) ratio of correlations of all variables was less than 0.85; in addition, the square root of average variance extracted of each variable was greater than the correlation coefficients between it and the other variables, indicating discriminative validity among variables. Each construct's average variance extracted was greater than 0.5, and the composite reliability of all variables was greater than 0.7, indicating that the variables had high convergent validity.

Multilevel confirmatory factor analysis

We conducted a multilevel confirmatory factor analysis, and the results in Table 3 show that the four-factor model fit the data satisfactorily [$\chi2$ (125) = 211.84, $p < 0.001$, CFI = 0.93, TLI = 0.92, RMSEA = 0.04], surpassing all other alternative models. This indicates that the variables included in this study can be empirically discriminated from each other.

We used a one-factor test and controlled for the effects of an unmeasured latent methods factor to check for possible common variance (Podsakoff et al., 2012). The one-factor model [$\chi^2(134) = 649.86$, $p < 0.001$, CFI = 0.61, TLI = 0.53, RMSEA = 0.107] did not reach the statistical requirements (as shown in Table 3), indicating no serious common variance problem in this study. Second, we constructed a latent common method variance factor, allowing all indicators at both the within-person and between-person levels to load on an unmeasured method factor. Then, we developed a five-factor

TABLE 1 Means, standard deviations, reliability, and correlations.

Variables	M	S	1	2	3	4	5	ICC 1
Day level								
1. Abusive supervision	2.64	1.15	(0.86)					27%
2. Negative emotions	2.93	1.50	0.41***	(0.89)				35%
3. Work engagement	3.70	0.93	−0.49***	−0.43***	(0.70)			52%
Person level								
4. Coworker support	2.93	1.00	0.04	0.23*	−0.01	(0.85)		

ICC1, intraclass correlation coefficients. *$p < 0.05$ and ***$p < 0.001$.

TABLE 2 Heterotrait-monotrait (HTMT), AVE, and CR.

Variables	1	2	3	AVE	Square root of AVE	CR
1. Abusive supervision				0.70	0.83	0.92
2. Negative emotions	0.51			0.83	0.91	0.94
3. Work engagement	−0.68	−0.46		0.64	0.81	0.84
4. Coworker support	0.04	0.26	−0.01	0.59	0.78	0.85

HTMT, heterotrait-monotrait ratio; AVE, average variance extracted; CR, composite reliability.

model that includes the four-factor model and CMV. The results in **Table 3** show that the five-factor model [$\chi^2(126) = 356.71$, $p < 0.001$, CFI = 0.83, TLI = 0.78, RMSEA = 0.07] did not fit the data better than the four-factor model. These results suggest that common method variance is not a serious threat to our study.

Testing of hypotheses

The main effect analysis results are shown in **Table 4**. First, we built a null model, and then we included the control variables (sex, age, education and trait affect) and predictor variables (abusive supervision). The results show that education ($\beta = 0.13$, $p < 0.01$) and trait affect ($\beta = 0.19$, $p < 0.001$) had positive relations with daily work engagement and that daily abusive supervision had a significant negative effect on daily work engagement ($\beta = -0.36$, $p < 0.001$). Thus, hypothesis 1 is supported.

We examined the mediating effects of the 1-1-1 model according to Zhang et al.'s (2009) method. The results shown in **Table 4** and model 1 indicate that daily abusive supervision was positively related to daily negative emotions ($\beta = 0.34$, $p < 0.001$) and negatively related to daily work engagement ($\beta = -0.36$, $p < 0.001$). After controlling for daily abusive supervision, daily negative emotions had a significant negative effect on daily work engagement ($\beta = -0.25$, $p < 0.001$), and the coefficient of the effect of daily abusive supervision on daily work engagement decreased from -0.36 ($p < 0.001$) to -0.25 ($p < 0.001$). The results indicate that daily negative emotions may partially mediate the relationship between daily abusive supervision and daily work engagement. We also used Preacher and Hayes (2008) bootstrapping procedure to estimate

the mediating effect, as shown in **Table 5**. The confidence intervals for the indirect effects excluded zero. In addition, we conducted multilevel structural equation modeling analyses to assess the mediation effect. The results show that daily abusive supervision has a significant effect on daily negative emotions ($\beta = 0.35$, $p < 0.01$), which in turn have a significant effect on daily work engagement ($\beta = -0.33$, $p < 0.001$). The indirect effect of daily abusive supervision on daily work engagement *via* daily negative emotions ($\beta = -0.11$, $p < 0.01$, 95% CI = -0.18, -0.05) is significant. Therefore, hypothesis 2 is supported.

To test the cross-level moderating effect based on model 1, we built model 4 and included the moderating variable (coworker support) and interaction terms of the independent variable (daily abusive supervision) and the moderating variable (coworker support). The results show that the interaction effect was significant at the 001 level. Moreover, the simple slope results indicate that daily abusive supervision had a positive significant effect on daily negative emotions when employees' perceived coworker support was low ($\beta = 0.54$, $p < 0.001$). No significant relationship was found between daily abusive supervision and daily negative emotions when employees' perceived coworker support was high ($\beta = 0.19$, $p > 0.05$). To improve the interpretability of the interaction effects, we plotted these relations graphically, as shown in **Figure 2**; therefore, hypothesis 3 is supported.

Discussion

Consistent with previous research suggesting that a large amount of the variation in abusive supervision and

TABLE 3 Confirmation factor analysis.

Fitting index	χ^2	df	RMSEA	CFI	TLI
One-factor model	649.86	134	0.10	0.61	0.53
Two-factor model	522.02	133	0.09	0.71	0.65
Three-factor model	477.19	130	0.09	0.74	0.68
Four-factor model	211.84	125	0.04	0.93	0.92
Four factors + method factor	356.71	126	0.07	0.83	0.78

Four-factor model (AS, NE, WE, CS); Three-factor model (AS + NE, WE, CS); Two-factor model (AS + NE + WE, CS); One-factor model (AS + NE + WE + CS). AS, abusive supervision; NE, negative emotion; WE, work engagement; CS, coworker support.

TABLE 4 Multilevel models predicting work engagement.

	Null model	Model 1	Model 2	Model 3	Model 4
	Engagement	Emotion	Engagement	Engagement	Emotion
Intercept	3.70***	2.93***	3.71***	3.74***	2.94***
Control variables					
Sex		−0.45	−0.07	−0.23[+]	−0.47
Age		−0.28**	−0.07	−0.11[+]	−0.20
Education		−0.05	0.13**	0.12[+]	−0.03
Trait affect		0.25	−0.19***	−0.16***	0.19
Predictor variables					
Daily abusive supervision		0.34***	−0.36***	−0.25***	0.34***
Daily negative emotion				−0.25***	
Coworker support					0.19
Interaction term					
Abusive supervision × Coworker support					−0.19***
−2 Log (FIML)	867.69	1065.72	788.34	726.66	1057
df	3	10	10	14	12
L1 intercept variance	0.45	0.65	0.41	0.32	0.66
L 2 intercept variance	0.41***	0.99***	0.12***	0.19***	0.92***

**$p < 0.01$ and ***$p < 0.001$. [+]$p < 0.1$.

TABLE 5 Bootstrap analyses of indirect effect.

Path	Effect	SE	LLCI	ULCI
Abusive supervision-work engagement	−0.30	0.04	−0.38	−0.23
Abusive supervision-negative emotion-work engagement	−0.10	0.02	−0.13	−0.06

SE, standard error; LLCI, lower level confidence interval; ULCI, upper level confidence interval.

work engagement may be the result of daily changes and fluctuations (Barnes et al., 2015; Marijntje et al., 2020; Zampetakis, 2022), our study finds that approximately 30% of the total variance in abusive supervision and work engagement can be attributed to within-person variation. This finding demonstrates the necessity of using both a within-individual design and a between-individual design to examine the mechanism underlying the effects of abusive supervision on work engagement. At the within-individual level, our study examines the dynamic mechanisms by which daily abusive experience affect daily work engagement. The results show that leaders' daily abusive supervision is an important daily

antecedent of employees' daily work engagement and indicate that the more abusive behavior employees experience during a day, the less likely they are to be engaged in their work. More specifically, leaders' abusive behavior directly elicits abused employees' negative emotions, thus resulting in abused employees having insufficient resources to exhibit work engagement. At the within-individual level, our study finds that coworker support can attenuate the deleterious effect of daily abusive experiences on the daily negative emotions of abused employees'. Specifically, when coworker support is higher, the positive effect of daily abusive experiences on employees' daily negative emotions is weaker.
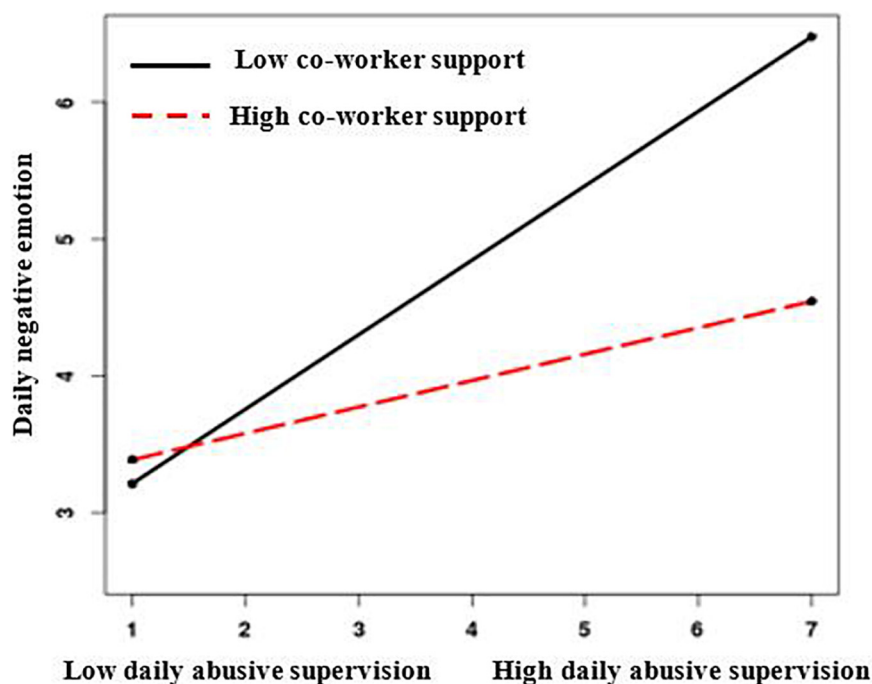
FIGURE 2
Coworker support as a moderator of the relationship between daily abusive supervision and daily negative emotion.

Theoretical contributions

First, on the one hand, extant research lacks a dynamic lens for portraying the influence processes of abusive behaviors (Zhang and Liu, 2018); on the other hand, although we know a great deal regarding the between-level antecedents of work engagement, research concerning day-level predictors of work engagement remains limited (Sonnentag et al., 2020). To help boost work engagement on a daily basis and address the day-to-day dynamics mechanisms of abusive supervision and work engagement, this study employed a daily diary design to explore the dynamic mechanisms of daily abusive supervision affecting daily work engagement through the mediating role of daily negative emotions. This research deepens our understanding of the dynamic formation mechanism of job engagement.

Second, based on COR theory, leadership behavior can both provide resources to employees when it takes the form of constructive leadership behavior and consume employees' resources when it manifests as destructive leadership behavior. Previous studies have focused on the positive leadership affecting work engagement, such as responsible, authentic, servant, empowering, transformational, inclusive, ethical, and engaging leadership (Breevaart et al., 2014, 2016; Cai et al., 2018; Kirrane et al., 2018; Kaya and Karatepe, 2020; Tuin et al., 2021). Limited research has investigated the effect of leadership on work engagement from the perspective of resource

consumption (Venz et al., 2018). However, a growing body of evidence indicates that leaders may engage in destructive leadership (Mackey et al., 2021, p. 705) and that bad is stronger than good (Baumeister et al., 2001). Therefore, it is more important to examine the effect of destructive leader behavior on work engagement. Our study focuses on the effect of abusive supervision, which is a typical and pervasive form of negative leadership in organizations, on work engagement. This study enriches the work engagement research perspective.

Third, COR theory claims that social support, as one of individuals' most important resources, can increase the available resources that allow the individual to deal with stressors (Arshad et al., 2021). However, the results of extant research regarding the question of whether incongruence between sources of support and stressors is desirable remains ambiguous (Mayo et al., 2012). Our results show that job resources derived from coworker support can significantly alleviate the negative emotions inspired in employees by abusive experiences. When an employee experiences abusive behavior from a leader, support from a coworker has an important moderating effect because in such a situation, support from the leader can cause the abused employee to feel inconsistent and insincere. In addition, our study demonstrates the core idea of the JD-R model, which serve as the main theoretical basis for work engagement research, namely, that job demands (abusive supervision) and job resources (coworker support) have an interaction effect on work engagement (Cooke et al., 2019).

Practical implications

First, this study suggests that employees' work engagement fluctuates from day to day and that fluctuation in employees' abusive experiences is the main factor that determines how engaged employees are in their daily tasks. Therefore, when managers try to solve employee work engagement problems, they should not only look for problems related to employees' working ability and attitudes but also consider whether managers' leadership styles are inappropriate. Our results show that an organization can increase employee engagement by reducing supervisors' abusive behavior. To this end, on the one hand, organizations can help managers establish appropriate concepts through organizational culture and values, causing them to realize that managers are employees' servicers and that they should respect employees and treat them fairly. On the other hand, it is necessary to strengthen supervisor behavior monitoring and improve bottom-up communication systems and complaint mechanisms so that an organization can detect and reduce managers' misconduct behaviors.

Second, this study finds that daily abusive behavior affects employees' daily work engagement mainly through daily negative emotions. Our results suggest that organizations can enhance employees' emotional knowledge and improve their ability to self-regulate their emotions through emotional management training in management practice. Simultaneously, organizations can enrich communication channels and help employees vent their negative emotions through other channels. In addition, an organization can offer an employee assistance program to help employees regulate negative emotions in a timely manner through professional guidance, training and counseling to prevent negative emotions from spreading throughout the organization. These measures can help an organization build a harmonious emotional atmosphere and thereby decrease the tendency for employees to reduce their negative emotions by reducing work engagement.

Finally, this study shows that coworker support, as an important work resource, can significantly buffer the negative consequences of employees' abusive experiences. Thus, organizations should pay attention to humanistic care and help employees build harmonious interpersonal relationships to meet their relationship needs. On the one hand, organizations can establish management systems that support employees' establishment of cooperative relations; for example, organizations should be cautious about using a system of terminating only the lowest-performing employees, which emphasizes performance as the most important factor. On the other hand, an organization can organize interesting group activities to provide opportunities for employee communication and promote workplace friendship. Through the abovementioned measures, employees may feel less isolated and helpless when they experience abusive supervisor behavior because other positive interpersonal interactions could compensate for the negative consequences of abusive experiences.

Limitations and future research directions

As this study's first limitation, it used a daily diary survey in which 73 participants completed a survey over 5 consecutive working days, which means that the sample size at the person and day levels may have been insufficient. Previous studies have suggested that the survey period should be no less than 5 days and that the number of participants should be no less than 30 (Ohly et al., 2010). Although our sample size may not lead to biased results, to increase generalizable conclusions and improve statistical power, future studies may have more participants' complete questionnaires for longer periods of time.

Second, all of the variables of this study were based on self-reports, and all day-level variables were measured at the same time point, which may have increased the potential for common method variance. Abusive supervision, negative emotions and job engagement are all private experiences, and self-reports more closely reflect actual experiences and behaviors (Bakker and Xanthopoulou, 2009). In addition, Demerouti and Cropanzano (2017) pointed out that self-reports should not automatically be viewed as biased. The interaction effect was significant in this study, so the self-report measures did not result in a serious problem or threaten our results. However, to explore causal relationships, a future survey could collect data from separate sources and time points. For example, the participants could complete the questionnaire three times per day; abusive supervision could be measured in the morning, negative emotion could be measured in the afternoon, and work engagement could be measured in the evening.

Third, all participants in this study were Chinese chain restaurant employees; however, chain restaurant employees are characterized by low education, low income, long working hours, young age and other characteristics that make them quite different from employees in other industries. Therefore, whether these conclusions about chain restaurant employees apply to other industries remains to be further demonstrated by scholars. Future studies can explore the reliability of the research conclusions to other industry samples from different regions that take different forms.

Conclusion

Using a within-individual study design, this study explores the dynamic mechanism of daily abusive supervision on daily work engagement from the perspective of the COR theory. The results show that employees' daily abusive experiences directly lead to their daily negative emotions and then reduce their

daily work engagement. Simultaneously, from the perspective of resources, this paper explores the buffering effect of coworker support on the influence of daily abusive supervision on daily negative emotion. The results show that when coworker support, which is an important job resource, is higher, the adverse effect of employees' daily abusive supervision on daily negative emotions is weaker.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent from the patients/participants was not required to participate in this study in accordance with the national legislation and the institutional requirements.

Author contributions

HW wrote the original draft of the manuscript and analyzed the data. TT revised the manuscript. Both authors contributed to the design and conceptualization of the manuscript, as well as to reviewing, and editing the manuscript.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Aggarwal, A., Chand, P. K., Jhamb, D., and Mittal, A. (2020). Leader–member exchange, work engagement, and psychological withdrawal behavior: the mediating role of psychological empowerment. *Front. Psychol.* 11:423. doi: 10.3389/fpsyg.2020.00423

Ampofo, E. T. (2020). Do job satisfaction and work engagement mediate the effects of psychological contract breach and abusive supervision on hotel employees' life satisfaction? *J. Hosp. Market. Manag.* 30, 1–23. doi: 10.1080/19368623.2020.1817222

Ariza-Montes, A., Molina-Sánchez, H., Ramirez-Sobrino, J., and Giorgi, G. (2018). Work engagement and flourishing at work among nuns: the moderating role of human values. *Front. Psychol.* 9:1874. doi: 10.3389/fpsyg.2018.01874

Arshad, A., Sun, P., and Desmarais, F. (2021). Abusive supervision and employee empowerment: the moderating role of resilience and workplace friendship. *J. Leadersh. Org. Stud.* 28, 479–494. doi: 10.1177/1548051821100 5449

Ashkanasy, N. M., Humphrey, R. H., and Huy, Q. N. (2017). Integrating emotions and affect in theories of management. *Acad. Manage. Rev.* 42, 175–189. doi: 10.5465/amr.2016.0474

Bakker, A. B. (2014). Daily fluctuations in work engagement: an overview and current directions. *Eur. Psychol.* 19, 227–236. doi: 10.1027/1016-9040/a000160

Bakker, A. B., and Demerouti, E. (2007). The job demands-resources model: state of the art. *J. Manage. Psychol.* 22, 309–328. doi: 10.1108/02683940710733115

Bakker, A. B., and Xanthopoulou, D. (2009). The crossover of daily work engagement: test of an actor–partner interdependence model. *J. Appl. Psychol.* 94, 1562–1571. doi: 10.1037/a0017525

Barnes, C. M., Lucianetti, L., Bhave, D. P., and Christian, M. S. (2015). You wouldn't like me when I'm sleepy": leaders' sleep, daily abusive supervision, and work unit engagement. *Acad. Manage. J.* 58, 1419–1437. doi: 10.5465/amj.2013.1063

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., and Vohs, K. D. (2001). Bad is stronger than good. *Rev. Gen. Psychol.* 5, 323–370. doi: 10.1037/1089-2680.5.4.323

Beal, D. J., Weiss, H. M., Barros, E., and MacDermid, S. M. (2005). An episodic process model of affective influences on performance. *J. Appl. Psychol.* 90, 1054–1068. doi: 10.1037/0021-9010.90.6.1054

Breevaart, K., Bakker, A., Hetland, J., Demerouti, E., Olsen, O. K., and Espevik, R. (2014). Daily transactional and transformational leadership and daily employee engagement. *J. Occup. Organ. Psychol.* 87, 138–157. doi: 10.1111/joop.12041

Breevaart, K., Bakker, A. B., Demerouti, E., and Derks, D. (2016). Who takes the lead? A multi-source diary study on leadership, work engagement, and job performance. *J. Organ. Behav.* 37, 309–325. doi: 10.1002/job.2041

Cai, D., Cai, Y., Sun, Y., and Ma, J. (2018). Linking empowering leadership and employee work engagement: the effects of person-job fit, person-group fit, and proactive personality. *Front. Psychol.* 9:1304. doi: 10.3389/fpsyg.2018.01304

Carlson, D., Kacmar, K. M., Zivnuska, S., Ferguson, M., and Whitten, D. (2011). Work-family enrichment and job performance: a constructive replication of affective events theory. *J. Occup. Health Psychol.* 16, 297–312. doi: 10.1037/a0022880

Chen, C. Y. (2019). Does work engagement mediate the influence of job resourcefulness on job crafting: an examination of frontline hotel employees? *Int. J. Contemp. Hosp. Mang.* 31, 1684–1701. doi: 10.1108/IJCHM-05-2018-0365

Chen, Q., Yang, S., Deng, J., Lu, L., and He, J. (2021). Relationships among leaders' and followers' work engagement and followers' subjective career success: a multilevel approach. *Front. Psychol.* 12:634350. doi: 10.3389/fpsyg.2021.634350

Cooke, D. K., Brant, K. K., and Woods, J. M. (2019). The role of public service motivation in employee work engagement: a test of the job demands-resources model. *Int. J. Public. Admin.* 42, 765–775. doi: 10.1080/01900692.2018.1517265

Demerouti, E., and Cropanzano, R. (2017). The buffering role of sportsmanship on the effects of daily negative events. *Eur. J. Work. Organ. Psychol.* 26, 263–274. doi: 10.1080/1359432X.2016.1257610

Dorssen, B. P., Vuuren, T., Jong, J. P., and Veld, M. (2021). Facilitating health care workers' self-determination: the impact of a self-leadership intervention on work engagement, health, and performance. *J. Occup. Organ. Psychol.* 94, 259–281. doi: 10.1111/joop.12352

Elliot, A. J. (2006). The hierarchical model of approach-avoidance motivation. *Motiv. Emotion* 30, 111–116. doi: 10.1007/s11031-006-9028-7

Fürstenberg, N., Alfes, K., and Kearney, E. (2021). How and when paradoxical leadership benefits work engagement: the role of goal clarity and work autonomy. *J. Occup. Organ. Psychol.* 94, 1–34. doi: 10.1111/joop.12344

Garrick, A., Mak, A. S., Cathcart, S., Winwood, P. C., Bakker, A. B., and Lushington, K. (2012). Psychosocial safety climate moderating the effects of daily job demands and recovery on fatigue and work engagement. *J. Occup. Organ. Psychol.* 60, 234–267. doi: 10.1111/joop.12069

Gkorezis, P., Bellou, V., Xanthopoulou, D., Bakker, A. B., and Tsiftsis, A. (2016). Linking football team performance to fans work engagement and job performance: test of a spillover model. *J. Occup. Organ. Psychol.* 89, 791–812. doi: 10.1111/joop.12155

Greenidge, D., and Coyne, I. (2014). Job stressors and voluntary work behaviors: mediating effect of emotion and moderating roles of personality and emotional intelligence. *Hum. Resour. Manag. J.* 24, 479–495. doi: 10.1111/1748-8583.12044

Grobelna, A. (2019). Effects of individual and job characteristics on hotel contact employees' work engagement and their performance outcomes: a case study from Poland. *Int. J. Contemp. Hosp. Mang.* 31, 349–369. doi: 10.1108/IJCHM-08-2017-0501

Hammer, T. H., Saksvik, P. O., Nytro, K., Torvatn, H., and Bayazit, M. (2004). Expanding the psychosocial work environment: workplace norms and work-family conflict as correlates of stress and health. *J. Occup. Health Psychol.* 9, 83–97. doi: 10.1037/1076-8998.9.1.83

Herr, R. M., Vianen, A., Bosle, C., and Fischer, J. E. (2021). Personality type matters: perceptions of job demands, job resources, and their associations with work engagement and mental health. *Curr. Psychol.* 9, 1–15. doi: 10.1007/s12144-021-01517-w

Hobfoll, S. E. (1989). Conservation of resources: a new attempt at conceptualizing stress. *Am. Psychol.* 44, 513–524. doi: 10.1037/0003-066X.44.3.513

Hobfoll, S. E., and Shirom, A. (2001). "Conservation of resources theory: applications to stress and management in the workplace," in *Handbook of Organizational Behavior*, ed. R. T. Golembiewski (New York, NY: Dekker), 57–81.

Hsu, C. T., Liao, H. Y., and Huang, M. H. (2021). Coping with abusive supervision: the alleviating effect of self-efficacy and the perception of authenticity on the negative consequences of abusive supervision. *Corp. Manag. Rev.* 41, 83–123. doi: 10.3966/102873102021064101003

Huang, S. Y. B., Huang, C. H., and Chang, T. W. (2022). A new concept of work engagement theory in cognitive engagement, emotional engagement, and physical engagement. *Front. Psychol.* 12:663440. doi: 10.3389/fpsyg.2021.663440

Huh, E., and Lee, E. S. (2021). Can abusive supervision create positive work engagement? The interactive moderating role of positive causal attribution and workplace friendship. *Manage. Decis.* 60, 531–549. doi: 10.1108/MD-10-2020-1356

Kaya, B., and Karatepe, O. M. (2020). Does servant leadership better explain work engagement, career satisfaction and adaptive performance than authentic leadership? *Int. J. Contemp. Hosp. Mang.* 32, 2075–2095. doi: 10.1108/IJCHM-05-2019-0438

Khan, A. N., Moin, M. F., Khan, N. A., and Zhang, C. L. (2022). A multistudy analysis of abusive supervision and social network service addiction on employee's job engagement and innovative work behaviour. *Creat. Innov. Manag.* 31, 77–92. doi: 10.1111/caim.12481

Kim, H. J., Hur, W. M., Moon, T. W., and Jun, J. K. (2017). Is all support equal? The moderating effects of supervisor, coworker, and organizational support on the link between emotional labor and job performance. *Bus. Res. Q.* 20, 124–136. doi: 10.1016/j.brq.2016.11.002

Kirrane, M., Kilroy, S., and O'Connor, C. (2018). The moderating effect of team psychological empowerment on the relationship between abusive supervision and engagement. *Leadersh. Org. Dev. J.* 40, 31–44. doi: 10.1108/LODJ-07-2018-0252

Korman, B. A., Trster, C., and Giessner, S. R. (2021). The consequences of incongruent abusive supervision: anticipation of social exclusion, shame, and turnover intentions. *J. Leadersh. Org. Stud.* 28, 306–321. doi: 10.1177/15480518211005463

Kuba, K., and Scheibe, S. (2017). Let it be and keep on going! Acceptance and daily occupational well-being in relation to negative work events. *J. Occup. Health Psychol.* 22, 59–70. doi: 10.1037/a0040149

Kühnel, J., Sonnentag, S., and Bledow, R. (2012). Resources and time pressure as day-level antecedents of work engagement. *J. Occup. Organ. Psychol.* 85, 181–198. doi: 10.1111/j.2044-8325.2011.02022.x

Kulikowski, K., and Sedlak, P. (2017). Can you buy work engagement? The relationship between pay, fringe benefits, financial bonuses and work engagement. *Curr. Psychol.* 39, 343–353. doi: 10.1007/s12144-017-9768-4

Mackey, J. D., Ellen, B. P., Mcallister, C. P., Alexander, K. C., and Woodside, A. G. (2021). The dark side of leadership: a systematic literature review and meta-analysis of destructive leadership research. *J. Bus. Res.* 132, 705–718. doi: 10.1016/j.jbusres.2020.10.037

Mackinnon, A., Jorm, A. F., Christensen, H., Korten, A. E., Jacomb, P. A., and Rodgers, B. (1999). A short form of the positive and negative affect schedule: evaluation of factorial validity and invariance across demographic variables in a community sample. *Pers. Indiv. Differ.* 27, 405–416. doi: 10.1016/S0191-8869(98)00251-7

Mann, A., and Harter, J. (2016). *The Worldwide Employee Engagement Crisis*. Available online at: https://www.gallup.com/workplace/236495/worldwide-employee-engagement-crisis.aspx. 2016. (accessed January 7, 2016).

Marijntje, Z., Petrou, P., and Bakker, A. B. (2020). The daily exchange of social support between coworkers: implications for momentary work engagement. *J. Occup. Health Psychol.* 25, 439–449. doi: 10.1037/ocp0000262

Matta, F. K., Erol-Korkmaz, H. T., Johnson, R. E., and Bicaksiz, P. (2014). Significant work events and counterproductive work behavior: the role of fairness, emotions, and emotion regulation. *J. Organ. Behav.* 35, 920–944. doi: 10.1002/job.1934

Mayo, M., Sanchez, J., Pastor, J., and Rodriguez, A. (2012). Supervisor and coworker support: a source congruence approach to buffering role conflict and physical stressors. *Int. J. Hum. Resour. Man.* 23, 3872–3889. doi: 10.1080/09585192.2012.676930

Michel, J. S., Newness, K., and Duniewicz, K. (2016). How abusive supervision affects workplace deviance: a moderated-mediation examination of aggressiveness and work-related negative affect. *J. Bus. Psychol.* 31, 1–22. doi: 10.1007/s10869-015-9400-2

Ohly, S., Sonnentag, S., Niessen, C., and Zapf, D. (2010). Diary studies in organizational research. *J. Pers. Psychol.* 9, 79–93. doi: 10.1027/1866-5888/a000009

Peng, A. C., Schaubroeck, J. M., Chong, S., and Li, Y. (2019). Discrete emotions linking abusive supervision to employee intention and behavior. *Pers. Psychol.* 72, 393–419. doi: 10.1111/peps.12310

Podsakoff, P. M., MacKenzie, S. B., and Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annu. Rev. Psychol.* 63, 539–569.

Poon, J. (2011). Effects of abusive supervision and coworker support on work engagement. *Int. Pers. Econ. Dev. Res.* 22, 65–70.

Preacher, K. J., and Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behav. Res. Methods* 40, 879–891. doi: 10.3758/BRM.40.3.879

Rafiq, M., Wu, W., Chin, T., and Nasir, M. (2019). The psychological mechanism linking employee work engagement and turnover intention: a moderated mediation study. *Work* 62, 615–628. doi: 10.1108/02683940610690169

Schaufeli, W. B. (2016). The measurement of work engagement with a short questionnaire: a cross-national study. *Educ. Psychol. Meas.* 66, 701–716. doi: 10.1177/0013164405282471

Schaufeli, W. B., Salanova, M., González-romá, V., and Bakker, A. B. (2002). The measurement of engagement and burnout: a two sample confirmatory factor analytic approach. *J. Happiness Stud.* 3, 71–92. doi: 10.1023/A:1015630930326

Singh, B., Selvarajan, T., and Solansky, S. T. (2019). Coworker influence on employee performance: a conservation of resources perspective. *J. Manage. Psychol.* 34, 587–600. doi: 10.1108/JMP-09-2018-0392

Sonnentag, S., Eck, K., Fritz, C., and Kühnel, J. (2020). Morning reattachment to work and work engagement during the day: a look at day-level mediators. *J. Manage.* 46, 1408–1435. doi: 10.1177/0149206319829823

Subramony, M., Groth, M., Jaarsveld, D., Walker, D. D., Restubog, S., Skarlicki, D., et al. (2021). Unpacking the relationship between customer (in) justice and employee turnover outcomes: can fair supervisor treatment reduce employees' emotional turmoil? *J. Serv. Res. U.S.* 24, 301–319. doi: 10.1177/1094670519883949

Swati, M. (2016). A brief review of employee engagement: definition, antecedents and approaches. *Int. J. Res. Commer. Manage.* 7, 79–88. doi: 10.37922/pijmit.2015.v04i02.001

Tafvelin, S., Nielsen, K., Ulrica, V. T. S., and Stenling, A. (2019). Leading well is a matter of resources: leader vigour and peer support augments the relationship between transformational leadership and burnout. *Work Stress* 33, 1–17. doi: 10.1080/02678373.2018.1513961

Tepper, B. J. (2000). Consequences of abusive supervision. *Acad. Manage. J.* 43, 178–190. doi: 10.2307/1556375

Tepper, B. J. (2007). Abusive supervision in work organizations: review, synthesis, and research agenda. *J. Manage.* 33, 261–289. doi: 10.1177/0149206307300812

Thompson, M. J., Carlson, D. S., Hackney, K., and Vogel, R. M. (2022). Vicarious abusive supervision and turnover in expectant working mothers: does financial dependency trigger emotional disconnect? *J. Organ. Behav.* 43, 448–464. doi: 10.1002/job.2579

Tuin, L. V., Schaufeli, W. B., and Broeck, A. (2021). Engaging leadership: enhancing work engagement through intrinsic values and need satisfaction. *Hum. Resour. Dev. Q.* 32, 1–23. doi: 10.1002/hrdq.21430

Venz, L., Pundt, A., and Sonnentag, S. (2018). What matters for work engagement? A diary study on resources and the benefits of selective optimization with compensation for state work engagement. *J. Organ. Behav.* 39, 26–38. doi: 10.1002/job.2207

Wang, C. C., Hsieh, H. H., and Wang, Y. D. (2020). Abusive supervision and employee engagement and satisfaction: the mediating role of employee silence. *Pers. Rev.* 49, 1845–1858. doi: 10.1108/PR-04-2019-0147

Wang, F., and Shi, W. (2020). The effect of work-leisure conflict on front-line employees' work engagement: a cross-level study from the emotional perspective. *Asia. Pac. J. Manag.* 39, 225–247. doi: 10.1007/s10490-020-09722-0

Wang, Z., Qiu, X., Jin, Y., and Zhang, X. (2022). How work–family conflict and work–family facilitation affect employee innovation: a moderated mediation model of emotions and work flexibility. *Front. Psychol.* 12:796201. doi: 10.3389/fpsyg.2021.796201

Weiss, H. M., and Cropanzano, R. (1996). Affective events theory: a theoretical discussion of the structure, causes and consequences of affective experiences at work. *Res. Organ. Behav.* 18, 1–74. doi: 10.1177/030639689603700317

Weiss, M., and Zacher, H. (2022). Why and when does voice lead to increased job engagement? The role of perceived voice appreciation and emotional stability. *J. Vocat. Behav.* 132:103662. doi: 10.1016/j.jvb.2021.103662

Zampetakis, L. A. (2022). Employees' fear at work, job crafting, and work engagement on a daily basis: the case for fear of COVID-19. *Appl. Psychol.* [Epub ahead of print]. doi: 10.1016/j.jvb.2021.103662

Zhang, J., and Liu, J. (2018). Is abusive supervision an absolute devil? Literature review and research agenda. *Asia. Pac. J. Manag.* 35, 719–744. doi: 10.1007/s10490-017-9551-y

Zhang, Z., Zyphur, M. J., and Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models problems and solutions. *Organ. Res. Methods* 12, 695–719. doi: 10.1177/1094428108327450

Zheng, Y., Graham, L., Epitropaki, O., and Snape, E. (2020). Service leadership, work engagement, and service performance: the moderating role of leader skills. *Group Organ. Manage.* 45, 43–74. doi: 10.1177/1059601119851978

Person–Job Misfit: Perceived Overqualification and Counterproductive Work Behavior

Jawad Khan[1*†], Amna Ali[1], Imran Saeed[2†], Alejandro Vega-Muñoz[3†] and Nicolás Contreras-Barraza[4†]

[1]Department of Business Administration, Iqra National University, Peshawar, Pakistan, [2]Institute of Business and Management Sciences, The University of Agriculture, Peshawar, Pakistan, [3]Public Policy Observatory, Universidad Autónoma de Chile, Santiago, Chile, [4]Facultad de Economía y Negocios, Universidad Andres Bello, Santiago, Chile

Grounding on person–job fit theory, we examined perceived overqualification relation with counterproductive work behavior (CWB) by identifying job boredom as a mediator and job crafting as a moderator. Hierarchical linear regression and Hayes' PROCESS macro-method were used to assess hypotheses in a three-wave survey of 317 textile sector employees. The findings show that perceived overqualification is positively related with CWBs. This study further examined the mediating function of job boredom and the moderating impact of job crafting in the association between perceived overqualification and CWB. The findings suggest that job crafting moderates the positive relation between perceived overqualification and job boredom and the indirect connection between perceived overqualification and CWB *via* job boredom. The model was tested using 3-wave data; however, since the data were attained from a single source, questions of common method bias cannot be ruled out. Managers should look for changes in employee attitudes and promptly modify employees' positions when they indicate that they have more experience, abilities, and talents required for their roles in their organizations.

Keywords: perceived overqualification, person–job (mis)fit, counterproductive work behavior, job boredom, job crafting

INTRODUCTION

Qualified employees are the key sources that make organizations sustainable and competitive. The organization should provide the employees with an environment where they can flourish. The jobs should have the skill variety, job identity, and job significance as Hackman and Oldham claimed in their job characteristics model so that employees find them meaningful and motivating (De Sousa Sabbagha et al., 2018; Erdogan and Bauer, 2021). It has been recognized in human resource management (HRM) literature that employees who think they are overqualified are a kind of human capital (Sesen and Ertan 2020). Researchers have identified employee development programs are valuable tools to efficiently use overqualified employees to achieve organizational objectives. When this "demand and supply" interacts, holding exogenous factors constant, the internal part of the success (regarding employees) will be achieved. But this is not what always happens. The discrepancy may arise either from the employee or

organization or sometimes much extensively from cultural ideas, economic situations or employment policies.

A satisfactory amount of evidence reveals that employees are more qualified than their jobs' demands (Brynin, 2002; Arvan et al., 2019). For example, in different countries such as United Kingdom, Canada, United States of America and Germany the one-third of employees are overqualified. Similarly, this ratio was 39% in the general EU zone according to CEDEFOP's (The European Centre for the Development of Vocational Training) research in 2018 (Gkorezis et al., 2019), 84% in China, and 47% worldwide (Huang and Hu, 2022). For (Howard et al., 2022) the reason is the increasing competition in the labor market and the downturn of the global economy. With the Covid-19 pandemic, this problem plays a more substantial role in societies (Gong et al., 2021). Qualified individuals contribute to the performance and creativity of an organization as a result of holding extensive qualifications (Erdogan et al., 2011). In contrast, overqualified workers are more likely to have negative work attitudes and may not be willing to exert additional effort. This is why the overqualification problem has drawn the attention of academics, practitioners, and business leaders (Maynard and Feldman, 2011). According to previous studies, individuals and their employers may suffer from overqualified employees.

Previous studies suggest that POQ has negative outcomes for both employees and organizations. POQ is linked with low job satisfaction (Wassermann et al., 2017), demotivation (Chambel et al., 2021a), frustration, and impaired health (Liu et al., 2015). Studying previous literature, still, there is an important gap in the POQ literature regarding withdrawal behaviors, and the psychological nature of the POQ. Furthermore, unpacking when, why, and how POQ exhibits such behavior? The researcher starts examining the links between POQ and employee behavior, such as withdrawal behavior. One such important behavior is counterproductive work behavior (CWB)—which refers to "voluntary acts that are detrimental to an organization's goals that contradict important organizational rules and endanger its well-being or its members" (Bakker et al., 2012). Due to poor person–job fit, such relation is important to be examined that triggers employee CWB. Moreover, a model with mediating and moderating paths between POQ and CWB is still underdeveloped. So it is important to explain when, how and why POQ employees show CWB's. However, it has been shown that the relationship between perceived overqualification and CWBs is caused by negative emotions and behaviors that emerges due to a poor needs-supplies fit, stressing the significance of satisfying needs in the regulation of perceived overqualification (Gong et al., 2021). This results in a negative emotions and behaviors, which leads to CWBs. In line with the person–job fit theory and expanding it further, we argue that for employees who see themselves as overqualified, enhancing the needs–supplies fit may encourage productive work behavior (Erdogan and Bauer, 2021).

Person–job misfit is one of the reasons behind job boredom at the workplace. Research on this topic is scarce compared to employees with surplus knowledge, skills, and abilities (KSA's) and a lack of challenging tasks and responsibilities. These beliefs

substantially influence employees' attitudes and emotions about their job qualification (Seong et al., 2015). When people's working settings do not correspond to their interests or expectations, they are more prone to experience feelings of boredom (Fisher, 1993). Individuals' beliefs that they are overqualified for a position or a mismatch between their education, experience, abilities, and responsibilities required in a position (for example, individuals may believe that they are overqualified for a position) may play a role in the boredom that they experience in their jobs (Liu and Wang, 2012). Employees may actively alter their work better to meet their needs, talents, and motivations when this form of misfit emerges. They try to engage in such behaviors that is make their job interesting. One such approach is job crafting, "Job crafting is an individually driven work design process which refers to self-initiated, proactive strategies to change the characteristics of one's job to better align the job with personal needs, goals, and skills." However, such technique is important to examine whether job crafting lower the effect between perceived overqualification and job boredom in the workplace. Previous studies find a positive relation between employee's surplus knowledge, skills and abilities (KSAs) required for a job and their passion toward making job interesting (Tims and Bakker, 2010).

This study shows that the person–job fit theory is an important theoretical approach to theorizing overqualification. Person–job fit theory highlights various behavioral consequences due to such mismatch. Grounding on person–job fit theory, we empirically examined overqualification with key behavioral outcomes "counterproductive work behavior." Our study shows that POQ is positively linked with harmful behavior and showing that CWB is a result of a person–job mismatch (Sánchez-Cardona et al., 2020). Further, this study also contributes to the job crafting literature by examining it mitigating role in reducing job boredom due to POQ. Job boredom starts when an employee qualification does not align with job requirements and responsibilities or there is a poor mismatch between needs-supplies fit. This study is evidence to examine job crafting as a buffering mechanism in predicting relation between POQ and job boredom. This study shows that self-initiated and proactive strategies helps employees to reduce job boredom among overqualified employees.

HYPOTHESES DEVELOPMENT

Perceived Overqualification as Person–Job Misfit

Overqualification is defined as "individuals possessing extra knowledge, skills, and abilities (KSAs) in comparison with the requirements of their jobs" (Liu et al., 2015). The person–job fit framework is the one that most accurately expresses the essence of excessive qualification. Perceptions of surplus qualifications are aligned with the concept of person–job mismatch, which refers to when people's talents exceed work requirements (i.e., demands–abilities mismatch). Furthermore, this approach highlights the demands of these employees are

being met (i.e., needs–supplies mismatch). Employees with surplus qualifications may be able to carry out their essential responsibilities. Still, they are unable to use the talents they have acquired, and as a result, they are likely to be underutilized, resulting in increased stress and boredom (Edwards, 1991). Overqualification may be quantified empirically, such as when comparing education and experience levels required for a specific job position (Kristof-Brown et al., 2005).

Similarly, individual perceptions of overqualification are the most reliable means of determining it. (i) It is often a position taken on the basis of social comparison, and (ii) the norm against which qualifications are assessed is typically subjective (Liu and Wang, 2012). The subjective comparisons that people make between their current employment and standard benchmarks such as their self-esteem, former job, and coworkers in comparable positions serve as the basis for overqualification and influence employee behavior. In addition, studies show that applicants' perceived and empirically judged overqualifications are strongly linked (McKee-Ryan et al., 2009). Our focus in this study is on the perception of overqualification due to these difficulties in line with past research. Person–job fit literature illustrates, a mismatch always results in negative consequences, when it comes to high performance, well-being, and favorable attitudes toward their work, fit is valuable for both individuals and organizations (Edwards, 2008). According to this theory, employees who are overqualified is more likely to be unhappy with their job and less committed to their work (Edwards, 2008; Wu and Chen, 2021).

Furthermore, previous research specify that employee who are overqualified are more inclined to engage in more job-seeking activities and deviant behavior. Overqualified individuals are engaged in various activities, and there has been little research into why they are doing so and what factors help mitigate these actions' negative consequences. The role of moderators and mediators in influencing behavioral outcomes of the person–job mismatch is unclear and less studied (Edwards, 1991; Erdogan and Bauer, 2009).

Perceived Overqualification and Job Boredom

The feeling of job boredom is widespread, yet it has been a neglected research topic. Job boredom is a depressing situation characterized by low arousal levels and displeasure, a distorted sense of time, and concentration issues, and is usually connected with insufficient stimulus in the workplace (Kim et al., 2021). Many studies have focused on work-related characteristics as predictors of boredom. Repetitive tasks and monotony factors may predict boredom in the workplace. Workers who aren't engaged in meaningful or fulfilling activities might also get uninterested in their jobs (Andel et al., 2022). The absence of stimulation from the outside world, the lack of learning opportunities, person–job misfit, the lack of job variety, and the lack of work overload have all contributed to job boredom.

Person–job fit theory states that when employees experience person–job mismatch, they experience job boredom. Those employees with surplus qualifications then their job requirements

experience an unpleasant situation in the workplace and become dissatisfied with such an environment. Overqualified employees think their knowledge, skills, and abilities are underused and not fully utilized by the organization. In line with these arguments, there is a positive link between POQ and job boredom. Job boredom is also positively linked with work and skill underutilization (Ye et al., 2017). According to person–job fit theory, they are not making full use of their abilities, or their work environment hinders their abilities to do so. Previous studies show a link between job boredom and person–job fit incongruity. Still, research in this area is limited in the case of job boredom due to external stimulation (e.g., task variety, complexity). Research continually shows that workers' opinions and attitudes at work are highly linked to perceived overqualification. Boredom may be caused by settings that do not fit an employee's interests or job requirements (Fisher, 1993). Employees' perceived overqualification or mismatch between their experience, education, competencies, and the demands of the work may be a contributing factor (e.g., individuals may believe that their previous work experience, expertise, and talents transcend the requirements of their current position) may have a role in determining the likelihood of experiencing job boredom (Kim et al., 2021).

Hypothesis 1: There is a positive relation between POQ and job boredom.

Job Boredom and Counterproductive Work Behaviors

According to our findings, job boredom is an emotional pathway that leads to CWBs, which adds to the emotion-centered model of voluntary work behaviors (Bruursema et al., 2011). The workplace environment induces emotions, and such emotions cause actions that lead to behaviors. When an employee faces such unpleasant behaviors, it causes boredom. Boredom activates impulses to avoid such situations and search for coping behaviors that might reduce job boredom. As a result, to manage boredom, employees engage in counterproductive work behavior (He et al., 2020).

Voluntary actions that harm an organization or other persons are classified as "counterproductive" work behavior (Bennett and Robinson, 2000). The emotion-centered model of voluntary work behaviors states that stress-induced unpleasant emotions lead to CWBs (Spector and Fox, 2002). Fox et al. (2012) showed that boredom at work was linked to various CWBs, including mistreatment, undermining, and withdrawal behavior.

Limited study suggests that repetitive and monotonous activity may adversely affect employees and cause job boredom (Bruursema et al., 2011). Person–job fit theory states that people who complain about their jobs being boring are more likely to be absent from work, more likely to withdraw, less likely to be happy at work, and less likely to be productive (Spector and Fox, 2010). This research offers early verification for an association between job boredom and counterproductive work behavior. Although prior studies hypothesized links between job boredom and CWB, the mechanisms behind this association have not been rigorously studied. Workers could participate

in counterproductive practices to "reduce boredom by producing a change of activity, reasserting personal freedom of choice, and giving the thrill of risking damage or discovery" (Fisher, 1993). Alternately, one may view the characteristics of professions that lead to boredom as a sort of occupational stressor that would be predicted to contribute to CWB (Cohen and Diamant, 2019). According to the job stressor model, employees typically respond to stressors by engaging in CWB (Spector and Fox, 2002). We argue that CWB is a technique for dealing with difficult or uninteresting circumstances.

> *Hypothesis 2*: There is a positive relation between job boredom and CWB.

Perceived Overqualification and Counterproductive Work Behaviors

We argue that unpleasant emotions due to POQ, is a kind of person–job misfit that impends employees comfort and encourage negative behavior, called CWB. Examining POQ and CWB link, we integrated the person–job fit theory. We argue that overqualified employees are more inclined to figure out what this mismatch implies to them cognitively (Biçkes et al., 2020). Employee's cognitive reactions include lower self-esteem, anxiety, and frustration. When employee's qualification and interest for a specific role does not match or underutilized creates work frustration and unpleasant situation. When employee's needs are not fulfilled, they exhibit negative emotional reaction (Andel et al., 2022). Intention to avoid such unpleasant situation, overqualified employee's response in the shape of anger, frustration toward unpleasant situation. Such emotional reaction may account for the potential association between perceived overqualification and CWB (Bruursema et al., 2011). Such negative emotional reactions to job misfit, overqualified employees adopt the "GO SLOW" approach—a protest by workers who deliberately work slowly to cause problems for their employers. Such employee's speaks poorly about employees and organization to harm their reputation. Such employees express their negative feelings by not cooperating with their coworkers (Chambel et al., 2021a). Further, grounding on person–job fit theory, we link poor job fit with negative work emotions and support the argument that stress or frustration leads to CWB. We argue that performing such tasks and responsibilities from whom the employee is overqualified face frustration, leading to voluntary behaviors that harm organizations (CWB-O) or individuals working in the organizations (CWB-I) (Bennett and Robinson, 2000).

> *Hypothesis 3*: Perceived overqualification is positively related to CWB.

The Role of Job Boredom as a Mediator

In the case of overqualified individuals, negative emotions play an important part in determining their CWB (Liu and Wang, 2012). Khan et al. (2022a) used time-lag data on Pakistani workers to find that overqualified employees felt angry about their working conditions. When they were angry, they were more likely to affect themselves and their coworkers negatively. According to person–job fit theory, that overqualified persons participate in CWB because of negative emotional response to their profession (Luksyte et al., 2011). It was shown that only cynicism could properly mediate the relationship between POQ and CWB, highlighting the relevance of negative feelings in comprehending this focused relationship (Luksyte et al., 2011). Specifically (Deng et al., 2018) performed two multisource data studies. They found that when overqualified individuals misfit with the job requirements, they less socially participated, and this unpleasant sensation increased boredom. Boredom has gained recognition as a separate emotional state that impacts job behaviors and performance (van Hooff and van Hooft, 2014). Job boredom is a typical emotional response to POQ and may lead to CWBs (Liu and Wang, 2012). A similar finding has been made by Spector and Fox (2010), who claims that feeling bored at work due to POQ leads to CWB. CWB is more prevalent among overqualified workers (Erdogan et al., 2011). Overqualified individuals who experience a lack of enthusiasm at their place of employment may experience boredom due to the mismatch between their KSAs and their occupations which leads to higher involvement in CWB activities. The POQ study has shown that the CWB of overqualified persons may result job boredom (Spector and Fox, 2010; Liu and Wang, 2012). We hypothesized that the relationships between POQ and CWB would be mediated by job boredom.

> *Hypothesis 4*: Job boredom mediates the relationship between POQ and CWB.

Job Crafting as a Moderator

An overqualified employee can become easily bored and, eventually, an emotional drain due to the underutilization of their qualification. Person–job mismatch is the main and significant reason behind job boredom (Edwards, 1991). Previous research stated that POQ is significantly related to job boredom. According to Fisher (2018), a situation that does not fit employees needs and interest produce boredom. We argue that mismatch between knowledge, skill, and abilities or person–job incongruity and job requirements may induce frustration and leads to job boredom (Watt and Hargis, 2010). When employees perceive a disproportion between their abilities and the demands of their jobs, they may take proactive steps to improve the workplace's pleasure and motivation by changing the work environment (Hu et al., 2022). Employees will be driven to adjust components of their work if the job does not fit their abilities or requirements (Wrzesniewski and Dutton, 2001). Job crafting is a job design strategy to divide job or work roles into different tasks to make them exciting and meaningful to reduce the positive effect between POQ and job boredom (Berg et al., 2013). Further, this approach is defined as "the self-initiated changes that employee's make in their job demands and job resources to attain and optimize their personal (work) goals" (Tims et al., 2016). According to the theory of person–job fit, employees modify their jobs to better balance their needs and resources (Tims et al., 2012). In light of this process, proactive activities such as resource-seeking (structural and social),

challenge-seeking, and demand reduction are part of job crafting (Wrzesniewski and Dutton, 2001). Feedback or information seeking, asking for guidance from peers, and maximizing professional autonomy are all resource-seeking activities. These behaviors may assist in making overqualified individual work more motivating and mobilizing additional resources to meet the demands of one's employment to reduce job boredom (Yu and Jyawali, 2021). Performing new activities or accepting more duties are examples of actions associated with seeking difficulties. Overqualified individuals may participate in these practices to keep their motivation high and avoid becoming bored. By dividing one's work into fascinating roles, overqualified individuals reduce the stress associated with one's job by minimizing emotional, mental, and physical stresses (Petrou et al., 2012). As a result, when their work is customized for them *via* "job crafting," employees have a more favorable perception of the relevance of their employment (Wrzesniewski et al., 2013).

Persons who make their employment enjoyable reported more excellent person–job fit. Higher levels of demands–abilities fit were associated with better levels of work satisfaction and low level of job boredom. However, this early evidence suggests that job crafting may be a useful strategy to code job boredom. In order to acquire meaningfulness in contemporary work environments, it is necessary for overqualified individuals to have the ability to craft the job (Wrzesniewski et al., 2013). It is possible to improve the quality of one's work-life by modifying one's work environment to better suit one's personality and work goals (Tims et al., 2016). Workplace boredom may be reduced or eliminated by giving employees the freedom to modify their professions, allowing them to create meaningful and engaging experiences for themselves *via* job crafting (Berg et al., 2013).

> *Hypothesis 5*: Job crafting moderates the positive association between perceived overqualification and job boredom.

We examine job crafting as a preemptive individual approach to enhance person–job congruity, which may reduce the interaction effect of POQ and job boredom on CWB. Examining job crafting as a proactive employee action that aid in detecting work design or self-initiated strategies through which boredom may be reduced, and ultimately CWB can be reduced. Earlier, we argued that POQ is positively linked with the CWB *via* job boredom. Consequently, perceived overqualification leads to job boredom, which was shown to be the major driver of counterproductive behavior in our study. Furthermore, we stated that employees who engage in job crafting will acquire more fabulous sentiments of motivation to make their jobs more fascinating, will face less job boredom in reaction to perceived overqualification, and will be less likely to engage in counterproductive work behavior. Thus, we hypothesized that the positive link between perceived overqualification and job boredom would be lower for those who are more involved in job crafting. Therefore, we hypothesize that (**Figure 1**):

> *Hypothesis 6*: The indirect link between perceived overqualification and counterproductive work behavior

via job boredom is stronger at higher than at lower levels of job crafting.

METHODOLOGY

Sample and Procedure

Data were collected from five textile companies located in Khyber Pakhtunkhwa Pakistan. This industry is selected on the basis of its significance and contribution to the economy. Pakistan is the eighth biggest exporter of textile items in Asia, according to the World Trade Organization. It is the fourth biggest producer and third largest consumer of cotton in the world. It accounts for 46 percent of the overall manufacturing sector's output and employs 40 percent of the nation's work force. Only 5% of the total number of textile firms are publicly traded on the stock market. In the long term, any inconsistency or carelessness in catering criteria would have severe negative consequences for the whole population. The inability to provide a suitable working environment for all workers, as well as the failure to address individual employee needs, will eventually result in a reduction in the overall quality of the job, resulting in a loss to the whole organization. The authors contacted the participants through professional and personal sources. The HR department of the concerned organization were contacted for help to take approval from the top management. The study's purpose was communicated with the organization's members. After obtaining official approval, we distributed questionnaires among employees, assured that the data collection was voluntary, and guaranteed the respondents' privacy. The questionnaires were coded adequately due to the time-lag study (to match T1, T2, and T3). The respondents were asked to place their questionnaires in sealed envelopes. The envelopes were gathered by the authors. To avoid common method biases (Podsakoff et al., 2012), the survey was conducted in three phases with a gap of 5 weeks. Podsakoff et al. (2012) suggest that the gap should be neither too short nor long. If the gap between data collection is too long, participant attrition happen. Similarly, if the length is too short of the data collection, memory effects may magnify the relationship between variables in an unnecessarily inflated manner (Dormann and Griffin, 2015). Thus, it was decided to maintain a gap of 5 weeks is the best choice (Dormann and Griffin, 2015). In phase 1, we collected data from 412 respondents out of 463 respondents regarding POQ, job crafting, and demographics and we received responses (88.98%). After 5 weeks gap, in phase 2, we contacted the same respondents to complete the second phase questionnaire regarding job boredom and received 364 responses. In phase 2, we received the response rate was (78.61%). After 5 weeks, we collected data for CWB for those who participated in the second phase. Three hundred and twenty-six (326) responses were received in phase 3, the participation rate was (70.41%). After proper scrutiny we removed nine questionnaires due to missing values. Finally, we have sample of 317 employee's data for analysis. The following are their demographic characteristics: The average age of the workers was 32.0 years, and 68.0% of the workforce were male. The respondent's education indicate that 87.2% of workers held a master's degree or more.
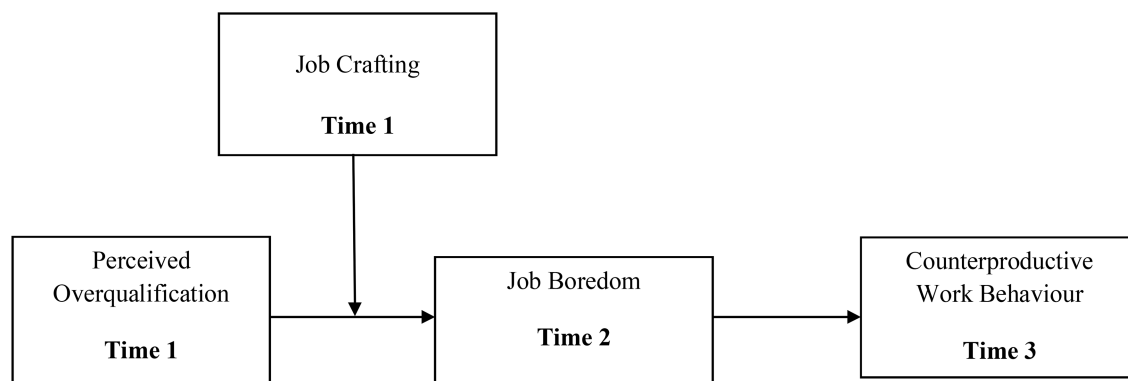
FIGURE 1 | Hypothesized moderated mediation model.

MEASURES

Perceived Overqualification

The 9-item scale was used to assess overqualification (Maynard et al., 2006). Example of items are (e.g., "I have more abilities than I need to do my job;" $\alpha = 0.75$).

Job Boredom

To measure job boredom we used 6-item Dutch boredom scale, developed by Reijseger et al. (2013). A sample item is "I have felt bored at my job." The reliability of this study was $\alpha = 0.85$.

Job Crafting

The job crafting scale has 15 items used to measure employee job crafting (Tims et al., 2012). "Increasing structural job resources ($\alpha = 0.76$), increasing social resources ($\alpha = 0.77$), and increasing challenge job demands ($\alpha = 0.75$)" were each assessed by five items.

Counterproductive Work Behavior

CWB was measured by using a (Bennett and Robinson, 2000) 19-item scale. The scale contains two dimensions: CWB against the coworkers/individuals (CWB-I; 7 items) and CWB against the organization (CWB-O; 12 items). A sample item of CWB-I is "Said something hurtful to someone at work," and a sample item of CWB-O is "Taken an additional or longer break than is acceptable at your workplace." Higher scores represent a higher level of counterproductive behavior. The Cronbach's α of CWB-I and CWB-O for the current data set was 0.92 and 0.94, respectively.

Control Variables

In the present research, the relationship between age and job boredom was negative and statistically significant ($r = -0.032$, p. 01). Younger employees reported greater job boredom than their older counterparts, as shown by earlier research (Harju et al., 2014). As a result, we chose to include age as a controlling factor in our study.

RESULTS

Descriptive Statistics

Table 1 displays the means, standard deviations, correlations, and scale reliability. As demonstrated in **Table 1**, all study variables exhibited a satisfactory level of internal consistency, which was considered acceptable. The correlations between study variables were in the predicted direction, and all study variables had an acceptable degree of internal consistency ($\alpha > 0.70$). The POQ was positively related to job boredom ($r = 0.24$, $p < 0.01$) and CWB ($r = 0.31$, $p < 0.05$). In addition, employees' job boredom was positively related to CWB ($r = 0.21$, $p < 0.01$).

Model Measurement

To determine the questionnaire's validity and reliability, we used CFA. The validation test shows that all indicators had a loading factor value >0.5, indicating that they were acceptable (see **Table 2**). Prior to evaluating the hypotheses, Anderson and Gerbing (1988) recommended assessing the construct validity of variables. Confirmatory factor analysis (CFAs) using AMOS 18.0 confirmed the distinctness of our model's POQ, job boredom, job crafting, and CWB constructs. The results showed in **Table 3**, the four-factor model provided a good fit with fit indices in acceptable range ($\chi 2 = 313.24$, $df = 69$, GFI $= 0.92$, CFI $= 0.91$, TLI $= 0.90$, RMSEA $= 0.05$). For each construct, the correlation between the constructs is shown in **Table 2**, which is smaller than the square root of the AVE in each of the dependent and independent constructs. Thus, the discriminant validity of the model was effectively supported by this research.

Hypotheses Testing
Direct and Mediation Effects
As shown in **Table 2**, hierarchical linear regression was applied to analyze the main effects of the study, and (Hayes, 2017) PROCESS macro was used for mediation, moderation, and moderation mediation. First, we examined the association between POQ and job boredom, and the results indicate that there is a positive relationship exists between these two variables

TABLE 1 | Correlations, mean, standard deviation, and reliability.

Variables	Mean	SD	1	2	3	4	5	6	7	8
1. Gender	1.39	0.48								
2. Age	2.83	0.95	0.247							
3. Service	1.72	0.90	0.219	0.700						
4. Education	2.89	0.51	0.042	0.048	−0.063					
5. POQ	4.02	0.34	0.022	0.002	0.017	0.024	(0.82)			
6. CWB	3.58	0.54	−0.047	−0.078	−0.067	0.045	0.314**	(0.79)		
7. Job boredom	3.56	0.80	0.027	−0.032*	0.044	0.061	0.244**	0.216**	(0.84)	
8. Job crafting	1.73	0.36	0.024	0.040	0.039	0.020	0.033	−0.062	−0.072	(0.87)

*Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed). Bold values are Cronbach's alpha values.*

(Model 1: $B = 0.571$, $p < 0.000$), thus supporting hypothesis 1. Second, we examined the direct link between job boredom and CWB, and the results indicates a positive association between job boredom and CWB (Model: 4 $B = 0.293$, $p < 0.000$), supporting hypothesis 2. Third, the results show that POQ positively affects CWB, supporting our hypothesis 3 (Model 4: $B = 0.653$, $p < 0.000$). Mediation analyses were performed using Hayes (2017) PROCESS macro model 4 (see **Table 2**). Job boredom partially mediated the link between POQ and CWB (indirect effect = 0.293, SE = 0.075, 95% CI = 0.1437, 0.4426; direct effect = 0.36, SE = 0.049, 95% CI = 0.2634, 0.4567), thus supporting hypothesis 4.

Moderation Effects

For moderation analyses, we used Hayes (2017) PROCESS macro model 1. Hypothesis 5 stated that job crafting significantly moderates the positive relationship between POQ and job boredom as shown in **Table 4** (Model 2: $B = −0.093*$, SE = 0.4288, $p < 0.05$, 95% CI = −1.9575, −0.2701). **Figure 2** shows the interaction effect, which we displayed to make it easier to understand. Job crafting was measured using basic slopes tests (i.e., +1 and −1 SD from the mean; Aiken et al., 1991). Our findings demonstrated a significant link between POQ and job boredom when an employee's job crafting was high (simple slope = 0.94, SE = 0.1995, $p < 0.000$); as compare to when it was low (simple slope = 0.16, SE = 0.2039, $p > 0.005$). These findings support the pattern stated in hypothesis 5 and illustrate that employees' perceived overqualification and employees' job boredom relation will be weak by practicing job crafting.

Moderation Mediation Examination

In an integrated manner, we investigated the moderation mediation analysis of hypothesis 6 (One SD above and below the mean of a moderator). It was shown that the moderated mediation model, which included the outcome variable of CWB, was significant when job crafting was high (conditional indirect effect = 0.50, SE = 0.12, 95% CI = 0.2700, 0.7519), as compare to when job crafting was low (conditional indirect effect = 0.08, SE = 0.11, 95% CI = −0.1283, 0.3053). Therefore, the index of moderated mediation was statistically significant (Index = −0.5716, SE = 0.24, 95% CI = −1.0512, −0.0934), confirming hypothesis 6 (see **Table 5**).

DISCUSSION

Based on person–job fit theory, we found that perceived overqualification positively affected job boredom and CWB. In addition, the link between overqualification and CWBs is mediated by boredom at work. Furthermore, job crafting moderates the positive association between overqualification and job boredom. Moreover, we found that job crafting interacted with perceived overqualification, affecting job boredom and counterproductive work behavior (Yu and Jyawali, 2021). The study results showed that job crafting weakens the effect of job boredom on counterproductive work behavior after job crafting (Schreurs et al., 2020). As a result of our research, substantial theoretical and practical implications been identified.

Contributions to Theory and Research

First, this study examined job boredom as an outcome of perceived overqualification. In accordance with theoretical support job boredom acts as a mediating factor between perceived overqualification and CWBs. In other words, it adds to our understanding of how this connection is made and furthers prior studies that have identified factors such as exhaustion, anger, and breakdown in the psychological contract due to overqualification (Khan et al., 2022b). According to (Andel et al., 2022), boredom at work leads to resentment, which causes individuals to lash out in retaliation toward the thing or person they feel is the cause of their withdrawal behavior (Howard et al., 2022). Overqualification-induced job boredom has been linked to the CWBs in our research. This is an important finding, to now the association between job boredom and CWBs has never been systematically investigated in the context of perceived overqualification. Our study add to the findings of Erdogan and Bauer (2021), who found that job boredom is associated with subjective well-being and career satisfaction, which, in contrast to boredom-driven reactions, are positive and low-arousal experiences (Harju et al., 2016).

Second, according to our research, workers who think overqualified are more likely to believe they are entitled to greater pay (Erdogan et al., 2018). It has been reported that the perception of overqualification develops by comparing coworkers and those who are not overqualified (Hu et al., 2015; Khan et al., 2021). Such perceptions make overqualified employees bored at their jobs compared with their notable coworkers. Grounding on person–job fit theory (Edwards, 1991),

TABLE 2 | Factor loading's.

Items	CR	AVE	Loadings
POQ	0.93	0.63	
Item 1			0.80
Item 2			0.73
Item 3			0.78
Item 4			0.87
Item 5			0.83
Item 6			0.79
Item 7			0.82
Item 8			0.79
Item 9			0.75
Job crafting	0.96	0.62	
Item 1			0.76
Item 2			0.78
Item 3			0.82
Item 4			0.78
Item 5			0.69
Item 6			0.81
Item 7			0.77
Item 8			0.76
Item 9			0.83
Item 10			0.78
Item 11			0.82
Item 12			0.83
Item 13			0.77
Item 14			0.76
Item 15			0.89
Job boredom	0.92	0.68	
Item 1			0.81
Item 2			0.76
Item 3			0.83
Item 4			0.84
Item 5			0.88
Item 6			0.84
CWB	0.95	0.60	
Item 1			0.79
Item 2			0.77
Item 3			0.84
Item 4			0.77
Item 5			0.82
Item 6			0.73
Item 7			0.72
Item 8			0.78
Item 9			0.77
Item 10			0.74
Item 11			0.81
Item 12			0.87
Item 13			0.71

when people start comparing their past or future career opportunities and comparing their KSA and needs, they start feeling bored. This study further explains the overqualification phenomenon and underpins person–job fit theory as a new addition. Working in a boring environment may be a multifaceted state of well-being with various antecedents. However, most research on the topic focuses on the nature of the job as a predictor (e.g., routine, repetitive duties, lack of variety) and the effects, both positive and negative (Harju et al., 2016; Khan et al., 2022b). The results of this study also corroborate earlier qualitative findings that support our novel study and insert to the body of knowledge in the area of POQ (Liu and Wang, 2012; Erdogan and Bauer, 2021).

Third, overqualified persons demand career planning, tasks, responsibilities, status, and promotions that are appropriate for their qualifications, and the opportunity to advance in their careers (Gong et al., 2021; Zada et al., 2022a). Therefore, when put in jobs for which they believe they are overqualified, they suffer more boredom. The perception of overqualification is more prevalent among people who do not engage in job crafting since there is a wider disparity between one's existing position and one's desired status. In accordance with this rationale, we found that job crafting motivates people to evaluate how they behave, engage, and feel regarding their work and to redesign and personalize parts of their job to increase engagement, job satisfaction, tolerance, and a desire to overcome boredom.

Fourth, by identification job crafting as a boundary condition, our research adds a significant amount of contribution to perceived overqualification and its consequences. There are various individual-level moderating variables that Liu and Wang (2012) identify in their analysis of research on perceived overqualification, including justice sensitivity and empowerment. Our findings validated their model because we found an individual-level moderator. We add to the literature by demonstrating that job crafting, as a self-driven personality attribute, is a moderator that overcomes boredom. In their model, this feature has not yet been discussed. It may be a useful inclusion as a boundary condition for the interaction between overqualification, job boredom, and CWBs. We interpret these findings as showing that job crafting enables people to fully apply their talent and abilities to their jobs. Consequently, they play an essential role in success business. The findings indicate that although job crafting is seen as a positive personal trait, it may also have the additional advantage of increasing people's likelihood of experiencing emotions of pleasure in their work.

Practical Implications

Our study's findings supported HR professionals' concerns that overqualification leads to negative attitudes and behaviors (Khan et al., 2022a). However, this is not the case in rejecting an overqualified person. In return, organizations may expect higher expectations. The management of overqualified employees is important for organization. When appropriately managed, it becomes an organization's asset (Erdogan et al., 2011). Based on this research, organizations with a good number of overqualified individuals may benefit from overcoming CWB.

First, the organization should work on employee's self-esteem and develop strategies that may help employee's self-esteem. When employees have healthy self-esteem, they feel good about themselves and organizations. Organizational self-esteem may be raised by changes in organizational structure (e.g., job design), better interpersonal connections, and creating work environments that encourage maximum output (Pierce and Gardner, 2004; Zada et al., 2022b). Therefore, we believe that giving overqualified individuals greater job autonomy will help them boost their organizational self-esteem since they will be able to adjust their employment to make them more productive proactively. Overqualified individuals may

TABLE 3 | Measurement model comparison ($N=317$).

Model's	RMSEA	GFI	CFI	TLI	X^2(df)	ΔX^2 (df)
Model-4 (POQ, CWB, JB, and JC)	0.05	0.92	0.91	0.90	313.24***(69)	–
Model-3 (POQ, CWB, JB, and JC)	0.11	0.71	0.87	0.81	421.12***(73)	289.23***(3)
Model-3 (POQ, JB, JC, and CWB)	0.18	0.56	0.55	0.77	524.41***(85)	346.11***(4)
Model-2 (POQ, JB, CWB, and JC)	0.21	0.47	0.47	0.57	813.45***(86)	422.14***(4)
Model-1 (POQ, JB, CWB, andJC)	0.26	0.31	0.33	0.41	927.32***(88)	653.21***(7)

***Correlation is significant at the 0.001 level (2-tailed).

TABLE 4 | Hierarchical linear regression results.

Variables	Job boredom			Counterproductive work behavior		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Age	0.03	0.05	0.04	0.03	0.04	0.03
Gender	−0.07	0.04	0.03	0.04	−0.11	−0.14
Education	−0.03	0.02	−0.11	0.03	−0.06	−0.03
Service	0.09	0.06	−0.01	0.02	0.03	0.01
POQ	0.571***			0.653***		
Mediator				0.551***		
Job boredom					0.293***	
Moderator						
Job crafting		−0.093*				
Interaction effect						
POQ × job crafting						−1.1138*
R^2	0.15	0.17	0.14	0.18	0.15	0.17
F	21.13***	24.01***	31.05***	27.08***	12.01***	31.07***

*Correlation is significant at the 0.05 level (2-tailed). ***Correlation is significant at the 0.001 level (2-tailed).

be involved in decision-making, which will positively impact their self-esteem as a result of their association with the organization (Pierce and Gardner, 2004; Khan et al., 2022a). This will help them generate suggestions on improving the current processes by using their underutilized qualifications, as well as management that places a high value on their credentials and that they care about them, which is critical. Additionally, the organization might invest more time and effort into socializing its overqualified personnel so that others are more familiar with these employees and are more likely to contact them for professional guidance or mentorship. Overqualified employees will be able to put their excess talents and abilities to use for organization and personal developments. These measures are likely to boost overqualified employees' sense of self-worth while decreasing their proclivity to participate in CWB.

Second, regarding the mediating function of job boredom toward employment circumstances in the overqualification–CWB relationship, we propose that organizations attempting to reduce the CWB of their overqualified personnel should use supporting techniques that effectively reduce boredom (Gibson and Callister, 2010). When it comes to person–job mismatch concerns, overqualified workers might be encouraged to take the initiative and speak out with their supervisors. Overqualified people are likely to redirect their boredom in such a circumstances, notably by identifying ways to put their underutilized qualifications to use in the workplace.

Additionally, by offering a realistic work preview, organizations may prevent their overqualified employees from becoming bored with their job. When overqualified individuals get an impartial evaluation of how well their credentials fit job criteria, they may come to trust their employers and their hiring organizations.

Third, considering that this honesty helps fulfil the psychological contract, we believe that it will likely reduce work boredom when the employee has a high degree of prior information about the task at hand. To assist overqualified employees in managing their anger, employee support programmes should be created, including the promotion of forgiveness and encouragement of a problem-focused coping style. They can overcome the negative repercussions of being angry at a job (e.g., CWB) and instead concentrate on strategies to improve their poor person–work fit. Although these tactics are certainly successful for all overqualified individuals, they may be especially helpful in reducing negative emotions regarding overqualification among those who do well in job crafting. Organizations may identify overqualified individuals who may be too sensitive to person–job mismatches by enhancing selection techniques with personality evaluation. To minimize negative emotional and cognitive responses to overqualification, they should be prioritized in receiving techniques. Hiring employees who are overqualified for their position is often presented negatively, with the general belief being that they will rapidly become bored in their position

FIGURE 2 | Interactive effect of POQ and job crafting on CWB.
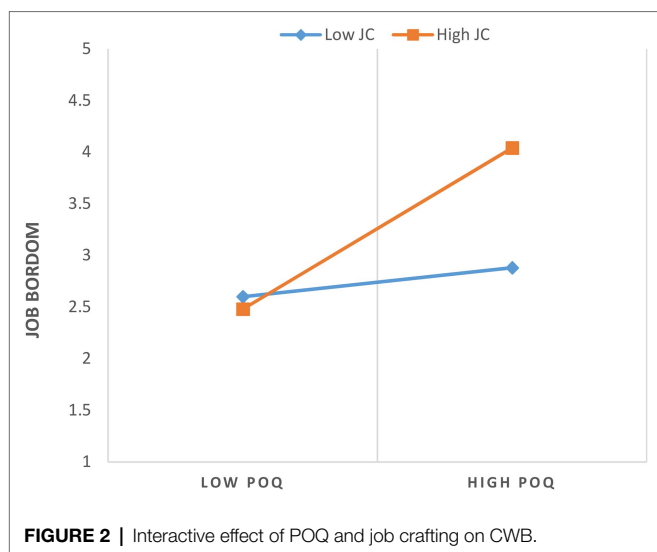
TABLE 5 | Moderated mediated results for POQ and CWB across levels of job crafting.

Mediator	Level	Conditional indirect effect	SE	LLCI	ULCI
Job boredom	Low(−1SD)	0.0830	0.1103	−0.1244	0.3036
	High(+1SD)	0.5018	0.1249	0.2700	0.7600
	Difference	0.4188	0.0146	0.3944	0.4564

Moderator values are the mean and ±1 SD, LLCI lower limit 95% confidence interval, ULCI upper limit 95% confidence interval.

and leave the organization. This is not always the case, but it is advised that more studies be conducted on workers who other overqualified persons surround since they are more likely to succeed. According to our findings, the most effective way to assess employee attitudes is to surround them with peers of comparable qualities.

Strengths, Limitations, and Future Directions

Our study had several positive aspects. We used a time-lagged research design, that allowed us to reduce several prevalent risks in our study. Our study, conducted in a single organization that operated in various sectors, enabled us to guarantee that human resource policy and organizational culture remained consistent while ensuring that perceptions of overqualification and job insecurity varied from one industry to the next. When interpreting the results, it is essential to keep in mind that several challenges, such as self-report surveys, may lead to common technique bias. Due to its widespread usage in academic literature and pattern matching as a survey methodology, self-reporting may be appropriate for certain studies (Spector, 1994). First, the small sample size of our study is a significant drawback of our research. Because of the time-lag design, there was

significant subject attrition, resulting in a small sample size. While the findings supported certain assumptions, their generalizability of the findings might be improved by utilizing a larger sample size.

The second limitation is that this research was conducted individually; nevertheless, examining how jobs are created at the group, department, and organization levels is important in future. Third, in certain cases, new employees may be regarded as overqualified, but long-term staff may not be. Once hired, employees may feel they are overqualified for their work, or they may start to realize this over a period of time in the position after starting. A person who feels overqualified in a shorter amount of time may find it challenging to succeed in job crafting "(i.e., I see that I am overqualified, but it's not going to take long, so I'll just wait it out)." Job crafting, on the other hand, maybe more likely be used by someone in a long-term overqualification scenario because they will have less opportunity to locate a better fit "(i.e., I see that I am overqualified and I'm going to be stuck in this job, so I'd better find ways to make it more palatable)." In this study, the effects of situational factors on workers' reactions to emotions of overqualification were not examined. Further studies might benefit from an examination of new workers as well as the molding and development of cooperative tendencies.

CONCLUSION

The current research based on person–job fit theory examined a moderation mediation model describing how POQ effects knowledge hiding. Furthermore, we examined the mediating role of job boredom between POQ and knowledge hiding. Moreover, we used job crafting as a boundary condition that effects the strengths of the indirect effect of POQ on knowledge hiding. Our results showed that the POQ indirectly impact knowledge hiding through job boredom. In addition, job crafting buffered the relation between POQ and the mediator (i.e., job boredom) and the indirect relationship between perceived overqualification and knowledge hiding.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

AUTHOR CONTRIBUTIONS

JK, AA, and IS contributed to the conception and design of the study and wrote the first draft of the manuscript. JK organized the database and performed the statistical analysis. JK, AV-M, and NC-B wrote sections of the manuscript. All authors contributed to the article and approved the submitted version.

REFERENCES

Aiken, L. S., West, S. G., and Reno, R. R. (1991). *Multiple Regression: Testing and Interpreting Interactions*. New York, NY: Sage.

Andel, S., Pindek, S., and Arvan, M. L. (2022). Bored, angry, and overqualified? The high-and low-intensity pathways linking perceived overqualification to behavioural outcomes. *Eur. J. Work Organ. Psy.* 31, 47–60. doi: 10.1080/1359432X.2021.1919624

Anderson, J. C., and Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin* 103:411.

Arvan, M. L., Pindek, S., Andel, S. A., and Spector, P. E. (2019). Too good for your job? Disentangling the relationships between objective overqualification, perceived overqualification, and job dissatisfaction. *J. Vocat. Behav.* 115:103323. doi: 10.1016/j.jvb.2019.103323

Bakker, A. B., Tims, M., and Derks, D. (2012). Proactive personality and job performance: the role of job crafting and work engagement. *Hum. Relat.* 65, 1359–1378. doi: 10.1177/0018726712453471

Bennett, R. J., and Robinson, S. L. (2000). Development of a measure of workplace deviance. *J. Appl. Psychol.* 85, 349–360. doi: 10.1037/0021-9010.85.3.349

Berg, J. M., Dutton, J. E., and Wrzesniewski, A. (2013). "Job crafting and meaningful work," in *Purpose and Meaning in the Workplace*. eds. B. J. Dik, Z. S. Byrne and M. F. Steger (Washington, DC: American Psychological Association), 81–104.

Biçkes, D. M., Yilmaz, C., Samur, A., and Demirtas, O. (2020). The relationship between perceived overqualification and counterproductive work behaviors: moderating role of perceived distributive justice. *Int'l J. Soc. Sci. Stud.* 8:46. doi: 10.11114/ijsss.v8i1.4628

Bruursema, K., Kessler, S. R., and Spector, P. E. (2011). Bored employees misbehaving: the relationship between boredom and counterproductive work behaviour. *Work and Stress* 25, 93–107. doi: 10.1080/02678373.2011.596670

Brynin, M. (2002). Overqualification in employment. *Work Employ. Soc.* 16, 637–654. doi: 10.1177/095001702321587406

Chambel, M. J., Carvalho, V. S., Lopes, S., and Cesário, F. (2021a). Perceived overqualification and contact center workers' burnout: are motivations mediators? *Int. J. Organ. Anal.* 29, 1337–1349. doi: 10.1108/IJOA-08-2020-2372

Cohen, A., and Diamant, A. (2019). The role of justice perceptions in determining counterproductive work behaviors. *Int. J. Hum. Resour. Manag.* 30, 2901–2924. doi: 10.1080/09585192.2017.1340321

De Sousa Sabbagha, M., Ledimo, O., and Martins, N. (2018). Predicting staff retention from employee motivation and job satisfaction. *J. Psychol. Afr.* 28, 136–140. doi: 10.1080/14330237.2018.1454578

Deng, H., Guan, Y., Wu, C.-H., Erdogan, B., Bauer, T., and Yao, X. (2018). A relational model of perceived overqualification: The moderating role of interpersonal influence on social acceptance. *J. Manag.* 44, 3288–3310. doi: 10.1177/0149206316668237

Dormann, C., and Griffin, M. A. (2015). Optimal time lags in panel studies. *Psychol. Methods* 20, 489–505. doi: 10.1037/met0000041

Edwards, J. R. (1991). *Person-job fit: A Conceptual Integration, Literature Review, and Methodological Critique*. Hoboken, NJ: John Wiley & Sons.

Edwards, J. R. (2008). 4 Person–environment fit in organizations: an assessment of theoretical progress. *Acad. Manag. Ann.* 2, 167–230. doi: 10.5465/19416520802211503

Erdogan, B., and Bauer, T. N. (2009). Perceived overqualification and its outcomes: the moderating role of empowerment. *J. Appl. Psychol.* 94, 557–565. doi: 10.1037/a0013528

Erdogan, B., and Bauer, T. N. (2021). Overqualification at work: a review and synthesis of the literature. *Annu. Rev. Organ. Psych. Organ. Behav.* 8, 259–283. doi: 10.1146/annurev-orgpsych-012420-055831

Erdogan, B., Bauer, T. N., Peiró, J. M., and Truxillo, D. M. (2011). Overqualified employees: making the best of a potentially bad situation for individuals and organizations. *Ind. Organ. Psychol.* 4, 215–232. doi: 10.1111/j.1754-9434.2011.01330.x

Erdogan, B., Tomás, I., Valls, V., and Gracia, F. J. (2018). Perceived overqualification, relative deprivation, and person-centric outcomes: the moderating role of career centrality. *J. Vocat. Behav.* 107, 233–245. doi: 10.1016/j.jvb.2018.05.003

Fisher, R. J. (1993). Social desirability bias and the validity of indirect questioning. *J. Consum. Res.* 20, 303–315. doi: 10.1086/209351

Fisher, C. D. (2018). "Boredom at work: what, why, and what then?" in *Social Functions of Emotion and Talking About Emotion at Work*. Cheltenham: Edward Elgar Publishing.

Fox, S., Spector, P. E., Goh, A., Bruursema, K., and Kessler, S. R. (2012). The deviant citizen: measuring potential positive relations between counterproductive work behaviour and organizational citizenship behaviour. *J. Occup. Organ. Psychol.* 85, 199–220. doi: 10.1111/j.2044-8325.2011.02032.x

Gibson, D. E., and Callister, R. R. (2010). Anger in organizations: Review and integration. *J. Manag.* 36, 66–93.

Gkorezis, P., Erdogan, B., Xanthopoulou, D., and Bellou, V. (2019). Implications of perceived overqualification for employee's close social ties: the moderating role of external organizational prestige. *J. Vocat. Behav.* 115:103335. doi: 10.1016/j.jvb.2019.103335

Gong, Z., Sun, F., and Li, X. (2021). Perceived Overqualification, emotional exhaustion, and creativity: a moderated-mediation model based on effort–reward imbalance theory. *Int. J. Environ. Res. Public Health* 18:11367. doi: 10.3390/ijerph182111367

Harju, L., Hakanen, J. J., and Schaufeli, W. B. (2014). Job boredom and its correlates in 87 Finnish organizations. *J. Occup. Environ. Med.* 56, 911–918. doi: 10.1097/JOM.0000000000000248

Harju, L. K., Hakanen, J. J., and Schaufeli, W. B. (2016). Can job crafting reduce job boredom and increase work engagement? A three-year cross-lagged panel study. *J. Vocat. Behav.* 95-96, 11–20. doi: 10.1016/j.jvb.2016.07.001

Hayes, A. F. (2017). *Introduction to Mediation, Moderation, and Conditional process Analysis: A Regression-based Approach*. New York, NY: Guilford publications.

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020). Linking work-related and non-work-related supervisor–subordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus. Manag.* 1–22.

Howard, E., Luksyte, A., Amarnani, R. K., and Spitzmueller, C. (2022). Perceived overqualification and experiences of incivility: can task i-deals help or hurt? *J. Occup. Health Psychol.* 27, 89–103. doi: 10.1037/ocp0000304

Hu, J., Erdogan, B., Bauer, T. N., Jiang, K., Liu, S., and Li, Y. (2015). There are lots of big fish in this pond: The role of peer overqualification on task significance, perceived fit, and performance for overqualified employees. *J. Appl. Psychol.* 100, 1228–1238. doi: 10.1037/apl0000008

Hu, B., McCune Stein, A., Mao, Y., and Yan, A. (2022). The influence of human resource management systems on employee job crafting: an integrated content and process approach. *Hum. Resour. Manag. J.* 32, 117–132. doi: 10.1111/1748-8583.12392

Huang, Y., and Hu, Y. (2022). A moderated mediating model of perceived overqualification and task i-deals–roles of prove goal orientation and climate for inclusion. *Chin. Manag. Stud.* 16, 382–396. doi: 10.1108/CMS-10-2020-0453

Khan, J., Saeed, I., Ali, A., and Nisar, H. G. (2021). The mediating role of emotional exhaustion in the relationship between abusive supervision and employee Cyberloafing behaviour. *J. Manag. Res.* 8, 160–178. doi: 10.29145/jmr/81/080107

Khan, J., Saeed, I., Fayaz, M., Zada, M., and Jan, D. (2022a). Perceived overqualification? Examining its nexus with cyberloafing and knowledge hiding behaviour: harmonious passion as a moderator. *J. Knowl. Manag.* doi: 10.1108/JKM-09-2021-0700

Khan, J., Usman, M., Saeed, I., Ali, A., and Nisar, H. (2022b). Does workplace spirituality influence knowledge-sharing behavior and work engagement in work? Trust as a mediator. *Manag. Sci. Lett.* 12, 51–66. doi: 10.5267/j.msl.2021.8.001 [Epub ahead of print].

Kim, J., Park, J., Sohn, Y. W., and Lim, J. I. (2021). Perceived overqualification, boredom, and extra-role behaviors: testing a moderated mediation model. *J. Career Dev.* 48, 400–414. doi: 10.1177/0894845319853879

Kristof-Brown, A. L., Zimmerman, R. D., and Johnson, E. C. (2005). Consequences OF INDIVIDUALS'FIT at work: a meta-analysis OF person–job, person–organization, person–group, and person–supervisor fit. *Pers. Psychol.* 58, 281–342. doi: 10.1111/j.1744-6570.2005.00672.x

Liu, S., Luksyte, A., Zhou, L., Shi, J., and Wang, M. (2015). Overqualification and counterproductive work behaviors: examining a moderated mediation model. *J. Organ. Behav.* 36, 250–271. doi: 10.1002/job.1979

Liu, S., and Wang, M. (2012). Perceived overqualification: a review and recommendations for research and practice. The role of the economic crisis on occupational stress and well being. *Res. Occup. Stress Well Being* 10, 1–42. doi: 10.1108/S1479-3555(2012)0000010005

Luksyte, A., Spitzmueller, C., and Maynard, D. C. (2011). Why do overqualified incumbents deviate? Examining multiple mediators. *J. Occup. Health Psychol.* 16:279.

Maynard, D. C., Joseph, T. A., and Maynard, A. M. (2006). Underemployment, job attitudes, and turnover intentions. *Int. J. Ind. Occup. Organ. Psychol. Behav.* 27, 509–536.

Maynard, D. C., and Feldman, D. C. (2011). *Underemployment: Psychological, Economic, and Social Challenges.* Berlin: Springer.

McKee-Ryan, F. M., Virick, M., Prussia, G. E., Harvey, J., and Lilly, J. D. (2009). Life after the layoff: Getting a job worth keeping. *Int. J. Ind. Occup. Organ. Psychol. Behav.* 30, 561–580.

Petrou, P., Demerouti, E., Peeters, M. C., Schaufeli, W. B., and Hetland, J. (2012). Crafting a job on a daily basis: contextual correlates and the link to work engagement. *J. Organ. Behav.* 33, 1120–1141. doi: 10.1002/job.1783

Pierce, J. L., and Gardner, D. G. (2004). Self-esteem within the work and organizational context: a review of the organization-based self-esteem literature. *J. Manag.* 30, 591–622. doi: 10.1016/j.jm.2003.10.001

Podsakoff, P. M., MacKenzie, S. B., and Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annu. Rev. Psychol.* 63, 539–569. doi: 10.1146/annurev-psych-120710-100452

Reijseger, G., Schaufeli, W. B., Peeters, M. C., Taris, T. W., Van Beek, I., and Ouweneel, E. (2013). Watching the paint dry at work: Psychometric examination of the dutch boredom scale. *Anxiety, Stress, Coping* 26, 508–525.

Sánchez-Cardona, I., Vera, M., Martínez-Lugo, M., Rodríguez-Montalbán, R., and Marrero-Centeno, J. (2020). When the job does not fit: the moderating role of job crafting and meaningful work in the relation between employees' perceived overqualification and job boredom. *J. Career Assess.* 28, 257–276. doi: 10.1177/1069072719857174

Schreurs, B., Hamstra, M. R. W., Jawahar, I. M., and Akkermans, J. (2020). Perceived overqualification and counterproductive work behavior: testing the mediating role of relative deprivation and the moderating role of ambition. *Pers. Rev.* 50, 1038–1055. doi: 10.1108/PR-05-2019-0237

Seong, J. Y., Kristof-Brown, A. L., Park, W.-W., Hong, D.-S., and Shin, Y. (2015). Person-group fit: diversity antecedents, proximal outcomes, and performance at the group level. *J. Manag.* 41, 1184–1213. doi: 10.1177/0149206312453738

Sesen, H., and Ertan, S. S. (2020). Perceived overqualification and job crafting: the moderating role of positive psychological capital. *Pers. Rev.* 49, 808–824. doi: 10.1108/PR-10-2018-0423

Spector, P. E. (1994). Using self-report questionnaires in OB research: A comment on the use of a controversial method. *J. Organ. Behav.* 385–392.

Spector, P. E., and Fox, S. (2002). An emotion-centered model of voluntary work behavior: Some parallels between counterproductive work behavior and organizational citizenship behavior. *Hum. Resour. Manag. Rev.* 12, 269–292. doi: 10.1016/S1053-4822(02)00049-9

Spector, P. E., and Fox, S. (2010). Counterproductive work behavior and organisational citizenship behavior: are they opposite forms of active behavior? *Appl. Psychol.* 59, 21–39. doi: 10.1111/j.1464-0597.2009.00414.x

Tims, M., and Bakker, A. B. (2010). Job crafting: towards a new model of individual job redesign. *SA J. Ind. Psychol.* 36, 1–9. doi: 10.4102/sajip.v36i2.841

Tims, M., Bakker, A. B., and Derks, D. (2012). Development and validation of the job crafting scale. *J. Vocat. Behav.* 80, 173–186. doi: 10.1016/j.jvb.2011.05.009

Tims, M., Derks, D., and Bakker, A. B. (2016). Job crafting and its relationships with person–job fit and meaningfulness: a three-wave study. *J. Vocat. Behav.* 92, 44–53. doi: 10.1016/j.jvb.2015.11.007

van Hooff, M. L., and van Hooft, E. A. (2014). Boredom at work: proximal and distal consequences of affective work-related boredom. *J. Occup. Health Psychol.* 19, 348–359. doi: 10.1037/a0036821

Wassermann, M., Fujishiro, K., and Hoppe, A. (2017). The effect of perceived overqualification on job satisfaction and career satisfaction among immigrants: does host national identity matter? *Int. J. Intercult. Relat.* 61, 77–87. doi: 10.1016/j.ijintrel.2017.09.001

Watt, J. D., and Hargis, M. B. (2010). Boredom proneness: its relationship with subjective underemployment, perceived organizational support, and job performance. *J. Bus. Psychol.* 25, 163–174. doi: 10.1007/s10869-009-9138-9

Wrzesniewski, A., and Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Acad. Manag. Rev.* 26, 179–201. doi: 10.2307/259118

Wrzesniewski, A., LoBuglio, N., Dutton, J. E., and Berg, J. M. (2013). "Job crafting and cultivating positive meaning and identity in work," in *Advances in Positive Organizational Psychology* (Bingley: Emerald Group Publishing Limited)

Wu, Y. J., and Chen, J.-C. (2021). Stimulating innovation with an innovative curriculum: a curriculum design for a course on new product development. *Int. J. Manag. Educ.* 19:100561. doi: 10.1016/j.ijme.2021.100561

Ye, X., Li, L., and Tan, X. (2017). Organizational support: mechanisms to affect perceived overqualification on turnover intentions: a study of Chinese repatriates in multinational enterprises. *Empl. Relat.* 39, 918–934. doi: 10.1108/ER-11-2016-0213

Yu, A., and Jyawali, H. (2021). Job crafting as dynamic displays of gender identities and meanings in male-dominated occupations. *Gend. Work Organ.* 28, 610–625. doi: 10.1111/gwao.12602

Zada, M., Zada, S., Ali, M., Jun, Z. Y., Contreras-Barraza, N., and Castillo, D. (2022a). How classy servant leader at workplace? Linking servant leadership and task performance During the COVID-19 crisis: a moderation and mediation approach. *Front. Psychol.* 13:810227. doi: 10.3389/fpsyg.2022.810227

Zada, M., Zada, S., Khan, J., Saeed, I., Zhang, Y. J., Vega-Muñoz, A., et al. (2022b). Does servant leadership control psychological distress in crisis? Moderation and mediation mechanism. *Psychol. Res. Behav. Manag.* 15, 607–622. doi: 10.2147/PRBM.S354093

frontiers | Frontiers in Psychology

A contingency perspective of pro-organizational motives, unethical pro-organizational behavior, and organizational citizenship behavior

Ken Cheng[1], Panpan Hu[1], Limin Guo[2]*, Yifei Wang[2] and Yinghui Lin[3]

[1]School of Management, Zhejiang University of Technology, Hangzhou, China, [2]School of Economics and Management, Tongji University, Shanghai, China, [3]School of Management, Shanghai University, Shanghai, China

Although the effects of pro-organizational motives on pro-organizational behaviors [i.e., unethical pro-organizational behavior (UPB) and organizational citizenship behavior (OCB)] and their boundaries have been explored to some extent, extant studies are rather piecemeal and in need of synthesis and extension. Based on prior motivational research on pro-organizational behaviors, we developed a comprehensive contingent model in which moral identity and impression management motives would moderate the links between pro-organizational motives, UPB, and OCB. Adopting a time-lagged design, we collected data from 218 salespeople in an internet technology service company in China. Results showed that pro-organizational motives were positively related to UPB and OCB. Moral identity weakened the impact of pro-organizational motives on UPB but strengthened the influence of pro-organizational motives on OCB. Furthermore, we found that impression management motives strengthened the effects of pro-organizational motives on UPB and OCB, and the interaction of impression management motives and pro-organizational motives was stronger on UPB than on OCB. Theoretical and practical implications, limitations, and future directions are discussed.

KEYWORDS

pro-organizational motives, unethical pro-organizational behavior, organizational citizenship behavior, moral identity, impression management motives

Introduction

Unethical pro-organizational behavior (UPB), a behavioral phenomenon that arouses academia's great concern in the last decade (Mishra et al., 2022), refers to "actions that are intended to promote the effective functioning of the organization or its members (e.g., leaders) and violate core societal values, mores, laws, or standards

of proper conduct" (Umphress and Bingham, 2011, p. 622). UPB is not only a kind of unethical behavior but also belongs to the category of pro-organizational behavior (Umphress et al., 2010). Pro-organizational behavior is an umbrella term, which includes UPB and ethical pro-organizational behavior. One very typical example of ethical pro-organizational behavior is organizational citizenship behavior (OCB). OCB is "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization" (Organ, 1988, p. 4). It is worth noting that UPB and OCB can coexist in the real world. For instance, it often occurs that a salesperson not only exaggerates the truth about his or her company's products to clients but also defends his or her company when others criticize it. Extant research has found that organizational identification and positive social exchange in organizations can promote both UPB (e.g., Chen et al., 2016; Wang et al., 2019) and OCB (e.g., Moorman et al., 1998; Van Dick et al., 2006), suggesting that the pro-organizational motives lying beneath these factors may be the essential and common antecedents of UPB and OCB.

Although UPB and OCB are pro-organizational behaviors, their impacts on the organization are rather different. Extant research has found that UPB damages organizational performance (Baker et al., 2019), whereas OCB promotes organizational performance (Podsakoff et al., 2000). Considering the opposite influences of UPB and OCB on organizational performance and the positive effects of pro-organizational motives on UPB and OCB, it is of necessity and importance to identify the boundary conditions under which pro-organizational motives may lead to relatively good behavioral outcomes (e.g., less UPB and more OCB). So far, there are some studies directly or indirectly investigating the boundaries of the relationships between pro-organizational motives and pro-organizational behaviors, but their focuses are either on the boundaries of the relationship between pro-organizational motives and UPB (e.g., Matherne and Litchfield, 2012) or on the boundaries of the relationship between pro-organizational motives and OCB (e.g., Grant and Mayer, 2009). Meanwhile, it remains rather unclear whether the boundaries of the relationship between pro-organizational motives and OCB will also moderate the relationship between pro-organizational motives and UPB (and vice versa). We deem that it is necessary to fill these gaps. Because if the moderators that strengthen the link between pro-organizational motives and OCB can also amplify the positive effect of pro-organizational motives on UPB, managers should be cautious about these double-edged moderators. In sum, extant research has enriched our understanding of the boundaries of the relationship between pro-organizational motives and pro-organizational behaviors to some extent but still remains not enough.

To better answer the comprehensive question, when pro-organizational motives may result in relatively good behavioral outcomes, building an integrated model is highly needed. In the field of decision science, it is a near-universal consensus that decisions should be assessed by how good or bad the expected outcome is (Bennis et al., 2010). Conforming to this consensus, many studies have found that individuals' attitudes toward the expected behavioral outcomes can interact to influence their behavioral decisions (e.g., Grant and Mayer, 2009; Takeuchi et al., 2015). For instance, Grant and Mayer (2009) argued that impression management motives can strengthen the effect of prosocial motives on affiliative citizenship behavior. Specifically, engaging in affiliative citizenship behavior can not only improve others' welfare but also help actors establish a favorable image in the eyes of others. These expected outcomes are attractive for individuals who have high prosocial motives and impression management motives. Thus, impression management motives may guide employees with prosocial motives to engage in more affiliative citizenship behavior. Following this research stream, we proposed that the impacts of pro-organizational motives on UPB and OCB may be moderated by individuals' attitudes toward the expected outcomes of UPB and OCB. In general, factors that can shape these attitudes may also likely function as boundary conditions (i.e., moderators). To concretize this idea, we need to analyze UPB and OCB and their potential outcomes.

On the one hand, although both UPB and OCB are pro-organizational behaviors, the former is unethical, whereas the latter is ethical. Therefore, for individuals who place greater importance on their moral self-image, UPB will be less attractive than OCB. In this vein, we infer that moral identity, a moral trait that reflects the extent to which one's self-concept incorporates the importance of being a moral person (Aquino and Reed, 2002), may guide employees with pro-organizational motives to engage in more OCB and less UPB. On the other hand, although UPB damages organizational long-term interests, it may bring some short-term benefits to the organization (Wang et al., 2020), such as an increase in sales. Thus, UPB may, in turn, benefit the actor (Umphress et al., 2010), such as the establishment of a "good employee" image. Given that OCB can also improve one's social image (Rioux and Penner, 2001), UPB and OCB may become welcome for individuals who want to sustain a positive image. In this vein, we infer that impression management motives, one's desire to be seen positively and to avoid being seen negatively (Rioux and Penner, 2001), may guide employees with pro-organizational motives to conduct more UPB and OCB. Moreover, given that unethical behavior allows an employee to contribute to his or her organization beyond what can be achieved *via* moral means (Thau et al., 2015; Schuh et al., 2021), we further infer that UPB might be more helpful than OCB in terms of building a "good employee" image in the workplace, thus making the moderating effect of impression management motives on the relationship between pro-organizational motives and

UPB stronger than that on the relationship between pro-organizational motives and OCB.

In brief, this study is to explore the interactions of pro-organizational motives, moral identity, and impression management motives on UPB and OCB. The research model is depicted in **Figure 1**. In doing so, our study contributes to the literature in three ways. First, by taking both UPB and OCB into account and examining the common boundaries of the relationships between pro-organizational motives, UPB, and OCB, we not only provide accumulated evidence for some relationships that have been proved in prior research (e.g., the relationship between pro-organizational motives and OCB; Rioux and Penner, 2001) but also verify some new relationships (e.g., the interaction of impression management motives and pro-organizational motives on UPB), thereby providing a comprehensive explanation of the contingent relationships between pro-organizational motives and pro-organizational behaviors. Second and more specifically, our research enriches the knowledge about the interactions of multiple motives on pro-organizational behaviors (Bolino and Grant, 2016). On the one hand, by testing the interaction of pro-organizational motives and impression management motives on UPB, we respond to the call to adopt a motivational perspective to understand UPB (Cheng and Lin, 2019). On the other hand, to our knowledge, we are the first to generate evidence for the interaction of pro-organizational motives and impression management motives on OCB directed at the organization (Takeuchi et al., 2015). Third, we deepen the understanding of impression management motives by verifying the strength difference of the moderating effects of impression management motives on the relationships between pro-organizational motives and different pro-organizational behaviors. This finding shows that even when the moderating directions of impression management motives are the same, the moderating strength may still vary across the valence of the expected outcomes.

Theory and hypotheses

Pro-organizational motives and behaviors

Pro-organizational behaviors are employees' acts that are neither specified in formal job descriptions nor ordered by leaders but are undertaken to benefit or help the organization (Brief and Motowidlo, 1986). According to the morality of the behaviors, pro-organizational behaviors can be classified into two different categories: ethical vs. unethical. UPB is unethical acts conducted by employees to potentially benefit the organization (Umphress et al., 2010). Examples of UPB include exaggerating

the truth about the company's products to customers, withholding negative information about the company from clients, and so on (Mishra et al., 2022). OCB is seen as the prototypical ethical pro-organizational behavior and can be differentiated into two types according to the beneficiary: OCB directed at individuals and OCB directed at the organization (Williams and Anderson, 1991). In this study, we focus on the latter type because it is more directly related to pro-organizational motives; meanwhile, for ease of presentation, OCB is used to refer to OCB directed at the organization in the following sections. Examples of OCB include showing pride when representing the organization in public, keeping up with developments in the organization, and so on (Lee and Allen, 2002).

When exploring the formation of behaviors, more and more researchers adopt the motivational perspective (Organ, 1990; Bolino, 1999; Borman and Penner, 2001; Cheng and Lin, 2019). The core premise of the motivational perspective is that to understand why certain behaviors emerge, it is vital to find out the reasons that guide the decision to conduct those behaviors (Katz, 1964; Penner et al., 1997). Extant research has widely demonstrated the predictive effects of pro-organizational motives on pro-organizational behaviors. For instance, Takeuchi et al. (2015) found that pro-organizational motives, which can also be termed organizational concern motives, had a significant and positive effect on OCB. A similar finding has also been shown in Rioux and Penner's (2001) work. Dou et al. (2019) proposed and verified that the sense of belongingness motivated employees to assign more weight to the interests of their organization and then prompted them to engage in pro-organizational behaviors, even at the expense of moral standards. Hence, based on the above theoretical foundation and empirical evidence, we infer that employees with pro-organizational motives are likely to engage in pro-organizational behaviors and that the pro-organizational behaviors include UPB and OCB.

> H1: Pro-organizational motives are positively related to UPB.

> H2: Pro-organizational motives are positively related to OCB.

The moderating role of moral identity

Although pro-organizational motives are likely to trigger pro-organizational behaviors (i.e., UPB and OCB), we argue that these relationships may vary between individuals, because different people have different assessments of the outcomes
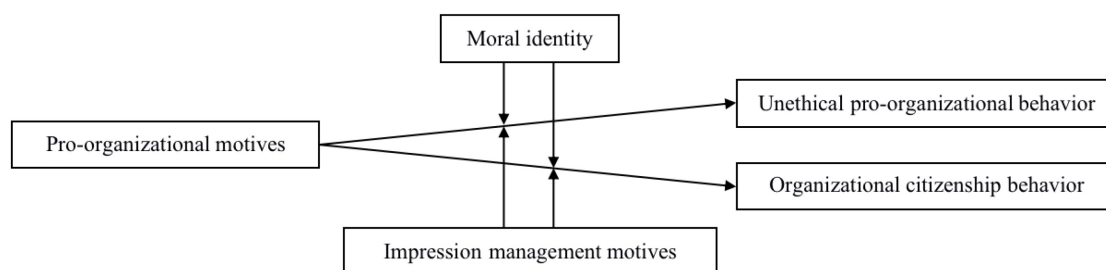
FIGURE 1
The research model.

of UPB and OCB, which may result in decision differences. In this study, we focus on moral identity and impression management motives as the moderators of the relationships between pro-organizational motives, UPB, and OCB. Moral identity refers to "a self-conception organized around a set of moral traits" (Aquino and Reed, 2002, p. 1424) and reflects the extent to which a person sees being a moral person as central to his or her self-conception. We expect moral identity to weaken the effect of pro-organizational motives on UPB but strengthen the effect of pro-organizational motives on OCB, and we elaborate on this thought below.

As one kind of self-conception, moral identity involves a set of moral traits, such as compassion, honesty, friendliness, and so on (Aquino and Reed, 2002). Individuals with high moral identity place much importance on their behavioral morality and tend to act in ways that are consistent with what they deem a moral person should do; if not, they will experience dissonance and self-condemnation (Blasi, 1984). As noted at the outset, although UPB is a kind of pro-organizational behavior, UPB is also essentially unethical (Umphress et al., 2010). Apparently, a moral person should not undertake immoral behavior (e.g., UPB). If a moral person wants to contribute to the organization, engaging in ethical pro-organizational behavior (e.g., OCB) will be an optimal means. Hence, we infer that a high moral identity may encourage employees to express their pro-organizational motives in ethical forms of pro-organizational behavior (e.g., OCB) rather than unethical ones (e.g., UPB). That is, in the case of high moral identity, pro-organizational motives have a strong effect on OCB but a weak effect on UPB. In contrast, for individuals with low moral identity, their desire to keep the self-consistency between the real self and the ideal self is not strong (Aquino and Freeman, 2009). Thus, compared to employees with higher levels of moral identity, these employees are more likely to achieve their pro-organizational intent by unethical rather than ethical means (Matherne and Litchfield, 2012; Wang et al., 2019). Based on the above argument, we propose that moral identity may function as

a moderator regulating the positive effects of pro-organizational motives on UPB and OCB.

> H3: Moral identity moderates the relationship between pro-organizational motives and UPB such that the relationship is weaker for employees with high moral identity.

> H4: Moral identity moderates the relationship between pro-organizational motives and OCB such that the relationship is stronger for employees with high moral identity.

The moderating role of impression management motives

Apart from the moral identity, we propose that impression management motives, one's desire to be seen positively and avoid being seen negatively (Rioux and Penner, 2001), may also serve as a boundary condition of the relationship between pro-organizational motives and pro-organizational behaviors. Specifically, we expect that impression management motives may strengthen the positive effects of pro-organizational motives on UPB and OCB, and we elaborate on this thought below.

According to Leary and Kowalski (1990), people with strong impression management motives pay much attention to bolstering their images and avoid creating an unfavorable self-representation in the eyes of others. For these people, behaviors that can help them look good are rather attractive. In the organizational context, actively engaging in pro-organizational behaviors is an effective way for employees to establish a "good solider" image, and a very typical example of such behaviors is OCB (Bolino, 1999). Given that conducting OCB helps employees create a favorable self-representation, we infer that compared to employees with weak impression management motives, employees with strong impression management motives are more likely to convert pro-organizational motives

into pro-organizational behaviors (e.g., OCB). Partially in support of this argument, Grant and Mayer (2009) found in two studies that impression management motives strengthen the positive effect of prosocial motives on affiliative citizenship behaviors (e.g., showing courtesy to coworkers).

Will impression management motives also strengthen the positive effect of pro-organizational motives on UPB? To answer this question, we need to analyze whether undertaking UPB can help employees create a "good solider" image. As noted at the outset, UPB is harmful to organizational long-term performance, but may likely bring short-term benefits to the organization (Wang et al., 2020). Given that organizational long-term performance can be affected by many factors, people in the workplace may likely base their perceptions or judgments of a focal person on his or her short-term contributions to the organization. Meanwhile, because UPB is mainly directed at customers (Umphress et al., 2010), it is not easy for supervisors and coworkers to recognize the morality of the focal person's behaviors. Taken together, engaging in UPB may improve actors' contributions to the organization with low risks, thus helping actors build a favorable image. In line with the logic of the interaction of pro-organizational motives and impression management motives on OCB, we expect impression management motives to amplify the pro-organizational motives–UPB relationship.

> H5: Impression management motives moderate the relationship between pro-organizational motives and UPB such that the relationship is stronger for employees with high impression management motives.

> H6: Impression management motives moderate the relationship between pro-organizational motives and OCB such that the relationship is stronger for employees with high impression management motives.

Although we expect impression management motives to amplify the relationships between pro-organizational motives, UPB, and OCB, we further infer that the magnitude of the moderating effects of impression management motives may exist in subtle differences. Prior research suggests that ethical and legal expectations constrain the contributions a person can make to the organization in a given situation (Thau et al., 2015). In other words, unethical behavior often allows employees to contribute to the organization beyond what can be accomplished by moral means (Schuh et al., 2021). In this vein, we expect that for employees with strong impression management motives, UPB will be more attractive than OCB, thus making them more willing to convert pro-organizational motives into UPB than OCB. Accordingly, we infer that the moderating effect of impression management motives on

the relationship between pro-organizational motives and UPB may be stronger than that on the relationship between pro-organizational motives and OCB.

> H7: Compared to the relationship between pro-organizational motives and OCB, the relationship between pro-organizational motives and UPB is more strongly moderated by impression management motives.

Methods

Participants and procedures

Data were collected from an internet technology service company located in Chengdu, China. The main business of this company is to provide online advertisement and financial information services for the enterprises of service industries (e.g., catering). Participants were full-time staff working in the sales departments who need to frequently contact the clients. Before carrying out the survey, we presented to the HR director and the 252 participants the purpose, procedure, and confidentiality of our study and gained generous support. We took a two-stage questionnaire survey. To match the stage-one and stage-two questionnaires, we created the matching codes (i.e., three capital letters and a three-digit number) and hid them in the introduction part of the questionnaire (e.g., "Thanks very much for participating in this survey. This survey is to investigate…and is supported by…Foundation [Project No. BGL134]…"). Each matching code corresponded to one participant. In the first stage, the 252 participants were asked to rate their pro-organizational motives, moral identity, and impression management motives. After receiving all questionnaires, we checked them and filtered 29 invalid ones (e.g., all answers are the same), thereby obtaining 223 valid ones. About 1 month later, in the second stage, the 223 valid participants who attended the first-stage survey were invited to report their UPB and OCB. Again, after receiving all questionnaires, we checked them and deleted the invalid ones. The final valid sample consisted of 218 participants. Among the 218 participants, 48.165% were female; the average age was 29.615 years old (SD = 3.801); the average organizational tenure was 2.931 years (SD = 1.554).

Measures

We followed the translation and back-translation procedure to translate the original English scales into Chinese. Unless otherwise indicated, all items were measured on 5-point Likert scales ranging from "1 = strongly disagree" to "5 = strongly agree."

Pro-organizational motives

The ten-item scale of organizational concern motives developed by Rioux and Penner (2001) was adopted to measure pro-organizational motives. A sample item is "Because I care what happens to the company." The Cronbach's α for this scale was 0.947.

Moral identity

Moral identity was measured using the five-item scale of moral identity internalization developed by Aquino and Reed (2002). A sample item is "It would make me feel good to be a person who has these characteristics." The Cronbach's α for this scale was 0.819.

Impression management motives

The ten-item scale of impression management motives developed by Rioux and Penner (2001) was adopted to evaluate impression management motives. A sample item is "Because I fear appearing irresponsible." The Cronbach's α for this scale was 0.808.

Unethical pro-organizational behavior

UPB was measured with the six-item scale developed by Umphress et al. (2010). A sample item is "If it would help my organization, I would exaggerate the truth about my company's products or services to customers and clients." The Cronbach's α for this scale was 0.785.

Organizational citizenship behavior

The eight-item scale of OCB directed at the organization developed by Lee and Allen (2002) was adopted to measure OCB. A sample item is "Defend the organization when other employees criticize it." The Cronbach's α for this scale was 0.749.

Control variables

Previous research suggests that some demographics (i.e., gender, age, and organizational tenure) may affect UPB and OCB (Matherne et al., 2018). Hence, we controlled for these variables. Specifically, gender was coded as a dummy variable (0 = female, 1 = male); age and organizational tenure were measured in the number of years.

Analytic strategy

Using Mplus 8.3 and SPSS 26.0, we first conducted a series of confirmatory factor analyses to test the distinctiveness of our key variables and common method bias. Then, we reported the means and standard deviations of all variables and the correlations between them. To test hypotheses, we adopted hierarchical regression and simple slope analyses. Meanwhile, the bootstrapping approach was employed to estimate confidence intervals (CIs) at 95% significance (20,000 repetitions).

Results

Confirmatory factor analyses

Table 1 presents the confirmatory factor analyses results. According to Table 1, the five-factor model provided a better fit to the data (χ^2 = 835.116, df = 692, χ^2/df = 1.201, CFI = 0.959, TLI = 0.956, RMSEA = 0.031, SRMR = 0.052) than alternative models, thus verifying the distinctiveness of our measures. The single-factor model provided a poor fit (χ^2 = 2291.480, df = 702, χ^2/df = 3.264, CFI = 0.546, TLI = 0.521, RMSEA = 0.102, SRMR = 0.145), thereby indicating that common method bias was not a substantial issue in this study.

Descriptive statistics

Table 2 reports the means, SDs, and correlations of variables. As expected, pro-organizational motives were positively related to UPB (r = 0.463, $p < 0.001$) and OCB (r = 0.298, $p < 0.001$); moral identity was negatively related to UPB ($r = -0.480$, $p < 0.001$) but positively related to OCB (r = 0.557, $p < 0.001$); impression management motives were positively related to UPB (r = 0.561, $p < 0.001$) and OCB (r = 0.384, $p < 0.001$).

Hypotheses testing

We conducted hierarchical regression and simple slope analyses to test the hypotheses. At the same time, we used the bootstrapping approach to calculate 95% CIs. The results of hierarchical regression are displayed in Table 3. H1 and H2 predicted the positive links between pro-organizational motives and pro-organizational behaviors (i.e., UPB and OCB). According to Model 2 and Model 6 in Table 3, we found that pro-organizational motives had positive effects on UPB (b = 0.256, $p < 0.001$) and OCB (b = 0.149, $p < 0.001$). Hence, H1 and H2 were supported.

H3 and H4 predicted the moderating role of moral identity. Model 3 revealed that moral identity weakened the relationship

TABLE 1 The results of confirmatory factor analyses.

Model	χ^2	df	χ^2/df	$\chi^2 (df)$	CFI	TLI	RMSEA	SRMR
Five-factor model: PM, MI, IMM, UPB, OCB	835.116	692	1.207	–	0.959	0.956	0.031	0.052
Four-factor model: PM, MI, IMM + UPB, OCB	1056.224	696	1.518	221.108***(4)	0.897	0.890	0.049	0.081
Three-factor model: PM, MI + OCB, IMM + UPB	1276.082	699	1.826	440.966***(7)	0.835	0.825	0.062	0.116
Two-factor model: PM + IMM + UPB, MI + OCB	1804.909	701	2.575	969.793***(9)	0.685	0.667	0.085	0.138
One-factor model: PM + MI + IMM + UPB + OCB	2291.480	702	3.264	1456.364***(10)	0.546	0.521	0.102	0.145

$n = 218$. PM, pro-organizational motives; MI, moral identity; IMM, impression management motives. + represents factors combined. ***$p < 0.001$.

TABLE 2 Means, standard deviations, and correlations.

Variable	M	SD	1	2	3	4	5	6	7
1. Gender	0.482	0.501							
2. Age	29.615	3.801	−0.072						
3. Tenure	2.931	1.554	0.049	0.453***					
4. PM	3.529	0.854	−0.036	0.112	0.070				
5. MI	3.377	0.553	−0.086	−0.087	−0.064	−0.318***			
6. IMM	3.442	0.435	−0.017	−0.008	−0.139*	0.157*	−0.038		
7. UPB	3.127	0.457	0.017	−0.069	−0.077	0.463***	−0.480***	0.561***	
8. OCB	3.432	0.422	−0.110	0.001	−0.071	0.298***	0.557***	0.384***	−0.060

$n = 218$. PM, pro-organizational motives; MI, moral identity; IMM, impression management motives. *$p < 0.05$; ***$p < 0.001$.

TABLE 3 The results of hierarchical regression analyses.

Variable	UPB				OCB			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	3.127***	3.127***	3.109***	3.118***	3.432***	3.432***	3.450***	3.425***
Gender	0.015	0.029	−0.010	0.032	−0.087	−0.080	−0.015	−0.077
Age	−0.005	−0.010	−0.012	−0.012	0.003	−0.001	0.003	−0.001
Tenure	−0.018	−0.021	−0.027	0.004	−0.022	−0.024	−0.018	−0.008
PM		0.256***	0.221***	0.229***		0.149***	0.234***	0.136***
MI			−0.317***				0.553***	
IMM				0.530***				0.333***
PM × MI			−0.121*				0.115**	
PM × IMM				0.159**				0.135*
R^2	0.008	0.234	0.379	0.490	0.017	0.106	0.585	0.231
ΔR^2	0.008	0.226***	0.145***	0.256***	0.017	0.089***	0.479***	0.125***

$n = 218$. PM, pro-organizational motives; MI, moral identity; IMM, impression management motives. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

between pro-organizational motives and UPB ($b = −0.121$, $p = 0.018$). The simple slope test showed that this relationship was more positive when moral identity was low (one SD below the mean; $slope = 0.288$, 95% CI = [0.187, 0.385]) than high (one SD above the mean; $slope = 0.154$, 95% CI = [0.100, 0.209]) and that these two slopes significantly differed from each other ($slope\ difference = −0.134$, 95% CI = [−0.232, −0.036]). This interaction is plotted in **Figure 2**. Hence, H3 was supported. Model 7 showed that moral identity strengthened the relationship between pro-organizational motives and OCB ($b = 0.115$, $p = 0.003$). The simple slope test showed that this relationship was more positive when moral identity was high (one SD above the mean; $slope = 0.298$, 95% CI = [0.236, 0.359]) than low (one SD below the mean; $slope = 0.171$, 95% CI = [0.089, 0.268]) and these two slopes significantly differed from each other ($slope\ difference = 0.127$, 95% CI = [0.026,

0.218]). This interaction is plotted in **Figure 2**. Hence, H4 was supported.

H5, H6, and H7 predicted the moderating effects of impression management motives. Model 4 revealed that impression management motives strengthened the link between pro-organizational motives and UPB ($b = 0.159$, $p = 0.007$). The simple slope test showed that this link was more positive when impression management motives were high (one SD above the mean; $slope = 0.299$, 95% CI = [0.208, 0.389]) than low (one SD below the mean; $slope = 0.160$, 95% CI = [0.103, 0.221]) and these two slopes significantly differed from each other ($slope\ difference = 0.139$, 95% CI = [0.036, 0.239]). This interaction is plotted in **Figure 3**. Hence, H5 was supported. Model 8 revealed that impression management motives strengthened the relationship between pro-organizational motives and OCB ($b = 0.135$, $p = 0.042$). The simple slope test showed that this
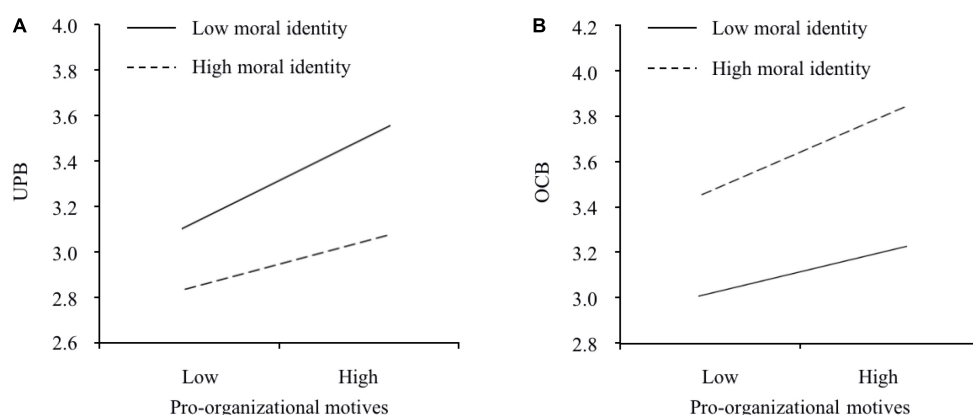
FIGURE 2
The moderating effects of moral identity on **(A)** the relationship between pro-organizational motives and UPB and **(B)** the relationship between pro-organizational motives and OCB.

relationship was more positive when impression management motives were high (one SD above the mean; *slope* = 0.194, 95% CI = [0.105, 0.291]) than low (one SD below the mean; *slope* = 0.077, 95% CI = [0.025, 0.139]) and these two slopes significantly differed from each other (*slope difference* = 0.117, 95% CI = [0.022, 0.214]). This interaction is plotted in **Figure 3**. Hence, H6 was supported. In addition, according to Model 4 and Model 8, we found that the moderating effect of impression management motives on the relationship between pro-organizational motives and UPB (*b* = 0.159, *p* = 0.007) was more significant than the moderating effect of impression management motives on the link between pro-organizational motives and OCB (*b* = 0.135, *p* = 0.042). Hence, H7 was supported.

Discussion

Based on prior motivational research on UPB and OCB (Grant and Mayer, 2009; Takeuchi et al., 2015; Cheng and Lin, 2019), we developed a comprehensive model to explain the contingent relationships between pro-organizational motives and pro-organizational behaviors. We examined this model using time-lagged data from 218 Chinese salespeople. The results showed that pro-organizational motives were positively related to UPB and OCB. This finding is not surprising because it is consistent with the general notion that pro-organizational motives are critical drivers of pro-organizational behaviors (Rioux and Penner, 2001). We also found that moral identity served as a vital boundary of the effects of pro-organizational motives on UPB and OCB. That is, moral identity weakened the positive effect of pro-organizational motives on UPB but amplified the positive effect of pro-organizational motives on OCB. Moral identity captures the extent to which morality is important to one's sense of identity (Matherne et al., 2018). Compared to employees with low moral identity, employees

with high moral identity are more likely to recognize the unethical aspect of UPB. Accordingly, moral identity may guide employees to express their pro-organizational motives in ethical rather than unethical forms of pro-organizational behavior. Furthermore, we found that impression management motives amplified the positive effects of pro-organizational motives on UPB and OCB, and the interaction of pro-organizational and impression management motives was stronger on UPB than on OCB. Researchers have pointed out that engaging in pro-organizational behaviors can contribute to creating a favorable self-presentation (Jones and Pittman, 1982). If an employee has a strong desire to be seen positively (i.e., impression management motives), his or her pro-organizational motives may likely be easier to be converted into pro-organizational behaviors, especially the behaviors that have more valence.

Theoretical implications

The present study makes several theoretical contributions. As noted at the outset, although scholars have explicitly or implicitly explored the boundaries of the impacts of pro-organizational motives on pro-organizational behaviors (e.g., Grant and Mayer, 2009; Matherne and Litchfield, 2012; Takeuchi et al., 2015; Wang et al., 2019), extant research is somewhat fragmented and thus in need of synthesis and extension. By investigating the moderating effects of moral identity and impression management motives on the relationships between pro-organizational motives, UPB, and OCB, this study narrows the aforementioned gap to some extent and provides a comprehensive and systematic explanation of the contingent relationships between pro-organizational motives and pro-organizational behaviors.

More specifically, we enrich the motivational research on UPB. In their critical review of UPB from a motivational perspective, Cheng and Lin (2019) suggested that apart from
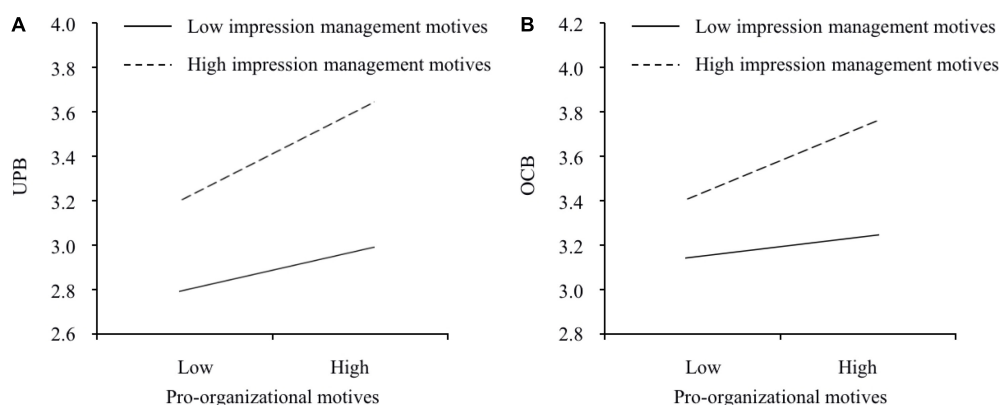
FIGURE 3

The moderating effects of impression management motives on **(A)** the relationship between pro-organizational motives and UPB and **(B)** the relationship between pro-organizational motives and OCB.

pro-organizational motives, self-serving motives can also affect the formation of UPB through the interaction with pro-organizational motives. Indirectly in support of this viewpoint, prior research has found that factors that may reflect one's motives (e.g., organizational identification reflects one's pro-organizational motives, and manipulative personality reflects one's self-serving motives; Naseer et al., 2020) can interact to affect UPB. We go one step further. By examining the interaction of pro-organizational motives and impression management motives (one typical kind of self-serving motives) on UPB, we are among the first to generate direct evidence for the viewpoint of Cheng and Lin (2019).

Meanwhile, this study enriches the motivational research on OCB directed at the organization. Although prior studies have verified the direct effects of pro-organizational motives and impression management motives on OCB directed at the organization (Rioux and Penner, 2001; Takeuchi et al., 2015), the interaction of pro-organizational motives and impression management motives on such kind of OCB has not been demonstrated. Different from Takeuchi et al.'s (2015) unverified opinion that impression management motives may weaken the effect of pro-organizational motives on OCB directed at the organization, we deem that impression management motives may strengthen this link in some cases (e.g., the professions and organizations that emphasize personal striving and encourage individuals to be conspicuous). The data from salespeople in an internet technology service company supported our viewpoint, thereby deepening the current understanding of the formation of OCB.

Finally, this study contributes to the impression management motives literature. Earlier research has identified several impression management tactics (e.g., ingratiation, self-promotion, and so on; Jones and Pittman, 1982), suggesting that individuals with high impression management motives will have more willingness to engage in certain behaviors than others. That is, there exist differences in the magnitude

of the direct impacts of impression management motives on individual behaviors. In comparison, few studies have paid attention to whether there also exist differences in the magnitude of the moderating effects of impression management motives. By demonstrating that the interaction of impression management motives and pro-organizational motives on UPB is a little stronger than that on OCB, we enrich the knowledge about impression management motives to some extent.

Practical implications

This study has several implications for management. First, managers should have dialectical thinking and be aware that pro-organizational motives have the bright side and the dark side. If managers only realize the benefits of pro-organizational motives but do not recognize the risks of pro-organizational motives, their measures to enhance employees' pro-organizational motives may likely cause hidden troubles for the long-term development of the organization. Second, to guide employees with strong pro-organizational motives to conduct more OCB and less UPB, an effective strategy is to enhance employees' moral identity. On the one hand, when recruiting employees, managers should find out and hire candidates who have high moral identity. On the other hand, after employees have joined the organization, ethical training programs and other management practices that contribute to the improvement of employees' moral identity are highly needed. Third, we found that the strengthening impact of impression management motives on the relationship between pro-organizational motives and UPB was stronger than that on the relationship between pro-organizational motives and OCB. This finding once again tells managers that dialectical thinking is a very important ability. Managers,

especially those in organizations that highlight individual striving and encourage employees to be conspicuous, should know that impression management motives are a double-edged sword and may do more harm than good. Similar to Takeuchi et al. (2015), we may advise managers to discourage employees from making contributions when they appear to be doing so to improve their image.

Limitations and future directions

This study has several limitations that need to be addressed in future research. The first limitation is related to the generalizability of our findings, as our data were collected only from one company. In fact, we do not deem that our findings can be generalized to all companies. As previously discussed, we think that similar findings may be obtained by collecting data from organizations that emphasize personal striving and encourage employees to be conspicuous. Nevertheless, the data collected from only one of these companies is difficult to reflect the representativeness of the sample data that we focus on. Hence, we advise future research to collect more data from these companies to retest our model. The second limitation concerns the research design. Although motives are often seen as the powerful drivers of behaviors, the time-legged research design is not able to rule out the possibility of reserve causality. To make the causality more clear, future research is strongly suggested to collect the data of UPB and OCB at Time 1 and control for them when examining the effects of pro-organizational motives on UPB and OCB at Time 2. Another potential limitation of this research is the use of self-report to assess individuals' traits, motives, and behaviors, which may evoke concerns about common method bias and social desirability. We deem that self-reports are suitable to some extent, as others may not have the insight necessary to assess the focal person's moral identity, pro-organizational motives, impression management motives, and UPB. To control common method bias, we followed Podsakoff et al.'s (2003) recommendations to adopt the temporal separation of measurement (one of the procedural remedies) and conduct the confirmatory factor analyses (one of the statistical remedies), the result of which showed that common method bias was not a serious threat in our study. Nevertheless, there still remains room for improvement. For instance, future research can collect data on OCB from observers. To reduce the effect of social desirability, we followed prior research (e.g., Takeuchi et al., 2015) to assure participants of the confidentiality of their responses. Future research can also address this issue methodologically by controlling for social desirability in the analyses.

Conclusion

Finally, this study provides an integrative understanding of the contingent relationships between pro-organizational motives, UPB, and OCB by identifying moral identity and impression management motives as the boundaries and investigating their moderating effects. The findings not only contribute to the research on UPB, OCB, and impression management motives but also offer several suggestions that managers can follow to guide employees with pro-organizational motives to take moral behavior.

Data availability statement

The data that support the findings of this study are available from the first author KC, chengken@zjut.edu.cn, upon reasonable request.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent from the patients/participants or patients/participants legal guardian/next of kin was not required to participate in this study in accordance with the national legislation and the institutional requirements.

Author contributions

KC and LG conducted conceptualization and data analysis and wrote the first draft of the manuscript. PH and YW performed the material preparation and data analysis. YL commented on previous versions of the manuscript. All authors contributed to the article and approved the submitted version.

Funding

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Aquino, K., and Freeman, D. (2009). "Moral identity in business situations: a social-cognitive framework for understanding moral functioning," in *Moral Personality, Identity, and Character*, eds D. Narvaez and D. K. Lapsley (New York, NY: Cambridge University Press), 375–395.

Aquino, K., and Reed, A. (2002). The self-importance of moral identity. *J. Pers. Soc. Psychol.* 83, 1423–1440. doi: 10.1037/0022-3514.83.6.1423

Baker, B., Derfler-Rozin, R., Pitesa, M., and Johnson, M. (2019). Stock market responses to unethical behavior in organizations: an organizational context model. *Organizat. Sci.* 30, 319–336. doi: 10.1287/orsc.2018.1244

Bennis, W. M., Medin, D. L., and Bartels, D. M. (2010). The costs and benefits of calculation and moral rules. *Perspect. Psychol. Sci.* 5, 187–202. doi: 10.1177/1745691610362354

Blasi, A. (1984). "Moral identity: its role in moral functioning," in *Morality, Moral Behavior, and Moral Development*, eds W. Kurtines and J. Gewirtz (New York, NY: Wiley), 128–139.

Bolino, M. C. (1999). Citizenship and impression management: good soldiers or good actors? *Acad. Manag. Rev.* 24, 82–98.

Bolino, M. C., and Grant, A. M. (2016). The bright side of being prosocial at work, and the dark side, too: a review and agenda for research on other-oriented motives, behavior, and impact in organizations. *Acad. Manag. Ann.* 10, 599–670. doi: 10.5465/19416520.2016.1153260

Borman, W. C., and Penner, L. A. (2001). "Citizenship performance: its nature, antecedents, and motives," in *Personality Psychology in the Workplace*, eds B. W. Roberts and R. Hogan (Washington, DC: American Psychological Association), 45–61.

Brief, A. P., and Motowidlo, S. J. (1986). Prosocial organizational behavior. *Acad. Manag. Rev.* 11, 710–725. doi: 10.2307/258391

Chen, M., Chen, C. C., and Sheldon, O. J. (2016). Relaxing moral reasoning to win: how organizational identification relates to unethical pro-organizational behavior. *J. Appl. Psychol.* 101, 1082–1096. doi: 10.1037/apl0000111

Cheng, K., and Lin, Y. (2019). Unethical pro-organizational behavior: a motivational perspective. *Adv. Psychol. Sci.* 27, 1111–1122. doi: 10.3724/SP.J.1042.2019.01111

Dou, K., Chen, Y., Liu, J., Li, J., and Wang, Y. (2019). Why and when does job satisfaction promote unethical pro-organizational behaviours? Testing a moderated mediation model. *Int. J. Psychol.* 54, 766–774. doi: 10.1002/ijop.12528

Grant, A. M., and Mayer, D. M. (2009). Good soldiers and good actors: prosocial and impression management motives as interactive predictors of affiliative citizenship behaviors. *J. Appl. Psychol.* 94, 900–912. doi: 10.1037/a0013770

Jones, E. E., and Pittman, T. S. (1982). "Toward a general theory of strategic self-presentation," in *Psychological Perspectives on the Self*, ed. J. Suls (Hillsdale, NJ: Lawrence Erlbaum), 231–262.

Katz, D. (1964). The motivational basis of organizational behavior. *Behav. Sci.* 9, 131–146. doi: 10.1002/bs.3830090206

Leary, M. R., and Kowalski, R. M. (1990). Impression management: a literature review and two-component model. *Psychol. Bull.* 107, 34–47. doi: 10.1037/0033-2909.107.1.34

Lee, K., and Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: the role of affect and cognitions. *J. Appl. Psychol.* 87, 131–142. doi: 10.1037/0021-9010.87.1.131

Matherne, C. F., and Litchfield, S. R. (2012). Investigating the relationship between affective commitment and unethical pro-organizational behaviors: the role of moral identity. *J. Leadersh. Account. Ethics* 9, 35–47.

Matherne, C. F., Ring, J. K., and Farmer, S. (2018). Organizational moral identity centrality: relationships with citizenship behaviors and unethical prosocial behaviors. *J. Bus. Psychol.* 33, 711–726. doi: 10.1007/s10869-017-9519-4

Mishra, M., Ghosh, K., and Sharma, D. (2022). Unethical pro-organizational behavior: a systematic review and future research agenda. *J. Bus. Ethics* 179, 63–87. doi: 10.1007/s10551-021-04764-w

Moorman, R. H., Blakely, G. L., and Niehoff, B. P. (1998). Does perceived organizational support mediate the relationship between procedural justice and organizational citizenship behavior. *Acad. Manag. J.* 41, 351–357. doi: 10.2307/256913

Naseer, S., Bouckenooghe, D., Syed, F., Khan, A. K., and Qazi, S. (2020). The malevolent side of organizational identification: unraveling the impact of psychological entitlement and manipulative personality on unethical work behaviors. *J. Bus. Psychol.* 35, 333–346. doi: 10.1007/s10869-019-09623-0

Organ, D. W. (1988). *Organizational Citizenship Behavior: The Good Soldier Syndrome*. Lexington, MA: Lexington Books.

Organ, D. W. (1990). "The motivational basis of organizational citizenship behavior," in *Research in Organizational Behavior*, eds B. M. Staw and L. L. Cummings (Greenwich, CT: JAI Press), 43–72.

Penner, L. A., Midili, A. R., and Kegelmeyer, J. (1997). Beyond job attitudes: a personality and social psychology perspective on the causes of organizational citizenship behavior. *Hum. Perform.* 10, 111–132. doi: 10.1207/s15327043hup1002_4

Podsakoff, P. M., Mackenzie, S. B., Lee, J. Y., and Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88, 879–903. doi: 10.1037/0021-9010.88.5.879

Podsakoff, P. M., MacKenzie, S. B., Paine, J. B., and Bachrach, D. G. (2000). Organizational citizenship behaviors: a critical review of the theoretical and empirical literature and suggestions for future research. *J. Manag.* 26, 513–563. doi: 10.1177/014920630002600307

Rioux, S. M., and Penner, L. A. (2001). The causes of organizational citizenship behavior: a motivational analysis. *J. Appl. Psychol.* 86, 1306–1314. doi: 10.1037/0021-9010.86.6.1306

Schuh, S. C., Cai, Y., Kaluza, A. J., Steffens, N. K., David, E. M., and Haslam, A. (2021). Do leaders condone unethical pro-organizational employee behaviors? The complex interplay between leader organizational identification and moral disengagement. *Hum. Resour. Manag.* 60, 969–989. doi: 10.1002/hrm.22060

Takeuchi, R., Bolino, M. C., and Lin, C. C. (2015). Too many motives? The interactive effects of multiple motives on organizational citizenship behavior. *J. Appl. Psychol.* 100, 1239–1248. doi: 10.1037/apl0000001

Thau, S., Derfler-Rozin, R., Pitesa, M., Mitchell, M. S., and Pillutla, M. M. (2015). Unethical for the sake of the group: risk of social exclusion and pro-group unethical behavior. *J. Appl. Psychol.* 100, 98–113. doi: 10.1037/a0036708

Umphress, E. E., and Bingham, J. B. (2011). When employees do bad things for good reasons: examining unethical pro-organizational behaviors. *Organ. Sci.* 22, 621–640. doi: 10.1287/orsc.1100.0559

Umphress, E. E., Bingham, J. B., and Mitchell, M. S. (2010). Unethical behavior in the name of the company: the moderating effect of organizational identification and positive reciprocity beliefs influencing unethical pro-organizational behavior. *J. Appl. Psychol.* 95, 769–780. doi: 10.1037/a0019214

Van Dick, R., Grojean, M. W., Christ, O., and Wieseke, J. (2006). Identity and the extra mile: relationships between organizational identification and organizational citizenship behavior. *Br. J. Manag.* 17, 283–301. doi: 10.1111/j.1467-8551.2006.00520.x

Wang, T., Long, L., Zhang, Y., and He, W. (2019). A social exchange perspective of employee–organization relationships and employee unethical pro-organizational behavior: the moderating role of individual moral identity. *J. Bus. Ethics* 159, 473–489. doi: 10.1007/s10551-018-3782-9

Wang, T., Zhang, Y., Zhou, H., and Zhang, J. (2020). The negative effects and underlying mechanisms of unethical pro-organizational behavior. *Adv. Psychol. Sci.* 28, 1246–1255. doi: 10.3724/SP.J.1042.2020.01246

Williams, L. J., and Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behavior. *J. Manag.* 17, 601–617. doi: 10.1177/014920639101700305

Appearing competent or moral? The role of organizational goals in the evaluation of candidates

Kyriaki Fousiani[1]*, Jan-Willem Van Prooijen[2] and
Bibiana Armenta[2]

[1]Department of Organizational Psychology, University of Groningen, Groningen, Netherlands,
[2]Department of Social Psychology, Free University of Amsterdam, Amsterdam, Netherlands

The Big Two theoretical framework suggests that two traits, namely morality and competence, govern social judgments of individuals and that morality shows a primacy effect over competence because it has more diagnostic value. In this study we tested the primacy effect of morality in the workplace by examining how instrumental or relational goals of organizations might influence the importance of morality or competence of candidates during the hiring process. We hypothesized that the primacy effect of morality might hold when organizational goals are relational, but it might get reversed when organizational goals are instrumental. Supporting our hypothesis, in a field study and two experiments (both preregistered) we found that people perceive moral candidates as more appropriate for recruitment when an organization prioritizes relational goals (Studies 1, 2, and 3). In contrast, people perceive competent candidates as more appropriate for recruitment when an organization prioritizes instrumental goals (Studies 1 and 2). Perceived appropriateness of a candidate, in turn, predicts a stronger intention to recruit a candidate (Studies 2 and 3). These results provide evidence for a reversal of the primacy effect of morality in a work setting, and illuminate the important role of organizational goals in social judgments.

KEYWORDS

competence, morality, relational vs. instrumental goals, recommendation for recruitment, Big Two theory

Introduction

The importance of recruiting the right workers to organizations has been widely acknowledged (Combs et al., 2006). As a result, over the last two decades, the importance of employee knowledge, capabilities, and skills has become increasingly apparent in the hiring process (Breaugh and Starke, 2000). Indeed, given the "internationalization" of businesses and companies (Alvarado-Vargas et al., 2020) and the "war for talent" (Michaels et al., 2001) that comes along with it, identifying and hiring the most competent and qualified applicants seems to be a panacea. This suggests that if candidates want to make a good impression and stand a chance to get hired, they should come across as competent. Nevertheless, research suggests that competence is not the most highly valued trait in impression formation processes (Brambilla

et al., 2012). More specifically, people tend to attach more value to morality (as opposed to competence)-oriented traits, referring to traits suggesting targets to be concerned with other's well-being and to act according to generic moral norms (e.g., integrity, trustworthiness, ethicality, and sincerity), which have a stronger diagnostic value about a target's character, enable observers to predict the target's future behaviors, and protect themselves from threatening outcomes (Leach et al., 2007; Brambilla et al., 2012, 2013).

According to the Big Two theory (Abele and Bruckmüller, 2011; Abele and Wojciszke, 2013), a theoretical framework embedded in the person perception literature (Abele, 2003; Wojciszke, 2005; Abele and Bruckmüller, 2011; Abele et al., 2016, 2021; Koch et al., 2021), competence (also known as agency) and morality (also known as communion) are the two core dimensions underlying person and group impressions (see Judd et al., 2005; Abele et al., 2008; Brambilla et al., 2012; Koch et al., 2021).[1] *Competence* involves qualities such as capability, intelligence, ambition, skillfulness, and efficiency facet, whereas *morality*, involves traits such as integrity, honesty, ethicality, trustworthiness, fairness, and sincerity (Abele, 2003, 2016, 2021; Wojciszke, 2005; Abele and Wojciszke, 2007; Abele and Bruckmüller, 2011; Rusconi et al., 2017, 2020; Unkelbach et al., 2020). There is abundant research underscoring the superiority and prevalence of morality over competence in person perception and impression formation (Ybarra et al., 2001; Abele and Bruckmüller, 2011; Wojciszke et al., 2011; Abele et al., 2021). Yet, very little is known about the prevalence of one or the other trait in impression formation about job candidates (Wojciszke and Abele, 2008; Zhu et al., 2021).

In the current study, we investigate the role of competence vs. morality in the perceived appropriateness of a candidate for a job (i.e., the overall impression formation about a candidate). We argue that whether competence or morality is a more important predictor of a candidate's perceived appropriateness for a job varies as a function of the goals of an organization (*cf.* Zhu et al., 2021). As such, the current research was designed to make a novel contribution by investigating how an organization's goals (e.g., profit maximization vs. sense of belonging) moderate the link between dimensions of person perception (morality vs. competence) and perceived appropriateness. We further predicted that perceived appropriateness of a candidate would in turn, relate to stronger recommendation for recruitment of the candidate. We investigate these issues in a field study with recruiters as participants and in two preregistered experiments.

Our study contributes to the literature in the following ways: First, it aims to extend the Big Two theory in particular (Abele and

---

1   The Big Two Theory identifies an additional trait, namely warmth or sociability (e.g., friendliness), which along with morality belongs to the broader category of communion (Abele and Wojciszke, 2007). Yet, the morality facet of communion has a more important role in person perception than the warmth/sociability facet (Leach et al., 2007; Brambilla et al., 2011, 2012, 2013; Brambilla and Leach, 2014; Kervyn et al., 2015), and therefore in the current work we only focused on morality.

Bruckmüller, 2011; Abele and Wojciszke, 2013) and the person perception literature in general (Abele and Wojciszke, 2007; Abele et al., 2016, 2021) by testing the role of competence and morality it in the organizational context, where the literature is scarce (Wojciszke and Abele, 2008; Zhu et al., 2021). Moreover, this study informs the HRM literature about the antecedents and underlying processes that drive recruitment decisions in organizations (Kristof, 1996; Kristof-Brown, 2000). Finally, this contribution has important practical implications as well, as our findings might be of interest to HR practitioners who need to be aware of the role that both impression formation and organizational goals exert in recruitment decisions.

The primacy of morality over competence

When people judge others or form an overall impression of them, they are faced with abundant information comprising their traits (Reeder and Brewer, 1979; Peeters, 1983; Neuberg and Fiske, 1987; Skowronski and Carlston, 1987). Empirical research has systematically demonstrated that morality carries more weight over competence, as it seems to have stronger diagnostic and predictive value when trying to recognize other people's intentions (Ybarra et al., 2001; Abele and Bruckmüller, 2011; Wojciszke et al., 2011; Abele et al., 2021; Brambilla et al., 2021; Koch et al., 2021). More specifically, because morality includes traits that are profitable to others (e.g., traits that could potentially influence other people's well-being), it is deemed more important in impression formation than competence, which includes traits that are self-profitable and can predominantly benefit the trait possessors themselves (Peeters, 1983, 2001; Peeters and Czapinski, 1990).

In line with this theorizing, Brambilla et al. (2012) found that morality is a better predictor of impression formation than competence because it informs people about whether or not a target is a threat. In a similar vein, Brambilla et al. (2013) found that information about morality is more diagnostic of behavioral intentions, and that people have less desire to interact with immoral targets whom they consider as a threat. Accordingly, in an experimental group setting, Leach et al. (2007) showed that information about the morality of a group was a stronger predictor of group appraisals than information about the competence of a group. In line with these findings, van der Lee et al. (2016) found that people perceive individuals with inferior morality (vs. inferior competence) as more different from their group, and more threatening to their image, and are therefore more likely to reject them. Also, Rudert et al. (2017) found that observers are more likely to socially exclude a person with inferior morality rather than a person with inferior competence. The above literature suggests that when evaluating others, morality has a primacy effect over competence, and more strongly influences people's judgment of others (Peeters, 1983, 2001; Peeters and Czapinski, 1990; Rusconi et al., 2017, 2020; Unkelbach et al., 2020).

In this contribution, we aim to investigate the effects of morality vs. competence in work setting and see which judgment dimension dominates recruiters' hiring decisions. Based on the Big Two theory (Abele and Bruckmüller, 2011; Abele and Wojciszke, 2013) and the primacy effect of morality that it involves (Peeters, 1983, 2001; Peeters and Czapinski, 1990), one would expect that morality is a stronger predictor than competence of a positive global impression of a candidate; in other words, recruiters would perceive a candidate of superior morality (as compared to superior competence) as more appropriate for a job. Consistent with this theorizing, Clokie and Fourie (2016) showed that when judging the employability of graduate students, employers valued students' "soft" skills (also referred to as "people" skills or "interpersonal" skills), such as teamwork, communication ethics, courtesy, and dependability (Hager et al., 2002; Mitchell et al., 2010) to a greater extent than their "hard" skills (i.e., measurable skills that one can find in the job description and can be learned on the job training) for the mere reason that soft skills facilitate organizational functioning through good communication.

Despite the above literature, which is based on the Big Two theory (Abele and Bruckmüller, 2011; Abele and Wojciszke, 2013), in real life we often encounter situations where organizations forward competence (as opposed to morality)-related skills merely because they have more instrumental goals and they pursue maximization of gains (see The War for Talent; Chambers et al., 1998). For such organizations, one may question the perceived superiority of morality over competence. Indeed, organizations nowadays face an increasingly competitive climate, and therefore their focus often lies on the achievement of tangible outcomes (e.g., money), success, achievement, and upward mobility (Spence and Helmreich, 1983; Fletcher et al., 2008). For this reason, companies are often obsessed with employee competences and performance-related skills and invest in identifying and hiring as many top performers as possible (Kulkarni et al., 2015). One would expect that in such organizations, competence is valued as a key element to goal fulfillment (e.g., most questions in job interviews are about candidates' competence-related skills). Accordingly, we argue that morality is not always dominant in impression formation; instead, the primacy effect of morality might get attenuated or even reversed in a work context, depending on the organizational goals. Below, we argue that when relational goals of an organization (e.g., harmonious relationships and sense of belonging) are salient, a candidate's morality would be more influential in the hiring decision. In contrast, when instrumental goals of an organization (e.g., maximization of material and tangible gains) are salient, competence of a candidate would determine the hiring decision.

Instrumental vs. relational goals

Although the Big Two theory assumes a primacy effect of morality over competence (Abele and Bruckmüller, 2011; see also, Brambilla et al., 2012, 2013, 2021), there are conditions under which perceived competence is more valued or informative than perceived morality (Hunt and Madhyastha, 2012). We claim that the extent to which competence or morality matter in person perception and evaluation largely depends on the goals and needs of the perceiver. For instance, people can be concerned with material and tangible outcomes, also known as instrumental goals (Luce and Raiffa, 1957; Thibaut and Kelley, 1959; Olson, 1965) or with relational (or symbolic) needs or goals, such as establishing positive social relationships, belonging to groups or entities, and the fulfillment of their psychological well-being (Tajfel and Turner, 1979; Turner et al., 1987; Deci and Ryan, 2000). While most people endorse both goals to some extent, they are conceptually distinct by focusing on different types of outcomes that are either material (instrumental) or symbolic (relational) in nature.

Organizations may have similar needs or goals. Instrumental organizational goals refer to objective factors such as pay, benefits, opportunity for advancement, maximization of profit and minimization of costs (see Lievens and Highhouse, 2003; see also Katz, 1960). Relational organizational goals refer to subjective and intangible factors such as relational harmony, need for social belonging, and person-organization relationships (see Bies and Moag, 1986; Tyler and Bies, 1990; King, 2009; Brienza and Bobocel, 2017). Although organizations – like individuals – usually strive for both types of goals to some extent, one type of goals might prevail over the other for various reasons, such as being more relevant for the survival and success of the organization. For instance, a real estate agency or an investment company, which are by definition attached to the attainment of specific, measurable, and tangible outcomes, might rely predominantly on the achievement of instrumental goals for their success (e.g., sell as many products as possible with the aim to maximize financial profit). Relational goals might be secondary in such organizations, as they are relevant only insofar they contribute to attaining these instrumental goals (e.g., a buyer might appreciate a pleasant interaction with the seller, but what matters for the organization's survival is the products that they buy). In contrast, a kindergarten or a school, which have a strong social character (e.g., they provide services that involve social interactions and identity concerns), would need to prioritize the attainment of relationship-oriented goals for their success (e.g., invest in children well-being and sense of belonging). Although instrumental goals would still be important for the survival of such organizations (e.g., also school teachers require a salary), such organizations might focus more on the attainment of relational goals to measure their success.

In sum, instrumental and relational goals both matter in most organizations, but organizations may differ in the extent to which they prioritize one over the other (Zhu et al., 2021). The distinction between these types of goals is therefore important to recruiters, as organizational goals determine the type of skills and qualifications that are required from job candidates. For instance, job advertisements might accentuate the importance of hard skills (e.g., innovation skills or other mental and/or physical capabilities; see Karpinska et al., 2013, p: 1328) or soft skills (i.e., person rather

than task-oriented skills and interpersonal rather than technical skills; see Krings et al., 2011 and Laker and Powell, 2011), depending on the organization's goals. The types of goals that (implicitly or explicitly) are most central in the overall culture or identity of an organization may determine the primacy of competence or morality in impression formation about a candidate.

The moderating role of instrumental vs. relational goals in the primacy of morality over competence

Despite the evidence on the primacy effect of morality over competence as, suggested by the Big-Two theory (Abele and Bruckmüller, 2011; see also Brambilla et al., 2021), in certain contexts, such as at work, the prevalence of one or the other dimension is debatable. Indeed, leading researchers of the Big Two theory have shown that the primacy effect of morality reverses under certain conditions. For instance, Wojciszke and Abele (2008) found that when an assessee's competence is perceived as potentially profitable for the assessor (i.e., observer), an assessee's competence becomes more important than their morality. Apparently, competence may outweigh morality in person perception when it serves perceivers' goals, and this might be particularly the case in a work environment where the main goals are instrumental in nature.

In this study we suggest that competence, which according to the Big Two theory pertains to "getting ahead," upward mobility, and success (Abele, 2003; Wojciszke, 2005; Abele and Wojciszke, 2007; Abele and Bruckmüller, 2011; Abele et al., 2016) might be more fitting in organizations that are concerned with achieving material and tangible outcomes. In contrast, morality which involves qualities that enable one to "get along," and to come across as a credible person that others can trust and rely on might be more fitting in organizations that prioritize goals that involve relatedness, sense of belonging and social interactions. We therefore stated the following hypothesis:

> *Hypothesis* 1: A candidate with superior competence (rather than superior morality) will be perceived as more appropriate (fitting) when the hiring organization has instrumental as opposed to relational goals. In contrast, a candidate with superior morality (rather than superior competence) will be perceived as more appropriate when the hiring organization has relational as opposed to instrumental goals.

Prior research has shown that perceiving a candidate as compatible with an organization in terms of values and traits reveals strong person–organization fit perceptions (P-O fit; Kristof, 1996; Kristof-Brown, 2000). Importantly, P–O fit perceptions seem to play a determinant role in recruiters' decision-making processes in general (Gilmore and Ferris, 1989; Rynes and Gerhart, 1990) and in recruiters' hiring decisions in particular

(Cable and Judge, 1997; Kristof-Brown, 2000). More specifically, Cable and Judge (1997) and Kristof-Brown (2000) showed that recruiters' P–O fit perceptions are the strongest predictor of recruitment recommendations. Interestingly, in a field study Higgins and Judge (2004) found that recruiters' P-O fit perceptions mediated the effect of applicant's influence tactics on recruitment recommendations. Based on the above, we stated the following hypothesis:

> *Hypothesis* 2: Perceived appropriateness of a candidate will predict stronger hiring recommendations and will mediate the morality/competence by type of goals effect on recommendation for recruitment.

A graphical illustration of the research model presented in Figure 1.

Research overview

We conducted three studies to test the aforementioned hypotheses. Study 1 was a field study with recruiters and HR managers as participants. This study tested Hypothesis 1 by measuring the type of organizational goals (instrumental and relational) as perceived by the participants, and perception of competent and moral candidates as appropriate for recruitment. Studies 2 and 3 (both preregistered) tested both Hypothesis 1 and Hypothesis 2 (moderated mediation hypothesis). Study 2 was an experiment where we manipulated the morality vs. competence of a candidate and instrumental vs. relational goals of an organization in vignettes. To enable a straightforward test in a relatively simple design, in Study 2 we only included high morality/low competence vs. low morality/high competence conditions. Study 3 was designed to replicate the Study 2 findings using a full design, that manipulated morality and competence separately. In Study 1 we used M-Plus 8 (Muthén and Muthén, 2017) to perform confirmatory factor analysis (CFA) and to run a path analysis with latent variables. In Studies 2 and 3 we used SPSS 27 to run regression analyses.

Study 1

Method

Participants

A total of 260 participants (156 females; $M_{age} = 38.71$, $SD = 9.39$) took part in an online study *via* Prolific. Of those, 181 participants were British, 13 were Irish, 11 were American, and 48 had another nationality. In total, 7 participants did not indicate their nationality. Moreover, all the participants were working as recruiters or HR managers or had recruiting experience/tasks. An *a-priori* power analysis revealed that 165 participants were

FIGURE 1
Hypothesized model.
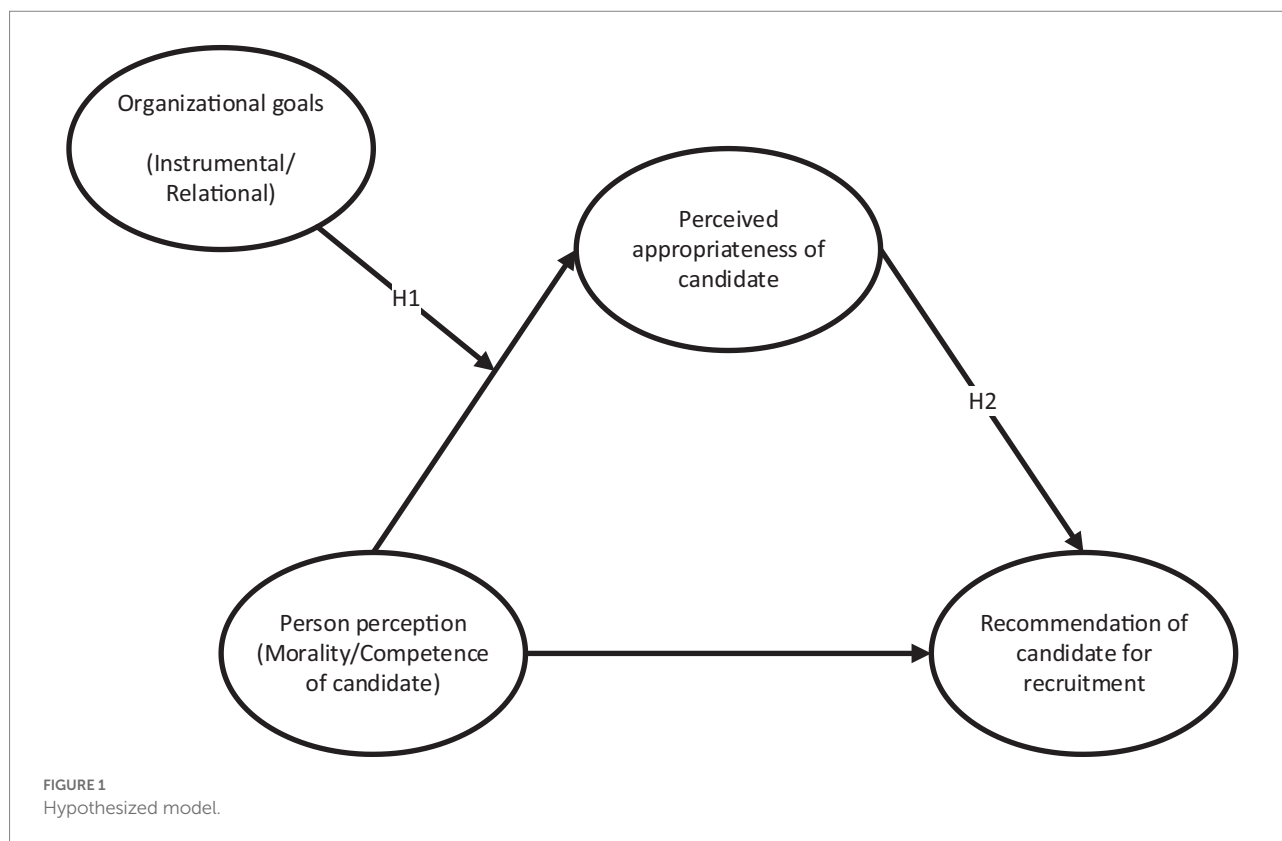
required to achieve 95% power to detect a medium effect size ($f = 0.25$). Participants were paid £1.00.

Procedure

Participants first filled in an instrumental and relational organizational goals scale. The assessment of perceived appropriateness of candidate followed. Pre-selection of candidates is usually based on certain competence-related aspects (e.g., recruiters rely on candidates' qualifications as presented in their CVs). Accordingly, while filling out these questionnaires, we instructed participants to bring to mind situations of job candidates who they believe that meet the job requirements as described in the respective job vacancies. Participants were debriefed and thanked upon completion of the study.

Measures

Instrumental goals

We developed an instrumental goals scale based on the Instrumental Concern Scale of Wilson and Putnam (1990). The original scale includes items that refer to the field of interpersonal negotiations in particular (e.g., "I want to get a better deal than my counterpart"), which we adapted to the specifics of this study (e.g., "the department/company where I work is concerned with how to make "good" deals). Not all the items of the original scale were possible to be adapted and therefore, not all the items were included in the adapted scale. Respondents were instructed to

indicate the extent to which the department or company where they were working had instrumental goals or concerns. The scale consisted of 11 items ($1 = strongly\ disagree$ to $7 = strongly\ agree$; $\alpha = 0.92$).

Relational goals

We developed a ten-item relational goals scale based on the Face Concerns Scale of Ting-Toomey and Oetzel (2001). Similar to the instrumental goals scale, the original scale includes items that refer to the negotiation context in particular (e.g., "Maintaining peace in my interaction with the other party was important to me"), and we adapted them to the specifics of this study (e.g., "The department/company where I work is concerned with maintaining peace in the interaction between people [employees, clients etc.]"). Respondents indicated the extent to which the department or company where they were working had relational goals or concerns ($1 = strongly\ disagree$ to $7 = strongly\ agree$; $\alpha = 0.94$).

Perceived appropriateness of a moral vs. competent candidate

We measured the extent to which participants deemed moral or competent candidates as more appropriate for their company/department *via* a bipolar scale designed to tap participants relative preference for a moral or competent candidate. More specifically, participants were asked to indicate the extent to which, in their company/department, they perceive a candidate who has strong

TABLE 1 Pearson correlations coefficients between study variables, means, and standard deviations (Study 1).

	1	2	3	M (SD)
1. Instrumental Goals[a]	1	−0.03	0.23***	4.70 (1.64)
2. Relational Goals[a]		1	−0.19**	4.92 (1.26)
3. Appropriateness of Candidate[b]			1	5.09 (1.22)

[a]Instrumental and relational goals were rated on a 7-point (1 = strongly disagree to 7 = strongly agree) Likert scale.
[b]Perceived appropriateness of candidate was rated on a 7-point (1 = moral candidate, 7 = competent candidate) bipolar scale.
**$p < 0.01$; ***$p < 0.001$.

morality vs. competence-related traits as more appropriate [e.g., "In the company/department where I work, I would see as more appropriate (fitting) a candidate who is: 1 moral, 7 = competent]. We used a 5-item bipolar scale where one pole was presenting morality-related traits (1 = *moral, sincere, righteous, honest, fair*) and the other pole was presenting competence-related traits (7 = *competent, skillful, intelligent, capable, efficient*). The selection of the traits was based on the Agency and Communion Scale of Abele and Wojciszke (2007).[2]

Control variables

We controlled for participants' age (in years) and gender (1 = male, 2 = female) as both variables have been found to influence recruiters' hiring decisions (McMullin, 2011).

Results

Correlations between the study variables, means, and standard deviations are presented in Table 1.

Preliminary analyses

To test whether instrumental and relational goals were distinct constructs we first conducted a Principal Component Analysis with Varimax rotation using SPSS 27. Two factors were extracted (relational goals and instrumental goals; Eigenvalues >1) which explained 32.80, and 31.07% of the variance, respectively. Most items had high loadings ($|f_{ij}| > 0.50$) on the predicted factors except of two items of the instrumental goals scale which had lower loadings. Moreover, one item of the instrumental scale loaded on

---

2   Besides perceived appropriateness of candidate, in this study we also measured recommendation for recruitment of candidate. However, given the cross-sectional nature of Study 1 we did not test the mediating role of perceived appropriateness in the relationship between candidate traits (competence and morality) by organizational goals and recommendation for recruitment (Hypothesis 2). Yet, we report the effects on recommendation for recruitment in the Additional Exploratory Analyses in the Online Supplementary material. These analyses further support our line of reasoning.

the relational goals scale. Accordingly, these three items were excluded from further analysis. The reliability of the instrumental goals scale, after excluding these items was.96. The factor loading matrix is presented in Appendix A.

We then conducted a CFA to ensure that our variables were distinct from one another. In the analysis, we included instrumental and relational goals (excluding the two instrumental and the one relational goal items that did not load as expected in the factor analysis) and perceived appropriateness of candidate. The model had good fit ($\chi^2 = 421.83$, $df = 227$, $p < 0.001$; RMSEA = 0.06 [CI$_{90}$ = 0.05; 0.07]; CFI = 0.96; SRMR = 0.06).

Hypothesis testing

Age and gender of participants served as control variables[3]. We tested the effect of organizational goals on perceived appropriateness of moral versus competent candidates *via* a path analysis with latent variables, using M-Plus 8 (Muthén and Muthén, 2017). Relational and instrumental goals were the predictors while appropriateness of moral versus competent candidates was the dependent variable. We found the effect of relational goals on the perceived appropriateness of a moral vs. competent candidate to be significant and negative. Given that ratings of morality/competence were on a 7-point scale where 1 = moral candidate and 7 = competent candidate, this effect suggests that participants perceived a moral candidate as relatively more appropriate to the extent that the organization's goals were more strongly relational. Moreover, the effect of instrumental goals on the perceived appropriateness of a moral vs. competent candidate was significant and positive, suggesting that participants perceived a competent candidate as more appropriate to the extent that the organization's goals were more strongly instrumental (see Table 2 for the relevant statistics). These results show that participants working in a company with stronger relational goals perceived moral candidates as more appropriate whereas participants working in a company with stronger instrumental goals perceived competent candidates as more appropriate. These findings provide support for Hypothesis 1.

Discussion

Study 1 was a field study aiming to test recruiters' perception of moral vs. competent candidates as more appropriate depending on the organizational goals (instrumental and relational) of the company where they work. All participants were either recruiters, HR managers, or had managerial positions with hiring responsibilities. The results showed that the more strongly organizational goals are considered to be relational, the more a moral candidate is perceived to be appropriate for hiring.

---

3   Results in all the three studies are similar when control variables are not included in the analysis.

TABLE 2 Results on perceived appropriateness of a moral or competent candidate using latent variables (Study 1).

Predictor	*B*	*SE*	*95% CI*
Relational Goals	−0.26***	0.08	−0.39; −0.14
Instrumental Goals	0.21**	0.07	0.09; 0.32
Age	−0.002	0.008	−0.02; 0.01
Gender	0.03	0.16	−0.22; 0.29

Relational and instrumental goals were rated on a 7-point (1 = strongly disagree to 7 = strongly agree) Likert scale. Perceived appropriateness of moral vs. competent candidate was rated on a 7-point (1 = moral candidate, 7 = competent candidate) bipolar scale.
**$p < 0.01$; ***$p < 0.001$.

Moreover, the more organizational goals are considered to be instrumental, the more a competent candidate is perceived to be appropriate for hiring. These results provided support for Hypothesis 1.

Study 1, however, includes two major limitations: First, it was a cross-sectional study with all the data being collected in the same wave. This makes the results vulnerable to potential common method bias (Podsakoff et al., 2012). The cross-sectional research design of Study 1 also was the main reason for not testing Hypothesis 2 [i.e., the mediating role of perceived appropriateness in the relationship between candidate traits (competence and morality) by organizational goals and recommendation for recruitment]. Second, Study 1 measured the perceived appropriateness of moral vs. competent candidates in one single scale that combined the assessment of both constructs. More specifically, participants were asked to rate the appropriateness of a moral vs. competent candidate on a bipolar scale where morality-related characteristics were on the one pole of the scale and competence-related characteristics on the other. Study 2 was a follow-up study aiming to replicate the findings of Study 1 in an experimental design, and also test Hypothesis 2. Importantly, in an attempt to address some of the limitations of Study 1, Study 2 manipulated candidate's person perception (morality vs. competence) and assessed perceived appropriateness of candidate on a separate measure.

Study 2

Methods

Participants

A total of 318 participants[4] (193 females; $M_{age} = 27.58$, $SD = 11.83$) living in the Netherlands took part in this study. Of those, 147 participants were Dutch, 43 were German, 16 were British, and 112 had another nationality. Moreover, 84 participants had a full-time job, 120 participants had a part-time job, and 110

were unemployed.[5] Of the participants, 106 had finished high-school, 128 had a bachelor's degree and 80 had a Master's or a PhD. In total, 4 participants did not indicate their occupational or educational status. An *a-priori* power analysis revealed that 269 participants were required to achieve 80% power to detect a medium effect size ($f = 0.25$). The study was preregistered in Open Science Framework: https://osf.io/gyzwx/?view_only=7da67f94b 23746a09281fb45155d67f0.[6]

Experimental design and procedure

Graduate students recruited participants by using their student or work environment and their personal network. Potential participants were approached *via* e-mail, social media (e.g., Facebook, LinkedIn, Twitter) or face-to face contact and were requested to take part in an online study. Participants were not paid. The survey was programmed in Qualtrics.

We manipulated instrumental vs. relational goals of the organization in vignettes. Participants read a job vacancy and were asked to take the perspective of an HR manager, who was supposed to hire one of the candidates that had applied. More specifically, participants read that the company they are working at is seeking a candidate to fulfill the Management Consultant role. In the instrumental goals condition, the vacancy pointed out the need for fulfilling instrumental tasks, such as "designing a strategic plan for the maximization of the company's revenues and profit, identifying financial problems and designing profitable strategies, and developing processes, routines, and tools to optimize the profit of the company." In the relational goals condition, the vacancy pointed out the need for fulfilling relational tasks, such as "designing a strategic plan for the maximization of the employees' well-being and sense of belonging to the company, identifying collaboration problems between company members, and designing conflict resolution strategies, and developing processes, routines, and tools to optimize relationship quality between the members of the company" (see Online Supplementary material for the complete vignettes).

Manipulation checks followed directly after the presentation of the vacancy descriptions. More specifically, we asked participants to indicate the extent to which the job vacancy had a focus on (a) A sense of belonging, fair solutions, communication (manipulation check item for relational goals); (b) Revenues and

---

4 A total of 586 participants clicked on the Qualtrics link but only 318 completed it. Therefore, 268 participants who did not provide any answers to the survey questions were excluded from the dataset.

---

5 We should report that employment status of participants did not influence either appropriateness of the candidate or recommendation for recruitment.

6 The experimental design and the hypothesized interaction effect (Hypothesis 1) were preregistered; However, the mediation hypothesis (Hypothesis 2) was not yet preregistered for Study 2 (only for Study 3). Moreover, in the preregistration we included an additional outcome variable (e.g., rejection of a candidate). The effects on that outcome variable did not come out significant and therefore, for the sake of brevity, we decided to exclude it from the paper (and also did not include the measure in Study 3).

financial profit maximization [manipulation check item for instrumental goals" (1 = *not at all true*, 7 = *absolutely true*)].

For ecological validity, but also to make the manipulations more convincing, we informed participants that four candidates were shortlisted based on their qualifications. Among the four, two candidates were invited for an interview based on their CVs; therefore, the race would be decided among two candidates. Laustsen and Bor (2017) adopted a similar approach for the manipulation of morality and competence of political candidates. Thereafter, we presented participants with a brief description of each of the two candidates. Similar to Laustsen and Bor (2017), we only manipulated the competence/morality of one of the candidates while the other candidate was presented as having moderate competence and morality (see Online Supplementary material for the description of the candidate).

For the manipulation of competence/morality of the candidate we used adapted versions of the vignettes of Laustsen and Bor (2017): The candidate was presented as having superior competence but inferior morality ("*Mr de Vries has many years of experience in management. He has designed an excellent initiative to identify and analyze company's interests and translate them into projects that assure their realization. His ideas have been widely praised for their insights, effectiveness, and originality. However, in his career so far, Mr de Vries has proved to be a controversial person. His colleagues describe him as not the most honest man who sometimes breaks his word. Mr de Vries is also accused of being, at times, disrespectful or impolite*") vs. inferior competence but superior morality ("*Mr de Vries has mostly worked as a security engineer and has very little experience in management. He frequently recites an initiative to identify and analyze company's interests and translate them into projects that assure their realization. However, his ideas have been widely judged as shallow, ineffective, and naïve. However, in his career so far, Mr de Vries has proved to be a reputable person. His colleagues describe him as an honest man who always keeps his word. Mr de Vries is also praised for treating others with respect and politeness*"). The order of presentation of competence or morality information was randomized in order to avoid order-effect biases (Perreault, 1975).

Manipulation checks followed directly after the morality/competence information. Participants were asked to rate the extent to which they perceived each candidate as competent, intelligent, skilled (competence manipulation check items; α = 0.82), moral, sincere, honest (morality manipulation check items; α = 0.95; 1 = *not at all*, 7 = *a lot*) similar with Laustsen and Bor (2017).

Measures

Perceived appropriateness of candidate (global impression of the candidate)

We developed a 3-item measure based on the P-O fit scale of Cable and Judge (1997) and the global impression scale of Brambilla et al. (2012): "To what extent do you think that Mr. de Vries fulfills the criteria for this job?"; "To what extent do

you think that Mr. de Vries is an appropriate candidate for this position?"; "To what extent is your global impression of Mr. de Vries favorable?" (1 = *not at all*, 7 = *to a great extent*; α = 0.70).

Recommendation of the candidate for hire

We developed a measure based on the recommendation for hiring scale of Higgins and Judge (2004). We asked participants to indicate whether or not they would recommend the applicant for recruitment with two items: "Would you recommend Mr. de Vries for this position?"; "Would you offer this job to Mr. de Vries?" (1 = *absolutely not*, 7 = *absolutely yes*; α = 0.93).[7,8]

Control variables

Similar to Study 1, we controlled for participants' age and gender (1 = male, 2 = female).

Results

Manipulation checks

We ran a Multivariate Analysis of Variance (MANOVA) with the type of organizational goals (instrumental vs. relational) as the independent variable and the instrumental and relational goals manipulation check items as the dependent variables. The multivariate effect of type of goals was significant $F(2,315) = 295.70$, $p < 0.001$, $\eta^2 = 0.65$ and showed that participants perceived the goals of the vacancy as more instrumental in the instrumental ($M = 6.53$, $SD = 0.85$) than relational ($M = 3.25$, $SD = 1.68$) conditions, $F(1,316) = 488.34$, $p < 0.001$, $\eta^2 = 0.61$. In contrast, participants perceived the goals as more relational in the relational ($M = 5.64$, $SD = 1.49$) as opposed to the instrumental ($M = 2.56$, $SD = 1.51$) condition, $F(1,316) = 335.86$, $p < 0.001$, $\eta^2 = 0.52$.

We then ran a simple MANOVA with the morality/competence manipulation as the independent variable, and the morality and competence manipulation check scales as the dependent variables. The multivariate effect of morality/competence manipulation was significant $F(2,315) = 238.58$, $p < 0.001$, $\eta^2 = 0.60$ and showed that participants perceived the candidate in the high morality/low competence condition as more moral ($M = 5.54$, $SD = 1.10$) as compared with the low morality/high competence condition ($M = 2.93$, $SD = 1.33$), $F(1,316) = 365.34$, $p < 0.001$, $\eta^2 = 0.53$. Moreover, participants

---

7   In order to make our manipulations more convincing, participants were asked to rate the appropriateness of both applicants and indicate their intention to recommend them for recruitment. However, in the current paper we only focus on ratings of the candidate whose morality and competence varied.

8   Besides the ipsative scales that we used for the assessment of perceived appropriateness and recommendation of a candidate, we included Likert scales assessing the perceived appropriateness and recommendation of moral and competent candidates. Unsurprisingly, we observed a high ceiling effect and we decided to discard these scales from the study.

perceived the candidate in the low morality/high competence condition as more competent ($M = 5.40$, $SD = 1.06$) as compared to the high morality/low competence condition ($M = 4.31$, $SD = 1.03$), $F(1,316) = 86.03$, $p < 0.001$, $\eta^2 = 0.21$. Finally, we ran a 2×2 MANOVA with goals and morality/competence as predictors and the morality and competence scales as outcome variables. The interaction effect did not come out significant $F(2,315) = 0.95$, $p = 0.39$, $\eta^2 = 0.006$. We conclude that the manipulations worked as intended.

Hypothesis testing

We ran a moderated mediation analysis in Process (Hayes, 2013, 2018). We requested a 95% bias-corrected interval based on 5,000 bootstrap samples. Competence/morality ($-1 = $ high competence but low morality, $1 = $ low competence but high morality) was the independent variable, type of goals ($-1 = $ relational, $1 = $ instrumental) was the moderator, perceived appropriateness of the candidate was the mediator, and intention for recommendation of the candidate was the dependent variable. Age and gender were included as control variables. The overall model was significant $R^2 = 0.10$, $F(5,308) = 6.84$, $p < 0.001$. The main effect of competence/morality on perceived appropriateness of the candidate was not found to be significant. Similarly, the main effect of type of goals did not prove to be significant. However, the interaction effect on perceived appropriateness of the candidate came out significant (see Table 3 for the relevant statistics) and showed that people perceive a candidate of high competence (rather than high morality) as more appropriate for hire when the goals of the job are instrumental ($b = -0.40$, $SE = 0.09$, $p < 0.001$; 95% CI $[-0.58; -0.21]$). Moreover, participants perceived a candidate of high morality (rather than high competence) as more appropriate when the goals of the job are relational ($b = 0.39$, $SE = 0.10$, $p = 0.001$; 95% CI $[0.20; 0.58]$), $\Delta R^2 = 0.10$, $F(1,308) = 33.94$, $p < 0.001$ (see Figure 2). These results support Hypothesis 1.

Perceived appropriateness of the candidate ($M = 3.86$, $SD = 1.29$) was positively related to the intention for recommendation of the candidate ($M = 3.65$, $SD = 1.49$; $r = 0.78$, $p < 0.001$). Moreover, although the direct effect of morality/competence on recommendation for recruitment was not significant, the indirect effect was significant resulting in a full mediation (see Table 3 for the relevant statistics). The overall moderated mediation model was supported with the index of moderated mediation $= -0.78$, $SE = 0.13$, 95% CI $[-1.05; -0.52]$. These results corroborate Hypothesis 2 and support the idea that perceived appropriateness mediates the link between morality/competence, organizational goals and recruitment intentions.

Discussion

Study 2 experimentally tested the moderated effect of type of goals of an organization on the relationship between a

TABLE 3 Regression analyses results on perceived appropriateness of a candidate and recommendation for recruitment (Study 2).

Predictor	B	SE	t	p	95% CI
Perceived Appropriateness of Candidate (Mediator)[d]					
Constant	3.90	0.30	12.88	<0.001	3.31; 4.50
Morality/Competence[a]	−0.004	0.07	−0.06	0.95	−0.14; 0.13
Type of Goals[b]	0.04	0.07	0.52	0.60	−0.10; 0.17
Morality/Competence[a] × Type of Goals[b]	−0.40	0.07	−5.83	<0.001	−0.53; −0.26
Age	0.001	0.006	0.01	0.99	−0.03; 0.01
Gender[c]	−0.04	0.13	−0.28	0.78	−0.01; 0.01
Recommendation Intention (Dependent Variable)[e]					
Constant	−0.14	0.26	−0.55	0.58	−0.64; 0.36
Morality/Competence[a]	−0.02	0.05	−0.53	0.59	−0.11; 0.07
Type of Goals[b]	−0.04	0.05	−0.90	0.37	−0.13; 0.05
Appropriateness of Candidate[d]	0.99	0.04	25.69	<0.001	0.92; 1.07
Morality/Competence[a] × Type of Goals[b]	−0.05	0.05	−1.08	0.28	−0.15; 0.04
Age	−0.001	0.004	−0.26	0.79	−0.01; 0.01
Gender[c]	−0.02	0.09	−0.23	0.82	−0.20; 0.16
Conditional Indirect Effects					
Mediator	Goals	B	Boot SE	Boot 95% CI	
Appropriateness of	Relational	0.39	0.10	0.19	0.59
Candidate[d]	Instrumental	−0.40	0.09	−0.57	−0.22

[a]Morality/Competence was codes as: $-1 = $ high competence but low morality, $1 = $ low competence but high morality.
[b]Type of goals was coded as: $-1 = $ relational, $1 = $ instrumental.
[c]Gender: $1 = $ male, $2 = $ female.
[d]Perceived appropriateness of candidate was rated on a 7-point ($1 = $ not at all, $7 = $ to a great extent) Likert scale.
[e]Intention for recommendation for recruitment was rated on a 7-point ($1 = $ absolutely not, $7 = $ absolutely yes) Likert scale.

candidate's morality or competence and recommendation for recruitment through perceived appropriateness (fitness). Replicating and extending Study 1, the findings supported Hypothesis 1 and showed that the primacy effect of morality might be reversed when organizational goals are instrumental. Further, this study provided full support for moderated mediation (Hypothesis 2), such that the interaction effect between candidate's traits (competence/morality) and organizational goals on perceived appropriateness of a candidate subsequently predicts recommendation for recruitment. A limitation of Study 2, however, is that the experimental design only compared candidates who scored high in one but low in the other dimension (e.g., high morality but low competence vs. high competence but low morality). This is consistent with prior research that has conceptualized morality (as a subdimension of warmth) and competence as antagonistic poles of a single dimension (Bakan, 1966). Recent literature, however, conceives morality and competence as two separate dimensions which are (nearly) orthogonal, meaning that a high rating in one dimension can be companied with either a low or high rating in

FIGURE 2
Perceived appropriateness of a candidate as a function of morality/competence and type of goals (Study 2). Ratings were on a 7-point scale (1=*not at all*, 7=*to a great extent*). Error bars represent standard errors.
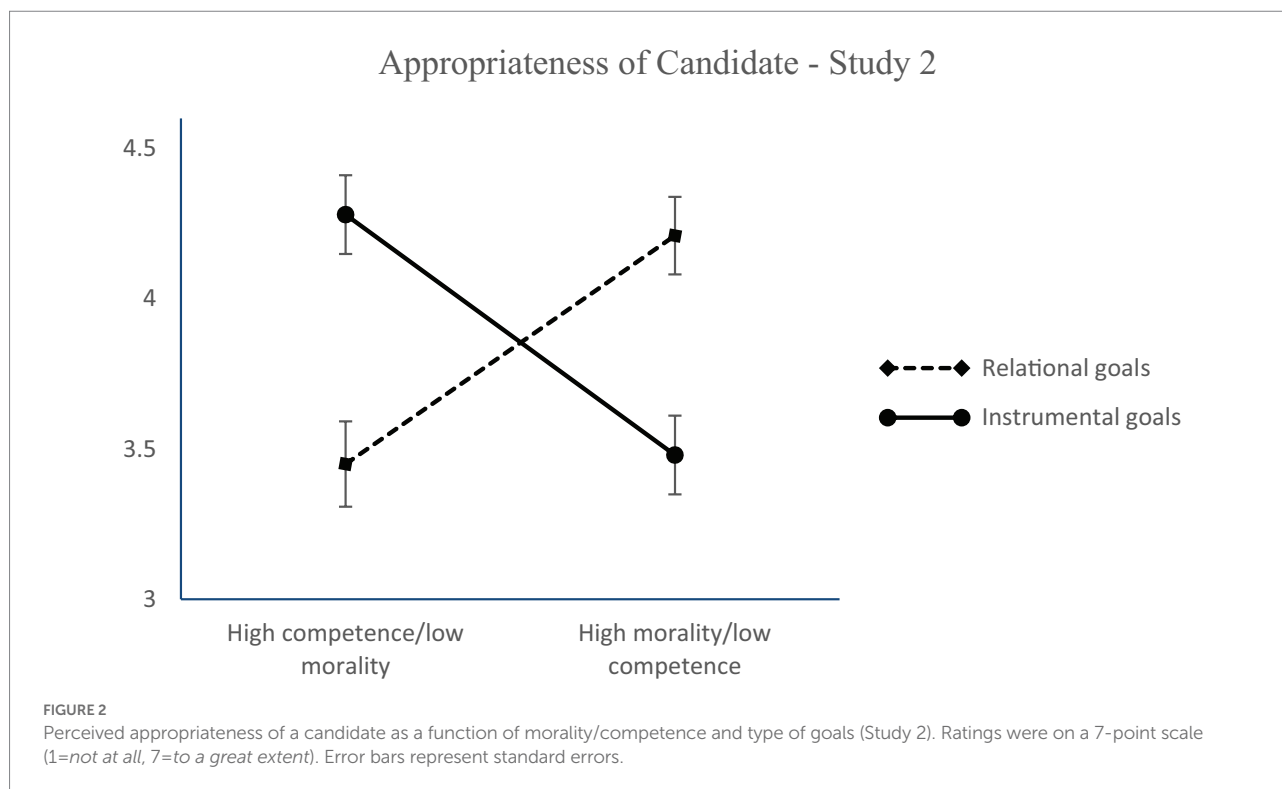
the other dimension (Fiske et al., 2002). Yet, there is evidence that the two dimensions are not orthogonal (Abele and Wojciszke, 2014) and can relate positively (see "halo" and "horn" effects; Dion et al., 1972) or negatively to each other (see compensation effect; Wojciszke, 1994; Judd et al., 2005; Kervyn et al., 2012). Some studies even find a curvilinear relationship (Imhoff and Koch, 2017). To achieve a better understanding of the role of morality and competence in hiring decisions when instrumental or relational goals are prevalent, we conducted an experiment where we manipulated morality (high vs. low) and competence (high vs. low) as separate dimensions. Hence, Study 3, does not only test the two-way interaction between morality/competence (as one dimension) and type of goals, but also tests the three-way interaction between type of goals, morality, and competence. The purpose of the three-way interaction is exploratory and goes beyond the scope of the current contribution, and therefore we did not state specific hypotheses about it.

Finally, an additional limitation of Study 2 is the heterogeneity of the sample in terms of the participants' employment status. Indeed, a large number of participants were full-time employees, an even larger number were part-time employees, while one third of the participants were unemployed. We consider this as a limitation of the study, as people's employment status might influence the extent to which they identify with the role they are assigned while reading the study vignettes, and it might determine the judgments they make about job candidates. To address this limitation, Study 3 recruited predominantly full-time employees.

Study 3

Methods

Participants

A total of 400 British participants, living in the United Kingdom, took part in this study. Of the participants, 6 were removed because they had either indicated that they did not complete the study truthfully or they had not fully completed the study. Of those (207 females, $M_{age} = 38.73$, $SD = 8.63$), 376 had a full-time job, 13 participants had a part-time job, and 5 were unemployed. Moreover, 125 had finished high-school, 171 had a bachelor's degree and 97 had a Master's or a PhD. In total, seven participants did not indicate their occupational or educational status. An *a-priori* power analysis revealed that 400 participants were required to achieve 95% power to detect a medium effect size ($f = 0.25$). This study was preregistered on OSF[9]

Experimental design and procedure

Participants were recruited *via* Prolific and were paid £0.90. We manipulated instrumental vs. relational goals using the same vignettes as in Study 2. Moreover, we used the same vignettes as Study 2 to manipulate morality and competence, with the difference that we included additional conditions to achieve a complete design: morality (high vs. low) and competence (high vs.

---

9   https://osf.io/293py/?view_only=976bdcd813ea426d8ab469
b0066dce6a

low). Therefore, we had a 2×2×2 between-participants experimental design. The two candidates were given typical British names. Manipulation checks followed and were identical to those of Study 2 [competence manipulation check scale; α = 0.91; (morality manipulation check scale; α = 0.97)].

Measures

We used the same perceived appropriateness of the candidate and recommendation of the candidate scales (α = 0.95 and α = 0.98 respectively) as in Study 2 after adding one item to each scale (see Online Supplementary material). Similar to Studies 1 and 2, we controlled for participants' age and gender.

Results

Manipulation checks

The multivariate effect of type of goals was significant $F(2,391) = 722.85$, $p < 0.001$, $\eta^2 = 0.79$ and showed that participants perceived the goals of the vacancy as more instrumental in the instrumental ($M = 6.76$, $SD = 0.76$) than relational ($M = 2.71$, $SD = 1.55$) conditions, $F(1,392) = 1077.39$, $p < 0.001$, $\eta^2 = 0.73$. In contrast, participants perceived the goals as more relational in the relational ($M = 6.15$, $SD = 1.05$) as opposed to the instrumental ($M = 2.25$, $SD = 1.43$) condition, $F(1,392) = 960.02$, $p < 0.001$, $\eta^2 = 0.71$.

We then ran a 2 (morality: high vs. low) × 2 (competence: high vs. low) multivariate ANOVA with the manipulation check scales for morality and competence as dependent variables. The multivariate effect of morality was significant $F(2,389) = 463.85$, $p < 0.001$, $\eta^2 = 0.71$ and showed that participants perceived the candidate as more moral in the high morality condition ($M = 5.90$, $SD = 0.92$) than in the low morality condition ($M = 2.55$, $SD = 1.23$), $F(1,390) = 928.40$, $p < 0.001$, $\eta^2 = 0.70$. However, the effect of morality on perceived competence of the candidate was also significant $F(1,390) = 79.92$, $p < 0.001$, $\eta^2 = 0.17$ and showed that participants in the high morality condition ($M = 5.38$, $SD = 1.07$) were perceived as more competent than those in the low morality condition ($M = 4.35$, $SD = 1.46$).

The multivariate effect of competence also came out significant $F(2,389) = 172.62$, $p < 0.001$, $\eta^2 = 0.47$. As expected, participants perceived the candidate as more competent in the high competence ($M = 5.81$, $SD = 0.89$) as compared to the low competence condition ($M = 4.00$, $SD = 1.16$), $F(1,390) = 329.99$, $p < 0.001$, $\eta^2 = 0.46$. Unexpectedly, the effect of competence on perceived morality of the candidate was also significant $F(1,390) = 5.16$, $p = 0.02$, $\eta^2 = 0.01$ and showed that a candidate in the high competence condition ($M = 4.53$, $SD = 1.90$) was perceived as more moral than a candidate in the low competence condition ($M = 3.96$, $SD = 2.05$). Finally, the morality × competence multivariate interaction effect came out significant $F(2,389) = 5.36$, $p = 0.005$, $\eta^2 = 0.03$ and showed that participants perceived a candidate in the high competence and high morality condition as more competent ($M = 6.05$, $SD = 0.69$) than a candidate in the high

competence and low morality condition ($M = 5.51$, $SD = 1.01$), $F(1,390) = 10.74$, $p = 0.001$, $\eta^2 = 0.03$. The interaction effect on perceived morality of a candidate was not significant $F(1,390) = 1.13$, $p = 0.29$, $\eta^2 = 0.003$. Although moral candidates were also perceived as more competent, and vice versa (which is in line with the halo-effect; Nisbett and Wilson, 1977), the expected main effects had much stronger effect sizes than the unintended effects, and therefore we regard the morality and competence manipulations as satisfactory for the present purposes.

We then ran a 2×2×2 MANOVA with morality, competence and goals as predictors and the morality and competence scales as outcome variables. None of the interaction effects proved to be significant $Fs < 1$. We conclude that the manipulations worked as intended.

Hypothesis testing

We ran a 2×2×2 moderated mediation analysis in Process (Hayes, 2013, 2018). In the analysis, type of goals (−1 = relational, 1 = instrumental), morality (−1 = low morality, 1 = high morality), and competence (−1 = low competence, 1 = high competence) were the predicting variables, appropriateness of candidate was the mediator and recommendation for recruitment was the dependent variable. Age and gender of participants were added as control variables. The overall model was significant $R^2 = 0.70$, $F(9,384) = 97.85$, $p < 0.001$. The main effect of type of goals did not prove to be significant. The main effect of morality on perceived appropriateness of the candidate was significant and showed that participants perceived a highly moral person as more appropriate for a job. Similarly, the main effect of competence was significant and showed that participants perceived a highly competent candidate as more appropriate for hire.

Importantly, the morality × goals interaction effect on perceived appropriateness of the candidate came out significant (see Table 4 for the relevant statistics) and showed that people perceive a candidate of high morality as more appropriate when the goals of the job are relational ($b = -0.19$, $SE = 0.07$, $p < 0.01$; 95% CI [−0.34; −0.05]) than when goals are instrumental ($b = 0.30$, $SE = 0.07$, $p < 0.001$; 95% CI [0.15; 0.45]) $\Delta R^2 = 0.02$, $F(1,385) = 21.40$, $p < 0.001$ (see Figure 3). Unexpectedly, the competence × goals interaction effect on perceived appropriateness was not significant (see Table 4 for the relevant statistics). These results partly support Hypothesis 2. Furthermore, the morality × competence interaction came out significant and showed that highly competent candidates are deemed as more appropriate for hire when they are also high in morality ($b = 1.14$, $SE = 0.08$, $p < 0.001$; 95% CI [0.99; 1.29]) rather than low in morality ($b = 0.92$, $SE = 0.07$, $p < 0.001$; 95% CI [0.77; 1.07]) $\Delta R^2 = 0.004$, $F(1,385) = 4.47$, $p < 0.05$. Finally, the morality × competence × type of goals interaction was significant and showed that participants perceived a candidate who is high in competence and low in morality to be more appropriate for a job when organizational goals are instrumental ($b = 0.50$, $SE = 0.12$, $p < 0.001$; 95% CI [0.27; 0.72]), and a candidate who is high both in morality and in competence when organizational goals are

relational ($b = -0.23$, $SE = 0.10$, $p = 0.02$; 95% CI [−0.43;-0.03]) $\Delta R^2 = 0.005$, $F(1,385) = 5.71$, $p = 0.02$ (Figure 4).

As in Study 2, perceived appropriateness of the candidate ($M = 3.88$, $SD = 1.86$) was positively related with intention for recommendation of the candidate ($M = 3.69$, $SD = 2.13$; $r = 0.94$, $p < 0.001$). Furthermore, perceived appropriateness of the candidate had a significant and positive effect on the intention to recommend the candidate for recruitment. The above results partly support Hypothesis 2. Neither the main effect of morality, competence or type of goals on recommendation for recruitment were significant.

Although beyond our hypotheses, it is worth reporting that the competence × type of goals interaction on recommendation for hire was significant. Results showed that people have a stronger intention to recommend for hire a candidate of high competence when the goals of the job are instrumental ($b = 0.11$, $SE = 0.05$, $p < 0.05$; 95% CI [0.001; 0.21]) than when goals are relational ($b = -0.06$, $SE = 0.05$, $p > 0.05$; 95% CI [0.16; 0.04]), $\Delta R^2 = 0.002$, $F(1,384) = 5.37$, $p = 0.02$ (see Figure 5). Moreover, the morality × competence interaction on recommendation for recruitment was also significant and showed that participants recommend for recruitment to lower extent candidates who are low both in competence and morality than candidates who are high in one or both dimensions ($b = -1.16$, $SE = 0.06$, $p < 0.01$; 95% CI [−0.28; −0.40]) $\Delta R^2 = 0.004$, $F(1,384) = 14.37$, $p < 0.001$. Finally, and most importantly, morality × competence × type of goals had an indirect effect on recommendation for recruitment through perceived appropriateness of candidate (full mediation; see Table 4 for the relevant statistics). The overall moderated mediation model was supported with the index of moderated mediation (IMM) = −0.13, $SE = 0.06$, 95% CI [−0.25; −0.02].

Discussion

Study 3 was a follow-up study aiming to replicate the results of Study 2 while manipulating morality and competence separately. Accordingly, besides the competence × type of goals and morality × type of goals interactions, Study 3 further tested the three-way interaction between type of goals, morality and competence in the prediction of recommendation for recruitment through perceived appropriateness of candidate. Supporting Hypothesis 1, we found that participants perceived a highly moral (as opposed to a low in morality) candidate as more appropriate for hire when the goals of the job were relational, while perceived appropriateness, in turn, predicted a stronger intention to recommend a candidate, supporting Hypothesis 2. Unexpectedly, the competence × type of goals interaction on perceived appropriateness of a candidate was not significant. A possible explanation for the insignificant result might be the manipulation of competence in the vignettes. Indeed, the hypothetical nature of the vignettes might have made it difficult to manipulate competence (high vs. low) sufficiently well to expect an interaction

with type of goals (see also Randall and Gibson, 1990; Wason et al., 2002 about low realism of experimental vignettes). To achieve a more realistic set-up future research should consider laboratory experiments where a confederate takes the role of the candidate. However, it is worth mentioning that we found competence to interact with type of goals in the prediction of recommendation of a candidate for hire directly, suggesting that when an organization had instrumental goals competence predicted hiring recommendations more strongly than when an organization had relational goals. These results suggest that the person perception × type of goals interactive effect might directly influence recommendation for recruitment, and that this relationship does not necessarily emerge through the perceived appropriateness of candidate. Future research should further investigate these relationships.

Interestingly, the type of goals × morality × competence interaction, when predicting appropriateness of candidate, was significant showing that individuals deem a candidate who is high in competence and low in morality as more appropriate for hire when organizational goals are instrumental. In contrast, when organizational goals are relational, participants deemed a candidate who scored high in both dimensions (morality and competence) more appropriate. Importantly, perceived appropriateness fully mediated these effects on recommendation for recruitment. These results are further discussed in the General discussion.

General discussion

Organizations are increasingly concerned with attracting and selecting the right types of employees (Combs et al., 2006). Employers place special attention on employee capabilities, skills, and knowledge while making recruitment decisions (Breaugh and Starke, 2000). Nevertheless, the literature points out the prevalence of people's morality over competence when judging others and forming impressions about them (Abele, 2003; Abele and Wojciszke, 2007; Abele and Bruckmüller, 2011; Brambilla et al., 2012, 2013) because morality is more tightly connected with one's character (Goodwin et al., 2014). In the current study we investigated the effects of a candidate's competence vs. morality on the perceived appropriateness of a candidate for a job and in turn, on recommendation for recruitment. To do so, we took into consideration the moderating role of organizational goals (relational vs. instrumental; see Luce and Raiffa, 1957; Thibaut and Kelley, 1959; Olson, 1965; Tajfel and Turner, 1979; Turner et al., 1987; Deci and Ryan, 2000) and we hypothesized that candidates with superior morality over competence will be seen as more appropriate for hire and will be, in turn, recommended for hire when the goals of the hiring organization are relational. In contrast, we expected that a candidate of superior competence over morality would be deemed more appropriate and would be recommended for recruitment when the organization's goals are instrumental.

TABLE 4 Regression analysis results on the effect of morality and competence on perceived appropriateness of a candidate and recommendation for recruitment as a function of type of goals (Study 3).

Predictor	B	SE	t	p	95% CI
Perceived Appropriateness of Candidate (Mediator)[e]					
Constant	3.77	0.29	13.01	<0.001	3.20; 4.34
Type of Goals[a]	0.05	0.05	0.84	0.40	−0.06; 0.15
Morality[b]	1.02	0.05	19.23	<0.001	0.92; 1.12
Competence[c]	1.03	0.05	19.21	<0.001	0.93; 1.13
Morality[b] × Type of Goals[a]	−0.23	0.05	−4.37	<0.001	−0.34; −0.13
Competence[c] × Type of Goals[a]	0.08	0.05	1.56	0.12	−0.02; 0.19
Morality[b] × Competence[c]	0.11	0.05	2.11	0.03	0.01; 0.22
Morality[b] × Competence[c] × Type of Goals[a]	−0.13	0.05	−2.39	0.02	−0.23; −0.02
Age	−0.004	0.006	−0.56	0.57	−0.02; 0.01
Gender[d]	0.17	0.10	1.67	0.10	−0.03; 0.38
Recommendation Intention (Dependent Variable)[f]					
Constant	−0.41	0.24	−1.70	0.09	−0.89; 0.06
Type of Goals[a]	0.02	0.04	0.43	0.67	−0.13; 0.09
Morality[b]	0.05	0.05	1.01	0.31	−0.05; 0.15
Competence[c]	−0.02	0.05	−0.42	0.50	0.14; 0.07
Appropriateness of Candidate[e]	1.06	0.04	29.81	<0.001	0.99; 1.13
Morality[b] × Type of Goals[a]	0.01	0.04	0.30	0.77	−0.06; 0.08
Competence[c] × Type of Goals[a]	0.09	0.04	2.37	0.02	0.01; 0.16
Morality[b] × Competence[c]	0.14	0.04	3.78	0.002	0.07; 0.21
Morality[b] × Competence[c] × Type of Goals[a]	0.01	0.04	−0.001	0.99	−0.07; 0.07
Age	−0.005	0.004	−1.15	0.25	−0.01; 0.004
Gender[d]	0.08	0.07	1.14	0.25	−0.06; 0.21

Conditional Indirect Effects for Morality							
Mediator	Goals	Competence	Morality	B	BootSE	Boot 95% CI	
Appropriateness of Candidate[e]	Relational	High	High	−0.25	0.08	−0.40	−0.09
	Instrumental	High	Low	0.53	0.14	0.24	0.80
	Relational	Low	High	−0.05	0.12	−0.40	0.09
	Instrumental	Low	Low	0.08	0.10	−0.11	0.27

[a]Type of goals was coded as: −1 = relational, 1 = instrumental.
[b]Morality was coded as: −1 = low morality, 1 = high morality.
[c]Competence was coded as: −1 = low competence, 1 = high competence.
[d]Gender: 1 = female, 2 = male.
[e]Perceived appropriateness of candidate was rated on a 7-point (1 = not at all, 7 = to a great extent) Likert scale.
[f]Intention for recommendation for recruitment was rated on a 7-point (1 = absolutely not, 7 = absolutely yes) Likert scale.

Study 1 was a field study, aiming to test the effect of organizational values on the perception of a moral vs. competent candidate as appropriate for a job. Results provided support for Hypothesis 1 and showed that the more organizational goals are seen as relational the more a moral candidate is perceived to be appropriate for hire. Furthermore, the more an organization's goals are instrumental, the more a competent candidate is perceived to be appropriate. Study 2 tested this hypothesis experimentally and showed that when a candidate is high in morality (although low in competence), a candidate is seen in a more positive light in terms of appropriateness for recruitment as compared to a candidate who is low in morality (but high in competence) under the condition that the hiring organization has relational goals. On the contrary, when an organization has instrumental goals, a candidate who is high in competence (although low in morality) is considered more appropriate for hire

than a highly moral (but incompetent) candidate. Supporting Hypothesis 2, perceived appropriateness of the candidate, in turn, predicted intention for recommendation of the candidate.

These findings are in line with our postulation that morality is not always and unconditionally more important over competence and that the primacy effect of morality might get reversed in certain situations. Indeed, according to Wojciszke and Abele (2008), in certain contexts, such as at the work environment, competence may outweigh morality as it best serves the perceivers' goals. Study 3 manipulated morality and competence separately as there is evidence that the two constructs are separate dimensions (Cislak and Wojciszke, 2008). Study 3 largely replicated the results of Study 2 and further found the type of goals × morality × competence interaction to be significant when predicting perceived appropriateness of candidate. Although we did not state specific hypotheses regarding this three-way

FIGURE 3
Perceived appropriateness of a candidate as a function of morality and type of goals (Study 3). Ratings were on a 7-point scale (1=*not at all*, 7=*to a great extent*). Error bars represent standard errors.

FIGURE 4
Perceived appropriateness of a candidate as a function of type of goals, morality, and competence (Study 3). Ratings were on a 7-point scale (1=*not at all*, 7=*to a great extent*). Error bars represent standard errors.

interaction effect, the findings that occurred are noteworthy. More specifically, Study 3 showed that participants deem a candidate who is high in competence and low in morality more appropriate when organizational goals are instrumental. This finding is, to some extent, in line with the compensation effect (Wojciszke, 1994; Judd et al., 2005; Kervyn et al., 2012) which suggest a negative relationship between competence and morality and further extends it as it reveals the "utility" of scoring high in one

dimension and low in the other. In other words, it is likely that a candidate who scores low in morality is seen as even more competent (according to the compensation effect) and hence, is perceived as more appropriate for a job when goals are highly instrumental. Moreover, Study 3 showed that individuals deem a candidate who scores high both in competence and morality to be more appropriate for hire when organizational goals are relational. To some extent, this finding is in line with the halo

FIGURE 5
Intention to recommend a candidate as a function of competence and type of goals (Study 3). Ratings were on a 7-point scale (1=*not at all*, 7=*to a great extent*). Error bars represent standard errors.
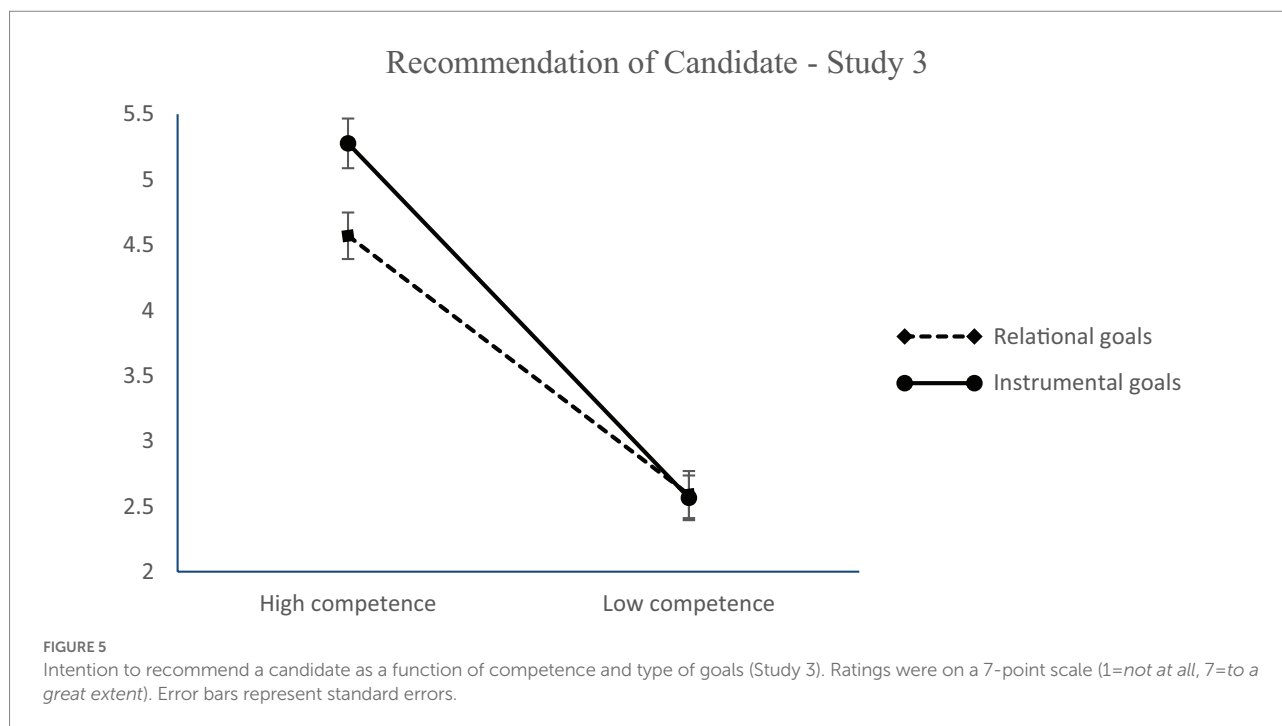
effect (Dion et al., 1972) which suggests a positive relationship between the two dimensions. A possible explanation of this result is that at work, even when relational goals are more dominant, candidate competence remains important due to the inherent instrumental nature of work (after all, one needs to be capable of performing according to given standards). Future research, including various methodological approaches is needed to further investigate the observed effects.

Theoretical implications

These results have important theoretical implications. First, despite abundant research on the Big Two theory and the primacy effect of morality over competence (Peeters, 1983; Peeters and Czapinski, 1990; Peeters, 2001; Abele et al., 2021, see also Brambilla et al., 2012, 2013; Fousiani and van Prooijen, 2019; Unkelbach et al., 2020) there is very little empirical evidence on the importance of morality vs. competence in an organizational context. For instance, Pagliaro et al. (2013) showed that morality rather than competence-related information determined people's behavioural inclination to be cooperative and help others in the workplace. Yet, to the best of our knowledge there is no research on the effects of morality vs. competence on people's hiring decisions. The current study sheds light on this matter by investigating the moderating role of organizational goals. Indeed, depending on their culture, values, and identity (Hatch and Schultz, 1997) organizations may differ in terms of the goals that they promote (Lievens and Highhouse, 2003; Zhu et al., 2021). This study showed that the primacy of morality or competence in the hiring process depends on the goals of an organization. The current findings paint a clearer picture of the issue

at hand, which despite its major role in organizational functioning, has been largely overlooked. Second, the current findings also speak to the Big Two theory (Abele and Bruckmüller, 2011; Abele and Wojciszke, 2013) and the person perception literature in general (Abele, 2003; Abele and Wojciszke, 2007; Abele and Bruckmüller, 2011; Abele et al., 2016) including the halo effect (Dion et al., 1972) and the compensation effect (Wojciszke, 1994; Judd et al., 2005; Kervyn et al., 2012; see also Moscatelli et al., 2019) and provide evidence about the conditions under which the primacy effect of morality can be reversed (see also, Wojciszke and Abele, 2008). Third, the current findings speak to the literature on relational (Brewer, 1979; Baumeister and Leary, 1995; Deci and Ryan, 2000) and rational decision-making (Luce and Raiffa, 1957; Thibaut and Kelley, 1959; Olson, 1965) and reveal the primacy effect of morality when decision-making is relationships-oriented and the primacy effect of competence when decision-making is rationality-based. Finally, this study provides evidence for the underlying mechanisms that drive the investigated effects. More specifically, in all the three studies we found evidence that the perceived appropriateness of a candidate (i.e., positive global impression of a candidate) was the mechanism that drove the moderated effect of morality vs. competence on recommendation intention. Accordingly, this contribution informs the HRM literature about the explanatory mechanisms that drive people's hiring decisions in organizations.

Practical implications

Apart from its theoretical implications, this study also features several – albeit tentative – practical implications: HR practitioners should be aware of people's overall preference for socializing with

moral as opposed to competent individuals as the former can be trusted to a greater extent and can contribute to the group harmony. Nevertheless, HR practitioners should not neglect the role that organizational goals play in the personnel selection process. Alternatively put, HR practitioners should be aware of their tendency to hire personnel that matches the organizational goals and be mindful of the consequences of such decisions. For instance, although organizational goals might be very important to consider when recruiting personnel, HR practitioners might make biased hiring decisions when overly influenced by the organization's goals. Future research should further investigate the effects –both positive and negative-- of such hiring decisions on an organization's functionality. Besides HR practitioners, these findings are important to employees in general as they reveal that the evaluation of employees' core traits, namely morality and competence, is contingent on contextual characteristics and therefore, whether one or the other trait are evaluated in a positive or in a negative light depends on the context at hand.

Limitations and future directions

Although we used different methods to operationalize our variables across the studies (Study 1: field study, Study2: 2×2 experiment, and Study 3: $2 \times 2 \times 2$ experiment) the findings were largely similar revealing the robustness of the investigated effects. Yet, this work includes a number of limitations and inconsistencies between the three studies. A significant limitation of Study 1 (field study) is its cross-sectional design (without time-lag between the several measures) and therefore did not test the mediating effect that was hypothesized in Hypothesis 2 (see Podsakoff et al., 2012 for the risks of common-method bias in cross-sectional research). Studies 2 and 3 illuminate the mediation effect, yet these studies are experiments relying on vignettes that are hypothetical in nature. Although our vignettes were adapted versions of vignettes that have been successfully used in previous research (Laustsen and Bor, 2017), conclusions drawn from Studies 2 and 3 are only about perceptions and may not transfer to real-life situations. Moreover, although participants of Study 1 were recruiters having HR experience, in Studies 2 and 3 we used convenient samples that might lack such professional experience. Accordingly, we cannot generalize with certainty the findings of Studies 2 and 3 to the broader HR and recruiter community. The current research takes first steps in challenging the notion that morality has a primacy effect over competence and addresses the question whether organizational goals moderate the effect of competence and morality of a candidate on perceived appropriateness and intention to hire a candidate. This contribution hence needs to be seen as a preliminary step towards a more fine-grained understanding of the relationship between morality and competence perceptions on the one hand and people's judgement on the other hand. Future research needs to include a broader range of methodological designs (e.g., time-lagged field studies) in order to shed light on this topic.

Moreover, one inconsistency that we observed is that, the main effect of morality and competence on perceived appropriateness of the candidate was not significant in Study 2 but it proved to be significant in Study 3. This might be due to the different experimental design that we used in the two studies; Study 2 directly compared competence vs. morality of a candidate whereas Study 3 manipulated the two variables separately. Moreover, the competence × type of goals interaction effect on perceived appropriateness of a candidate was not significant in Study 3, while this interaction was significant when recommendation of a candidate was the outcome variable.

Finally, all our measures are self-reported, non-behavioral measures and therefore, we cannot conclude with certainty whether the observed effects can be generalized to people's behavior. Future research should further investigate these effects with alternative tools and behavioral measures (e.g., actual recruitment of job candidates) for a better understanding of the effects of morality and competence on work-related decisions.

Concluding remarks

A growing body of research has underscored the primacy effect of morality over competence in person perception. Morality informs people about whether or not a target is a threat and it is more diagnostic of behavioral intentions (Leach et al., 2007; Brambilla et al., 2012, 2013; see also Fousiani and van Prooijen, 2019). While we do not dispute that this moral primacy effect is likely to occur in most situations, it is important to be aware of the boundary conditions of this effect. The present research sought to clarify that the primacy effect of morality (or competence) in social judgment largely depends on an observer's goals. Apparently, when organizations have goals that require high competence among employees (e.g., profit maximization), people may prioritize a candidate's competence over morality in the recruitment process.

Data availability statement

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession number(s) can be found at: https://osf.io/nduxs/?view_only=22a7b18f2ccc4df1b0f051665fd9fb72(OSF).

Ethics statement

The studies involving human participants were reviewed and approved by Ethical Committee of the University of Groningen, Nr PSY-2021-S-0507. The patients/participants provided their written informed consent to participate in this study.

Author contributions

KF: writing first draft of manuscript, research design, data collection, and statistical analyses. J-WP: research design and edits in the manuscript. BA: research design, edits in the manuscript, and data collection. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.923329/full#supplementary-material

References

Abele, A. E. (2003). The dynamics of masculine-agentic and feminine-communal traits: findings from a prospective study. *J. Pers. Soc. Psychol.* 85, 768–776. doi: 10.1037/0022-3514.85.4.768

Abele, A. E., and Bruckmüller, S. (2011). The bigger one of the "big two"? Preferential processing of communal information. *J. Exp. Soc. Psychol.* 47, 935–948. doi: 10.1016/j.jesp.2011.03.028

Abele, A. E., Cuddy, A. J. C., Judd, C. M., and Yzerbyt, V. Y. (2008). Fundamental dimensions of social judgment [editorial]. *Eur. J. Soc. Psychol.* 38, 1063–1065. doi: 10.1002/ejsp.574

Abele, A. E., Ellemers, N., Fiske, S. T., Koch, A., and Yzerbyt, V. (2021). Navigating the social world: toward an integrated framework for evaluating self, individuals, and groups. *Psychol. Rev.* 128, 290–314. doi: 10.1037/rev0000262

Abele, A. E., Hauke, N., Peters, K., Louvet, E., Szymkow, A., and Duan, Y. (2016). Facets of the fundamental content dimensions: agency with competence and assertiveness-communion with warmth and morality. *Front. Psychol.* 7:1810. doi: 10.3389/fpsyg.2016.01810

Abele, A. E., and Wojciszke, B. (2007). Agency and communion from the perspective of self versus others. *J. Pers. Soc. Psychol.* 93, 751–763. doi: 10.1037/0022-3514.93.5.751

Abele, A. E., and Wojciszke, B. (2013). The big two in social judgment and behavior [editorial]. *Soc. Psychol.* 44, 61–62. doi: 10.1027/1864-9335/a000137

Abele, A. E., and Wojciszke, B. (2014). Communal and agentic content. A dual perspective model. *Adv. Exp. Soc. Psychol.* 50, 198–255. doi: 10.1016/B978-0-12-800284-1.00004-7

Alvarado-Vargas, M. J., Hermans, M., and Newburry, W. (2020). What's in it for me? Local employees' anticipated career opportunities derived from firm internationalization. *J. Bus. Res.* 117, 201–211. doi: 10.1016/j.jbusres.2020.06.003

Bakan, D. (2003). *The Duality of Human Existence: Isolation and Communion in Western Man.* Chicago: Rand McNally.

Baumeister, R. F., and Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychol. Bull.* 117, 497–529. doi: 10.1037/0033-2909.117.3.497

Bies, R. J., and Moag, J. S. (1986). "Interactional justice: communications criteria of fairness," in *Research on negotiation in organizations. Vol. 1.* eds. R. Lewicki, B. Sheppard and M. Bazerman (Greenwich, CT: JAI Press), 43–55.

Brambilla, M., and Leach, C. W. (2014). On the importance of being moral: the distinctive role of morality in social judgment. *Soc. Cogn.* 32, 397–408. doi: 10.1521/soco.2014.32.4.397

Brambilla, M., Rusconi, P., Sacchi, S., and Cherubini, P. (2011). Looking for honesty: the primary role of morality (vs. sociability and competence) in information gathering. *Eur. J. Soc. Psychol.* 41, 135–143. doi: 10.1002/ejsp.744

Brambilla, M., Sacchi, S., Pagliaro, S., and Ellemers, N. (2013). Morality and intergroup relations: threats to safety and group image predict the desire to interact with outgroup and ingroup members. *J. Exp. Soc. Psychol.* 49, 811–821. doi: 10.1016/j.jesp.2013.04.005

Brambilla, M., Sacchi, S., Rusconi, P., Cherubini, P., and Yzerbyt, V. Y. (2012). You want to give a good impression? Be honest! Moral traits dominate group impression formation. *Br. J. Soc. Psychol.* 51, 149–166. doi: 10.1111/j.2044-8309.2010.02011.x

Brambilla, M., Sacchi, S., Rusconi, P., and Goodwin, G. P. (2021). "The primacy of morality in impression development: Theory, research, and future directions," in *Advances in Experimental Social Psychology. Vol. 64.* Academic Press, 1–76.

Breaugh, J. A., and Starke, M. (2000). Research on employee recruitment: so many studies, so many remaining questions. *J. Manag.* 26, 405–434. doi: 10.1177/014920630002600303

Brewer, M. B. (1979). In-group bias in the minimal intergroup situation: a cognitive-motivational analysis. *Psychol. Bull.* 86, 307–324. doi: 10.1037/0033-2909.86.2.307

Brienza, J. P., and Bobocel, D. R. (2017). Employee age alters the effects of justice on emotional exhaustion and organizational deviance. *Front. Psychol.* 8:479. doi: 10.3389/fpsyg.2017.00479

Cable, D. M., and Judge, T. A. (1997). Interviewers' perceptions of person–organization fit and organizational selection decisions. *J. Appl. Psychol.* 82, 546–561. doi: 10.1037/0021-9010.82.4.546

Chambers, E. G., Foulon, M., Handfield-Jones, H., Hankin, S. M., and Michaels, E. G. III. (1998). "The war for talent," in *The McKinsey Quarterly. Vol. 1.*

Cislak, A., and Wojciszke, B. (2008). Agency and communion are inferred from actions serving interests of self or others. *Eur. J. Soc. Psychol.* 38, 1103–1110. doi: 10.1002/ejsp.554

Clokie, T. L., and Fourie, E. (2016). Graduate employability and communication competence: are undergraduates taught relevant skills? *Bus. Prof. Commun. Q.* 79, 442–463. doi: 10.1177/2329490616657635

Combs, J., Liu, Y., Hall, A., and Ketchen, D. (2006). How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. *Pers. Psychol.* 59, 501–528. doi: 10.1111/j.1744-6570.2006.00045.x

Deci, E. L., and Ryan, R. M. (2000). The" what" and" why" of goal pursuits: human needs and the self-determination of behavior. *Psychol. Inq.* 11, 227–268. doi: 10.1207/S15327965PLI1104_01

Dion, K., Berscheid, E., and Walster, E. (1972). What is beautiful is good. *J. Pers. Soc. Psychol.* 24, 285–290. doi: 10.1037/h0033731

Fiske, S. T., Cuddy, A. J., Glick, P., and Xu, J. (2002). A model of (often mixed) stereotype content: competence and warmth respectively follow from perceived status and competition. *J. Pers. Soc. Psychol.* 82, 878–902. doi: 10.1037/0022-3514.82.6.878

Fletcher, T. D., Major, D. A., and Davis, D. D. (2008). The interactive relationship of competitive climate and trait competitiveness with workplace attitudes, stress, and performance. *J. Organ. Behav.* 29, 899–922. doi: 10.1002/job.503

Fousiani, K., and van Prooijen, J. W. (2019). Reactions to offenders: psychological differences between beliefs versus punishment. *Br. J. Soc. Psychol.* 58, 894–916. doi: 10.1111/bjso.12320

Gilmore, D. C., and Ferris, G. R. (1989). The effects of applicant impression management tactics on interviewer judgments. *J. Manag.* 15, 557–564. doi: 10.1177/014920638901500405

Goodwin, G. P., Piazza, J., and Rozin, P. (2014). Moral character predominates in person perception and evaluation. *J. Pers. Soc. Psychol.* 106, 148–168. doi: 10.1037/a0034726

Hager, P., Holland, S., and Beckett, D. (2002). *Enhancing the learning and employability of graduates: The role of generic skills.* (Business/Higher Education Round Table Position Paper No.9). Melbourne.

Hatch, M. J., and Schultz, M. (1997). Relations between organizational culture, identity and image. *Eur. J. Mark.* 31, 356–365. doi: 10.1108/eb060636

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* United States: Guilford Press.

Hayes, A. F. (2018). Partial, conditional, and moderated mediation: quantification, inference, and interpretation. *Commun. Monogr.* 85, 4–40. doi: 10.1080/03637751.2017.1352100

Higgins, C. A., and Judge, T. A. (2004). The effect of applicant influence tactics on recruiter perceptions of fit and hiring recommendations: a field study. *J. Appl. Psychol.* 89, 622–632. doi: 10.1037/0021-9010.89.4.622

Hunt, E., and Madhyastha, T. M. (2012). Cognitive demands of the workplace. *J. Neurosci. Psychol. Econ.* 5, 18–37. doi: 10.1037/a0026177

Imhoff, R., and Koch, A. (2017). How orthogonal are the big two of social perception? On the curvilinear relation between agency and communion. *Perspect. Psychol. Sci.* 12, 122–137. doi: 10.1177/1745691616657334

Judd, C. M., James-Hawkins, L., Yzerbyt, V. Y., and Kashima, Y. (2005). Fundamental dimensions of social judgment: understanding the relations between judgments of competence and warmth. *J. Pers. Soc. Psychol.* 89, 899–913. doi: 10.1037/0022-3514.89.6.899

Karpinska, K., Henkens, K., and Schippers, J. (2013). Retention of older workers: impact of managers' age norms and stereotypes. *Eur. Sociol. Rev.* 29, 1323–1335. doi: 10.1093/esr/jct017

Katz, D. (1960). The functional approach to the study of attitudes. *Public Opin. Q.* 24, 163–204. doi: 10.1086/266945

Kervyn, N., Bergsieker, H. B., and Fiske, S. T. (2012). The innuendo effect: hearing the positive but inferring the negative. *J. Exp. Soc. Psychol.* 48, 77–85. doi: 10.1016/j.jesp.2011.08.001

Kervyn, N., Fiske, S., and Yzerbyt, V. (2015). Forecasting the primary dimension of social perception: symbolic and realistic threats together predict warmth in the stereotype content model. *Soc. Psychol.* 46, 36–45. doi: 10.1027/1864-9335/a00021

King, G. (2009). A relational goal-oriented model of optimal service delivery to children and families. *Phys. Occup. Therapy. Pediatrics* 29, 384–408. doi: 10.3109/01942630903222118

Koch, A., Yzerbyt, V., Abele, A., Ellemers, N., and Fiske, S. T. (2021). "Social evaluation: comparing models across interpersonal, intragroup, intergroup, several-group, and many-group contexts," in *Advances in experimental social psychology.* ed. B. Gawronski (United States: Academic Press Inc.).

Krings, F., Sczesny, S., and Kluge, A. (2011). Stereotypical inferences as mediators of age discrimination: the role of competence and warmth. *Br. J. Manag.* 22, 187–201. doi: 10.1111/j.1467-8551.2010.00721.x

Kristof, A. L. (1996). Person-organization fit: an integrative review of its conceptualizations, measurement, and implications. *Pers. Psychol.* 49, 1–49. doi: 10.1111/j.1744-6570.1996.tb01790.x

Kristof-Brown, A. L. (2000). Perceived applicant fit: distinguishing between recruiters' perceptions of person–job and person–organization fit. *Pers. Psychol.* 53, 643–671. doi: 10.1111/j.1744-6570.2000.tb00217.x

Kulkarni, M., Lengnick-Hall, M. L., and Martinez, P. G. (2015). Overqualification, mismatched qualification, and hiring decisions: perceptions of employers. *Pers. Rev.* 44, 529–549. doi: 10.1108/PR-11-2013-0204

Laker, D. R., and Powell, J. L. (2011). The differences between hard and soft skills and their relative impact on training transfer. *Hum. Resour. Dev. Q.* 22, 111–122. doi: 10.1002/hrdq.20063

Laustsen, L., and Bor, A. (2017). The relative weight of character traits in political candidate evaluations: warmth is more important than competence, leadership, and integrity. *Elect. Stud.* 49, 96–107. doi: 10.1016/j.electstud.2017.08.001

Leach, C. W., Ellemers, N., and Barreto, M. (2007). Group virtue: the importance of morality (vs. competence and sociability) in the positive evaluation of in-groups. *J. Pers. Soc. Psychol.* 93, 234–249. doi: 10.1037/0022-3514.93.2.234

Lievens, F., and Highhouse, S. (2003). The relation of instrumental and symbolic attributes to a company's attractiveness as an employer. *Pers. Psychol.* 56, 75–102. doi: 10.1016/j.electstud.2017.08.001

Luce, R. D., and Raiffa, H. (1957). Games and decisions. *Wiley* 11, 33–34. doi: 10.1063/1.3062465

McMullin, J. (2011). *Age, gender, and work: Small information technology firms in the new economy.* Vancouver: UBC Press.

Michaels, E., Handfield-Jones, H., and Axelrod, B. (2001). *The war for talent.* United States: Harvard Business Press.

Mitchell, G. W., Skinner, L. B., and White, B. J. (2010). Essential soft skills for success in the twenty-first century workforce as perceived by business educators. *Delta Pi Epsilon J.* 52, 43–53.

Moscatelli, S., Menegatti, M., Albarello, F., Pratto, F., and Rubini, M. (2019). Can we identify with a nation low in morality? The heavy weight of (im) morality in international comparison. *Polit. Psychol.* 40, 93–110. doi: 10.1111/pops.12504

Muthén, L. K., and Muthén, B. O. (2017). *Mplus statistical analysis with latent variables user's guide (version 8).* Los Angeles, CA Authors.

Neuberg, S. L., and Fiske, S. T. (1987). Motivational influences on impression formation: outcome dependency, accuracy-driven attention, and individuating processes. *J. Pers. Soc. Psychol.* 53, 431–444. doi: 10.1037/0022-3514.53.3.431

Nisbett, R. E., and Wilson, T. D. (1977). The halo effect: evidence for unconscious alteration of judgments. *J. Pers. Soc. Psychol.* 35, 250–256. doi: 10.1037/0022-3514.35.4.250

Olson, M. (1965). *The logic of collective action.* United States: Harvard University Press.

Pagliaro, S., Brambilla, M., Sacchi, S., D'Angelo, M., and Ellemers, N. (2013). Initial impressions determine behaviours: morality predicts the willingness to help newcomers. *J. Bus. Ethics* 117, 37–44. doi: 10.1007/s10551-012-1508-y

Peeters, G. (1983). "Relational and informational patterns in social cognition," in *Current issues in European social psychology.* eds. W. Doise and S. Moscovici (Cambridge, England: Cambridge University Press; and Paris: Maison des Sciences de l'Homme), 201–237.

Peeters, G. (2001). From good and bad to can and must: subjective necessity of acts associated with positively and negatively valued stimuli. *Eur. J. Soc. Psychol.* 32, 125–136. doi: 10.1002/ejsp.70

Peeters, G., and Czapinski, J. (1990). Positive-negative asymmetry in evaluations: the distinction between affective and informational negativity effects. *Eur. Rev. Soc. Psychol.* 1, 33–60. doi: 10.1080/14792779108401856

Perreault, W. D. (1975). Controlling order-effect bias. *Public Opin. Q.* 39, 544–551. doi: 10.1086/268251

Podsakoff, P. M., MacKenzie, S. B., and Podsakoff, N. P. (2012). Sources of method bias in social science research and recommendations on how to control it. *Annu. Rev. Psychol.* 63, 539–569. doi: 10.1146/annurev-psych-120710-100452

Randall, D. M., and Gibson, A. M. (1990). Methodology in business ethics research: a review and critical assessment. *J. Bus. Ethics* 9, 457–471. doi: 10.1007/BF00382838

Reeder, G. D., and Brewer, M. B. (1979). A schematic model of dispositional attribution in interpersonal perception. *Psychol. Rev.* 86, 61–79. doi: 10.1037/0033-295X.86.1.61

Rudert, S. C., Reutner, L., Greifeneder, R., and Walker, M. (2017). Faced with exclusion: perceived facial warmth and competence influence moral judgments of social exclusion. *J. Exp. Soc. Psychol.* 68, 101–112. doi: 10.1016/j.jesp.2016.06.005

Rusconi, P., Sacchi, S., Brambilla, M., Capellini, R., and Cherubini, P. (2020). Being honest and acting consistently: boundary conditions of the negativity effect in the attribution of morality. *Soc. Cogn.* 38, 146–178. doi: 10.1521/soco.2020.38.2.146

Rusconi, P., Sacchi, S., Capellini, R., Brambilla, M., and Cherubini, P. (2017). You are fair, but I expect you to also behave unfairly: positive asymmetry in trait-behavior relations for moderate morality information. *PLoS One* 12:e0180686. doi: 10.1371/journal.pone.0180686

Rynes, S. L., and Gerhart, B. (1990). Interviewer assessments of applicant "fit": An exploratory investigation. *Pers. Psychol.* 43, 13–35. doi: 10.1111/j.1744-6570.1990.tb02004.x

Skowronski, J. J., and Carlston, D. E. (1987). Social judgment and social memory: the role of cue diagnosticity in negativity, positivity, and extremity biases. *J. Pers. Soc. Psychol.* 52, 689–699. doi: 10.1037/0022-3514.52.4.689

Spence, J. T., and Helmreich, R. L. (1983). "Achievement-related motives and behaviors," in *Achievement and achievement motives: Psychological and sociological approaches.* ed. J. T. Spence (San Francisco: Freeman), 7–74.

Tajfel, H., and Turner, J. C. (1979). "An integrative theory of inter-group conflict," in *The Social Psychology of Intergroup Relations.* eds. W. G. Austin and S. Worchel (Monterey, CA: Brooks/Cole), 33–47.

Thibaut, J. W., and Kelley, H. H. (1959). *The social psychology of groups.* United States: Transaction Publishers.

Ting-Toomey, S., and Oetzel, J. (2001). *Managing intercultural conflict effectively.* United States: Sage.

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., and Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory.* New York: Basil Blackwell.

Tyler, T. R., and Bies, B. (1990). "Beyond formal procedures: the interpersonal context of procedural justice," in *Applied social psychology and organizational settings.* ed. J. Carroll (Hillsdale, NJ: Erlbaum), 77–98.

Unkelbach, C., Alves, H., and Koch, A. (2020). Negativity bias, positivity bias, and valence asymmetries: explaining the differential processing of positive and negative information. *Adv. Exp. Soc. Psychol.* 62, 115–187. doi: 10.1016/bs.aesp.2020.04.005

van der Lee, R., Ellemers, N., and Scheepers, D. (2016). Mastering moral misery: emotional and coping responses to intragroup morality (vs.

competence) evaluations. *Cognit. Emot.* 30, 51–65. doi: 10.1080/02699931.2015. 1050357

Wason, K. D., Polonsky, M. J., and Hyman, M. R. (2002). Designing vignette studies in marketing. *Australas. Mark. J.* 10, 41–58. doi: 10.1016/ S1441-3582(02)70157-2

Wilson, S. R., and Putnam, L. L. (1990). Interaction goals in negotiation. *Ann. Int. Commun. Assoc.* 13, 374–406. doi: 10.1080/23808985.1990.11678764

Wojciszke, B. (1994). Multiple meanings of behavior: construing actions in terms of competence or morality. *J. Pers. Soc. Psychol.* 67, 222–232. doi: 10.1037/ 0022-3514.67.2.222

Wojciszke, B. (2005). Morality and competence in person-and self-perception. *Eur. Rev. Soc. Psychol.* 16, 155–188. doi: 10.1080/10463280500229619

Wojciszke, B., and Abele, A. E. (2008). The primacy of communion over agency and its reversals in evaluations. *Eur. J. Soc. Psychol.* 38, 1139–1147. doi: 10.1002/ ejsp.549

Wojciszke, B., Baryla, W., Parzuchowski, M., Szymkow, A., and Abele, A. E. (2011). Self-esteem is dominated by agentic over communal information. *Eur. J. Soc. Psychol.* 41, 617–627. doi: 10.1002/ejsp.791

Ybarra, O., Chan, E., and Park, D. (2001). Young and old adults' concerns about morality and competence. *Motiv. Emot.* 25, 85–100. doi: 10.1023/A:10106339 08298

Zhu, X. S., Dalal, D. K., Nolan, K. P., and Barnes-Farrell, J. L. (2021). Understanding the role of organizational personality and social identity concerns on initial recruitment outcomes. *J. Vocat. Behav.* 124:103518. doi: 10.1016/j.jvb.2020.103518

Why does leader aggressive humor lead to bystander workplace withdrawal behavior?—Based on the dual path perspective of cognition-affection

Hao Chen[1], Liang Wang[2] and Jiaying Bao[3]*

[1]School of Economics and Management, Wuhan University, Wuhan, China, [2]Chinese Graduate School, Panyapiwat Institute of Management, Pak Kret, Thailand, [3]School of Literature and Media Institute, Baise University, Guangxi, China

Based on the Cognitive-Affective Personality System Theory, this study takes 443 employees of several Chinese enterprises and their direct superiors as the research objects, then a 1:1 paired survey is carried out at three different time points, and data is processed by Mplus 7.4 software. This study finds from a bystander perspective: leader aggressive humor plays a positive role in bystander affective rumination and bystander workplace anxiety. Both bystander affective rumination and bystander workplace anxiety play a mediation role between leader aggressive humor and bystander workplace withdrawal behavior. Besides, organization-based self-esteem alleviates the positive impact of leader aggressive humor on bystander affective rumination and bystander workplace anxiety, and then moderates the indirect impact of leader aggressive humor on bystander workplace withdrawal behavior through bystander affective rumination and bystander workplace anxiety, respectively. This study has practical guiding significance for promoting the organization to reduce the occurrence of aggressive humor, helping employees better integrate into the organization, and building a harmonious organizational environment.

KEYWORDS

leader aggressive humor, bystander affective rumination, bystander workplace anxiety, bystander workplace withdrawal behavior, bystander organization-based self-esteem

Introduction

With the in-depth study of positive psychology, scholars have paid more attention to the impact of a relaxed and pleasant work atmosphere on employees' work performance, and have introduced humor as a variable into the field of organizational behavior research. In the face of the accelerating pace and the increasing pressure of work, humor as a management tool is increasingly sought after and recognized by leaders in the organization. Leader humor is a communication behavior in that leaders consciously

amuse a specific subordinate or team through verbal or non-verbal activities (Pundt and Venz, 2017). Leader humor has been widely concerned by scholars because of its positive results, such as improving employees' organizational commitment, job satisfaction, organizational citizenship behavior, and job performance (Vecchio et al., 2009; Robert et al., 2016; Cooper et al., 2018). However, with the deepening of research, the negative side of leadership humor has been gradually exposed, and scholars realize that not all humor is beneficial. Compared with leader positive humor behavior (such as leader affinity humor), leader aggressive humor has gradually attracted scholars' attention in recent years (Wisse and Rietzschel, 2014). Leader aggressive humor refers to the behavior that leaders ridicule, deriding, criticizing, or teasing employees in the form of humor (Martin et al., 2003; Huo et al., 2012), which not only has an impact on the affective reaction and behavior of the ridiculed employees (Huo et al., 2012; Yam et al., 2018) but also destroys the harmonious internal atmosphere of the organization, suppresses the organization's performance, and brings huge economic losses to the organization (Anderson and Ditunnariello, 2016).

Compared with other negative leader behaviors in the workplace, such as abuse management, workplace bullying, and workplace exclusion, the current research on the impact of leader aggressive humor is still focused on the perspective of the taunted person and very few studies on the perspective of bystanders. We have found that the previous studies on the impact of negative workplace leader behaviors on bystander behaviors are not completely consistent. When bystanders see or feel negative events in the workplace, they would show different behaviors because of their different affective reactions (Mitchell et al., 2015; Priesemuth and Schminke, 2019). Moreover, the impact of negative leadership behavior on bystanders can be longer and more far-reaching than on employees who are directly injured (Rosenberg et al., 2021). Therefore, how would a leader aggressive humor arouse the bystanders' feelings and reactions? The existing relevant research domains are not enough to fully explain the inner mechanism. Based on the above analysis, this study intends to further explain the role mechanism between leader aggressive humor and bystanders' behaviors, focusing on the colleagues who are mocked.

According to the Cognitive-Affective Personality System Theory, the individual's environment or event could be activated through the individual recognition unit or affective unit, which would affect individual's attitude or behaviors (Mischel and Shoda, 1995). In the daily work, the leader aggressive humor is a negative work event. Through the perception and evaluation of this event, it is very likely to cause their own affective reaction, and the affections produced in the evaluation process would affect their subsequent actions. Therefore, this study focuses on two variables, affective rumination, and workplace anxiety. The former is a continuous negative perception deviation related to work (Querstret and Cropley, 2012), while the latter is a feeling of nervousness and fear of completing a work task (McCarthy et al., 2016). To a certain extent, negative perceptions and affections would lead to the individual's behavior of flinching in the workplace (Tepper et al., 2008; Wang and Yi, 2012; Chi and Liang, 2013), namely, workplace flinching behavior. Therefore, this study discusses the role of both affective rumination and workplace anxiety between leader aggressive humor and bystander workplace withdrawal behavior. In addition, organization-based self-esteem shows an individual's judgment of role in the organization, which reflects the individual's perception of importance in the organization (Pierce et al., 1989).

Based on the above analyses, from the perspective of the bystander, this study takes Cognitive-Affective Personality System Theory as the logic meridian and introduces affective rumination and workplace anxiety as the double medium mechanism. From the two paths, it analyzes the role of leader aggressive humor on bystander workplace withdrawal behavior and also discusses the moderation role of the bystander organization-based self-esteem in the model. This study enriches and expands the impact mechanism of leader aggressive humor, and provides new insights for the study of leader humor. Moreover, this study can also provide relevant guidance to the management practice, such as understanding the possible negative impact of leader humor and reducing the negative impact of leader aggressive humor. The specific research model is shown in Figure 1.

Literature review and hypotheses

Leader aggressive humor, bystander affective rumination, and bystander workplace anxiety

Leader aggressive humor is in the form of disrespect, sarcasm, and deliberately making others feel embarrassed or abashed. It is related to teasing, belittling, satire, and slander (Martin et al., 2003). Leader aggressive humor is a direct violation of interpersonal relationships, which cannot be easily remedied by the organization (Huo et al., 2012). In the organization, leader aggressive humor is more destructive than other workplace stress and stimuli, because it takes pleasure in consuming other people's shortcomings or disadvantages (Pundt and Herrmann, 2015), which not only worsens the interpersonal relationship between superiors and subordinates but also cause employees' functional disorder response (Goswami et al., 2015), and induces employees' deviant behavior (Yin et al., 2014). Existing studies have shown that when bystanders witness or perceive other colleagues experiencing negative workplace events, even if they do not suffer the same treatment, they will also be affected anyway (Mitchell et al., 2012; Priesemuth et al., 2014). Therefore, as a bystander, after witnessing or perceiving

FIGURE 1
Theoretical hypothesis model.
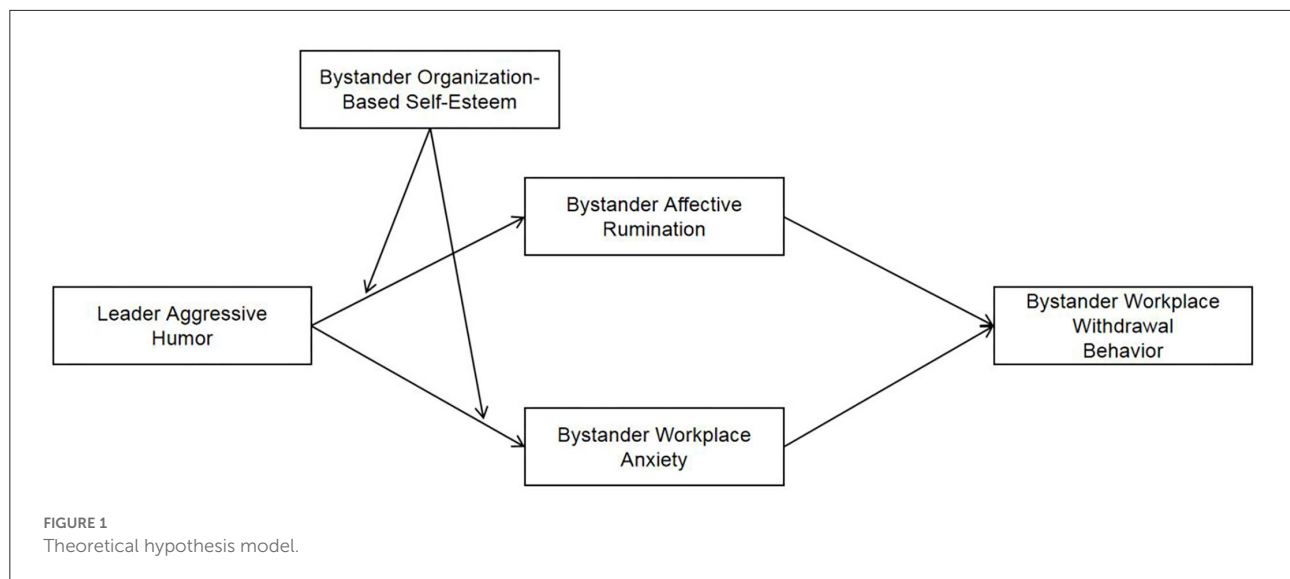
leader aggressive humor, his cognition and affection may also be affected to a certain extent.

Affective rumination refers to conscious and repeated negative thoughts related to work, which usually occur after work or during leisure time and other non-working hours (Querstret and Cropley, 2012). Research shows that the higher the leaders' job requirements or performance expectations on employees, the more obvious the rumination of employees related to work (Perko et al., 2017; Syrek et al., 2017). This study holds that leader aggressive humor may lead to bystander affective rumination. According to the Cognitive-Affective Personality System Theory, specific events or situational characteristics can stimulate individuals to pay attention to and process external environmental information, so as to form cognitive evaluation and make behavioral decisions (Forgas and George, 2001). As a negative work event, when bystanders witness or perceive that colleagues are ridiculed by leaders, they will process the negative information in the current working environment (Cropanzano and Wright, 2001) to judge whether it is in line with their own values and interests. Obviously, leadership behaviors can violate workplace rules, undermine organizational justice and damage a harmonious working atmosphere (Cooper, 2008), then induce bystanders to have a negative cognitive evaluation of their working environment, resulting in a cognitive units activation and affective rumination. Meanwhile, colleagues who suffer from sarcasm will have problems such as depression, excessive tension, and being out of affection control (Martin et al., 2003; Huo et al., 2012). Additionally, as the communication between colleagues at work is quite frequent, thus, the cognitive evaluation of the ridiculed colleagues may also be transmitted to the bystanders, causing the bystanders to think about how they should get along with the leaders in the future, what they should pay attention to at work,

and what will become the targets of the leaders' ridicule, which finally lead to affective rumination. Therefore, the following hypothesis is proposed:

H1. Leader aggressive humor plays a positive role in bystander affective rumination.

Workplace anxiety is the feeling that employees feel nervous and worried about completing work tasks (McCarthy et al., 2016), it is the tension and worry that employees feel when they feel potential threats, it represents the stress response of employees with tension as symptoms (Beerhr, 1995). Workplace anxiety is state anxiety in workplace situations, which usually occurs when individuals are facing pressure or specific tasks. Combined with the Cognitive-Affective Personality System Theory, bystanders witness or perceive that leaders show more aggressive humor to colleagues at work, and their affective units may also be activated, which will lead to workplace anxiety. On the one hand, leader aggressive humor is a special form of abusive management (Bamberger and Bacharach, 2006). Bystanders form cognitive evaluations of leader aggressive humor by integrating information in the work environment, which may cause bystanders to worry about their future situation in the organization, question whether the same experience will happen to them, and evaluate the threat, challenge, and harmfulness of the event to themselves. When bystanders perceive that there is a threat to their own goals or interests in the workplace, they often have some negative affective reactions (Beckker et al., 2003; Barlow, 2004). On the other hand, leader aggressive humor behaviors can be regarded as a source of stress in the workplace, and leader aggressive humor words and behaviors can also make bystanders experience negative emotions and make it difficult for them to feel the pleasure of work (Pundt and Herrmann, 2015).

Therefore, leader aggressive humor as a threat may activate the affective units of bystanders, thus causing their workplace anxiety. Therefore, the following hypothesis is proposed:

H2. Leader aggressive humor plays a positive role in bystander workplace anxiety.

Mediation role of bystander affective rumination and bystander workplace anxiety

As a negative out-of-role behavior, workplace withdrawal behavior refers to the negative behavior response of employees when dealing with the imbalance between their own pay and organizational return (March and Simon, 1958), it has certain concealment, laziness, avoidance, and retaliation in characteristic, such as being late, leaving early, sleeping at work time, leaving work without reason and not working hard. Research shows that workplace withdrawal behavior is common in organizations, which is not only very unfavorable to employees' career development, but also has a tangible or intangible negative impact on the organization (Viswesvaran, 2002; Zimmerman and Darnold, 2009).

According to Cognitive-Affective Personality System Theory, when facing a specific event or situation, some cognitive units or affective units of individuals will be activated and affect individual behaviors. Therefore, this study holds that leader aggressive humor triggers bystander affective rumination and further stimulates bystander workplace withdrawal behavior. Specifically, when witnessing or perceiving leader aggressive humor, bystanders will form self-cognitive evaluation through information processing. At the same time, the negative impact of leader aggressive humor can lead employees to fall into continuous cognitive bias, reawaken the psychological response of bystanders during non-working hours (Berset et al., 2011), and then activate their cognitive units so that they can't control their thinking (Hobfoll et al., 2018). This negative cognition will further affect the behavior pattern of bystanders, making them tend to take negative coping means such as avoiding work and staying away from the organization, also show work withdrawal behaviors that are not conducive to the development of the organization, such as venting their inner dissatisfaction through negative behaviors like early leave and resignation (Probst, 2002; Podsakoff et al., 2007). Therefore, the following hypothesis is proposed:

H3. Bystander affective rumination plays a mediation role between leader aggressive humor and bystander workplace withdrawal behavior.

According to Cognitive-Affective Personality System Theory, leader aggressive humor may lead to employees' workplace anxiety, and then induce their workplace withdrawal behavior. Specifically, leader aggressive humor is a kind of negative humor used by leaders to treat employees, including teasing or ridiculing employees (Cooper, 2008), its essence is to belittle employees under the disguise of playfulness. When leaders show aggressive humor, humor evolves into a source of stress in the workplace (Huo et al., 2012), which will not only make bystanders feel greater psychological pressure but also activate their affective units and produce anxiety experience (Jones et al., 2015). At the same time, a series of negative affective reactions brought by workplace anxiety to bystanders may lead to corresponding negative behaviors (Haines et al., 2002), i.e., stimulating bystanders to alleviate the impact of leader aggressive humor and escape the affective state of anxiety through workplace withdrawal behavior. Besides the unfair and unequal treatment of subordinates by superiors (Cooper, 2008), bystanders will try to fight back (Morrison and Robinson, 1997) by taking negative behaviors, and believing the behaviors that cause harm to leaders or organizations are also appropriate and reasonable. Therefore, the following hypothesis is proposed:

H4. Bystander workplace anxiety plays a mediation role between leader aggressive humor and bystander workplace withdrawal behavior.

Moderation role of bystander organization-based self-esteem

Organization-based self-esteem as a personality trait is individuals' self-cognition and judgment of their importance in the organization, i.e., individuals think they are valuable to the organization and have the ability to create value for the organization (Pierce et al., 1989). Employees with high organization-based self-esteem feel that they are important, influential, and valuable in the organization (Pierce et al., 1989), and their own needs are met through the performance of roles in the organization (Pierce and Garden, 2004), while employees with low organization-based self-esteem think they are unimportant and worthless in their organization. Research shows that employees with high organization-based self-esteem have more positive self-evaluation and subjective efficacy, and can produce more constructive behaviors (Chen and Aryee, 2007).

According to the Cognitive-Affective Personality System Theory, individual traits can explain the relationship between external situations and their cognitive as well as emotional responses (Mischel and Shoda, 1995). Therefore, this study holds that bystander organization-based self-esteem can alleviate the relationship between leader aggressive humor and bystander affective rumination. Specifically, the higher the level of organization-based self-esteem is, the more positive attitude bystanders hold toward themselves and the more confidence they have in themselves, the less they pay attention to others'

evaluation of themselves, and the less they are affected by the external situation. When witnessing or perceiving leader aggressive humor toward their colleagues, bystanders with high organization-based self-esteem believe that they have the ability to deal with the pressure brought by leader aggressive humor through their own cognitive evaluation. Bystanders with low organization-based self-esteem are prone to negative evaluation of themselves, they often abandon themselves, doubt their ability level, fear facing challenges, are sensitive to negative information from the outside world, and are vulnerable to negative situations (Yin et al., 2014). Thus, this continuous cognitive response will lead to affective rumination. Therefore, the following hypothesis is proposed:

> H5. Bystander organization-based self-esteem plays a moderation role between leader aggressive humor and bystander affective rumination, that is, the higher the bystander organization-based self-esteem is, the weaker the positive relationship between leader aggressive humor and bystander affective rumination is.

This study also holds that the strength of the relationship between leader aggressive humor and bystander workplace anxiety is affected by bystander organization-based self-esteem. Specifically, bystanders with high organizational self-esteem usually think that they play an important and meaningful role in the organization (Pierce and Garden, 2004), have a strong sense of identity and responsibility for the organization (Pierce et al., 2016), and tend to regard environmental information in the workplace as opportunities and challenges (Pierce and Garden, 2004). Meanwhile, bystanders with high organization-based self-esteem have strong self-confidence, they can show positive emotional responses at work, they believe that they are competent for their role in the organization (Pierce and Garden, 2004), and they also believe that they will not become the target of leader attack. Bystanders with low organization-based self-esteem are more sensitive to negative organizational situations and lack confidence in themselves, it is easy for them to produce negative work attitudes and behaviors (Bowling et al., 2010), and then aggravate workplace anxiety. Therefore, the following hypothesis is proposed:

> H6. Bystander organization-based self-esteem plays a moderation role between leader aggressive humor and bystander workplace anxiety, i.e., the higher the bystander organization-based self-esteem is, the weaker the positive relationship between leader aggressive humor and bystander workplace anxiety is.

Moderated mediation

Based on the above hypotheses, it can be further inferred that the mediation effect of bystander affective rumination and bystander workplace anxiety may be affected by bystander organization-based self-esteem, i.e., leader aggressive humor may lead to bystander affective rumination, bringing the affective state of workplace anxiety, and cause bystander workplace withdrawal behaviors that endanger the development of the organization, such as avoiding working and staying away from work. However, bystander organization-based self-esteem not only reduces the negative effect of leader aggressive humor on bystander affective rumination and workplace anxiety but also reduces the indirect effect of leader aggressive humor on workplace withdrawal behavior through bystander affective rumination and bystander workplace anxiety. Specifically, bystanders with high organization-based self-esteem have a positive evaluation of themselves. They believe that they have the ability to avoid verbal ridicule of leaders and inhibit their affective rumination and workplace anxiety, so it is less likely for them to make workplace withdrawal behavior. Conversely, for bystanders with low organization-based self-esteem, leader aggressive humor has a greater impact on affective rumination and workplace anxiety, and they are more likely to act workplace withdrawal behaviors. Therefore, the following hypotheses are proposed:

> H7. Bystander organization-based self-esteem moderates the mediation role of bystander affective rumination between leader aggressive humor and bystander workplace withdrawal behavior. That is, the higher bystander organization-based self-esteem is, the weaker the mediation role of bystander affective rumination between leader aggressive humor and bystander workplace withdrawal behavior is.
>
> H8. Bystander organization-based self-esteem moderates the mediation role of bystander workplace anxiety between leader aggressive humor and bystander workplace withdrawal behavior. That is, the higher bystander organization-based self-esteem is, the weaker the mediation role of bystander workplace anxiety between leader aggressive humor and bystander workplace withdrawal behavior is.

Methods

Participants and procedure

This study takes ordinary employees and their direct superiors of several Chinese enterprises as samples and uses offline questionnaires to collect data. In order to avoid the impact of homology bias, this study conducted a 1:1 employee-direct supervisor matching approach to data collection at three-time points, the time interval for each survey was 1 month. The specific investigation process is as follows: For the first time (T1), the respondents are employees, and the survey includes basic information about employees and leader aggressive humor. For the second time (T2), the respondents are employees, and the survey includes bystander affective rumination, bystander

workplace anxiety, and bystander organization-based self-esteem. For the third time (T3), the respondents are employees' direct superiors, and the survey includes bystander workplace withdrawal behavior. Except for some demographic variables, all the questionnaires in this study were scored with a Likert 6-points scale.

In order to enable participants to complete the questionnaire correctly, we have taken the following four measures. First, before distributing the questionnaire, we explained to all participants that the data collected in the questionnaire is only for academic research, not for any other purpose. Second, we promised to pay ¥ 50 (about $7) per person after completing three surveys correctly. Third, in the process of answering the questionnaire, one of our members maintained a close relationship with the participants to solve any problems they raised. Finally, after the participants completed the questionnaire, we checked the questionnaire to ensure that there was no missing data. Then, we immediately collected, sealed, and encoded the questionnaire.

In the first survey, 490 employees' questionnaires were distributed, and 471 valid questionnaires were recovered. In the second survey, questionnaires were distributed to the employees who provided valid questionnaires for the first time and 457 valid ones were recovered. In the third survey, 443 questionnaires were distributed to the direct supervisors of employees who provided valid questionnaires for the second time, and the effective recovery rate was 90.41%. In terms of sample structure, most of the employees are male, accounting for 65.9% of the total. In terms of age structure, most of them are young people, and employees under the age of 35 account for 79.2%. In terms of education level, respondents with a bachelor's degree or beyond bachelor's degree account for 68.7% of the total.

Measurements

The scales used in this study are mature ones used by many scholars at home and abroad. Each item adopts the Likert 6-point scale scoring method to measure five main variables: leader aggressive humor, bystander affective rumination, bystander workplace anxiety, bystander workplace withdrawal behavior, and bystander organization-based self-esteem.

For the measurement of leader aggressive humor, this study adopts the scale prepared by Martin et al., 2003, which has eight items in total. We revised the questionnaire according to the research situation, representative item is "If my colleague makes a mistake, my leader will dig at him/her", and Cronbach's α is 0.76.

For the measurement of bystander affective rumination, this study adopts the affective rumination dimension scale in the three-dimensional degree of workplace rumination prepared by Cropley et al. (2012) to evaluate the degree of bystander affective

rumination in the face of abusive management of colleagues, which has five items in total. The representative item is "After work, I feel nervous about thinking about work-related things", and Cronbach's α is 0.70.

For the measurement of bystander workplace anxiety, this study adopts the scale developed by McCarthy and Goffin (2004), which has eight items in total. The representative item is "I feel nervous and worried about not meeting my performance goals", and Cronbach's α is 0.83.

For the measurement of bystander workplace withdrawal behavior, this study adopts the scale developed by Lehman and Simpson (1992), which has 12 items in total. The representative item is "This employee is absent-minded at work", and Cronbach's α is 0.77.

For the measurement of bystander organization-based self-esteem, this study uses the scale compiled by Pierce et al. (1989), which has ten items in total. The representative item is "I am valued in the organization", and Cronbach's α is 0.74.

Results

Confirmatory factor analysis

In this study, Mplus7.4 is used for confirmatory factor analysis of related variables to test the discriminant validity between variables. Results as shown in Table 1, the five factor model has the best fitting effect ($x^2 = 256.98$, $df = 142$, $x^2/df = 1.81$, CFI = 0.95, TLI = 0.94, RMSEA = 0.04, SRMR = 0.05), indicating that the five variables in this study have good discriminant validity.

Correlation analysis

The mean value, SD, and correlation coefficient of each variable in this study are shown in Table 2. The data shows that the correlation between variables is consistent with the previous hypothesis of this study: Leader aggressive humor is significantly positively correlated with bystander affective rumination ($\gamma = 0.19$, $p < 0.01$), bystander workplace anxiety ($\gamma = 0.31$, $p < 0.01$), and bystander workplace withdrawal behavior ($\gamma = 0.29$, $p < 0.01$); Bystander affective rumination is significantly positively correlated with bystander workplace withdrawal behavior ($\gamma = 0.38$, $p < 0.01$); Bystander workplace anxiety is significantly positively correlated with bystander workplace withdrawal behavior ($\gamma = 0.25$, $p < 0.01$).

Hypothesis testing

Main effects testing

Mplus 7.4 is used to test the fitting indexes and related hypotheses of the structural equation model. First, according

TABLE 1 Results of confirmatory factor analysis.

Model	Factor	x^2	df	x^2/df	CFI	TLI	RMSEA	SRMR
Model 1	LAH + BAR + BWA + BWWB + BOBSE	1,258.75	152	8.28	0.53	0.47	0.13	0.11
Model 2	LAH + BAR + BWA + BWWB, BOBSE	1,121.41	151	7.43	0.59	0.53	0.12	0.10
Model 3	LAH + BAR + BWA, BWWB, BOBSE	769.01	149	5.16	0.74	0.70	0.10	0.08
Model 4	LAH + BAR, BWA, BWWB, BOBSE	560.77	146	3.84	0.82	0.79	0.08	0.08
Model 5	LAH, BAR, BWA, BWWB, BOBSE	256.98	142	1.81	0.95	0.94	0.04	0.05

$N = 443$; LAH, Leader Aggressive Humor; BAR, Bystander Affective Rumination; BWA, Bystander Workplace Anxiety; BWWB, Bystander Workplace Withdrawal Behavior; BOBSE, Bystander Organization-Based Self-Esteem; +Two factors combined as one.

TABLE 2 Mean value, SD, and correlation coefficient of main variables.

	Mean value (M)	Standard deviation (SD)	1	2	3	4	5	6	7	8
1. Age	31.62	6.79	1							
2. Gender	0.34	0.48	−0.02	1						
3. Education level	2.20	0.53	0.02	−0.02	1					
4. Leader aggressive humor	4.87	0.78	0.05	−0.04	−0.11*	1				
5. Bystander affective rumination	5.46	0.57	0.12**	0.05	−0.12*	0.19**	1			
6. Bystander workplace anxiety	5.32	0.55	0.12**	−0.001	−0.02	0.31**	0.35**	1		
7. Bystander workplace withdrawal behavior	5.15	0.66	0.01	−0.01	−0.26**	0.29**	0.38**	0.25**	1	
8. Bystander organization-based self-esteem	5.41	0.48	−0.08	0.05	−0.09*	0.11*	0.18**	0.19**	0.42**	1

$N = 443$; **, *stand for $p < 0.01$, $p < 0.05$, respectively.

FIGURE 2
Path coefficient of the structural equation. *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$; coefficients in the graph are standardized coefficients with standard errors in parentheses; control variables are age, gender, and education background.
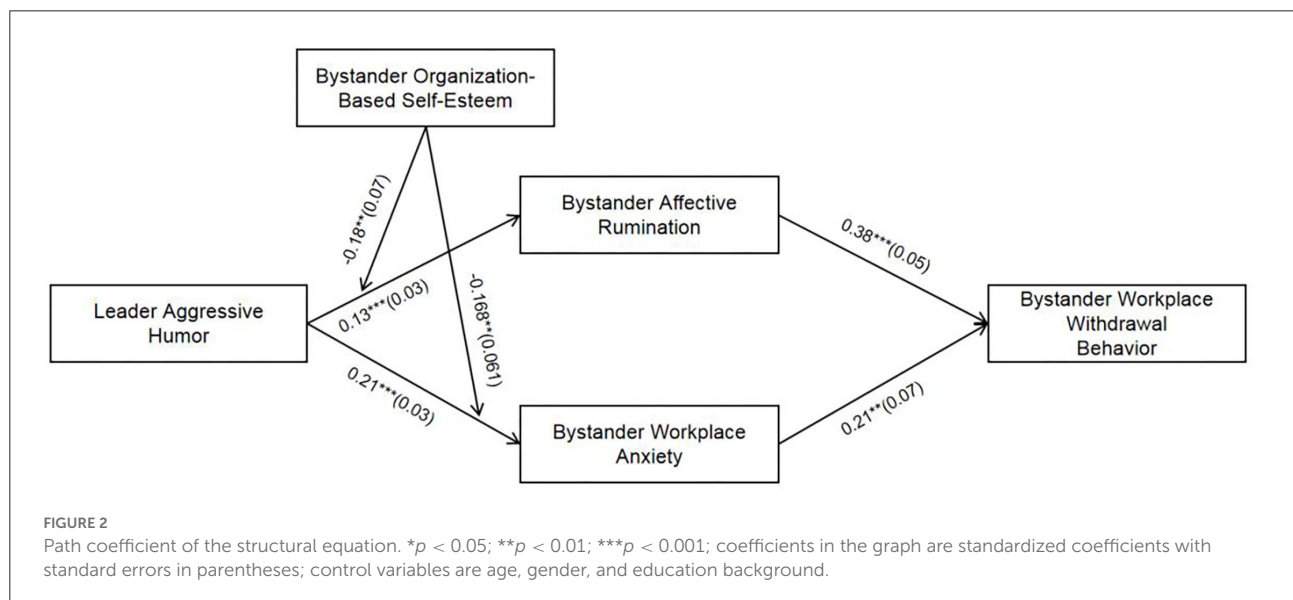
to the fitting indexes of the theoretical model ($x^2 = 322.79$, $df = 145$, $x^2/df = 2.23$, CFI = 0.93, TLI = 0.91, RMSEA = 0.05, SRMR = 0.07), it can be judged that the fitting of the model is good. Second, the results of path analysis are shown in Figure 2.

Leader aggressive humor is significantly positively correlated with bystander affective rumination ($\beta = 0.13$, $p < 0.001$) and bystander workplace anxiety ($\beta = 0.21$, $p < 0.001$), therefore, H1 and H2 are verified.

TABLE 3 Test results of mediation effect of bystander affective rumination.

Model path	β	S.E.	P	95% confidence interval	
				Lower	Upper
Total effect	0.24	0.05	0.000	0.16	0.36
Direct effect	0.19	0.05	0.000	0.11	0.29
Indirect effect	0.05	0.02	0.000	0.03	0.09
(LAH → BAR					
→ BWWB)					

$N = 443$; LAH, Leader Aggressive Humor; BAR, Bystander Affective Rumination; BWWB, Bystander Workplace Withdrawal Behavior; Bootstrap = 5,000 times.

TABLE 4 Test results of mediation effect of bystander workplace anxiety.

Model path	β	S.E.	P	95% confidence interval	
				Lower	Upper
Total effect	0.24	0.05	0.000	0.16	0.36
Direct effect	0.20	0.05	0.000	0.12	0.30
Indirect effect	0.05	0.02	0.011	0.02	0.09
(LAH → BWA					
→ BWWB)					

$N = 443$; LAH, Leader Aggressive Humor; BWA, Bystander Workplace Anxiety; BWWB, Bystander Workplace Withdrawal Behavior; Bootstrap = 5,000 times.

Mediating effects testing

This study uses bootstrap (repeated sampling 5,000 times) to test the mediation effect of bystander affective rumination and bystander workplace anxiety, respectively. The results are shown in Tables 3, 4. For mediation effect of bystander affective rumination ($\beta = 0.05$, $p < 0.001$), and the 95% confidence interval is (0.03, 0.09), excluding 0, therefore, H3 is verified. For mediation effect of bystander workplace anxiety ($\beta = 0.05$, $p < 0.05$), and the 95% CI is (0.02, 0.09), excluding 0, therefore, H4 is verified.

Moderating effect test

It can be seen from Figure 3 that the interaction between leader aggressive humor and bystander organization-based self-esteem has a significant effect on bystander affective rumination ($\beta = -0.18$, $p < 0.01$) and bystander workplace anxiety ($\beta = -0.17$, $p < 0.01$), indicating that bystander organization-based self-esteem significantly moderates the relationship between leader aggressive humor and bystander affective rumination, as well as the relationship between leader aggressive humor and bystander workplace anxiety. In order to further explain the moderation effect of bystander organization-based self-esteem, a simple slope test is carried out according to the suggestions of (Aiken and West, 1991) as shown in

FIGURE 3
Moderation effect of bystander organization-based self-esteem between leader aggressive humor and bystander affective rumination **(A)**. Moderation effect of bystander organization-based self-esteem between leader aggressive humor and bystander workplace anxiety **(B)**. $N = 443$; LAH, leader aggressive humor; BOBSE, bystander organization-based self-esteem.
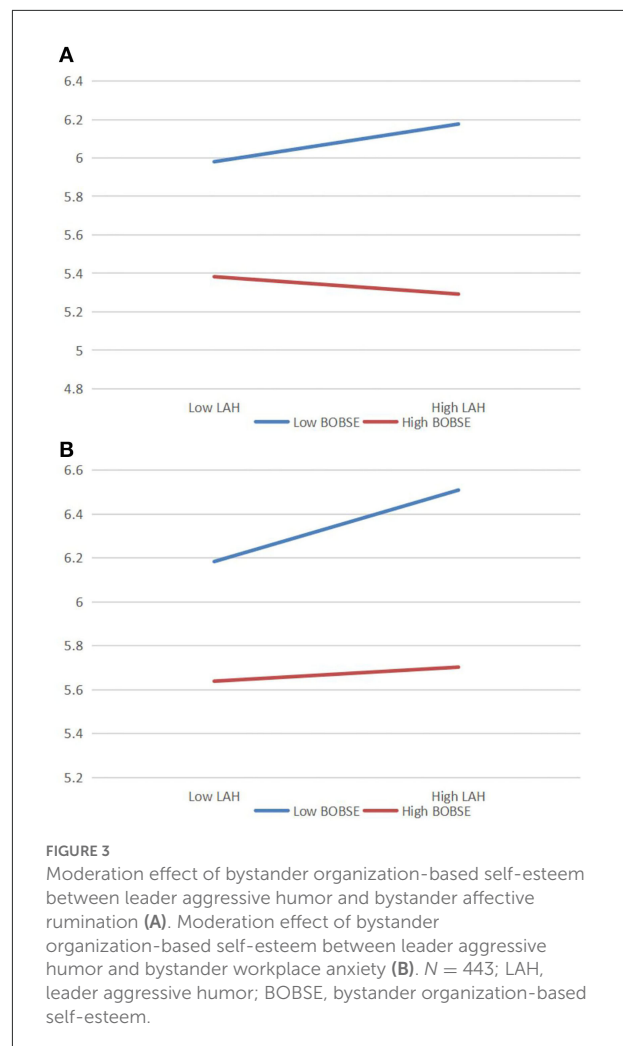
Figures 3A,B. When bystander organization-based self-esteem is low, leader aggressive humor has a strong positive effect on bystander affective rumination ($\beta = 0.21$, $t = 4.59$, $p < 0.001$) and bystander workplace anxiety ($\beta = 0.29$, $t = 6.62$, $p < 0.001$). When bystander organization-based self-esteem is high, leader aggressive humor has no significant positive effect on bystander affective rumination ($\beta = 0.04$, $t = 0.82$, $p = 0.41$), and has a weak positive effect on bystander workplace anxiety ($\beta = 0.13$, $t = 2.96$, $p < 0.01$). That is, the higher bystander organization-based self-esteem is, the weaker the positive effects of leader aggressive humor on both bystander affective rumination and bystander workplace anxiety are. Therefore, H5 and H6 are verified.

In order to test the moderation effect of bystander organization-based self-esteem, this study uses Latent Moderate Structural Equations (LMS) to test the moderated mediation effect (Fang and Weng, 2018). Results are shown in Tables 5A,B, the mediation effect of bystander affective rumination

TABLE 5 Moderated mediation effect test results.

| Moderation variable	Path: LAH → BAR → BWWB				
	Indirect effect	S.E.	P	95% confidence interval	
				Lower	Upper
(A)					
Low BOBSE	0.08	0.02	0.000	0.05	0.13
High BOBSE	0.02	0.02	0.344	−0.02	0.05
Difference	−0.07	0.03	0.012	−0.13	−0.02
(B)					
Low BOBSE	0.06	0.02	0.009	0.02	0.11
High BOBSE	0.03	0.01	0.023	0.01	0.06
Difference	−0.03	0.02	0.047	−0.08	−0.01

$N = 443$; LAH, Leader Aggressive Humor; BWA, Bystander Workplace Anxiety; BWWB, Bystander Workplace Withdrawal Behavior; BOBSE, Bystander Organization-Based Self-Esteem; Bootstrap = 5,000 times.

between leader aggressive humor and employee bystander workplace withdrawal behavior is moderated by bystander organization-based self-esteem. That is, for employees with high bystander organization-based self-esteem (one SD higher than the average), the indirect effect of leader aggressive humor on bystander workplace withdrawal behavior through bystander affective rumination is significantly lower than that of employees with low bystander organization-based self-esteem (one SD lower than the average), and the difference is significant ($\beta = -0.07$, $p < 0.05$), and 95% CI (-0.13, -0.02), excluding 0. Therefore, H7 is verified. The mediation effect of bystander workplace anxiety between leader aggressive humor and employee bystander workplace withdrawal behavior is moderated by bystander organization-based self-esteem. That is, for employees with high bystander organization-based self-esteem (one SD higher than the average value), the indirect effect of leader aggressive humor on bystander workplace withdrawal behavior through bystander workplace anxiety is significantly lower than that of employees with low bystander organization-based self-esteem (one SD lower than the average), and the difference is significant ($\beta = -0.03$, $p < 0.05$), and 95% confidence interval (-0.08, -0.01), excluding 0. Therefore, H8 is verified.

Discussion

Theoretical implications

First, this study tests and verifies that leader aggressive humor plays a significant positive role on bystander workplace withdrawal behavior. For leader humor, the traditional research pays too much attention to constructive and positive exploration (Cooper and Sosik, 2012; Cooper et al., 2018), and pay insufficient attention to its negative effects, resulting in a deviation in the understanding of leader humor. Particularly, in the Chinese organizational context, the relationship between employees and leaders has the characteristics of formal hierarchical differences, power asymmetry, and inevitable social interaction. Therefore, from the perspective of bystanders, this study discusses leader aggressive humor and its dark side, constructs and verifies the mechanism model of leader aggressive humor on bystander workplace withdrawal behavior, and enriches and expands the research scope of leader humor effect.

Second, from the perspective of cognition-affection, this study verifies the mediation role of bystander affective rumination and bystander workplace anxiety between leader aggressive humor and bystander workplace withdrawal behavior. Previous studies have pointed out that high job requirements and negative workplace events are highly positively correlated with affective rumination and workplace anxiety (Hobman et al., 2009; Perko et al., 2017) and this study also verifies the same. When leaders show aggressive humor at work, bystanders show affective rumination and workplace anxiety through cognitive evaluation of negative information in the working environment. Besides, existing studies have confirmed that leadership behavior is an important antecedent of workplace withdrawal behavior (Walumbwa and Lawler, 2003; Tepper et al., 2009; Wei and Si, 2013), but few studies have explored it from the perspective of leader aggressive humor. This study broadens the research perspective of workplace withdrawal behavior to a certain extent and enriches the existing research results on workplace withdrawal behavior.

Finally, this study has introduced the moderation role of organization-based self-esteem between leader aggressive humor and bystander workplace withdrawal behavior. The results show that leader aggressive humor does not necessarily affect workplace withdrawal behaviors of all bystanders, while it is moderated by the level of bystander organization-based self-esteem. Leader aggressive humor has a great impact on workplace withdrawal behavior of bystanders with low organization-based self-esteem, but bystanders with high organization-based self-esteem are less affected by leader aggressive humor. Previous studies on organization-based self-esteem as a moderation variable mostly focused on positive situations (Pierce et al., 1993). This study expands the existing studies, discusses the regulation role of organization-based self-esteem in negative situations, and finds that high organization-based self-esteem can weaken the negative effect of leader aggressive humor on bystander workplace withdrawal behavior. It is verified that employees with high organization-based self-esteem do not care much about the influence of

external environment and factors, and can focus more on the work itself.

Practical implications

First, organizations should pay attention to and be alert to the negative effects brought by leader aggressive humor. Leader humor can help people relieve tension and improve the organizational atmosphere, leader aggressive humor may bring more negative effects, which will not only hurt colleagues who are ridiculed, but also have a negative impact on bystanders. Therefore, organizations should prevent and reduce the occurrence of leader aggressive humor. In this sense, organizations can carry out targeted leadership training, improve leaders' personal cultivation at work, implement humanized management, promote leaders to truly realize the possible adverse effects of aggressive humor, and correct leaders' aggressive humor behavior from the origin.

Second, organizations should focus on affective changes in employees. On the one hand, when guiding employees' work, leaders should minimize negative words and avoid affective rumination. Besides, employees with great affective changes after work should be given psychological counseling and encouragement in time to reduce or even eliminate the negative impact of affective rumination. On the other hand, organizations should design corresponding training courses (such as skill improvement and psychological quality training) to improve employees' cognitive and affective regulation ability, so that employees can work in a more ideal affective state. At the same time, it is also necessary to provide corresponding employee assistance bases (such as a mental health room and fitness room), and regularly hold corresponding cultural and recreational activities as well as competitions to intervene in the possible negative psychology of employees and improve the coping ability of negative affections. In addition, it is more critical to establish a positive and open organizational culture and atmosphere, which can improve employees' psychological state more effectively (Cheng and Mccarthy, 2018).

Finally, organizations should regularly monitor the level of employees' organization-based self-esteem and formulate personalized management policies. For employees with low levels, organizations should respect their subject status and value, and encourage them to actively participate in decision-making by implementing positive incentives. Also, organizations should care more about employees, making them realize that they are important employees for the organizations. In these ways, organizations can promote them to produce higher organization-based self-esteem and stimulate their work enthusiasm. For employees with high levels of organization-based self-esteem, organizations should give them a certain amount of work autonomy and certain resources to provide opportunities and guarantees for promoting organizational

performance. Moreover, organizations can adopt certain methods to select employees with high organization-based self-esteem and also adopt certain training to improve employees' organization-based self-esteem.

Limitations and directions for future research

This study also has some limitations, which need to be further explored in the future. First, the survey objects of this study come from all walks of the industry. Employees in different industries and different types of employees (such as knowledge workers and manual workers) may have different ways of leader aggressive humor and bystander workplace withdrawal behavior. Therefore, the conclusions of this study can be further verified among employees in a certain industry or a certain type of employee in the future. Second, the importance of content factors of leader aggressive humor is ignored in measurement, such as non-verbal factors (leader facial expression). In the future, the impact of content-based leader aggressive humor on employees' attitudes and behavior can be investigated. Third, this study mainly discusses the results of leader aggressive humor from the individual level. However, leader aggressive humor may also affect the team, organization, and other levels. For example, group ridiculing (despising and ridiculing many people) may cause dissatisfaction among many people and disharmony within the team. Therefore, future research can deeply explore the causes and consequences of leader aggressive humor from the levels of group, team, and organization. Based on different theories, more research on leader aggressive humor from different angles can be carried out in the future. Fourth, due to our limited social resources, the samples of this study mainly focus on the data survey results in some parts of China. There may be some defects in the external validity of the sample categories, and the universality of the research results needs to be further confirmed. In the future, researchers can expand the sample range or conduct cross-cultural research, and obtain samples in different countries and regions, so that the results can be more convincing.

Conclusion

From the perspective of bystanders, this study intends to explore the influence mechanism and boundary conditions of leader aggressive humor on bystander workplace withdrawal behavior based on the dual path of cognition and affection. The survey data verifies that both bystander affective rumination and bystander workplace anxiety play a mediation role between leader aggressive humor and bystander workplace withdrawal behavior. Bystander organization-based self-esteem plays a moderation role. Leader aggressive humor can cause

bystander affective rumination and bystander workplace anxiety which leads to bystander workplace withdrawal. Bystander organization-based self-esteem effectively weakens the positive effect of leader aggressive humor on bystander affective rumination and bystander workplace anxiety, as well as the mediation effect of bystander effective rumination and bystander workplace anxiety.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent from the patients/ participants or patients/participants legal guardian/next of kin was not required to participate in this study in accordance with the national legislation and the institutional requirements.

Author contributions

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Aiken, L. S., and West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Thousand Oaks, CA: Sage.

Anderson, W., and Ditunnariello, N. (2016). Aggressive humor as a negative relational maintenance behavior during times of conflict. *Qual. Rep.* 21, 1513–1530. doi: 10.46743/2160-3715/2016.2149

Bamberger, P. A., and Bacharach, S. B. (2006). Abusive supervision and subordinate problem drinking: Taking resistance, stress and subordinate personality into account. *Hum. Relat.* 59, 723–752. doi: 10.1177/0018726706066852

Barlow, D. H. (2004). *Anxiety and Its Disorders: The Nature and Treatment of Anxiety and Panic*. New York: Guilford Press.

Beckker, H. L., Legare, F., Stacey, D., O'Connor, A., and Lemyre, L. (2003). Anxiety a suitable measure of decision aid effectiveness: a systematic review? *Pat. Educ. Counsel.* 50, 255–262. doi: 10.1016/S0738-3991(03)00045-4

Beerhr, T. A. (1995). *Psychological Stress in the Workplace*. London: Routledge.

Berset, M., Elfering, A., Lüthy, S., Lüthi, S., and Semmer, N. K. (2011). Work stressors and impaired sleep: rumination as a mediator. *Stress Health* 27, 71–82. doi: 10.1002/smi.1337

Bowling, N. A., Eschleman, K. J., Wang,Q., Kirkendall, C, and Alarcon, G. (2010). A meta-analysis of the predictors and consequences of organization-based self-esteem. *J. Occup. Organ. Psychol.* 83, 601–626. doi: 10.1348/096317909X454382

Chen, Z. X., and Aryee, S. (2007). Delegation and employee work outcomes:an examination of the cultural context of mediation processes in China. *Acad. Manag. J.* 50, 226–238. doi: 10.5465/amj.2007.24162389

Cheng, B. H., and Mccarthy, J. M. (2018). Understanding the dark and bright sides of anxiety: a theory of workplace anxiety. *J. Appl. Psychol.* 103, 537–560. doi: 10.1037/apl0000266

Chi, S. C. S., and Liang, S. G. (2013). When do subordinates' emotion-regulation strategies matter? Abusive supervision, subordinates' emotional exhaustion, and work withdrawal. *Leadership Q.* 24, 125–137. doi: 10.1016/j.leaqua.2012.08.006

Cooper, C. (2008). Elucidating the bonds of workplace humor: a relational process model. *Hum. Relat.* 61, 1087–1115. doi: 10.1177/0018726708094861

Cooper, C. D., Kong, D. T., and Crossley, C. D. (2018). Leader humor as an interpersonal resource: integrating three theoretical perspectives. *Acad. Manag. J.* 61, 769–796. doi: 10.5465/amj.2014.0358

Cooper, C. D., and Sosik, J. J. (2012). "The laughter advantage: cultivating high-quality connections and workplace outcomes through humor," in *The Oxford Handbook of Positive Organizational Scholarship*, eds K. S. Cameron and G. M. Spreitzer (New York, NY: Oxford University Press), 474–489.

Cropanzano, R., and Wright, T. A. (2001). When a "happy" worker is really a "productive" worker: a review and further refinement of the happy-productive worker thesis. *Consult. Psychol. J. Pract. Res.* 53, 182–199. doi: 10.1037/1061-4087.53.3.182

Cropley, M., Michalianou, G., Pravettoni, G., and Millward, L. J. (2012). The relation of post-work ruminative thinking with eating behaviour. *Stress Health* 28, 23–30. doi: 10.1002/smi.1397

Fang, J., and Weng, Z. L. (2018). The analyses of moderated mediation effects based on structural equation modeling. *J. Psychol. Sci.* 41, 453–458. doi: 10.16719/j.cnki.1671-6981.20180231

Forgas, J. P., and George, J. M. (2001). Affective influences on judgments and behavior in organizations: an information processing perspective. *Organ. Behav. Hum. Decis. Process.* 86, 3–34. doi: 10.1006/obhd.2001.2971

Goswami, A., Nair, P. K., and Grossenbacher, M. A. (2015). Impact of aggressive humor on dysfunctional resistance. *Pers. Individ. Dif.* 74, 265–269. doi: 10.1016/j.paid.2014.10.037

Haines, J., Williams, C. L., and Carson, J. M. (2002). Workplace phobia: psychological and psychophysiological mechanisms. *Int. J. Stress Manag.* 9, 129–145. doi: 10.1023/A:1015518030340

Hobfoll, S. E., Halbesleben, J., Neveu, J. P., and Westman, M. (2018). Conservation of resources in the organizational context: the reality of resources and their consequences. *Annu. Rev. Organ. Psychol. Organ. Behav.* 5, 103–128. doi: 10.1146/annurev-orgpsych-032117-104640

Hobman, E. V., Restubog, S. L. D., Bordia, P., and Tang, R. L. (2009). Abusive supervision in advising relationships: investigating the role of social support. *Appl. Psychol.* 58, 233–256. doi: 10.1111/j.1464-0597.2008.00330.x

Huo, Y., Lam, W., and Chen, Z. (2012). Am i the only one this supervisor is laughing at? Effects of aggressive humor on employee strain and addictive behaviors. *Person. Psychol.* 65, 859–885. doi: 10.1111/peps.12004

Jones, M. K., Latreille, P. L., and Sloane, P. J. (2015). Job anxiety, work-related psychological iiness and workplace performance. *Br. J. Ind. Relat.* 54, 742–767. doi: 10.1111/bjir.12159

Lehman, W. E., and Simpson, D. D. (1992). Employee substance use and on-the-job behaviors. *J. Appl. Psychol.* 77, 309–321. doi: 10.1037/0021-9010.77.3.309

March, J. G., and Simon, H. A. (1958). *Organizations*. New York: Wiley.

Martin, R. A., Puhlik-Doris, P., Larsen, G., Gray, J., and Weir, K. (2003). Individual differences in uses of humor and their relation to psychological well-being: development of the humor styles questionnaire. *J. Res. Pers.* 37, 48–75. doi: 10.1016/S0092-6566(02)00534-2

McCarthy, J., and Goffin, R. (2004). Measuring job interview anxiety: beyond weak knees and sweaty palms. *Pers. Psychol.* 57, 607–637. doi: 10.1111/j.1744-6570.2004.00002.x

McCarthy, J. M., Trougakos, J. P., and Cheng, B. H. (2016). Are anxious workers less productive workers? It depends on the quality of social exchange. *J. Appl. Psychol.* 101, 279–291. doi: 10.1037/apl0000044

Mischel, W., and Shoda, Y. (1995). A cognitive-affective system theory of personality: reconceptualizing situations, dispositions, dynamics, and invariance in personality structure. *Psychol. Rev.* 102, 246–268. doi: 10.1037/0033-295X.102.2.246

Mitchell, M. S., Vogel, R. M., and Folger, R. (2012). "Beyond the consequences to the victim: The impact of abusive supervision on third party observers," in *Handbook of Unethical Work Behavior: Implications for Well-being*, eds R. A. Giacalone, and M. D. Promislo (Armonk, NY: M.E. Sharpe), 21–43.

Mitchell, M. S., Vogel, R. M., and Folger, R. (2015). Third parties'reactions to the abusive supervision of coworkers. *J. Appl. Psychol.* 100, 1040–1055. doi: 10.1037/apl0000002

Morrison, E. W., and Robinson, S. L. (1997). When employees feel betrayed: a model of how psychological contract violation develops. *Acad. Manag. Rev.* 2, 226–256. doi: 10.2307/259230

Perko, K., Kinnunen, U., and Feldt, T. (2017). Long-term profiles of work-related rumination associated with leadership, job demands,and exhaustion: a three-wave study. *Work Stress* 31, 395–420. doi: 10.1080/02678373.2017.1330835

Pierce, J. L., and Garden, D. G. (2004). Self-esteem within the work and organizational context: a review of the organization-based self-esteem literature. *J. Manage.* 30, 591–622. doi: 10.1016/j.jm.2003.10.001

Pierce, J. L., Gardner, D. G., and Crowley, C. (2016). Organization-based self-esteem and well-being: empirical examination of a spillover effect. *Eur. J. Work Org. Psychol.* 25, 181–199. doi: 10.1080/1359432X.2015.1028377

Pierce, J. L., Gardner, D. G., and Cummings, L. L. (1989). Organization-based self-esteem: construct definition, measurement, and validation. *Acad. Manag. J.* 32, 622–648. doi: 10.5465/256437

Pierce, J. L., Gardner, D. G., Dunham, R. B., and Cummings, L. L. (1993). Moderation by organization-based self-esteem of role condition-employee response relationships. *Acad. Manag. J.* 36, 271–288. doi: 10.5465/256523

Podsakoff, N. P., LePine, J. A., and LePine, M. A. (2007). Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover, and withdrawal behavior: a meta-analysis. *J. Appl. Psychol.* 92, 438–454. doi: 10.1037/0021-9010.92.2.438

Priesemuth, M., and Schminke, M. (2019). Helping thy neighbor? Prosocial reactions to observed abusive supervision in the workplace. *J. Manag.* 45, 1225–1251. doi: 10.1177/0149206317702219

Priesemuth, M., Schminke, M., Ambrose, M. L., and Folger, R. (2014). Abusive supervision climate: a multiple-mediation model of its impact on group outcomes. *Acad. Manag. J.* 57, 1513–1534. doi: 10.5465/amj.2011.0237

Probst, T. M. (2002). "The impact of job insecurity on employee work attitudes,job adaptation,and organizational withdrawal behaviours," in *The Psychology of Work: Theoretically Based Empirical Research*, eds J. M. Brett, and F. Drasgow (Mahwah, NJ: Lawrence Erlbaum Associates), 141–168.

Pundt, A., and Herrmann, F. (2015). Affiliative and aggressive humour in leadership and their relationship to leader-member exchange. *J. Occup. Organ. Psychol.* 88, 108–125. doi: 10.1111/joop.12081

Pundt, A., and Venz, L. (2017). Personal need for structure as a boundary condition for humor in leadership. *J. Organ. Behav.* 38, 87–107. doi: 10.1002/job.2112

Querstret, D., and Cropley, M. (2012). Exploring the relationship between work-related rumination, sleep quality, and work-related fatigue. *J. Occup. Health Psychol.* 17, 341–353. doi: 10.1037/a0028552

Robert, C., Dunne, T. C., and Iun, J. (2016). The impact of leader humor on subordinate job satisfaction: the crucial role of leader–subordinate relationship quality. *Group Org. Manag.* 41, 375–406. doi: 10.1177/1059601115598719

Rosenberg, C., Walker, A., Leiter, M., and Graffam, J. (2021). Humor in workplace leadership: a systematic search scoping review. *Front. Psychol.* 12, 610795. doi: 10.3389/fpsyg.2021.610795

Syrek, C. J., Weigelt, O., Peifer, C., and Antoni, C. H. (2017). Zeigarnik's sleepless nights: how unfinfinished tasks at the end of the week impair employee sleep on the weekend through rumination. *J. Occup. Health Psychol.* 22, 225–238. doi: 10.1037/ocp0000031

Tepper, B. J., Carr, J. C., Breaux, D. M., Geider, S., Hu, C., and Hua, W. (2009). Abusive supervision, intentions to quit, and employees' workplace deviance: a power/dependence analysis. *Org. Behav. Hum. Decis. Process.* 109, 156–167. doi: 10.1016/j.obhdp.2009.03.004

Tepper, B. J., Henle, C., Lambert, L. S., and Giacalone, R. (2008). Abusive supervision and subordinates'organizational deviance. *J. Appl. Psychol.* 93, 721–732. doi: 10.1037/0021-9010.93.4.721

Vecchio, R. P., Justin, J. E., and Pearce, C. L. (2009). The Inflfluence of Leader Humor on relationships between leader behavior and follower outcomes. *J. Manag. Issues* 21, 171–194.

Viswesvaran, C. (2002). Absenteeism and measures of job performance: a meta analysis. *Int. J. Select. Assess.* 10–2, 12–17. doi: 10.1111/1468-2389.00190

Walumbwa, F. O., and Lawler, J. J. (2003). Building effective organizations:transformational leadership, collectivist orientation, work-related attitudes and withdrawal behaviours in three emerging economies. *Int. J. Hum. Resour. Manag.* 14, 1083–1101. doi: 10.1080/0958519032000114219

Wang, S., and Yi, X. (2012). Organizational justice and work withdrawal in Chinese companies: the moderating effects of allocentrism and idiocentrism. *Int. J. Cross Cult. Manag.* 12, 211–228. doi: 10.1177/1470595812439871

Wei, F., and Si, S. (2013). Tit for tat? Abusive supervision and counterproductive work behaviors: the moderating effects of locus of control and perceived mobility. *Asia Pac. J. Manag.* 30, 281–296. doi: 10.1007/s10490-011-9251-y

Wisse, B., and Rietzschel, E. (2014). Humor in leader-follower relationships: humor styles, similarity and relationship quality. *Humor* 27, 249–269. doi: 10.1515/humor-2014-0017

Yam, K. C., Christian, M. S., Wei, W., Liao, Z., and Nai, J. (2018). The mixed blessing of leader sense of humor: examining costs and benefits. *Acad. Manag. J.* 61, 348–369. doi: 10.5465/amj.2015.1088

Yin, K., Liu, Y. R., and Liu, M. (2014). Organization-based self-esteem: a review. *Hum. Resour. Dev. China* 28, 38–47. doi: 10.16471/j.cnki.11-2822/c.2014.05.018

Zimmerman, R. D., and Darnold, T. C. (2009). The impact of job performance on employee turnover intentions and the voluntary turnover process: a meta-analysis and path model. *Person. Rev.* 38, 142–158. doi: 10.1108/00483480910931316

Benefits of non-work interactions with your supervisor: Exploring the bottom-up effect of employee boundary blurring behavior on abusive supervision

Luyuan Jiang[1], Guohua He[1], Hansen Zhou[1], Laijie Yang[2], Xiaolan Li[1], Wenpu Li[1] and Xin Qin[1]*

[1]Sun Yat-sen Business School, Sun Yat-sen University, Guangzhou, China, [2]School of Economics and Management, Tsinghua University, Beijing, China

Abusive supervision has long been found to have remarkably negative impacts on individual and organizational outcomes. Accordingly, prior studies have explored many organizational and supervisory predictors of abusive supervision and offered several interventions to reduce it. However, extant research lacks the bottom-up perspective to explore how employees can act to reduce abusive supervision, which is an important factor that enriches abusive supervision literature and helps employees protect themselves from being abused. Drawing on self-disclosure theory, we develop a model of whether and how employee boundary blurring behavior may protect them from being abused by their supervisors. Specifically, we conducted two studies to test the theoretical model, including a scenario-based experimental study and a multi-source, multi-wave field study. The results reveal a negative indirect effect of employee boundary blurring behavior on abusive supervision *via* supervisor liking toward the employee. By uncovering employee boundary blurring behavior as an antecedent of abusive supervision, we enrich the abusive supervision literature with a bottom-up behavioral strategy for employees to proactively protect themselves from being abused. We hope our findings will encourage future studies to identify boundary conditions and other solutions for employees to minimize the risk of being abused.

KEYWORDS

abusive supervision, boundary blurring, liking, bottom-up effect, self-disclosure theory

Introduction

Abusive supervision, defined as "the extent to which supervisors engage in the sustained display of hostile verbal and non-verbal behavior, excluding physical contact" toward employees (Tepper, 2000, p. 178), has long been found to wreak havoc far and wide (for

reviews, see Tepper, 2007; Martinko et al., 2011; Mackey et al., 2017). For example, abusive supervision was found to result in employees' decreased performance and well-being, and increased misbehaviors and turnover (Detert et al., 2007; Tepper, 2007; Walter et al., 2015). Accordingly, scholarly interest has grown in identifying the antecedents of abusive supervision, explaining when and how supervisors may engage in such behavior, and thus offering effective interventions to reduce it (Zhang and Bednall, 2016; Tepper et al., 2017; Qin et al., 2018a). Specifically, existing studies have mainly focused on how contextual and supervisory factors may explain abusive supervision (Zhang and Bednall, 2016; Tepper et al., 2017). For contextual predictors, many research has found that aggressive organizational norms, abusive role model, and power distance are positively associated with abusive supervision (Restubog et al., 2011; Vogel et al., 2015). For supervisory predictors, many research found that supervisors' characteristics (e.g., Machiavellian and the dissimilarity of demographics between supervisors and employees), stress and negative states (e.g., lack of sleep and negative emotions) may lead them to engage in abusive supervision because of identity threat and self-regulation impairment (Kiazad et al., 2010; Tepper et al., 2011; Mawritz et al., 2014; Barnes et al., 2015). Previous studies have thus provided valuable insights on how abusive supervision can be reduced by identifying contextual and supervisory factors.

However, we still have relatively limited knowledge about the antecedents of abusive supervision from the employee's perspective (for an exception, see Huang et al., 2022). The scarce relevant studies mainly focus on when and how certain characteristics of employees (e.g., narcissism and negative affectivity) make them more likely to be victims of abusive supervision (Lian et al., 2012; Harvey et al., 2014; Henle and Gross, 2014; Chen et al., 2021b). Given the relative stability of employee characteristics offers little scope to reduce abusive supervision, these studies offer limited help in understanding how employee can proactively avoid being abused. Therefore, existing studies on the antecedents of abusive supervision generally ignore the possibility that employees may engage in proactive behaviors to protect themselves from being abused.

In this research, we examine whether and how employee boundary blurring behavior—the act of blurring the boundary between professional and personal life domains (Rothbard et al., 2022)—affects abusive supervision. Exploring this potential relationship is theoretically important because it enriches abusive supervision literature by identifying employee boundary blurring behavior as a possible antecedent of abusive

supervision from the employee's perspective, which has traditionally been overlooked in the literature. Practically, knowledge of the potential benefits of employee boundary blurring behavior can be leveraged to help employees avoid being abused, which would, in turn, improve their performance and well-being (Tepper, 2000; Lin et al., 2013; Zhang and Bednall, 2016). Thus, our study provides a more comprehensive understanding of antecedents of abusive supervision from a bottom-up perspective, which may help employees effectively protect themselves from being abused.

To address these questions, we draw on self-disclosure theory (Cozby, 1973; Collins and Miller, 1994) and propose that employee boundary blurring behavior may increase supervisor liking toward the employee, thereby reducing abusive supervision. Self-disclosure theory posits that self-disclosure induces interpersonal attraction and shapes relationship between people (Cozby, 1973; Collins and Miller, 1994; Sprecher et al., 2013). According to this theory, employee boundary blurring behavior (e.g., sharing personal issues in the workplace) is a form of self-disclosure that may make a supervisor more inclined to like an employee by fostering the perception that the employees desire to establish a more intimate relationship through such behavior (Collins and Miller, 1994; Nifadkar et al., 2019; Rothbard et al., 2022). In turn, when a supervisor finds the employees more likable, they tend to perceive less threat and hostility toward them, and thus restrain his or her abusive tendencies (Tepper et al., 2011; Chen et al., 2021a).

To test our theoretical model (see Figure 1), we conducted two studies: an experimental study and a multi-source, multi-wave field study. Our research makes several contributions to abusive supervision literature and boundary management literature. First, we contribute to the abusive supervision literature by investigating employee boundary blurring behavior as a bottom-up behavioral strategy for employees to proactively protect themselves from being abused. Prior studies on the antecedents of abusive supervision have primarily focused on the contextual and supervisory predictors (e.g., Kiazad et al., 2010; Restubog et al., 2011; Tepper et al., 2011; Liu et al., 2012; Mawritz et al., 2012; Barnes et al., 2015). However, these studies have overlooked another important perspective, namely a bottom-up perspective, to explore how employees can act proactively to avoid being abused. Therefore, our study addresses the above research gap by investigating the effect of employee boundary blurring behavior on abusive supervision. Second, we extend the boundary
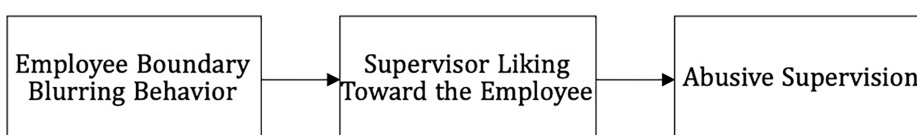

FIGURE 1
Theoretical model of the current research.

management literature by exploring the potential positive outcomes of employee boundary blurring behavior in the workplace. Previous studies have focused on individuals' management strategies of the boundaries between work and family and the effects of different strategies on their work-family relationships (Ashforth et al., 2000; Kreiner et al., 2009; Allen et al., 2014). Our study contributed to the boundary management literature by examining the impact of employee boundary blurring behavior on one kind of supervisor behavior toward the employee.

Theoretical grounding and hypothesis development

Employee boundary blurring behavior and supervisor liking toward the employee

Self-disclosure theory suggests that by disclosing personal information, an individual affects others' feeling of interpersonal attraction toward and subsequent interactions with that person (Cozby, 1973; Collins and Miller, 1994). Specifically, during the development of interpersonal relationships, the disclosure of detailed or even private information increases the level of intimacy (Clark and Reis, 1988; Collins and Miller, 1994). In the workplace, high interpersonal attraction between supervisor and employee is associated with increased trust, supportive behaviors, and employee performance (Reb et al., 2019; Parent-Rocheleau et al., 2020).

Drawing on self-disclosure theory, we posit that supervisors tend to show a high level of liking for employees who engage in boundary blurring behavior—acts of blurring the boundary between professional and personal life domains (Rothbard et al., 2022), such as by publicly displaying family pictures in the office, attending company parties, and sharing non-work information in the workplace (Byron and Laurence, 2015; Nifadkar et al., 2019). Employees could manage their self-disclosure toward their supervisors by controlling whether and how to engage in boundary blurring behavior with them. In doing so, employees may facilitate several dynamics to foster supervisors' positive feelings toward them (Phillips et al., 2009; Rothbard et al., 2022). First, since self-disclosure is considered as social exchange within ongoing relationships (Collins and Miller, 1994), supervisors tend to reward employees who engage in boundary blurring behavior with a higher level of liking, because they may perceive those employees are endeavoring to establish a more intimate relationship (Worthy et al., 1969; Archer and Cook, 1986; Sprecher et al., 2013; Lin and Utz, 2017; Yang, 2020). Second, as self-disclosure may shape others' perceptions of the discloser, supervisors may regard employees who blur boundaries as warmer and more responsive (Laurenceau et al., 1998; Rothbard et al., 2022). Furthermore, as people usually tend to segment their professional and personal life for fear of damaging their professional reputation (Kreiner et al., 2006), employees who voluntarily engage in boundary blurring behaviors may

be perceived by supervisors as more confident, sincere, and authentic. Existing empirical research provides some support for this prediction. For example, recent studies suggest that employee boundary blurring behavior in the workplace, such as displaying family pictures and discussing non-work matters, helps build closer relationships with coworkers (Dumas et al., 2013; Byron and Laurence, 2015; Whitman and Mandeville, 2021). These findings further suggest that boundary blurring behavior may facilitate interpersonal liking. Thus, we propose the following:

> *Hypothesis 1*: Employee boundary blurring behavior is positively related to supervisor liking toward the employee.

The effect of supervisor liking toward the employee on abusive supervision

We further propose that when a supervisor likes an employee, they are less likely to engage in abusive supervision. First, supervisors who like their employees are more inclined to view them favorably, view them in a more positive light (Regan et al., 1974; Dulebohn et al., 2017), and less likely to categorize them as provocations of hostility and threat, which have both been proven to be important predictors of abusive supervision (Tepper et al., 2012; Mawritz et al., 2017; Eissa et al., 2020; Li et al., 2020; Chen et al., 2021a). Second, the literature on interpersonal attraction indicates that supervisors tend to build high-quality relationships with employees they like (Engle and Lord, 1997), which may motivate them to exercise high ethical standards in their treatment of these employees (Tepper et al., 2011; Walter et al., 2015), and thus restrain their abusive intentions. Extant empirical research also supports the negative relationship between supervisor liking toward the employee and abusive supervision. For example, supervisors are less likely to abuse employees toward whom they have interpersonal attraction, such as similarity attraction (Tepper et al., 2011). Taken together with Hypothesis 1, we propose the following:

> *Hypothesis 2*: Supervisor liking toward the employee is negatively related to abusive supervision.

> *Hypothesis 3*: Employee boundary blurring behavior has an indirect effect on abusive supervision *via* supervisor liking toward the employee.

Overview of current research

To test our theoretical model, we conducted an experimental study and a multi-source, multi-wave field study. Specifically, in Study 1, we conducted a scenario-based experiment, where we asked participants to act as team leaders while manipulating employee boundary blurring behavior. Through the experiment,

we are able to establish the causal relationship between employee boundary blurring behavior and abusive supervision. To maximize external validity, in Study 2, we conducted a 3-wave multi-source survey in a large manufacturing company and measured all the variables in our theoretical model. Thus, our multimethod research design (i.e., an experimental study and a field survey) provides evidence for high internal and external validity of our findings.

Study 1 method

Participants

We recruited 175 participants with supervisory responsibilities from the United States *via* Prolific, a widely used online survey platform proven to supply diverse and attentive respondents (Palan and Schitter, 2018). This sample size ensured a power level of 0.90 to detect a medium effect ($f = 0.25$), assuming an α level of 0.05 (Faul et al., 2009). Each participant received USD 0.4 as compensation. Following the recommendation of Meade and Craig (2012), we included an attention-check item in the questionnaire. Among the sample, 60.0% were female, 78.3% were Caucasian, the average age was 37.3 years old ($SD = 11.4$), and average education was 15.9 years ($SD = 2.3$). Participants worked in various industries, including healthcare (17.7%), education (12.0%), service (11.4%), retailing (10.9%), IT (10.3%), and others (37.7%). They were also from different departments, including administration (34.9%), technology (26.3%), finance (7.4%), marketing (4.6%), and others (26.8%).

Procedures and experiment design

We conducted a between-subject experiment and manipulated employee boundary blurring behavior. Specifically, we generated two experimental conditions: high vs. low employee boundary blurring behavior and randomly assigned our participants to one of them. Following the critical incident technique paradigm (Aquino et al., 2001), all participants were instructed to visualize themselves in the roles of team leaders. In each condition, participants were instructed to read a scenario describing an employee who either engages in boundary blurring behavior ($n = 87$) or avoids doing so ($n = 88$). In line with prior studies (e.g., Watkins et al., 2019), they were then presented with a managerial situation. Following the scenario descriptions and managerial situation, participants were required to complete the questionnaires measuring supervisor liking toward the employee and abusive supervision intention, respond to the manipulation-check items, and report their demographic information.

Manipulation of employee boundary blurring behavior

To manipulate employee boundary blurring behavior, participants were instructed to put themselves in the role of team leaders, reading a statement describing boundary blurring behaviors that employees exhibit toward their leaders (for similar research design, see Watkins et al., 2019). Specifically, in the high employee boundary blurring behavior condition, participants read the following scenario:

> You have been working in a manufacturing company. Your current position is a team leader. Alex is one of your direct reports who has an average performance. You have noticed that Alex strives to build a personal connection with you. Specifically, Alex usually interacts with you on Facebook, talks with you about his/her personal life, and goes to some social activities with you (e.g., sporting events, after-work drinks).

In the low employee boundary blurring behavior condition, participants read another scenario:

> You have been working in a manufacturing company. Your current position is a team leader. Alex is one of your direct reports who has an average performance. You have noticed that Alex tends to avoid building a personal connection with you. Specifically, Alex seldom interacts with you on Facebook, never talks with you about his/her personal life, and refuses to go to any social activities with you (e.g., sporting events, after-work drinks).

At the end of each scenario, participants in both conditions read the following managerial situation:

> Recently, you have been chosen to lead a large project, which is very important to your team and yourself. You don't want anyone to mess it up. You have given Alex some important assignments of this project. However, you find that Alex made a serious mistake, which may lead the project to be stopped, or even worse.

Measures

Unless otherwise specified, all measures for the two studies used a five-point Likert-type scale ranging from 1 = "Strongly disagree" to 5 = "Strongly agree." All items are presented in Appendix A.

Supervisor liking toward the employee

Supervisor liking toward the employee was measured using Hamstra et al.'s (2013) four-item scale. Sample items are "This employee seems like a pleasant person to me" and "I think it is pleasant to work with this employee" ($\alpha = 0.90$).

Abusive supervision intention

Abusive supervision intention was measured using Mitchell and Ambrose's (2007) five-item scale adapted from Tepper (2000), which has been widely adopted by previous research (e.g., Wee et al., 2017; Qin et al., 2018a; Chen et al., 2021a). Participants rated

TABLE 1 Descriptive statistics and correlation coefficients of variables in Study 1.

Variables	Mean	SD	1	2
1. Employee boundary blurring behavior	0.50	0.50		
2. Supervisor liking toward the employee	2.98	0.87	0.58***	
3. Abuse supervision intention	1.48	0.58	−0.20**	−0.34***

$n = 175$. $n = 88$ in low boundary employee blurring behavior condition; $n = 87$ in high boundary employee blurring behavior condition. For employee boundary blurring behavior, $0 =$ low boundary employee blurring behavior condition, $1 =$ high employee boundary blurring behavior condition.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

TABLE 2 The effects of employee boundary blurring behavior and supervisor liking toward the employee on abusive supervision in Study 1.

Variables	Supervisor liking toward the employee						abusive supervision intention		
	Model 1			Model 2			Model 3		
	b	SE	t	b	SE	t	b	SE	t
Employee boundary blurring behavior	1.00	0.11	9.31***	−0.24	0.09	−2.74**	−0.01	0.10	−0.11
Supervisor liking toward the employee							−0.23	0.06	−3.82***
Constant	2.49	0.08	32.93***	1.60	0.06	26.14***	2.16	0.16	13.62***
R^2		0.33***			0.04**			0.12***	

$n = 175$. $n = 88$ in low boundary employee blurring behavior condition; $n = 87$ in high boundary employee blurring behavior condition. For boundary blurring behavior, $0 =$ low boundary blurring behavior condition, $1 =$ high boundary blurring behavior condition.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

their likelihood of engaging in abusive supervisory behavior toward the employee, responding on a five-point Likert-type scale ranging from 1 = "Extremely unlikely" to 5 = "Extremely likely." Sample items are "To ridicule him/her" and "To put him/her down in front of others" ($\alpha = 0.83$).

Manipulation check

To test the effectiveness of our manipulation of employee boundary blurring behavior, we used a four-item scale from Rothbard et al.'s (2022) boundary blurring activities scale. Sample items are "This employee would like to connect with me on Facebook" and "This employee would like to talk with me about his/her personal life during work hours" ($\alpha = 0.98$).

Analytic strategy

To test our hypotheses, we conducted two-sample t-tests by condition and ordinary least squares (OLS) regressions. To test the indirect effect in Hypothesis 3, we also employed RMediation (Tofighi and MacKinnon, 2011), which estimates Type I error rates more accurately than traditional mediation tests, such as the Sobel test (MacKinnon et al., 2007).

Study 1 results

Manipulation check

We first conducted a t-test to examine whether our manipulation of employee boundary blurring behavior was

effective. The results showed that employee boundary blurring behavior was perceived to be significantly higher in the high employee boundary blurring behavior condition ($M = 4.30$, $SD = 0.56$) than in the low condition ($M = 1.50$, $SD = 0.66$), $t (173) = −30.25$, $p < 0.001$, $d = −4.58$, thus indicating that our manipulation was successful.

Tests of hypotheses

Descriptive statistics and correlations are reported in Table 1. Hypothesis 1 posits that employee boundary blurring behavior is positively related to supervisor liking toward the employee. The t-test results revealed that participants in the high employee boundary blurring behavior condition reported a significantly higher level of supervisor liking toward the employee ($M = 3.48$, $SD = 0.69$) than did participants in the low employee boundary blurring behavior condition ($M = 2.49$, $SD = 0.73$), $t (173) = −9.30$, $p < 0.001$, $d = −1.41$. The OLS regression results also showed that employee boundary blurring behavior was significantly positively related to supervisor liking toward the employee (Model 1, Table 2; $b = 1.00$, $SE = 0.11$, $p < 0.001$). Thus, Hypothesis 1 was supported in Study 1.

Hypothesis 2 proposes that supervisor liking toward the employee is negatively related to abusive supervision. As shown in Model 3 of Table 2, supervisor liking toward the employee was significantly negatively related to abusive supervision ($b = −0.23$, $SE = 0.06$, $p < 0.001$). Thus, Hypothesis 2 was supported in Study 1.

Hypothesis 3 proposes that employee boundary blurring behavior has an indirect effect on abusive supervision via supervisor liking toward the employee. The t-test results revealed that participants in

the high employee boundary blurring behavior condition had significantly lower intention to engage in abusive supervision ($M=1.36$, $SD=0.46$) than did those in the low employee boundary blurring behavior condition ($M=1.60$, $SD=0.66$), t (173) $=2.75$, $p=0.007$, $d=0.41$. The OLS regression results also showed that employee boundary blurring behavior was significantly negatively related to abusive supervision (Model 2, Table 2; $b=-0.24$, $SE=0.09$, $p=0.007$). We then used RMediation to test the indirect effect of employee boundary blurring behavior on abusive supervision *via* supervisor liking toward the employee. The results revealed that the indirect effect was significantly negative (estimate $=-0.23$, $SE=0.07$, 95% CI $=-0.34$, -0.13). Thus, Hypothesis 3 was supported in Study 1.

Overall, the results of Study 1 provide preliminary support for the indirect effect of employee boundary blurring behavior on abusive supervision *via* supervisor liking toward the employee. Although the experiment provides causal support for our theoretical model, it is necessary to investigate whether the observed effects also exist in a real organizational context. Hence, we conducted Study 2 to test our model in an actual organizational setting, thereby assessing its external validity.

Study 2 method

Participants and procedures

To further test our hypotheses, we collected multi-source data in three waves from a large manufacturing company in Southern China, which operates one of the country's biggest plants specializing in the precision production of high-end furniture parts. We first contacted the company's human resources (HR) director to reach out for supervisors and employees. After getting permission and consents, we invited 56 supervisors and their direct reports ($n=311$) to participate in this research. All supervisor and subordinate respondents were assured of the confidentiality of their responses. We then invited supervisors to respond to questionnaires about their subordinates as well as themselves during the first two rounds of survey, while inviting their immediate subordinates to participate in the third round of survey. Identification codes were used to match supervisor-employee responses across the three waves. Each supervisor was compensated with RMB 35 (approximately USD 5.5), while each employee received RMB 10 (approximately USD 1.5).

Each wave had a one-week interval. At Time 1 (T1), we asked supervisors to rate employee boundary burring behavior and report their demographic information; 55 supervisors responded (98.2% response rate), rating 305 employees. At Time 2 (T2), we sent a second survey link to supervisors who had completed the T1 survey, asking them to rate their liking of each employee: 52 supervisors responded (94.6% response rate), rating 255 employees. At Time 3 (T3), we sent a third survey link to 250 employees who had been assessed by their supervisors at both T1 and T2. Employees were asked to rate their supervisors' abusive supervision; 246 employees responded (98.4% response rate).

After matching data from the three waves for supervisors and employees, we obtained a final sample of 49 supervisors (87.5% final response rate) and 216 employees (69.5% final response rate). In the final supervisor sample, 81.6% were male, the average age was 32.3 years ($SD=7.7$), and average education was 11.6 years ($SD=2.8$). In the final employee sample, 52.8% were male, the average age was 32.3 years ($SD=8.2$), and average education was 10.6 years ($SD=3.0$). The average dyadic tenure between supervisors and employees was 2.0 years ($SD=1.5$).

Measures

All measures used in Study 2 were presented in Mandarin Chinese, with all items translated from English following Brislin's (1986) translation-back translation procedure. Unless otherwise specified, all measures in Study 2 used a five-point Likert-type scale ranging from 1 = "Strongly disagree" to 5 = "Strongly agree." All items are presented in Appendix A.

Employee boundary blurring behavior (T1)

Supervisors rated employee boundary blurring behavior with the same four-item scale used in Study 1 ($\alpha=0.83$).

Supervisor liking toward the employee (T2)

Supervisors rated their liking for employees using the same four-item scale as in Study 1 ($\alpha=0.97$).

Abusive supervision (T3)

Employees rated how frequently their supervisor engages in abusive supervision with the same five-item scale as in Study 1 (1 = "Never"; 5 = "Very often"; $\alpha=0.88$).

Control variables

We controlled for demographic variables previously found to relate to supervisor liking toward the employee and/or abusive supervision (Bernerth and Aguinis, 2016). Specifically, we controlled for supervisor gender (female $=0$; male $=1$), age (in years), and education (in years). We controlled for supervisor gender because women are more concerned about interpersonal relationships than men, more likely to show liking to others, and less likely to engage in abusive supervision (Collins and Miller, 1994; Burton and Hoobler, 2006). Supervisor age was controlled for because elderly supervisors are less aggressive and less likely to engage in abusive supervision (Barling et al., 2009). We controlled for supervisors' education because those with higher levels of formal education have been found less likely to abuse employees (Eesley and Meglich, 2013). Besides these demographic characteristics, we also controlled for dyadic tenure because it shapes the quality of social exchanges between supervisors and employees (Cogliser and Schriesheim, 2000; Maslyn and Uhl-Bien, 2001; Erdogan and Liden, 2002), which may influence abusive supervision. It should be noted that excluding all control variables did not affect the significance of our findings.

TABLE 3 Descriptive statistics and correlation coefficients of variables in Study 2.

Variables	Mean	SD	1	2	3	4	5	6
1. Supervisor gender	0.82	0.39						
2. Supervisor age	32.35	7.72	0.19**					
3. Supervisor education	11.57	2.76	0.06	0.14*				
4. Dyadic tenure	1.97	1.54	0.02	0.08	−0.03			
5. Employee boundary blurring behavior (T1)	2.66	0.90	0.25***	0.12	0.22**	0.10		
6. Supervisor liking toward the employee (T2)	4.17	0.74	0.04	−0.13	−0.19**	−0.01	0.29***	
7. Abuse Supervision (T3)	1.21	0.43	0.09	0.03	0.15*	0.03	0.04	−0.17*

$n = 216$ at individual level, $n = 49$ at team level. T1/2/3 = Time 1/2/3. For supervisor gender, 0 = female, 1 = male.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

TABLE 4 The effects of employee boundary blurring behavior and supervisor liking toward the employee on abusive supervision in Study 2.

Variables	Supervisor liking toward the employee (T2)						Abusive supervision (T3)					
	Model 1			Model 2			Model 3			Model 4		
	b	SE	t	b	SE	t	b	SE	t	b	SE	t
Supervisor gender	0.14	0.13	1.13	0.08	0.14	0.53	0.09	0.06	1.40	0.10	0.07	1.46
Supervisor age	−0.13	0.11	−1.19	−0.14	0.10	−1.45	−0.01	0.08	−0.13	−0.03	0.09	−0.40
Supervisor education	−0.17	0.11	−1.49	−0.23	0.11	−2.06*	0.15	0.08	1.91	0.12	0.09	1.34
Dyadic tenure	−0.04	0.06	−0.61	−0.06	0.06	−1.08	0.03	0.08	0.42	0.02	0.08	0.28
Employee boundary blurring behavior (T1)				0.29	0.12	2.44*	−0.01	0.08	−0.17	0.03	0.08	0.41
Supervisor liking toward the employee (T2)										−0.16	0.07	−2.27*
Constant	5.63	0.35	16.18***	5.63	0.34	16.55***	2.81	0.25	11.16***	3.73	0.45	8.28***
R^2		0.06			0.14			0.03			0.05	

$n = 216$ at individual level, $n = 49$ at team level. T1/2/3 = Time 1/2/3. For supervisor gender: 0 = female, 1 = male.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Analytic strategy

As our data were nested by supervisor, we employed the "two-level COMPLEX" function in Mplus to test our hypotheses with 10,000-resample bootstrapping, which considering stratification, non-independence of observations due to cluster sampling (Muthén and Muthén, 2017). We used grand-mean centering for all explanatory variables before entering them into the regression model (Hofmann and Gavin, 1998). As in Study 1, we tested the indirect effect using RMediation.

Study 2 results

Descriptive statistics and correlations are reported in Table 3. To provide further evidence supporting the factor structure and discriminant validity of our measures, we conducted confirmatory factor analyses (CFAs) involving our three key constructs (i.e., employee boundary blurring behavior, supervisor liking toward the employee, and abusive supervision). Results revealed that the three-factor structure had a good fit to the data ($\chi^2(62) = 314.41$, $p < 0.001$; Standardized Root Mean Squared Residual [SRMR] = 0.05,

Comparative Fit Index [CFI] = 0.89, Tucker Lewis Index [TLI] = 0.87; Hu and Bentler, 1999) and fitted better than either of the two-factor models (combining employee boundary blurring behavior with supervisor liking toward the employee; $\chi^2(64) = 606.72$, $p < 0.001$; SRMR = 0.13, CFI = 0.77, TLI = 0.72; combining supervisor liking toward the employee with abusive supervision; $\chi^2(64) = 886.48$, $p < 0.001$; SRMR = 0.19, CFI = 0.65, TLI = 0.58). Based on these results, we proceeded to hypothesis testing with the hypothesized three-factor model.

Tests of hypotheses

The hypothesis testing results are reported in Table 4. Hypothesis 1 proposes that employee boundary blurring behavior is positively related to supervisor liking toward the employee. The results revealed that employee boundary blurring behavior was significantly positively related to supervisor liking toward the employee ($b = 0.29$, $SE = 0.12$, $p = 0.02$). Thus, Hypothesis 1 was supported in Study 2.

Hypothesis 2 proposes that supervisor liking toward the employee is negatively related to abusive supervision. As shown in

Model 4 of Table 4, supervisor liking toward the employee was significantly negatively related to abusive supervision ($b = -0.16$, $SE = 0.07$, $p = 0.02$). Thus, Hypothesis 2 was supported in Study 2.

Hypothesis 3 proposes that employee boundary blurring behavior has a positive indirect effect on abusive supervision *via* supervisor liking toward the employee. RMediation was used to test the indirect effect by multiplying the path coefficient from employee boundary blurring behavior to supervisor liking toward the employee with the path coefficient from supervisor liking toward the employee to abusive supervision. The results revealed that the indirect effect was significantly negative (estimate $= -0.05$, $SE = 0.03$, 95% CI $= -0.10$, -0.01). Thus, Hypothesis 3 was supported in Study 2.

General discussion

Abusive supervision has long been found to have remarkably negative impacts on individual and organizational outcomes (Priesemuth et al., 2014; Barnes et al., 2015; Tepper et al., 2017; Wee et al., 2017; Ju et al., 2019; Liao et al., 2021). While researchers have shown growing interest in identifying what factors contribute to reducing abusive supervision (e.g., Restubog et al., 2011; Liu et al., 2012; Mawritz et al., 2012; Barnes et al., 2015), few studies have adopted a bottom-up perspective to explore whether employees can deploy certain behavioral strategies to reduce supervisors' abuse. In this research, we draw on self-disclosure theory (Cozby, 1973; Collins and Miller, 1994) to develop our theoretical model explaining whether and how employee boundary blurring behavior affects abusive supervision. Findings from a scenario-based experiment and a multi-source, multi-wave survey revealed that supervisors tend to like employees who engage in boundary blurring behavior and, consequently, reduce the extent of abusive supervision directed toward them.

Implications for theory

Our research makes several theoretical contributions to abusive supervision literature and boundary management literature. First, we extend the abusive supervision literature by demonstrating the potential effectiveness of a bottom-up behavioral strategy (i.e., boundary blurring behavior) to shield employees from abusive supervision. Prior studies on the antecedents of abusive supervision have primarily focus on contextual and supervisory predictors, such as culture, organizational norm, and supervisors' stress (e.g., Kiazad et al., 2010; Restubog et al., 2011; Tepper et al., 2011; Liu et al., 2012; Mawritz et al., 2012; Barnes et al., 2015). These studies have, however, largely overlooked another important research perspective, namely a bottom-up perspective that explores how employees can engage in proactive behaviors to avoid being abused. Thus, we contribute to the abusive supervision literature by addressing an overlooked but fundamental antecedent—employee boundary blurring behavior—which reduces the likelihood for employees to be abused by their supervisors. By exploring whether employee boundary blurring

behavior reduces abusive supervision, our findings help to gain a more complete understanding of antecedents of abusive supervision and provide theoretical guidance for employees to avoid being abused.

Second, we enrich the abusive supervision literature by unfolding the mechanism through which non-work-related interactions between employees and supervisors (i.e., employee boundary blurring behavior) influence abusive supervision. Drawing on self-disclosure theory (Cozby, 1973; Collins and Miller, 1994), we suggest that employee boundary blurring behavior increases supervisor liking toward them, leading to a close, high-quality supervisor-employee relationship in which abusive supervision becomes less likely. By examining the mediating mechanism, our research deepens understanding of how to reduce abusive supervision through boundary blurring behavior.

Third, we extend the boundary management literature by exploring whether employees' blurring of the personal-professional boundary can positively influence the supervisor-employee relationship. Prior studies of boundary management have mainly focused on explaining work–family conflict and balance by investigating how employees manage the boundaries between work and family roles (Ashforth et al., 2000; Kreiner et al., 2009; Allen et al., 2014). However, these studies have overlooked the effect of employees' boundary management on workplace interactions (e.g., interactions between employees and their supervisors). Unlike most boundary management research, we explored how blurring the boundary between professional and personal domains can potentially benefit workplace interactions. Our work thus enriches this literature by identifying the potential positive outcomes of boundary blurring behavior in the supervisor-employee relationship.

Implications for practice

Our research has several important managerial implications. First, our findings suggest that employee boundary blurring is an effective strategy to protect employees from abuse by their supervisors. Therefore, we encourage employees to engage in more boundary blurring behaviors when interacting with supervisors, which will make supervisors view them more favorably, thus minimizing the risk of being abused. Employees could, for example, share personal information with their supervisors, communicate with them more often on social media, or engage in non-work-related activities with them. Also, organizations could provide more opportunities for supervisors and employees to establish close informal working relationships, allowing supervisors and employees to interact more outside work. For example, organizations could hold birthday parties, group dinners, sporting events, and other activities to encourage non-work-related social interaction among supervisors and employees.

Second, our findings reveal that employee boundary blurring behavior reduces abusive supervision *via* supervisor liking for the employee. This outcome emphasizes the importance of cultivating

supervisor liking for employees as a means to reduce abusive supervision. Therefore, we encourage employees to establish high-quality relationships with their supervisors by engaging in boundary blurring behaviors, thereby making supervisors more inclined to like them. Additionally, supervisors need to recognize that increasing their liking for employees, especially those toward whom they hold negative attitudes, can help to reduce their own abusive supervision.

Strengths, limitations, and future directions

This study has several strengths: in particular, it employs a mixed design that combines an experiment with a multi-source, multi-wave field study, using samples from both America and China. However, it also has several limitations that could be addressed in future research. First, the causal effect of employee boundary blurring behavior on abusive supervision was inferred from a scenario-based experiment, rather than a real organizational context. Although scenario-based experiments in which participants act as supervisors are often used in organizational behavior research (Lam et al., 2017; Qin et al., 2018b; Yeung and Shen, 2019), participants in Study 1 may act differently in a real managerial context. Therefore, we encourage future studies to replicate our model using a field experimental design. For example, management scholars can cooperate with a company and randomly assign its employees into two group: for experimental group, researchers can instruct them to perform more boundary blurring behaviors with supervisors; for control group, researchers can instruct them to maintain the previous interactive ways with supervisors. In this way, future studies can test the causal effect of employee boundary blurring behavior on abusive supervision in a real organizational context.

Second, we did not examine the boundary conditions of the indirect effect of employee boundary blurring behavior on abusive supervision. This omission limits our understanding of whether the effect is contingent on some individual or contextual factors. In future research, it is imperative to identify any moderators of the effect of employee boundary blurring behavior on abusive supervision. For example, one study suggests that supervisors with integrating (rather than segmenting) boundary management preferences show a higher liking toward employees who engage in boundary blurring behavior (Ashforth et al., 2000). Therefore, the negative relationship between boundary blurring behavior and abusive supervision could be moderated by the supervisor's boundary management preferences.

Third, regarding employee boundary blurring as a strategy to reduce abusive supervision, previous research suggests that outcomes may differ between active and reactive behaviors (Harari et al., 2021). Compared to reactive employee boundary blurring behavior, active boundary blurring may become a burden that embarrasses supervisors and results in other undesirable consequences. Therefore, we encourage further research to explore the effects of different types of boundary blurring (i.e., active or reactive) on abusive supervision.

Conclusion

Given the severe negative impacts of abusive supervision, a series of studies have explored how to reduce abusive supervision by identifying the contextual and supervisory predictors of abusive supervision. However, we still have relatively limited knowledge about the antecedents of abusive supervision from the employee's perspective. Based on self-disclosure theory, this research explores the effect of a bottom-up behavioral strategy (i.e., employee boundary blurring behavior) for employees to reduce or avoid being abused. Specifically, we posit that employee boundary blurring behavior will decrease abusive supervision *via* supervisor liking toward the employee. Because supervisors may perceive that employees who engage in boundary blurring behavior as more enthusiastic and desire to build a more intimate relationship with them. Therefore, by engaging in boundary blurring behavior, employees may enhance supervisor liking toward them and avoid being abused. Findings from a scenario-based experiment and a multi-source, multi-wave survey supported our hypotheses. In sum, we hope our findings will encourage future studies to identify more effective and safe solutions for employees to minimize the risk of being abused by supervisors.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The studies involving human participants were reviewed and approved by the Declaration of Helsinki. The patients/participants provided their written informed consent to participate in this study.

Author contributions

LJ and XQ formulated the research idea. LJ, GH, LY, and XQ, designed and conducted the study. LJ and LY analyzed the data. All authors contributed to the article and approved the submitted version.

Funding

Sciences at Sun Yat-Sen University (Grant No. 2022066), awarded to GH.

Conflict of interest

Publisher's note

References

Allen, T. D., Cho, E., and Meier, L. L. (2014). Work–family boundary dynamics. *Annu. Rev. Organ. Psych. Organ. Behav.* 1, 99–121. doi: 10.1146/annurev-orgpsych-031413-091330

Archer, R. L., and Cook, C. E. (1986). Personalistic self-disclosure and attraction: basis for relationship or scarce resource. *Soc. Psychol. Q.* 49, 268–272. doi: 10.2307/2786809

Aquino, K., Tripp, T. M., and Bies, R. J. (2001). How employees respond to personal offense: the effects of blame attribution, victim status, and offender status on revenge and reconciliation in the workplace. *J. Appl. Psychol.* 86, 52–59. doi: 10.1037/0021-9010.86.1.52

Ashforth, B. E., Kreiner, G. E., and Fugate, M. (2000). All in a day's work: boundaries and micro role transitions. *Acad. Manag. Rev.* 25, 472–491. doi: 10.5465/amr.2000.3363315

Barling, J., Dupré, K. E., and Kelloway, E. K. (2009). Predicting workplace aggression and violence. *Annu. Rev. Psychol.* 60, 671–692. doi: 10.1146/annurev.psych.60.110707.163629

Barnes, C. M., Lucianetti, L., Bhave, D. P., and Christian, M. S. (2015). "You wouldn't like me when I'm sleepy": leaders' sleep, daily abusive supervision, and work unit engagement. *Acad. Manag. J.* 58, 1419–1437. doi: 10.5465/amj.2013.1063

Bernerth, J. B., and Aguinis, H. (2016). A critical review and best-practice recommendations for control variable usage. *Pers. Psychol.* 69, 229–283. doi: 10.1111/peps.12103

Brislin, R. W. (1986). "The wording and translation of research instruments," in *Field methods in cross-cultural research*. eds. W. J. Lonner and J. W. Berry (Beverly Hills, CA: Sage), 137–164.

Burton, J. P., and Hoobler, J. M. (2006). Subordinate self-esteem and abusive supervision. *J. Manag. Issues* 18, 340–355.

Byron, K., and Laurence, G. A. (2015). Diplomas, photos, and tchotchkes as symbolic self-representations: understanding employees' individual use of symbols. *Acad. Manag. J.* 58, 298–323. doi: 10.5465/amj.2012.0932

Chen, C., Qin, X., Johnson, R. E., Huang, M., Yang, M., and Liu, S. (2021a). Entering an upward spiral: investigating how and when supervisors' talking about abuse leads to subsequent abusive supervision. *J. Organ. Behav.* 42, 407–428. doi: 10.1002/job.2501

Chen, C., Qin, X., Yam, K. C., and Wang, H. (2021b). Empathy or schadenfreude? Exploring observers' differential responses to abusive supervision. *J. Bus. Psychol.* 36, 1077–1094. doi: 10.1007/s10869-020-09721-4

Clark, M. S., and Reis, H. T. (1988). Interpersonal processes in close relationships. *Annu. Rev. Psychol.* 39, 609–672. doi: 10.1146/annurev.ps.39.020188.003141

Cogliser, C. C., and Schriesheim, A. C. (2000). Exploring work unit context and leader-member exchange: a multi-level perspective. *J. Organ. Behav.* 21, 487–511. doi: 10.1002/1099-1379(200008)21:5<487::AID-JOB57>3.0.CO;2-P

Collins, N. L., and Miller, L. C. (1994). Self-disclosure and liking: a meta-analytic review. *Psychol. Bull.* 116, 457–475. doi: 10.1037/0033-2909.116.3.457

Cozby, P. C. (1973). Self-disclosure: a literature review. *Psychol. Bull.* 79, 73–91. doi: 10.1037/h0033950

Detert, J. R., Treviño, L. K., Burris, E. R., and Andiappan, M. (2007). Managerial modes of influence and counterproductivity in organizations: a longitudinal business-unit-level investigation. *J. Appl. Psychol.* 92, 993–1005. doi: 10.1037/0021-9010.92.4.993

Dumas, T. L., Phillips, K. W., and Rothbard, N. P. (2013). Getting closer at the company party: integration experiences, racial dissimilarity, and workplace relationships. *Organ. Sci.* 24, 1377–1401. doi: 10.1287/orsc.1120.0808

Dulebohn, J. H., Wu, D., and Liao, C. (2017). Does liking explain variance above and beyond LMX? A meta-analysis. *Hum. Resour. Manag. Rev.* 27, 149–166. doi: 10.1016/j.hrmr.2016.09.008

Eesley, D. T., and Meglich, P. A. (2013). Empirical evidence of abusive supervision in entrepreneurial and small firms. *J. Ethics Entrep.* 3, 39–59.

Eissa, G., Lester, S. W., and Gupta, R. (2020). Interpersonal deviance and abusive supervision: the mediating role of supervisor negative emotions and the moderating role of subordinate organizational citizenship behavior. *J. Bus. Ethics* 166, 577–594. doi: 10.1007/s10551-019-04130-x

Engle, E. M., and Lord, R. G. (1997). Implicit theories, self-schemas, and leader-member exchange. *Acad. Manag. J.* 40, 988–1010. doi: 10.5465/256956

Erdogan, B., and Liden, R. C. (2002). "Social exchanges in the workplace: a review of recent developments and future research directions in leader–member exchange theory," in *Leadership*. eds. L. L. Neider and C. A. Schriesheim (Greenwich, CT: Information Age), 65–114.

Faul, F., Erdfelder, E., Buchner, A., and Lang, A. G. (2009). Statistical power analyses using G*power 3.1: tests for correlation and regression analyses. *Behav. Res. Methods* 41, 1149–1160. doi: 10.3758/BRM.41.4.1149

Hamstra, M. R. W., Van Yperen, N. W., Wisse, B., and Sassenberg, K. (2013). Like or dislike: intrapersonal regulatory fit affects the intensity of interpersonal evaluation. *J. Exp. Soc. Psychol.* 49, 726–731. doi: 10.1016/j.jesp.2013.03.002

Harari, D., Parke, M. R., and Marr, J. C. (2021). When helping hurts helpers: anticipatory versus reactive helping, helper's relative status, and recipient self-threat. *Acad. Manag. J.* doi: 10.5465/amj.2019.0049

Harvey, P., Harris, K. J., Gillis, W. E., and Martinko, M. J. (2014). Abusive supervision and the entitled employee. *Leadersh. Q.* 25, 204–217. doi: 10.1016/j.leaqua.2013.08.001

Henle, C. A., and Gross, M. A. (2014). What have I done to deserve this? Effects of employee personality and emotion on abusive supervision. *J. Bus. Ethics* 122, 461–474. doi: 10.1007/s10551-013-1771-6

Hofmann, D. A., and Gavin, M. B. (1998). Centering decisions in hierarchical linear models: implications for research in organizations. *J. Manag.* 24, 623–641. doi: 10.1177/014920639802400504

Hu, L. T., and Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Struct. Equ. Model. Multidiscip. J.* 6, 1–55. doi: 10.1080/10705519909540118

Huang, M., Ju, D., Yam, K. C., Liu, S., Qin, X., and Tian, G. (2022). Employee humor can shield them from abusive supervision. *J. Bus. Ethics*. doi: 10.1007/s10551-022-05208-9

Ju, D., Huang, M., Liu, D., Qin, X., Hu, Q., and Chen, C. (2019). Supervisory consequences of abusive supervision: an investigation of sense of power, managerial self-efficacy, and task-oriented leadership behavior. *Organ. Behav. Hum. Decis. Process.* 154, 80–95. doi: 10.1016/j.obhdp.2019.09.003

Kiazad, K., Restubog, S. L. D., Zagenczyk, T. J., Kiewitz, C., and Tang, R. L. (2010). In pursuit of power: the role of authoritarian leadership in the relationship between supervisors' Machiavellianism and subordinates' perceptions of abusive supervisory behavior. *J. Res. Pers.* 44, 512–519. doi: 10.1016/j.jrp.2010.06.004

Kreiner, G. E., Hollensbe, E. C., and Sheep, M. L. (2006). Where is the "me" among the "we"? Identity work and the search for optimal balance. *Acad. Manag. J.* 49, 1031–1057. doi: 10.5465/amj.2006.22798186

Kreiner, G. E., Hollensbe, E. C., and Sheep, M. L. (2009). Balancing borders and bridges: negotiating the work-home interface via boundary work tactics. *Acad. Manag. J.* 52, 704–730. doi: 10.5465/amj.2009.43669916

Lam, C. K., Walter, F., and Huang, X. (2017). Supervisors' emotional exhaustion and abusive supervision: the moderating roles of perceived subordinate performance and supervisor self-monitoring. *J. Organ. Behav.* 38, 1151–1166. doi: 10.1002/job.2193

Laurenceau, J. P., Barrett, L. F., and Pietromonaco, P. R. (1998). Intimacy as an interpersonal process: the importance of self-disclosure, partner disclosure, and perceived partner responsiveness in interpersonal exchanges. *J. Pers. Soc. Psychol.* 74, 1238–1251. doi: 10.1037/0022-3514.74.5.1238

Li, Z., He, B., Sun, X., and Zhang, Y. (2020). Demonstrating the psychological aspects of stressors and abusive supervision behavior: attainment of sustainability under the rubric of resources theory. *Front. Psychol.* 11: 293. doi: 10.3389/fpsyg.2020.00293

Lian, H., Ferris, D. L., and Brown, D. J. (2012). Does power distance exacerbate or mitigate the effects of abusive supervision? It depends on the outcome. *J. Appl. Psychol.* 97, 107–123. doi: 10.1037/a0024610

Liao, Z., Lee, H. W., Johnson, R. E., Song, Z., and Liu, Y. (2021). Seeing from a short-term perspective: when and why daily abusive supervisor behavior yields functional and dysfunctional consequences. *J. Appl. Psychol.* 106, 377–398. doi: 10.1037/apl0000508

Lin, R., and Utz, S. (2017). Self-disclosure on SNS: do disclosure intimacy and narrativity influence interpersonal closeness and social attraction? *Comput. Hum. Behav.* 70, 426–436. doi: 10.1016/j.chb.2017.01.012

Lin, W., Wang, L., and Chen, S. (2013). Abusive supervision and employee well-being: the moderating effect of power distance orientation. *Appl. Psychol.* 62, 308–329. doi: 10.1111/j.1464-0597.2012.00520.x

Liu, D., Liao, H., and Loi, R. (2012). The dark side of leadership: a three-level investigation of the cascading effect of abusive supervision on employee creativity. *Acad. Manag. J.* 55, 1187–1212. doi: 10.5465/amj.2010.0400

Mackey, J. D., Frieder, R. E., Brees, J. R., and Martinko, M. J. (2017). Abusive supervision: a meta-analysis and empirical review. *J. Manag.* 43, 1940–1965. doi: 10.1177/0149206315573997

MacKinnon, D. P., Fritz, M. S., Williams, J., and Lockwood, C. M. (2007). Distribution of the product confidence limits for the indirect effect: program PRODCLIN. *Behav. Res. Methods* 39, 384–389. doi: 10.3758/BF03193007

Martinko, M. J., Harvey, P., Sikora, D., and Douglas, S. C. (2011). Perceptions of abusive supervision: the role of subordinates' attribution styles. *Leadersh. Q.* 22, 751–764. doi: 10.1016/j.leaqua.2011.05.013

Maslyn, J. M., and Uhl-Bien, M. (2001). Leader-member exchange and its dimensions: effects of self-effort and other's effort on relationship quality. *J. Appl. Psychol.* 86, 697–708. doi: 10.1037/0021-9010.86.4.697

Mawritz, M. B., Folger, R., and Latham, G. P. (2014). Supervisors' exceedingly difficult goals and abusive supervision: the mediating effects of hindrance stress, anger, and anxiety. *J. Organ. Behav.* 35, 358–372. doi: 10.1002/job.1879

Mawritz, M. B., Mayer, D. M., Hoobler, J. M., Wayne, S. J., and Marinova, S. V. (2012). A trickle-down model of abusive supervision. *Pers. Psychol.* 65, 325–357. doi: 10.1111/j.1744-6570.2012.01246.x

Mawritz, M. B., Greenbaum, R. L., Butts, M. M., and Graham, K. A. (2017). I just can't control myself: a self-regulation perspective on the abuse of deviant employees. *Acad. Manag. J.* 60, 1482–1503. doi: 10.5465/amj.2014.0409

Meade, A. W., and Craig, S. B. (2012). Identifying careless responses in survey data. *Psychol. Methods* 17, 437–455. doi: 10.1037/a0028085

Mitchell, M. S., and Ambrose, M. L. (2007). Abusive supervision and workplace deviance and the moderating effects of negative reciprocity beliefs. *J. Appl. Psychol.* 92, 1159–1168. doi: 10.1037/0021-9010.92.4.1159

Muthén, L. K., and Muthén, B. (2017). Mplus user's guide: statistical analysis with latent variables (8th ed.). http://www.statmodel.com/download/users guide/MplusUserGuideVer_8.Pdf

Nifadkar, S. S., Wu, W., and Gu, Q. (2019). Supervisors' work-related and nonwork information sharing: integrating research on information sharing, information seeking, and trust using self-disclosure theory. *Pers. Psychol.* 72, 241–269. doi: 10.1111/peps.12305

Palan, S., and Schitter, C. (2018). Prolific. Ac—a subject pool for online experiments. *J. Behav. Exp. Financ.* 17, 22–27. doi: 10.1016/j.jbef.2017.12.004

Parent-Rocheleau, X., Bentein, K., and Simard, G. (2020). Positive together? The effects of leader-follower (dis) similarity in psychological capital. *J. Bus. Res.* 110, 435–444. doi: 10.1016/j.jbusres.2020.02.016

Phillips, K. W., Rothbard, N. P., and Dumas, T. L. (2009). To disclose or not to disclose? Status distance and self-disclosure in diverse environments. *Acad. Manag. Rev.* 34, 710–732. doi: 10.5465/amr.34.4.zok710

Priesemuth, M., Schminke, M., Ambrose, M. L., and Folger, R. (2014). Abusive supervision climate: a multiple-mediation model of its impact on group outcomes. *Acad. Manag. J.* 57, 1513–1534. doi: 10.5465/amj.2011.0237

Qin, X., Huang, M., Johnson, R. E., Hu, Q., and Ju, D. (2018a). The short-lived benefits of abusive supervisory behavior for actors: an investigation of recovery and work engagement. *Acad. Manag. J.* 61, 1951–1975. doi: 10.5465/amj.2016.1325

Qin, X., Ren, R., Zhang, Z. X., and Johnson, R. E. (2018b). Considering self-interests and symbolism together: how instrumental and value-expressive motives interact to influence supervisors' justice behavior. *Pers. Psychol.* 71, 225–253. doi: 10.1111/peps.12253

Reb, J., Chaturvedi, S., Narayanan, J., and Kudesia, R. S. (2019). Leader mindfulness and employee performance: a sequential mediation model of LMX quality, interpersonal justice, and employee stress. *J. Bus. Ethics* 160, 745–763. doi: 10.1007/s10551-018-3927-x

Regan, D. T., Straus, E., and Fazio, R. (1974). Liking and the attribution process. *J. Exp. Soc. Psychol.* 10, 385–397. doi: 10.1016/0022-1031(74)90034-1

Restubog, S. L. D., Scott, K. L., and Zagenczyk, T. J. (2011). When distress hits home: the role of contextual factors and psychological distress in predicting employees' responses to abusive supervision. *J. Appl. Psychol.* 96, 713–729. doi: 10.1037/a0021593

Rothbard, N. P., Ramarajan, L., Ollier-Malaterre, A., and Lee, S. S. L. (2022). OMG! My boss just friended me: how evaluations of colleagues' disclosure, gender, and rank shape personal/professional boundary blurring online. *Acad. Manag. J.* 65, 35–65. doi: 10.5465/amj.2018.0755

Sprecher, S., Treger, S., and Wondra, J. D. (2013). Effects of self-disclosure role on liking, closeness, and other impressions in get-acquainted interactions. *J. Soc. Pers. Relat.* 30, 497–514. doi: 10.1177/0265407512459033

Tepper, B. J. (2000). Consequences of abusive supervision. *Acad. Manag. J.* 43, 178–190. doi: 10.5465/1556375

Tepper, B. J. (2007). Abusive supervision in work organizations: review, synthesis, and research agenda. *J. Manag.* 33, 261–289. doi: 10.1177/0149206307300812

Tepper, B. J., Duffy, M. K., and Breaux-Soignet, D. M. (2012). "Abusive supervision as political activity: distinguishing impulsive and strategic expressions of downward hostility," in *Politics in organizations: theory and research considerations*. eds. G. R. Ferris and D. C. Treadway (New York, NY: Routledge), 191–212.

Tepper, B. J., Moss, S. E., and Duffy, M. K. (2011). Predictors of abusive supervision: supervisor perceptions of deep-level dissimilarity, relationship conflict, and subordinate performance. *Acad. Manag. J.* 54, 279–294. doi: 10.5465/amj.2011.60263085

Tepper, B. J., Simon, L., and Park, H. M. (2017). Abusive supervision. *Annu. Rev. Organ. Psych. Organ. Behav.* 4, 123–152. doi: 10.1146/annurev-orgpsych-041015-062539

Tofighi, D., and Mackinnon, D. P. (2011). Rmediation: an R package for mediation analysis confidence intervals. *Behav. Res. Methods* 43, 692–700. doi: 10.3758/s13428-011-0076-x

Walter, F., Lam, C. K., Van Der Vegt, G. S., Huang, X., and Miao, Q. (2015). Abusive supervision and subordinate performance: instrumentality considerations in the emergence and consequences of abusive supervision. *J. Appl. Psychol.* 100, 1056–1072. doi: 10.1037/a0038513

Watkins, T., Fehr, R., and He, W. (2019). Whatever it takes: Leaders' perceptions of abusive supervision instrumentality. *Leadersh. Q.* 30, 260–272. doi: 10.1016/j.leaqua.2018.09.002

Wee, E. X. M., Liao, H., Liu, D., and Liu, J. (2017). Moving from abuse to reconciliation: a power-dependence perspective on when and how a follower can break the spiral of abuse. *Acad. Manag. J.* 60, 2352–2380. doi: 10.5465/amj.2015.0866

Whitman, M. V., and Mandeville, A. (2021). Blurring the lines: exploring the work spouse phenomenon. *J. Manag. Inq.* 30, 285–299. doi: 10.1177/1056492619882095

Worthy, M., Gary, A. L., and Kahn, G. M. (1969). Self-disclosure as an exchange process. *J. Pers. Soc. Psychol.* 13, 59–63. doi: 10.1037/h0027990

Vogel, R. M., Mitchell, M. S., Tepper, B. J., Restubog, S. L. D., Hu, C., Hua, W., et al. (2015). A cross-cultural examination of subordinates' perceptions of and reactions to abusive supervision. *J. Organ. Behav.* 36, 720–745. doi: 10.1002/job.1984

Yang, F. X. (2020). Subordinate–supervisor friendship in cyberspace: a typological and comparative analysis of hotel employees. *Cornell Hosp. Q.* 61, 271–286. doi: 10.1177/1938965519894246

Yeung, E., and Shen, W. (2019). Can pride be a vice and virtue at work? Associations between authentic and hubristic pride and leadership behaviors. *J. Organ. Behav.* 40, 605–624. doi: 10.1002/job.2352

Zhang, Y., and Bednall, T. C. (2016). Antecedents of abusive supervision: a meta-analytic review. *J. Bus. Ethics* 139, 455–471. doi: 10.1007/s10551-015-2657-6

Appendix A

Scale items used in Study 1 and Study 2

Employee boundary blurring behavior

(1) This employee would like to connect with me on social mediate (e.g., Facebook, WeChat).
(2) This employee would like to talk with me about his/her personal life during work hours.
(3) This employee would like to go to company-sponsored social activities with me (e.g., holiday parties, company picnics, sporting events).
(4) This employee would like to go to employee-initiated social events with me (e.g., drinks after work, lunch, golf).

Supervisor liking toward the employee

(1) This employee seems like a pleasant person to me.
(2) I think it is pleasant to work with this employee.
(3) This employee fits well in my team.
(4) I would like to work with this employee.

Abusive supervision

(1) To ridicule him/her.
(2) To tell him/her that his/her thoughts or feelings are stupid.
(3) To put him/her down in front of others.
(4) To make negative comments about him/her to others.
(5) To tell him/her that he/she is incompetent.

frontiers | Frontiers in Psychology

Check for updates

Is not workplace gossip bad? The effect of positive workplace gossip on employee innovative behavior

Yuping Dai[1], Xiangzhi Zhuo[2], Jie Hou[3] and Bei Lyu[2,4]*

[1]Faculty of Business, City University of Macau, Macau, China, [2]School of Economics and Management, Huaibei Normal University, Huaibei, Anhui Province, China, [3]School of Foreign Languages, Huaibei Normal University, Huaibei, Anhui Province, China, [4]Chinese Graduate School, Panyapiwat Institute of Management, Nonthaburi, Thailand

Purpose: The purpose of this study is to examine the role of positive workplace gossip (PWG) in employee innovative behavior, whereby a mediating effect of employee loyalty is proposed in this relationship. The moderating effect of organizational trust (OT) is also examined on the indirect of PWG on employee innovative behavior through employee loyalty.

Design/methodology/approach: This research used a survey data of 327 employees from the enterprises selected from the Pearl River and Yangtze River Delta region of China. Based on the literature review, five main hypotheses were formulated and explored. The SPSS-Process Macro Plugin was used to analyze the hypothesized model.

Findings: Results show there is a positive and significant relationship between PWG and employee innovative behavior. This study also confirm that employee loyalty is an intervening variable and OT as a moderator.

Practical implications: Organizations should pay more attention to workplace gossip phenomena, encourage employees to take appropriate part in positive workplace gossip and to communicate positive information about other colleagues, and build an inclusive, open, sincere, and interdependent platform in the organization.

Originality/value: Employee innovative behavior plays an essential role in organization's survival and development. Few studies have investigated PWG may promote employee innovative behavior through employee loyalty. The data, model, and findings of this research address the gap and complement the current state of knowledge.

KEYWORDS

positive workplace gossip, employees' innovative behavior, employee loyalty, organizational trust, Chinese context

Introduction

Gossip is almost unavoidable in the real-world social network (Grosser et al., 2012; Eckhaus et al., 2019), deemed as a far-reaching informal channel of information exchange

aside from the communication of formal information within the organization (Wu et al., 2018; Dores Cruz et al., 2021). Workplace gossip is defined as the informal, evaluative discussion about the colleagues or leaders who are absent (Ellwardt et al., 2012c; Eckhaus et al., 2019). The subjects involved in workplace gossip include the disseminator, the listener, and the target of gossip (Foster 2004; Estévez et al., 2022). By its influential effect, workplace gossip can be classified into positive gossip (e.g., compliment of someone's professional ability and promotion) and negative gossip (e.g., discussion about someone's theft, bribery, lassitude at work, divorce, etc.; Ellwardt et al., 2012c; Spoelma and Hetrick 2021). Gossip is a complicated behavior. From the traditional viewpoint, gossip is harmful as it would demoralize the organization (Spoelma and Hetrick 2021), defame employees, force outstanding employees to quit, and reduce employee's organizational citizenship behaviors (OCBs; Wu et al., 2018), leading to the emotional exhaustion of the gossip targets and impairing their creativity (Liu et al., 2020). But in the recent years, researchers have proposed that positive gossip and negative gossip are in equilibrium distribution within the organization (Spoelma and Hetrick 2021). Therefore, attention should be paid to the influence of PWG upon employee's working behavior.

Although the existing literature on workplace gossip is extensive and focuses particularly on its "dark side" (Zhou et al., 2019; Spoelma and Hetrick 2021; Zong et al., 2021), some previous research has also noted the positive relationship between workplace gossip and employee psychology and work-related outcomes, such as exchanging of information (Ellwardt et al., 2012c), reducing social loafing (Spoelma and Hetrick 2021), providing a means of stress relief (Grosser et al., 2012), satisfying one's curiosity, and enhancing the friendship between gossipers (Foster 2004; Brady et al., 2017).

Researchers have verified the impact of gossip on personal creativity or innovation (Zhou et al., 2019; Liu et al., 2020). However, they focused mostly on negative workplace gossip. Studies on PWG and employee innovative behavior are sparse. Employee innovative behavior is a cornerstone of corporate innovation, as well as a strong assurance for the enterprise to adapt quickly to the complicated and changeable business environment (Olokundun et al., 2021). Social contact environment is a key factor that may impede or promote individual innovation (Amabile and Pratt 2016). PWG is an ideal tool to create social contact (Brady et al., 2017), getting into certain circles and building friendship between employees (Foster 2004). Besides, innovation is an interactive process that involves communication and cooperation between different members (Østergaard et al., 2011), PWG could facilitate communication and knowledge exchange between gossipers (Ellwardt et al., 2012c; Dores Cruz et al., 2021). On the above, we predict that PWG may encourage the disseminator to exhibit more innovative behaviors in the work.

PWG could promote information and friendship bonds (Ellwardt et al., 2012b; Zong et al., 2021), bring about a harmonious atmosphere to the organization, and fulfill employee's emotional needs. According to the social exchange theory, the interpersonal communication within an organization is in essence a series of exchanges based on "the principle of reciprocity" (Cropanzano and Mitchell 2005). When perceiving the rich instrumentality and emotional support, employees are more ready to contribute their wisdom and talents to organizational development, built a loyalty to the organization (Mossholder et al., 2005). We propose that PWG may also enhance employee innovative behavior by stimulating employee loyalty. Furthermore, trust is a lubricant for benign operation of the organization (Lewis and Weigert 1985). Trust is the key to maintaining social relations and fostering different positive working attitudes (Ugwu et al., 2014; Alshaabani et al., 2022). Grosser et al. (2010) point out that trust is a prerequisite for the spread of gossip. Therefore, we suspect that organizational trust is the boundary condition of the link between PWG and employee innovation behavior.

On the above, with Chinese enterprises as the research object, this study explored the mediating effect and boundary condition of PWG on employee innovative behavior and made up for the deficiencies in existing studies, with main contributions in the following aspects: First, given that PWG is a new research topic (Grosser et al., 2010), not only is there a lack of research on the mediating mechanism of PWG on employee innovative behavior, but the direct impact of PWG on employee innovative behavior is rarely discussed. This study would extend the research on employee innovative behavior. Second, for the recent century, anthropologist have always been observing and discussing the role of gossip in the group (Brady et al., 2017). The existing studies have provided profound insights into the antecedent variables of workplace gossip, but are limitedly focused on the consequent variables (Wu et al., 2018; Spoelma and Hetrick 2021), even rarely focused on PWG. Therefore, this study enriches the ones on the consequent variables of workplace gossip. Third, whether PWG or organizational trust is a situational factor of workplace. This study integrated both together to examine their influence upon employee innovative behavior, supplementing the studies on the influence of multiple situational factors upon employee innovative behavior.

Literature review and hypotheses

Positive workplace gossip on employee innovative behavior

PWG mainly involves individual fulfillment and reputation (Grosser et al., 2012; Ellwardt et al., 2012a). Sending positive gossip, such as praising or defending others, will, in turn, generate similar support from others. Social support in organizations is an effective way to promote workplace friendships and positive interpersonal relationships (Ellwardt et al., 2012a; Brady et al., 2017; Chen et al., 2020; Su et al., 2020; Zong et al., 2021; Lyu et al., 2022). Amabile and Pratt (2016) put forward that social environment is a key factor that may impede or promote individual creativity. Employee innovative behavior calls for the

role of an innovation atmosphere (Hsu and Chen 2017). Hence, communicating PWG is an effective means to influence the innovation atmosphere as well as a situational source of promoting individual innovative behavior.

Besides, the social identity theory suggests that people classify themselves through social comparison and group identification and generate "in-circle" and "out-circle" consciousness. They form different attitudes and behaviors toward the groups that emotional preference for the "in-circle" and the rejection for the "out-circle" (Turner 1975). Brady et al. (2017) pointed out that PWG is a more ideal tool to build social relations than negative workplace gossip. PWG is a key measure that helps employees develop closer affinity with colleagues in the workplace and create a solidary workplace atmosphere (Noon and Delbridge 1993), and people who spread positive gossip are more likely to be liked in a group (Farley 2011). On the basis of the above analysis, we infer that communicating the positive gossip helps the gossip disseminator draw closer relationship to the gossip target and get into certain circles. When individuals feel themselves a member of the circle, a good sense of belonging is built in them, so that they are more inclined to concentrating on their own job and improving creativity. Therefore, this study proposed the following hypothesis:

H1: Positive workplace gossip positively affects employee's innovative behavior.

Employee loyalty as a mediator

Frequent employee turnover can put the company in an awkward position, such as profit cuts, and affect the work efficiency and mental state of other employees within the company (Phuong and Vinh 2020). Therefore, employee loyalty plays an important role in formulating precise organizational development policies and achieving organizational goals (Zanabazar and Jigjiddorj 2021). Some studies point out it takes a cost equivalent to 6–9 months of emoluments to recruit, train, and orient a new employee (Beehner and Blackwell 2016). Therefore, how to retain talents and foster employee loyalty has always been a focus of concern of researchers and management practitioners in modern corporate management. Employee loyalty is defined as individual identification of the organizational core value concept, which reflects the mental states of employees and the employer and the individual decision of readiness to remain working as hardest as possible at the enterprise (Meyer and Allen 1991). Employee loyalty is a centralized expression of the mind and emotions, and it intensifies with the increase in satisfaction (Dhir et al., 2020). Employee loyalty may be embodied in the readiness to work till late, low quit rate, and readiness to deliver more services for the enterprise (Guillon and Cezanne 2014).

PWG is one of the means to develop good social relations (Ellwardt et al., 2012a,b; Dores Cruz et al., 2021). Inferior interpersonal relationships might impose huge costs on the organization, including a high quit rate. PWG could promote workplace friendship (Ellwardt et al., 2012b), while the friendship

can, in turn, promote the communication, and enhance loyalty, trust, and commitment (Zaheer et al., 1998). Furthermore, a good socializing environment can promote employee satisfaction with the existing working environment, which can further lower the quit rate (Dhir et al., 2020). Therefore, it can be inferred that PWG can affect employee loyalty.

Meanwhile, employee loyalty is a key predicative variable affecting employee behavior, which has received wide attentions from the academia and the practice field. Employee loyalty is representative of organization members' attitude of identifying with the organization, behavior of continuous support, and readiness to contribute their power and pay out more extra-role behaviors for the enterprise to achieve its goals (Hui et al., 2012). High-loyalty employees have strong senses of attachment and belonging, and they are ready to improve and protect the organization, keeping a strong emotional connection with it. The stronger the emotional connection between employees and the organization, the more innovative behaviors they exhibit at work (Eisenberger and Rhoades 2001). Therefore, we proposed the following hypothesis:

H2: Employee loyalty acts a mediating role between PWG and employee innovative behavior.

Organizational trust as a moderator

According to the social exchange theory, the employee-organization social exchange includes not only material exchange but also spiritual exchange, such as organizational trust. Organizational trust is a key situational variable in social exchange relations. When feeling benefited from the organization, employees would reward their organization in a positive manner. Some studies have pointed out that organizational trust is conducive to improving innovators' organizational identification, stimulating employee's OCBs (Verburg et al., 2018), promoting employee satisfaction and dedication, enhancing organizational affective commitment, reducing turnover intention, urging employees to foster good working attitudes and behaviors (Alshaabani et al., 2022), and encouraging employees to engage in extra-role behaviors (Singh and Srivastava 2016). Therefore, it can be speculated that employee loyalty and employee innovative behavior are subject to a large extent to organizational trust.

Trust stems from social activities (Shore et al., 2006). Although there remain no studies specialized in the relation between organizational trust and PWG thus far (Bencsik and Juhasz 2020), we can infer from previous studies that the gossip in organization is closely related with organizational trust. It is risky to circulate workplace gossip for the disseminator or for the gossip target, but this risk tends to decline in a trustful relation (Ellwardt et al., 2012c). The trust in interpersonal relationships is an important driving force to raise employee satisfaction. When trusted within the organization, employees would mentally feel themselves to be an "organization insider" and thus are more ready to share information and join discussion in the organization. In other

words, workplace gossip would more likely be circulated with the rise in the level of interpersonal trust. The higher the degree of employee's trust in the organization, the stronger the desire to communicate positive gossip, and the greater the influence of positive gossip on employee loyalty.

In addition, employee's organizational trust stems from the organizational support perceived by employees. When feeling the support and trust from the organization due to the organization's system, procedures, policies, and climate, employees would develop higher loyalty and professional ethics and are more ready to exhibit innovative behaviors in the work. Yu et al. (2018) pointed out that an employee working in a trustful environment would take active part in collective discussion and stimulate novel ideas instead of feeling any hostility from other employees, so that the employee innovative behavior is promoted. In other words, individuals tend to express a stronger sense of loyalty in a high organizational trust working environment and are more likely to bring forth active innovative thinking and demonstrate stronger innovative capability. Based on the above analysis, two additional hypotheses were proposed below:

H3: Organizational trust can positively regulate the positive effect of positive workplace gossip on employee loyalty. The higher (lower) the organizational trust, the stronger (weaker) the positive relation of positive workplace gossip to employee loyalty.

H4: Organizational trust can positively regulate the positive effect of employee loyalty on employee's innovative behavior. The higher (lower) the organizational trust, the stronger (weaker) the positive relation of employee loyalty to employee's innovative behavior.

H2 and H3, H2 and H4 show a moderated mediation effect, that is, employee loyalty plays a mediating role between PWG and employee innovative behavior, and OT moderates the conduction mechanism. Therefore, the following hypotheses are proposed:

H5: The higher the OT, the stronger PWG affects the employee innovative behavior through employee loyalty.

Based on the above theoretical groundwork, this study built the following model as shown in Figure 1.

Methodology

Sample and data collection

This study adopted the questionnaire survey method to attain the research objective. The sample enterprises were selected from the Pearl River Delta area and the Yangtze River Delta area of China. Gathering 23.64% of the Chinese population with 4.31% of the national territorial area, both Deltas created 34.65% of China's economic aggregate (The data originated from China Statistical Yearbook). As important economic hinterlands of China and high-tech industry clustered areas and sci-tech innovation demonstration places confronted with intensely competitive environments, where innovative behaviors are highly required of employees, the Pearl River Delta and the Yangtze River Delta are quite suitable areas for the research. By dint of the advantage that the team members in this study had the membership of the local chamber of commerce, the efficiency of data collection was greatly boosted. To reduce the common method bias (CMB), this study complied with the suggestions of Podsakoff et al. (2003) by separating the data collection at two points-in-time with a 1-month interval in between.
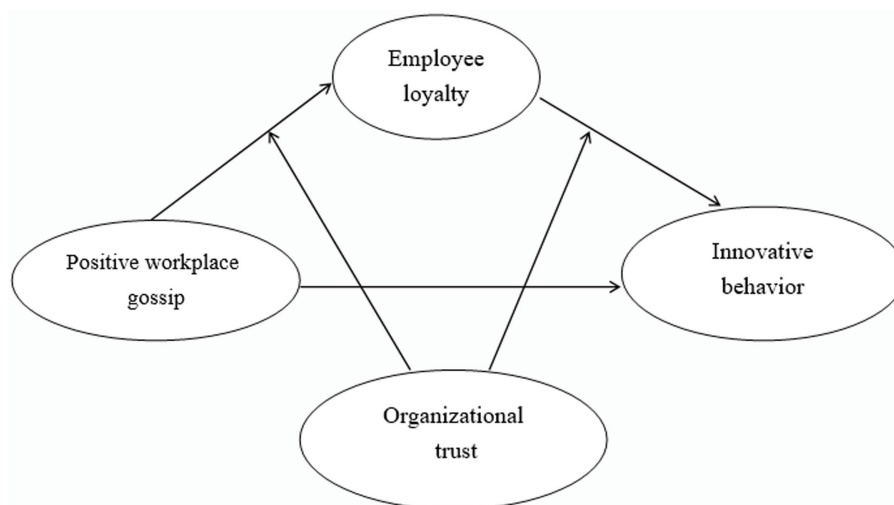

FIGURE 1
Hypothesized model.

First, the research team made active contact with the corporate persons-in-charge, communicating the matters on questionnaire survey, informing them of the research objective and data collection method, and proclaiming that the survey data were to be used for academic research only. Subsequently, contingent on the condition of the enterprises involved, we handed over the pre-coded questionnaires to each corporate person-in-charge, entrusting him/her to tell his/her employees to fill out whenever appropriate and remind his/her employees to memorize their own number. To reduce the employees' scruple, we assured the respondents that the information is confidential and that the answers would be made accessible only to the first author and the corresponding author. In the first round, a total of 450 questionnaires were issued, including question items on demographic information, PWG, and organizational trust, and 368 valid questionnaires were recovered (valid recovery rate 81.8%) from 48 corporate teams. On month later, the 368 questionnaires from the first round were filled out for the second round, including question items on employee loyalty and employee innovative behavior, and 327 valid questionnaires were recovered (88.9%) eventually. We paid remunerations to improve the participants' enthusiasm and control the quality of questionnaire filling. To be specific, we sent a red packet of RMB 10–50 in cash to each respondent in the first round of questionnaire filling.

The industries in this regional survey were distributed mainly in manufacturing, high and new technology, financing, Internet, etc. Among the sampled under investigation, females (57.2%) outnumbered males (42.8%); in terms of age, the age groups of 21–30 years old and 31–40 years old predominated, accounting for 47.2% and 25.1%, respectively, most being front-line employees. Evidently, youngsters were the backbone force of enterprises in these areas; in terms of educational degree, respondents with academic credentials above undergraduate predominated, accounting for 68%; in terms of income level, most had an income of RMB 3,001–5,000 and RMB 5,001–10,000, accounting for 18% and 33%, respectively.

Measures

All measurement scales selected in this investigation were widely used with good reliability and validity. Meanwhile, to ensure the local applicability of the scales, the question items of each scale were decided on by means of two-way translation, and experts were invited to assess the rigorousness and appropriateness of the questionnaires (Brislin 1970). All constructs in the measures were rated by participants on a 5-point Likert-type scale ranging from strongly disagree (1) to strongly agree (5).

Positive workplace gossip

The scale compiled by Brady et al. (2017) was adopted for *PWG*. This scale consisted of 5 questions in total, such as "I have had the deed of complimenting another colleague while talking with a colleague" and "I have spoken high of another colleague in front of one colleague," and the coefficient of its internal consistency was 0.890 in this investigation.

Employee loyalty

In this investigation, the scale used by Matzler and Renzl (2006) in their study was adopted for *employee loyalty*. It consisted of five questions in total, such as "I speak positively about my company when talking to customers" and "I would not change immediately to another company if I got a job offer." The coefficient of internal consistency of this scale was 0.863 in this investigation.

Employee's innovative behavior

Employee innovative behavior was measured with Scott and Bruce's (1994) six-item scale. Sample questions included "At work, I come up with innovative and creative notions" and "At work, I seek new service techniques, or methods." The Cronbach's alpha for this scale was 0.906.

Organizational trust

In this investigation, the scale used by McAllister (1995) in their study was adopted for OT. We made appropriate revisions to this scale and adopted 6 items of it. The Cronbach's alpha for this scale was 0.929.

Control variables

Previous studies demonstrated that gender and educational degree could make a difference to individual innovative behavior, and that individual attitude toward gossip would change with the increase in age (Wu et al., 2018; Eckhaus et al., 2019). Therefore, this investigation took respondent's *gender*, *age*, and *educational degree* as the control variables. These were denoted in coded forms as *gender*: "1" for male and "2" for female; age: "1" for 20 years old and below, "2" for 21–30 years old, "3" for 31–40 years old, "4" for 41–50 years old, and "5" for 51 years old and above; *educational degree*: "1" for senior high school and below, "2" for junior college, "3" for university undergraduate, and "4" for postgraduate and above.

Analysis and results

This study adopted the structural equation software Amos24 for confirmatory factor analysis (CFA), conducted reliability test, validity test, and correlation analysis by the software SPSS24, and completed hypothesis verification using the program Process developed by Hayes.

Reliability and validity tests on research variables

SPSS24 was employed to make reliability analysis on all variables. The Cronbach's alpha was >0.8 for all measurement variables. In the hypothetical model the factor loading between the measurement questions and latent variables ranged within 0.573–0.845 (greater than the recommended value 0.5), the average variance extracted (AVE) ranged within 0.520–0.685 (greater than the recommended value 0.5), and the composite reliability (CR) of latent variables ranged within 0.842–0.924 (greater than the

TABLE 1 Factor loadings of variables and overall reliability.

Variables	Items	Factor loadings	Cronbach's alpha	Composite reliability (CR)	Average variance extracted (AVE)
PWG	PWG1	0.810	0.890	0.916	0.685
	PWG2	0.835			
	PWG3	0.835			
	PWG4	0.833			
	PWG5	0.826			
OT	OT1	0.808	0.929	0.924	0.670
	OT2	0.832			
	OT3	0.811			
	OT4	0.845			
	OT5	0.830			
	OT6	0.784			
EL	EL1	0.762	0.863	0.842	0.520
	EL2	0.749			
	EL3	0.804			
	EL4	0.694			
	EL5	0.573			
EIB	EIB1	0.765	0.906	0.902	0.605
	EIB2	0.789			
	EIB3	0.785			
	EIB4	0.794			
	EIB5	0.779			
	EIB6	0.754			

PWG, positive workplace gossip; OT, Organizational trust; EL, employee loyalty; EIB, Employee innovative behavior.

TABLE 2 Comparison of measurement model.

Models	Factors	χ^2	χ^2/df	GFI	CFI	RMSEA	TLI	IFI
Baseline Model	Four factors: PWG, OT, EL, EIB	404.248***	1.982	0.899	0.958	0.055	0.953	0.958
Model 1	Three factors: PWG + OT, EL, EIB	1288.072***	6.223	0.665	0.773	0.127	0.746	0.774
Model 2	Three factors: EL + IB, PWG, OT	919.215***	4.441	0.765	0.765	0.103	0.833	0.851
Model 3	Two factors: PWG + OT, EL + EIB	1800.574***	8.615	0.591	0.665	0.153	0.63	0.667
Model 4	Two factors: PWG + OT + EL, EIB	1711.242***	8.227	0.571	0.684	0.149	0.649	0.685
Model 5	One factors: PWG + OT + EL + EIB	2373.619***	11.357	0.471	0.545	0.178	0.497	0.547

PWG, positive workplace gossip; OT, Organizational trust; EL, employee loyalty; EIB, Employee innovative behavior. ***$p < 0.001$.

recommended value 0.7; Fornell and Larcker 1981), indicating that the variables have high internal consistency (see Table 1).

Next, Amos24 was adopted to conduct CFA on the four variables to examine the model's discriminant validity. CFA results are shown in Table 2. The four-factor model has the highest goodness of fit ($\chi^2 = 404.248$, χ^2/df = 1.982, GFI = 0.899, CFI = 0.958, RMSEA = 0.055, TLI = 0.953, IFI = 0.958) and is superior to any other alternative model, and the originally designed model has superior discriminant validity.

CMB analysis

All the data collected in this investigation were acquired by self-evaluation means, and the empirical results may be subject to

CMB. In this study, the Harman single-factor test was used to assess CMB (Podsakoff et al., 2003). The results indicated that there was a total of four factors with characteristic roots >1 extracted from the unrotated exploratory factor analysis (EFA) results; the maximum variation of the interpretation of factors was 40.905% (under the 50% threshold), showing that the effect of CMB on this study is minor.

Descriptive statistics

Pearson's coefficient was utilized to analyze the correlation between variables. Table 3 presents the mean, standard deviation, and correlation coefficients between variables. As shown in Table 3, PWG bears a significantly positive correlation to employee innovative behavior ($r = 0.397$, $p < 0.01$); PWG bears a significantly

TABLE 3 Descriptive statistics and correlations among variables.

Variables	Mean	SD	1	2	3	4
1 PWG	3.511	0.841	1			
2 OT	3.498	0.828	0.315**	1		
3 EL	3.636	0.766	0.418**	0.540**	1	
4 EIB	3.645	0.765	0.397**	0.410**	0.560**	1

PWG, positive workplace gossip; OT, Organizational trust; EL, employee loyalty; EIB, Employee innovative behavior. **$p < 0.01$.

positive correlation to employee loyalty ($r = 0.418$, $p < 0.01$); employee loyalty bears a positive correlation to employee innovative behavior ($r = 0.560$, $p < 0.01$). These results lend preliminary support to the hypotheses proposed in this study and lay a groundwork for the follow-up test.

Testing of hypotheses

First, we adopted the method proposed by (Preacher et al., 2007) to test the mediating effect, using the model 4 in the macro-program SPSS Process, setting 5,000 times of repeated sampling and 95% confidence level. With *gender*, *age*, and *educational degree* controlled, we tested the mediating effects of employee loyalty and PWG on employee innovative behavior. The results are shown in Table 4. PWG has a significant predicative effect on employee innovative behavior ($B = 0.365$, $t = 7.647$, $p < 0.001$), *H1* is verified. After the mediating variable was introduced on this base, the predictive effect of PWG on employee innovative behavior remained significant ($B = 0.182$, $t = 3.919$, $p < 0.001$); PWG has a significant predicative effect on employee loyalty ($B = 0.382$, $t = 8.155$, $p < 0.001$); employee loyalty has a positive significant effect on employee innovative behavior ($B = 0.481$, $t = 9.581$, $p < 0.001$). Additionally, neither the bootstrap 95% confidence interval of the direct effect of PWG on employee innovative behavior nor that of the mediating effect of employee loyalty contains 0 between the upper and lower limits, suggesting that PWG can predict employee innovative behavior not only directly but also *via* employee loyalty, *H2* is also corroborated (see Table 5).

Next, the test procedure of conditional indirect effect proposed by (Preacher et al., 2007) was adopted, and the model in the SPSS macro compiled by Hayes corresponding to this study was selected. With *gender*, *age*, and *educational degree* controlled, the mediator model with regulation was tested. The results (see Table 6) show that, after putting OT into the model, the product term of PWG and intraorganizational trust has a significant predictive effect on employee loyalty ($B = 0.098$, $t = 2.416$, $p < 0.01$), so does the product term of employee loyalty and intraorganizational trust on employee innovative behavior ($B = 0.097$, $t = 1.945$, $p < 0.05$), suggesting that intraorganizational trust can act a mediating role in the predictions of PWG about employee loyalty and of employee loyalty about employee innovative behavior. Hence, *H3* and *H4* are verified. Through further simple slope analysis, the positive influential effect of PWG on employee loyalty is strengthened under the circumstance

TABLE 4 Results on the mediating role of employee loyalty with PWG and employee innovative behavior.

Outcome variable	Predictor	R	R²	F-value	B	t-value
EIB		0.400	0.160	15.354***		
	Gender				−0.044	−0.546
	Age				0.024	0.589
	Education				0.001	0.020
	PWG				0.365	7.647***
EL		0.440	0.193	19.309***		
	Gender				−0.093	−1.188
	Age				0.101	2.480
	Education				0.030	0.697
	PWG				0.382	8.155***
EIB		0.668	0.446	43.012***		
	Gender				0.001	0.016
	Age				−0.024	−0.651
	Education				−0.014	−0.350
	PWG				0.182	3.919***
	EL				0.481	9.581***

PWG, positive workplace gossip; OT, Organizational trust; EL, employee loyalty; EIB, Employee innovative behavior. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

TABLE 5 Results of indirect effects, direct effects, and total effects.

	Effect	Boot SE	Boot LL CI	Boot ULCI	%
Indirect effect	0.183	0.034	0.120	0.252	50.428%
Direct effect	0.180	0.052	0.080	0.286	49.572%
Total effect	0.362	0.052	0.257	0.462	

CI, confidence interval; LL, lower limit; UL, upper limit. Bootstrap sample size = 5,000.

TABLE 6 Test of moderating effects.

Output variable	Predictor	R	R²	F	B	t-value
EL		0.638	0.407	36.945***		
	Gender				−0.057	−0.846
	Age				0.148	4.235***
	Education				0.076	2.03
	PWG				0.225	5.314***
	OT				0.098	10.252***
	PWG×OT				0.098	2.416**
EIB		0.604	0.365	23.093***		
	Gender				0.006	0.087
	Age				0.000	0.003
	Education				0.002	0.058
	EL				0.439	7.472***
	OT				0.126	2.481**
	EL×OT				0.097	1.945*

PWG, positive workplace gossip; OT, organizational trust; EL, employee loyalty; EIB, employee innovative behavior. *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

of high organizational trust (+1 SD) compared to low organizational trust (−1 SD; see Figure 2); the positive influential effect of employee loyalty on employee innovative behavior is
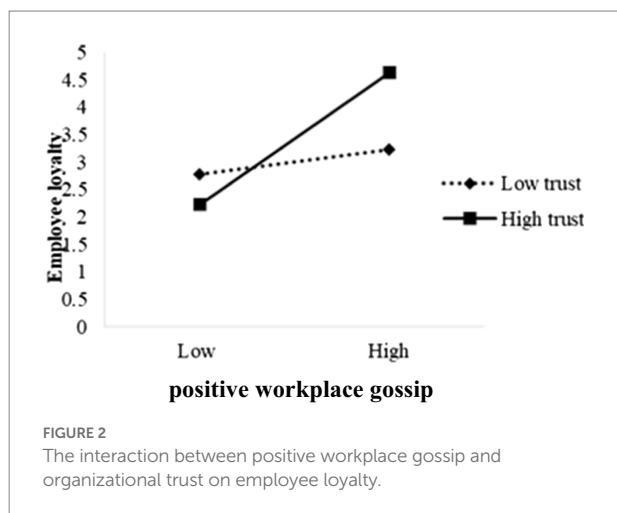
FIGURE 2
The interaction between positive workplace gossip and organizational trust on employee loyalty.

FIGURE 3
The interaction between employee loyalty and organizational trust on employee innovative behavior.

TABLE 7 Moderated mediation effect test.

Moderator	Level	Conditional indirect effect	Boot SE	95% CI	
				LL	UL
Organizational trust	Low (mean − 1 SD)	0.053	0.033	−0.006	0.125
	High (mean + 1 SD)	0.150	0.032	0.087	0.215

SD, standard deviation; CI, confidence interval; LL, lower limit; UL, upper limit.
Bootstrap sample size = 5,000.

strengthened under the circumstance of high organizational trust (+1 SD) compared to low organizational trust (−1 SD; see Figure 3).

In addition, to test the moderated mediation relationship predicted by *H5,* we examined various conditional indirect effects of PWG on employee innovative behavior, *via* employee loyalty, across high and low levels of organizational trust using the PROCESS program of Hayes. As proposed by (Preacher et al., 2007), we operationalized high and low levels of organizational

trust as 1 standard deviation above and below the variable's mean score. Bootstrapping results revealed that the conditional indirect effect of PWG on employee innovative behavior was stronger with high organizational trust (effect = 0.150, 95% CI [0.087, 0.215]) but weaker and not significant with low organizational trust (effect = 0.053, 95% CI [−0.006, 0.125]; see Table 7).

Discussion

The mechanism of action on employee innovative behavior is complicated. Employee innovative behavior is subject not only to job characteristics and individual factors but also to environmental factors. Gossip is a ubiquitous phenomenon in various social environments (Foster 2004; Estévez et al., 2022), and is considered an important nonformal way by which people acquire information and emotional connection in an environment with uncertainties (Wert and Salovey 2004). In recent years, workplace gossip has been studied in different fields (Wu et al., 2018; Bencsik and Juhasz 2020; Lee and Barnes 2021). Compared with predecessors' studies, the research outcomes of workplace gossip and employee's innovative behavior are scant and mainly concentrated on the negative influences (Zhou et al., 2019). For example, the findings of Liu et al. (2020) from 451 Chinese employees and managers suggested employees perceiving of negative gossip tended to experience emotional exhaustion, thereby weakening their creativity. Researchers are zealous for the study on negative gossip while overlooking the function of positive gossip (Wu et al., 2018). The main reason is that negative gossip has a negative influence on gossip participants and the organization and a stronger destructive power (Wu et al., 2018), while the effect of positive gossip is limited mainly to promoting interpersonal relationships and information exchange. But it turns out from this study that employees circulating positive workplace gossip tend to exhibit more innovative behaviors in the work. Gossip is opined as a tool to understand a socializing environment (Aghbolagh et al., 2021). We argue that there are at least two sides of positive effects of employees circulating positive gossip in workplace: On the one hand, positive gossip can create a harmonious socializing environment, which is favorable for shaping a good innovation atmosphere; on the other hand, positive gossip is conducive to integrating employees into the workplace circle and developing a good sense of belonging to the organization. These positive effects can promote employee innovative behavior.

After introducing employee loyalty as a mediating variable in this study, it was found that PWG has both direct and indirect effects on employee innovative behavior. PWG is a tie *via* which to build a friendship between employees (Ellwardt et al., 2012b), and an effective means to promote teamwork and job satisfaction. Previous studies found that job satisfaction would make a difference to employees' working behavior, attitude, and organizational performance *via* the mediating role of employee loyalty (Phuong and Vinh 2020; Zanabazar

and Jigjiddorj 2021). This study has arrived at the similar conclusion. In the past, researchers believed that negative workplace gossip usually carried pejorative and denigrative intentions, and that it was a workplace behavior to be attacked and repelled for it could affect employees' physical and mental health (Beersma and Van Kleef 2012). Therefore, many researchers deemed negative workplace gossip as a "cold violence in workplace." While our research findings have substantiated that positive gossip can not only promote employee loyalty but also indirectly affect innovative behavior *via* employee loyalty. Therefore, we believe positive gossip functions like a "positive-energy catalyst" in helping promote interpersonal relationships in workplace and positively affecting employee loyalty and innovative behavior.

Concerning the relation between organizational trust and workplace gossip, Ellwardt et al. (2012c) believed that the gossip communication speed was constant whether in a low-trust or in a high-trust environment. They also noted that, relative to negative gossip, positive gossip was less risky and therefore less susceptible to trust. However, our research findings have arrived at the opposite conclusion, confirming that the level of organizational trust can affect PWG. To be specific, the higher the level of organizational trust, the stronger the positive effect of PWG on employee loyalty. This is because in a high-level organizational trust environment, employees are more ready to share information, hence more willing and likely to communicate positive gossip, and thus the effect of PWG on employee loyalty is strong. Furthermore, this study has corroborated that PWG can regulate the positive effects on employee loyalty and employee innovative behavior. Trust can ameliorate the relationship between innovative teams. Nowadays, the new generation of employees have raised higher requirement on workplace, not just pursuing material demands but also valuing internal emotional needs. The innovative impetus of an employee who has long been working in an environment lacking in trust will inevitably be hampered. At a high-trust level, organization members are more ready to exchange their ideas and share their knowledge, and innovators having a sense of loyalty are even more ready to unleash their innovative thinking and exhibit more innovative capabilities.

Conclusion

Keeping a foothold on China's situation, this study has designed a moderated mediation model from the gossip sender's perspective and examined the effects of positive gossip by empirical method. The results have shown that PWG has a significantly positive influence on employee innovative behavior, and that employee loyalty mediates the PWG-employee innovative behavior relation; OT can moderate PWG's indirect influence on employee innovative behavior through employee loyalty. The above research findings are of enlightening significance in both theory and management practice.

Theoretical contributions

First, this research has promoted the research in the field of employee innovative behavior. Over the past decade, in mass studies on innovation, scholars were particularly concentrated on the antecedent variables affecting innovation and their consequent variables (Farrukh et al., 2022). Organizational situational factors are important ones influencing employee innovative behavior. As one such key situational factor affecting interpersonal relationships, workplace gossip has been widely confirmed to affect employees' behavior (e.g., Spoelma and Hetrick 2021; Zong et al., 2021). Although gossip is ubiquitous in workplace, almost studies on gossip sender's influence thus far have been concentrated on the influence of negative gossip (Zhou et al., 2019). This study has explored the mediating mechanism and boundary condition of PWG on employee innovative behavior, providing a beneficial supplement for previous studies on employee innovative behavior.

Second, this study has introduced employee loyalty to disclose the indirect effect amid the influence of PWG on employee innovative behavior. The result of the research expands the influencing factors of employee loyalty. Previous studies show that scholars have done a lot of research on the antecedent variables of employee loyalty, which include various factors such as the individual, the organization, and environment (Guillon and Cezanne 2014; Nadeak and Naibaho 2020), but few studies address the impact of workplace gossip on employee loyalty. This paper takes employee loyalty as a key process in which PWG influences employee innovation behavior, and proves its existence and significance. Therefore, this study extends existing knowledge of employee loyalty.

Third, this study broadens the PWG boundary condition theory by identifying organizational trust as a moderating factor. Tan et al. (2021) advised that research on workplace gossip should closely examine the emotional attachments and trusting relationship, as this might have a significant impact on how employees respond to gossip. This study answers their call and reveals that organizational trust appears to be a crucial boundary condition for positive workplace gossip. Furthermore, whether PWG or organizational trust is a situational factor of workplace. This study integrated both together to examine their influence upon employee innovative behavior, supplementing the studies on the influence of multiple situational factors upon employee innovative behavior.

Managerial implications

Developing personal relationships beyond workplace plays a significant role in employees' working behavior and interpersonal relationship building. Existing studies on the consequence of gossip have arrived at conflicting viewpoints. Some researchers believe that gossip is detrimental, while some scholars believe it is beneficial. These contradictory results have made managers

feel helpless in dealing with the problem of gossip (Dores Cruz et al., 2021). This study focuses on the influence of PWG on employee innovative behavior. The research findings are of several significances, as follows, to management practice:

First, the research findings have indicated PWG has a significantly positive effect on employee innovative behavior. Considering this, organizations should pay more attention to workplace gossip phenomena, encourage employees to take appropriate part in positive workplace gossip (Zong et al., 2021) and to communicate positive information about other colleagues frequently, and build an inclusive, open, sincere, and interdependent platform in the organization, not only for exchanging information and building good interpersonal relationships but also for gaining workplace friendship and meeting emotional needs, thereby improving employee innovative behavior. On the other hand, while communicating positive gossip, employees can learn the positive aspects from the gossip target as a good example, and motivate themselves to work hard and unleash their innovative potential to a higher level in the work.

Next, how to retain employees and build employee loyalty have become the issues concerned by global human resources managers nowadays (Dutta and Dhir 2021). Managers usually take such measures as promotion, pay hike, and welfare increase to raise employee loyalty (Nadeak and Naibaho 2020). The findings of this study have shown that PWG has a significantly positive effect on employee loyalty. Therefore, to attract and retain high-quality, dedicated, high-loyalty employees, enterprises should create a wholesome working environment for them (Dhir et al., 2020) and positively encourage employees to communicate positive workplace gossips, so as to create a harmonious workplace atmosphere and raise employee loyalty.

Lastly, organizational trust can significantly regulate the strength of the effects of PWG on employee loyalty and of employee loyalty on employee innovative behavior. Therefore, enterprises should pay attention to enhancing the factors for employees' trust in the organization, emphasize constructing a communicative, transparent, and inclusive cultural environment (Paşamehmetoğlu et al., 2022). Managers can also build a good superior-subordinate relationship by means of authorization, guidance, care, and encouragement, etc., encourage employees to express their ideas freely, and give timely feedback of employees' needs. These attempts will enhance employees' trust in the managers and the organization (Berraies et al., 2021), raise employees' sense of security, and promote employee innovative behavior.

Limitations and future direction

Although this study has drawn some important conclusions from the investigation into the influence of PWG on employee innovative behavior, there remain some limitations and deficiencies, as manifested mainly in the following aspects. First, different cultural backgrounds would give rise to different employee behaviors. All survey samples in this study coming from the Pearl River Delta area and the Yangtze River Delta area of Chinese mainland, the research findings have certain limitations in general applicability. Future studies can make a supplement from the perspective of multicultural background. Second, all data in this study stemmed from employees' self-evaluation. Although the same-source variance of data was tested after the investigation, and the results were in a reasonable range, the problem of same-source variance could not be eradicated. To ensure higher preciseness of data, the data sources in future studies can be compensated for *via* research and design by means of employee evaluation and leader evaluation. Third, the study on employee innovative behavior is a complicated project. This paper has only explored the influence of PWG on employee innovative behavior, and the antecedent variables and influencing mechanism remain to be explored and enriched. For instance, future studies can further discuss the influence of negative workplace gossip (NWG) on employee innovative behavior.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Author contributions

Material preparation, data collection, and analysis were performed by YD, XZ, JH, and BL. The first draft of the manuscript was written by YD. All authors contributed to the study conception, design, and commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Aghbolagh, M. B., Ardabili, F. S., and Voitenko, E. (2021). Content analysis of gossip at different levels of a hospital. *Organ* 54, 306–318. doi: 10.2478/orga-2021-0021

Alshaabani, A., Hamza, K. A., and Rudnák, I. (2022). Impact of diversity management on employees' engagement: the role of organizational trust and job insecurity. *Sustainability* 14:420. doi: 10.3390/su14010420

Amabile, T. M., and Pratt, M. G. (2016). The dynamic componential model of creativity and innovation in organizations: making progress, making meaning. *Res. Organ. Behav.* 36, 157–183. doi: 10.1016/j.riob.2016.10.001

Beehner, C. G., and Blackwell, M. J. (2016). The impact of workplace spirituality on food service worker turnover intention. *J. Manage. Spiritual. Relig.* 13, 304–323. doi: 10.1080/14766086.2016.1172251

Beersma, B., and Van Kleef, G. A. (2012). Why people gossip: an empirical analysis of social motives, antecedents, and consequences. *J. Appl. Soc. Psychol.* 42, 2640–2670. doi: 10.1111/j.1559-1816.2012.00956.x

Bencsik, A., and Juhasz, T. (2020). Impacts of informal knowledge sharing (workplace gossip) on organisational trust. *Econ. Soc.* 13, 249–270. doi: 10.14254/2071-789x.2020/13-1/16

Berraies, S., Hamza, K. A., and Chtioui, R. (2021). Distributed leadership and exploratory and exploitative innovations: mediating roles of tacit and explicit knowledge sharing and organizational trust. *J. Knowl. Manag.* 25, 1287–1318. doi: 10.1108/JKM-04-2020-0311

Brady, D. L., Brown, D. J., and Liang, L. H. (2017). Moving beyond assumptions of deviance: the reconceptualization and measurement of workplace gossip. *J. Appl. Psychol.* 102, 1–25. doi: 10.1037/apl0000164

Brislin, R. W. (1970). Back-translation for cross-cultural research. *J. Cross-Cult. Psychol.* 1, 185–216. doi: 10.1177/135910457000100301

Chen, L. M., Guo, Y. R., Song, L. J., and Lyu, B. (2020). From errors to OCBs and creativity: a multilevel mediation mechanism of workplace gratitude. *Curr. Psychol.* 41, 6170–6184. doi: 10.1007/s12144-020-01120-5

Cropanzano, R., and Mitchell, M. S. (2005). Social exchange theory: an interdisciplinary review. *J. Manag.* 31, 874–900. doi: 10.1177/0149206305279602

Dhir, S., Dutta, T., and Ghosh, P. (2020). Linking employee loyalty with job satisfaction using PLS–SEM modelling. *Pers. Rev.* 49, 1695–1711. doi: 10.1108/PR-03-2019-0107

Dores Cruz, T. D., Nieper, A. S., Testori, M., Martinescu, E., and Beersma, B. (2021). An integrative definition and framework to study gossip. *Group Organ. Manage.* 46, 252–285. doi: 10.1177/1059601121992887

Dutta, T., and Dhir, S. (2021). Employee loyalty: measurement and validation. *Glob. Bus. Rev.* 1–18. doi: 10.1177/0972150921990809

Eckhaus, E., Ben-Hador, B. J. J., and O, G. S. (2019). Gossip and gender differences: a content analysis approach. *J. Gend. Stud.* 28, 97–108. doi: 10.1080/09589236.2017.1411789

Eisenberger, R., and Rhoades, L. (2001). Incremental effects of reward on creativity. *J. Pers. Soc. Psychol.* 81, 728–741. doi: 10.1037/0022-3514.81.4.728

Ellwardt, L., Labianca, G., and Wittek, R. (2012a). Who are the objects of positive and negative gossip at work? A social network perspective on workplace gossip. *Soc. Networks* 34, 193–205. doi: 10.1016/j.socnet.2011.11.003

Ellwardt, L., Steglich, C., and Wittek, R. (2012b). The co-evolution of gossip and friendship in workplace social networks. *Soc. Netw.* 34, 623–633. doi: 10.1016/j.socnet.2012.07.002

Ellwardt, L., Wittek, R., and Wielers, R. (2012c). Talking about the boss: effects of generalized and interpersonal trust on workplace gossip. *Group Organ. Manage.* 37, 521–549. doi: 10.1177/1059601112450607

Estévez, J. L., Kisfalusi, D., and Takács, K. (2022). More than one's negative ties: the role of friends' antipathies in high school gossip. *Soc. Netw.* 70, 77–89. doi: 10.1016/j.socnet.2021.11.009

Farley, S. D. (2011). Is gossip power? The inverse relationships between gossip, power, and likability. *Eur. J. Soc. Psychol.* 41, 574–579. doi: 10.1002/ejsp.821

Farrukh, M., Meng, F., Raza, A., and Wu, Y. (2022). Innovative work behaviour: the what, where, who, how and when. *Pers. Rev.* doi: 10.1108/PR-11-2020-0854

Fornell, C., and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *J. Mark. Res.* 18, 39–50. doi: 10.1177/002224378101800104

Foster, E. K. (2004). Research on gossip: taxonomy, methods, and future directions. *Rev. Gen. Psychol.* 8, 78–99. doi: 10.1016/j.orgdyn.2011.12.007

Grosser, T., Kidwell, V., and Labianca, G. J. (2012). Hearing it through the grapevine: positive and negative workplace gossip. *Organ. Dyn.* 41, 52–61. doi: 10.1016/j.orgdyn.2011.12.007

Grosser, T. J., Lopez-Kidwell, V., and Labianca, G. (2010). A social network analysis of positive and negative gossip in organizational life. *Group Org. Manag.* 35, 177–212. doi: 10.1177/1059601109360391

Guillon, O., and Cezanne, C. (2014). Employee loyalty and organizational performance: a critical survey. *J. Organ. Chang. Manag.* 27, 839–850. doi: 10.1108/JOCM-02-2014-0025

Hsu, M. L., and Chen, F. H. (2017). The cross-level mediating effect of psychological capital on the organizational innovation climate–employee innovative behavior relationship. *J. Creat. Behav.* 51, 128–139. doi: 10.1002/jocb.90

Hui, C. H., Pak, S. T., Kwan, S. O., and Chao, A. (2012). Attributional style and engagement/disengagement responses in the Chinese workforce. *Appl. Psychol.* 61, 204–226. doi: 10.1111/j.1464-0597.2011.00463.x

Lee, S. H., and Barnes, C. M. (2021). An attributional process model of workplace gossip. *J. Appl. Psychol.* 106, 300–316. doi: 10.1037/apl0000504

Lewis, J. D., and Weigert, A. (1985). Trust as a social reality. *Soc. Forces* 63, 967–985. doi: 10.1093/sf/63.4.967

Liu, X.-Y., Kwan, H. K., and Zhang, X. (2020). Introverts maintain creativity: a resource depletion model of negative workplace gossip. *Asia Pac. J. Manag.* 37, 325–344. doi: 10.1007/s10490-018-9595-7

Lyu, B., Liao, X. Y., and Yang, Y. C. (2022). Relationships Between Temporal Leadership, Transactive Memory Systems and Team Innovation Performance. *Psychol. Res. Behav. Manag.* 15, 2543–2559. doi: 10.2147/PRBM.S380989

Matzler, K., and Renzl, B. (2006). The relationship between interpersonal trust, employee satisfaction, and employee loyalty. *Total Qual. Manage. Bus. Excell.* 17, 1261–1271. doi: 10.1080/14783360600753653

McAllister, D. J. (1995). Affect-and cognition-based trust as foundations for interpersonal cooperation in organizations. *Acad. Manag. J.* 38, 24–59. doi: 10.5465/256727

Meyer, J. P., and Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Hum. Resour. Manag. Rev.* 1, 61–89. doi: 10.1016/1053-4822(91)90011-Z

Mossholder, K. W., Settoon, R. P., and Henagan, S. C. (2005). A relational perspective on turnover: examining structural, attitudinal, and behavioral predictors. *Acad. Manag. J.* 48, 607–618. doi: 10.5465/amj.2005.17843941

Nadeak, B., and Naibaho, L. (2020). Motivation and HRM factors relation to the employee loyalty. *Pol. J. Manag. Stud.* 22, 261–276. doi: 10.17512/pjms.2020.22.2.18

Noon, M., and Delbridge, R. (1993). News from behind my hand: gossip in organizations. *Organ. Stud.* 14, 23–36. doi: 10.1177/017084069301400103

Olokundun, M., Ibidunni, S., Ogbari, M., Falola, H., and Salau, O. (2021). COVID-19 pandemic and antecedents for digital transformation in the workplace: a conceptual framework. *Open Access Maced. J. Med. Sci.* 9, 41–46. doi: 10.3889/oamjms.2021.4952

Østergaard, C. R., Timmermans, B., and Kristinsson, K. (2011). Does a different view create something new? The effect of employee diversity on innovation. *Res. Policy* 40, 500–509. doi: 10.1016/j.respol.2010.11.004

Paşamehmetoğlu, A., Guzzo, R. F., and Guchait, P. (2022). Workplace ostracism: Impact on social capital, organizational trust, and service recovery performance. *J. Hosp. Tour. Manag.* 50, 119–126. doi: 10.1016/j.jhtm.2022.01.007

Phuong, T. T. K., and Vinh, T. T. (2020). Job satisfaction, employee loyalty and job performance in the hospitality industry: a moderated model. *Asian Econ. Financ. Rev.* 10, 698–713. doi: 10.18488/journal.aefr.2020.106.698.713

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., and Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *J. Appl. Psychol.* 88, 879–903. doi: 10.1037/0021-9010.88. 5.879

Preacher, K. J., Rucker, D. D., and Hayes, A. F. (2007). Addressing moderated mediation hypotheses: theory, methods, and prescriptions. *Multivar. Behav. Res.* 42, 185–227. doi: 10.1080/00273170701341316

Scott, S. G., and Bruce, R. A. (1994). Determinants of innovative behavior: a path model of individual innovation in the workplace. *Acad. Manage. J.* 37, 580–607. doi: 10.5465/256701

Shore, L. M., Tetrick, L. E., Lynch, P., and Barksdale, K. (2006). Social and economic exchange: construct development and validation. *J. Appl. Soc. Psychol.* 36, 837–867. doi: 10.1111/j.0021-9029.2006.00046.x

Singh, U., and Srivastava, K. B. L. (2016). Organizational trust and organizational citizenship behaviour. *Glob. Bus. Rev.* 17, 594–609. doi: 10.1177/0972150916630804

Spoelma, T. M., and Hetrick, A. L. (2021). More than idle talk: examining the effects of positive and negative team gossip. *J. Organ. Behav.* 42, 604–618. doi: 10.1002/job.2522

Su, W. L., Lyu, B., Chen, H., and Zhang, Y. Z. (2020). How does servant leadership influence employees' service innovative behavior? The roles of intrinsic motivation and identification with the leader. *Balt. J. Manag.* 15, 571–586. doi: 10.1108/BJM-09-2019-0335

Tan, N., Yam, K. C., Zhang, P., and Brown, D. J. (2021). Are you gossiping about me? The costs and benefits of high workplace gossip prevalence. *J. Bus. Psychol.* 36, 417–434. doi: 10.1007/s10869-020-09683-7

Turner, J. C. (1975). Social comparison and social identity: some prospects for intergroup behaviour. *Eur. J. Soc. Psychol.* 5, 1–34. doi: 10.1002/ejsp.2420050102

Ugwu, F. O., Onyishi, I. E., and Rodríguez-Sánchez, A. M. (2014). Linking organizational trust with employee engagement: the role of psychological empowerment. *Pers. Rev.* 43, 377–400. doi: 10.1108/PR-11-2012-0198

Verburg, R. M., Nienaber, A.-M., Searle, R. H., Weibel, A., Den Hartog, D. N., and Rupp, D. E. (2018). The role of organizational control systems in employees' organizational trust and performance outcomes. *Group Organ. Manage.* 43, 179–206. doi: 10.1177/1059601117725191

Wert, S. R., and Salovey, P. (2004). A social comparison account of gossip. *Rev. Gen. Psychol.* 8, 122–137. doi: 10.1037/1089-2680.8.2.122

Wu, L.-Z., Birtch, T. A., Chiang, F. F., and Zhang, H. (2018). Perceptions of negative workplace gossip: a self-consistency theory framework. *J. Manag.* 44, 1873–1898. doi: 10.1177/0149206316632057

Yu, M.-C., Mai, Q., Tsai, S.-B., and Dai, Y. (2018). An empirical study on the organizational trust, employee-organization relationship and innovative behavior from the integrated perspective of social exchange and organizational sustainability. *Sustainability* 10:864. doi: 10.3390/su10030864

Zaheer, A., McEvily, B., and Perrone, V. (1998). Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organ. Sci.* 9, 141–159. doi: 10.1287/orsc.9.2.141

Zanabazar, A., and Jigjiddorj, S. (2021). The mediating effect of employee loyalty on the relationship between job satisfaction and organizational performance. *J. Ilmiah Peuradeun* 9, 467–481. doi: 10.26811/peuradeun.v9i2.530

Zhou, A. Q., Liu, Y., Su, X., and Xu, H. Y. (2019). Gossip fiercer than a tiger: effect of workplace negative gossip on targeted employees' innovative behavior. *Soc. Behav. Pers.* 47, 1–11. doi: 10.2224/sbp.5727

Zong, B., Zhang, L., Chu, X., and Qu, J. (2021). Does positive workplace gossip help socialize newcomers? A dual-pathway model based on network ties. *PsyCh J.* 10, 767–776. doi: 10.1002/pchj.468

![frontiers] Frontiers in Psychology

Check for updates

Standing in customers' shoes: How responsible leadership inhibits unethical pro-organizational behavior

Ken Cheng[1], Limin Guo[2]*, Yinghui Lin[3], Panpan Hu[1], Changchang Hou[1] and Jiaying He[1]

[1]School of Management, Zhejiang University of Technology, Hangzhou, China, [2]School of Economics and Management, Tongji University, Shanghai, China, [3]School of Management, Shanghai University, Shanghai, China

Although the negative impact of responsible leadership on employees' unethical pro-organizational behavior has been documented in the literature, little is known about its underlying processes and boundaries. Drawing on social information processing theory and social learning theory, we built a moderated mediation model to explain why and when unethical pro-organizational behavior could be inhibited by responsible leadership. We conducted a two-phase questionnaire survey to collect data. The empirical results based on the sample of 557 Chinese salespeople showed that customer-oriented perspective taking partially mediated the negative link between responsible leadership and unethical pro-organizational behavior and that leader competence strengthened the direct effects of responsible leadership on customer-oriented perspective taking and unethical pro-organizational behavior as well as the indirect effect of responsible leadership on unethical pro-organizational behavior *via* customer-oriented perspective taking. These findings enrich the current understanding of how responsible leadership relates to unethical pro-organizational behavior, extend the limited literature on customer-oriented perspective taking, and offer some suggestions that managers can follow to inhibit unethical pro-organizational behavior. Limitations and future research directions are also discussed.

KEYWORDS

customer-oriented perspective taking, leader competence, responsible leadership, social information processing theory, unethical pro-organizational behavior

Introduction

Unethical pro-organizational behavior, such as exaggerating the truth about the company's products to customers and withholding negative information about the company from customers (Umphress et al., 2010), is prevalent in organizations and is harmful to organizational interests (Baker et al., 2019; Mishra et al., 2022). Hence, it is imperative for the organization to find out effective ways to reduce employees'

unethical pro-organizational behavior. Responsible leadership, a leadership style which acknowledges that external stakeholders (e.g., customers) have legitimate claims on organizational activities (Waldman, 2011), has been verified to have an inhibiting effect on employees' unethical pro-organizational behavior (Cheng et al., 2019; Cheng and Lin, 2020; Inam et al., 2021). Yet, the further exploration of *why* and *when* unethical pro-organizational behavior is inhibited by responsible leadership is rather limited. Law and Jiang (2018) pointed out that unpacking the potential *mediating* and *moderating* mechanisms of a certain relationship could make the causal logic clearer and then contribute to the development of extant theory. We endorse this insightful viewpoint and attempt to narrow the aforementioned gap. Our research questions are twofold: (1) *through what process* can responsible leadership inhibit unethical pro-organizational behavior? (2) *under what condition* can responsible leadership more strongly inhibit unethical pro-organizational behavior?

Extant research has mainly used social learning theory to explain the direct effect of responsible leadership on unethical pro-organizational behavior (Cheng et al., 2019; Inam et al., 2021). Bandura (1977) noted that his social learning theory had drawn much nourishment from the academic thought regarding information processing. In line with previous studies (e.g., Boekhorst, 2015; Usman et al., 2022), we therefore infer that social information processing theory may be very suitable for deeply understanding the potential mechanism through which responsible leadership influences unethical pro-organizational behavior. According to social information processing theory (Salancik and Pfefer, 1978) and relevant research (Wang et al., 2017; Peng et al., 2019; Zhang et al., 2022), environmental cues (e.g., leaders) can influence individuals' cognitive processes and then shape their behaviors, as these environmental cues can offer individuals necessary guidance for effective functioning within a social context. Given that the mainstream scale of unethical pro-organizational behavior primarily captures customer-oriented unethical pro-organizational behavior (Cheng et al., 2019), we limit our choice of individual cognitive processes to the customer-related ones so as to underscore the unique mechanisms through which unethical pro-organizational behavior is restrained. Customer-oriented perspective taking captures employees' cognitive process of imagining themselves in a customer's position and adopting the customer's viewpoint (Huo et al., 2019). Prior research has suggested that customer-oriented perspective taking can be affected by external factors (e.g., people) and prevent employees from engaging in acts that may damage customers' interests (Axtell et al., 2007; Ho and Gupta, 2012). Accordingly, we infer that responsible leadership may enhance employees' customer-oriented perspective taking, which in turn inhibits unethical pro-organizational behavior.

As posited by both social information processing and social learning theories (Bandura, 1977; Salancik, 1977), leaders can exert great effects on employees, but the magnitude of the effects may vary across leaders; in particular, leaders, who have more power, expertise, or other characters that can send admirable and reliable social cues, are more effective in affecting employees. The purpose of responsible leadership is to achieve a good and shared business vision in which the organization builds and cultivates sustainable and trustful relationships to its stakeholders and coordinates them to achieve common goals and business sustainability (Maak and Pless, 2006). This vision is attractive, but its realization may likely be uneasy and will set a great demand on leaders' capabilities (Muff et al., 2020). Competence is an evaluation that refers to how capable a person is at performing his or her work (Phillips, 1984). Compared to incompetent leaders, competent leaders can obtain employees' trust more easily and make employees more willing to accept their guidance (Mao et al., 2019). We thus infer that leader competence may function as an important boundary condition of the effects of responsible leadership. That is, competent leaders' responsible leadership may have greater effects on employees' customer-oriented perspective taking and unethical pro-organizational behavior.

We depict the theoretical model in **Figure 1** and examine it using a sample of 557 salespeople in China. The results provided support for our theorizing. This study makes a threefold contribution to the literature. First, by verifying the mediating role of customer-oriented perspective taking, we not only provide a clearer account to the question of why responsible leadership could reduce unethical pro-organizational behavior, but also respond to Cheng et al.'s (2019) call for more research on the psychological mechanisms linking responsible leadership to unethical pro-organizational behavior. Second, by proposing and empirically examining the moderating effects of leader competence on the relationships between responsible leadership, customer-oriented perspective taking, and unethical pro-organizational behavior, this study enriches the knowledge about the boundary conditions of the effects of responsible leadership on employees' cognitive and behavioral reactions. Third, this study extends the literature on customer-oriented perspective taking. On the one hand, we are the first to generate empirical evidence for the positive impact of responsible leadership on customer-oriented perspective taking, thereby shedding light on the important role of leadership in the formation of customer-oriented perspective taking. On the other hand, by demonstrating the negative effect of customer-oriented perspective taking on unethical pro-organizational behavior, we extend the scope of the outcomes of customer-oriented perspective taking in the ethics field (Ho and Gupta, 2012).

Theory and hypotheses

Responsible leadership and unethical pro-organizational behavior

Unethical pro-organizational behavior is an inherently paradoxical construct (Lee et al., 2019), which captures unethical behaviors undertaken by employees to potentially benefit the organization and its members (Umphress and Bingham, 2011). Although such behavior is enacted with good intentions, its unethical nature may likely backfire and damage organizational interests (Baker et al., 2019; Mo et al., 2022). Thus, the question of how to restrain unethical pro-organizational behavior has received increased academic attention (Mishra et al., 2022). Specifically, there exist two research streams. One is to explore the inducers of unethical pro-organizational behavior (e.g., organizational identification; Chen et al., 2016), thus appealing to managers to realize the dark side of constructs generally thought to be productive. The other is to identify the inhibitors (e.g., moral identity; Matherne et al., 2018), thus advising managers to strengthen those inhibitors. In the latter research stream, given that leaders usually have great influences on employees, more and more scholars have shifted their attention to the leader-related inhibitors (Cheng et al., 2019; Cheng and Lin, 2020; Inam et al., 2021).

We argue that responsible leadership may inhibit unethical pro-organizational behavior, and we rely on social learning theory to interpret this relationship. A basic tenet of social learning theory is that individuals can learn attitudes and behaviors by observing and imitating others (Bandura, 1977). In the workplace, leaders are an important source of role modeling for employees (Miao et al., 2013). Responsible leadership is a social-relational and ethical phenomenon that occurs in the social process of interaction with stakeholders within and outside the organization (Maak and Pless, 2006). Distinct from other leadership styles (e.g., transformational leadership), responsible leadership broadens the view from a traditional leader–employee relationship to leader–stakeholder relationships and is very concerned about the social targets and objectives of sustainable value creation and positive change (Pless and Maak, 2011; Miska and Mendenhall, 2018). For responsible leaders, making profits for the company and its shareholders is not their only objective. They also care about the interests of other stakeholders (e.g., customers and the society; Voegtlin et al., 2020). For instance, responsible leaders make sure that the products or services are safe and that the real and potential risks are transparently communicated (Maak and Pless, 2006). Hence, under the role model effect of responsible leaders, employees may likely learn what are socially responsible behaviors and reduce socially irresponsible behaviors. Unethical pro-organizational behavior may cause damage to customers (Umphress et al., 2010) and can be seen as a kind of socially irresponsible

behavior (Cheng et al., 2019). We therefore infer that responsible leadership may restrain employees' unethical pro-organizational behavior.

> H1: Responsible leadership is negatively related to unethical pro-organizational behavior.

The mediating role of customer-oriented perspective taking

Customer-oriented perspective taking is a derivative of perspective taking, which reflects a cognitive process of adopting customers' viewpoints (Axtell et al., 2007; Huo et al., 2019). Extant research has found that customer-oriented perspective taking is a significant factor for the delivery of high-quality service to customers. Specifically, customer-oriented perspective taking has been found to positively affect employees' proactive service performance (Huo et al., 2019) and behaviors that are beneficial to customers (Axtell et al., 2007; Ho and Gupta, 2012) as well as customers' satisfaction (Homburg et al., 2009). Social information processing theory suggests that individuals develop their cognitions and attitudes as a function of the social environmental information available to them, which further will guide their behavioral decision (Salancik, 1977; Salancik and Pfefer, 1978). Following this logic and given that leaders are a critical source from which employees gather environmental information (Wang et al., 2017; Peng et al., 2019; Babalola et al., 2020), we infer that responsible leadership of leaders may regulate employees' cognitive process to make them see things from the perspective of the customer (i.e., customer-oriented perspective taking), which in turn inhibit them from conducting behaviors that are harmful to the customer (e.g., unethical pro-organizational behavior).

Specifically, drawing on social information processing theory and the remarkable work by Ku et al. (2015), we expect that responsible leadership may enhance customer-oriented perspective taking for two reasons. First, employees are more likely to engage in customer-oriented perspective taking when they have an integrated understanding regarding how their work contributes to the customer. If employees clearly know the operating process of their organizations and how their work relates to the bigger picture, they are more able to jump out of the self-focused view and broaden their range of vision (Parker and Axtell, 2001), thus being more likely to see things *via* the customers' perspective. A very important duty of responsible leadership is to build and cultivate the sustainable relationships with different stakeholders (e.g., customers) and coordinate their actions to realize a good and shared business vision (Maak and Pless, 2006). To perform this duty, leaders need to undertake responsible behaviors toward stakeholders (e.g., trying to

achieve a consensus among the affected stakeholders; Voegtlin, 2011). These behaviors are very important environmental cues which may help employees realize that external stakeholders (e.g., customers) are critical to organizational functioning and then prompt employees to stand in customers' shoes to think about things. Second, employees are more likely to take customers' perspective when their pro-customer attitudes and motivations are elicited. Responsible leaders emphasize the interests of stakeholders both inside and outside the organization (Maak, 2007). They practice this belief by actively implementing the triple bottom line, integrating multiple perspectives into the decision-making process, and creating desirable values for the related stakeholders (Maak and Pless, 2006). As a kind of social information, these inspiring behaviors of responsible leaders may likely shape employees' positive attitudes toward customers and motivate employees to care about customers' interests and take the perspective of the customer.

Further, we expect that customer-oriented perspective taking may inhibit employees' unethical pro-organizational behavior. Specifically, employees taking the customer's perspective usually have a clearer understanding of what the customer really needs and expects (Huo et al., 2019) and what negative effects on the customer will occur if they engage in unethical pro-organizational behavior. At the same time, thinking things from the customer's perspective may likely promote employees' identification with their customer, as extant research has verified that perspective taking increases perspective takers' liking and psychological closeness toward the target (Davis et al., 1996). Similar to Ho and Gupta's (2012) opinion, we deem that employees' customer identification may drive them to make appropriate decisions to best serve their customer and inhibit them from taking actions that have the potential to cause damage to their customer. One very typical example of these actions is unethical pro-organizational behavior. Prior research on perspective taking found that perspective taking predicted individuals' deontological decisions (Conway and Gawronski, 2013), thus providing indirect support for our assertion that customer-oriented perspective taking may inhibit unethical pro-organizational behavior. Taken together, guided by social information processing theory and research on perspective taking, we infer that responsible leadership will trigger employees' customer-oriented perspective taking, which in turn make them less inclined to undertake unethical pro-organizational behavior. That is, customer-oriented perspective taking may function as a mediator in the relationship between responsible leadership and unethical pro-organizational behavior. Yet, considering that there have existed other theoretical perspectives to explain how responsible leadership restrains unethical pro-organizational behavior (e.g., social exchange perspective; Inam et al., 2021), we thus expect

customer-oriented perspective taking to partially mediate the aforementioned relationship.

> H2: Customer-oriented perspective taking partially mediates the relationship between responsible leadership and unethical pro-organizational behavior.

The moderating role of leader competence

As a kind of interpersonal perception, competence relates to perceived one's ability to pursue his or her intentions or bring about desired outcomes (Cuddy et al., 2008). In this vein, leader competence can be understood as the perception regarding how capable a leader is of doing his or her job. Social learning theory posits that role models who have more expertise and admirable characters are more effective in promoting observers' vicarious learning (Bandura, 1977). Similar viewpoints also appear in social information processing theory and relevant research, which suggest that apart from leaders' words and deeds, leader competence is also a very important environmental cue in the organizational context that can affect the influences of leaders' behaviors (Salancik and Pfefer, 1978; Wang et al., 2019). In response to these opinions, numerous studies have verified the moderating effect of leader competence on the influences of leaders' behaviors on employees (Podsakoff et al., 1983), implying that leader competence is a key boundary of leadership effectiveness. Following this logic, we expect leader competence to moderate the influences of responsible leadership on employees' customer-oriented perspective taking and unethical pro-organizational behavior.

As a kind of stakeholder-centric leadership, responsible leadership attempts to develop mutual trust between the organization and its stakeholders and ultimately achieve a win-win business vision (Maak and Pless, 2006). These aims are obviously fascinating and inspiring (Cheng et al., 2019). Yet, we should note that the realization of this rosy vision is not going to be a piece of cake, especially in this ever-changing and interconnected business world. In front of employees, responsible leaders not only need to actively participate in stakeholder-related affairs, but also must deal with these affairs well. Otherwise, employees may regard the proposed attractive vision as a daydream and less identify with their leaders. Hence, to ensure the effectiveness of responsible leadership, leader competence is necessary. When employees perceive their leaders as competent, they will trust leaders more (Mayer et al., 1995) and treat leaders as a credible source of guidance (Mao et al., 2019), thus making them more willing to accept their leaders' influences (Wei et al., 2018). In this case, the stronger leaders' responsible leadership, the more likely employees will identify with the importance of

stakeholders (e.g., customers) and be motivated to care about the interests of stakeholders. Then, employees may engage in more customer-oriented perspective taking and less unethical pro-organizational behavior. In contrast, incompetent supervisors are less effective in influencing employees (Justis et al., 1978). On this occasion, the effect of incompetent leaders' responsible leadership on employees' customer-oriented perspective taking and unethical pro-organizational behavior may be limited.

> H3: Leader competence moderates the relationship between responsible leadership and unethical pro-organizational behavior such that the relationship is more negative when leaders are perceived as competent than incompetent.

> H4: Leader competence moderates the relationship between responsible leadership and customer-oriented perspective taking such that the relationship is more positive when leaders are perceived as competent than incompetent.

The preceding hypotheses propose the mediating effect of customer-oriented perspective taking (i.e., H2) and the moderating effect of leader competence on the responsible leadership–customer-oriented perspective taking relationship (i.e., H4). By combining these two hypotheses, we further propose a moderated mediation hypothesis that the mediating effect of customer-oriented perspective taking will vary based on leader competence and that this mediating effect will be stronger when leaders are perceived as competent than incompetent.

> H5: Leader competence moderates the indirect relationship between responsible leadership and unethical pro-organizational behavior through customer-oriented perspective taking such that this indirect relationship is more negative when leaders are perceived as competent than incompetent.

Methods

Participants and procedures

Given that some of our key variables (i.e., customer-oriented perspective taking and unethical pro-organizational behavior) are closely related to customers, employees who have the opportunities to contact customers would be very suitable participants in our study. Following prior research (e.g., Ramarajan et al., 2017; Cheng et al., 2019), we chose salespeople as the target sample. It should be noted that in view of the limited financial budget and social resources, it is difficult for us to adopt the random sampling technique to collect data. Therefore, we turned to the convenience sampling

technique, a widely used sampling technique in organizational behavior research (e.g., Norton et al., 2017; Guo et al., 2022). Through social relationships, we contacted four companies in Eastern China, involving real estate consulting, insurance, welfare management, and information service industries. The participants were salespeople of these four companies.

To reduce the effect of common method bias, our questionnaire survey employed a two-phase design. At the first phase, with the help of human resource managers, we invited 638 participants to the meeting rooms and randomly distributed them a questionnaire labeled *Part A* and a paired sealed envelope containing a questionnaire labeled *Part B*. The questionnaire *Part A* and the questionnaire *Part B* in pairs had the same matching code which consisted of three capital letters and a three-digit number and was hid in the introduction part of the questionnaire. Then, we informed the participants of the confidentiality and anonymity of our survey and invited them to finish the questionnaire *Part A* that contained items on their direct supervisor's responsible leadership and leader competence. After the participants put their completed questionnaire into an opaque black box and before they left the meeting rooms, we reminded the participants to take away the paired envelope and keep it safe and sealed until the second-phase survey. To enhance the participants' emphasis on our surveys, we told them that a bonus worth about two USD would be provide to them if they completed our two surveys. We received 638 questionnaires at the first phase.

Two weeks later, we carried out the second-phase survey. As some salespeople sometimes need to go out to develop business, 64 participants who had attended the first-phase survey failed to join in the second-phase survey. For the rest of the participants, we invited them to the meeting rooms and checked whether their envelope was still sealed. No one had opened the envelope. Then, we invited the 574 participants to open the envelope and finish the questionnaire *Part B* that contained items on their customer-oriented perspective taking, unethical pro-organizational behavior, and demographics. When they completed the questionnaire and put the questionnaire into the opaque black box, they received the bonus. After filtering out the invalid questionnaires (e.g., the ones in which all answers were the same), we obtained 557 usable samples, meaning a final response rate of 87.3%. Among the 557 usable samples, 58.5% were female, and 65.5% had a bachelor's degree. On average, they were 31.26 years old ($SD = 3.96$) and had 3.01 years of relationship length with their leader ($SD = 1.46$).

Measures

Unless stated otherwise, all items were measured with five-point Likert scales (1 = *strongly disagree*, 5 = *strongly agree*). The English scales were translated into Chinese following the

FIGURE 1
The theoretical model.
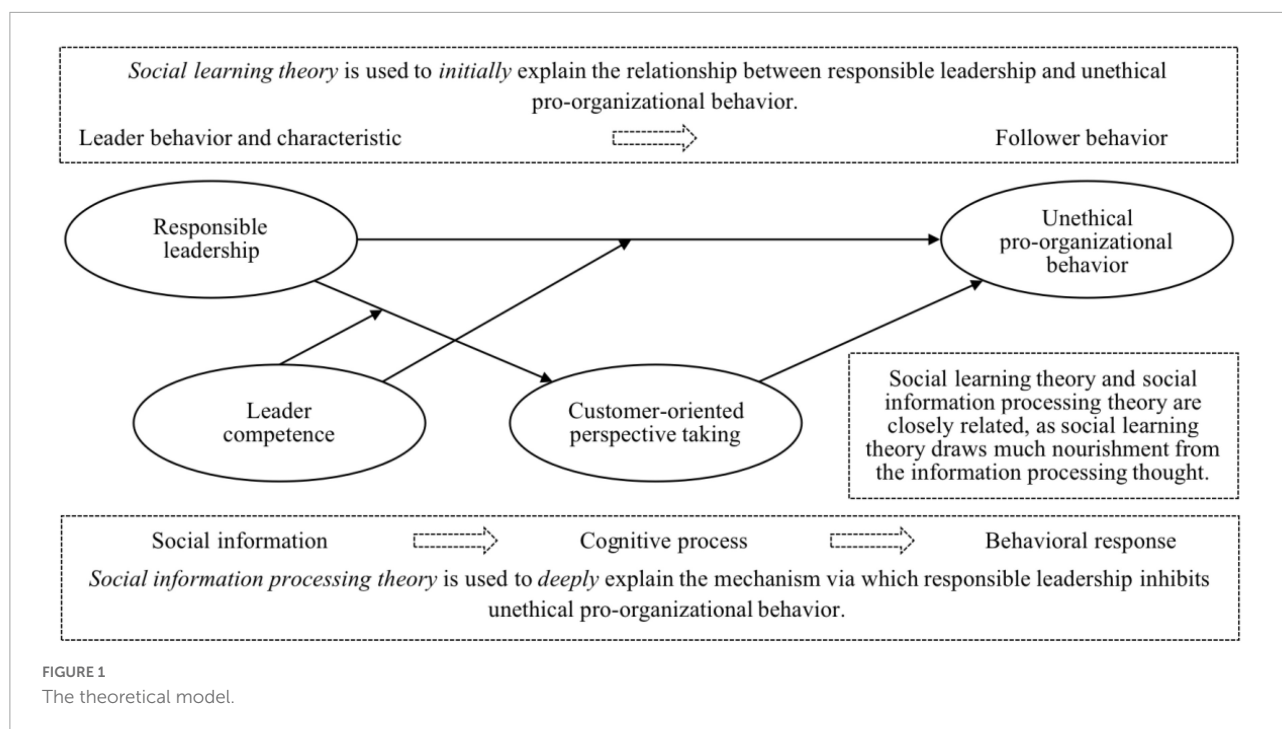
translation and back-translation procedures suggested by Brislin (1986).

Responsible leadership

Responsible leadership was rated with the five-item scale developed by Voegtlin (2011). A sample item is "My direct supervisor considers the consequences of decisions for the affected stakeholders." To help the participants understand the notion of stakeholder, we explained it in the instruction part of the questionnaire (i.e., "stakeholders are those who may affect or be affected by the organizational actions and policies, such as customers, the public, and so on"). The Cronbach's α was 0.88.

Leader competence

To assess leader competence, we used the six-item scale developed by Mao et al. (2019). A sample item is "My direct supervisor is very capable of performing his/her job." The Cronbach's α was 0.87.

Customer-oriented perspective taking

Our measure of customer-oriented perspective taking used the four-item scale developed by Axtell et al. (2007). A sample item is "I try to see things from the customers' viewpoint." The Cronbach's α was 0.81.

Unethical pro-organizational behavior

Consistent with Tang et al. (2020), we used the four items from the scale developed by Umphress et al. (2010) to measure unethical pro-organizational behavior. A sample item is "I exaggerated the truth about my company's products or services

to customers." The items were rated from 1 (*never*) to 5 (*all the time*). The Cronbach's α was 0.84.

Control variables

Prior research suggested that gender, age, education level, and relationship length with leader have the potential to affect employees' perspective taking and unethical behaviors (Ramarajan et al., 2017; Cheng et al., 2019). Hence, we controlled for these variables. Gender was measured as one binary variable (1 = male, 2 = female); age and relationship length with the leader were measured in years; education level was divided into three types (1 = technical college or less, 2 = bachelor's degree, and 3 = master's degree or above). To account for participants' tendency to report in a socially desirable way, we followed prior research (e.g., Umphress et al., 2010; Chen et al., 2016) and controlled for impression management by using the 10-item scale developed by Steenkamp et al. (2010). A sample item is "I sometimes tell lies if I have to." The Cronbach's α was 0.84.

Analytic strategy

SPSS 26.0 and Mplus 8.3 were employed to analyze the data. First, we conducted some preliminary analyses. Specifically, we conducted a series of confirmatory factor analyses to test the discriminant validity of our variables as well as the common method bias. Meanwhile, we tested the convergent validity of our variables by calculating their factor loadings, composite reliability (CR), and average variances extracted (AVE). Second,

we reported the means, standard deviations, and correlations. To test hypotheses, we used the latent moderated structural equation modeling approach (Sardeshmukh and Vandenberg, 2017) to estimate the path coefficients, simple slopes, indirect effects, and the index of moderated mediation (Hayes, 2015). Meanwhile, we used the Monte Carlo method (Preacher and Selig, 2012) to calculate confidence intervals (CIs) at 95% significance (20,000 repetitions).

Results

Preliminary analyses

Table 1 shows the confirmatory factor analysis results. According to Table 1, the four-factor model had better fit (χ^2 = 198.77, df = 146, CFI = 0.99, TLI = 0.99, RMSEA = 0.03, SRMR = 0.03) than other models (i.e., the three-factor, two-factor, and one-factor models), verifying the discriminant validity of our key variables. Moreover, following Podsakoff et al.'s (2003) suggestion, we used the unmeasured latent method factor approach to assess the common method bias. The results showed that adding a common method factor did not result in significant improvements over the model fit indices (χ^2 = 170.06, df = 140, CFI = 0.99, TLI = 0.99, RMSEA = 0.02, SRMR = 0.03), indicating that the common method bias was not a serious issue in our study (Dulac et al., 2008). Furthermore, we tested the convergent validity. As Table 2 shows, all factor loadings were larger than the cutoff rate of 0.60, and the CR for all variables was larger than the threshold value of 0.60 (Hair et al., 2010). At the same time, the AVE for responsible leadership and leader competence was larger than the threshold value of 0.50 (Hair et al., 2010). Although the AVE for customer-oriented perspective taking and unethical pro-organizational behavior was below the benchmark, the factor loadings and CR for these two variables exceeded the threshold values. There also exists some studies that keep variables with AVE below 0.50 (e.g., Safavi and Karatepe, 2018; Zhao and Guo, 2019). Therefore, the convergent validity of our variables can be generally accepted. Besides, the minimum AVE (0.41) was larger than the maximum squared correlation coefficient in all pairs (0.54^2), which once again confirmed a good discriminant validity of this study (Hair et al., 2010).

Descriptive statistics

Table 3 displays the means, standard deviations, and correlations among variables. In line with our expectations, responsible leadership was negatively related to unethical pro-organizational behavior (r = −0.47, p < 0.01) but positively related to customer-oriented perspective taking (r = 0.54, p < 0.01). Customer-oriented perspective taking was negatively related to unethical pro-organizational behavior (r = −0.51, p < 0.01), thereby providing initial support for our hypotheses.

Hypotheses testing

The latent moderated structural equation modeling approach was used to test our hypotheses. Figure 2 presents the unstandardized path coefficients for the whole model (i.e., the moderated mediation model). According to Figure 2, responsible leadership had a negative and direct effect on unethical pro-organizational behavior (B = −0.32, SE = 0.06, p < 0.01). Meanwhile, responsible leadership was positively related with customer-oriented perspective taking (B = 0.55, SE = 0.05, p < 0.01), which in turn negatively influenced unethical pro-organizational behavior (B = −0.39, SE = 0.08, p < 0.01). Moreover, we calculated the indirect effect of responsible leadership on unethical pro-organizational behavior through customer-oriented perspective taking and estimated its 95% CI by using the Monte Carlo method. The result showed that this indirect effect was significant [*indirect effect* = −0.20, 95% CI = (−0.30, −0.12) which excluded 0]. Thus, H1 and H2 were supported.

H3 and H4 posited that leader competence would moderate the relationship between responsible leadership and unethical pro-organizational behavior as well as the relationship between responsible leadership and customer-oriented perspective taking. According to Figure 2, the interaction between responsible leadership and leader competence significantly influenced unethical pro-organizational behavior (B = −0.26, SE = 0.06, p < 0.01) and customer-oriented perspective taking (B = 0.30, SE = 0.07, p < 0.01). Then, we plotted these interaction effects by using leader competence at one standard deviation above and below the mean for high and low values, respectively. The interaction effects are depicted in Figure 3. We conducted the simple slope analyses. The results verified the moderating effects of leader competence on the relationship between responsible leadership and unethical pro-organizational behavior (*slope difference* = −0.39, SE = 0.10, p < 0.01) and the relationship between responsible leadership and customer-oriented perspective taking (*slope difference* = 0.46, SE = 0.08, p < 0.01): when leaders were perceived as competent, responsible leadership significantly inhibited unethical pro-organizational behavior (*slope* = −0.51, SE = 0.10, p < 0.01) but promoted customer-oriented perspective taking (*slope* = 0.78, SE = 0.07, p < 0.01); when leaders were perceived as incompetent, responsible leadership significantly affected customer-oriented perspective taking (*slope* = 0.32, SE = 0.05, p < 0.01) and only had a marginal effect on unethical pro-organizational behavior (*slope* = −0.12, SE = 0.07, p < 0.10). Thus, H3 and H4 were supported.

To test H5, we assessed the index of moderated mediation and the indirect effects of responsible leadership on unethical

TABLE 1 The confirmatory factor analysis results.

Model	χ^2	df	CFI	TLI	RMSEA	SRMR
Four-factor model: RL, LC, CPT, UPB	198.77	146	0.99	0.99	0.03	0.03
Three-factor model: RL + CPT, LC, UPB	551.77	149	0.92	0.90	0.07	0.05
Two-factor model: RL + LC + CPT, UPB	1832.68	151	0.65	0.60	0.14	0.14
One-factor model: RL + LC + CPT + UPB	2217.27	152	0.56	0.51	0.16	0.14

$N = 557$. RL, responsible leadership; LC, leader competence; CPT, customer-oriented perspective taking; UPB, unethical pro-organizational behavior. + represents factors combined.

TABLE 2 The convergent validity test results.

Constructs and items	Factor loading	CR	AVE
Responsible leadership		0.84	0.51
My direct supervisor demonstrates awareness of the relevant stakeholder claims	0.73		
My direct supervisor considers the consequences of decisions for the affected stakeholders	0.68		
My direct supervisor involves the affected stakeholders in the decision-making process	0.67		
My direct supervisor weighs different stakeholder claims before making a decision	0.75		
My direct supervisor tries to achieve a consensus among the affected stakeholders	0.74		
Leader competence		0.87	0.52
My direct supervisor is very capable of performing his/her job	0.73		
My direct supervisor is known to be successful at the things he/she tries to do	0.69		
My direct supervisor has much knowledge about the work that needs done	0.73		
I feel very confident about my direct supervisor's skills	0.72		
My direct supervisor has specialized capabilities that can increase our performance	0.72		
My direct supervisor is well qualified	0.74		
Customer-oriented perspective taking		0.73	0.41
I imagine how things look from the customer's perspective	0.65		
I think about how I would feel in customers' situation	0.61		
I try to see things from the customers' viewpoints	0.66		
I try to imagine myself as a customer in a similar situation	0.63		
Unethical pro-organizational behavior		0.78	0.47
I misrepresented the truth to make my organization look good	0.70		
I exaggerated the truth about my company's products or services to customers	0.64		
I withheld negative information about my company or its products from customers	0.66		
I concealed information from customers that could be damaging to my organization	0.73		

$N = 557$. CR, composite reliability; AVE, average variance extracted.

TABLE 3 Means, standard deviations, and correlations.

Variable	M	SD	1	2	3	4	5	6	7	8
1. RL	3.21	0.94								
2. LC	3.72	0.76	0.20**							
3. CPT	3.24	0.85	0.54**	0.23**						
4. UPB	2.86	0.95	−0.47**	−0.28**	−0.51**					
5. Gender	1.59	0.49	0.09*	−0.06	0.02	−0.04				
6. Age	31.26	3.96	−0.10*	−0.04	−0.03	0.01	−0.03			
7. Education	1.89	0.58	−0.02	−0.01	0.08[†]	−0.02	0.04	0.07[†]		
8. Relationship length	3.01	1.46	0.03	0.01	0.03	−0.06	−0.02	0.48**	0.07[†]	
9. Impression management	3.08	0.63	−0.01	0.17**	−0.05	0.14**	−0.08[†]	−0.07	−0.04	−0.04

$N = 557$. RL, responsible leadership; LC, leader competence; CPT, customer-oriented perspective taking; UPB, unethical pro-organizational behavior. [†]$p < 0.10$; *$p < 0.05$; **$p < 0.01$.
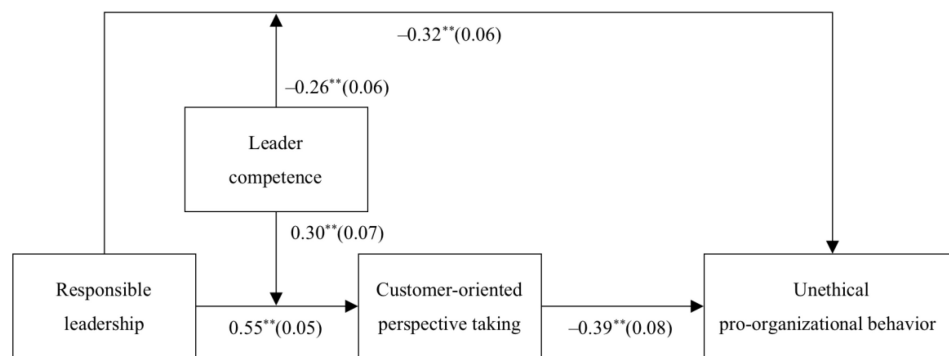
FIGURE 2
The structural equation modeling path results. *N* = 557. Control variables were included in the model but not shown here for ease of presentation. Values in parentheses were standard error estimates. **p < 0.01.
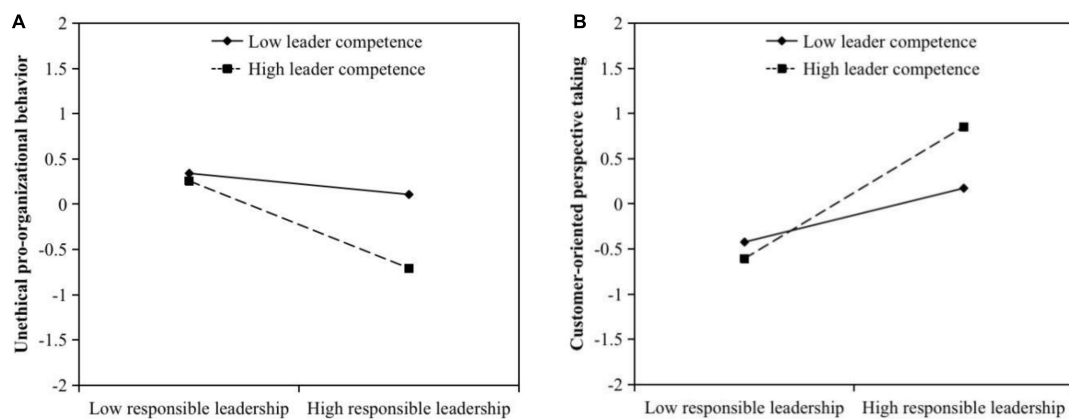
FIGURE 3
The moderating effects of leader competence on **(A)** the relationship between responsible leadership and unethical pro-organizational behavior and **(B)** the relationship between responsible leadership and customer-oriented perspective taking.

pro-organizational behavior *via* customer-oriented perspective taking at high and low values of leader competence. The 95% CIs of these effects were also estimated by using the Monte Carlo method. The results indicated that leader competence could significantly moderate the aforementioned indirect effect [*index of moderated mediation* = −0.12, 95% CI = (−0.18, −0.06) which excluded 0]. Specifically, the indirect effect was stronger when leaders were perceived as competent [*indirect effect* = −0.30, 95% CI = (−0.43, −0.17) which excluded 0] than incompetent [*indirect effect* = −0.12, 95% CI = (−0.19, −0.06) which excluded 0]. Thus, H5 was supported.

Discussion

All hypotheses of our research get supported by the relevant analyses. Specifically, we verified that responsible leadership negatively influenced unethical pro-organizational behavior (supporting H1). This finding is not surprising, as prior research

has suggested that responsible leaders are often seen as the role models by employees and can show employees what is (un)expected by their behaviors, thus promoting employees' responsible behaviors and inhibiting employees' irresponsible behaviors (e.g., unethical pro-organizational behavior; Cheng et al., 2019). In addition, we found that the effect of responsible leadership on unethical pro-organizational behavior is partially mediated by customer-oriented perspective taking (supporting H2). This finding is consistent with the core logic of social information processing theory that environmental cues can shape an individual's cognitions, which in turn will prompt the individual to undertake corresponding behaviors (Salancik, 1977; Salancik and Pfefer, 1978). Meanwhile, this finding, to some extent, echoes prior research using social information processing theory to explain the mediating role of perspective taking in leaders' effects on employees (e.g., Wang et al., 2017). Furthermore, we found that leader competence determined the effectiveness of responsible leadership: when

leaders were perceived as competent than incompetent, responsible leadership prompted employees to engage in more customer-oriented perspective taking (supporting H3) and (then) undertake less unethical pro-organizational behavior (supporting H4 and H5). This is because a competent leader is usually seen as reliable and trustworthy, and the positive perception of the leader may amplify the influences of leader behaviors on employees' cognitive and behavioral responses (Podsakoff et al., 1983; Wei et al., 2018; Mao et al., 2019).

Theoretical implications

The present study contributes to the extant literature in three ways. First, by verifying the mediating effect of customer-oriented perspective taking, we shed new light on the intermediary mechanisms through which responsible leadership inhibits unethical pro-organizational behavior. As noted at the outset, although prior studies have demonstrated the negative influence of responsible leadership on unethical pro-organizational behavior (Cheng et al., 2019; Cheng and Lin, 2020), the psychological mechanisms underlying this association are relatively understudied (Inam et al., 2021). In response to the call for more research on intermediary mechanisms between responsible leadership and unethical pro-organizational behavior (Cheng et al., 2019) and based on social information processing theory (Salancik and Pfefer, 1978), we posited customer-oriented perspective taking as a possible mediator between responsible leadership and unethical pro-organizational behavior. The analytic results based on 557 Chinese salespeople verified our proposition, thereby advancing the current understanding of why responsible leadership restrains employees' unethical pro-organizational behavior.

Second, the moderating effects of leader competence demonstrated in our study revealed when responsible leadership would have more impacts on employees' cognitive processes and behaviors. When exploring boundaries of the effects of responsible leadership on employees, prior research has primarily explored the employee-related (e.g., job tenure; Lin et al., 2020) and relationship-related factors (e.g., supervisor-subordinate guanxi; Han et al., 2019). In comparison, leader-related factors have received less attention, although previous research has suggested that leadership effectiveness relies on leader competence to a large extent (Hollander, 1978; Podsakoff et al., 1983). To narrow this research gap, we proposed and examined the moderating effects of leader competence on the relationships between responsible leadership, customer-oriented perspective taking, and unethical pro-organizational behavior, thereby not only enriching the boundaries of the effects of responsible leadership, but also actively responding to the call that when investigating leadership effectiveness, leadership scholars need to pay more attention to its competence boundary (Wei et al., 2018).

Third, the present study adds to the limited literature on customer-oriented perspective taking. Although customer-oriented perspective taking is critical to the provision of high-quality customer service which can attract and retain customers and eventually bring high profits for the organization (Schneider and Bowen, 1995), research on this topic remains limited (Axtell et al., 2007), especially the exploration of how to promote customer-oriented perspective taking (Ramarajan et al., 2017). By verifying the positive impact of responsible leadership on customer-oriented perspective taking, this study extends the antecedents of customer-oriented perspective taking to a very promising research field, namely, leadership. On the other hand, the extant studies on the outcomes of customer-oriented perspective taking have mainly focused on the productive interactions with customers (e.g., helping customers to meet needs; Huo et al., 2019). Less attention has been paid to the counterproductive interactions with customers (Ho and Gupta, 2012), although research in negative event asymmetry has found that negative interactions are more salient than positive interactions in influencing one's judgments (Taylor, 1991), implying that the counterproductive employee–customer interaction may have a greater effect on customers' experience. By proving the negative effect of customer-oriented perspective taking on unethical pro-organizational behavior, we narrow this gap to some extent.

Practical implications

This study brings several implications for management. First, given the negative relationship between responsible leadership and unethical pro-organizational behavior, an effective way for organizations, especially service organizations, to reduce unethical pro-organizational behavior of employees (e.g., salespeople) is to cultivate and strengthen leaders' responsible leadership. Responsible leadership is a function of the person and the environment (Stahl and Sully de Luque, 2014). Thus, when developing leaders' responsible leadership, organizations should not only identify leaders' values and take some measures, if necessary, to modify their values to fit the desired values, but also create and sustain a moral organizational environment to guide the emergence of their socially responsible behaviors.

Second, empirical results showed that customer-oriented perspective taking inhibited unethical pro-organizational behavior. Given this, another way to reduce unethical pro-organizational behavior is to improve employees' ability to see things from the customer's perspective. When recruiting and selecting employees, organizations are suggested to assess employees' customer role orientation, as research has found that employees with high customer role orientation are more inclined to adopt the customer's perspective (Axtell et al., 2007). After employees have joined in the organization, training

and mentoring programs for improving employees' ability of perspective taking are also advised.

Third, we found that leader competence played a key role in determining the effectiveness of responsible leadership. If leaders are perceived as incompetent, the beneficial effects of responsible leadership will be restrained. To ensure the effectiveness of responsible leadership, how to enhance leader competence is a critical issue that organizations need to address. Muff et al. (2020) suggested that responsible leadership competency contains five dimensions: stakeholder relations, ethics and values, change and innovation, self-awareness, and systems thinking. Organizations can refer to this competency model to develop and train leaders' competencies of responsible leadership.

Limitations and future directions

Our study has several limitations. The first limitation is related to the generalizability of our findings, because we solely collected data from the Chinese. Profoundly influenced by Confucianism, Chinese people put great value on one's virtue and ability. For them, noble characters and excellent abilities are necessary conditions for an authority figure. We thus infer that the magnitude of the interaction of responsible leadership and leader competence on employees may, to some extent, vary across social contexts. We call for future research to examine our model in non-Chinese contexts. The second one concerns the causality. The time-lagged research design that we adopted is unable to make powerful causal inferences, because the data, in its essence, were correlational. Hence, experimental and quasi-experimental research designs are highly recommended in future research. Third, when disentangling the intermediate mechanisms between the relationship between responsible leadership and unethical pro-organizational behavior, we only examined the mediating role of customer-oriented perspective taking *via* the lens of social information processing. Going beyond the cognitive paths, scholars may draw on affective events theory (Weiss and Cropanzano, 1996) and investigate the affective paths *via* which responsible leadership restrains unethical pro-organizational behavior. Fourth, future research may benefit from exploring other moderators beyond leader competence. Enlightened by Liu et al.'s (2012) study, we infer that employees' attributions to leaders' responsible leadership may moderate the effects of responsible leadership. When employees attribute leaders' responsible leadership to the impression management motives, the effects of responsible leadership may likely be weakened.

Conclusion

In this study, based on social information processing theory and social learning theory, we explored the process through which unethical pro-organizational behavior could be inhibited by responsible leadership, along with an important boundary. Results showed that responsible leadership negatively affected unethical pro-organizational behavior, in part due to customer-oriented perspective taking, and that leader competence strengthened the effects of responsible leadership. These findings enrich the literature on unethical pro-organizational behavior, responsible leadership, and customer-oriented perspective taking as well as provide some practical suggestions that organizations can follow to prevent, control, and reduce employees' unethical pro-organizational behavior.

Data availability statement

The data that support the findings of this study are available from KC, chengken@zjut.edu.cn, upon reasonable request.

Author contributions

KC and LG conducted the conceptualization and data analyses and wrote the first draft of the manuscript. PH conducted the data analyses and critically revised the manuscript for important intellectual content. CH and JH performed the material preparation and data analyses. YL commented on previous versions of the manuscript. All authors substantially contributed to the manuscript and approved the version to be published.

Funding

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Axtell, C. M., Parker, S. K., Holman, D., and Totterdell, P. (2007). Enhancing customer service: Perspective taking in a call centre. *Eur. J. Work Organ. Psychol.* 16, 141–168. doi: 10.1080/13594320600989583

Babalola, M. T., Greenbaum, R. L., Amarnani, R. K., Shoss, M. K., Deng, Y., Garba, O. A., et al. (2020). A business frame perspective on why perceptions of top management's bottom-line mentality result in employees' good and bad behaviors. *Pers. Psychol.* 73, 19–41. doi: 10.1111/peps.12355

Baker, B., Derfler-Rozin, R., Pitesa, M., and Johnson, M. (2019). Stock market responses to unethical behavior in organizations: An organizational context model. *Organ. Sci.* 30, 319–336. doi: 10.1287/orsc.2018.1244

Bandura, A. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice-Hall.

Boekhorst, J. A. (2015). The role of authentic leadership in fostering workplace Inclusion: A social information processing perspective. *Hum. Resour. Manage.* 54, 241–264. doi: 10.1002/hrm.21669

Brislin, R. W. (1986). *The wording and translation of research instruments*. Thousand Oaks, CA: Sage Publications.

Chen, M., Chen, C. C., and Sheldon, O. J. (2016). Relaxing moral reasoning to win: How organizational identification relates to unethical pro-organizational behavior. *J. Appl. Psychol.* 101, 1082–1096. doi: 10.1037/apl0000111

Cheng, K., and Lin, Y. (2020). Influence of responsible leadership and organizational punishment on unethical pro-organizational behavior. *J. Manag. Sci.* 33, 100–111. doi: 10.3969/j.issn.1672-0334.2020.06.008

Cheng, K., Wei, F., and Lin, Y. (2019). The trickle-down effect of responsible leadership on unethical pro-organizational behavior: The moderating role of leader-follower value congruence. *J. Bus. Res.* 102, 34–43. doi: 10.1016/j.jbusres.2019.04.044

Conway, P., and Gawronski, B. (2013). Deontological and utilitarian inclinations in moral decision making: A process dissociation approach. *J. Pers. Soc. Psychol.* 104, 216–235. doi: 10.1037/a0031021

Cuddy, A. J. C., Fiske, S. T., and Glick, P. (2008). Warmth and competence as universal dimensions of social perception: The stereotype content model and the bias map. *Adv. Exp. Soc. Psychol.* 40, 61–149. doi: 10.1016/S0065-2601(07)00002-0

Davis, M. H., Conklin, L., Smith, A., and Luce, C. (1996). Effect of perspective taking on the cognitive representation of persons: A merging of self and other. *J. Pers. Soc. Psychol.* 70, 713–726. doi: 10.1037/0022-3514.70.4.713

Dulac, T., Coyle-Shapiro, J. A. M., Henderson, D. J., and Wayne, S. J. (2008). Not all responses to breach are the same: The interconnection of social exchange and psychological contract processes in organizations. *Acad. Manage. J.* 51, 1079–1098. doi: 10.5465/AMJ.2008.35732596

Guo, L., Cheng, K., Luo, J., and Zhao, H. (2022). Trapped in a loss spiral: How and when work alienation relates to knowledge hiding. *Int. J. Hum. Resour. Manag.* 33, 4004–4033. doi: 10.1080/09585192.2021.1937672

Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson.

Han, Z., Wang, Q., and Yan, X. (2019). How responsible leadership predicts organizational citizenship behavior for the environment in China. *Leadersh. Org. Dev. J.* 40, 305–318. doi: 10.1108/LODJ-07-2018-0256

Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivariate Behav. Res.* 50, 1–22. doi: 10.1080/00273171.2014.962683

Ho, V. T., and Gupta, N. (2012). Testing an empathy model of guest-directed citizenship and counterproductive behaviours in the hospitality industry: Findings from three hotels. *J. Occup. Organ. Psychol.* 85, 433–453. doi: 10.1111/j.2044-8325.2011.02046.x

Hollander, E. P. (1978). *Leadership dynamics: A practical guide to effective relationships*. New York, NY: Free Press.

Homburg, C., Wieseke, J., and Bornemann, T. (2009). Implementing the marketing concept at the employee–customer interface: The role of customer need knowledge. *J. Mark.* 73, 64–81. doi: 10.1509/jmkg.73.4.64

Huo, Y., Chen, Z., Lam, W., and Woods, S. A. (2019). Standing in my customer's shoes: Effects of customer-oriented perspective taking on proactive service performance. *J. Occup. Organ. Psychol.* 92, 255–280. doi: 10.1111/joop.12247

Inam, A., Ho, J. A., Ng, S. I., and Mohamed, R. (2021). Inhibiting unethical pro-organizational behavior: Harnessing the effects of responsible leadership and leader–member exchange. *Int. J. Manpow.* 42, 1183–1201. doi: 10.1108/IJM-05-2020-0252

Justis, R. T., Kedia, B. L., and Stephens, D. B. (1978). The effect of position power and perceived task competence on trainer effectiveness: A partial utilization of Fiedler's contingency model of leadership. *Pers. Psychol.* 31, 83–93. doi: 10.1111/j.1744-6570.1978.tb02111.x

Ku, G., Wang, C. S., and Galinsky, A. D. (2015). The promise and perversity of perspective-taking in organizations. *Res. Organ. Behav.* 35, 79–102. doi: 10.1016/j.riob.2015.07.003

Law, K. S., and Jiang, Y. (2018). "Moderator and mediator," in *Empirical methods in organization and management research*, eds X. P. Chen and W. Shen (Beijing: Peking University Press), 492–494.

Lee, A., Schwarz, G., Newman, A., and Legood, A. (2019). Investigating when and why psychological entitlement predicts unethical pro-organizational behavior. *J. Bus. Ethics* 154, 109–126. doi: 10.1007/s10551-017-3456-z

Lin, C. P., Huang, H. T., and Huang, T. Y. (2020). The effects of responsible leadership and knowledge sharing on job performance among knowledge workers. *Pers. Rev.* 49, 1879–1896. doi: 10.1108/PR-12-2018-0527

Liu, D., Liao, H., and Loi, R. (2012). The dark side of leadership: A three-level investigation of the cascading effect of abusive supervision on employee creativity. *Acad. Manage. J.* 55, 1187–1212. doi: 10.5465/amj.2010.0400

Maak, T. (2007). Responsible leadership, stakeholder engagement and the emergence of social capital. *J. Bus. Ethics* 74, 329–343. doi: 10.1007/s10551-007-9510-5

Maak, T., and Pless, N. M. (2006). Responsible leadership in a stakeholder society: A relational perspective. *J. Bus. Ethics* 66, 99–115. doi: 10.1007/s10551-006-9047-z

Mao, J. Y., Chiang, J. T. J., Chen, L., Wu, Y., and Wang, J. (2019). Feeling safe? A conservation of resources perspective examining the interactive effect of leader competence and leader self-serving behaviour on team performance. *J. Occup. Organ. Psychol.* 92, 52–73. doi: 0.1111/joop.12233

Matherne, C. F., Ring, J. K., and Farmer, S. (2018). Organizational moral identity centrality: Relationships with citizenship behaviors and unethical prosocial behaviors. *J. Bus. Psychol.* 33, 711–726. doi: 10.1007/s10869-017-9519-4

Mayer, R. C., Davis, J. H., and Schoorman, F. D. (1995). An integrative model of organizational trust. *Acad. Manage. Rev.* 20, 709–734. doi: 10.5465/amr.1995.9508080335

Miao, Q., Newman, A., Yu, J., and Xu, L. (2013). The relationship between ethical leadership and unethical pro-organizational behavior: Linear or curvilinear effects? *J. Bus. Ethics* 116, 641–653. doi: 10.1007/s10551-012-1504-2

Mishra, M., Ghosh, K., and Sharma, D. (2022). Unethical pro-organizational behavior: A systematic review and future research agenda. *J. Bus. Ethics* 179, 63–87. doi: 10.1007/s10551-021-04764-w

Miska, C., and Mendenhall, M. E. (2018). Responsible leadership: A mapping of extant research and future directions. *J. Bus. Ethics* 148, 117–134. doi: 10.1007/s10551-015-2999-0

Mo, S., Lupoli, M. J., Newman, A., and Umphress, E. E. (2022). Good intentions, bad behavior: A review and synthesis of the literature on unethical prosocial behavior (UPB) at work. *J. Organ. Behav.* doi: 10.1002/job.2617 [Epub ahead of print].

Muff, K., Liechti, A., and Dyllick, T. (2020). How to apply responsible leadership theory in practice: A competency tool to collaborate on the sustainable development goals. *Corp. Soc. Responsib. Environ. Manage.* 27, 2254–2274. doi: 10.1002/csr.1962

Norton, T. A., Zacher, H., Parker, S. L., and Ashkanasy, N. M. (2017). Bridging the gap between green behavioral intentions and employee green behavior: The role of green psychological climate. *J. Organ. Behav.* 38, 996–1015. doi: 10.1002/job.2178

Parker, S. K., and Axtell, C. M. (2001). Seeing another viewpoint: Antecedents and outcomes of employee perspective taking. *Acad. Manage. J.* 44, 1085–1100. doi: 10.2307/3069390

Peng, J., Wang, Z., and Chen, X. (2019). Does self-serving leadership hinder team creativity? A moderated dual-path model. *J. Bus. Ethics* 159, 419–433. doi: 10.1007/s10551-018-3799-0

Phillips, G. M. (1984). A competent view of "competence". *Commun. Educ.* 33, 25–36. doi: 10.1080/03634528409384714

Pless, N. M., and Maak, T. (2011). Responsible leadership: Pathways to the future. *J. Bus. Ethics* 98, 3–13. doi: 10.1007/s10551-011-1114-4

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., and Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature

and recommended remedies. *J. Appl. Psychol.* 88, 879–903. doi: 10.1037/0021-9010.88.5.879

Podsakoff, P. M., Todor, W. D., and Schuler, R. (1983). Leader expertise as a moderator of the effects of instrumental and supportive leader behaviors. *J. Manage.* 9, 173–185. doi: 0.1177/014920638300900208

Preacher, K. J., and Selig, J. P. (2012). Advantages of monte carlo confidence intervals for indirect effects. *Commun. Methods Meas.* 6, 77–98. doi: 10.1080/19312458.2012.679848

Ramarajan, L., Rothbard, N. P., and Wilk, S. L. (2017). Discordant vs. harmonious selves: The effects of identity conflict and enhancement on sales performance in employee–customer interactions. *Acad. Manage. J.* 60, 2208–2238. doi: 10.5465/amj.2014.1142

Safavi, H. P., and Karatepe, O. M. (2018). High-performance work practices and hotel employee outcomes: The mediating role of career adaptability. *Int. J. Contemp. Hosp. Manage.* 30, 1112–1133. doi: 10.1108/IJCHM-07-2016-0367

Salancik, G. R. (1977). "Commitment and the control of organizational behavior and belief," in *New directions in organizational behavior*, eds B. M. Staw and G. R. Salancik (Chicago, IL: St. Clair Press), 1–54.

Salancik, G. R., and Pfefer, J. (1978). A social information processing approach to job attitudes and task design. *Adm. Sci. Q.* 23, 224–253. doi: 10.2307/2392563

Sardeshmukh, S. R., and Vandenberg, R. J. (2017). Integrating moderation and mediation: A structural equation modeling approach. *Organ. Res. Methods* 20, 721–745. doi: 10.1177/1094428115621609

Schneider, B., and Bowen, D. (1995). *Winning the service game*. Cambridge, MA: Harvard Business School Press.

Stahl, G. K., and Sully de Luque, M. F. (2014). Antecedents of responsible leader behavior: A research synthesis, conceptual framework, and agenda for future research. *Acad. Manage. Perspect.* 28, 235–254. doi: 10.5465/amp.2013.0126

Steenkamp, J. B. E. M., De Long, M., and Baumgartner, H. (2010). Socially desirable response tendencies in survey research. *J. Mark. Res.* 47, 199–214. doi: 10.1509/jmkr.47.2.199

Tang, P. M., Yam, K. C., and Koopman, J. (2020). Feeling proud but guilty? Unpacking the paradoxical nature of unethical pro-organizational behavior. *Organ. Behav. Hum. Decis. Process.* 160, 68–86. doi: 10.1016/j.obhdp.2020.03.004

Taylor, S. E. (1991). Asymmetrical effects of positive and negative events: The mobilization-minimization hypothesis. *Psychol. Bull.* 110, 67–85. doi: 10.1037/0033-2909.110.1.67

Umphress, E. E., and Bingham, J. B. (2011). When employees do bad things for good reasons: Examining unethical pro-organizational behaviors. *Organ. Sci.* 22, 621–640. doi: 10.1287/orsc.1100.0559

Umphress, E. E., Bingham, J. B., and Mitchell, M. S. (2010). Unethical behavior in the name of the company: The moderating effect of organizational identification and positive reciprocity beliefs on unethical pro-organizational behavior. *J. Appl. Psychol.* 95, 769–780. doi: 10.1037/A0019214

Usman, M., Ali, M., Soetan, G. T., Ayoko, O. B., and Berber, A. (2022). Seeing others' side to serve: Understanding how and when servant leadership impacts employee knowledge-hiding behaviors. *Hum. Relat.* doi: 10.1177/00187267221125353 [Epub ahead of print].

Voegtlin, C. (2011). Development of a scale measuring discursive responsible leadership. *J. Bus. Ethics* 98, 57–73. doi: 10.1007/s10551-011-1020-9

Voegtlin, C., Frisch, C., Walther, A., and Schwab, P. (2020). Theoretical development and empirical examination of a three-roles model of responsible leadership. *J. Bus. Ethics* 167, 411–431.

Waldman, D. A. (2011). Moving forward with the concept of responsible leadership: Three caveats to guide theory and research. *J. Bus. Ethics* 98, 75–83. doi: 10.1007/s10551-019-04155-2

Wang, J., Zheng, Z., and Jia, M. (2017). Understanding how leader humility enhances employee creativity: The roles of perspective taking and cognitive reappraisal. *J. Appl. Bahav. Sci.* 53, 5–31. doi: 10.1177/0021886316678907

Wang, Y., Zhang, K., Zhang, J., and Lin, C. (2019). The trustworthiness of leaders: The watershed of delegation effect and the formation of its negative side. *J. Manag. World* 35, 185–196. doi: 10.19744/j.cnki.11-1235/f.2019.0028

Wei, F., Li, Y., Zhang, Y., and Liu, S. (2018). The interactive effect of authentic leadership and leader competency on followers' job performance: The mediating role of work engagement. *J. Bus. Ethics* 153, 763–773. doi: 10.1007/s10551-016-3379-0

Weiss, H. M., and Cropanzano, R. (1996). "Affective events theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work," in *Research in organizational behavior*, eds B. M. Staw and L. L. Cummings (Greenwich, CT: JAI Press), 1–74.

Zhang, Z., Wang, J., and Jia, M. (2022). Multilevel examination of how and when socially responsible human resource management improves the well-being of employees. *J. Bus. Ethics* 176, 55–71. doi: 10.1007/s10551-020-04700-4

Zhao, H., and Guo, L. (2019). Abusive supervision and hospitality employees' helping behaviors: The joint moderating effects of proactive personality and ability to manage resources. *Int. J. Hosp. Manage.* 31, 1977–1994. doi: 10.1108/IJCHM-01-2018-0100

Executives' unethical behaviour with directions for future research

Renhong Zhu[1], Xiaowei Li[1]*, Qin Liu[1] and Qihao Zhou[2]

[1]School of Business, Sun Yat-sen University, Guangzhou, China, [2]School of Electronics, Electrical Engineering and Computer Science, Queen's University Belfast, Belfast, United Kingdom

Executives' unethical behaviour is a common phenomenon in business practice and a hot topic for academic research, which has a profound negative impact on the healthy development of our economy and society. In the past two decades, several scholars from different disciplines conducted theoretical research and practical explorations on the issue of senior executives' (un)ethical behaviour and achieved certain research results. However, the existing research in this field still has problems, such as a lack of systematic integration of research results, unclear research hotspots and unclear development directions. Thus, the present study through a bibliometric analysis, conducted a content coding of these 428 papers identified from 2000 to 2020, constructed a theoretical framework by inductively identifying the corresponding concepts. By reviewing the progress of existing research topics, this study summarised a research framework of executives' unethical behaviour from the perspectives of the antecedents, the behaviour itself and the consequences of unethical behaviour. The study further proposed future research trends and recommendations for conducting research on executives' unethical behaviour under emerging market scenarios. The research results provide new ideas for developing the theory of executives' unethical behaviour and promote the in-depth development of the research on executives' unethical behaviour in the context of emerging markets.

KEYWORDS

executives' unethical behaviour, literature research, emerging markets, theoretical framework, immoral activity

Introduction

With the rapid development of emerging economies like China, more and more scholars turn their attention to the emerging market and focus on the management issues in these economies. As the market regulations of emerging economies are not yet completed and the legal awareness of enterprise is weak, various cases on the violation of regulations have emerged (Meng et al., 2018). The violations exist not only in many

small and medium-sized enterprises but also in leading enterprises or listed companies (Li and Chen, 2013). This factor has negatively affected those countries' economy and become barriers to their development (Yang and Ming, 2017). Considering the serious social costs brought by the enterprises' violation of regulations, this phenomenon has triggered considerable discussions in both the industry and the academia.

Developed countries have a well-developed market mechanism to restrict managers. On the contrary, emerging countries have not yet established a well-regulated market, so executives' unethical behaviour in emerging markets has challenged traditional under-standing of business ethical behaviour in academia. Therefore, there are new opportunities for theoretical innovation on the research of unethical behaviour. Executives are key decision-makers in an organisation. They have great control over the company and can determine its strategy and future direction (Walls et al., 2012; Lian et al., 2019a; Zhang et al., 2020). Thus, scholars always take corporate executives as the subject to study how to reduce business regulatory violations. Many valuable research findings have explored how to improve regulatory compliance through the reduction of executives' unethical behaviour. Current literature reviews have summarised the status of this topic but there is a lack of systematic and integrated analytical framework. There need to be a more comprehensive and in-depth analysis of current research and future directions. Moreover, issues rising from executives' unethical behaviour in emerging market also deserve investigation, such as whether traditional research findings are applicable to countries in the emerging market group and how executives' unethical behaviour may be specially manifested in such context. To fill this gap, we conducted a systematic literature review to meet the practical needs in academics and contribute to the theoretic development on executives' unethical behaviour.

Prior research on executives' unethical behaviour showed two main trends: the causes and the consequences of executives' unethical behaviour. In the theoretical analysis of the causes of executives' unethical behaviour, firstly, individual characteristics are the key that determines whether executives will engage in unethical behaviour. For example, Hegarty and Sims (1978) argued that different demographic characteristics and personal traits, such as gender, stage of moral cognitive development and control points, are significantly associated with executives' unethical behaviour based on upper echelons theory. Secondly, the environment is also an important reason for the occurrence of executives' unethical behaviour. For example, Brass et al. (1998) and Vardi (2001) examined the influence of the cultural or institutional environment on executives' unethical behaviour from the "bad barrel" perspective. They argued that the social or organisational environment in which executives operate, including traditional conventions, moral norms and

institutional orientation, is a major factor contributing to executives' unethical behaviour. Thirdly, the characteristics of the unethical event itself are important factors in developing unethical behaviour. That is, the characteristics of the event, such as the total number of outcomes and the likelihood of effects, are considered key factors that lead executives to engage in unethical behaviour. In exploring the characteristics of the event, Jones (1991) introduced the concept of moral intensity to measure the severity of the ethical issues involved in the behaviour itself. Jones (1991) argued that moral intensity could have a significant impact on the emergence of unethical behaviour.

In the empirical analysis of the consequences of executives' unethical behaviour, academics discussed the consequences of unethical behaviour based on the more established characteristics of the market for managers in the West. However, most studies mainly explored the impact of unethical events on the organisation. For example, Grant and Visconti (2006) and Tan et al. (2012) argued that, from a short-term performance perspective, unethical behaviour might gain short-term competitive advantages by reducing operational costs. From another aspect, Marcus and Goodman (1991) and (Lian et al., 2019a) argued that from a long-term performance perspective, unethical events could have a negative impact on the sustainability of an organisation in direct and indirect ways. However, few studies have addressed the impact of unethical behaviour on executives themselves. Moreover, it is generally assumed that when uncovered, executives' unethical behaviour can lead to lower employment opportunities owing to personal reputational damage. However, such punitive mechanisms for executives are often based on a well-developed market for managers. In addition, the effectiveness of such punitive mechanisms in transitional economies needs to be further explored.

The existing literature has made some contribution to understanding the occurrence of research on executives' unethical behaviour. However, there is still room for further research in at least two aspects because of the different research focuses. First, research in the field of executives' unethical behaviour has shown certain research focus and integration trends, such as research based on individual executives' physiological and psychological aspects, and research based on environmental aspects of the cultural or institutional environment. However, because of the wide range of research content and the differences in the research objectives of different scholars, a consistent system and a research framework in this field regarding the disciplinary knowledge base and a summary and refinement of core research issues are still lacking. Moreover, for the research area of executives' unethical behaviour, prior literature review focus on description of current research status, and lacking discussion about the shortage and future research directions. Secondly, the rapid development of emerging economies, typically China, over the past two

decades has led to more and more scholars focussing on the phenomenon of executives' unethical behaviour in these economies. However, considering the significant differences between emerging economies and developed Western countries in terms of institutions, markets and cultural systems, the conclusions of studies on traditional executives' unethical behaviour have been challenged. Research on executives' unethical behaviour in emerging economies is still in the exploratory stage. Moreover, what valuable research questions should be focussed on and how these research questions differ from those in mature Western economic contexts are worth considering further. Thus, through a literature review, this study will identify the disciplinary theoretical foundations of the field of executives' unethical behaviour and propose an overall analytical framework. Specifically, this study reveals the current research situation in this area from three aspects: the antecedents of unethical behaviour, the unethical events themselves and the consequences of unethical behaviour. Furthermore, this study identifies research gaps and proposes future research directions and related topics in light of the prevalence of imperfect market mechanisms for professional managers in transition economies.

Integrated conceptual framework for the study of executives' unethical behaviour

Executives are often key decision makers in a company, who have a say in the company's strategies and should bear responsibility for the company's unethical behaviour (Zhang et al., 2016; Meng et al., 2018). Therefore, a company's unethical behaviour is, in the final analysis, executives' unethical behaviour. In other words, if we want to find out why a company has unethical behaviour, we should look at why executives decide to act unethically. This paper, following the concept of unethical behaviour defined by previous studies, focus on the unethical behaviour of executives. According to previous studies, researchers identified the following three main related outcomes of behavioural ethics: first, unethical behaviour that violates the society's accepted moral norms (e.g., lying, cheating, and stealing); second, regular ethical behaviour that meets the most basic moral standards of the society (e.g., honesty, respect for others); and extraordinary ethical behaviour that goes beyond the society's most basic moral standards (e.g., charitable giving, whistleblowing) (Treviño et al., 2014). This paper discusses the former one outcome with a focus on the important role of executives in the unethical behaviour. In addition, based on the findings of Tenbrunsel and Smith-Crowe (2008) and Li and Chen (2013), this paper assumes that such unethical behaviour does not necessarily have to be intentional. Rather, it may also be unintentional.

Selection and coding of literature on executives' unethical behaviour

Based on the research questions of this paper, we adopted the systematic literature review (SLR) methodology to determine the literature scope (Snyder, 2019). In order to bear in mind the overall situation of relevant studies, find out mainstream theories both home and abroad, and understand the unique characteristics of the imperfect market mechanism for professional managers, we collected and analysed studies worldwide and conducted literature review in a systematic way. With "unethical behavior," "unethical," "immoral behaviour," "immoral," "non-moral behaviour," "non-moral," "misconduct," "moral hazard," "cheating," "corruption" as search topics/titles/abstracts/keywords, we looked for papers published from 2000 to 2020. It is worth mentioning that "pro-organisational unethical behaviour," "violation," "Rent Seeking," "self-efficacy," "transgressive behaviour," "deviance," "Moral disengagement" were not used as search topics, because the search results overlap to a large extent with those using such keywords as "unethical behaviour" and "immoral behaviour." This suggests that keywords like "pro-organisational unethical behaviour" and "violation" are somehow a specific category of unethical behaviour. To ensure that the papers we collected matched with the research topic, we make sure that all papers contain one or more search terms in the title, abstract or keywords.

As for the selection of journals, we found that papers on unethical behaviour were published on a variety of journals. Despite of this, most of the papers were published on core journals in the field of business ethics as well as on top academic journals in the field of management and economics. So, we decided to look for papers published on top international management journals or professional journals in the field of business ethics, including AMJ (Academy of Management Journal), AMR (Academy of Management Review), SMJ (Strategic Management Journal), OBHDP (Organisational Behaviour and Human Decision Process), JBE (Journal of Business Ethics), and BEQ (Business Ethics Quarterly). In addition, market incompleteness that typically prevail in emerging economies may further lead to incidents of unethical behaviour, but few have analysed the impact of such feature on unethical behaviour as they primarily focussed on policy and cultural context of developed Western countries. Therefore, this paper also covered papers published on top Chinese economic and management journals including Management World, Journal of Management Sciences in China, Nankai Management Review, Economic Research Journal, Accounting Research, China Industrial Economics, and Acta Psychologica Sinica to shed light on the direction for studies on unethical behaviour in the emerging market.

By searching the literature published in the selected journals using the search terms previously identified, we
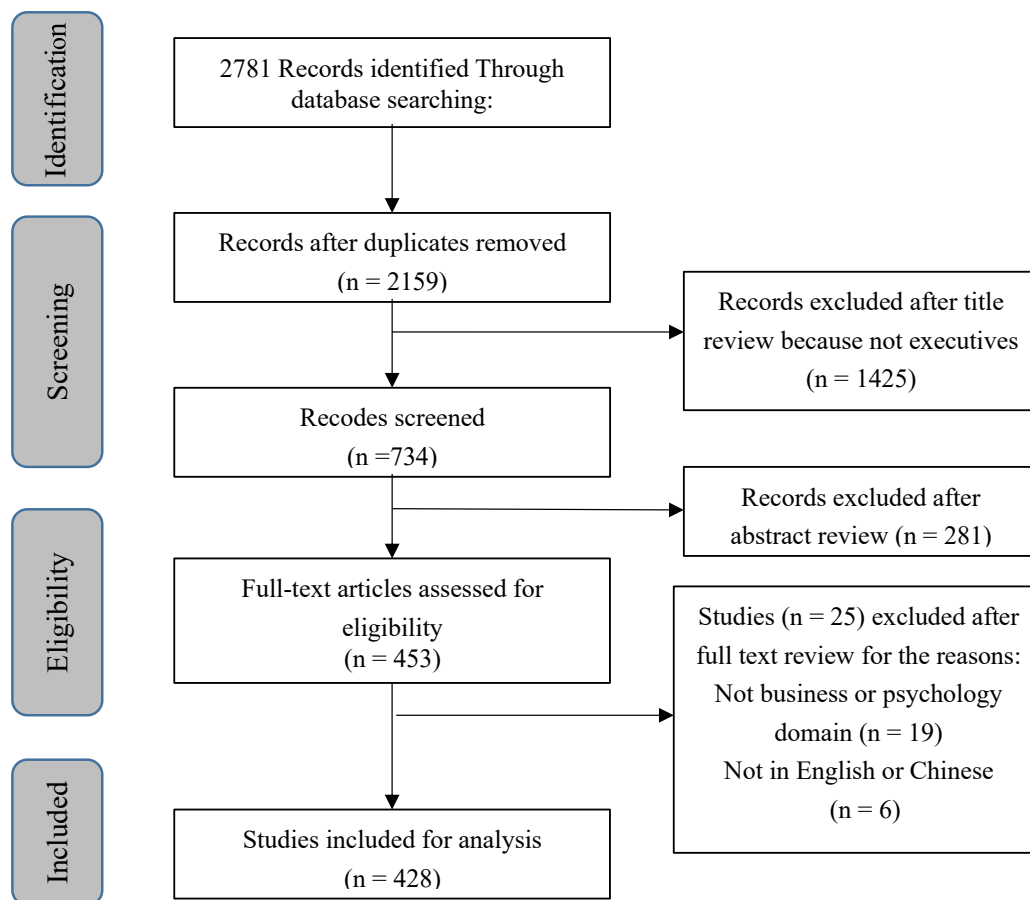
FIGURE 1
The workflow of systematic literature review (SLR).
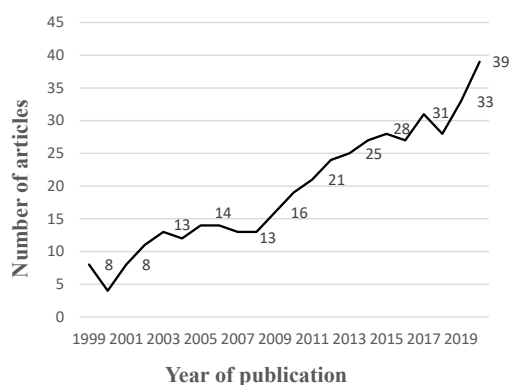
FIGURE 2
Distribution of literature published over time.

finally obtained a total of 2,781 documents. And then, we removed the duplicate documents from the search results. However, after removing the duplicates, there were still many documents that did not match the topic of our study. Therefore, to see whether the papers collected were relevant to executives' unethical behaviour, we carefully read through all the titles and abstracts. Here we used two criteria: (1) the literature must be relevant to the field of business or psychology, and (2) the literature should focus on the important role played by executives in unethical behaviours. After screening, 1,730 articles were removed, and the final sample includes 428 articles. **Figure 1** illustrates this work process, and **Figure 2** shows the distribution of literature published over time. After identifying these 428 literatures, we then analysed the keywords of these literatures with VOS Viewer software. The co-occurrence analysis results (**Figure 3**) suggest that five relatively clear keyword clusters emerged among the keywords of these literatures, that is: (1) Bad Apple Phenomenon, which included gender, experience, overconfidence, etc. (2) Bad Barrel Phenomenon, which included organisational culture, Confucianism, Institutional perfection, etc. (3) Moral Intensity, which included moral intensity, magnitude of consequences,

FIGURE 3
The consequence of co-occurrence analysis.

dimensions of moral intensity, etc. (4) Individual Recovery Phenomenon, which included social capital, human capital, replacement, etc. (5) Organisational Recovery Phenomenon, which included reputation, Opportunity costs, management changed, etc.

Combined with a panoramic view of the field of executives' unethical behaviour through a bibliometric analysis, we conducted a content coding of these 428 papers identified and then constructed a theoretical framework by inductively identifying the corresponding concepts. To clarify and reconcile the differences between researchers during the coding process, discussions in depth with researchers were conducted by rereading the content of the literature abstracts during the iterative cycle, to determine the most accurate classification of the literature (Jones et al., 2011;

Bettinelli et al., 2017). The coding process is shown in Table 1.

Framework for conceptual analysis of executives' unethical behaviour

Based on the coding results and the ABC analysis paradigm (Denyer et al., 2008), which is widely used in management and behavioural science research, this study constructs a conceptual analysis framework that can be used to analyse the current research situation in this field, including the antecedents, the characteristics of the behaviour itself and the consequences. For the antecedents, in this study, we focus on the individual characteristics of executives and the environmental factors that trigger and influence the occurrence of executives' unethical

TABLE 1 Coding process.

Coding process

Primary codes	Secondary codes	Research themes
Gender, past experience, education, occupation, nationality, etc.	Executives' demographics	Bad apple phenomenon
Narcissism, machiavellianism, external or internal locus of control, contagion mechanisms of immorality, etc.	Executives' psychographics	
Organisational climate, organisational culture, performance pressure, formal ethics institutionalisation, etc.	Organisational environment	Bad barrel and bad cellar phenomenon
Legal incompleteness, cost of legal enforcement, goal orientation, compensation structure, social-level cultural, institutional quality, national welfare level, etc.	Institutional environment	
Jones' six-dimensional theory, Singhapakdi's two-dimensional theory, valentine's single-dimensional theory, etc.	Distinction of moral intensity dimensions	Characteristics of unethical behaviour
Severity of consequences and social consistency, contextual differences, experimental design, etc.	Mechanisms of moral intensity dimensions	
Executive team change, employment opportunities, mechanisms of reputation, penalty level, selection mechanism of executives, etc.	Personal trauma	Individual recovery phenomenon
Social capital accumulation, human capital endowment, "scapegoating" effect, etc.	Career recovery	
Corporate reputation, stakeholder recognition and support, opportunity cost of missing out, short-term competitive advantage, explosive enterprise immoral actions, etc.	Organisational trauma	Organisational recovery phenomenon
Increasing the proportion of independent directors, Increasing the proportion of institutional investors, executive turnover, etc.	Organisational recovery	

behaviour from the perspectives of bad apple theory and bad barrel theory. The characteristics of unethical behaviour refer to the seriousness of the unethical issues involved in the behaviour, such as the severity and controversial nature of the consequences. Jones (1991) argued that studying executives' unethical behaviour apart from unethical events is illogical. Thus, the triggers of unethical behaviour cannot be separated from the inherent properties of the ethical issue itself. The consequences of executives' unethical behaviour refer to the impact of the behaviour on the executives and the organisations. In this study, we call the individual-level impact on the executives as the Individual Recovery Phenomenon. The organisational-level impact is examined from the perspective of 'organisational recovery', which is used to describe the trauma and recovery process of the executives' unethical events on the organisation, just like the trauma and recovery process of biological tissue. However, most of the existing studies focussed on the impact of executives' unethical behaviour on corporate reputation and stock price. They ignored the process of organisational recovery after the unethical events, that is, how organisations can better recover from the negative impact of executives' unethical behaviour. Therefore, in the present study, through a review of the prior literature, we proposed a conceptual analysis framework of executives' unethical behaviour (**Figure 4**) from three aspects (i.e., the antecedents, the behaviour itself and the consequences) and five dimensions (i.e., bad apple phenomenon, bad barrel and bad cellar phenomenon, characteristics of un-ethical behaviour,

Individual Recovery phenomenon and organisational recovery perspective).

We will review papers on the causes of unethical behaviour from the individual level, the organisational level, and the feature of the unethical event itself. Specifically, (1) the bad apple phenomenon refers to physiological and psychological factors that influence executives at the individual level, in which physiological factors include gender (Knight, 2002; Nguyen Nhung et al., 2008), education level (Wang and Zhao, 2007), past academic and military experiences (Franke, 2001; Kish-Gephart et al., 2010; Zeming et al., 2020), etc.; psychological factors include executives' personality (Donmez-Turan, 2015), locus of control (Detert et al., 2008), etc. (2) Bad barrel phenomenon refers to the influence of institutional and cultural environment at the organisational level, in which cultural environment includes the internal culture of an organisation (Bad Barrel) and the broader social culture of a country (Bad Cellar) (Peterson, 2002; Tan et al., 2012). (3) Different from studies on the bad apple phenomenon or bad barrel phenomenon, studies on the feature of unethical behaviour, such as the severity and controversy, discusses its impact on executives' unethical behaviour. There are relatively few studies on this topic, and in the limited number of studies that are relevant, researchers mainly explored two constitutive dimensions of moral intensity (Jones, 1991; Tan et al., 2011) and the mechanisms of each dimension (O'Fallon and Butterfield, 2005). In addition, we also reviewed papers on the consequences of unethical behaviour from the individual level and the organisational
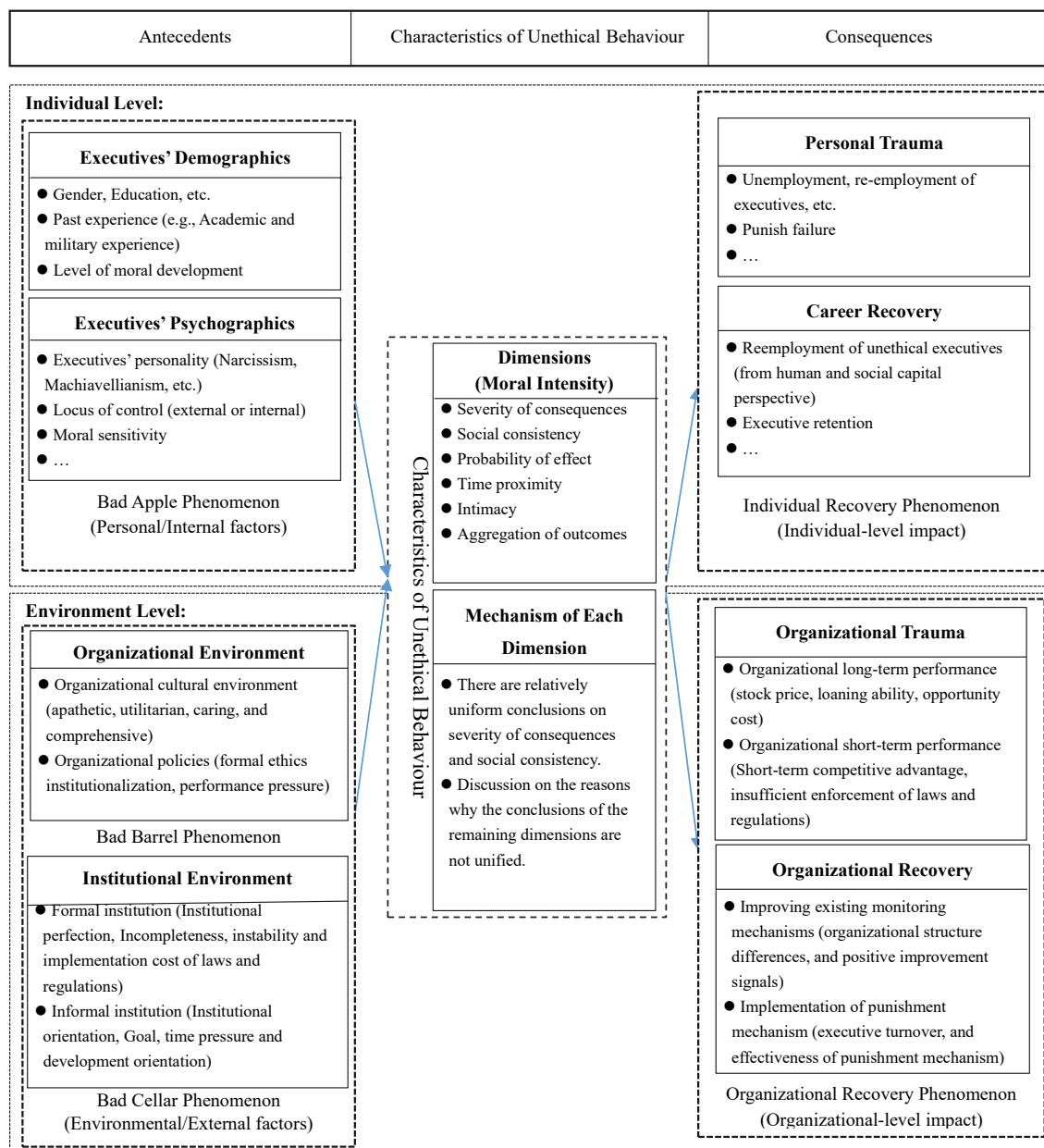
Note: Bad Apple, Bad Barrel and Bad Cellar Phenomenon mainly focus on the personal factors and environmental factors that trigger the occurrence of executives' unethical behaviour. The Characteristics of Unethical Behaviour perspective focuses on the inherent properties of the behaviour itself and the mechanisms that cause unethical behaviour. The Individual Recovery Phenomenon focuses on the range of impacts on the executives and their organizations after unethical behaviours and the Organizational Recovery perspective focuses on how an executive or organization recovers from such impacts.

FIGURE 4
The conceptual framework for executives' unethical behaviour.

level. Prior studies mainly explored the impact of unethical behaviour on executives (e.g., reputational damage, turnover, etc.) or organisations (e.g., organisational long- and short-term performance) (Desai et al., 2006; Grant and Visconti, 2006; Karpoff et al., 2008), and how they can recover from such impact.

Analysis for research themes of previous literature on executives' unethical behaviour

Research themes on the antecedents of executives' unethical behaviour

Bad apple phenomenon

The bad apple phenomenon suggests that the executives' own characteristics, including executives' demographics and psychographics, are key factors determining whether they will engage in unethical behaviour. Hambrick and Mason (1984) proposed upper echelons theory, which uses executives' observable demographic variables as proxies for executives' unobservable and difficult-to-measure psychological processes. Since they proposed this theory, executive demographic variables have received sustained attention from scholars as a central theme in the study of unethical behaviour. These demographic variables include the gender (Andreoli and Lefkowitz, 2009), past experience and education level of the executive. In terms of gender, it is generally believed that female executives have less opportunistic behaviour (Dreber and Johannesson, 2008), greater moral sensitivity (Gilligan, 1977; Liu and Liu, 2014) and a more robust operation approach (Wei et al., 2012) when making corporate decisions because they have a lower propensity for risk and greater consideration of ethical issues (Knight, 2002; Nguyen Nhung et al., 2008). Some scholars have also studied the influence of executives' past experiences on their unethical behaviour based on identity theory and imprinting theory. For example, the academic experience of executives may reduce the emergence of unethical behaviour, because of accelerating the development of their moral cognition (Wu and Liu, 2006; Wang and Zhao, 2007; Kish-Gephart et al., 2010) and reducing potential reputation crises (Wen et al., 2019; Zeming et al., 2020). However, research findings on executives' military experience are inconsistent, with some scholars suggesting that military experience fosters greater moral perceptions (Franke, 2001) and greater stress tolerance (Boas et al., 1998), thereby contributing to the reduction of unethical behaviour. On the contrary, other scholars suggested that this case may also lead to a higher willingness to take risks and create overconfidence (Berkowitz and Lepage, 1967; Elder, 1986), leading to executives' unethical behaviour. The use of executives' demographic variables as antecedents of unethical behaviour is, in general, a very important subset of the field. However, factors such as gender are only surface-level factors of individual characteristics, so their underlying mechanisms of the influence on unethical behaviour need to be further investigated. In addition, little attention has been paid in the existing literature to the variability of the impact of past experience on executives, such as whether the same experience has different effects at different times of the executive's life

or at different periods of economic development. Therefore, further exploration of the mechanisms underlying the effects of individual demographic variables on executives' unethical behaviour is a promising research direction.

Apart from executives' demographic variables, some studies have also explored the antecedents of executives' unethical behaviour from the perspective of their psychographics, such as executives' personality and locus of control. Studies on executives' personalities suggested that executives with 'dark' personalities, such as narcissism and Machiavellianism, are significantly and positively associated with unethical behaviour (Donmez-Turan, 2015). Typically, narcissistic executives exhibit traits, such as self-centredness (Morf and Rhodewalt, 2001), disregard for the interests of others (Emmons, 1987) and lower moral sensitivity. From another aspect, high Machiavellian executives are more pragmatic, unscrupulous and utilitarian, and they tend to abandon moral norms to achieve their goals (Wu and Lebreton, 2011). Interestingly, in a study on social media fatigue, Banks et al. (2019) found that social media fatigue predisposes individuals to a lack of motivation and cognitive flexibility, which in turn leads to unethical behaviour, and this effect tends to be more pronounced for female executives (Al-Shatti et al., 2022). This finding contradicts the previous study that male executives have a higher tendency to behave unethically, and therefore also deserves further exploration in future research. Besides, research on locus of control, in addition to executives' personality, is also of interest to scholars and suggests that individuals with an external locus of control tend to view external forces as determinants of things, and therefore, they tend to have a looser ethical code (Detert et al., 2008). However, compared with the research on executives' demographic variables, research on psychographic characteristics is still in its infancy and deserves continued attention in future studies.

Bad barrel and bad cellar phenomenon

With the development of the study on executives' unethical behaviour, scholars gradually expanded from the demographic and psychographic characteristics of executives to study the antecedents of their unethical behaviour to the cultural environment and institutional environmental factors, that is, from the perspective of bad apple phenome-non to bad barrel and bad cellar phenomenon.

First, from the perspective of bad barrel phenomenon, current research mainly focuses on the internal environment of the organisation. Organisational environment refers to the values, moral norms and traditional customs shared by members of organisations (Liu and Liu, 2014). Prior literature mainly explored the antecedents of executives' unethical behaviour from the perspective of organisational-level cultural environments and organisational policies. Based on the different levels of attention enterprises attach to organisational performance and employee well-being, sodm

cultural environment can be divided into four types: apathetic, utilitarian, caring and comprehensive type. Amongst them, the apathetic and utilitarian cultural environment neglects attention to the organisation members. In this case, executives tend to have higher motivation for unethical behaviour to maximise the pursuit of the organisation or their own interests (Tan et al., 2012). By contrast, a caring and comprehensive cultural environment will lead to a lower tendency for executives to behave unethically (Deshpande, 1996). Miller et al. (2015) proposed a similar view in their study, where they argued that social comparisons can induce executives to try to restore a kind of "fairness," which in turn leads to unethical behaviour.

As for organisational policies, Lant (1992) suggests that the pressure on decision makers often comes from the gap between their perceived reality and expectations. When companies set high performance pressures on executives, for example, companies often publicly announce that they are outperforming their competitors and pursuing the "number one" in their mission, executives are more likely to behave unethically. This is because unethical behaviour, while detrimental to stakeholder interests, may pro-vide firms with certain advantages to slow performance declines (Rudy and Johnson, 2016). Moreover, based on the context of COVID-19 pandemic, Agarwal (2021) found that to manage the negative effects of COVID-19 and improve performance, most firms had to make structural and operational changes, such as layoffs and work overload on the remaining employee. In this case it leads to higher job insecurity and excessive stress among executives, which in turn triggers unethical decisions. With the increasing attention to business ethics, companies are also paying more attention to ethical issues in their operations and explicitly include ethical requirements in their policy manuals. As Singhapakdi et al. (1996) has argued, the policies that explicitly include ethical requirements can directly influence the executives' behaviour and are assimilated in the organisational culture. In addition, it is worth paying attention to the fact that formal ethical norms in organisations have received less attention in studies on emerging economies, so it is worth further exploring whether they can actually reduce executives' unethical behaviour in emerging economies and the mechanisms of their effects.

Second, from the perspective of bad cellar phenomenon, which focuses on institutional environment at macro-level. The institutional environment has been a hot research topic in recent years in studying the antecedents of executive unethical behaviour, which mainly involves formal institution (institutional perfection, incompleteness, instability and implementation cost of laws and regulations, etc.) and informal institution (institutional orientation, goal, time pressure and development orientation, social cultural environment, etc.) The perfect institutional environment can better protect enterprise property rights and investment returns and reduce transaction costs and risks (Wan and Chen, 2010). This environment can also make enterprises have a strong rule consciousness and more consider the constraints of rules while pursuing economic interests, thereby reducing unethical behaviour. In general, several studies explored the influence of institutional perfection on executives' unethical behaviour from the perspectives of imperfection, instability and implementation costs of laws and regulations based on institutional theory and institutional anomie theory (He et al., 2015; Jun, 2017).

In addition, some scholars explored the impact of institutional orientation based on existing institutions. Generally speaking, establishing a goal-oriented system will prompt executives to have a higher tendency to behave unethically to achieve the predetermined performance requirements (Kaptein, 2008). By contrast, the development-oriented system will make executives' pay more attention to the process of goal realisation. This system will also identify the deficiency and potential of organisational members and train them (He et al., 2012), which is negatively correlated with the unethical behaviour of executives. Moreover, scholars have gradually deepened their research on goal orientation. The degree of goal clarity and difficulty, the process of goal setting and the goal content have gradually attracted more and more scholars' attention. Interestingly, many studies have found that the use of equity incentives for executives may also trigger unethical behaviour (Burns and Kedia, 2006; Efendi et al., 2007; Hass et al., 2016), due to the fact that executives will ignore the manner they achieve the goals, which occurs particularly frequently in emerging markets. As rapid economic development and imperfect institutions are important characteristics of emerging economies (Arnold and Quelch, 1998), at this time, both enterprises and countries are more likely to take ensuring rapid economic growth as their primary goal. Therefore, institutional perfection and institutional orientation are also the elements that should be paid attention to in the research on executives' unethical behaviour in emerging markets.

As for the social-level cultural environment, prior studies mainly focussed on the influence of several specific social-level cultural environments on executives' unethical behaviour, such as individualism (Peterson, 2002), universalism (Cullen et al., 2004) and money materialism (Messner and Rosenfeld, 2001). However, prior studies mostly focussed on the western cultural environment and ignored the impact of the high-power distance and collectivism culture that often exists in emerging economies like China. Therefore, future research could explore the impact of different national cultures on executives' unethical behaviour in emerging markets.

Characteristics of unethical behaviour

Different from studies on the antecedents of executive unethical behaviour from the perspectives of bad apple phenomenon or bad barrel phenomenon, studies on the characteristics of unethical behaviour are based on the

characteristics of the behaviour itself, such as the severity and controversy of the consequences of the behaviour, to explore their impact on executives' unethical behaviour. Most of the research in this area is based on the concept of moral intensity introduced by Jones (1991) and considers moral intensity as a multidimensional structure consisting of six dimensions: severity of consequences, social consistency, probability of effect, temporal proximity, intimacy and aggregation of outcomes. This concept is mainly used to measure the severity of the ethical issues involved in the behaviour itself. It is generally believed that the stronger the moral intensity, the lower the likelihood of executives engaging in unethical behaviour (Tan et al., 2011). Depending on different research focuses, studies on moral intensity can be divided into studies on the distinction of moral intensity dimensions and studies on the mechanism of each moral intensity dimension on executives' unethical behaviour. In terms of distinction of moral intensity dimensions, some scholars used factor analysis to distinguish between two dimensions of moral intensity: social pressure and potential consequences (Singhapakdi et al., 1996). By contrast, others argued that moral intensity can be reduced to a common factor, that is, only one dimension (Valentine and Silver, 2001). However, the six-dimensional structure proposed by Jones has been adopted by many scholars and widely used in subsequent studies.

In terms of the mechanism of each dimension, scholars have come to similar conclusions about the severity of the consequences and social consistency. They generally agree that the more severe the consequences of unethical events or the more socially consistent the judgement of the unethical nature of the behaviour, the less likely decision-makers are to act unethically (O'Fallon and Butterfield, 2005). However, the conclusions of the remaining four dimensions are not uniform, and even diametrically opposed conclusions emerge from the different studies. The reasons for this inconsistency are manifold. McMahon and Harvey (2007), through two groups with different experimental designs, and Janet and Anusorn, through a comparison of studies in Thai and US contexts, suggested that differences in within- and between-group designs, including cultural differences, are the main reasons for the significant differences in research findings (Svetla and Isabelle, 2005). Overall, owing to the large differences in culture and legal systems in emerging market countries, the same ethical issue can bring about different perceptions of individual ethical problems in different regions, that is, the same ethical event may bring about different moral intensities in emerging market countries. Thus, further research on moral intensity based on emerging market contexts would be beneficial to enrich the literature in this area and generate opportunities for theoretical innovation.

Research themes on the consequences of executives' unethical behaviour

Different from the previous three perspectives on the antecedents of executives' un-ethical behaviour, both the individual recovery phenomenon and organisational recovery phenomenon focus on the effects of unethical behaviour from the perspective of the con-sequences of unethical behaviour.

Individual recovery phenomenon

Individual recovery phenomenon focuses on the effects of unethical behaviour on executive. Previous studies mainly explored the impact of unethical behaviour on executives in terms of personal trauma and career recovery. Personal trauma, one of the important outcomes of unethical behaviour, refers to a range of effects on the executives, such as unemployment, fines and market exclusion, when their behaviour is uncovered. Studies conventionally explored the issue of executive turnover and re-employment following the occurrence of unethical behaviour based on reputation theory. These studies suggested that the disclosure of unethical behaviour has a negative impact on the reputation of executives in the market for professional managers, which in turn leads to higher turnover rates and lower re-employment opportunities (Arthaud-Day et al., 2006; Desai et al., 2006; Karpoff et al., 2008). However, in some emerging economies, institutional imperfection and a low degree of marketisation in the selection mechanism of corporate executive teams (Weihua, 2011) have made it difficult for the reputation mechanism to function. In addition, the penalties for executives' unethical behaviour are weak (Li and Chen, 2013). This phenomenon has, to some extent, encouraged executives in emerging economies to engage in unethical behaviour. Therefore, directly applying the same views of Western scholars to research the consequences of executives' unethical behaviour in emerging economies is difficult. Future research should consider the characteristics of emerging economies and explore how the consequences of unethical behaviour in emerging economies affect the professional development of executives and the effectiveness of penalties for unethical behaviour.

Career recovery refers to a series of recovery measures that executives may take to compensate for the negative impact of their uncovered unethical behaviour. It is estimated that 93% of executives will be removed as a result of the disclosure of the unethical event (Agrawal and Cooper, 2017). Moreover, the subsequent re-employment of those executives whose reputation in the market for professional managers has been damaged has become a hot topic in career recovery research. Career recovery focuses on the social and human capital of those unethical executives and its impact on their re-employment (Gowan and Lepak, 2007). It is generally believed that executives with high social and human capital can improve corporate competence, organisation management ability and

corporate relational capital (Coffie and Yeboah, 2018), thereby alleviating the negative effects of reputation damage and improving re-employment opportunities. However, there is a relative paucity of research on career recovery in general, with even less research focussing on emerging economies. In Western research, executive turnover has traditionally meant leaving the company, so previous studies mainly explored the issue of career recovery for unethical executives on this basis. Owing to the non-market-based nature of the executive selection mechanism and the strong bureaucratic overtones, unethical executives in emerging economies may simply cease to serve as the chairman or general manager of a listed company but remain in other positions, such as the deputy general manager or director (Weihua, 2011), and maintain the same salary level. Therefore, future research on these differences in performance could not only test the effectiveness of the current regulatory regime but also provide new research objects and opportunities for theoretical innovation in the field of research on the consequences of executives' unethical behaviour.

Organisational recovery phenomenon

Similar to the Individual Recovery phenomenon, the organisational recovery phenomenon also focuses on the consequences of executives' unethical behaviour and mainly explores the impact on the organisation from the perspectives of organisational trauma and recovery. The study on organisational trauma is relatively rich, and it is generally believed that executives' unethical behaviour has a negative impact on organisational performance in the long term (Grant and Visconti, 2006), but probably positively affects the short-term performance of the firm (Tan et al., 2012). Research on long-term performance has been conducted mainly in terms of lower corporate share prices (Agrawal and Chadha, 2005), poorer loaning capacity (Huang, 2013), high penalty costs (Alexander, 1999), opportunity costs of missing out (Griffin, 2003), corporate reputation, organisational legitimacy, external stakeholder identification and support for the organisation (Lian et al., 2019b). Compared with the short-term performance, there are more consistent conclusions on the long-term performance that executives' unethical behaviour directly or indirectly hinders the sustainable development of the firm. There are different conclusions in the impact of executives' unethical behaviour on short-term performance. The main reason for the disagreement is that unethical behaviour usually is the decision after weighting the costs and benefits (Fei et al., 2016). Thus, firms may compress corporate costs in the short term because of the implementation of unethical behaviour, and then gain a short-term competitive advantage (Grant and Visconti, 2006; Tan et al., 2012). Emerging economies are often characterised by weak penalties (Jiang and Kim, 2015) and poor implementation of laws and regulations (Henisz and Delios, 2003). Therefore, the negative effects of executives'

unethical behaviour may take longer to become apparent in the firm. Therefore, the empirical evidence and improvement of existing conclusions on executives' unethical behaviour in the emerging markets context are the focus of attention at this stage.

Compared with organisational trauma, research on how organisations can alleviate or restore the ongoing negative effects of executives' unethical behaviour, that is, organisational recovery, is less. Previous studies explored this issue mainly in terms of improving existing monitoring mechanisms and implementing penalty mechanisms. Amongst the studies on the improvement of monitoring mechanisms, researchers mainly focussed on the dichotomous relationship of 'corporate structure-executives' unethical behaviour'. They studied the effect of the differences in corporate structure on organisational recovery, such as increasing the proportion of independent directors (Burns and Kedia, 2006; Ashbaugh-Skaife et al., 2008) and increasing the shareholding of institutional investors (Li and Li, 2008). Moreover, some scholars noted that the change in the organisational structure of the company not only enhances the effect of the organisational monitoring mechanism but also sends a signal to the public that the organisation is committed to changing the *status quo*, which in turn mitigates the negative impact of the executive's unethical behaviour (Lian et al., 2019a). In addition, the implementation of penalty mechanisms is also an important way of organisational recovery, which mainly emphasises the behaviour of executives and their corresponding responsibilities. As executives are often considered the spokesperson of the company (Hambrick and Mason, 1984), the choice of replacing an executive after his or her unethical behaviour is exposed can effectively send a signal to the public that the organisation has 'changed radically'. It benefits not only to quickly restore the company's image but also to divert the attention of the public and directly reduce the negative impact of the unethical behaviour (Cao, 2015; Xuewen and Fan, 2021). Although sometimes these punishments are totally unjustified for some executives, those executives are often treated by companies as scapegoats to alleviate the effects of unethical behaviour (Brown, 1982; Walsh and Seward, 1990). This finding also explains, to some extent, why 93% of unethical executives are replaced as a result of unethical events. However, in the existing research on organisational recovery, there is a lack of research to test the effectiveness of these measures and the possibility of repeated unethical events in organisations. Particularly in emerging economies, several companies have experienced high-level executives' unethical behaviour, and a number of industry leaders and listed companies experienced such events (Li and Chen, 2013). Thus, helping such companies recover quickly from unethical events, operate normally in the market and reduce the potential for repeat unethical behaviour is vital to the health of emerging economies.

From the review of executives' unethical behaviour research themes from 2000 to 2020, we draw the following three findings. Firstly, research on antecedents still focuses on executives' demographic characteristics and institutional environmental factors. Researchers have analysed the drivers of executives' unethical behaviour from different theories and perspectives. In addition, there has been an increase in the attention paid to the psychographic characteristics of executives, cultural environment factors and the characteristics of unethical events. However, studies based on the uniqueness of emerging economies are relatively few, which is not conducive to theoretical expansion. Secondly, trauma has always been the focus of research on the consequences of unethical behaviour, of which there has been relatively considerable research on organisational trauma but only a small amount of research on personal trauma of executives. Moreover, how organisations or executives 'recover' from unethical events is becoming a hot topic. Given the differences between emerging market contexts and traditional research contexts, exploring the nature of these differences and executives' unethical behaviour in emerging economies is also a promising direction for future research.

Directions for future research

With the development of the research on executives' unethical behaviour, more and more scholars are paying attention to the research on executives' unethical behaviour in emerging economies. The uniqueness of emerging market contexts has led to several unique issues, and thus, there is a great opportunity for theoretical innovation. The unique characteristics of emerging markets include cultural differences, institutional differences and differences in economic development stages. In terms of cultural differences, high power distance, collectivism and relationship utilisation have received more attention from scholars (Jin et al., 2005; Yiu et al., 2014). In terms of institutional differences, emerging economies, such as China, are still in a period of economic transition, and the typical characteristics of the nature of institutions are dynamic, unstable and imperfect (Peng, 2000; Meyer, 2001). Under this context, the weak implementation of laws and regulations and government intervention are also factors to be considered. In terms of differences in economic development stages, many scholars have highlighted the uniqueness of increased market competition and the rapid industrialisation process in emerging economies (Zhou et al., 2005). On this basis, the unique factors that influence the antecedents and consequences of executives' unethical behaviour in the emerging market context should be explored. Therefore, future research on executives' unethical behaviour should be further explored with a focus on emerging markets, and the following are several future research suggestions.

Antecedents of executives' unethical behaviour in the context of emerging economies

Future research on the bad apple phenomenon should continue to explore the demographic and psychographic characteristics of executives. Firstly, from the perspective of executives' demographic characteristics, owing to the rapid economic development of emerging economies, executives in these countries have experienced a significant increase in per capita income and career development opportunities. In addition, more and more specialised types of executives, such as those from humble backgrounds, those with overseas study experience and those with foreign employment experience, are appointed as corporate executives, providing potential new research groups for the research on the antecedents of executives' unethical behaviour. Moreover, previous studies have identified differences in unethical decision-making of executives with similar experiences. However, they have not explored the underlying drivers of these differences and whether they are influenced by the rapid industrialisation process in emerging economies. Furthermore, the changing environment brought about by economic development can have a significant impact on executives' personal psychological needs, such as a greater emphasis on personal fulfilment and work-life balance. Therefore, future research could conduct further investigation in the following directions: (1) to explore the differences in the mindset of executives with different experiences in their decision-making and the core mechanisms that drive their unethical behaviour; (2) to explore why executives with similar experiences have different tendencies to behave unethically and the impact of the rapid industrialisation process; (3) to explore the impact of different types of psychological needs on executive decision-making preferences. For example, executives who are more focussed on the realisation of personal values may be more likely to neglect the process of realisation, that is, they are less likely to take ethical considerations into account.

Future research on bad barrel phenomenon should further explore the antecedents of executives' unethical behaviour in terms of the cultural and institutional environments. For the cultural environment, prior studies mostly focussed on the influence of environmental factors on executives' unethical behaviour from the perspectives of corporate culture and ethical climate. These studies partly ignored the influence of the more general environment in which executives live, that is, the social-level cultural environment. Thus, future research could explore the factors that contribute to executives' unethical behaviour more in terms of national culture, such as face culture, relationship culture, high power distance, collectivism and long-term orientation. In addition, as emerging economies open up, their traditional cultures are inevitably impacted by foreign cultures. In this context, the question of how face

and relationship culture transform and influence executives' unethical behaviour in the context is also a special research topic. From an institutional environment perspective, most existing research on institutional inadequacies focussed on the lack of a mature formal system and the instability of the system, with less attention paid to the impact of weak implementation of laws and regulations and weak penalty levels. Moreover, in the emerging market context, the state or the government, in the pursuit of rapid economic development, may emphasise results over process in the policy-making process. This case in turn may affect executives' unethical behaviour and provide new perspectives and theoretical innovation opportunities for research on the antecedents. Therefore, more attention should be paid to institutional orientation research in the future.

Future research on the characteristics of unethical behaviour can try to expand the underlying theories related to the characteristics of the existing unethical events, or even construct new theories. As mentioned in the previous section, moral intensity emphasises an objective description of the behaviour itself, which implies that the same event should have the same moral intensity in different regions. However, owing to the institutional incompleteness of emerging economies, executives in those economies may have different subjective perceptions of the same unethical event. For example, the occurrence of a food safety incident in a country with a well-developed market system may lead to high fines or even criminal liability. On the contrary, in an emerging economy, executives may be more likely to lead to lower expectations of the severity of consequences because of the lack of relevant laws and regulations. In addition, the current literature has relatively uniform conclusions on the two dimensions of moral intensity, namely, the severity of consequences and social consistency. However, the extent and mechanism of the impact of different damages brought about by unethical events, such as physical damage, economic damage and psychological damage, on executives' unethical behaviour still need to be further explored. Thus, future research can draw attention to the following issues: (1) in the context of inadequate market systems and imperfect institutions, the perceived moral intensity of executives may be the key influencing factor in determining whether they will engage in unethical behaviour. (2) With regard to the various dimensions of moral intensity, the mechanism of each dimension's effect on executives' unethical behaviour can be further refined.

Consequences of executives' unethical behaviour in the context of emerging economies

Future research on the Individual Recovery phenomenon should further explore the impact of executives' unethical behaviour on the executives themselves and how they can recover from it. In terms of personal trauma, traditional governance approaches based on reputation theory are difficult to achieve the desired results in emerging economies because of the unique attribute of less marketized professional managers. It not only changes the existing predictions of reputation theory but may also even have new phenomena that are difficult to explain in the traditional literature. In this context, investigating the impact of different incentives or sanctions on executives themselves, how reputation mechanisms work in emerging market contexts, and the mechanisms by which reputation mechanisms work for different types of executives is instructive. In terms of research on career recovery for executives, the current literature paid less attention to this area in general. As executives can become scapegoats in unethical events, the question of how to help innocent executives overcome the negative effects of unethical events, whether companies will compensate executives who become scapegoats and how executives themselves can avoid becoming scapegoats in unethical events are all important issues for future research. Further research on these phenomena will not only explain some of the particular problems in emerging markets but also help to improve existing theories of executives' unethical behaviour.

Future research on organisational recovery could further explore the impact of emerging market characteristics on the conclusions of traditional organisational trauma research and the effectiveness of recovery measures. From the perspective of organisational trauma, emerging markets are characterised not only by low levels of the penalty and weak implementation of punitive measures compared with mature Western economies (Henisz and Delios, 2003; Jiang and Kim, 2015) but also by a tendency of group behaviour, which leads to the phenomenon that 'the law does not punish numerous offenders' (Li and Chen, 2013). These characteristics and phenomena challenge the underlying assumptions of traditional organisational trauma research and, in turn, have an impact on traditional research conclusions. Thus, future research could focus on the following directions: (1) how emerging market characteristics change the underlying theories of existing organisational trauma research, and how they affect traditional research conclusions. For example, how the phenomenon of 'the law does not punish numerous offenders' resulting from group unethical behaviour can develop the organisational legitimacy theory. (2) In emerging economies where the trauma of unethical behaviour may be far less than the benefits to the organisation, exploring how governments or markets can increase the costs of corporate unethical behaviour is an important topic for the future, given the characteristics of emerging markets. In addition, there is a growing interest in organisational recovery in the existing literature. Therefore, future research could investigate the effectiveness of these measures empirically or theoretically and further explore other recovery mechanisms. As unethical behaviour is often

a trade-off between pros and cons (Fei et al., 2016), follow-up studies on unethical firms (e.g., whether there is repeated unethical behaviour by firms) are not only a test of the effectiveness of organisational recovery measures but also provide a reference for future policy formulation in a broader sense, which are worthy of continued exploration in future research.

Conclusions

Research findings and contributions

By systematically reviewing 428 papers on executives' unethical behaviour published in top Chinese and international journals between 2000 and 2020, this study constructs a conceptual framework for the analysis of executives' unethical behaviour. The study also proposes suggestions for future research in the context of emerging markets. Some important trends in the research on executives' unethical behaviour can be reflected in this study. Firstly, based on the Western economic context, the research on executives' unethical behaviour has become more mature, and a research map is formed based on the antecedents, the characteristics of the behaviour itself and the consequences. Relatively few studies have focussed on the consequences of executives' unethical behaviour, particularly on the personal impact on executives. However, the existing research themes are generally rich enough to explain the phenomenon of executives' unethical behaviour in the Western economic context, both in terms of breadth and depth, including richness and complexity. Secondly, research on executives' unethical behaviour based on the characteristics of emerging economies has only just emerged, requiring further development of relevant research or theory. As the institutions and cultures of emerging economies are quite different from those of developed Western countries, grasping the essence of such differences is important to draw out scientific research questions on executives' unethical behaviour and to develop theories based on the characteristics of emerging markets. Thirdly, the research on executives' unethical behaviour has shown strong practical implications. Issues such as the problem of explosive corporate unethical behaviour brought about by food safety and the rent-seeking behaviour to improve corporate competitiveness have attracted the attention of a large number of scholars, providing a worthwhile theoretical basis for the design of new institutions and policies.

This review has three main contributions. Firstly, the study proposes a complete conceptual framework and conducts an in-depth and systematic literature review. Unlike the existing review articles, which focussed on the antecedents of executive misconduct, this study analyses and summarises the research content and themes of the literature on executives' unethical behaviour in the past two decades. This study also constructs a research map based on the antecedents, the characteristics of the behaviour itself and the consequences, providing a summary of the current status and progress of existing research in this area. Secondly, this study expands and extends the research map of executives' unethical behaviour. On the one hand, through content analysis of the existing literature, this study presents for the first time two perspectives on the Individual Recovery and organisational recovery phenomena, which are also the focus of current research. On the other hand, by focussing on the characteristics of emerging market contexts, this study attempts to integrate local research with traditional theory. This not only helps to guide more scholars to focus on the consequences of unethical behaviour and to construct corresponding theories but also promotes the deepening of the field of executives' unethical behaviour research and further extends the traditional research landscape. Thirdly, the study further subdivides the traditional perspective of bad barrel phenomenon into the cultural or institutional environment, making the research findings more detailed and richer.

Limitations and future research directions

For sample selection, this study focuses on the papers published on both the international and Chinese management journals or professional journals of business ethics. The study retrieves 428 papers on executives' unethical behaviour as the object of analysis. Although this sample selection method is one of the most common sample selection methods at present, further refinement of the sample under the condition of sufficient time and funding may make the analysis results more scientific and rigorous. In addition, in terms of time frame, this study includes the literature from 2000 to 2020. While sorting out the entire development process of research on executives' unethical behaviour, future re-search can also explore the dynamic changes in the focus of research, not only by updating the data over time but also by dividing it into different stages.

Author contributions

Funding

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Agarwal, P. (2021). Shattered but smiling: Human resource management and the wellbeing of hotel employees during COVID-19. *Int. J. Hosp. Manag.* 93:102765. doi: 10.1016/j.ijhm.2020.102765

Agrawal, A., and Chadha, S. (2005). Corporate governance and accounting scandals. *J. Law Econ.* 48, 371–406. doi: 10.1086/430808

Agrawal, A., and Cooper, T. (2017). Corporate governance consequences of accounting scandals: Evidence from top management, CFO and auditor turnover. *Q. J. Finance* 7:1. doi: 10.1142/S2010139216500142

Alexander, C. R. (1999). On the nature of the reputational penalty for corporate crime: Evidence. *J. Law Econ.* 42, 489–526. doi: 10.1086/467433

Al-Shatti, E., Ohana, M., Odou, P., and Zaitouni, M. (2022). Impression management on instagram and unethical behavior: The role of gender and social media fatigue. *Int. J. Environ. Res. Public Health* 19:9808. doi: 10.3390/ijerph19169808

Andreoli, N., and Lefkowitz, J. (2009). Individual and organizational antecedents of misconduct in organizations. *J. Bus. Ethics* 85, 309–332. doi: 10.1007/s10551-008-9772-6

Arnold, D. J., and Quelch, J. A. (1998). New strategies in emerging markets. *Sloan Manag. Rev.* 40, 7–20.

Arthaud-Day, M. L., Certo, S. T., Dalton, C. M. D., and Dalton, D. R. (2006). A changing of the guard: Executive and director turnover following corporate financial restatements. *Acad. Manag. J.* 49, 1119–1136. doi: 10.5465/amj.2006.23478165

Ashbaugh-Skaife, H., Collins, D. W., Kinney, W. R., and Lafond, R. (2008). The effect of SOX internal control deficiencies and their remediation on accrual quality. *Account. Rev.* 83, 217–250. doi: 10.2308/accr.2008.83.1.217

Banks, S., Landon, L. B., Dorrian, J., Waggoner, L. B., Centofanti, S. A., Roma, P. G., et al. (2019). Effects of fatigue on teamsand their role in 24/7 operations. *Sleep Med. Rev.* 48:101216. doi: 10.1016/j.smrv.2019.101216

Berkowitz, L., and Lepage, A. (1967). Weapons as aggression eliciting stimuli. *J. Pers. Soc. Psychol.* 7, 202–207. doi: 10.1037/h0025008

Bettinelli, C., Sciascia, S., Randerson, K., and Fayolle, A. (2017). Researching entrepreneurship in family firms. *J. Small Bus. Manag.* 55, 506–529. doi: 10.1111/jsbm.12347

Boas, S., Eliav, Z., Esther, B., and Micha, P. (1998). Correlates of charismatic leader behavior in military units: Subordinates' Attitudes, Unit Characteristics, and Superiors' appraisals of leader performance. *Acad. Manag. J.* 41, 387–409. doi: 10.2307/257080

Brass, D. J., Butterfield, K. D., and Skaggs, B. C. (1998). Relationships and unethical behavior: A social network perspective. *Acad. Manag. Rev.* 23, 14–31. doi: 10.2307/259097

Brown, M. C. (1982). Administrative succession and organizational performance: The succession effect. *Adm. Sci. Q.* 27, 1–16. doi: 10.2307/2392543

Burns, N., and Kedia, S. (2006). The impact of performance-based compensation on misreporting. *J. Financ. Econ.* 79, 35–67. doi: 10.1016/j.jfineco.2004.12.003

Cao, X. (2015). The effects of senior executives on turnaround: A literature review. *Nanjing J. Soc. Sci.* 09, 38–45.

Coffie, R. B., and Yeboah, E. H. (2018). Does the social and human capital of retrenched bankers matter in their reemployment? *J. Hum. Resour. Manag.* 21, 14–27.

Cullen, J. B., Parboteeah, K. P., and Hoegl, M. (2004). Cross-national differences in managers' Willingness to justify ethically suspect behaviors: A test of institutional anomie theory. *Acad. Manag. J.* 47, 411–421. doi: 10.2307/20159590

Denyer, D., Tranfield, D., and Van Aken, J. E. (2008). Developing design propositions through research synthesis. *Organ. Stud.* 29, 393–413. doi: 10.1177/0170840607088020

Desai, H., Hogan, C. E., and Wilkins, M. S. (2006). The reputational penalty for aggressive accounting: Earnings restatements and management turnover. *Am. Account. Assoc.* 81, 83–112. doi: 10.2308/accr.2006.81.1.83

Deshpande, S. P. (1996). Ethical climate and the link between success and ethical behavior: An empirical investigation of a non-profit organization. *J. Bus. Ethics* 15, 315–320. doi: 10.1007/BF00382957

Detert, J. R., Treviño, L. K., and Sweitzer, V. L. (2008). Moral disengagement in ethical decision making: A study of antecedents and outcomes. *J. Appl. Psychol.* 93, 374–391.

Donmez-Turan, A. (2015). The relationships among love of money, machiavellianism and unethical behavior. *Can. Soc. Sci.* 11, 48–59.

Dreber, A., and Johannesson, M. (2008). Gender differences in deception. *Econ. Lett.* 99, 197–199. doi: 10.1016/j.econlet.2007.06.027

Efendi, J., Srivastava, A., and Swanson, E. (2007). Why do corporate managers misstate financial statements? The Role of option compensation and other factors. *J. Financ. Econ.* 85, 667–708. doi: 10.1016/j.jfineco.2006.05.009

Elder, G. (1986). Military times and turning points in Men's Lives. *Dev. Psychol.* 22, 233–245. doi: 10.1037/0012-1649.22.2.233

Emmons, R. A. (1987). Narcissism: Theory and measurement. *J. Pers. Soc. Psychol.* 52, 11–17. doi: 10.1037/0022-3514.52.1.11

Fei, T., Yu, X., and Gu, X. (2016). Product market competition and listed company violation. *Account. Res.* 9, 32–40.

Franke, V. (2001). Generation X and the military: A comparison of attitudes and values between west point cadets and college students. *J. Polit. Mil. Sociol.* 29, 92–119.

Gilligan, C. (1977). In a different voice: Women's conceptions of self and of morality. *Harv. Educ. Rev.* 47, 481–517. doi: 10.17763/haer.47.4.g6167429416hg5l0

Gowan, M. A., and Lepak, D. (2007). Current and future value of human capital: Predictors of reemployment compensation following a job loss. *J. Employ. Counsel.* 44, 135–144. doi: 10.1002/j.2161-1920.2007.tb00032.x

Grant, R. M., and Visconti, M. (2006). The strategic background to corporate accounting scandals. *Long Range Plann.* 39, 361–383. doi: 10.1016/j.lrp.2006.09.003

Griffin, J. A. (2003). Challenge for the telecom industry: Converging enterprise portals and business intelligence to produce a collaborative business platform. *Thomson Media* 13:40.

Hambrick, D. C., and Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Acad. Manag. Rev.* 9, 193–206. doi: 10.2307/258434

Hass, L., Tarsalewska, M., and Zhan, F. (2016). Equity incentives and corporate fraud in China. *J. Bus. Ethics* 138, 723–742. doi: 10.1007/s10551-015-2774-2

He, H., Yuan, Y., and Peng, J. (2012). The impact of performance appraisal orientation on employee creativity: Moderating role of employee fairness perceptions of performance appraisal. *Stud. Sci. Sci.* 30, 739–747.

He, X., Deng, H., Wu, S., and Liang, P. (2015). Catch-up pressure and Unethical behavior of companies: Data analysis from Chinese listed companies. *Manag. World* 9, 104–124.

Hegarty, W. H., and Sims, H. P. (1978). Some determinants of unethical decision behavior: An experiment. *J. Appl. Psychol.* 63, 451–457. doi: 10.1037/0021-9010.63.4.451

Henisz, W. J., and Delios, A. (2003). Political hazards, experience, and sequential entry strategies: The international expansion of Japanese firms, 1980-1998. *Strateg. Manag. J.* 24, 1153–1164. doi: 10.1002/smj.355

Huang, H. (2013). Financial risk prevention of moral and ethical considerations. *Res. Econ. Manag.* 12, 119–123.

Jiang, F., and Kim, K. A. (2015). Corporate governance in China: A modern perspective. *J. Corp. Finance* 32, 190–216. doi: 10.1016/j.jcorpfin.2014.10.010

Jin, H., Qian, Y., and Weingast, B. R. (2005). Regional decentralization and fiscal incentives: Federalism, Chinese style. *J. Public Econ.* 89, 1719–1742. doi: 10.1016/j.jpubeco.2004.11.008

Jones, M. V., Coviello, N., and Tang, Y. K. (2011). International entrepreneurship research (1989-2009): A domain ontology and thematic analysis. *J. Bus. Ventur.* 26, 632–659. doi: 10.1016/j.jbusvent.2011.04.001

Jones, T. M. (1991). Ethical decision making by individuals in organizations: An issue-contingent model. *Acad. Manag. Rev.* 16, 366–395. doi: 10.2307/258867

Jun, Z. (2017). Institutional context and firm misbehavior: An empirical research based on cross-national panel data. *Foreign Econ. Manag.* 39, 114–128.

Kaptein, M. (2008). *Developing a measure of unethical behavior in the workplace: A stakeholder perspective*. Thousand Oaks, CA: Sage Publications, 978. doi: 10.1177/0149206308318614

Karpoff, J. M., Scott Lee, D., and Martin, G. S. (2008). The consequences to managers for financial misrepresentation. *J. Financ. Econ.* 88, 193–215. doi: 10.1016/j.jfineco.2007.06.003

Kish-Gephart, J. J., Harrison, D. A., and Trevino, L. K. (2010). *Bad apples, bad cases, and bad barrels: Meta-analytic evidence about sources of unethical decisions at work*. Washington, DC: Apa American Psychological Association, 1. doi: 10.1037/a0017103

Knight, J. (2002). Sexual stereotypes. *Nature* 415, 254–256. doi: 10.1038/415254a

Lant, T. K. (1992). Aspiration level adaptation: An empirical exploration. *Manag. Sci.* 38, 623–644. doi: 10.1287/mnsc.38.5.623

Li, W. A., and Li, B. (2008). An empirical study on the effect of institutional investors participating in corporate governance: Based on the data of 2004-2006 CCGINK. *Nankai Bus. Rev.* 11, 4–14.

Li, X., and Chen, B. (2013). Explosive enterprise immoral actions and ineffective government regulations: Institutional analysis of product safety and regulation. *Econ. Res. J.* 48, 98–111+123.

Lian, Y., Liu, Y., Gao, H., and Luo, K. (2019a). Does the improvement of the governance mechanism play a repairing role? A study based on the relationship between immoral irregularities and organizational performance. *Foreign Econ. Manag.* 41, 72–84.

Lian, Y., Ye, W., and Liu, Y. (2019b). Industrial competition aspiration and organization strategic deviation: An empirical study in China. *Manag. World* 35, 155–172+191–192.

Liu, Y., and Liu K. (2014). New trends in the study of ethical decision making in western enterprises. *Stud. Ethics* 1, 65–70.

Marcus, A. A., and Goodman, R. S. (1991). Victims and shareholders: The dilemmas of presenting corporate policy during a crisis. *Acad. Manag. J.* 34, 281–305. doi: 10.2307/256443

McMahon, J. M., and Harvey, R. J. (2007). The effect of moral intensity on ethical judgment. *J. Bus. Ethics* 72, 335–357. doi: 10.1007/s10551-006-9174-6

Meng, Q., Li, X., and Cai, X. (2018). Does corporate strategy influence corporate frauds. *Nankai Bus. Rev.* 21, 116–129+151.

Messner, S. F., and Rosenfeld, R. (2001). *Crime and the American dream*, 3rd Edn. Washington, DC: Bureau of Justice Statistics.

Meyer, K. E. (2001). Institutions, transaction costs, and entry mode choice in Eastern Europe. *J. Int. Bus. Stud.* 32, 357–367. doi: 10.1057/palgrave.jibs.8490957

Miller, Monica, K., Reichert, J., and Flores, D. (2015). "Social comparison theory," in *The wiley blackwell encyclopedia of sociology*, ed. G. Ritzer (Oxford: Wiley Blackwell). doi: 10.1002/9781405165518.wbeoss140.pub2

Morf, C., and Rhodewalt, F. (2001). Unraveling the paradoxes of narcissism: A dynamic self-regulatory processing model. *Psychol. Inq.* 12, 177–196. doi: 10.1207/S15327965PLI1204_1

Nguyen Nhung, T., Basuray, M. T., Smith William, P., Kopka, D., and Mcculloh, D. (2008). Moral Issues and gender differences in ethical judgement using reidenbach and Robin's (1990) multidimensional ethics scale: Implications in teaching of business ethics. *J. Bus. Ethics* 77, 417–430. doi: 10.1007/s10551-007-9357-9

O'Fallon, M. J., and Butterfield, K. D. (2005). A review of the empirical ethical decision-making literature: 1996-2003. *J. Bus. Ethics* 59, 375–413. doi: 10.1007/s10551-005-2929-7

Peng, M. W. (2000). *Controlling the foreign agent: How governments deal with multinationals in a transition economy*. Wiesbaden: Gabler Verlag, 141.

Peterson, D. K. (2002). The relationship between unethical behavior and the dimensions of the ethical climate questionnaire. *J. Bus. Ethics* 41, 313–326. doi: 10.1023/A:1021243117958

Rudy, B., and Johnson, A. (2016). Performance, aspirations, and market versus nonmarket investment. *J. Manag.* 42, 936–959. doi: 10.1177/0149206313503017

Singhapakdi, A., Vitell, S. J., and Kraft, K. L. (1996). *Moral intensity and ethical decision-making of marketing professionals*. Amsterdam: Elsevier Science Publishing Co Inc, 245. doi: 10.1016/0148-2963(95)00155-7

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *J. Bus. Res.* 104, 333–339. doi: 10.1016/j.jbusres.2019.07.039

Svetla, M., and Isabelle, S. (2005). Comparing thai and US businesspeople : Perceived intensity of unethical marketing practices, corporate ethical values, and perceived importance of ethics. *Int. Mark. Rev.* 22, 562–577. doi: 10.1108/02651330510624390

Tan, Y., Liao, J., and Li, J. (2011). The evolution, mechanism and intervention of managers' unethical behavior to organizational corruption: An analysis from the perspective of psychology and society. *Manag. World* 12, 68–77.

Tan, Y., Liao, J., and Wang, S. (2012). Review and prospect of non-ethical behavior research in workplace. *Foreign Econ. Manag.* 34, 40–48.

Tenbrunsel, A., and Smith-Crowe, K. (2008). Ethical decision making: Where we've been and where we're going. *Acad. Manag. Ann.* 2, 545–607. doi: 10.5465/19416520802211677

Treviño, L. K., Den Nieuwenboer, N. A., and Kish-Gephart, J. J. (2014). (Un)ethical behavior in organizations. *Ann. Rev. Psychol.* 65, 635–660. doi: 10.1146/annurev-psych-113011-143745

Valentine, S., and Silver, L. (2001). Assessing the dimensionality of the Singhapakdi, Vitell, and Kraft measure of moral intensity. *Psychol. Rep.* 88, 291–294. doi: 10.2466/pr0.2001.88.1.291

Vardi, Y. (2001). The effects of organizational and ethical climates on misconduct at work. *J. Bus. Ethics* 29, 325–337. doi: 10.1023/A:1010710022834

Walls, J., Berrone, P., Phan, P. H., and Johns, H. (2012). Corporate governance and environmental performance: Is there really a link? *Strateg. Manag. J.* 33, 885–913. doi: 10.1002/smj.1952

Walsh, J. P., and Seward, J. K. (1990). On the efficiency of internal and external corporate control mechanisms. *Acad. Manag. Rev.* 15, 421–458. doi: 10.2307/258017

Wan, H., and Chen, X. (2010). Governance environment, rent-seeking and transaction cost: Evidence from the non-productive expenditures of Chinese firms. *China Econ. Q.* 9, 553–570.

Wang, Y., and Zhao, S. (2007). A review of the research on corporate managers' ethics abroad. *Foreign Econ. Manag.* 03, 25–32.

Wei, Y., Yi, L., Longwei, W., and Ting, L. (2012). Study on the unethical behavior: A literature review. *Manag. Rev.* 24, 145–153+159.

Weihua, C. (2011). Corporate scandals, reputation mechanism and management turnover. *Bus. Manag. J.* 33, 38–43.

Wen, W., Zhang, X., and Song, J. (2019). Can Scholar-type CEOs curb corporate tax avoidance. *J. Shanxi Univ. Finance Econ.* 41, 110–124.

Wu, H., and Liu, H. (2006). A review of western ethical decision-making research. *Foreign Econ. Manag.* 12, 48–55.

Wu, J., and Lebreton, J. M. (2011). Reconsidering the dispositional basis of counterproductive work behavior: The role of aberrant personality. *Pers. Psychol.* 64, 593–626. doi: 10.1111/j.1744-6570.2011.01220.x

Xuewen, K., and Fan, W. (2021). Corporate governance, earnings manipulation and abnormal CEO change. *J. Nanchang Univ. Human. Soc. Sci.* 52, 55–66.

Yang, J., and Ming, X. (2017). The process and antecedents of team ethical decision-making: A study in Chinese context. *Adv. Psychol. Sci.* 25, 542–552. doi: 10.3724/SP.J.1042.2017.00542

Yiu, D. W., Hoskisson, R. E., Bruton, G. D., and Lu, Y. (2014). Dueling institutional logics and the effect on strategic entrepreneurship in Chinese business groups. *Strateg. Entrep. J.* 8, 195–213. doi: 10.1002/sej.1177

Zeming, Y., Peilin, W., and Yuyuan, F. (2020). Has the academic experience of executives affected the R&D manipulation of enterprises? *Foreign Econ. Manag.* 42, 109–122.

Zhang, L., Ren, S., Chen, X., Li, D., and Yin, D. (2020). CEO hubris and firm pollution: State and market contingencies in a transitional economy. *J. Bus. Ethics* 161, 459–478. doi: 10.1007/s10551-018-3987-y

Zhang, S., Zhang, Z., and Chen, X. (2016). Antecedents, consequences and control of corporate corruptions: An international perspective and the Chinese path. *Q. J. Manag.* 1, 111–134+138.

Zhou, K., Yim, C., and Tse, D. (2005). The effects of strategic orientations on technology- and market-based breakthrough innovations. *J. Mark.* 69, 42–60. doi: 10.1509/jmkg.69.2.42.60756

How does leaders' information-sharing behavior affect subordinates' taking charge behavior in public sector? A moderated mediation effect

Jun-Na Liu[1], Yun-Zhang Hou[2]*, Jun Wang[3], Ping Fu[4,5] and Cong-Zhen Xia[6]

[1]School of Public Affairs and Administration, University of Electronic Science and Technology of China, Chengdu, China, [2]School of Management, Fudan University, Shanghai, China, [3]Business School, Huaqiao University, Quanzhou, China, [4]Management School, Hainan University, Hainan, China, [5]School of Management, University of Sanya, Hainan, China, [6]Faculty of Engineering, University of Sydney, Sydney, NSW, Australia

Introduction: Taking charge behavior (TCB) of civil servants is an important part of individual innovation performance, which is not only a key step for innovation in the public but also a real need for high-quality cadres construction in the public sector in the new era. Therefore, it is necessary to carry out an in-depth discussion on civil servants' taking charge behavior. Based on the theory of planned behavior, this paper constructs the framework of "cognition-motivation-behavior" to deeply explore the relationship between public sector leaders' information-sharing behavior and subordinates' taking charge behavior, as well as the mediating and moderating effects of subordinates' public service motivation and emotional trust.

Method: This study collected 200 civil servants' questionnaires by online survey, and conducted regression analysis through SPSS/AMOS/PROCESS.

Result and discussion: The empirical study finds that the information-sharing behavior of leaders in the public sector can significantly affect the TCB of subordinates; the public service motivation partially mediates the relationship between them; emotional trust positively moderates the mediation effect of public service motivation in the relationship between leaders' information-sharing behavior and subordinates' TCB in the public. This study not only enriches the research on civil servants' TCB theoretically but also provides meaningful enlightenment for promoting civil servants' taking charge behavior.

KEYWORDS

information sharing behavior of public sector leaders, taking charge behavior, public service motivation, emotional trust, moderated median model

Introduction

George Frederickson highlighted that if one word can sum up the characteristics of public management in the late 20th century and the early 21st century, that is, "change" (Frederickson et al., 1999). People began to use words such as reengineering, reconstruction, innovation, and entrepreneurship to describe public management.

Government innovation has been widely concerned and highly valued by governments around the world (Kamarck, 2003). To respond to the era of volatile, uncertain, complex, and ambiguous (VUCA), innovation in the public has always been an important strategy (Hansen and Pihl-Thingvad, 2019). In the past decades, changes and reforms in the public sector have taken place continuously (Fattore et al., 2018), and the public servants' taking charge is the first step of public sector innovation (Bysted and Hansen, 2015). Although reform projects are usually initiated by administrative officials or decision-makers in a top–down manner, or assigned by political orders, the actual reforms are all accepted by the middle-level and subordinates in the public (Ahmad et al., 2020; Hassan et al., 2021). Studies have found that civil servants are important initiators of innovation within government organizations and play an important role in government reform and innovation (Damanpour and Schneider, 2009). Middle-level and front-line managers in the public sector are the most common initiators of governance innovation in federal countries, such as the United States (Borins, 2000). Moreover, civil servants will innovate policy implementation, service supply, organizational processes, and affair concepts in the form of working groups (Torugsa and Arundel, 2015). Since the 18th National Congress of the Communist Party of China, Party, and government have put forward some requirements for civil servant groups, such as "to reform and innovate," "to enhance the ability of reform and innovation," "be full of pioneering and innovative spirit," and "accurately recognize changes, scientifically adapt to changes, and actively seek changes" (Liu et al., 2015). Therefore, it is particularly important to conform to the actual needs of innovation in the government, stimulate the innovation motivation of the civil servants, and focus on the taking charge behavior (TCB) of individual civil servants.

Previous studies have verified that different types of leadership behaviors positively influence subordinates' TCB, such as empowered, participatory, transformative, shared, service-oriented, humorous, and parental leadership facilitating subordinates' TCB (Hackman and Oldham, 1976; Wu and Wu, 2007; Kim et al., 2015; Pundt, 2015; Ge, 2016; Tian and Sanchez, 2017; Hao and Long, 2020; Tang and Fang, 2020; Zhang et al., 2020). Among them, empowered leaders enhance subordinates' innovation competence and freedom by sharing performance goals, information, and other management practices (Fernandez and Moldogaziev, 2013; Demircioglu, 2018). Ethical leaders express ethical expectations to their subordinates and promote the subordinates to innovate for the benefit of the organization and the masses (Hassan, 2015). Transformational leaders enhance the sense of innovation and stimulate innovative behaviors of subordinates by maintaining high-quality communication and empowering them in participating in decision-making efficiently (Vigoda-Gadot and Beeri, 2012; Vandervoet, 2016). Servant leadership focuses on a strong bonding between the leaders and followers. It aims at providing valuable directions and support for followers

to reduce the threats related to innovative work behavior and to promote the improvement of employees' innovative ability (Zada et al., 2022a). It can be found that, through information transmission, leaders have frequent interactions with subordinates, which promotes the subordinates' TCB. Although existing studies have examined the influence of leadership behavior on subordinates' TCB, the research on specific leadership information-sharing behaviors (ISB) on subordinates' TCB is very limited. Therefore, this study attempts to explore the influence of leadership behavior on subordinate behavior in the public sector and tries to answer the question of whether the relevant research confirmed in the field of enterprise management is also applicable in the public sector. Moreover, most of the abovementioned studies have been explored in the private sector and are rarely seen in the public sector. Nowadays, affected by the "New Public Management Movement," new public administration theories and management models reflect the application of advanced management theories and practices of the private sector to the public sector, which aims at improving the efficiency of the government sector (Li, 2004). Then, taking ISB into the public sector, exploring whether the public sector leaders' ISB can inspire their subordinates' TCB is also worthy to be researched.

When we are studying the influence of public sector leaders' behaviors on subordinates' behaviors, public service motivation (PSM) is a mediated variable that cannot be ignored. PSM refers to the psychological tendency of individuals in responding to the goals of the public sector (Perry and Wise, 1990) and is a special inner motivation that transcends individual interests and zealously serves the public, nation, country, and mankind (Liu et al., 2015). People with high PSM tend to work in the public sector and are more willing to give full play to their discretion for public service, and then make changes in public service. Therefore, this research tries to identify the mediating variable of PSM between the government leaders' ISB and the subordinates' TCB. In addition, leaders in the public sector not only share work information but also share non-work information in open communication and interaction with their subordinates, which is conducive to the establishment of emotional trust (ET) between leaders and subordinates and forming high-quality leader–follower relationships (Zada et al., 2022b). ET is based on mutual interaction and attraction, deepened through long-term and frequent exchanges and communication between individuals and is manifested as a concern for the welfare of the trusted person (Zhang et al., 2015). In the public sector, when subordinates have strong ET, their TCB can be affected differently by their leaders' behavior. Therefore, this study attempts to test how ET moderates the relationship between the ISB of government leaders and the TCB of subordinates.

To sum up, this study intends to introduce the relationship between leaders' ISB and subordinates' TCB in the private sector into the public sector from the perspective of new public management. Based on the theory of planned behavior, this study explores the relationship between the ISB of government

leaders and the TCB of subordinates and further discusses the mediated effect of PSM and the moderated effect of ET in the relationship between them. Theoretically, this study introduces leaders' ISB into public sector management, attempting to test the positive effect of public sector leaders' ISB on subordinates' TCB, which enriches the research on the influencing factors of civil servants' TCB. Second, this study attempts to examine the mediating effect of PSM in the relationship between leaders' ISB and subordinates' TCB, which explains the key links of public sector leaders' ISB influencing subordinates' TBC and the influence mechanism of civil servants' TCB more clearly. Third, this study explores the possible moderating effect of subordinates' ET on the relationship between the ISB of government leaders and the PSM of subordinates, which also expands boundary conditions between the above factors. Practically, this study discusses and verifies the internal mechanism and boundary conditions of how government leaders' ISB affects their subordinates' TCB, which provides important evidence for strengthening leaders' ISB, cultivating civil servants' PSM, and promoting civil servants' TCB. It also supplies some practical suggestions for public sector innovation and civil servants' training.

Theory and hypotheses

Theory of planned behavior

The theory of planned behavior is a well-known attitude–behavior relationship theory (Duan and Jiang, 2008), which is used to explain human behavior in specific situations (Ajzen, 1991). This theory believes that behavioral attitudes, subjective norms, and perceived behavioral control determine behavioral intentions, and behavioral intentions directly determine actual behaviors. Behavioral attitude is an individual's like or dislike, positive or negative evaluation of engaging in a specific behavior, and the core of which is a behavioral belief. Subjective norms refer to the social pressure individual experiences when deciding whether to engage in a specific behavior, reflecting the influence of important others or groups on the individual's behavioral decision-making. Perceptive behavioral control refers to the degree of difficulty an individual perceived in controlling and performing a certain behavior (Ajzen, 2011). The theory of planned behavior has been widely used to predict the rational and challenging behaviors of individuals in organizations, which also provides a theoretical perspective for understanding the pre-factors of the civil servants' TCB. In this study, we assume that civil servants are surrounded by uncertainty. If they want to change the status quo of work, there will be a denial of existing rules and procedures of the organization. Therefore, before implementing TCB, civil servants would be more cautious. It is a dynamic process from the ISB of the public sector leaders to subordinates' TCB. They have completed the transformation from being capable of change, willing to

change, to making change. First, when leaders in the public sector share information, their subordinates not only receive ample information resources but also feel the goodwill of leaders. Second, when subordinates realize that the leader's ISB is a kind of trust and recognition for them, they will be encouraged to change the status quo of work, which nurtures the motivation of TCB. Finally, subordinates with a high willingness of TCB will implement change behaviors, externalizing the motivation of change into behaviors of change. Therefore, this research constructs a theoretical framework of "cognition-motivation-behavior" based on planned behavior theory, which is used to analyze how the public sector leaders' ISB affects their subordinates' TCB.

Leaders' ISB and subordinates' TCB in the public sector

Leader's ISB refers to leaders sharing views and opinions on various topics with their subordinates proactively (Nifadkar et al., 2019). Previous studies have more defaulted it as the leader's work ISB (Hatfield and Huseman, 1982; Snyder and Morris, 1984). Nifadkar et al. (2019) divided leaders' ISB into work ISB and non-work ISB. The former refers to leaders' proactive actions aiming at sharing information with subordinates that may help them complete official tasks, clarify official policies, explain performance expectations, and inform them of the procedures to fulfill their official responsibilities. The latter refers to leaders' communication with subordinates about their concerns, interests, and activities outside of the organization. The more frequently information sharing takes place, the more tasks, goals, and policies leaders communicate with their subordinates, and the more interests, hobbies, and activities outside the organization leaders convey (Chen et al., 2018). As a positive leadership behavior, ISB has strengthened the connection with subordinates and further enhanced the organizational LMX. In this context, subordinates will easily believe that they are valuable and trustworthy (He et al., 2020), which encourages them to participate in the development and progress of the organization with a master mentality (Gao et al., 2011). In this study, we defined the public sector leaders' ISB as leaders communicating the goals and policies of the government, explaining relevant decisions, and sharing personal interests, as well as family conditions to subordinates through open communication in the process of public affairs governance.

Taking charge behavior is defined as a behavior that voluntarily makes constructive efforts to optimize work processes and improve work methods, aiming at organizational functional changes. It can also be called transformational organizational citizenship behavior (Homberg et al., 2019; Lin and Zhang, 2019). This study defines civil servants' TCB as the behavior of civil servants who actively propose and share new ideas and use or promote new methods around working

methods, working procedures, and policy requirements. That is, to improve the effectiveness of policy implementation and enhance the performance of public services, civil servants take proactive and constructive changes in working methods, policies, and procedures (Vigoda-Gadot and Beeri, 2012; Tan, 2019). TCB is regarded as a risky behavior that challenges the status quo. Except for individual's characteristics, TCB has also been affected by organizational contexts such as leadership behavior (Bettencourt, 2004).

Measures taken by different types of leadership styles in creating an organizational atmosphere or role demonstrating would encourage civil servants' TCB (Meijer, 2014). This study believes that leaders' ISB will encourage subordinates' TCB in the public sector or civil servants' TCB. Specifically, in the public sector, leaders with high ISB will explain organizational tasks to subordinates to help them understand how their work integrated with sectors' goals, clarify their own roles and responsibilities (Guo and Liao, 2014), enhance autonomy and responsibility, and improve awareness of the importance of their work, which stimulates subordinates' TCB. Moreover, in the process of information sharing, the trust between leaders and subordinates is bound to increase. When subordinates obtain more trust and support from the leader, they would be more confident in trying new things (Chiaburu and Baker, 2006). Because the leader in the public sector would tolerate and understand some wrong experiences of subordinates, which is of great intensive for subordinates and then inspires their TCB. In addition, when leaders share information with subordinates in the public sector, it will also stimulate the subordinates' reciprocal exchange psychology and show the same information exchange behavior (Chan, 2014; He et al., 2021). The accumulation of information provides sufficient resources for the subordinates to take charge. Different types of leaders provide subordinates with material or non-material work resources, and subordinates repay the leader with behavioral innovation (Wynen et al., 2020). Leaders' ISB in the public sector could be regarded as providing information resources for subordinates, which would promote subordinates' TCB.

Based on the above statements, we propose the following hypothesis:

H1: Leaders' ISB in the public sector positively affects the subordinates' TCB.

Mediation effect of PSM on the relationship between leaders' ISB and subordinates' TCB in the public sector

Leaders' ISB and subordinates' PSM in the public sector

In Perry and Wise (1990), first proposed the concept of PSM and developed the theory of PSM. PSM includes four dimensions: attraction to policy-making, commitment to the public interest, compassion, and self-sacrifice (Perry, 1996). In the context of Chinese culture, some scholars have summarized it into three dimensions: attraction to participate in public decision-making, identification with public interests, and dedication and sacrifice (Liu et al., 2018). In this study, PSM means the internal motivation of civil servants to provide services for the public in engaging in public affairs.

Public service motivation is not invariable, but variable with the change in the external environment and internal cognition (Wang and Shu, 2018). Existing studies have verified that social and historical background, organizational environment, individual characteristics, and behavior as independent variables would affect the formation of PSM (Perry, 2000). Leadership factors, as an important variable of organizational environment, undoubtedly play an irreplaceable role in the formation of subordinates' PSM (Bass, 1985; Liu, 2015), especially transformational leadership, service-oriented leadership, ethical leadership, and relational behavior of leaders will positively affect subordinates' PSM (Chen and Lin, 2016; Ge, 2016; Tang and Fang, 2020; Chen and Liu, 2021). However, the relationship between leaders' ISB, specific leadership behavior, and subordinates' PSM still needs to be further explored.

Based on the influence of "guanxi" culture with a "diversity-orderly structure," leaders' ISB to subordinates will shorten the distance between leaders and subordinates, create a trustworthy working environment, and form a high-quality relationship between leaders and subordinates through open exchanges and communication. Under these conditions, the basic psychological needs of subordinates can be fully satisfied, thus motivating them to pursue higher-level values, such as the mission of serving others and society (Perry et al., 2010; He et al., 2019). Li and Wang (2016) believes that a good relationship with leaders could enhance subordinates' PSM. Leaders' ISB in the public sector is also conducive to establishing a good relationship between leaders and subordinates, which would promote the formation of subordinates' PSM. In addition, an individual sense of security and belonging is an effective environmental factor of individual internal motivation (Zhang et al., 2010). Leaders' ISB in the public sector also includes sharing interests with subordinates and helping clarify policy objectives and tasks, which creates a relaxed working atmosphere and relieves the spiritual height of tension and stress. In this way, subordinates' sense of security and belonging would be strengthened, then, promoting the public service motivation of subordinates.

Based on the above statements, we propose the following hypothesis:

H2: Leaders' ISB in the public sector positively affects the subordinates' PSM.

Subordinates' PSM and TCB in the public sector

Public service motivation has a significant influence on subordinates' attitudes and behaviors in the public sector. Some studies have shown that civil servants' PSM positively influences the change in organizational citizenship behavior (Chen and Lin, 2016), TCB (Homberg et al., 2019; Chen and Liu, 2021), innovation behavior (Tan, 2019), etc. Moreover, PSM is an important motive force for the innovation of civil servants (Miao et al., 2018). This study also believes that subordinates' PSM would promote their TCB in the public sector. Specifically, the stronger the subordinates' PSM in the public sector is, the more they will show the value tendency and altruistic behavior tendency of serving society (Chen et al., 2019). They would insist on the faith of serving people and pursuing the tenet of serving the people. Thus, subordinates in the public sector are required not only to meet basic job requirements but also to optimize work processes and methods, which are used to change the status quo and bring functional changes to the organization (Li et al., 2019).

Subordinates in the public sector with high-level PSM will identify their selfless service role more clearly, integrating the sense of responsibility and mission of serving the people into their work, challenging the status quo of work, making changes, and practicing more proactive reform behaviors (Chen and Lin, 2016). At the same time, they will explore how to respond to public demand and serve public interests better by using the discretionary space, thus presenting more TCB. In addition, subordinates in the public sector with strong PSM are full of the spirit of sacrifice for the public interest, and they are willing to bear the risks and other negative effects brought by innovation. As a result, they dare to innovate and reform (Tan, 2018). Relevant literature also proved that the stronger PSM of subordinates is, the less resistant they are to taking change (Homberg et al., 2019).

Based on the above statements, we propose the following hypothesis:

> H3: Subordinates' PSM positively affect their TCB in the public sector.

Mediated effect of PSM in the relationship between leaders' ISB and subordinates' TCB in the public sector

From the above argument, we believe that leaders' ISB in the public sector positively influences the subordinates' TCB. Furthermore, many literature studies take PSM into account in studying the relationship between leaders' ISB and subordinates' TCB. Considering the public nature of government departments, leaders usually convey the importance of public service to their subordinates to cultivate their motivation to actively provide public service to citizens, which also accords with the role positioning of people's public

servants. According to the theory of planned behavior, when leaders share information with subordinates, subordinates will recognize leaders' trust, at the same time, receive the value concept of public service conveyed by leaders, and then strengthen subordinate's PSM of serving citizens and society, thus promoting subordinates' TCB, which reproduces the progress cognition—motivation—behavior.

Moreover, public service motivation is a behavioral tendency accompanied by positive emotional experience, which is an important link between the external environment and employee behavior (Chen and Wu, 2008; Guo et al., 2014). This study believes that in the public sector, civil servants' PSM is an important motivation that can effectively receive the information shared by leaders and make positive responses. High PSM can make up for the lack of external motivation (Miao et al., 2018) and form a strong sense of responsibility, mission, self-sacrifice spirit, etc. These elements can inspire civil servants to actively participate in the decision-making process of government departments and dare to put forward new ideas, which promotes the generation of TCB. In short, leaders' ISB in the public sector would influence subordinates' TCB through the intermediary variable of PSM.

Based on the above statements, we propose the following hypothesis:

> H4: PSM mediates the relationship between leaders' ISB and subordinates' TCB in the public sector.

Moderated effect of emotional trust

Subordinates' trust in the leaders can be described as a psychological state in which they are willing to expose weaknesses to the leader based on positive expectations of the leader's intentions and behaviors without fear of being taken advantage of by the leader (Wei and Long, 2011). ET is built on the emotional interaction between subordinates and leaders, and the positive reciprocal experience and frequency of interaction will affect its formation (Mcallister, 1995). Existing studies have verified that ET is a special and deep psychological state, and once formed, it would have a lasting and stable influence on subordinates (Miao et al., 2014). Leaders' behavior also has a great influence on the formation of subordinates' trust (Chen et al., 2014), and leaders' ISB shows their trust to subordinates to great extent (Shi et al., 2012). We believe that leaders' ISB in the public sector will also produce subordinates' trust to varying degrees. As time goes by, this psychological state will affect subordinates' motivation to serve the public. Therefore, this study focuses on the moderated effect of subordinates' ET.

Subordinates with high ET have a positive attitude toward the leaders' ISB, and they regard leaders' ISB as leaders' expressions of trust and affirmation. In this situation, leaders' ISB makes subordinates strongly feel cared for and concerned

FIGURE 1
Conceptual model.
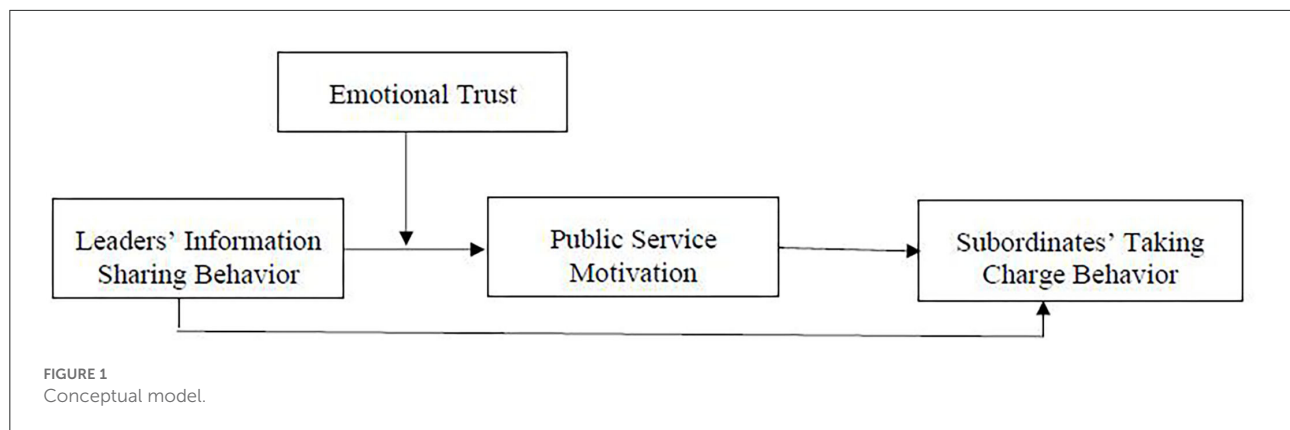
by their leaders, which stimulates subordinates' sense of responsibility and mission, improves their enthusiasm, and promotes the formation of PSM. However, subordinates with low ET will hold a negative attitude toward the leader's ISB, regarding it as pressure from leaders. In this situation, leaders' ISB would cause subordinates' fear and exacerbate the sense of distance between leaders and subordinates, which reduces subordinates' sense of identity and responsibility to the organization and restrains the formation of PSM. Therefore, we assume that the level of ET could affect the mechanism of leaders' ISB and subordinates' PSM. That means in the high-level ET, leaders' ISB promotes the formation of subordinates' PSM; in the low-level ET, leaders' ISB restrains the formation of subordinates' PSM.

Based on the above statements, we propose the following hypothesis

> H5: ET moderates the relationship between leaders' ISB and subordinates' PSM in the public sector.

Based on the above hypotheses, subordinates' PSM mediates the relationship between leaders' ISB and subordinates' TCB, while subordinates' ET moderates the relationship between leaders' ISB and subordinates' PSM. Therefore, we propose that ET moderates the mediation effect of PSM on leaders' ISB and subordinates' TCB in the public sector, namely, a moderated mediation effect. Specifically, in the condition of high ET, leaders' ISB in the public sector would significantly promote subordinates' PSM and then lead them to take charge. On the contrary, in the low-level ET, leaders' ISB affects subordinates' PSM less and then weakens the mediation effect of PSM on the relationship between leaders' ISB and subordinates' TCB.

Based on the above statements, we propose the following hypothesis:

> H6: ET moderates the mediation effect of PSM on the relationship between leaders' ISB and subordinates' TCB.

Thus, we construct the conceptual model as shown in Figure 1.

Research design

Research samples

The data for this study came from a questionnaire survey of civil servants in Shanghai, Shandong, Jiangxi, Guangdong, Guangxi, Xizang, and other provinces and cities in China. The respondents of the questionnaire come from administrative departments, judicial departments, party and mass organs, the National People's Congress, and other departments of China, which have good representativeness. In this survey, a total of 300 questionnaires were sent out and 203 were recovered, with a recovery rate of 67.67%. After eliminating 3 invalid questionnaires, 200 valid questionnaires were obtained, with an effective rate of 98.52%.

According to the descriptive statistics of samples, 52% are male participants and 48% are female participants; 65.69% are 25–35 years old, 19.12% are 25 years old or younger, 12.25% are 35–45 years old, 1.96% are 45–55 years old, and 0.98% are 55 years old or older; 69.12% of respondents are undergraduates, 23.04% are postgraduate, 6.86% are junior college students, and 0.98% are with doctoral degrees; 63.24% of respondents are staff members, 19.12% are section chiefs, 13.73% are clerks, 2.94% are division chiefs, and 0.98% are director general or above. The participants who are working 3 years and below account for 41.18%, 3–5 years account for 23.53%, 5–10 years account for 17.65%, 10–15 years account for 8.82%, and above 15 years account for 8.82%; 64.22% of respondents are in the eastern region, 26.96% of respondents are in the middle region, and 8.82% of respondents are in the western region. Respondents in government agency account for 59.8%, the party and the masses agency account for 23.04%, judiciary agency accounts for 16.67%, and 0.49% is in national peoples' congress or people's political consultative. According to the above data, most of the research respondents in this paper are young and highly educated civil servants, who are fresh out of school and are more

TABLE 1   Result of confirmatory factor analysis.

Model	X^2	df	X^2/df	RMSEA	CFI	IFI
Four-factor model	1,239.714	508	2.440	0.085	0.901	0.901
Three-factor model	2,583.157	524	4.930	0.141	0.720	0.722
Two-factor model	3,426.474	526	6.514	0.166	0.606	0.608
Single factor model	4,457.643	527	8.459	0.194	0.466	0.469

Four-factor model: leaders' ISB, ET, PSM, and subordinates' TCB.
Three-factor model: leaders' ISB + ET, PSM, and subordinates' TCB.
Two-factor model: leaders' ISB + ET + PSM and subordinates' TCB.
Single factor model: leaders' ISB + ET + PSM+ subordinates' TCB.

agile in thinking. They are more likely to inspire PSM under the information sharing of leaders, thus leading to active reform, which is in line with the purpose of this study.

Measure instruments

The main variables measured in this study are leaders' ISB in the public sector, subordinates' TCB, PSM, and ET. All measuring scales are derived from mature scales used in the relevant literature. Through the translation of multiple people, some items are revised to facilitate understanding and answers. Finally, a questionnaire is formed to investigate the influence of leaders' ISB in the public sector on subordinates' TCB.

We adopted the 12-item scale suggested by Nifadkar et al. (2019) to measure leaders' ISB in the public sector. In combination with the actual situation of the public sector, Nifadkar's scale (2019) was translated and modified to better measure leaders' ISB, items including "My leader will inform me of official regulations and policies" and "My leader will share his/her family plan with me." The Cronbach's α value is 0. 935. We adopted the 9-item scale suggested by Vigoda-Gadot and Beeri (2012) and Homberg et al. (2019) to measure subordinates' TCB, items including "I will try to change the way of work to improve efficiency" and "I will try to correct imperfect/wrong work procedures or measures." The Cronbach's α value is 0.963. We adopted the 8-item scale suggested by Bao and Li (2016) to measure subordinates' PSM, items including "It is important for me to make contributions to social welfare" and "I am willing to sacrifice my interests for social welfare." The Cronbach's α value is 0.925. We adopted the 5-item scale suggested by Mcallister (1995) and Zhang et al. (2015) to measure subordinates' ET, items including "I and my leader can freely share thoughts/feelings and hopes." Cronbach's α value is 0.936.

All items are measured on a 5-point Likert scale (1 = strongly inconsistent and 5 = strongly consistent). In addition, previous studies have shown that gender, age, educational level, working duration, and other factors would affect civil servants'

TCB (Demircioglu, 2020). Therefore, the above variables are taken as control variables in this study.

Data analysis

Validity testing

First, the recovered data were used to take exploratory factor analysis by SPSS 22.0, the KMO value was 0.940, >0.7. Then, we took confirmatory factor analysis by AMOS 24.0 to verify the discriminant validity among the four variables, which are leaders' ISB in the public sector, subordinates' TCB, PSM, and ET. These variables were established factor models to compare their fittingness, the results are shown in Table 1. From Table 1, we can see that the four-factor model fits well, CFI and IFI values were 0.901, RMSEA was 0.085; X^2/df was 2.440. According to these fitting indexes, we think the four-factor model is much better than those of other factor models and achieves a high standard.

Common method bias analysis

In this study, Harman's single-factor test was used to test the common method bias between variables. The test results showed that there were 5 factors with an eigenvalue >1, and the total variance interpretation was 77.2%. The variance interpretation of the first principal component was 18.784%, less than half of the total variance interpretation. Thus, common method bias was not so serious in this study.

Descriptive statistics analysis

We carried out the descriptive statistics and correlation statistics of each variable through SPSS, and the results are shown in Table 2. In Table 2, we can see that leaders' ISB in the public sector is positively correlated with subordinates' TCB (r = 0.778, $p < 0.01$), ET ($r = 0.429$, $p < 0.01$), and PSM ($r = 0.450$, $p < 0.01$). ET is positively correlated with subordinates'

TABLE 2 Mean, standard deviations, and correlations of variables.

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. ISB	2.908	1.838	1.000										
2. ET	3.270	2.208	0.778**	1.000									
3. PSM	4.113	1.502	0.429**	0.476**	1.000								
4. TCB	4.058	1.580	0.450**	0.509**	0.725**	1.000							
5. Gender			−0.027	−0.024	0.025	0.030	1.000						
6. Age			−0.089	−0.112	−0.072	−0.068	−0.166	1.000					
7. Educational level			−0.004	−0.016	−0.127	−0.108	0.122	0.041	1.000				
8. Position level			−0.124	−0.120	−0.124	−0.089	0.002	0.454**	0.252**	1.000			
9. Working duration			−0.071	−0.103	0.042	−0.020	−0.181	0.744**	−0.095	0.509**	1.000		
10. Region			−0.130	−0.121	−0.085	−0.001	0.012	0.137	−0.074	0.129	0.168*	1.000	
11. Nature of position			−0.123	−0.119	−0.021	−0.057	0.047	0.001	−0.017	−0.087	−0.056	0.056	1

** means $p < 0.01$; * means $p < 0.05$; two-tail testing is conducted; ISB = leasers' information-sharing behavior in the public sector; ET = emotional trust; PSM = public service motivation; TCB = subordinates' taking charge behavior.

TABLE 3 Testing of mediation effect and moderation effect.

Constant		PSM		TCB	
		Model 1	Model 2	Model 3	Model 4
Control variable	Gender	6.281	7.760	5.620	1.306
	Age	−0.337	−0.326	−0.268	−0.037
	Educational level	−0.220	−0.196	−0.225	−0.074
	Position level	−0.210	−0.251	−0.103	0.041
	Working duration	0.291*	0.278*	0.192	−0.008
	Region	0.108	−0.076	0.118	0.193
	Nature of position	0.055	0.056	−0.007	−0.045
Independent variable	ISB	0.343***	0.070	0.389***	0.153**
Mediated variable	PSM				0.687***
Moderated variable	ET		0.290***		
Interactive item	ISB*ET		0.057**		
R^2		0.230	0.313	0.230	0.558
F		7.112***	8.618**	7.111***	26.6489***

(1) *** Means $p < 0.001$; ** means $p < 0.01$; * means $p < 0.05$; (2) regression coefficients in the table are non-standard coefficients.

TCB ($r = 0.509$, $p < 0.01$) and PSM ($r = 0.476$, $p < 0.01$). PSM is positively correlated with subordinates' TCB ($r = 0.725$, $p < 0.01$). Based on these results, we could verify the hypotheses proposed further.

Mediation effect test

We test the mediation effect of PSM on leaders' ISB in the public sector and subordinates' TCB through PROCESS suggested by Hayes (2013), and the results are shown in Table 3. In model 3, having controlled gender, age, education background, working years, region, and post nature, we found that leaders' ISB in the public sector positively affects subordinates' TCB ($\beta = 0.389$, $p < 0.001$), thus, H1 is verified. In model 1, leaders' ISB in the public sector positively affects subordinates' PSM ($\beta = 0.343$, $p < 0.001$), thus, H2 is verified. In model 4, we take leaders' ISB and PSM as independent variables and compared with model 2, the results show that the regression coefficient of subordinates' TCB decreased from 0.389 to 0.153, $p < 0.001$, and PSM positively affects subordinates' TCB ($\beta = 0.687$, $p < 0.001$). Therefore, H3 and H4 are verified. At the same time, we use the Bootstrap method to test the mediation effect of PSM. In Table 4, the results show that the indirect effect value is 0.236, accounting for 60.64% of the total effect, and the 95% confidence interval is [0.142, 0.338], excluding 0. It further

TABLE 4 Mediation effect of PSM based on bootstrap.

	Effect	SE	95% confidence interval	
			Lower limit	Upper limit
Total effect	0.389	0.056	0.278	0.499
Direct effect	0.153	0.047	0.061	0.246
	Effect	Boot SE	95% confidence interval	
			Boot Lower limit	Boot Upper limit
Indirect effect	0.236	0.503	0.142	0.338

FIGURE 2
Moderation effect of emotional trust on the relationship between leaders' information sharing behavior in the public sector and subordinates' taking charge behavior.

TABLE 5 Mediation effect of PSM under different levels of ET.

Moderated variable	Indirect effect	Boot SE	95% confidence interval	
			Lower limit	Upper limit
High ET	0.134	0.051	0.034	0.234
Low ET	−0.038	0.083	−0.206	0.121
Moderated mediation index	0.039	0.018	0.005	0.074

To observe the moderation effect of ET more intuitively, this study drew the decomposition graph of the moderating effect according to the method recommended by Aiken and West (1991), as shown in Figure 2. Leaders' ISB in the public sector has different effects on subordinates' PSM in different levels of ET. When subordinates' ET is high, the slope of the line is steeper, and leaders' ISB in the public sector has a strong impact on subordinates' PSM. When subordinates' ET is low, the slope of the line is relatively gentle, and leaders' ISB in the public sector has a weak impact on subordinates' PSM.

Moderated mediation effect test

When testing whether ET moderates the mediation effect of PSM on leaders' ISB and subordinates' TCB, we integrated relevant variables into a model for verification and analysis through PROCESS. Model 7 is selected, and the sample size of Bootstrap is set to 5,000. The confidence interval is set as 95%, and the running results are shown in Table 5. In Table 5, we can observe that ET significantly moderated the mediation effect of PSM on leaders' ISB and subordinates' TCB (the moderating index is 0.039, 95% confidence interval [0.005, 0.074], exclude 0), and there is a moderated mediation effect. When the ET level is low, the 95% confidence interval [−0.206, 0.121] includes 0, indicating that the mediation effect of PSM is not significant under the condition of low ET. When the ET level is high, the 95% confidence interval [0.034, 0.234] excludes 0, indicating that the mediation effect of PSM is significant under the condition of high ET. Therefore, H6 is supported.

Research conclusion and discussion

Research conclusion

Based on the theory of planned behavior, this study constructs a moderated mediation model of leaders' ISB in the public sector affecting subordinates' TCB under the framework of "cognition-motivation-behavior." We introduce

verifies the partial mediation effect of PSM between leaders' ISB in the public sector and subordinates' TCB.

Moderation effect test

Based on the results of model 1 in Table 3, leaders' ISB in the public sector positively affects subordinates' PSM. To test the moderation effect of ET on leaders' ISB in the public sector and subordinates' PSM, we added the interaction item of ET into model 2 and conducted a regression analysis. The results show that the regression coefficient of the interaction term is significant ($\beta = 0.057$; $p < 0.05$). Therefore, ET moderated the relationship between leaders' ISB in the public sector and PSM. Thus, H5 is verified. That is, when subordinates' ET is strong, the influence of leaders' ISB on subordinates' PSM would be significantly enhanced, whereas, when subordinates' ET is weak, the influence of leaders' ISB on subordinates' PSM would be significantly weakened.

the research on the relationship between leaders' ISB and subordinates' TCB in Chinese government departments. Taking 200 Chinese civil servants as samples, the empirical research found that the leaders' ISB in the public sector positively affects subordinates' TCB. PSM mediated the relationship between them. ET moderated the relationship between leaders' ISB in the public sector and PSM. Moreover, ET moderated the mediation effect of PSM on the leaders' ISB in the public sector and subordinates' TCB.

With the development of the economy and society, government departments in the new era have higher innovation requirements for civil servants and leaders, calling for civil servants to take charge and promoting the construction of higher-quality government departments. TCB is reflected in the individual voluntary efforts to improve and update the existing workflow to realize the functional change of the organization. Leaders' ISB is stimulating subordinates' trust in leaders and recognition of the organization through the transmission of work information and non-work information to subordinates to spontaneously produce TCB. This study suggests that the leaders' ISB is naturally compatible with the subordinates' TCB, and it can significantly improve the subordinates' TCB. This process is also realized through subordinates' PSM. Moreover, when subordinates have a high degree of ET in leaders, and the organization, leaders' ISB is more likely to lead to TCB based on the PSM of subordinates.

Theoretical significance

The theoretical contributions of this study include the following three aspects:

First, we enrich the research results of ISB and TCB in the field of public administration by introducing the relationship between them into the Chinese public sector. Previous studies on leaders' ISB are more reflected in the field of business management and verified its positive impact on employees' TCB (Zhu et al., 2021). This study took civil servants as research objects, detailing the factors of leaders' behavior that affects civil servants' TCB, empirically testing the influence of leaders' ISB in the public sector on subordinates' TCB, which enriches the study on antecedent variables of civil servants' TCB.

Second, we explore the influence mechanism of leaders' ISB in the public sector on subordinates' TCB, opening the "black box" from leaders' ISB to subordinates' TCB. From the perspective of the theory of planned behavior, this study constructed the theory model of "cognition-motivation-behavior," more clearly showing the process of leaders' ISB in the public sector affecting subordinates' TCB through PSM, which enriches the application of the theory of planned behavior and broadens the research perspective of PSM.

Third, based on the Chinese culture, we examine the boundary effects of leaders' ISB and PSM on subordinates'

TCB by introducing ET as a moderated variable. It also echoes Zhang and Zhou's (2014) suggestion that leadership behavior significantly impacts employee innovation in the condition of high trust. Therefore, we delineated a clear condition that leaders' ISB in the public sector affects subordinates' TCB by identifying the boundary condition of ET.

Practical implication

Civil servants' TCB in their work is of primary importance in the public sector. How leaders in the public sector motivate subordinates' TCB is a major challenge in the field of public administration. The practical implication for civil servants' TCB provided by the conclusion of this study includes the following.

First, leaders in the public sector should enhance information sharing with their subordinates to stimulate subordinates' TCB. Civil servants' TCB is the spontaneous innovation of daily work processes and methods, which is the backbone of the reform and innovation in the public sector. The research of this study found that leaders' ISB in the public sector significantly promotes subordinates' TCB. As one of the important contents of leadership role behavior, information conveying (Xu and Ou, 2012) positively drives subordinates' TCB. With the development of information technology and the increasing knowledge mastered by subordinates, it is no longer appropriate for leaders to obtain power through blockading and monopolizing information and restricting subordinates' Nanjing University of Administration Research Group (2004). Subordinates increasingly need to get sufficient information to cope with the complex and changeable organizational environment (Chen et al., 2018). Therefore, leaders in the public sector should strengthen information sharing with subordinates, communicating with them as much as possible, and form a benign interactive relationship, so that subordinates can not only obtain more information resources but also establish trust and ownership with leaders, which enable subordinates to change and dare to change. The communication between leaders and subordinates can be conducted through regular symposiums, regular outdoor activities, dinner parties, and other leisure and entertainment, so that leaders and subordinates can not only exchange more information on work but also share information on life. Some leaders may selectively share information with subordinates based on their preference, which is not conducive to subordinates' TCB. Therefore, the leaders in the public sector need to share information with subordinates more actively, to provide resource support and emotional encouragement for subordinates' TCB.

Second, the public sector should pay attention to cultivating civil servants' PSM and do a good job in the psychological construction of seeking happiness for the people and development for society. This study shows that civil servants'

PSM not only affects their TCB, but mediates the relationship between leaders' ISB and civil servants' TCB partially, which means civil servants' PSM is a key variable deserving more attention. It requires the public sector to pay attention to those of high PSM in the daily selection of civil servants, and at the same time, strengthen the cultivation of PSM for the current civil servants. Through more theoretical learning and practice, civil servants could deepen their perception of PSM, strengthen their attention to PSM, stimulate their TCB, and at the same time, effectively convey the influence of leaders' ISB in the public sector on subordinates' TCB.

Third, leaders in the public sector should attach importance to the establishment of subordinates' ET, forming a good relationship between leaders and subordinates, and constructing a harmonious organizational atmosphere, which creates conditions for subordinates to take charge. In the public sector, subordinates' trust in leaders is the basis for the practice of leaders' ISB. Without this basis, leaders' information-sharing effect would be greatly weakened. This study found that ET, as a boundary condition affecting civil servants' TCB, has a significant moderated effect. We suggested that leaders and subordinates in their usual work are consistent with words and deeds and establish a reliable and trustworthy image of each other. Therefore, leaders can deepen the interaction and communication with subordinates in work, life, and other aspects. In this way, ET would be cultivated, and then subordinates' TCB would have occurred easier.

Limitation of study

The limitations of this study are as follows: First, this study only focuses on the individual level of civil servants and takes PSM as a mediated variable to explore the influence path of leaders' ISB in the public sector, which is slightly inadequate in the model explanation. In future studies, the factors influencing subordinates' TCB at the organizational level, such as organizational atmosphere, can be added to the model to increase the explanation. Second, in terms of data collection, the measurement of core variables in this study adopts civil servants' self-assessment and is carried out in the same period, so it is difficult to further determine the causal relationship of the model. In future studies, time series design and other evaluations will be used to collect data to reduce the deviation of common methods. Although we believe that the sample size should be 5–10 times the items in the scale, and 200 copies have reached the minimum standard of the sample size, it is still necessary to expand the sample size in future research.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

J-NL and Y-ZH: conceptualization, writing—original draft, writing—review and editing, methodology, and investigation. JW: conceptualization, writing—review and editing, supervision, formal analysis, and methodology. C-ZX and PF: writing—review and editing, investigation, and validation. All authors reviewed and approved this article for publication.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

The reviewer A-JS declared a shared affiliation with the author JW to the handling editor at the time of review.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Supplementary material

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.938762/full#supplementary-material

References

Ahmad, A. B., Liu, B. C., and Butt, A. S. (2020). Scale development and construct clarification of change recipient proactivity. *Person. Rev.* 49, 1619–1635. doi: 10.1108/PR-02-2019-0091

Aiken, L. S., and West, S. G. (1991). *Multiple Regression: Testing and Interpreting Interactions*. Newbury Park, CA: Sage Press

Ajzen, I. (1991). The theory of planned behavior. *Organ. Behav. Hum. Dec. Process*. 50, 179–211.

Ajzen, I. (2011). The theory of planned behavior: reactions and reflections. *Psychol. Health* 26, 1113–1127. doi: 10.1080/08870446.2011.613995

Bao, Y. J., and Li, C. P. (2016). Measurement of public service motivation: Theoretical structure and scale revision. *Human Resour. Develop. China*. 7, 83–91. doi: 10.16471/j.cnki.11-2822/c.2016.07.010

Bass, B. M. (1985). *Leadership and Performance Beyond Expectations*. New York: Free Press

Bettencourt, L. A. (2004). Change-oriented organizational citizenship behaviors: the direct and moderating influence of global orientation. *J. Retail*. 80, 165–180. doi: 10.1016/j.jretai.2003.12.001

Borins, S. (2000). Loose cannons and rule breakers, or enterprising leaders? Some evidence about innovative public managers. *Public Admin. Rev*. 60, 498–507. doi: 10.1111/0033-3352.00113

Bysted, R., and Hansen, J. R. (2015). Comparing public and private sector employees' innovative behavior: understanding the role of job and organizational characteristics, job types and subjectors. *Public Manag. Rev*. 17, 698–717. doi: 10.1080/14719037.2013.841977

Chan, S. C. (2014). Paternalistic leadership and employee voice: does information sharing matter. *Hum. Relat*. 67, 667–693. doi: 10.1177/0018726713503022

Chen, D. X., and Liu, B. C. (2013). A study on the formation mechanism of grassroots civil servants' transformational responsibility behavior: the trickle-down effect of public service motivation. *Public Manag. Rev*. 1, 47–67.

Chen, D. X., and Liu, B. C. (2021). An empirical study on the impact of ethical leadership on change-oriented organizational citizenship behavior of grassroots civil servants. *J. Central South Univ*. 27, 100–111.

Chen, D. X., Liu, B. C., and Long, T. Y. (2019). Analysis of civil servant turnover intention based on embedded perspective. *J. Shanghai Jiaotong Univ*. 27, 120–129.

Chen, Q. Q., Fan, Y., Lv, X., and Li, C. X. (2018). The influence mechanism of leaders' information sharing behavior on employee performance: the mediating role of job engagement and the moderating role of emotional trust. *Prediction* 3, 15–21.

Chen, X. P., Eberly, M. B., Chiang, T. J., Farh, J. L., and Cheng, B. S. (2014). Affective trust in Chinese leaders: linking paternalistic leadership to employee performance. *J. Manag*. 40, 796–819. doi: 10.1177/0149206311410604

Chen, Z., and Wu, H. (2008). Intrinsic motivation and its antecedent variables. *Adv. Psychol. Sci*. 1, 98–105.

Chen, Z. M., and Lin, Y. Q. (2016). Does the leader-relational behavior of government departments influence the transformational organizational citizenship behavior of subordinates? The mediating role of public service motivation and the moderating role of organizational support. *J. Public Manag*. 13, 11–20+152.

Chiaburu, D. S., and Baker, V. L. (2006). Extra-role behaviors challenging the status-quo: validity and antecedents of taking charge behaviors. *J. Manag. Psychol*. 21, 620–637. doi: 10.1108/02683940610690178

Damanpour, F., and Schneider, M. (2009). Characteristics of innovation and innovation adoption in public organizations: assessing the role of managers. *J. Public Admin. Res. Theory* 19, 495–522. doi: 10.1093/jopart/mun021

Demircioglu, M. A. (2018). The effects of empowerment practices on perceived barriers to innovation: evidence from public organizations. *Int. J. Public Admin*. 41, 1302–1313. doi: 10.1080/01900692.2017.1387143

Demircioglu, M. A. (2020). The effects of organizational and demographic context for innovation implementation in public organizations. *Public Manag. Rev*. 22, 1852–1875. doi: 10.1080/14719037.2019.1668467

Duan, W. T., and Jiang, G. G. (2008). A review of planned behavior theory. *Adv. Psychol. Sci*. 16, 315–320.

Fattore, G., Iacovone, D., and Steccolini, I. (2018). Managing successful change in the public sector: a view from the consultants' world. *Public Manag. Rev*. 20, 587–606. doi: 10.1080/14719037.2017.1340504

Fernandez, S., and Moldogaziev, T. (2013). Using employee empowerment to encourage innovative behavior in the public sector. *J. Public Admin. Res. Theory* 23, 155–187. doi: 10.1093/jopart/mus008

Frederickson, H. G., and Johnston, J. M., eds. (1999). *Public Management Reform and Innovation: Research, Theory and Application*. Tuscaloosa: University of Alabama Press.

Gao, L., Janssen, O., and Shi, K. (2011). Leader trust and employee voice: the moderating role of empowering leader behaviors. *Lead. Q*. 22, 787–798. doi: 10.1016/j.leaqua.2011.05.015

Ge, L. L. (2016). The impact of transformational leadership on civil servants' work attitude: the mediating effect of public service motivation. *J. Yantai Univ*. 29, 111–120.

Guo, Y., Liao, J., Liao, S., and Zhang, Y. (2014). The mediating role of intrinsic motivation on the relationship between developmental feedback and employee job performance. *Soc. Behav. Person. Int. J*. 42, 731–741. doi: 10.2224/sbp.2014.42.5.731

Guo, Y., and Liao, J. Q. (2014). Research on the mechanism of supervisory developmental feedback on employee performance. *Manag. Sci*. 27, 99–108.

Hackman, J. R., and Oldham, G. R. (1976). Motivation through the design of work: test of a theory. *Organ. Behav. Hum. Perform*. 16, 250–279.

Hansen, J. A., and Pihl-Thingvad, S. (2019). Managing employee innovative behavior through transformational and transactional leadership styles. *Public Manag. Rev*. 21, 18–944. doi: 10.1080/14719037.2018.1544272

Hao, P., and Long, L. R. (2020). Transforming passivity into initiative: the impact and mechanism of shared leadership on employees' proactive change behavior. *J. Manag. Eng*. 34, 11–20.

Hassan, H. A., Zhang, X. D., Ahmad, A. B., and Liu, B. (2021). Public service motivation and employee change-supportive intention: utilizing the theory of planned behavior. *Public Person. Manag*. 50, 283–304. doi: 10.1177/0091026020934515

Hassan, S. (2015). The Importance of ethical leadership and personal control in promoting improvement-centered voice among government employees. *J. Public Admin. Res. Theory* 25, 697–719. doi: 10.1093/jopart/muu055

Hatfield, J. D., and Huseman, R. C. (1982). Perceptual congruence about communication as related to satisfaction: moderating effects of individual characteristics. *Acad. Manag. J*. 25, 349–358.

Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: a regression-based approach. *J. Educ. Meas*. 51, 335–337. doi: 10.1111/jedm.12050

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: current research status and future research directions. *Front. Psychol*. 12, 748237. doi: 10.3389/fpsyg.2021.748237

He, P., Peng, Z., Zhao, H., and Estay, C. (2019). How and when compulsory citizenship behavior leads to employee silence: a moderated mediation model based on moral disengagement and supervisor–subordinate guanxi views. *J. Bus. Ethics* 155, 259–274. doi: 10.1007/s10551-017-3550-2

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020). Linking work-related and non-work-related supervisor–subordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus. Manag*. 21, 1–22. doi: 10.1057/s41291-020-00137-9

Homberg, F., Vogel, R., and Weiherl, J. (2019). Public service motivation and continuous organizational change: taking charge behavior at police services. *Public Admin*. 97, 28–47. doi: 10.1111/padm.12354

Kamarck, E. C. (2003). *Government Innovation around the World, Ash Institute for Democratic Governance and Innovation*. Harvard: John F. Kennedy School of Government, Harvard University.

Kim, T. Y., Liu, Z. Q., and Diefendorff, J. M. (2015). Leader-member exchange and job performance: the effects of taking charge and organizational tenure. *J. Organ. Behav*. 36, 216–231. doi: 10.1002/job.1971

Li, F., and Wang, P. Q. (2016). The structure and antecedent analysis of the motivation of grassroots public service. *J. Central China Normal Univ*. 55, 29–38.

Li, J. P. (2004). *Public Service Government*. Beijing: Peking University Press.

Li, M., Rong, Y., and Li, R. (2019). Responsibility for change in organizations: a new topic in the study of positive organizational behavior. *Psychol. Sci.* 42, 715–721.

Lin, Y. Q., and Zhang, Y. Q. (2019). Will leading member exchange influence civil servants' transformational organizational citizenship behavior? The mediating role of sense of obligation to change and the moderating role of public service motivation. *Public Admin. Rev.* 1, 132–150.

Liu, B., Hu, W., and Chen, G. Y. (2015). From the west to the east: validating servant leadership in the Chinese public sector. *Public Person. Manag.* 44, 25–45. doi: 10.1177/0091026014555995

Liu, B. C. (2015). *Research on Public Service Motivation in the Context of China.* Shanghai: Shanghai Jiao Tong University Press.

Liu, B. C., Perry, J. L., Tan, X. Y., and Zhou, X. (2018). A cross-level holistic model of public service motivation. *Int. Public Manag. J.* 21, 703–728. doi: 10.1080/10967494.2017.1370046

Mcallister, D. (1995). Affect-based and cognition-based trust as foundations for interpersonal cooperation in organizations. *Acad. Manag. J.* 38, 24–59.

Meijer, A. J. (2014). From hero-innovators to distributed heroism: an in-depth analysis of the role of individuals in the public sector innovation. *Public Manag. Rev.* 16, 199–216. doi: 10.1080/14719037.2013.806575

Miao, Q., Newman, A., and Huang, X. (2014). The impact of participative leadership on job performance and organizational citizenship behavior: distinguishing between the mediating effects of affective and cognitive trust. *Int. J. Hum. Resour. Manag.* 25, 2796–2810. doi: 10.1080/09585192.2014.934890

Miao, Q., Newman, A., Schwarz, G., and Cooper, B. (2018). How leadership and public service motivation enhance innovation behavior. *Public Admin. Rev.* 78, 71–81. doi: 10.1111/puar.12839

Nanjing University of Administration Research Group (2004). Leadership view in the information network era. *J. Nanjing Munic. Party School Nanjing Admin. College* 4, 34–37.

Nifadkar, S. S., Wu, W., and Gu, Q. (2019). Supervisors' work-related and non-work information sharing: integrating research on information sharing, information seeking, and trust using self-disclosure theory. *Person. Psychol.* 72, 241–269. doi: 10.1111/peps.12305

Perry, J. L. (1996). Measuring public service motivation: an assessment of construct reliability and validity. *J. Public Admin. Res. Theory* 6, 5–22.

Perry, J. L. (2000). Bringing society in: toward a theory of public service motivation. *J. Public Admin. Res. Theory* 10, 471–488. doi: 10.1093/oxfordjournals.jpart.a024277

Perry, J. L., Hondeghem, A., and Wise, L. R. (2010). Revisiting the motivational bases of public service: 20 years of research and an agenda for the future. *Public Admin. Rev.* 70, 681–690. doi: 10.1111/j.1540-6210.2010.02196.x

Perry, J. L., and Wise, L. R. (1990). The motivational bases of public service. *Public Admin. Rev.* 50, 367–373

Pundt, A. (2015). The relationship between humorous leadership and innovative behavior. *J. Manag. Psychol.* 30, 878–893. doi: 10.1108/JMP-03-2013-0082

Shi, K., Gao, L. P., Huang, X., and Sha, Y. J. (2012).The effect of leadership empowerment on employee silence: the moderating role of trust. *Manag. Rev.* 24, 94–101.

Snyder, R. A., and Morris, J. H. (1984). Organizational communication and performance. *J. Appl. Psychol.* 69, 461–465.

Tan, X. Y. (2018). Research on the impact mechanism of multi-level situational variables on grassroots civil servants' innovation behavior from the perspective of planned behavior. *Chin. J. Manag.* 7, 1001–1011.

Tan, X. Y. (2019). External environment change, service motivation and grassroots civil servants' reform behavior: a mixed study based on the survey of grassroots civil servants in four provinces in China. *Public Admin. Rev.* 12, 63–84.

Tang, J., and Fang, Z. B. (2020). The influence mechanism of service-oriented leadership on civil servant innovation behavior. *J. Shanghai Jiaotong Univ.* 4, 88–98.

Tian, Q., and Sanchez, J. I. (2017). Does paternalistic leadership promote innovative behavior? The interaction between authoritarianism and benevolence. *J. Appl. Soc. Psychol.* 47, 235–246. doi: 10.1111/jasp.12431

Torugsa, N., and Arundel, A. (2015). The nature and incidence of workgroup innovation in the Australian public sector: evidence from the Australian 2011 state of the service survey. *Aust. J. Public Admin.* 75, 202–221. doi: 10.1111/1467-8500.12095

Vandervoet, J. (2016). Change leadership and public sector organizational change: examining the interactions of transformational leadership style and red tape. *Am. Rev. Public Admin.* 46, 660–682. doi: 10.1177/02750740 15574769

Vigoda-Gadot, E., and Beeri, I. (2012). Change-oriented organizational citizenship behavior in public administration: the power of leadership and the cost of organizational politics. *J. Public Admin. Res. Theory* 22, 573–596. doi: 10.1093/jopart/mur036

Wang, Y. H., and Shu, Q. F. (2018). Public service motivation of rural cadres in China: quantitative measurement and influencing factors. *Manag. World* 34, 93–102.

Wei, H. M., and Long, L. R. (2011). The influence of cognitive and emotional trust, power distance and institutional control on leadership empowerment behavior. *J. Manag. Eng.* 25, 10–17.

Wu, Z. M., and Wu, X. (2007). The relationship between transformational leadership, organizational citizenship behavior and psychological empowerment. *J. Manag. Sci.* 5, 40–47.

Wynen, J., Boon, J., and Kleizen,. B., and Verhoest, K. (2020). How multiple organizational changes shape managerial support for innovative work behavior: evidence from the Australian public service. *Rev. Public Person. Admin.* 40, 491–515. doi: 10.1177/0734371X188 24388

Xu, S. Y., and Ou, Y. K. (2012). The influence of leadership justice and information justice on organizational retaliation behavior based on reference cognitive theory. *J. Manag.* 9, 1457–1463.

Zada, M., Zada, S., Ali, M., Jun, Z. Y., Contreras-Barraza, N., and Castillo, D. (2022a). How classy servant leader at workplace? Linking servant leadership and task performance during the COVID-19 crisis: a moderation and mediation approach. *Front. Psychol.* 13, 810227–810227. doi: 10.3389/fpsyg.2022.8 10227

Zada, M., Zada, S., Khan, J., Saeed, I., Zhang, Y. J., Vega-Muñoz, A., et al. (2022b). Does servant leadership control psychological distress in crisis? Moderation and mediation mechanism. *Psychol. Res. Behav. Manag.* 15, 607. doi: 10.2147/PRBM.S354093

Zhang, J., Liu, L. A., and Liu, W. (2015). Trust and deception in negotiation: culturally divergent effects. *Manag. Organ. Rev.* 11, 123–144. doi: 10.1111/more.12028

Zhang, J., Zhu, J. B., Li, Y., and Edward, L. D. (2010). An effective approach to promoting job motivation: a perspective of self-determination theory. *Adv. Psychol. Sci.* 18, 752–759.

Zhang, X., and Zhou, J. (2014). Empowering leadership, uncertainty avoidance, trust, and employee creativity: interaction effects and a mediating mechanism. *Organ. Behav. Hum. Dec. Process.* 124, 150–164. doi: 10.1016/j.obhdp.2014.02.002

Zhang, Z. T., Zhao, L. J., and Ding, M. Z. (2020). The influence mechanism of empowering leadership on employees' proactive change behavior. *Sci. Res. Manag.* 41, 218–226.

Zhu, X. X., Li, C., Wang, X. L., Liu, J. N., and Xia, S. (2021). How does information sharing of a supervisor influence proactive change behavior of an employee? The chain mediating role of family-like employee–organization relationship and relationship energy. *Front. Psychol.* 12, 2617. doi: 10.3389/fpsyg.2021.7 39968

The influence of leader–signaled knowledge hiding on tourism employees' work withdrawal behavior: A moderated mediating model

Anxin Xu[1], Haimei Zeng[2], Qiuqin Zheng[1]* and Xiaofeng Su[3]*

[1]College of Economics and Management, Fujian Agriculture and Forestry University, Fuzhou, Fujian, China, [2]Anxi College of Tea Science, Fujian Agriculture and Forestry University, Quanzhou, Fujian, China, [3]College of Business Administration, Fujian Business University, Fuzhou, Fujian, China

Even though organizations encourage the dissemination of knowledge and information among organizational members, the phenomenon of knowledge hiding still exists widely in organizations. The consequences of leader-signaled knowledge hiding are more destructive to the workplace than the consequences of employees' knowledge hiding. It is particularly necessary to explore the influence mechanism of leader-signaled knowledge hiding on employees' work behavior. Drawing on Conservation of Resources theory, this study establishes a moderated mediation model with emotional exhaustion as a mediating variable and supervisor-subordinate *guanxi* as a moderating variable. This study focuses on the consequences of leader-signaled knowledge hiding and divides leader-signaled knowledge hiding into self-practiced knowledge hiding and explicit knowledge hiding. Based on the results of 440 questionnaires from tourism employees, it is shown that leader-signaled knowledge hiding has a positive impact on employees' work withdrawal behavior. Specifically, leader's self-practiced knowledge hiding has a greater direct impact on employees' work withdrawal behavior, while leader's explicit knowledge hiding has a greater direct impact on employees' emotional exhaustion. Emotional exhaustion plays a key mediating role in the relationship between leader-signaled knowledge hiding (i.e., self-practiced knowledge hiding and explicit knowledge hiding) and employees' work withdrawal behavior. Supervisor-subordinate *guanxi* significantly moderates the positive relationship between leader-signaled knowledge hiding (i.e., self-practiced hiding and explicit knowledge hiding) and employees' emotional exhaustion. This study is an extension of previous research on knowledge hiding. The results provide a reference for leaders to deal with knowledge hiding and improve organizational knowledge management ability.

KEYWORDS

leader-signaled knowledge hiding, self-practiced knowledge hiding, explicit knowledge hiding, emotional exhaustion, knowledge management

Introduction

Even though sharing knowledge is a pervasive social norm, there is still widespread knowledge hiding in organizations (Bock et al., 2005), including the tourism industry (Arain et al., 2022). Knowledge hiding refers to individuals consciously "withhold or conceal knowledge that has been requested by another person" (Connelly et al., 2012, p.65). Knowledge hiding is a major reason for the lack of knowledge sharing in organizations. Current research, for the most part, has focused on the negative effects of employee knowledge hiding behaviors (Jha and Varkkey, 2018; Xiao and Cooke, 2019). It was found that employees' unethical knowledge hiding has serious negative effects on organizations and individuals. For example, current researches have showed that knowledge hiding will reduce organizational performance and individual task performance (Chatterjee et al., 2021), reduce employees' innovative work behavior (Černe et al., 2017; Jahanzeb et al., 2019), destroy inter-employee trust (Holten et al., 2016), and increase employees' turnover intention (Serenko and Bontis, 2016). Moreover, this behavior not only has a negative impact on employees who suffer from knowledge hiding, but also the perpetrators of knowledge hiding may reduce their organizational citizenship behavior because of their sense of shame (Burmeister et al., 2019). It can be seen that knowledge hiding behavior is against ethical norms and is detrimental to organizational performance and employee development.

In practice, however, leaders may also be the perpetrators and advocate of knowledge hiding in the organization (Offergelt et al., 2019; Arain et al., 2022). This is because by explicitly signaling subordinates to hide knowledge from others, the leader can maintain the leader's team knowledgeable and competitive (Offergelt et al., 2019). In addition, leaders themselves may also hide knowledge, which helps them maintain their authority positions and avoid being replaced by their subordinates (Butt, 2021). However, leaders' knowledge hiding behaviors can negatively affect employee behaviors (Offergelt et al., 2019). Recent studies have found that the negative effect of leaders' knowledge hiding behavior on employees are more severe than that of employees' knowledge hiding behavior (Mawritz et al., 2012; Schyns et al., 2018); Offergelt et al. (2019) introduced the concept of leader-signaled knowledge hiding. His research demonstrated that when leaders expect, tolerate, or practice knowledge hiding, it has a negative effect on employees' work attitudes and perceptions of empowerment. Arain's series of studies confirmed that leader knowledge hiding decreases employee trust (Arain et al., 2020) and self-efficacy (Arain et al., 2019), undermines team interpersonal deviance and reduces employees' organizational citizenship behavior (Arain et al., 2022). However, the former study has not yet distinguished the dimensions of leader-signaled knowledge hiding, and has only discussed the negative effects of it on employee's behavior in a broad conceptual framework. The later study just extended knowledge hiding research from of the employee level to the leader level and studied the consequences of such top-down knowledge hiding for employee's behavior.

Under the impact of the COVID-19, the tourism industry faces the challenge of providing efficient and innovative customer service, and tourism leaders must take the lead and share their own prior customer service experiences with their employees (Duro et al., 2021). Both leaders who conceal knowledge from employees and leaders who encourage people to conceal knowledge can seriously undermine the ability of travel industry employees to provide innovative customer service (Arain et al., 2022). Considering that different types of leader-signaled knowledge hiding behaviors may have different degrees of influence on employees' attitudes and behaviors, this study synthesizes previous research and further divides leader-signaled knowledge hiding into two dimensions based on Offergelt et al. (2019) and names them as follows: self-practiced knowledge hiding (SH) and explicit knowledge hiding (EH).

The concept of self-practiced knowledge hiding (SH) is drawn on the definition of top-down knowledge hiding (Arain et al., 2020), which means the leader deliberately conceals or plays dumb to the information requested by subordinates. This behavior is classified as personal knowledge hiding behavior, and its negative effects exist between the leader and the subordinates the leader hides information from (Connelly et al., 2012; Arain et al., 2019). Explicit knowledge hiding (EH) means that leaders suggest to their subordinates that they expect and tolerate the occurrence of knowledge hiding behaviors (Offergelt et al., 2019), and its negative effects may exist within the department or the entire organization.

Personal affect and emotional state were shown to be important mediating variables in studies related to the mechanisms by which knowledge hiding behavior affects employees' behavior (Xiao and Cooke, 2019), such as shame and guilt (Burmeister et al., 2019), self-efficacy (Arain et al., 2020), trust perception (Holten et al., 2016), and so on. In addition, relevant research in recent years have shown that emotional exhaustion is directly related to negative employee behavior in organizational stressful situations, such as absenteeism, turnover (Hobfoll et al., 2018) and reduced extra-role performance (Ain et al., 2022). According to Conservation of Resources theory, when employees suffer leader-signaled knowledge hiding behavior, they are stressed because they face a resource crisis (Hobfoll et al., 2018). This stress drives employees into a state of emotional exhaustion. Employees who are emotionally exhausted and unable to be effectively compensated may take measures such as lowering work engagement and psychologically or behaviorally withdrawing from work to avoid the threat posed by emotional exhaustion (Chong et al., 2020). Therefore, this study believes that the mediating role of emotional exhaustion in the relationship between leader-signaled knowledge hiding on employees' work withdrawal behavior should be examined.

Most of the current research on knowledge hiding has solved the problem of knowledge hiding between employee and employee, however, research on the antecedents and mechanisms of knowledge hiding at the vertical level is still in the exploratory stage (He et al., 2021). Some scholars have started to focus on the

top-down knowledge hiding of leaders in Western cultural contexts (Arain et al., 2019, 2020, 2022; Offergelt et al., 2019). However, in fact, in the context of high collectivism in China, the relationship between superiors and subordinates has a more profound impact on managing employees (Wan et al., 2021; He et al., 2022). Confucian culture focuses on interpersonal *guanxi*, and supervisor-subordinate *guanxi* is an important factor affecting the management efficiency of organizational employees (Law et al., 2000). It refers to informal and special personal interactions between supervisors and subordinates, including experience sharing, interests, and trust exchanges (Chen and Chen, 2004). Employees with a good *guanxi* with their supervisors have higher trust, commitment and emotional dependence on their supervisors (Green et al., 1996), which can alleviate the adverse effects of organizational objective factors on employees (He et al., 2019). Therefore, this study believes that when examining the relationship between leader-signaled knowledge hiding behavior and employees' work withdrawal behavior, we should observe the moderating effect of the supervisor-subordinate *guanxi* to make a specific analysis.

Therefore, based on the Conservation of Resources theory, this study adopts a structural equation model to explore: (1) Whether leader-signaled knowledge hiding triggers employees' work withdrawal behavior? (2) Whether emotional exhaustion plays a mediating role in the influence of leader-signaled knowledge hiding on employees' work withdrawal behavior? (3) Can the supervisor-subordinate *guanxi* serve as a moderator between leader-signaled knowledge hiding and employees' emotional exhaustion?

Our study contributes to the literature in two ways. First, this study divides leader-signaled knowledge hiding into two dimensions, i.e., self-practiced knowledge hiding and explicit knowledge hiding. What's more, this study further explores the negative effects of the two types of leader-signaled knowledge hiding, respectively. This will help bring both practices to the attention of organizational behavior researchers. Second, previous research in the Chinese Confucian culture have only confirmed the effects of knowledge hiding among employees. This study expands the research level of the impact of knowledge hiding, and investigates the negative consequences of leader-signaled knowledge hiding on employees in Chinese Confucian cultural. It also reveals that in Chinese Confucian culture, supervisor-subordinate *guanxi* might mitigate the negative impact of leader-signaled knowledge hiding on employees behavior. Thus, it helps to enrich the cultural context of leader-signaled knowledge hiding study and deepen readers' understanding of the complex processes through which leader-signaled knowledge hiding lead to employees' work withdrawal behavior.

Theoretical background and hypothesis development

Conservation of resource

The Conservation of Resources (COR) proposed by Hobfoll (1989) has been widely used in organizational behavior research.

COR is a stress theory, and the basic assumption is that individuals always have the motivation to protect existing resources and acquire new resources, and the actual loss and possible loss of resources will pose a threat to people. In the face of resource loss, people will go into defensive mode to protect themselves, which makes themselves defensive and aggressive (Hobfoll and Freedy, 2017). Therefore, COR theory can be used to explain people's negative behaviors in the face of stressful events (Hobfoll et al., 2018).

According to COR theory, individuals gain or lose resources by interacting with organizational contextual factors (Hobfoll, 2002). These resources include social support, energy, and key resources (ten Brummelhuis and Bakker, 2012). In recent years, many scholars consider emotional exhaustion as the depletion of psychological resources (Halbesleben et al., 2014; Kammeyer-Mueller et al., 2016; Hobfoll et al., 2018). Depletion of psychological resources is considered to originate from objectively existing stress events in the organization (Lanaj et al., 2018), and stress events reduce the ability of employees to resist future risks. Therefore, to avoid further loss of resources, employees typically manage remaining resources strategically, tending to adopt avoidant behaviors rather than proactive behaviors (Halbesleben et al., 2014).

In this study, leader-signaled knowledge hiding is a stressful event that has an impact on employee resources. This is because when employees encounter work difficulties, the help of their supervisors and colleagues can be useful for them obtain more resources to advance the task or improve the performance of the work (Uy et al., 2017). On the contrary, the leader-signaled knowledge hiding makes employees stagnate at work, aggravates the work pressure on employees, makes them have negative emotions, and accumulates them day after day until they cause emotional exhaustion, which in turn affects their work behaviors (Ain et al., 2022). Therefore, COR is suitable for this study.

Leader's self−practiced knowledge hiding and work withdrawal behavior

Work withdrawal behavior refers to a series of negative reactions that employees take to avoid and resist work situations, including work distraction, lateness, absence, etc., and ultimately lead to employee resignation (Pelled and Xin, 1999). The stress events in the organization are the sources of the employees' work withdrawal behavior (Zhu and Wu, 2020). In this study, leader-signaled knowledge hiding behavior is the source of stress.

Leader's self-practiced knowledge hiding refers to the unethical leadership behavior of leaders who deliberately play dumb or refuse to provide knowledge resources to employees (Arain et al., 2020). In most cases, employees consider leader's self-practiced knowledge hiding to be unethical because they inevitably need to rely on the leader's knowledge resources to do their jobs or improve themselves (Carmeli et al., 2013). Leader's self-practiced knowledge hiding makes employees pessimistic

about their future opportunities for intellectual growth in the organization, thereby reducing employees' organizational commitment level, that is, they are more reluctant to be part of the organization, less willing to care about colleagues, and even destroy organizational goals (Serenko and Bontis, 2016). In addition to knowledge resources, employees often expect to obtain social support resources from the organization. When employees notice the leader's self-practiced knowledge hiding behavior, they may fear that the healthy relationships they are attempting to develop are in jeopardy, which can increase employee stress and cause withdrawal behaviors (Hobfoll and Freedy, 2017). In addition, Pereira et al. (2006) argued that individuals are more likely to engage in negative reciprocity than positive reciprocity, which indicates that employees tend to give negative feedback on the leader's self-practiced knowledge hiding behavior and reduce their work effort. Therefore, we propose the following hypothesis:

H1: Leader's self-practiced knowledge hiding is positively related to employees' work withdrawal behavior.

Leader's explicit knowledge hiding and work withdrawal behavior

Leader's explicit knowledge hiding refers to that leaders support knowledge hiding even though it goes against organizational norms. Leaders are likely to tolerate knowledge hiding or encourage employees to do so (Offergelt et al., 2019). Leader's explicit knowledge hiding can lead to an organization's culture of knowledge hiding (Offergelt et al., 2019). Often, while employees themselves may be the perpetrators of knowledge hiding, they perceive themselves to hide less knowledge than their colleagues around them (Serenko and Bontis, 2016). Therefore, they have a sense of crisis of resource depletion in the comparison and have confrontational psychology toward interpersonal relationships and cooperation matters in the work, and then use negative attitudes and behaviors to cope with the work, such as intensifying their knowledge hiding behaviors (Černe et al., 2014) and voluntary resignation (de Croon et al., 2004). In addition, supervisors often act as mentors and role models and have the power to reward or punish employees, which will strongly influence employees' behavior (Mawritz et al., 2012). In an organization, even if employees are aware of the behavioral norms advocated by the company, they will still look for specific rules and signals from the behavior of their supervisors. When such rules and signals (such as explicit knowledge hiding) are inconsistent with organizational norms (such as advocating knowledge sharing), employees tend to adjust their behaviors to comply with the supervisor's rules, increasingly hiding knowledge (Offergelt et al., 2019). However, behaviors that violate social norms harm the interests of the organization and may trigger employees' sense of shame. To alleviate this emotional pressure, employees will increase self-directed behaviors (Burmeister et al., 2019) and show withdrawal behaviors (de Croon et al., 2004), such as avoiding

communication, avoiding cooperation, denying, and avoidance. Therefore, we propose the following hypothesis:

H2: Leader's explicit knowledge hiding is positively related to employees' work withdrawal behavior.

Leader's self−practiced knowledge hiding and emotional exhaustion

Emotional exhaustion refers to the depletion of individual emotional resources. Emotional exhaustion is accompanied by work frustration and tension, which will lead to a decrease in individual work motivation (Maslach et al., 2001). Previous studies have shown that workplace stressful events are an important antecedent of employees' emotional exhaustion (Kammeyer-Mueller et al., 2016). According to COR theory, leader-signaled knowledge hiding causes employees to experience resource depletion and impair their ability to acquire resources in the future (Hobfoll, 2001), thereby triggering emotional exhaustion.

This study proposes that leader's self-practiced knowledge hiding is highly correlated with emotional exhaustion. Leaders who practice knowledge hiding may deliberately provide information that is different from what employees desire, claim not to know what employees are asking for, or promise to help them while actually doing nothing. For employees, leader's self-practiced knowledge hiding is an act of denial and is a negative interaction. It causes mental exhaustion and low energy (Ain et al., 2022). Moreover, leader's self-practiced knowledge hiding reduces employees' sense of psychological empowerment, undermining their confidence in their job roles and their belief in contributing to the organization (Offergelt et al., 2019). Emotional exhaustion occurs when employees have to face high-intensity work and their remaining resources are insufficient to address them (Lanaj et al., 2018). Trougakos et al. (2015) found that fatigue makes employees more dependent on others for help in solving work problems, so they will gradually experience higher levels of mental exhaustion when help is not available and their own resources are scarce (Uy et al., 2017). Therefore, we propose the following hypothesis:

H3: Leader's self-practiced knowledge hiding is positively related to employees' emotional exhaustion.

Leader's explicit knowledge hiding and emotional exhaustion

In addition, this study suggests that leader's explicit knowledge hiding is highly correlated with emotional exhaustion. In fact, employees strive to connect with others through positive social interaction, which helps them access valuable resources (Lanaj et al., 2016). However, leader's explicit knowledge hiding implies that leaders utilize their power of position to prevent employees from sharing knowledge. When employees suffer leader's explicit

knowledge hiding behavior, they may sense they are in a lonely situation. This situation causes employees to lose knowledge resources, social support, and interpersonal resources (Hobfoll and Freedy, 2017), resulting in a sense of resource crisis. Anand and Mishra (2021) found that workplace loneliness can directly lead to emotional exhaustion. In addition, without the ability to exchange resources with colleagues through knowledge sharing, employees focus on how to protect their existing resources, ignore motivating events at work, and look for factors in the work environment that threaten their protected resources (Lanaj et al., 2018), which will consume employees' psychological resources, leading to emotional exhaustion. Therefore, we propose the following hypothesis:

> H4: Leader's explicit knowledge hiding is positively related to employees' emotional exhaustion.

Emotional exhaustion and work withdrawal behavior

Emotional exhaustion is a state of lack of psychological resources. According to COR theory, compared with those with abundant resources, people who lack resources have a weaker ability to replenish resources and are more likely to lose resources further (Hobfoll et al., 2018), which hinders employees from better devotion to work. The pressure caused by emotional exhaustion causes employees to reduce self-control resources (Ain et al., 2022), and the value of remaining resources becomes more important (Hobfoll et al., 2018). In order to restore the remaining resources, employees will adopt withdrawal behaviors. In addition, emotionally exhausted employees have lower job satisfaction due to diminished mental energy, which in turn reduces work engagement (Pelled and Xin, 1999; Wright and Bonett, 2007). At the same time, previous empirical studies have also proved that emotional exhaustion is directly related to employee absenteeism and turnover (Van Woerkom et al., 2016; Reina et al., 2018). The study by Lanaj et al. (2018) demonstrated that emotional exhaustion causes employees who are not trusted in the organization to exhibit withdrawal behaviors. Therefore, we propose the following hypothesis:

> H5: Employees' emotional exhaustion is positively related to employees' work withdrawal behavior.

Mediating role of emotional exhaustion

Based on the viewpoints of previous section, this study proposes that emotional exhaustion plays a mediating role between leader-signaled knowledge hiding and employees' work withdrawal behavior. Leader's self-practice knowledge hiding and explicit knowledge hiding will directly reduce employees' social support resources and work resources. The depletion of many resources leads to negative emotions, which in turn leads to the

emotional exhaustion of employees (Offergelt et al., 2019). Emotional exhaustion causes employees to reduce their control over their self-resources, triggering a sense of crisis and ultimately self-defensive behavior (Hobfoll and Freedy, 2017), i.e., by reducing active engagement in work to protect remaining resources. Existing findings suggest that emotional exhaustion mediates the negative effects of knowledge hiding on employees' extra-role performance (Ain et al., 2022), and that emotional exhaustion mediates the relationship between stressful work events (e.g., task frustration, abusive supervision) and employees' withdrawal behavior (Chi and Liang, 2013; Chong et al., 2020). Therefore, we propose the following hypotheses:

> H6a: Employees' emotional exhaustion mediates the positive relationship between leader's self-practiced knowledge hiding and employees' work withdrawal behavior.
> H6b: Employees' emotional exhaustion mediates the positive relationship between leader's explicit knowledge hiding and employees' work withdrawal behavior.

Moderating role of supervisor– subordinate *guanxi*

Although employees experience negative emotions due to stressful events in the organization, it is worth noting that not all subordinates have the same degree of emotional response to leader-signaled knowledge hiding behaviors. Unlike formal organizational relationships, supervisor-subordinate *guanxi* are informal connections between leaders and subordinates (Law et al., 2000). Leaders typically form small social circles with well-connected subordinates and exchange benefits and emotional resources with the employees in the circles (He et al., 2019). The high quality of supervisor-subordinate *guanxi* means that employees become "insiders" of the social circles. On the one hand, the "insiders" employees can have a fuller information communication and interest base with the leaders (Law et al., 2000). This will cause "insiders" employees to have assimilation psychology (Gardner et al., 2002), who will connect the process of consolidating power by leaders with the process of consolidating resources for themselves. In this situation, employees might believe that the leader's explicit knowledge hiding behavior prevents outsiders from accessing the knowledge resources of their social circle, thus reduce resistance to knowledge hiding. On the other hand, the "insiders" employees have a stronger emotional attachment to and confidence in their leaders, and are more likely to increase positive feelings (Lau et al., 2014). Therefore, for employees who have high-quality supervisor-subordinate *guanxi*, because they perceive themselves as "insiders," even when they perceive the leader-signaled knowledge hiding, they will rationalize the superior's behavior from the perspective of assimilation psychology and trust, and then reduce the unethical perceptions of the superior's behavior (Fehr et al., 2020). On the contrary, those employees with

low-quality supervisor-subordinate *guanxi* are less likely to receive bonuses, promotion opportunities, and other beneficial resources from their leaders than employees who are "insiders" (Chen et al., 2009). In this context, when employees perceive the leader's self-practiced knowledge hiding, they feel a stronger conflict of interest and develop a stronger sense of mistrust (Gan et al., 2019). When employees perceive the leader's explicit knowledge hiding, the level of mistrust between employees increases, which creates a poor atmosphere for interpersonal interactions in the workplace (Dimotakis et al., 2011). Employees may believe themselves are more likely to suffer from organization's knowledge hiding culture than "insider" employees (Serenko and Bontis, 2016), and thus feel cynical (Aljawarneh and Atan, 2018). Both of these situations reinforce the effect of leader-signaled knowledge hiding behavior on emotional exhaustion. Therefore, we propose the following hypothesis:

> *H7a*: Supervisor-subordinate guanxi negatively moderates the positive relationship between leader's self-practiced knowledge hiding and employees' emotional exhaustion, that is, the positive relationship is weaker when supervisor-subordinate guanxi is higher than it is when supervisor-subordinate guanxi is lower.
>
> *H7b*: Supervisor-subordinate guanxi negatively moderates the positive relationship between leader's explicit knowledge hiding and employees' emotional exhaustion, that is, the positive relationship is weaker when supervisor-subordinate guanxi is higher than it is when supervisor-subordinate guanxi is lower.

Furthermore, this study proposes a moderated mediation model to explore the influence mechanism and effect conditions of leader-signaled knowledge hiding on employees' work withdrawal behavior. Leader-signaled knowledge hiding affects employees' work withdrawal behavior through the mediating effect of emotional exhaustion, and this effect is mediated by the supervisor-subordinate *guanxi*. When the supervisor-subordinate's relationship in the organization is good, the positive relationship between leader-signaled knowledge hiding and emotional exhaustion is alleviated, then the positive impact of leader-signaled knowledge hiding through emotional exhaustion on employees' work withdrawal behavior will also be alleviated accordingly. Therefore, we propose the following hypotheses:

> *H8a*: Supervisor-subordinate guanxi negatively moderates the indirect positive relationship between leader's self-practiced knowledge hiding and employees' work withdrawal behavior through emotional exhaustion, that is, mediated relationship is weaker when supervisor-subordinate guanxi is higher than it is when supervisor-subordinate guanxi is lower.
>
> *H8b*: Supervisor-subordinate guanxi negatively moderates the indirect positive relationship between leader's explicit knowledge hiding and employees' work withdrawal behavior

> through emotional exhaustion, that is, t mediated relationship is weaker when supervisor-subordinate guanxi is higher than it is when supervisor-subordinate guanxi is lower.

Based on the above analysis, the theoretical model of the research is shown in Figure 1.

Research methodology

Design and measures

This research questionnaire is divided into two parts: the first part is the main part of the questionnaire, including the scale of each variable, and the second part is the personal information of the respondents. Measurement items of each variable in the model are from mature scales that are widely used in the relevant literature, and are appropriately modified according to expert opinions and specific employee work situations. All scales are in the form of a Likert 7-point scale.

1. Leader's self-practiced knowledge hiding. The measure of leader's self-practiced knowledge hiding was adopted from Connelly et al. (2012) and Offergelt et al. (2019), containing the three items "I think my supervisor sometimes hides knowledge from me," "My supervisor never really intends to help us" and "My supervisor will say he does not understand."
2. Leader's explicit knowledge hiding. The measure of leader's explicit knowledge hiding was adopted from Offergelt et al. (2019) and contained three items, "Sometimes my supervisor wants me to conceal my knowledge," "My supervisor understands if I conceal my knowledge for some reason" and "My supervisor is tolerant when colleagues conceal their knowledge."
3. Emotional exhaustion. Emotional exhaustion was measured using Maslach and Jackson (1981), which contains four items, "I feel emotionally drained at work," "At the end of the day, I feel exhausted" and "When I wake up in the morning, I have to face a new day at work."
4. Employee work withdrawal behavior. Employee work withdrawal behavior was measured using Lehman and Simpson (1992), which contains "Putting less effort into your work than you should," "Considering leaving," and "Spending time at work on personal matters."
5. Supervisor-subordinate *guanxi.* The supervisor-subordinate *guanxi* was measured using Law et al. (2000), containing "I call my supervisor or visit him/her during holidays or after work," "My supervisor would often invite me to dinner" and "I always actively share my thoughts, questions, needs and feelings with my supervisor" three items.

In the control variable section, as suggested by Bernerth and Aguinis (2016), the control variable cannot be too highly correlated with the independent variable. Zhao and Jiang (2021)

proposed that potential control variables include gender, education level, tenure, etc. Therefore, in this study, demographic variables such as gender, education, age, and tenure were controlled.

The measurement scales for the key variables in this study were adopted from the English literature. To ensure the accuracy of the semantic connotation of all items in the scale and the comprehensibility of the linguistic expressions, a translation team was organized. Specifically, we invited two overseas students to join the panel to "translate and back-translate" the questionnaire items. These two students were good at both English and Chinese and their research areas were leadership and organizational behavior.

Data collection

Our research focuses on the tourism industry for two reasons. First, the tourism industry is prone to unconventional approaches to innovation (Orfila-Sintes and Mattsson, 2009), and knowledge-oriented leadership may be a good tool to promote innovation in the tourism industry (Donate et al., 2022). Second, tourism industry is a knowledge-intensive industry (Hallin and Marnburg, 2008), it requires tourism-related practitioners to learn continuously and to share knowledge in order to provide high-quality, differentiated services. Therefore, the tourism industry is particularly vulnerable to the effects of knowledge hiding (Donate et al., 2022). We need to better understand the potential relationship between leader knowledge hiding and employee work behavior.

Considering that leader's self-practiced knowledge hiding, leader's explicit knowledge hiding, emotional exhaustion, and supervisor-subordinate *guanxi* are all variables of psychological perception, it is more accurate to use self-reported measures according to the recommendations of relevant research. The results of previous studies (Offergelt et al., 2019; Zhao and Jiang, 2021) have also shown that self-reported methods have high reliability and validity in measuring supervisor-subordinate's relationship, emotional exhaustion, and knowledge hiding. Therefore, this study measures the variables involved in the model by self-reporting.

The questionnaire survey method was used in this study, and the data was collected online through a professional questionnaire platform (Credamo). The survey was conducted in July 2022. Because this study explores the influence mechanism of leader-signaled knowledge hiding on subordinates' work behavior from the perspective of subordinates, the research object does not include leaders, but focuses on ordinary employees in the organization. To ensure that the randomly selected respondents met the requirements of this study, the following controls were performed: (1) This study sets sample filtering questions before formal questionnaire responses. Respondents working in tourism-related industries and with more than 0 years of experience were only allowed to enter the questionnaire test. (2) This study sets a confirmatory question (Gao et al., 2016), "Please

select '1' from the following options." Respondents who choose other options will skip directly to the end of the questionnaire.

Before the formal survey, a small-scale preliminary survey was also conducted in this study, and a total of 50 preliminary survey questionnaires were distributed. Items with factor loading values less than 0.6 were removed using AMOS 24.0. Items with unclear and confusing meanings have been adjusted and integrated to ensure the validity of the questionnaire. A total of 450 questionnaires were completed and returned. In addition to the invalid questionnaires whose answering time was too long and too short, 440 valid questionnaires were finally obtained, and the effective recovery rate of the questionnaire was 97.77%. The demographic characteristics and basic information of the research samples are shown in Supplementary Table S1.

As shown in Supplementary Table S1, the majority of participants were female (63.9%). In terms of age distribution, the respondents were relatively young, with 53.6 and 33.6% of the respondents aged 21–30 and 31–40, respectively. This is similar to the sample distribution of previous questionnaires studying knowledge hiding (El-Kassar et al., 2022). In terms of education level, 81.6% of the respondents had a bachelor's degree or above; the largest proportion of respondents had 5–10 years of work experience (26.4%), followed by 1–3 years (22.3%).

Results

Common method bias test and confirmatory factor analysis

Two methods were used to test for common method bias in this study. First, common method bias was verified using Harman's single-factor test. Unrotated principal components analysis was performed on all question items of the study questionnaire, and the first principal component was found to explain only 37.59% of the variance, which was below the 50% criterion. Second, after adding the latent variable of common method bias using the unmeasured latent method construct (ULMC) technique, it was found that ΔCFI and ΔTFL were less than 0.1, and ΔRMSEA and ΔSRMR were less than 0.05. Therefore, common method bias would not affect the study results. In addition, this study used AMOS 24.0 for confirmatory factor analysis. As shown in Table 1, the five-factor model had the best fit indicators compared with other models, indicating that the core variables had good discriminant validity.

Reliability test

The reliability of the questionnaire was tested by CR. According to the results of the measurement model in Supplementary Table S2, the CR values were all greater than 0.7, indicating that each dimension index had sufficient reliability and internal consistency. The measurement of validity is tested by

convergent validity and discriminant validity. Among them, convergent validity is mainly reflected by standardized factor loading, Z-value and AVE. The results showed that the standardized factor loadings were all greater than 0.6 and significant, and the AVEs were all greater than or close to 0.5, indicating that the scale had high convergent validity. At the same time, the correlation coefficient between any two variables is smaller than the square root of AVE of each variable itself (Supplementary Table S3), so the scale has good discriminant validity, which lays a foundation for the analysis of the structural model later.

Measurement model testing

Using AMOS 24.0, the estimation was performed using the Maximum Likelihood method. According to Supplementary Table S4, the overall fitness test results of the model were $\chi^2/df = 2.063$, GFI = 0.958, AGFI = 0.935, CFI = 0.986, and RMSEA = 0.049, and all the fitness indicators of the model met the criteria, indicating that the model fits well.

Structural equation model testing

As shown in Table 2, hypotheses $H1$–$H5$ were all verified. Leader's self-practiced knowledge hiding and explicit knowledge hiding significantly and positively affected employees' work withdrawal behavior ($\beta = 0.181$, $p < 0.05$; $\beta = 0.161$, $p < 0.05$, respectively). When employees perceived stronger self-practiced knowledge hiding or explicit knowledge hiding of leaders, they were more likely to develop work withdrawal behavior. Thus, hypotheses $H1$ and $H2$ were supported. Leader's self-practiced knowledge hiding and explicit knowledge hiding significantly and positively affected employees' emotional exhaustion ($\beta = 0.323$, $p < 0.001$; $\beta = 0.492$, $p < 0.001$, respectively), and hypotheses $H3$ and $H4$ were supported. Employees' emotional exhaustion was significantly and positively associated with employees' work withdrawal behavior ($\beta = 0.508$, $p < 0.001$), and hypothesis $H5$ was supported.

The mediating effect of this study was determined by the Bootstrapping method. Hayes (2009) suggested that Bootstrapping should be repeated at least 5,000 times for the mediation effect test. In AMOS 24.0, the sampling time was set to 5,000 times, and the confidence level was set to 95%. The results are shown in Table 3.

Judgment was made according to the confidence interval (CI) of the indirect effect. If the CI does not contain 0, the null hypothesis is rejected, indicating that the indirect effect is not 0, and the mediating effect exists. As shown in Table 3, the indirect effect exists and is significant, indicating that the mediating effect exists; the direct effect exists and is significant, indicating that it is a partial mediating effect. The proportion of the indirect effect to the total effect was 58.46%. Thus, hypotheses H6a and H6b were supported. Moreover, the indirect effect of SH and EH are 39.61 and 60.39%, respectively.

Moderating effect of the supervisor−subordinate *guanxi*

Moderating effect of supervisor−subordinate *guanxi* on leader−signaled knowledge hiding and emotional exhaustion

In order to eliminate the influence of multicollinearity, this study normalized the leader's self-practiced knowledge hiding, leader's explicit knowledge hiding, and emotional exhaustion, and used the standardized variables to construct interaction terms. In SPSS 24.0, the process 4.0 plug-in was used to select Model 1. Gender, age, education level, and years of work were selected as control variables, emotional exhaustion was selected as the dependent variable, and leader's self-practiced knowledge hiding/ leader's explicit knowledge hiding was selected as the independent variable. The sampling times were set to 5,000 times, and the confidence level was set to 95%. The results are shown in Table 4.

According to Table 4, the regression coefficients of interaction terms on emotional exhaustion are all significant ($\beta = -0.066$, $p < 0.001$; $\beta = -0.052$, $p < 0.01$). Thus, $H7a$ and $H7b$ are supported.

As suggested by Aiken et al. (1991), this study plotted the interaction effects as one standard deviation above and below the mean, respectively. As shown in Figures 2A,B compared to the low

TABLE 1 Result of CFA and CMB of measurement models (N=440).

Model	χ^2	df	χ^2/df	RMSEA	GFI	CLI	TFI	SRMR
SH、EH、EE、WB、GX	173.665	94	1.848	0.044	0.952	0.985	0.981	0.0303
SH + EH、EE、WB、GX	444.944	98	4.540	0.090	0.865	0.934	0.919	0.0478
SH + EH + EE、WB、GX	631.453	101	6.252	0.109	0.826	0.899	0.880	0.0592
SH + EH + EE + WB、GX	782.419	103	7.596	0.123	0.795	0.871	0.849	0.0653
SH + EH + EE + WB + GX	1311.996	104	12.615	0.163	0.692	0.770	0.735	0.1014
SH、EH、EE、WB、GX, CMV	111.663	78	1.432	0.031	0.969	0.994	0.990	0.0204

GFI, Goodness of fit index; RMSEA, Root mean square error of approximation; CFI, Comparative fit index; TLI, Tucker–Lewis Index; SH, self–practiced knowledge hiding; EH, explicit knowledge hiding; EE, emotional exhaustion; WB, work withdrawal behavior; GX, supervisor-subordinate *guanxi*.

supervisor-subordinate's *guanxi*, the high supervisor-subordinate's *guanxi* can alleviate the positive effects of leader's self-practiced knowledge hiding and leader's explicit knowledge hiding on employees' emotional exhaustion. Therefore, hypotheses *H7a* and *H7b* were further supported.

Moderated mediating effect

Model 7 in the Process 4.0 plug-in was used to test the moderated mediating effect, and the results are shown in Table 5.

According to Table 5, in the path of leader's self-practiced knowledge hiding → emotional exhaustion → employees' work withdrawal behavior, when the supervisor-subordinate *guanxi* was low, the indirect effect value was 0.298, and the 95% CI was [0.235, 0.367]; when the supervisor-subordinate *guanxi* was the mean value, the indirect effect value was 0.254, and the 95% CI was [0.200, 0.310]; when the supervisor-subordinate *guanxi* was high, the indirect effect value was 0.209, and the 95% CI was [0.161, 0.260]. At different degrees of supervisor-subordinate *guanxi*, the 95% CI of the difference in indirect effects was [−0.067, −0.026], and the indirect effect difference reached a significant level. This indicates that the supervisor-subordinate *guanxi* significantly moderates the mediating role of emotional exhaustion in the relationship between leader's self-practiced knowledge hiding and employees' work withdrawal behavior. Therefore, hypothesis H8a is supported. Similarly, in the path of leader's explicit knowledge hiding → emotional exhaustion → employees' work withdrawal behavior, the difference in the 95% CI of the indirect effect was [−0.062, −0.008], reaching a significant level. This indicates that the supervisor-subordinate *guanxi* significantly moderates the mediating role of emotional exhaustion in the relationship between leader explicit knowledge hiding and employees' work withdrawal behavior. Therefore, hypothesis *H8b* is supported.

Conclusion and discussion

Discussion

Knowledge is the key to an organization's competitive advantage, and its management plays a vital role in promoting organizational success and maintaining long-term sustainable development (Pereira et al., 2018). In the past few years, many enterprises have adopted various kinds of knowledge management systems to encourage the dissemination of knowledge and information among the members of the organization, but the phenomenon of knowledge hiding still exists widely in the organization (Connelly et al., 2012). And the consequences of leader-signaled knowledge hiding can be more damaging to the workplace than employees' knowledge hiding (Offergelt et al., 2019; Arain et al., 2020, 2021, 2022). Considering the damage of leader-signaled knowledge hiding behavior to organizational performance and employees, it is particularly necessary to explore the influence mechanism of leader-signaled knowledge hiding and employees' work behavior. Based on the theory of Conservation of Resources, this study proposes a mediating effect model of leader-signaled knowledge hiding → emotional exhaustion → employees' work withdrawal behavior, and a moderating effect model in which the supervisor-subordinate *guanxi* is the moderating variable. The following conclusions can be obtained from the results:

First, the leader-signaled knowledge hiding positively influences employees' work withdrawal behavior. This result is consistent with the conclusions from Jiang et al. (2019), Singh (2019) and Offergelt et al. (2019). Knowledge hiding reduces employees' job performance, increases turnover, and produces counterproductive behavior. Knowledge hiding is an uncooperative, pro-social, and unethical behavior that goes against the knowledge-sharing advocated in an organization (Serenko and Bontis, 2016; Bavik et al., 2017; Men et al., 2020).

TABLE 2   Results of hypothesis test.

	Ustd.	S.E.	C.R.	P	Std.	Results
*H*1:SH → WB	0.122	0.054	2.261	*	0.181	Support
*H*2:EH → WB	0.131	0.067	1.953	*	0.161	Support
*H*3:SH → EE	0.323	0.045	7.183	***	0.410	Support
*H*4:EH → EE	0.492	0.055	8.967	***	0.522	Support
*H*5:EE → WB	0.437	0.083	5.288	***	0.508	Support

*p < 0.05, ***p < 0.001; Ustd., unstandardized coefficients; S.E., standard error; C.R., critical ratio; Std., standardized coefficients; SH, self–practiced knowledge hiding; EH, explicit knowledge hiding; EE, emotional exhaustion; WB, work withdrawal behavior; GX, supervisor–subordinate's *guanxi*.

TABLE 3   Results of mediating effect test.

Paths	Estimate	Bias-corrected percentile method		Percentile method		Results
		Lower	**Upper**	**Lower**	**Upper**	
SH → EE → WB	0.141	0.079	0.227	0.074	0.220	Support
EH → EE → WB	0.215	0.121	0.335	0.118	0.327	Support
Total effect	0.609	0.520	0.699	0.523	0.700	
Direct effect	0.253	0.073	0.424	0.079	0.430	
Indirect effect	0.356	0.208	0.513	0.204	0.511	

TABLE 4 Moderating effect of supervisor–subordinate *guanxi*.

Variable type	Variables	DV: Emotional exhaustion			
		M1		M2	
		β	95%CI	β	95%CI
CV	Sex	−0.003	[−0.186, 0.179]	0.068	[−0.119, 0.255]
	Age	0.117	[−0.022, 0.256]	0.042	[−0.102, 0.185]
	Education	0.042	[−0.108, 0.193]	0.025	[−0.130, 0.179]
	Working years	−0.161***	[−0.249, −0.073]	−0.133**	[−0.224, −0.042]
IV	SH	0.595***	[0.543, 0.648]		
	EH			0.658***	[0.596, 0.720]
Moderator	GX	−0.299***	[−0.354, −0.244]	−0.188***	[−0.247, −0.129]
Interactions	SH*GX	−0.066***	[−0.096, −0.035]		
	EH*GX			−0.052**	[−0.089, −0.015]

**p < 0.01, ***p < 0.001; CV, Control variables; IV, independent variables; DV, dependent variable.

TABLE 5 Results of moderated mediating effect test.

Moderator		Path1: SH → EE → WB			
	Levels	β	S.E.	LLCI	ULCI
GX	Low GX(M-1SD)	0.298	0.034	0.235	0.367
	Middle GX (M)	0.254	0.028	0.200	0.310
	High GX(M + 1SD)	0.209	0.026	0.161	0.260
	Differences	−0.045	0.010	−0.067	−0.026
		Path2: EH → EE → WB			
	Low GX(M-1SD)	0.297	0.039	0.220	0.373
	Middle GX (M)	0.264	0.034	0.198	0.331
	High GX(M + 1SD)	0.231	0.034	0.168	0.299
	Differences	−0.033	0.014	−0.062	−0.008

Under the interactive influence of leader-signaled knowledge hiding and knowledge sharing norms, employees may experience conflicts between leadership authority and organizational norms, which can easily lead to stress, tension, and negative work attitudes (de Croon et al., 2004; Zhang and Min, 2021). Offergelt et al. (2019) considered leader-signaled knowledge hiding as a destructive leader behavior. Previous studies have shown that unethical leadership or supervisory behavior, i.e., abusive supervisory (Mackey et al., 2017) and self-serving leadership (Peng and Wei, 2018, 2020), has a negative impact on followers or work attitudes and behaviors. Therefore, leader-signaled knowledge hiding will penetrate down through the organization and ultimately affect the work behavior of subordinates (Jahanzeb et al., 2019; Mahmood et al., 2021).

Second, leader's self-practiced knowledge hiding has a greater direct impact on employees' work withdrawal behavior, while the leader's explicit knowledge hiding has a greater indirect impact on employees' work withdrawal behavior through emotional exhaustion. Most of the existing research focuses on the knowledge hiding between employees, and only a few studies have explored the knowledge hiding relationship between leaders and employees (Offergelt et al., 2019; Arain et al., 2020, 2022). Based

on the research by Offergelt et al. (2019), this study made a distinction between leader-signaled knowledge hiding, i.e., leader's self-practiced knowledge hiding and leader's explicit knowledge hiding. Compared with leader's self-practiced knowledge hiding, leader's explicit knowledge hiding could be a more unethical, which is more likely to cause emotional exhaustion (Qin et al., 2021). Leader's explicit knowledge hiding signals that hidden knowledge is expected and tolerated in the organization, and actually conveys to their subordinates a concept of working in isolation. This type of poor interpersonal interactions in the workplace can easily trigger negative emotional states in employees, and such negative emotional experiences increase the likelihood of emotional exhaustion (Dimotakis et al., 2011).

Third, emotional exhaustion played a key mediating role in the relationship between leader-signaled knowledge hiding and employees' work withdrawal behavior, with the mediating effect accounting for 39.61 and 60.39%, respectively. According to the stressor-emotion model (Spector and Fox, 2005; Fox and Spector, 2006), in the relationship between stressors and employees' work withdrawal behavior, emotions play a role in linking the past and the future, that is, when
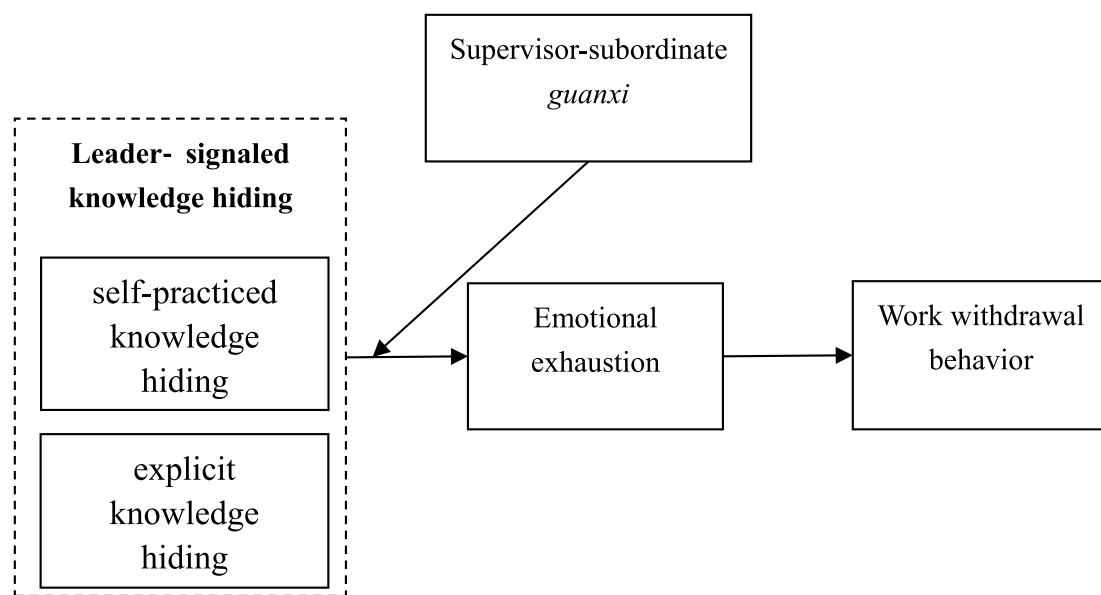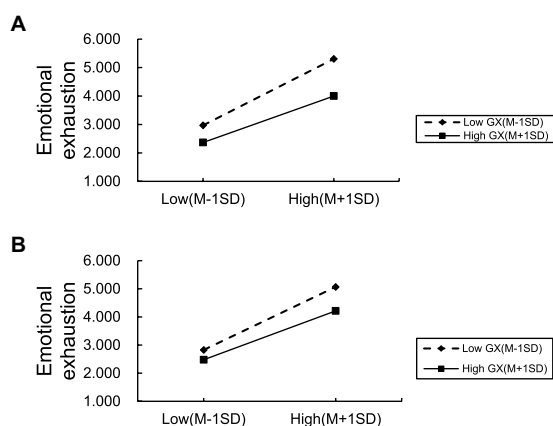
FIGURE 1
Research model.

FIGURE 2
(A,B) Moderating effect of supervisor-subordinate *guanxi*.

employees feel stressed, they generate emotions, which in turn stimulate behaviors. Emotional exhaustion is described as the sense of exhaustion and exhaustion of emotional and physical resources that employees feel at work due to their devotion to a lot of emotional resources (Maslach et al., 2001). Previous studies have confirmed that leader-signaled knowledge hiding will give employees a sense of pressure, tension and frustration. When employees cannot replenish emotional resources in time, employees will experience emotional exhaustion (De Croon et al., 2004; Leat and El-Kot, 2009; Zhao and Jiang, 2021). According to the Conservation of Resources theory, when employees feel that their emotional resources are exhausted, they will show a series of negative work attitudes

and behaviors, such as reducing work effort, perfunctory, and even adopting escape strategies to protect and maintain their emotional resources. In the long run, they will be tempted to leave.

Fourth, the supervisor-subordinate *guanxi* has a negative moderating effect on the relationship between leader-signaled knowledge hiding and employees' emotional exhaustion. Specifically, a high significantly moderates the positive effect of leader-signaled knowledge hiding on employees' emotional exhaustion, and employees with high-level supervisor-subordinate *guanxi* are less likely to experience emotional exhaustion. Conversely, low-level supervisor-subordinate *guanxi* do not have a moderating effect. In *guanxi*-oriented Chinese society, people generally value informal social exchange relations between private individuals (Su et al., 2007). The results of this study confirmed that the effect of leader-signaled knowledge hiding on employees' emotional exhaustion was influenced by the unique situational factor of supervisor-subordinate *guanxi*. Unlike formal organizational relationships, supervisor-subordinate *guanxi* are informal connections between leaders and subordinates (Law et al., 2000). High-quality supervisor-subordinate *guanxi* can lead to higher levels of information exchange, trust, competence, commitment, role clarity, higher job satisfaction, and lower job stress (Abdullah et al., 2019; Lee and Zhong, 2020). A good communication and exchange *guanxi* with the supervisor can make it easier for the subordinate to be accepted by the supervisor as an "insider," thereby reducing the pressure and tension caused by the leader-signaled knowledge hiding (Fida et al., 2015). That is, high-quality supervisor-subordinate's *guanxi* can increase subordinates' tolerance level for leader-signaled knowledge

hiding, thereby greatly reducing their emotional exhaustion. Further, the supervisor-subordinate's *guanxi* negatively moderated the direct and positive mediating effect of employees' emotional exhaustion on leader-signaled knowledge hiding and employees' work withdrawal behavior. When the supervisor-subordinate's *guanxi* in the organization is good, the positive *guanxi* between leader-signaled knowledge hiding and emotional exhaustion is alleviated, then the positive impact of leader-signaled knowledge hiding through emotional exhaustion on employees' work withdrawal behavior will also be alleviated accordingly.

Theoretical implications

First, this study breaks through the limitation of previous studies that mainly focus on employees' knowledge hiding. First of all, there have been a lot of studies on the cause factors of knowledge hiding behavior, but there are still few studies on its effect factors (Burmeister et al., 2019; El-Kassar et al., 2022). Previous studies have mainly focused on the antecedent variables of knowledge hiding, and explored the conditions that cause knowledge hiding, such as knowledge characteristics (Connelly et al., 2012; Hernaus et al., 2018), individual level (Peng, 2013; Pan et al., 2018; Singh, 2019), team level (Černe et al., 2014; Men et al., 2020; Zhao and Jiang, 2021), and organizational context (Aljawarneh and Atan, 2018; Abubakar et al., 2019). This study focuses on the outcome variables of knowledge hiding. Second, while there are few empirical studies (Černe et al., 2014, 2017) examining the consequences of knowledge hiding at the horizontal level (between employees and employees), the consequences at the vertical level (between supervisors and employees) have yet to be explored (Connelly and Zweig, 2015; Arain et al., 2022). By focusing on leader-signaled knowledge hiding, this study helps to expand the literature on knowledge hiding and unethical leadership/supervisory behavior.

Second, this study broadens the research context of knowledge hiding. Xiao and Cooke (2019) called for more cross-cultural comparative studies in a review exploring the extent to which knowledge hiding is harmful to organizations. Compared with developed countries, emerging markets have received less attention from researchers (Lu et al., 2010). This study takes China as the research context and introduces supervisor-subordinate's *guanxi* as a moderating variable. Chinese society is known for its high collectivism, high traditionality, and large power distance. Many scholars believe that "*guanxi*" has a special significance in managing Chinese employees (e.g., Law et al., 2000; Wan et al., 2021). The overlap between work and social relations is much more prevalent in China than in other countries (Su et al., 2022). The superior-subordinate *guanxi* in the Chinese context is usually established through non-work factors. It is an integration of contractual and status relationships with distinct hierarchical differences. Therefore, it is of great theoretical value and practical guiding significance to explore the influence mechanism of

leader-signaled knowledge hiding on employees' work withdrawal behavior in the context of Chinese culture.

Third, this study expands scholars' research on employees' work withdrawal behavior. For the study of employees' work withdrawal behavior, scholars mainly analyzed the influence of three types of factors on work withdrawal behavior, including the Big Five individual characteristics (LeBreton et al., 2004), the abusive management (Sulea et al., 2013), and the organizational justice (Cole et al., 2010). All three types of factors trigger employees' work withdrawal behaviors through people's emotional processes. However, existing research has not addressed the relationship between leader-signaled knowledge hiding and employees' work withdrawal behavior. In fact, previous studies briefly expounded that knowledge hiding may lead to emotional exhaustion. Based on this, this study classifies leader-signaled knowledge hiding as leader's self-practiced knowledge hiding and explicit knowledge hiding, and explores the influence mechanism of different types of leader-signaled knowledge hiding on the employees' work withdrawal behavior. This broadens the research perspective of employees' work withdrawal behavior to a certain extent and enriches the existing results.

Practical implications

Understanding when and how leader-signaled knowledge hiding affects employee work behavior has practical implications. This research can provide a reference for leaders to deal with knowledge hiding and improve organizational knowledge management capabilities. Most of these implications are general and can inspire all industries.

First and foremost, leaders need to pay attention to the important role they play in organizational knowledge management. On the one hand, they need to be clear that their knowledge-hiding behavior affects the motivation of their subordinates. Therefore, leaders should take the initiative to share knowledge and help their subordinates develop relevant skills. When facing employees' knowledge requests, they should give them timely and clear responses. Organizations can set up corresponding rules and regulations to manage rewards and punishments for leaders' knowledge behaviors and set clear criteria for acceptable and unacceptable knowledge behaviors (Arain et al., 2022). On the other hand, leader's explicit knowledge hiding behaviors can also frustrate subordinates' work motivation. Leaders should create a corporate atmosphere of knowledge sharing by opening communication channels and organizing open group discussions. Leaders should also encourage subordinates to express their ideas, positions, and feelings (Arain et al., 2020). Organizations need to enhance organizational ethics training for leaders to ensure that team leaders adopt healthy leadership behaviors toward their subordinates (Arain et al., 2022).

Second, emotional exhaustion is an intermediate mechanism for leader-signaled knowledge hiding to lead to employees' work withdrawal behavior. Therefore, closing the channel of excessive

emotional resource consumption is one of the ways to inhibit employees' work withdrawal behavior. From the entreprise level, enterprise managers can consider redesigning and assigning work, increasing empowerment, and formulating appropriate compensation policies to improve employees' self-esteem, sense of belonging, and positive behavioral intentions, and ultimately improve employees' personal resources (Cole et al., 2010). Since tourism work is characterized by long, unsocial hours, including night and weekend shifts (Chan et al., 2019), enterprise managers can also set up special rest areas and supply areas, implement flexible working systems, and improve vacation systems to help eliminate employee dissatisfaction (Grobelna, 2021). From the leader level, leaders should guide subordinates to have a good evaluation of themselves and recognize their own emotions and importance to the department and the entire organization, so as to promote subordinates to have a more positive work attitude. From the employee level, employees need to view the dilemmas they face positively and adopt constructive responses rather than responding negatively to the leaders' knowledge hiding behavior by blindly following them (Zhao and Jiang, 2021).

Finally, high-quality supervisor-subordinate's *guanxi* can alleviate the negative effects of leader-signaled knowledge hiding. For the organization, it should focus on both leaders and subordinates (Zhao and Jiang, 2021). Strengthen the skills training of supervisor leadership and subordinate interpersonal relationship, and solidly build a harmonious structure of supportive and trusting supervisor-subordinate *guanxi*. Various activities can also be held to increase the opportunities for communication between leaders and subordinates to enhance interpersonal interaction (Su et al., 2022). For HR, create conditions to moderate the negative impact of destructive leadership behaviors and weaken the impact of knowledge hiding behaviors through personnel selection of leaders with better moral quality and good communication skills. For employees, it is important to pay attention to the positive role of superior-subordinate *guanxi*, master the skills of handling interpersonal relationships, and take the initiative to enhance communication with superiors.

Limitations and future prospects

First, this study uses employee self-assessment to measure the main variables. Although it has passed the common method bias test, there may still be a certain degree of self-attribution bias. Therefore, follow-up research should try to collect multi-source bias or paired sample data. Secondly, this study only partially reveals the process "black box" of leader-signaled knowledge hiding on employees' work behavior. Although the emotional exhaustion introduced in this study has been proved to be a powerful mediating variable, the literature on organizational behavior points out that emotion and cognition are the two core elements that jointly drive employee behavior (Lee and Allen, 2002). Therefore, in the future, the emotional process mechanism and the cognitive process mechanism can be placed in the same

theoretical model to explore the influence of leader-signaled knowledge hiding.

Data availability statement

The original contributions presented in the study are included in the article/Supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The informed consent of the participants was implied through survey completion. An ethics approval was not required as per applicable institutional and national guidelines and regulations.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Supplementary material

The Supplementary material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyg.2022.1032845/full#supplementary-material

References

Abdullah, M. I., Dechun, H., Ali, M., and Usman, M. (2019). Ethical leadership and knowledge hiding: a moderated mediation model of relational social capital, and instrumental thinking. *Front. Psychol.* 10:2403. doi: 10.3389/fpsyg.2019.02403

Abubakar, A. M., Behravesh, E., Rezapouraghdam, H., and Yildiz, S. B. (2019). Applying artificial intelligence technique to predict knowledge hiding behavior. *Int. J. Inform. Manage.* 49, 45–57. doi: 10.1016/j.ijinfomgt.2019.02.006

Aiken, L. S., West, S. G., and Reno, R. R. (1991). *Multiple Regression: Testing and Interpreting Interactions*. New York, NY: Sage Pubilcations, Inc.

Ain, N. U., Azeem, M. U., Sial, M. H., and Arshad, M. A. (2022). Linking knowledge hiding to extra-role performance: the role of emotional exhaustion and political skills. *Knowl. Man. Res. Pract.* 20, 367–380. doi: 10.1080/14778238.2021.1876536

Aljawarneh, N. M. S., and Atan, T. (2018). Linking tolerance to workplace incivility, service innovative, knowledge hiding, and job search behavior: the mediating role of employee cynicism. *Negot. Confl. Manag. R.* 11, 298–320. doi: 10.1111/ncmr.12136

Anand, P., and Mishra, S. K. (2021). Linking core self-evaluation and emotional exhaustion with workplace loneliness: does high LMX make the consequence worse? *Int. J. Hum. Resour. Manag.* 32, 2124–2149. doi: 10.1080/09585192.2019.1570308

Arain, G. A., Bhatti, Z. A., Ashraf, N., and Fang, Y.-H. (2020). Top-down knowledge hiding in organizations: an empirical study of the consequences of supervisor knowledge hiding among local and foreign workers in the Middle East. *J. Bus. Ethics* 164, 611–625. doi: 10.1007/s10551-018-4056-2

Arain, G. A., Bhatti, Z. A., Hameed, I., and Fang, Y.-H. (2019). Top-down knowledge hiding and innovative work behavior (IWB): a three-way moderated-mediation analysis of self-efficacy and local/foreign status. *J. Knowl. Manag.* 24, 127–149. doi: 10.1108/JKM-11-2018-0687

Arain, G. A., Hameed, I., Khan, A. K., Nicolau, J. L., and Dhir, A. (2022). How and when does leader knowledge hiding trickle down the organisational hierarchy in the tourism context? *A team-level analysis. Tour. Manag.* 91:104486. doi: 10.1016/j.tourman.2021.104486

Arain, G. A., Hameed, I., Umrani, W. A., Khan, A. K., and Sheikh, A. Z. (2021). Consequences of supervisor knowledge hiding in organizations: a multilevel mediation analysis. *Appl. Psychol.* 70, 1242–1266. doi: 10.1111/apps.12274

Bavik, A., Bavik, Y. L., and Tang, P. M. (2017). Servant leadership, employee job crafting, and citizenship behaviors: a cross-level investigation. *Cornell Hosp. Q.* 58, 364–373. doi: 10.1177/1938965517719282

Bernerth, J. B., and Aguinis, H. (2016). A critical review and best-practice recommendations for control variable usage. *Pers. Psychol.* 69, 229–283. doi: 10.1111/peps.12103

Bock, G. W., Zmud, R. W., Kim, Y.-G., and Lee, J.-N. (2005). Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS. Quart.* 29:87. doi: 10.2307/25148669

Burmeister, A., Fasbender, U., and Gerpott, F. H. (2019). Consequences of knowledge hiding: the differential compensatory effects of guilt and shame. *J. Occup. Organ. Psych.* 92, 281–304. doi: 10.1111/joop.12249

Butt, A. S. (2021). Determinants of top-down knowledge hiding in firms: an individual-level perspective. *Asian Bus. Manag.* 20, 259–279. doi: 10.1057/s41291-019-00091-1

Carmeli, A., Gelbard, R., and Reiter-Palmon, R. (2013). Leadership, creative problem-solving capacity, and creative performance: the importance of knowledge sharing. *Hum. Resour. Manag.* 52, 95–121. doi: 10.1002/hrm.21514

Černe, M., Hernaus, T., Dysvik, A., and Škerlavaj, M. (2017). The role of multilevel synergistic interplay among team mastery climate, knowledge hiding, and job characteristics in stimulating innovative work behavior. *Hum. Resour. Manag. J.* 27, 281–299. doi: 10.1111/1748-8583.12132

Černe, M., Nerstad, C. G., Dysvik, A., and Škerlavaj, M. (2014). What goes around comes around: knowledge hiding, perceived motivational climate, and creativity. *Acad. Manag. J.* 57, 172–192. doi: 10.5465/amj.2012.0122

Chan, W. L., Ho, J. A., Sambasivan, M., and Ng, S. I. (2019). Antecedents and outcome of job embeddedness: evidence from four and five-star hotels. *Int. J. Hosp. Manag.* 83, 37–45. doi: 10.1016/j.ijhm.2019.04.011

Chatterjee, S., Chaudhuri, R., Thrassou, A., and Vrontis, D. (2021). Antecedents and consequences of knowledge hiding: the moderating role of knowledge hiders and knowledge seekers in organizations. *J. Bus. Res.* 128, 303–313. doi: 10.1016/j.jbusres.2021.02.033

Chen, X. P., and Chen, C. C. (2004). On the intricacies of the Chinese *guanxi*: a process model of *guanxi* development. *Asia Pac. J. Manag.* 21, 305–324. doi: 10.1023/B:APJM.0000036465.19102.d5

Chen, Y., Friedman, R., Yu, E., Fang, W., and Lu, X. (2009). Supervisor-subordinate *guanxi*: developing a three-dimensional model and scale. *Manage. Organ. Rev.* 5, 375–399. doi: 10.1111/j.1740-8784.2009.00153.x

Chi, S. C. S., and Liang, S. G. (2013). When do subordinates' emotion-regulation strategies matter? Abusive supervision, subordinates' emotional exhaustion, and work withdrawal. *Leadersh. Q.* 24, 125–137. doi: 10.1016/j.leaqua.2012.08.006

Chong, S., Huang, Y., and Chang, C. D. (2020). Supporting interdependent telework employees: a moderated-mediation model linking daily COVID-19 task setbacks to next-day work withdrawal. *J. Appl. Psychol.* 105, 1408–1422. doi: 10.1037/apl0000843

Cole, M. S., Bernerth, J. B., Walter, F., and Holt, D. T. (2010). Organizational justice and individuals' withdrawal: unlocking the influence of emotional exhaustion. *J. Manage. Stud.* 47, 367–390. doi: 10.1111/j.1467-6486.2009.00864.x

Connelly, C. E., and Zweig, D. (2015). How perpetrators and targets construe knowledge hiding in organizations. *Eur. J. Work Organ. Psychol.* 24, 479–489. doi: 10.1080/1359432X.2014.931325

Connelly, C. E., Zweig, D., Webster, J., and Trougakos, J. P. (2012). Knowledge hiding in organizations. *J. Organ. Behav.* 33, 64–88. doi: 10.1002/job.737

De Croon, E. M., Sluiter, J. K., Blonk, R. W., Broersen, J. P., and Frings-Dresen, M. H. (2004). Stressful work, psychological job strain, and turnover: a 2-year prospective cohort study of truck drivers. *J. Appl. Psychol.* 89, 442–454. doi: 10.1037/0021-9010.89.3.442

Dimotakis, N., Scott, B. A., and Koopman, J. (2011). An experience sampling investigation of workplace interactions, affective states, and employee well-being. *J. Organ. Behav.* 32, 572–588. doi: 10.1002/job.722

Donate, M. J., González-Mohíno, M., Appio, F. P., and Bernhard, F. (2022). Dealing with knowledge hiding to improve innovation capabilities in the hotel industry: the unconventional role of knowledge-oriented leadership. *J. Bus. Res.* 144, 572–586. doi: 10.1016/j.jbusres.2022.02.001

Duro, J. A., Perez-Laborda, A., Turrion-Prats, J., and Fernandez-Fernandez, M. (2021). Covid-19 and tourism vulnerability. *Tour. Manag. Perspect.* 38:100819. doi: 10.1016/j.tmp.2021.100819

El-Kassar, A. N., Dagher, G. K., Lythreatis, S., and Azakir, M. (2022). Antecedents and consequences of knowledge hiding: the roles of HR practices, organizational support for creativity, creativity, innovative work behavior, and task performance. *J. Bus. Res.* 140, 1–10. doi: 10.1016/j.jbusres.2021.11.079

Fehr, R., Fulmer, A., and Keng-Highberger, F. T. (2020). How do employees react to leaders' unethical behavior? The role of moral disengagement. *Pers. Psychol.* 73, 73–93. doi: 10.1111/peps.12366

Fida, R., Paciello, M., Tramontano, C., Fontaine, R. G., Barbaranelli, C., and Farnese, M. L. (2015). An integrative approach to understanding counterproductive work behavior: the roles of stressors, negative emotions, and moral disengagement. *J. Bus. Ethics* 130, 131–144. doi: 10.1007/s10551-014-2209-5

Fox, S., and Spector, P. E. (2006). "The many roles of control in a stressor-emotion theory of counterproductive work behavior" in *Employee Health, Coping and Methodologies (Research in Occupational Stress and Well Being). Vol. 5.* eds. P. L. Perrewé and D. C. Ganster (Bingley: Emerald Group Publishing Limited). 171–201. doi: 10.1016/S1479-3555(05)05005-5

Gan, C., Guo, W., Chai, Y., and Wang, D. (2019). Unethical leader behavior and employee performance: a deontic justice perspective. *Pers. Rev.* 49, 188–201. doi: 10.1108/PR-08-2018-0290

Gao, Z., House, L. A., and Xie, J. (2016). Online survey data quality and its implication for willingness-to-pay: a cross-country comparison. *Can. J. Agric. Econ.* 64, 199–221. doi: 10.1111/cjag.12069

Gardner, W. L., Gabriel, S., and Hochschild, L. (2002). When you and I are "we", you are not threatening: the role of self-expansion in social comparison. *J. Pers. Soc. Psychol.* 82, 239–251. doi: 10.1037/0022-3514.82.2.239

Green, S. G., Anderson, S. E., and Shivers, S. L. (1996). Demographic and organizational influences on leader–member exchange and related work attitudes. *Organ. Behav. Hum. Dec.* 66, 203–214. doi: 10.1006/obhd.1996.0049

Grobelna, A. (2021). Emotional exhaustion and its consequences for hotel service quality: the critical role of workload and supervisor support. *J. Hosp. Mark. Manag.* 30, 395–418. doi: 10.1080/19368623.2021.1841704

Halbesleben, J. R., Neveu, J.-P., Paustian-Underdahl, S. C., and Westman, M. (2014). Getting to the "COR" understanding the role of resources in conservation of resources theory. *J. Manage.* 40, 1334–1364. doi: 10.1177/0149206314527130

Hallin, C. A., and Marnburg, E. (2008). Knowledge management in the hospitality industry: a review of empirical research. *Tour. Manag.* 29, 366–381. doi: 10.1016/j.tourman.2007.02.019

Hayes, A. F. (2009). Beyond baron and kenny: statistical mediation analysis in the new millennium. *Commun. Monogr.* 76, 408–420. doi: 10.1080/03637750903310360

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: current research status and future research directions. *Front. Psychol* 12:748237. doi: 10.3389/fpsyg.2021.748237

He, P., Peng, Z., Zhao, H., and Estay, C. (2019). How and when compulsory citizenship behavior leads to employee silence: a moderated mediation model based on moral disengagement and supervisor–subordinate *guanxi* views. *J. Bus. Ethics* 155, 259–274. doi: 10.1007/s10551-017-3550-2

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2022). Linking work-related and non-work-related supervisor-subordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus. Manag.* 21, 525–546. doi: 10.1057/s41291-020-00137-9

Hernaus, T., Cerne, M., Connelly, C., Vokic, N. P., and Škerlavaj, M. (2018). Evasive knowledge hiding in academia: when competitive individuals are asked to collaborate. *J. Knowl. Manag.* 23, 597–618. doi: 10.1108/JKM-11-2017-0531

Hobfoll, S. E. (1989). Conservation of resources: a new attempt at conceptualizing stress. *Am. Psychol.* 44, 513–524. doi: 10.1037/0003-066X.44.3.513

Hobfoll, S. E. (2001). The influence of culture, community, and the nested-self in the stress process: advancing conservation of resources theory. *Appl. Psychol.* 50, 337–421. doi: 10.1111/1464-0597.00062

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Rev. Gen. Psychol.* 6, 307–324. doi: 10.1037/1089-2680.6.4.307

Hobfoll, S. E., and Freedy, J. (2017). "Conservation of resources: a general stress theory applied to burnout" in *Professional Burnout*. eds. B. S. Wilmar, M. Christina and M. Tadeusz (Abingdon: Routledge), 115–129.

Hobfoll, S., Halbesleben, J., Neveu, J., and Westman, M. (2018). Conservation of resources in the organizational context: the reality of resources and their consequences. *Annu. Rev. Organ. Psychol.* 5, 103–128. doi: 10.1146/annurev-orgpsych-032117-104640

Holten, A. L., Hancock, G. R., Persson, R., Hansen, A. M., and Høgh, A. (2016). Knowledge hoarding: antecedent or consequent of negative acts? The mediating role of trust and justice. *J. Knowl. Manag.* 20, 215–229. doi: 10.1108/JKM-06-2015-0222

Jahanzeb, S., Fatima, T., Bouckenooghe, D., and Bashir, F. (2019). The knowledge hiding link: a moderated mediation model of how abusive supervision affects employee creativity. *Eur. J. Work Organ. Psy.* 28, 810–819. doi: 10.1080/1359432X.2019.1659245

Jha, J. K., and Varkkey, B. (2018). Are you a cistern or a channel? Exploring factors triggering knowledge-hiding behavior at the workplace: evidence from the Indian R & D professionals. *J. Knowl. Manag.* 22, 824–849. doi: 10.1108/JKM-02-2017-0048

Jiang, Z., Hu, X., Wang, Z., and Jiang, X. (2019). Knowledge hiding as a barrier to thriving: the mediating role of psychological safety and moderating role of organizational cynicism. *J. Organ. Behav.* 40, 800–818. doi: 10.1002/job.2358

Kammeyer-Mueller, J. D., Simon, L. S., and Judge, T. A. (2016). A head start or a step behind? Understanding how dispositional and motivational resources influence emotional exhaustion. *J. Manage.* 42, 561–581. doi: 10.1177/0149206313484518

Lanaj, K., Johnson, R. E., and Lee, S. M. (2016). Benefits of transformational behaviors for leaders: a daily investigation of leader behaviors and need fulfillment. *J. Appl. Psychol.* 101, 237–251. doi: 10.1037/apl0000052

Lanaj, K., Kim, P. H., Koopman, J., and Matta, F. K. (2018). Daily mistrust: a resource perspective and its implications for work and home. *Pers. Psychol.* 71, 545–570. doi: 10.1111/peps.12268

Lau, D. C., Lam, L. W., and Wen, S. S. (2014). Examining the effects of feeling trusted by supervisors in the workplace: a self-evaluative perspective. *J. Organ. Behav.* 35, 112–127. doi: 10.1002/job.1861

Law, K. S., Wong, C. S., Wang, D., and Wang, L. (2000). Effect of supervisor–subordinate *guanxi* on supervisory decisions in China: an empirical investigation. *Int. J. Hum. Resour. Man.* 11, 751–765. doi: 10.1080/09585190050075105

Leat, M., and El-Kot, G. (2009). Interpersonal trust at work, intrinsic motivation, work-related tension and satisfaction in Egypt. *Int. J. Workplace Health Manage.* 2, 180–194. doi: 10.1108/17538350910970237

LeBreton, J. M., Binning, J. F., Adorno, A. J., and Melcher, K. M. (2004). Importance of personality and job-specific affect for predicting job attitudes and withdrawal behavior. *Organ. Res. Methods* 7, 300–325. doi: 10.1177/1094428104266015

Lee, K., and Allen, N. J. (2002). Organizational citizenship behavior and workplace deviance: the role of affect and cognitions. *J. Appl. Psychol.* 87, 131–142. doi: 10.1037/0021-9010.87.1.131

Lee, L. S., and Zhong, W. G. (2020). Responses to alliance partners' misbehavior and firm performance in China: the moderating roles of *guanxi* orientation. *Asian Bus. Manag.* 19, 344–378. doi: 10.1057/s41291-019-00076-0

Lehman, W. E., and Simpson, D. D. (1992). Employee substance use and on-the-job behaviors. *J. Appl. Psychol.* 77, 309–321. doi: 10.1037/0021-9010.77.3.309

Lu, Y., Zhou, L., Bruton, G., and Li, W. (2010). Capabilities as a mediator linking resources and the international performance of entrepreneurial firms in an emerging economy. *J. Int. Bus. Stud.* 41, 419–436. doi: 10.1057/jibs.2009.73

Mackey, J. D., Frieder, R. E., Brees, J. R., and Martinko, M. J. (2017). Abusive supervision: a meta-analysis and empirical review. *J. Manage.* 43, 1940–1965. doi: 10.1177/0149206315573997

Mahmood, Z., Khawaja, K., and Mariam, S. (2021). Following in the footsteps: an empirical model of leader-signaled knowledge hiding by subordinates. *Glob. Manage. Sci. Rev.* 6, 1–16. doi: 10.31703/gmsr.2021(VI-II).01

Maslach, C., and Jackson, S. E. (1981). The measurement of experienced burnout. *J. Organ. Behav.* 2, 99–113. doi: 10.1002/job.4030020205

Maslach, C., Schaufeli, W. B., and Leiter, M. P. (2001). Job burnout. *Annu. Rev. Psychol.* 52, 397–422. doi: 10.1146/annurev.psych.52.1.397

Mawritz, M. B., Mayer, D. M., Hoobler, J. M., Wayne, S. J., and Marinova, S. V. (2012). A trickle-down model of abusive supervision. *Pers. Psychol.* 65, 325–357. doi: 10.1111/j.1744-6570.2012.01246.x

Men, C., Fong, P. S., Huo, W., Zhong, J., Jia, R., and Luo, J. (2020). Ethical leadership and knowledge hiding: a moderated mediation model of psychological safety and mastery climate. *J. Bus. Ethics* 166, 461–472. doi: 10.1007/s10551-018-4027-7

Offergelt, F., Spörrle, M., Moser, K., and Shaw, J. D. (2019). Leader-signaled knowledge hiding: effects on employees' job attitudes and empowerment. *J. Organ. Behav.* 40, 819–833. doi: 10.1002/job.2343

Orfila-Sintes, F., and Mattsson, J. (2009). Innovation behavior in the hotel industry. *Omega* 37, 380–394. doi: 10.1016/j.omega.2007.04.002

Pan, W., Zhang, Q., Teo, T. S., and Lim, V. K. (2018). The dark triad and knowledge hiding. *Int. J. Inform. Manage.* 42, 36–48. doi: 10.1016/j.ijinfomgt.2018.05.008

Pelled, L. H., and Xin, K. R. (1999). Down and out: an investigation of the relationship between mood and employee withdrawal behavior. *J. Manage.* 25, 875–895. doi: 10.1177/014920639902500605

Peng, H. (2013). Why and when do people hide knowledge? *J. Knowl. Manag.* 17, 398–415. doi: 10.1108/JKM-12-2012-0380

Peng, H., and Wei, F. (2018). Trickle-down effects of perceived leader integrity on employee creativity: a moderated mediation model. *J. Bus. Ethics* 150, 837–851. doi: 10.1007/s10551-016-3226-3

Peng, H., and Wei, F. (2020). How and when does leader behavioral integrity influence employee voice? The roles of team independence climate and corporate ethical values. *J. Bus. Ethics* 166, 505–521. doi: 10.1007/s10551-019-04114-x

Pereira, V., Mellahi, K., Temouri, Y., Patnaik, S., and Roohanifar, M. (2018). Investigating dynamic capabilities, agility and knowledge management within EMNEs-longitudinal evidence from Europe. *J. Knowl. Manag.* 23, 1708–1728. doi: 10.1108/JKM-06-2018-0391

Pereira, P. T., Silva, N., and e Silva, J. A. (2006). Positive and negative reciprocity in the labor market. *J. Econ. Behav. Organ.* 59, 406–422. doi: 10.1016/j.jebo.2004.03.015

Qin, Y., Xie, Y., and Cooke, F. L. (2021). Unethical leadership and employee knowledge-hiding behavior in the Chinese context: a moderated dual-pathway model. *Asian Bus. Manag.* 1-25, 1–25. doi: 10.1057/S41291-021-00154-2

Reina, C. S., Rogers, K. M., Peterson, S. J., Byron, K., and Hom, P. W. (2018). Quitting the boss? The role of manager influence tactics and employee emotional engagement in voluntary turnover. *J. Leadersh. Org. Stud.* 25, 5–18. doi: 10.1177/1548051817709007

Schyns, B., Felfe, J., and Schilling, J. (2018). Is it me or you? How reactions to abusive supervision are shaped by leader behavior and follower perceptions. *Front. Psychol.* 9:1309. doi: 10.3389/fpsyg.2018.01309

Serenko, A., and Bontis, N. (2016). Understanding counterproductive knowledge behavior: antecedents and consequences of intra-organizational knowledge hiding. *J. Knowl. Manag.* 20, 1199–1224. doi: 10.1108/JKM-05-2016-0203

Singh, S. K. (2019). Territoriality, task performance, and workplace deviance: empirical evidence on role of knowledge hiding. *J. Bus. Res.* 97, 10–19. doi: 10.1016/j.jbusres.2018.12.034

Spector, P. E., and Fox, S. (2005). "The stressor-emotion model of counterproductive work behavior" in *Counterproductive Work Behavior: Investigations of Actors and Targets*. eds. S. Fox and P. E. Spector (American Psychological Association), 151–174. doi: 10.1037/10893-007

Su, X., Jiang, X., Xie, G., Huang, M., and Xu, A. (2022). How does self-sacrificial leadership foster knowledge sharing behavior in employees? Moral ownership, felt obligation and supervisor-subordinate *guanxi*. *Front. Psychol.* 13:910707. doi: 10.3389/fpsyg.2022.910707

Su, C., Mitchell, R. K., and Sirgy, M. J. (2007). Enabling *guanxi* management in China: a hierarchical stakeholder model of effective *guanxi*. *J. Bus. Ethics* 71, 301–319. doi: 10.1007/s10551-006-9140-3

Sulea, C., Fine, S., Fischmann, G., Sava, F. A., and Dumitru, C. (2013). Abusive supervision and counterproductive work behaviors: the moderating effects of personality. *J. Pers. Psychol.* 12, 196–200. doi: 10.1027/1866-5888/a000097

Ten Brummelhuis, L. L., and Bakker, A. B. (2012). A resource perspective on the work-home interface: the work-home resources model. *Am. Psychol.* 67, 545–556. doi: 10.1037/a0027974

Trougakos, J. P., Beal, D. J., Cheng, B. H., Hideg, I., and Zweig, D. (2015). Too drained to help: a resource depletion perspective on daily interpersonal citizenship behaviors. *J. Appl. Psychol.* 100, 227–236. doi: 10.1037/a0038082

Uy, M. A., Lin, K. J., and Ilies, R. (2017). Is it better to give or receive? The role of help in buffering the depleting effects of surface acting. *Acad. Manag. J.* 60, 1442–1461. doi: 10.5465/amj.2015.0611

Van Woerkom, M., Bakker, A. B., and Nishii, L. H. (2016). Accumulative job demands and support for strength use: fine-tuning the job demands-resources model using conservation of resources theory. *J. Appl. Psychol.* 101, 141–150. doi: 10.1037/apl0000033

Wan, M., Zhang, Y., and Li, M. (2021). Do narcissistic employees remain silent? Examining the moderating roles of supervisor narcissism and traditionality in China. *Asian Bus. Manag.* 1-25. doi: 10.1057/S41291-021-00153-3

Wright, T. A., and Bonett, D. G. (2007). Job satisfaction and psychological well-being as nonadditive predictors of workplace turnover. *J. Manage.* 33, 141–160. doi: 10.1177/0149206306297582

Xiao, M., and Cooke, F. L. (2019). Why and when knowledge hiding in the workplace is harmful: a review of the literature and directions for future research in the Chinese context. *Asia Pac. J. Hum. Resour.* 57, 470–502. doi: 10.1111/1744-7941.12198

Zhang, Z., and Min, M. (2021). Project manager knowledge hiding, subordinates' work-related stress and turnover intentions: empirical evidence from Chinese NPD projects. *J. Knowl. Manag.* 26, 1921–1944. doi: 10.1108/JKM-02-2021-0155

Zhao, H., and Jiang, J. (2021). Research on double-edged sword effect and boundary conditions of leader-signaled knowledge hiding. *Chin. J. Manage.* 18, 684–694. doi: 10.3969/j.issn.1672-884x.2021.05.006

Zhu, Y., and Wu, J. (2020). Does charismatic leadership encourage or suppress follower voice? The moderating role of challenge–hindrance stressors. *Asian Bus. Manag.* 1-26. doi: 10.1057/s41291-020-00125-z

Check for updates

*CORRESPONDENCE
Jineng Chen
250581699@qq.com
Wei Zheng
1255365@qq.com

The impact of moral leadership on physical education teachers' innovation behavior: The role of identification with leader and psychological safety

Jineng Chen[1]*, Wei Zheng[2]* and Binbin Jiang[3]

[1]Graduate School, St. Paul University Philippines, Tuguegarao, Philippines, [2]School of Physical Education and Health, Sanming University, Sanming, China, [3]School of Education, Quanzhou Vocational and Technical University, Quanzhou, China

With the growth of people's health needs and the impact of the COVID-19 pandemic, it is an inevitable trend to promote innovation behaviors of physical education (PE) teachers to innovate traditional physical education and adapt to national needs of sustainable development in the sports industry. Considering that moral leadership can promote innovation behavior of individuals through psychological factors, this study defines the types of innovation behavior, and from the perspective of psychological safety and identifying with leaders, discusses the impact of moral leadership on individuals' innovation behavior by using hierarchical multivariate regression analysis, which provides inspiration for schools to strengthen the innovation behavior of physical education teachers. In this study, 327 questionnaires were distributed to PE teachers in Chinese provinces and 287 valid questionnaires were collected. The analysis of the collected data was performed with the help of the SPSSAU data analysis platform. The following conclusions were drawn: First, moral leadership has a significant positive impact on the psychological safety and internal and external innovation of physical education teachers. Secondly, moral leadership influences employees' innovation behavior through psychological safety, and plays a part of intermediary role between moral leadership and internal and external innovation behavior; Third, by comparing the two impact mechanisms of innovation behavior, we found that moral leadership encourages employees to produce more external innovation behavior through psychological safety; Finally, strong leadership identity plays a positive role in regulating the relationship between moral leadership and innovation behavior.

Introduction

The sudden outbreak of the COVID-19 epidemic in 2020 has had a huge impact on human life, quickly triggering people's deep thinking and heated discussions on the autoimmune system, and the demand for physical exercise in pursuit of health has rapidly increased. Other innovation behaviors, such as technology innovation and platform innovation, have an impact on the optimization of human's external living environment, such as bringing a stable and wonderful environment. While PE teachers' innovation behavior can directly affect and satisfy individuals' health exercise needs caused by the internal motivation of physical fitness improvement. Now that the influence of the external environment is hindering the traditional behavior of physical exercise, scholars have attracted a lot of attention to PE innovation. More and more countries are focusing on the development of the sports industry and the cultivation of relevant sports service personnel. For example, the 14th Five Year Plan in China seeks to strengthen the construction of a high-level physical education (PE) talent team and create a career development plan for them; To this end, China issued the Education Modernization 2035 plan in 2019, emphasizing the creation of "a high-quality professional and creative teacher team," as "innovation teachers" have become an important feature of modern education. In 2021, the new curriculum reform including basic PE was fully launched. At the same time, the United States has promotes sports activities suitable for public participation, and has issued policy documents on the construction of mass sports, teachers and venue facilities in various periods, with notable policy effects (Riegelman and Garr, 2011). In addition, Germany has a clear concept in the development of the sports industry and the training of sports talents, vigorously supports the construction of sports clubs, and strives to create differentiated sports services to meet the different sports needs of the public, increases the public sports participation rate and sports consumption, and finally drives the rapid development of the sports industry (Breuer et al., 2015). PE teachers are a source of vitality in physical education innovation and the main force behind sports industry implementation. Therefore, ensuring that PE teachers do their work better, provide social sports services, and promote their innovation behavior is key to modernizing physical education, which has important practical significance.

Previous research on participants of PE innovation focused on the roles of government and market investor (Kanario, 2017), while research on PE talents was ignored. Part of the research on the antecedents that affect PE field' innovation behavior focuses on preservice education content (Rottmann and Ratto, 2018), individuals' sense of mission and responsibility (Ellison, 2022), and negative psychology, including burnout and occupational stress (Benevene et al., 2020). At the same time, many scholars also put forward that individual motivation promotes their innovation behavior (Nikiforos et al., 2020). When PE teachers have a strong incentive to renew old teaching ideas, they push the reform of physical education curriculum, and other innovation acts. In addition, some scholars have focused on the impact of the organizational innovation climate on the innovation behavior of PE teachers. Other factors, such as their leadership style and innovative activities, are relatively scarce and should be further explored. According to social cognitive theory, individual innovation behavior is a function that includes individual and environmental factors (Amabile, 1983). As the innovation process of physical education teachers is complex, competitive and constantly changing, they need the support of leaders, recognize and tolerate the contradictions and tensions in the innovation process (Hunter et al., 2011). Therefore, leaders are the key to realizing individual innovation behavior (Zhou and Hoever, 2014), and their specific leadership style affects the degree of employees' innovation behavior in the workplace (Gong et al., 2009); Moral leadership touches the core of the overall progress and development of a school (Reed, 2004). It is an essential driving force for the continuous expansion and innovation of physical education. It has achieved remarkable results by encouraging PE teachers to carry out more extensive innovation behaviors. Many colleges and universities in China have shown outstanding performance in the field of traditional physical education innovation. Under the moral support of the school for sports innovation and the advocacy of undertaking national sports projects, PE teachers participate in seminars on physical education, so that they have a lot of inspiration and flexible time for open teaching. At the same time, the innovation behavior about internal teaching also allows teachers to creatively lead students to participate in the incubation project of the sports industry. Thus the internal innovation behavior was extended to the external innovation behavior of university-industry cooperation, such as developing teaching projects with ethnic minority style sports, which aroused great interest of students and widespread concern of society. Therefore, it is necessary to comprehensively consider the common influence of organizational leadership style, individual psychological safety and leadership cognition in the process of individual innovation. PE teachers are becoming an important source of sports talent reserve in the sports industry and the major practitioners in the sustainable development of physical education (Froberg and Lundvall, 2022). The innovation behavior of teachers involves not only the internal innovation behavior of doing their own work well (Loogma and Nemeržitski, 2014), but also the external behavior of actively contributing to the sports cause (Frost, 2012). So how does moral leadership affect PE teachers' internal and external innovation behavior? Whether there are differences in the impact of moral leadership on PE teachers' internal and external innovation behavior is an important

question that this study tries to answer. Therefore, based on the classification of PE teachers' innovation behavior types, it is necessary to explore the mechanism behind it from the perspective of moral leadership. The words and actions of a leader with a particular leadership style will be perceived and assessed by the individual, and will also have a subtle impact on the individual's work environment, thus influencing the individual's innovation behavior. Some scholars have proved that moral leadership can improve individual creativity. This impact is not a single path, but is regulated by individual emotional commitment, creative self-efficacy and psychological safety (Iqbal et al., 2022). At the same time, it should be noted that individuals' identification with leaders directly affects the effectiveness of moral leadership in building individuals' sense of psychological safety (Tu and Lu, 2013). Therefore, in order to further refine and explore the impact mechanisms of moral leadership and innovation behavior of PE teachers, this study introduces two key variable factors, namely psychological safety and identification with leader, to provide suggestions for enhancing innovation behavior of PE teachers both internally and externally.

Literature review

Existing research on moral leadership

The concept of moral leadership

Moral leadership refers to two aspects of interpretation of moral people and managers (Treviño et al., 2016), which means that a moral leader is not only a moral person who is altruistic, honest, and trustworthy (Treviño et al., 2016), but also a manager who has the self-discipline to display appropriate conduct, back up his/her words with actions, cares for and respects individuals equally, upholds ethics (Brown and Treviño, 2006), emphasizes mutual communication, and provides instrumental and emotional support (Brown et al., 2005). According to opinions of Brown et al., moral leadership involves high standards of humanistic care, justice, responsibility, and other characteristics that promote followers' moral standards through mutual communication that passes humility and autonomy between moral leaders and individuals (Brown et al., 2005). Henson proposes that moral leadership exists when a leader maintain a high level of self-perception and behavior that reflects a high level of initiative, and has a positive impact on their followers or society. So far, only Brown and Trevino have articulated a clear definition of moral leadership (Henson, 2015). They believe that moral leadership concerns normative personal behavior and appropriate interpersonal relationships, and usually makes decisions through mutual communication with followers.

Trends in moral leadership

For a long time, moral leadership was considered a constituent dimension of other leadership theories (i.e., authentic, democratic, and transformational leadership). Kanungo and Mendonca (1996) first classified moral leadership into three dimensions: a leader's motivation/intention, influence strategy, and character. Later, Resick et al. (2006) conducted a comparative analysis on the dimensions of moral leadership in different cultures and then adapted the dimensions to inclusive character, integrity, altruism, collective motivation, and encouragement (Resick et al., 2006). Therefore, combining the studies over the years, the dimensions of moral leadership can be summarized into trait dimensions such as motivation, traits, altruism, and behavioral dimensions such as influence strategies, empowerment, and encouragement, among other things.

Existing research suggests that the factors that influence moral leadership are generally personal characteristics, cognitive factors, and situational factors. Based on the work of Brown et al. (2005) and Hoogh and Hartog (2008) found that leaders' social responsibility, likability, and responsibility promote the formation of moral leadership (Hoogh and Hartog, 2008). In terms of cognition, Mayer et al. (2012) used social cognitive theory to show that ethical identity is an important influencing factor in moral leadership. In terms of situational factors (Mayer et al., 2012), Brown and Treviño (2013) found that role models promote moral leadership in the professional development of leaders (Brown and Treviño, 2013).

Researchers' understanding of the impact of moral leadership has gradually expanded from followers' ethical and non-ethical behaviors to their positive behaviors (Hoogh and Hartog, 2008; Tu and Lu, 2013). First, this is generally an antecedent variable that has a direct or indirect positive effect on employees' attitudes and behaviors in organizations and leads employees to proactively improve the team (Jha and Singh, 2019); furthermore, this is significantly and positively associated with employees' identification with the leader (Ullah et al., 2022). Moral leadership is also positively associated with employees' innovation behavior and indirectly stimulates innovation by promoting psychological safety and self-efficacy (Younas et al., 2020). Furthermore, moral leadership can also act as a moderating variable that positively moderates the link between CSR and psychological safety (Kim et al., 2021), while also having a significant moderating effect on the relationship between interactional equity and innovation behavior.

Despite this, few empirical studies have explored the intervening variables between moral leadership and innovation behavior. Moreover, although research on the impact of moral leadership on employee behavior has been studied, its impact on employee innovation behavior is still at an early stage of development compared to other leadership styles. Therefore, based on the existing literature, this study further explores the impact of moral leadership on innovation behavior.

Existing literature on innovation behavior

The concept of innovation behavior

Joseph Schumpeter, an American economist, first proposed the concept of "innovation" in his early book "Theory of Economic Development." He argued that innovation includes both "invention" and "promotion," which means that an organization gathers all its internal and external resources to produce new inventions, products, processes, or methods through resource integration (Schumpeter, 1911). Later, as the body of research grew, scholars began to believe that innovation is a process of generating new ideas or products, where innovation behavior is a discontinuous combination of activities including individual innovation behavior, team innovation behavior, and organizational innovation behavior. Among these components, individual innovation behavior is the basis of team and organizational innovation (Ouakouak and Ouedraogo, 2017). Therefore, this paper takes individual innovation behavior as its primary focus.

Research on employees' innovation behavior began in the 1980s. Since then, scholars have defined "innovation behavior" based on different perspectives, which are shown in **Table 1**.

As demonstrated, the scholars all agree that the realization of individual innovation behavior needs to go through the stage of generating and forming new ideas, searching for support, and then finally being implemented. Therefore, this paper studies each stage of employees' innovation behavior from this perspective.

Trends in innovation behavior

Although the process theory of individual innovation behavior is recognized by most scholars, there is still no consensus on the division of the dimension of innovation behavior. Some scholars believe that the process includes multiple stages, whereas others believe that the multi-stage activities included in innovation behavior are coherent, related, and can be integrated into one dimension for evaluation and measurement. Therefore, scholars use different application scenarios and classifications to define the different dimensions of innovation behavior. Perhaps the most representative classification is Scott and Bruce's (1994), which mentioned a three-dimension scale consisting of the generation, promotion, and realization of innovative ideas (Scott and Bruce, 1994). George and Zhou (2001) mentioned a one-dimensional scale referring to supervisors' subjective evaluation of subordinates' innovation behavior (George and Zhou, 2001). Kleysen and Street (2001) mentioned a five dimension scale that included searching for opportunities, forming ideas, conducting surveys, seeking support, and applying practices (Kleysen and Street, 2001). Krause (2004) mentioned a two-dimensional

scale that centers around generating and executing ideas (Krause, 2004).

The exploration of antecedent factors of innovation behavior is mainly carried out at the individual and organizational levels. The individual level includes personality traits and psychological factors; For example, studies have shown that employees with creative personalities have stronger senses of creativity; Similarly, open personalities are more imaginative in terms of problem discovery and solution, as well as more interested in solving complex or inefficient problems (George and Zhou, 2001). Personality traits determine innovative cognitive styles and the ability to deal with problems by bringing a new perspective (Shalley et al., 2016). In terms of psychological factors, positive emotions help employees generate new ideas in the workplace. High innovative self-efficacy, organizational emotional ability, or psychological capital makes employees behave more innovatively and take a more active role in implementing new ideas (Zhang and Bartol, 2010).

The organizational level includes organizational management and leadership style. Leadership styles are considered to be key to promoting employees' innovation behaviors. Modest, inclusive, transformative, and authoritative leaders give employees the space and opportunity to develop, while interfering less with their innovative ideas, giving them encouragement and positive feedback, and improving users' self-evaluation and self-efficacy. At the same time, it provides organizational atmosphere support for the generation and implementation of employees' innovative ideas (Shao et al., 2022). Furthermore, external learning activities have a positive impact on employees' innovation behavior (Liu and Gui, 2017). At the same time, the intensity of human resource management has enhanced the positive impact of the organizational atmosphere and the psychological status of innovation behaviors. Having a high-performance work system makes employees more likely to accept the pressure and available support (Ashiru et al., 2022), maximize the generation and implementation of creativity, and enhance innovation performance.

The outcome variables of employee innovation mainly focus on the improvement of organizational efficiency and performance, such as bringing new thinking and methods for the optimization and improvement of operation processes and business efficiency (Ng et al., 2010). Continuous innovation behavior plays a key role in improving the overall performance, competitive ability, and sustainable development of teams and organizations (Liu, 2013).

In recent years, scholars have noticed that the role of leadership style in innovation behavior cannot be ignored (Khan et al., 2021), and, consequently, a series of impact studies have been conducted. Most of these studies have focused on how

TABLE 1 Definition of innovation behavior.

Scholar	Definition of innovation behavior
Schumpeter, 1983; Amabile, 1983	The process from the generation of new ideas to the implementation of products, in which employees' behavior exceeds the expectations of the organization.
West and Farr, 1989	The exploration of new ideas and new processes, and a series of activities to improve organizational efficiency when the innovation results are applied to the organization.
Scott and Bruce, 1994	A multi-stage process of generating innovative ideas, seeking innovative support, and finally turning innovative ideas into reality.
Kleysen and Street, 2001	Individual activities that introduce and practice innovative ideas that are beneficial to organizational innovation.
Tsai and Kao, 2004	The process of generating inspiration in work, developing new products and technologies, implementing the inspiration results of innovation, and finally applying them to form products or services.
Moultrie and Young, 2010	New ideas that are applied to specific work scenarios and produce good results.
Yuan, 2009	A series of complex behavioral activities involving the generation, formation, and implementation of new ideas at work.

leadership styles affect the innovation behavior of employees through individual characteristics, which are inextricably linked with cognitive willingness. Therefore, to enrich the research field, it is necessary to consider leaders' cognition and psychological factors when exploring the influence of leadership style on employees' innovation behavior.

Furthermore, according to the literature on the dimension division of employee innovation behavior, scholars mostly divide the dimension from the process of behavior development or the evaluation of innovation results. Taking the organization as the boundary to distinguish the internal and external innovation behaviors of employees is helpful to further explore the differential influence mechanism of moral leadership on individual innovation behaviors, and build a targeted incentive mechanism for employees' innovation behaviors.

Existing literature on psychological safety

The concept of psychological safety

In this context, psychological safety is defined as employees being able to be themselves without the subjective perception that their self-image, status, or career will be adversely affected (Kahn, 1990). This concept is extended to the team level, and defined as the shared belief that team members can safely take interpersonal risks (Edmondson, 2016). In the workplace, psychological safety represents an environmental state that provides enough certainty and predictability for employees to exert their creativity (Gong et al., 2010). Psychological safety is an important index to measure the degree of individuals' ability to adapt.

Trends in psychological safety

Regarding the dimensional division of psychological safety, Edmondson (1999) considered psychological safety as one dimension scale measured by psychological safety from a team's

perspective (Edmondson, 1999), while Tynan (2005) extended this understanding by dividing individual team members' psychological safety into two dimensions: self-psychological safety and others' psychological safety (Tynan, 2005). The former refers to the degree of safety an individual feels when a specific other person is involved, whereas the latter refers to an individual's perception of the degree of psychological safety of others. Thus, Edmondson (1999) focused on the psychological safety of the team between the individual and the team (Edmondson, 1999), and Tynan (2005) focused on the psychological safety of the self and the psychological safety of others, which more comprehensively accounts for the relationship between an individual, his/her colleagues, and his/her supervisors.

Existing studies have examined the antecedents of psychological safety, such as transformational leadership, servant leadership, and moral leadership. Shin and Zhou (2003) stated that transformational and ethical leaders are able to create a situational climate of psychological safety within teams (Shin and Zhou, 2003; Walumbwa and Schaubroeck, 2009). In terms of outcome variables, psychological safety is an important factor that influences employees' engagement behaviors, individual/team learning behaviors, innovation behaviors like new ideas (Carmeli et al., 2014), constructive behaviors (Carmeli et al., 2010; Edmondson, 2016), and knowledge sharing (Siemsen et al., 2009). Moreover, psychological safety acts as a mediating variable between management style and creativity (Jiang and Gu, 2016); corporate social responsibility and employee creativity (Kim et al., 2021); and ethical leadership and innovation behavior (Jin et al., 2022). Current research has focused on the effects of psychological safety on employees' and teams' learning, innovation, and performance; However, it has not sufficiently explored the effects of other factors at the individual level. Most existing studies have been conducted with psychological safety as a mediating or moderating variable, despite there being no systematic theory to draw on.

Existing literature on identification with leaders

The concept of identification with a leader

Leadership identity is constructed based on the pride that is generated by employees that admire their leaders' attitudes and behaviors, which leads to the formation of a sense of identity. Becker (1992) and Pratt (1998) divided subordinates' identification with their leaders into two types: One is for employees to realize that their values are similar to those of their leaders, and the other is for employees to change their values per their leaders (Becker, 1992; Pratt, 1998). Knippenberg and Hogg (2003), on the other hand, saw identification with leader as the process by which subordinates form a perception of themselves, a process that depends on the role of the leader in their relationship (Knippenberg and Hogg, 2003). Identification with a leader is the tendency of individuals to identify with, and be willing to accept, a leader's norms or to be protective of the leader (Brown et al., 2005). Currently, Pratt (1998), who holds that employees' identification with their leaders is equivalent to the process by which the beliefs that employees have about their leaders are transformed into self-definitions, is widely used (Pratt, 1998).

Trends of identification with leader

Current studies consider identification with leaders to have a one-dimensional structure, without making a multidimensional delineation. In view of social identity theory, identification with a leader is understood as leadership styles affecting employees' cognition, attitudes, and behavior (Yang et al., 2020). Among the different types, moral leadership treats employees fairly and considers their needs; This is felt by employees and consequently stimulates their sense of identity in alignment with their leaders. Some scholars consider there to be a significant positive correlation between moral leadership and identification with leaders (Lee, 2016). In terms of outcome variables, identification with a leader impacts employees' work attitude, behavior, and performance (Lührmann and Eberl, 2016). Some scholars have considered it a mediating variable between inclusive leadership and employee voice or prosocial behavior (Khattak et al., 2022), or between moral leadership and inhibitory feedback. Furthermore, existing studies take identification with a leader as a moderating variable between charismatic leadership and innovation performance of employees (Zhao et al., 2021). Current research has mainly used identification with leaders as a mediating variable, while the amount of literature on identification with leaders as a moderating variable is small and needs to be expanded.

In summary, moral leadership affects identification with leaders and psychological safety. Over the years, scholars have constantly proposed and enriched the dimensional division of moral leadership, which can be summarized in terms of two perspectives: traits and behaviors. This is also an important aspect of individuals' cognition and judgment on leadership, and an important basis for employees to maintain a positive attitude in the organization (Karim and Nadeem, 2019). Identification with leaders and psychological safety mediate the relationship between leadership style and innovation behavior. Identification with leader refers to individuals' cognition similar to the leader's value orientation or their willingness to follow the leader's value orientation, which affects employees' self cognition, attitude and behavior (Mitonga-Monga and Cilliers, 2016). Psychological safety reflects the status of individuals' working environment to some extent, which needs to be guided and maintained to ensure individuals' innovation stability (Walumbwa and Schaubroeck, 2009). Looking at the above, both the individual level and the organizational level will affect the realization of individual innovation behavior. Among them, the leadership style plays an important role in influencing the relevant dimensions. A leadership style not only affects the management atmosphere and corporate culture at the organizational level (Xie et al., 2018), but also imperceptibly guides and affects employees' value identification from a cognitive perspective (Frolova and Mahmood, 2019). Currently, although some scholars have discussed the impact of moral leadership on employee behavior, research in this field is still at an early stage compared to other research on leadership styles, and empirical studies are relatively scarce. Most of the research on the influence of leadership style on individual innovation behavior has focused on the influence of leadership style on the creative characteristics of individuals, with relatively monolithic research perspective and impact path. It will further enrich the scope of exploration in this field by increasing the consideration of individual identification with a leader and psychological safety in an organization.

Hypotheses development

Theoretical basis

Social responsibility theory

Social responsibility theory refers to the responsibility and obligation of enterprises to pay attention to the rights and interests of all stakeholders. The beneficiaries scope of responsibility includes employees, managers, partners, or competitors. This theory has been widely used to study the relationship between organization and individual, individual identification (George et al., 2020), and individual innovation behavior (Li et al., 2020). In this paper, we focus on the effect of moral leadership on PE innovation behavior. Moral leadership is the representative of the transmission of organizational values and social responsibility, and PE innovation behavior is generated by groups in PE education. This theory is consistent with the driving goal of the impact of moral leadership on individual innovation behavior in this study.

Some studies have shown that the organization' social responsibility for employees' benefit enhances the individual's organizational emotional commitment and drives them to produce behavior that is conducive to organizational development and innovation (Bouraoui et al., 2019). Based on this theoretical framework, individuals perceive more organizational support and form a strong internal innovation motivation (Khan et al., 2021), at the same time, under the guidance of the social responsibility theory, it is easier to form a flexible and inclusive innovation atmosphere within the organization, providing individuals with a wider space for self-expression. Under this organizational atmosphere, employees have less pressure and show more active innovative thinking and behavior output. That is, the higher the corporate social responsibility of an organization, the higher the leadership's moral identity and organizational trust, and the stronger the individual's innovation ability (Hur et al., 2018).

Social cognitive theory

Social cognitive theory refers to the individual's initiative behavior driven by internal cognition, which is an integration of personality theory and cognitive theory (Bandura, 1989). This theory is widely used to explain career activities, including self-efficacy, workplace attitude, and intention to leave or stay (Zikic and Saks, 2009), explore the psychological mechanism of individual initiative, and its impact on behavior, balance the relationship between self and others (Bandura, 1989).

The theory emphasizes the relationship between environment, individual and behavior. In particular, personal attitudes and psychological characteristics will be activated by some factor in the external environment, such as leadership (Judge and Zapata, 2015), thus creating an internal driving force for personal behavior. Studies have shown that individuals' identification with moral leadership directly affect their loyalty and sense of mission to the organization. When individuals more cognitively identify with their leaders, they show stronger team cohesion, maximize the communication with moral leaders (Nejati et al., 2021), improve their self creativity effectiveness and sense of contribution, make them feel more positive about their work and create more innovative ideas in the organization (Griffin et al., 2010).

Social learning theory

Social learning theory holds that people learn most behavioral patterns by observing and imitating the behavior and behavior outcomes of others. This theory attaches importance to the role of role models, and believes that what kind of behavior an individual obtains in the organization and the quality of behavior performance depend on the role of role models (Ahn et al., 2020). As far as enterprise management is concerned, the leader's behavioral patterns and handling style determine whether his followers behave as expected by the organization, whether they have a high level of enthusiasm

for their work and a sense of mission to creatively solve problems. This theory is usually used to explore the impact on individual behavior in a specific environment and individual imitation behavior, which can help understand the psychological reaction mechanism of followers (Le and Hancer, 2021), and is consistent with the process research on the impact of the relationship between leadership and employee behavior (Yarberry and Sims, 2021).

This theory emphasizes that individual behavior is the result of the interaction between self cognition and external environment, and a series of individual behaviors will be gradually formed through learning and imitation (Wu et al., 2020). Leaders' moral standards and behaviors will affect employees' psychology and behaviors. Employees under moral leadership show more organizational citizenship behaviors (Hoogh and Hartog, 2008), form a strong sense of responsibility and follow the leader's willingness to contribute to the organization and society, which is conducive to innovation behavior by individuals both inside and outside the organization.

Social exchange theory

The theory of social exchange holds that individual experiences balance their rewards and costs in social interaction through self-regulation (Cook and Rice, 2001). This theory is often used to analyze the reciprocal exchange ability between groups (McLeod et al., 2021), and is also widely used to explain workplace relations and individual behavior (Cropanzano and Mitchell, 2016), such as the research on the impact of moral leadership and employee loyalty. When individuals obtain any beneficial reward in the organization, including identification, material acquisition, status and reputation, it will also affect their behavior that benefits the organization (Fan et al., 2021). The application of this theory provides a new interpretation of the psychological mechanisms that probe the relationship between moral leadership and innovation behavior.

This theory emphasizes the feedback psychology and behavior of the beneficiary group. When employees obtain economic and social emotional resources inside and outside the organization, their sense of responsibility in repaying the organization and society will be stronger (Cropanzano and Mitchell, 2016). That is, when employees perceive the organizational support and care conveyed by moral leaders, they will adjust their social exchange ideology, improve their own engagement and sense of mission, and generate a strong sense of self-efficacy, thus stimulating the innovation enthusiasm of continuous breakthrough, and generating more active innovation behavior to feedback and develop the organization.

The four aforementioned theories complement each other in terms of the relationship between the explanatory

variables, although each emphasizes a different stage of the process. For example, social responsibility theory emphasizes the role of a moral atmosphere or moral leadership for the sake of individual innovation behavior. In contrast, social learning theory emphasizes the interaction between external stimuli (such as leadership) and individual behavior. Social cognition theory embodies the intermediate state of this interaction process and complements the influence process of individual cognition on their behavior. The three theories comprehensively link the logical chain and effectively explain the process mechanism of leadership styles based on individual leadership cognition and psychological safety in their innovation behavior. Finally, social exchange theory further complements the psychological adjustment process of employees' innovation behavior, refines the realization mechanism of cognitive and behavioral processes, and makes the hypothesis deduction logic of this study more rigorous and coherent.

Hypotheses development

The relationship between moral leadership and innovation behavior

According to social learning theory, the role of followers is regulating their own behavior based on their leader's behavior by observing the leader's cognition and characteristics. Moral leaders form a good role model in the organization through their motivational language, values expression, etc., provide an example for followers to learn, create an innovation atmosphere, and influence individuals' values and behavior through moral communication and behavior guidance, thus promoting individuals to achieve unique innovative contributions beyond their roles (Abu Bakar and Connaughton, 2022). Employees under moral leadership tend to have more altruistic and value creating behaviors, such as a sense of responsibility for the society and groups outside the organization, which encourages employees to find problems and participate in solving problems in other environments outside the society or the organization. Moral leadership affects individuals' cognition and belief through its value influence, and then affects their motivation, attitude and behavior (Bal et al., 2014). Previous studies have shown that moral leadership is a major source of the imagination for individuals and organizations. It promotes the interconnection between individuals and organizations and is the main driving force for continuous innovation at the individual and organizational levels. According to the theory of social exchange, organizational care delivery and affirmative support represented by leadership performance will, to a large extent, stimulate employees' organizational feedback psychology and willingness to contribute to themselves, and improve the overall creativity of the team (Wang et al., 2021). The interaction

between employees and moral leaders can make employees have a strong sense of trust in the organization. As an important channel for the organization to convey employees' feelings, moral leaders give employees sufficient emotional support and innovation tolerance, enhance employees' innovation vitality and reward motivation (Chughtai, 2016), and show more frequent implementation of innovative ideas and behaviors (Chen et al., 2022; Saeed et al., 2022). Therefore, moral leaders encourage individuals to obtain opportunities and solutions for self-development (Tang, 2017). According to the guidance of the two theories, it can be found that moral leadership in the organization will drive employees to find problems inside and outside the organization, generate creative ideas and innovation behaviors, and finally solve problems (Cohen-Meitar et al., 2009). Based on this, the following hypothesis is proposed:

> H1: Moral leadership enhances innovation behavior.

> H1a: Moral leadership enhances internal innovation behavior.

> H1b: Moral leadership enhances external innovation behavior.

The relationship between moral leadership and psychological safety

According to social exchange theory, fair, caring, and sincere communication by leaders can create trust (He et al., 2020). Moral leaders can build mutual respect and trust with individuals by prioritizing individuals' needs, establishing open communication (Resick et al., 2013), treating individuals fairly (Mo et al., 2019), and respecting individual interests to enhance psychological safety (Newman et al., 2014). Moral leaders' integrity, honesty, and frankness are key foundations of employee trust. Employees gain job security when they trust that their leaders will fairly evaluate their efforts and reward them as they deserve (Schwepker and Dimitriou, 2021), which also affects psychological security (Walumbwa and Schaubroeck, 2009). Additionally, according to social learning theory, moral leaders impact employees' psychological safety by holding up moral standards and creating credibility; In turn, subordinates identify with the values of their leaders, and thus they imitate their behavior (Bandura, 1989), and conform to their ethical standards. Individuals experience a high level of psychological safety when they develop a mutually supportive and trusting relationships with their leaders (Kahn, 1990; Ahmad and Umrani, 2019). By reducing the chances of negative consequences on an employee, moral leadership enhances psychological safety (Younas et al., 2020). Moral leaders eliminate individuals' worries (Chen et al.,

2022), thus playing a key role in their psychological safety (Liu et al., 2016). Based on this, the following hypothesis is proposed:

> H2: Moral leadership enhances psychological safety.

The relationship between psychological safety and innovation behavior

Based on the social responsibility theory, an organization has the obligation to fulfill social responsibility to its stakeholders, especially the hired individuals, while realizing its own sustainable operation and development. Individuals are valuable assets and wealth of an organization. The organization should provide a professional environment conducive to personal development and a humanistic environment more caring for individual welfare (Glavas, 2016), ensure the psychological safety of individuals in the organization, enhance the staff's stability and sense of mission, and provide sufficient and safe space for individuals to carry out innovative activities (Zhong et al., 2022). As representatives of an organization, leaders have the obligation to create a management atmosphere that cares for and supports individuals, and stimulate individuals' sense of social responsibility, which is the key to realizing individuals' sustainable innovation behavior (Broch et al., 2020), which helps to build a strong sense of trust between employees and leaders, establish employees' sense of belonging and loyalty, improve employees' sense of psychological safety, positively affect employees' generation and free expression of non-traditional views in work, and generate innovation behaviors. A positive psychological safety guarantee may be a new way to encourage employees to better understand the close relationship between them, the organization and the wider society, find problems, and innovate and implement boldly within the organization. Therefore, the following hypotheses are proposed:

> H3: Psychological safety enhances innovation behavior.

> H3a: Psychological safety enhances internal innovation behavior.

> H3b: Psychological safety enhances external innovation behavior.

The mediating role of psychological safety

In social responsibility theory, moral leadership helps build mutual trust and respect, while also providing individuals with flexible time and space and creating a supportive organizational culture. Moral leaders with qualities such as integrity and responsibility can create a fair and comfortable organizational

climate for individuals (Byun et al., 2018). According to social cognitive theory, leaders' support, trust, and respect make individuals feel that they can rely on moral leaders and strengthen their psychological safety (Edmondson, 2016; Hu et al., 2018). This moral environment ensures that individuals are tolerated in case of any mistakes or misunderstandings, so that individuals have an increased sense of psychological safety, and individuals feel comfortable and easily come up with new ideas (Walumbwa and Schaubroeck, 2009). In addition, moral leaders promote mutually open communication, listen sincerely to their followers, encourage them to voice their concerns and opinions (Hu et al., 2018), and create a sense of psychological safety for individuals, thus inspiring them to come up with novel ideas (Martins and Terblanche, 2003; Tu and Lu, 2013). Therefore, moral leadership will not only have a direct impact on individuals' psychological safety and innovation behavior, but may also indirectly influence the hired individual's innovation behavior through the mediating role of psychological safety. Therefore, the following hypotheses are proposed:

> H4: When moral leadership guides employees' psychological safety, it increases innovation behavior.

> H4a: When moral leadership guides employees' psychological safety, it increases internal innovation behavior.

> H4b: When moral leadership guides employees' psychological safety, it increases external innovation behavior.

The moderating role of identification with a leader

Employees' identification with their leaders is a powerful way of influencing individuals (Avolio et al., 2004), and an important potential variable in the effectiveness of leadership management (Conger and Kanungo, 1994). According to social identity theory and social learning theory, individuals have identification with leader when their basic needs (e.g., a sense of belonging) are met (Zhu et al., 2015). Individual's identification with leaders will mean that employees take their leader's advice as a reference, which motivates them to realize similar values and change their existing cognitive concepts (Tse and Chiu, 2014; Zhu et al., 2015). At the same time, they will behave appropriately and per the organization's goal, rather than challenging the leader (Miao et al., 2013). The stronger the employee's identification with the leader, the weaker the negative perception and feeling of moral leadership (Giessner et al., 2015). Therefore, based on the above two theories, high leadership recognition will encourage employees to adopt the good moral character and behavior of their leaders, work
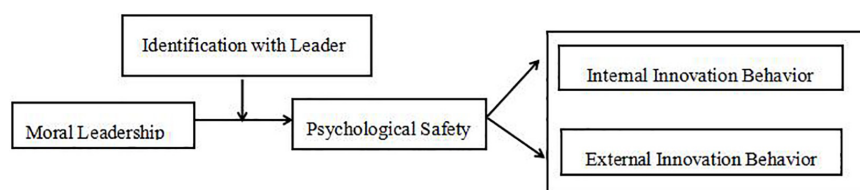
FIGURE 1
Research framework.

following their values, and not worry about being punished, thus enhancing their psychological security. On the contrary, employees with low recognition of the leader are unlikely to agree with the leader's values and may be less likely to try and emulate or acquire the leader's qualities. Furthermore, when the identification with a leader is low, the direct and positive influence of the leadership on individuals' feeling will be limited (Peng and Rode, 2010). Therefore, low leader recognition will hinder the influence of moral leadership on employees, thus increasing the uncertainty in work and weakening the psychological safety that results from moral leadership. Therefore, the following hypothesis is proposed:

> H5: Identification with a leader positively influences the impact of moral leadership on psychological safety.

Based on the above, the research model of this study can be visualized as follows (see **Figure 1**):

Materials and methods

Sample and process

In order to better address the research questions and to fully reflect the process of influence of moral leadership on the innovation behaviors of PE teachers, we ultimately selected Chinese teachers as the study sample for the following reasons. The first reason is the uniqueness of the study sample. In educational settings, the exploration of the relationship between individual's innovation behaviors and achievement performance has been conducted mainly in primary and secondary schools in western countries, with a special focus on teachers' innovation behaviors in teaching and there is a lack of in-depth research on Chinese PE teachers' innovation behaviors (Gao and Han, 2022). Second, regarding the availability and authenticity of the data, China was the most convenient country for our research team to obtain the data, as we are able to interface with the Chinese education authorities to obtain the data we need, which enhanced the authority of the data collected in this study. Finally, China is an early promoter in sports innovation strategies, and PE teachers are practitioners at the

forefront implementing new strategies, and their innovation behaviors are critical to the sustainable development of school profession, help the public to form a lifelong exercise habit and offer inspiration for the sports industry, so this research selects Chinese PE teachers as samples to observe their innovation behavior. Only people are in top physical, mental and psychological shape, laying the foundation for China's scientific and technological advancement.

Therefore, this study investigated PE teachers from different regions, schools, and positions in Chinese provinces (namely Fujian, Guangdong, Henan, Jilin, Beijing, Hainan, Anhui, Jiangxi, Liaoning, Hunan, Zhejiang, Jiangsu, Shandong, Shanxi, Shanghai, Guizhou, Hebei, and Heilongjiang Province). To this end, a questionnaire was designed based on an initial interview that was conducted with PE teachers, and a small-scale pre-survey that ensured the accuracy of the questionnaire items. A total of 327 questionnaires were distributed, and 287 valid responses were collected. The questionnaire was divided into six parts; The first part collected respondents' demographic data (i.e., gender, age, and educational level), and the other five parts focused on moral leadership, psychological safety, identification with leaders, and two kinds of innovation behaviors (internal innovation behavior and external innovation behavior). Based on the collected data, this study analyzed and clarified the relationship between PE teachers' moral leadership, psychological safety, identification with leaders, and two kinds of innovation behaviors. The study used SPSS to conduct the statistical analysis of the data and to analyze the mechanism of moral leadership on PE teachers' innovation behavior from an empirical perspective.

The responses were measured on a 5-point Likert scale (5 points for "very much agree"; 4 points for "relatively agree"; 3 points for "uncertain"; 2 points for "relatively disagree"; and 1 point for "very much disagree").

This study chose respondents of different genders, ages, and education levels. The final sample contained more males than females, but the gap was not large. Additionally, respondents were characterized into the following age groups: 45–54 years old (3.83%), 35–44 years old (16.03%), 25–34 years old (39.02%), 24 years old, and below (3.48%). In terms of education level, 2.79% had a bachelor's degree, 70.03% had a master's degree, 24.39% had a doctor's degree, and 2.79% fell into none of the

categories. The education level distribution was symmetrical and covered all types, which improved the accuracy of data collection. Thus, the data collection was deemed reliable and comprehensive.

Data measurement

Scale of moral leadership

To measure ethical leadership, Khuntia and Suar (2004) developed a 22-item scale based on the dimensions of empowerment, motivation, and character (Khuntia and Suar, 2004). The scale includes "willingness to coach and guide hard-working employees" and "rewards and punishments for subordinate behavior." Among the existing studies, Brown et al. (2005) have the most widely used definition and measurement of ethical leadership. According to their work, moral leadership refers to the ethical behaviors in personal and interpersonal relationships, and a decision making process that includes two-way communication, to encourage followers to have similar moral behaviors (Brown et al., 2005). Brown et al. (2005) developed a 10-item scale that included items such as "making fair and just decisions" and "modeling how to handle things ethically and correctly." Huang and Paterson (2017) developed a 10-item scale based on Brown et al.'s (2005) previous work and measured its reliability in two samples that had Cronbach's α of 0.93 and 0.95 (Huang and Paterson, 2017). The representative question was: "Success is not only measured by outcomes, but also by the way in which the outcomes are achieved." We selected widely used indicators, integrated the above representative scales, and made final measurement indicators that included valuing the rationality of process and method, communicating with employees or giving them reasonable advice, emphasizing fair reward and punishment, and balancing the interests of all parties, clarifying the ethical principle and possible consequences of unethical behavior, respecting subordinates, and giving guidance, support and help to subordinates.

Scale of psychological safety

The most widely used measurement of psychological safety is Edmondson's Psychological Safety Scale, which includes seven items that were developed to measure the psychological safety of teams (Edmondson, 2016). This scale has been directly quoted or revised by subsequent researchers and is represented by the statement: "I am able to bring up problems and tough issues in this organization." To measure individual psychological safety, Carmeli et al. (2010) modified the Team Psychological Safety Scale to create the Individual Psychological Safety Scale (Carmeli et al., 2010), which consists of five items including "It is easy for me to ask other members of this organization for help" and "'It is safe to take a risk in this organization." Liang et al. (2012) focused on personal perceptions of psychological safety (Liang

et al., 2012), and created five items to measure this based on previous studies (Brown and Leigh, 1996), including "Nobody in my unit will pick on me, even if I have different opinions." In this study, we selected widely used indicators, integrated the above representative scales, and made final measurement indicators that included being accustomed to seeking help from leaders or other members of the unit, feeling comfortable with the common beliefs and high cohesion between team members, and having strong certainty, predictability, and confidence in the future work.

Scale of identification with a leader

In regards to identification with leaders scales, Mael and Ashforth (1992) developed a six-item scale to measure identification with leaders (Mael and Ashforth, 1992), which is represented by questions that take the subject "We" rather than "they" when speaking about leaders. Furthermore, Shamir et al. (1998) developed a seven-item scale to measure identification with leaders, which includes statements such as "My values are similar to his/her values" and "He/she is a model for me to follow"(Shamir et al., 1998). Kark et al. (2003) developed identification with leaders scale based on Shamir et al.'s (1998) previous research using a sample of bank employees (Kark et al., 2003), whose representative item was "I see my leader's success as my own." Here, the internal consistency reliability of this scale was 0.96. We selected widely used indicators, integrated the above representative scales, and made final measurement indicators that include habitually using the term "my leader" instead of "him/her," feeling happy when someone praises my leader, the leader is important to me and is a role model, etc.

Scale of internal innovation behavior

As for the scale of internal innovation behavior, Scott and Bruce (1994) measured employees' innovation behavior in an organization from the perspectives of identifying a problem, generating a conception, seeking innovation support, and implementing an innovation plan (Scott and Bruce, 1994). The scale includes six items. The Cronbach α is 0.89. Similarly, another scale was created by George and Zhou (2001), which measures the performance of employees' innovation behaviors from the perspective of supervisors and better reflects the process of employees' innovation (George and Zhou, 2001). Through the comprehensive arrangement of both aforementioned scales on internal innovation behavior, a three-dimensional scale for employees was formed, which includes aspects such as understanding and finding problems; searching or adopting new methods and processes; and dialectically thinking about problems.

Scale of external innovation behavior

As external innovation behavior involves sharing and patching internal and external resources, as well as the search and internalization of external innovation knowledge, both

TABLE 2   Means, standard deviations, and correlation coefficient analysis of the variables.

	M	SD	1	2	3	4	5	6	7	8
1. Gender	1.362	0.482	1							
2. Age	2.777	0.892	0.132*	1						
3. Education	3.272	0.557	−0.082	−0.068	1					
4. IB	4.347	0.602	−0.070	−0.035	0.003	1				
5. EB	4.010	0.690	−0.050	−0.002	−0.023	0.570**	1			
6. ML	3.843	0.803	−0.042	0.005	−0.106	0.447**	0.448**	1		
7.SS	3.779	0.713	−0.062	0.047	−0.071	0.443**	0.472**	0.589**	1	
8. IL	3.780	0.802	0.035	0.045	−0.064	0.302**	0.328**	0.646**	0.527**	1

*$p < 0.05$, **$p < 0.01$.

the organization and the social benefit. Therefore, to measure the external innovation behavior dimension, we refer to the open innovation scale of Hung and Chou (2013), whose representative topics are "enterprises often acquire and apply external technical knowledge, and enterprises actively promote internal knowledge to the external market" (Hung and Chou, 2013). In Dong and Netten (2017)'s external innovation knowledge search width and depth scale and Laursen and Salter's (2006) knowledge acquisition channels and degrees scale, the representative topics are "enterprises actively seek new technology fields and understand external problems to be solved," "enterprises search for and acquire innovation knowledge through suppliers, customers, competitors, higher education institutions and other channels" (Laursen and Salter, 2006). Finally, Scott and Bruce's (1994) employee innovation behavior scale includes "seeking support and assistance" and "a path to realizing innovative ideas." The combination of scales in a five-dimensional external innovation behavior scale of individuals (Scott and Bruce, 1994), including using experience to solve social or external problems, understanding and discovering the problems to be solved urgently by society and external organizations, supporting creativity and solving problems through win-win cooperation of external resources.

Methodology

First, this research has clear questions and research hypotheses at the beginning of the study, quantitative research is more in line with the research process, which derives the intrinsic relationships among the variables, verifies the research hypotheses one by one and helps to explore the truthfulness and rationality of the theoretical hypotheses proposed in this study. Moreover, in contrast to the qualitative analysis methods, hierarchical multivariate regression analysis, this quantitative analysis method, has the advantage of empirical evidence, clarity and objectivity, and the results are more intuitive. Secondly, this research uses data collection method of questionnaire survey to promote the immediacy and reliability of data collection in moral leadership (ML), psychology safety (SS), identification with leaders (IL), internal innovation behavior (IB), and external

innovation behavior (EB). Finally, this research uses the software SPSS 25.0 to process the collected data, analyze the overall situation of ML, SS, IL, IB, and EB and the correlations among these variables.

Data analysis

As illustrated in Table 2, ML is significantly positively correlated with SS ($p < 0.01$) and positively correlated with IB, and EB ($p < 0.01$). Identification with leaders (IL) is significantly positively correlated with SS. The correlation analysis lays the foundation for further research on the causal relationship between variables.

Reliability analysis

SPSS 25.0 was used to test the reliability of the questionnaire data. Cronbach's α values for IB, EB, ML, SS, and IL were 0.813, 0.879, 0.869, 0.784, and 0.815, respectively (see Table 3); The α values for each variable were all greater than 0.75, thereby confirming the reliability of the data.

Validity test

For validity testing, the Kaiser-Meyer-Olkin (KMO) and Bartley spherical tests were used (see Table 4). The value was 0.897, and the p value was less than 0.01; Thereafter, confirmatory factor analysis was conducted to ensure that the scale data were suitable for factor analysis. The results in the CFA table clearly demonstrate that all variables have the following characteristics: the value of χ^2/df is less then 3, RMSEA is less then 0.08, RMR is less then 0.05, the value of CFI and IFI

TABLE 3   Reliability statistics for each variable.

Factor	Cronbach's a coefficient	AVE	CR
IB	0.813	0.6	0.8
EB	0.879	0.7	0.9
ML	0.869	0.6	0.9
SS	0.784	0.6	0.8
IL	0.815	0.6	0.8

TABLE 4   KMO and Bartlett test.

Kaiser-Meyer-Olkin	0.897
Bartlett test	2837.837
df	136
Sig.	0

TABLE 5   Confirmatory factor analysis.

Common indicators	χ^2/df	RMSEA	RMR	CFI	IFI	SRMR
IB	<3	<0.08	<0.05	>0.9	>0.9	<0.1
EB	<3	<0.08	<0.05	>0.9	>0.9	<0.1
ML	<3	<0.08	<0.05	>0.9	>0.9	<0.1
SS	<3	<0.08	<0.05	>0.9	>0.9	<0.1
IL	<3	<0.08	<0.05	>0.9	>0.9	<0.1

are both higher than 0.9, SRMR is less then 0.1 (see Table 5). Overall, the research questionnaire content and study model is well constructed.

Common method deviation test

The Harman single factor test was used to determine whether there was a common method deviation in the collected data. All items on the six-variable measurement scale were included in the exploratory factor analysis. The results showed that there were five factors (i.e., more than one) with a characteristic root greater than one, and the maximum factor variance interpretation rate was 17.72 (less than 40%). Hence, there was no serious common method deviation in this study (see Table 6).

Results

The mediating role of psychological safety

SPSS software was used to analyze the mediating effect of PE teachers' SS between ML and IB, and between ML and

EB. The results showed that ML had a significant positive impact on IB ($\beta = 0.338$, $p < 0.01$) (see Table 7), a significant positive impact on EB ($\beta = 0.386$, $p < 0.01$) (see Table 7), and a significant positive impact on SS ($\beta = 0.519$, $p < 0.01$). ML creates a harmonious, free, and innovative atmosphere of an organization for individuals (Xie et al., 2018), guarantees individuals to freely carry out IB and EB, and also provides individuals with strong organizational guarantees to maintain individuals' SS in the organization (Hu et al., 2018). Thus, H1a, H1b, and H2 were supported.

After adding the intermediary variable of SS, the positive regression coefficient of SS on IB was significant, and the impact of ML on IB and EB was still significant ($\beta = 0.216$, $p < 0.01$; $\beta = 0.226$, $p < 0.01$) (see Tables 7, 8). Therefore, SS has a partial mediating effect between ML and two kinds of innovation behaviors. SS of individual provides positive psychological protection for their innovation behavior (Lee, 2016). Moral leaders can encourage individuals to actively participate in internal and external innovation activities by maintaining the SS of individuals. Thus, H3a, H3b, H4a, and H4b were supported.

Based on a comparative analysis of the mediation effects of IB and EB, this study found that the influencing mechanism is more explanatory and effective in PE teachers' external innovation process. The regression coefficient of SS for EB (shown in Table 8) is larger than that of IB (shown in Table 7). Moreover, the p value of the mediating effect is more significant in the influencing path "ML $\geq$ SS $\geq$ EB" (see Table 9), in which the effect proportion ratio is higher. ML will drive and strengthen employees' perception of psychological capital and social capital; Psychological capital and social capital perception are important factors to buffer employees' psychological insecurity and enhance their sense of belonging and willingness to contribute (Probst et al., 2017), affect employees' social innovation tendency (Ullah et al., 2022), and enhance the IB of employees outside the role (Pasricha and Rao, 2018). It can be seen that the impact of ML on individuals' EB through SS is significantly better than the impact of ML on individuals' IB, and SS plays a highly important role in

TABLE 6   Total variance analysis.

Component	Initial eigenvalues			Extraction sums of squared loadings		
	Total	% of variance	Cumulative%	Total	% of variance	Cumulative%
1	7.292	42.893	42.893	4.380	25.764	25.764
2	2.098	12.341	55.233	2.535	14.911	40.674
3	1.113	6.545	61.778	2.413	14.195	54.869
4	1.037	6.097	67.875	2.211	13.006	67.875
5	0.959	5.639	73.514			
.	.	.	.	.	.	.
17	0.128	0.751	100.000			

TABLE 7   Mediating effects of IB (n = 287).

	IB			SS			IB		
	B	*t*	*p*	*B*	*t*	*p*	*B*	*t*	*p*
Constant	3.021**	10.104	0.000	1.806**	5.643	0.000	2.598**	8.493	0.000
Gender	−0.054	−0.808	0.420	−0.066	−0.914	0.361	−0.039	−0.596	0.552
Age	−0.020	−0.543	0.587	0.039	1.009	0.314	−0.029	−0.820	0.413
Education	0.048	0.831	0.407	−0.013	−0.206	0.837	0.051	0.910	0.364
ML	0.338**	8.426	0.000	0.519**	12.112	0.000	0.216**	4.506	0.000
SS							0.234**	4.343	0.000
R^2	0.206			0.350			0.256		
F	$F_{(4,282)} = 18.245, p = 0.000$			$F_{(4,282)} = 38.014, p = 0.000$			$F_{(5,281)} = 19.293, p = 0.000$		

*p < 0.05, **p < 0.01.

TABLE 8   Mediating effects of EB (*n* = 287).

	EB			SS			EB		
	B	*t*	*p*	*B*	*t*	*p*	*B*	*t*	*p*
Constant	2.490**	7.251	0.000	1.806**	5.643	0.000	1.932**	5.559	0.000
Gender	−0.042	−0.548	0.584	−0.066	−0.914	0.361	−0.022	−0.297	0.767
Age	0.001	0.020	0.984	0.039	1.009	0.314	−0.011	−0.281	0.779
Education	0.028	0.420	0.675	−0.013	−0.206	0.837	0.032	0.499	0.618
ML	0.386**	8.396	0.000	0.519**	12.112	0.000	0.226**	4.151	0.000
SS							0.309**	5.037	0.000
R^2	0.203			0.350			0.269		
F	$F_{(4,282)} = 17.909, p = 0.000$			$F_{(4,282)} = 38.014, p = 0.000$			$F_{(5,281)} = 20.640, p = 0.000$		

*p < 0.05, **p < 0.01.

TABLE 9   Summary of the mediating effect test results.

Influencing path	c Total effect	a	b	a × b					c'	Test result	Effect proportion ratio
				Mediating effect	Boot SE	z	p	95% BootCI	Direct effect		
ML → SS → IB	0.338**	0.519**	0.234**	0.122	0.043	2.859	0.004	0.083–0.249	0.216**	Partial	36.053% (a × b/c)
ML → SS → EB	0.386**	0.519**	0.309**	0.160	0.044	3.673	0.000	0.105–0.277	0.226**	Partial	41.518% (a × b/c)

*p < 0.05, **p < 0.01.

ensuring individuals' innovation behavior beyond their roles and responsibilities (Bammens, 2016). That also means that ML can stimulate employees' EB by strengthening SS.

Moderating effect of identification with a leader

From the perspective of ML, by taking SS as the outcome variable and adding IL, as well as the interaction between IL and ML, we can see that the main effect was not changed after adding the interaction item. However, after adding all variables, the analysis results showed that the coefficient of IL and its interaction was significant (see **Table 10**). That is, IL played a moderating role in the relationship between ML and SS. The stronger the IL of individuals, the stronger the positive impact of ML on SS (Giessner et al., 2015). An atmosphere of high IL is more likely to create a safe environment consisting of trust and mutual respect, where individuals are free to present their opinions, needs, feelings, ideas, innovative strategies, etc. IL of Individuals affects the transformation effect of ML on the construction of individuals' SS (Tu et al., 2019), and determines

TABLE 10 Moderating effects of identification with leaders.

|	M1			M2			M3		
	B	*t*	*p*	*B*	*t*	*p*	*B*	*t*	*p*
Constant	3.802	14.739	0.000**	3.864	15.383	0.000**	3.838	15.373	0.000**
Gender	−0.066	−0.914	0.361	−0.088	−1.252	0.212	−0.092	−1.324	0.187
Age	0.039	1.009	0.314	0.032	0.847	0.398	0.028	0.741	0.460
Education	−0.013	−0.206	0.837	−0.017	−0.274	0.784	−0.014	−0.240	0.810
ML	0.519	12.112	0.000**	0.372	6.805	0.000**	0.389	7.107	0.000**
IL				0.228	4.175	0.000**	0.234	4.321	0.000**
ML*IL							0.090	2.276	0.024*
R^2		0.350			0.388			0.399	
F		$F_{(4,282)} = 38.014, p = 0.000$			$F_{(5,281)} = 35.669, p = 0.000$			$F_{(6,280)} = 31.030, p = 0.000$	

*p < 0.05, **p < 0.01.
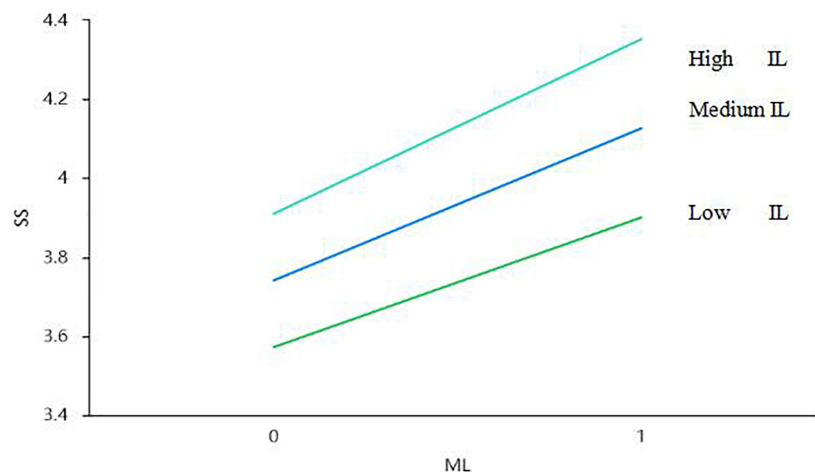
FIGURE 2
Moral leadership and psychological safety: the moderating effect of identification with leaders.

the strength of individuals' SS under the impact of ML. Thus, H5 was confirmed.

Simple slope test of the regulatory effect

Figure 2 shows that IL positively moderates the relationship between ML and SS (that is, it enhances the positive relationship). Thus, H5 was confirmed.

Discussion

Theoretical implications

First, this study focuses on the relationship between ML and individuals' innovation behavior in the domain of physical education. While many studies have focused on the impact of ML on individuals' voice and work engagement, its impact on individuals' innovation behavior is still in the early phase of research. Although previous studies have shown that ML is important in improving individuals' innovation performance (Chen and Hou, 2016), there is a lack of investigation on the relationship between the two in the context of physical education. Existing research on PE teachers pays more attention to the impact of the working environment on basic teaching behavior, occupational fatigue, and other negative behaviors, without paying enough attention to the fact that positive innovation behavior is stimulated by leaders. Therefore, this study takes PE teachers as a study sample to expand the antecedents of PE teachers' innovation behavior and further explore the impact of ML on PE teachers' innovation behavior, which contributes to our understanding of the multiple interactive relationships between ML and different innovation behaviors on the individual level, which includes

the relationship of ML–SS–IB and the relationship of ML–SS–EB. Furthermore, this paper explored how ML affects individuals' innovation behaviors. For instance, ML matters in terms of both IB and EB.

Second, this study focuses on the relationship between ML and individual innovation behaviors, introduces individuals' psychological safety as an intermediary variable, and explores how ML affects individuals' psychology, it is worth emphasizing that ML has a significant tendency to further influence EB through the role of SS. Although previous studies have explored that ML indirectly stimulates team innovation behavior through SS, the study on team innovation behavior is focused on IB (Tu et al., 2019). Scholars pay more attention to the impact of the external environment on individual behavior in research on PE teachers, and rarely consider individuals' cognition and psychology when studying the internal mechanisms in which ML motivates individual innovation behavior. Therefore, we have extended previous research by demonstrating that ML supports both internal and external innovation behavior of individuals in terms of forming SS, and this study enhances our understanding of the interplay between ML and different innovation behaviors of individuals.

Additionally, this study uses IL as a moderating variable and found that when employees' IL, the relationship of ML–SS is strengthened, which would make the model more accurate. Theoretically, the current study mainly uses IL as a mediating variable (Khattak et al., 2022). but our research select IL as a moderating variable, further enriching the findings in this area and highlighting the need and urgency for further research on IL. Moreover, the introduction of this variable contributes new knowledge to the research on innovation teaching and the development of the sports industry to a certain extent.

Managerial implications

The study offers insights for schools looking to cultivate and strengthen PE teachers' innovation behaviors. For example, allows them to use the advantages of ethical human resource management to improve working environments. Furthermore, it provides a comprehensive and simple concept for leaders to apply appropriate leadership and cultivate the skills needed to ensure individuals' SS and eliminate negative psychological factors that are not conducive to innovation. In this regard, ML is considered significant in the achievement of schools' CSR practices, and SS and IL are considered significant in the achievement of efficient human resource management in schools. Besides, proposes suggestions for the career development of physical education talent in schools, who are more likely to be highly skilled composite personnel in the sports industry.

First, schools are encouraged to prioritize the recruitment and development of moral leaders, thereby improving the

work environment for PE teachers and stimulating their IB and EB. Specifically, the candidates of leaders should be carefully examined in terms of characteristics, qualities, and thinking way during recruitment, so that those with outstanding ML can be selected. In addition, school administrators should advocate ML and establish a perfect system in which ethical standards and norms should be normalized in daily management. When leaders create a mutually respectful work environment in which followers feel safe and free to express their different views and come up with innovation achievements (Walumbwa and Schaubroeck, 2009), schools can adopt corresponding incentives like bonuses and praise to promote moral behavior.

Second, school administrators should ensure that PE teachers can perceive SS and work in an excellent environment in which PE teachers do not fear negative consequences from leaders or organization. Administrators can provide its resource support to ensure that individuals work in a safe environment. In ethical human resource management, leaders can encourage PE teachers to proactively participate in decision making and clarify organizational rules and regulations, provide moral support and material assistance to individuals facing difficulties to enhance cohesion between leaders and individuals, thereby improving individuals' SS. Leaders should also consider balancing economic goals and ethical pursuits, understand the moral dilemmas and provide solutions and regular benefits to alleviate individuals' sense of injustice and thus protect SS of individuals.

Finally, School administrators also need an emphasis on the role of individual IL. For example, school administrators can enhance IL with the focus on training of moral leaders and advocate them communicating with PE teachers in a mutual trust and respect atmosphere.

Limitations and future research

This study helps organizations understand the impact of ML on individuals' innovation behaviors. However, it still has some limitations and incredible room for improving. First, the research focuses on the teaching profession, so the results may be inapplicable to other professions, so future research could examine the impact of ML on individual innovation behavior in other professions. Second, the research is based on sample observations of Chinese PE teachers and doesn't examine whether the impact of ML on individual innovation behavior varies by different cultures. Chinese culture emphasizes social harmony and collective thinking while western culture pay more attention to individual values realization. Therefore, future research should conduct comparative studies across

national boundaries and cultures to test the applicability of conclusions. Finally, this study focused only on the mediating effect of SS between ML and innovation behavior, but there may be other mediating factors such as leader-member exchange (LMX). Therefore, these mediating variables can be parsed in future studies. In addition, future studies can adopt fuzzy set qualitative comparative analysis to improve the generalizability of the conclusions.

Data availability statement

The original contributions presented in this study are included in the article/supplementary material, further inquiries can be directed to the corresponding authors.

Author contributions

JC: conceptualization, methodology, software, and writing—reviewing and editing. WZ: writing—reviewing and editing and supervision. BJ: investigation, data curation, validation, and writing—original draft preparation. All authors contributed to the article and approved the submitted version.

Funding

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

References

Abu Bakar, H., and Connaughton, S. L. (2022). Ethical leadership, perceived leader-member ethical communication and organizational citizenship behavior: Development and validation of a multilevel model. *Leadersh. Organ. Dev. J.* 43, 96–110. doi: 10.1108/lodj-07-2021-0356

Ahmad, I., and Umrani, W. A. (2019). The impact of ethical leadership style on job satisfaction Mediating role of perception of Green HRM and psychological safety. *Leadersh. Organ. Dev. J.* 40, 534–547. doi: 10.1108/lodj-12-2018-0461

Ahn, J. N., Hu, D. F., and Vega, M. (2020). Do as i do, not as i say": Using social learning theory to unpack the impact of role models on students' outcomes in education. *Soc. Pers. Psychol. Compass* 14, 1–12. doi: 10.1111/spc3.12517

Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *J. Pers. Soc. Psychol.* 45:357.

Ashiru, J. A., Erdil, G. E., and Oluwajana, D. (2022). The linkage between high performance work systems on organizational performance, employee voice and employee innovation. *J. Organ. Chang. Manag.* 35, 1–17. doi: 10.1108/jocm-02-2021-0039

Avolio, B. J., Gardner, W. L., Walumbwa, F. O., Luthans, F., and May, D. R. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *Leadersh. Q.* 15, 801–823. doi: 10.1016/j.leaqua.2004.09.003

Bal, Y., Bozkurt, S., and Buyukbalci, P. (2014). "Improving social responsibility through ethical leadership: A perceptions based view," in *Proceedings of the International Academic Conferences 0701667* (Tyburnia: International Institute of Social and Economic Sciences).

Bammens, Y. P. M. (2016). Employees' innovative behavior in social context: A closer examination of the role of organizational care. *J. Prod. Innov. Manag.* 33, 244–259. doi: 10.1111/jpim.12267

Bandura, A. (1989). Human agency in social cognitive theory. *Am. Psychol.* 44, 1175–1184. doi: 10.1037/0003-066x.44.9.1175

Becker, T. E. (1992). Foci and bases of commitment: Are they distinctions worth making. *Acad. Manag. J.* 35, 232–244.

Benevene, P., De Stasio, S., and Fiorilli, C. (2020). Editorial: Well-Being of school teachers in their work environment. *Front. Psychol.* 11:1239. doi: 10.3389/fpsyg.2020.01239

Bouraoui, K., Bensemmane, S., Ohana, M., and Russo, M. (2019). Corporate social responsibility and employees' affective commitment A multiple mediation model. *Manag. Decis.* 57, 152–167. doi: 10.1108/md-10-2017-1015

Breuer, C., Feiler, S., and Wicker, P. (2015). "Germany," in *Sport clubs in Europe: A cross-national comparative perspective*, eds C. Breuer, R. Hoekman, S. Nagel, and H. van derWer (New York, NY: Springer International Publishing).

Broch, F. F. M., Escrig, E. D., Gomez, R. C., and Alcami, R. L. (2020). Promoting firm innovativeness through servant leadership and corporate social responsibility to employees. *Leadersh. Organ. Dev. J.* 41, 615–633. doi: 10.1108/lodj-03-2019-0127

Brown, M. E., and Treviño, L. K. (2006). Ethical leadership: A review and future directions. *Leadersh. Q.* 17, 595–616. doi: 10.1016/j.leaqua.2006.10.004

Brown, M. E., and Treviño, L. K. (2013). Do role models matter? An investigation of role modeling as an antecedent of perceived ethical leadership. *J. Bus. Ethics* 122, 587–598. doi: 10.1007/s10551-013-1769-0

Brown, M. E., Treviño, L. K., and Harrison, D. A. (2005). Ethical leadership: A social learning perspective for construct development and testing. *Organ. Behav. Hum. Decis. Process.* 97, 117–134. doi: 10.1016/j.obhdp.2005.03.002

Brown, S. P., and Leigh, T. W. (1996). A new look at psychological climate and its relationship to job involvement, effort, and performance. *J. Appl. Psychol.* 81, 358–368. doi: 10.1037/0021-9010.81.4.358

Byun, G., Karau, S. J., Dai, Y., and Lee, S. (2018). A three-level examination of the cascading effects of ethical leadership on employee outcomes: A moderated mediation analysis. *J. Bus. Res.* 88, 44–53. doi: 10.1016/j.jbusres.2018.03.004

Carmeli, A., Reiter-Palmon, R., and Ziv, E. (2010). Inclusive leadership and employee involvement in creative tasks in the workplace: The mediating role of psychological safety. *Creat. Res. J.* 22, 250–260. doi: 10.1080/10400419.2010. 504654

Carmeli, A., Sheaffer, Z., Binyamin, G., Reiter-Palmon, R., and Shimoni, T. (2014). Transformational leadership and creative problem-solving: The mediating role of psychological safety and reflexivity. *J. Creat. Behav.* 48, 115–135. doi: 10.1002/jocb.43

Chen, A. S. Y., and Hou, Y. H. (2016). The effects of ethical leadership, voice behavior and climates for innovation on creativity: A moderated mediation examination. *Leadersh. Q.* 27, 1–13. doi: 10.1016/j.leaqua.2015.10.007

Chen, M. Z., Zada, M., Khan, J., and Ul Saba, N. (2022). How does servant leadership influences creativity? Enhancing employee creativity via creative process engagement and knowledge sharing. *Front. Psychol.* 13:947092. doi: 10. 3389/fpsyg.2022.947092

Chughtai, A. A. (2016). Can ethical leaders enhance their followers' creativity? *Leadership* 12, 230–249. doi: 10.1177/1742715014558077

Cohen-Meitar, R., Carmeli, A., and Waldman, D. A. (2009). Linking meaningfulness in the workplace to employee creativity: The intervening role of organizational identification and positive psychological experiences. *Creat. Res. J.* 21, 361–375. doi: 10.1080/10400410902969910

Conger, J. A., and Kanungo, R. N. (1994). Charismatic leadership in organizations: Perceived behavioral attributes and their measurement. *J. Organ. Behav.* 15, 439–452.

Cook, K. S., and Rice, E. (2001). "Exchange and power: Issues of structure and agency," in *Handbook of sociological theory. Handbooks of sociology and social research*, ed. J. H. Turner (Boston, MA: Springer). doi: 10.1007/0-387-36274-6_31

Cropanzano, R., and Mitchell, M. S. (2016). Social exchange theory: An interdisciplinary review. *J. Manag.* 31, 874–900. doi: 10.1177/014920630527 9602

Dong, J. Q., and Netten, J. (2017). Information technology and external search in the open innovation age: New findings from Germany. *Technol. Forecast. Soc. Chang.* 120, 223–231. doi: 10.1016/j.techfore.2016.12.021

Edmondson, A. (1999). "A safe harbor: Social psychological conditions enabling boundary spanning in work teams," in *Research on managing groups and teams: Groups in context*, Vol. 2, ed. R. Wageman (Greenwich, CT: Elsevier Science/JAI Press), 179–199.

Edmondson, A. (2016). Psychological safety and learning behavior in work teams. *Adm. Sci. Q.* 44, 350–383. doi: 10.2307/2666999

Ellison, D. W. (2022). Two physical educators' sense of purpose as an indicator of teaching sustainability over time in a high-poverty school setting. *Eur. Phys. Educ. Rev.* 28, 40–56. doi: 10.1177/1356336x211014546

Fan, X., Li, J., Mao, Z., and Lu, Z. (2021). Can ethical leadership inspire employee loyalty in hotels in China? – From the perspective of the social exchange theory. *J. Hosp. Tour. Manag.* 49, 538–547. doi: 10.1016/j.jhtm.2021. 11.006

Froberg, A., and Lundvall, S. (2022). Sustainable development perspectives in physical education teacher education course syllabi: An analysis of learning outcomes. *Sustainability* 14:5955. doi: 10.3390/su14105955

Frolova, Y., and Mahmood, M. (2019). Variations in employee duty orientationImpact of personality, leadership styles and corporate culture. *Eurasian Bus. Rev.* 9, 423–444. doi: 10.1007/s40821-019-00135-8

Frost, D. (2012). From professional development to system change: Teacher leadership and innovation. *Prof. Dev. Educ.* 38, 205–227. doi: 10.1080/19415257. 2012.657861

Gao, C., and Han, J. Y. (2022). Sustainable development of mastery goals and innovative behavior: Evidence from Chinese faculty members. *Sustainability* 14:8989. doi: 10.3390/su14158989

George, J. M., and Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: An interactional approach. *J. Appl. Psychol.* 86, 513–524. doi: 10.1037/0021-9010.86.3.513

George, N. A., Aboobaker, N., and Edward, M. (2020). Corporate social responsibility and organizational commitment: Effects of CSR attitude, organizational trust and identification. *Soc. Bus. Rev.* 15, 255–272. doi: 10.1108/sbr-04-2020-0057

Giessner, S. R., Van Quaquebeke, N., van Gils, S., van Knippenberg, D., and Kollee, J. (2015). In the moral eye of the beholder: The interactive effects of leader and follower moral identity on perceptions of ethical leadership and LMX quality. *Front. Psychol.* 6:1126. doi: 10.3389/fpsyg.2015.01126

Glavas, A. (2016). Corporate social responsibility and employee engagement: Enabling employees to employ more of their whole selves at work. *Front. Psychol.* 7:796. doi: 10.3389/fpsyg.2016.00796

Gong, Y., Cheung, S. Y., Wang, M., and Huang, J. C. (2010). Unfolding the proactive process for creativity. *J. Manag.* 38, 1611–1633. doi: 10.1177/ 0149206310380250

Gong, Y., Huang, J. C., and Farh, J. L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Acad. Manag. J.* 52, 765–778. doi: 10.5465/amj. 2009.43670890

Griffin, M. A., Parker, S. K., and Mason, C. M. (2010). Leader vision and the development of adaptive and proactive performance: A longitudinal study. *J. Appl. Psychol.* 95, 174–182. doi: 10.1037/a0017263

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2020). Linking work-related and non-work-related supervisor–subordinate relationships to knowledge hiding: A psychological safety lens. *Asian Bus. Manag.* 21, 525–546. doi: 10.1057/s41291-020-00137-9

Henson, J. D. (2015). *An examination of the role of spirituality in the development of the moral component of authentic leadership through a sociorhetorical analysis of Paul's letter to titus*. Virginia Beach, VA: Regent University.

Hoogh, A., and Hartog, D. (2008). Ethical and despotic leadership, relationships with leader's social responsibility, top management team effectiveness and subordinates' optimism: A multi-method study. *Leadersh. Q.* 19, 297–311. doi: 10.1016/j.leaqua.2008.03.002

Hu, Y. X., Zhu, L. P., Zhou, M. M., Li, J., Maguire, P., Sun, H. C., et al. (2018). Exploring the influence of ethical leadership on voice behavior: How leader-member exchange, psychological safety and psychological empowerment influence employees' willingness to speak out. *Front. Psychol.* 9:1718. doi: 10.3389/ fpsyg.2018.01718

Huang, L., and Paterson, T. A. (2017). Group ethical voice: Influence of ethical leadership and impact on ethical performance. *J. Manag.* 43, 1157–1184. doi: 10.1177/0149206314546195

Hung, K. P., and Chou, C. (2013). The impact of open innovation on firm performance: The moderating effects of internal R&D and environmental turbulence. *Technovation* 33, 368–380. doi: 10.1016/j.technovation.2013.06.006

Hunter, S. T., Thoroughgood, C. N., Myer, A. T., and Ligon, G. S. (2011). Paradoxes of leading innovative endeavors: Summary, solutions, and future directions. *Psychol. Aesthet. Creat. Arts* 5, 54–66. doi: 10.1037/a0017776

Hur, W. M., Moon, T. W., and Ko, S. H. (2018). How employees' perceptions of CSR increase employee creativity: Mediating mechanisms of compassion at work and intrinsic motivation. *J. Bus. Ethics* 153, 629–644. doi: 10.1007/s10551-016-3321-5

Iqbal, A., Nazir, T., and Ahmad, M. S. (2022). Entrepreneurial leadership and employee innovative behavior: An examination through multiple theoretical lenses. *Eur. J. Innov. Manag.* 25, 173–190. doi: 10.1108/ejim-06-2020-0212

Jha, J. K., and Singh, M. (2019). Exploring the mechanisms of influence of ethical leadership on employment relations. *IIMB Manag. Rev.* 31, 385–395. doi: 10.1016/j.iimb.2019.07.010

Jiang, W., and Gu, Q. (2016). How abusive supervision and abusive supervisory climate influence salesperson creativity and sales team effectiveness in China. *Manag. Decis.* 54, 455–475. doi: 10.1108/md-07-2015-0302

Jin, X., Qing, C. L., and Jin, S. Y. (2022). Ethical leadership and innovative behavior: Mediating role of voice behavior and moderated mediation role of psychological safety. *Sustainability* 14:5125. doi: 10.3390/su14095125

Judge, T. A., and Zapata, C. P. (2015). The person-situation debate revisited: Effect of situation strength and trait activation on the validity of the big five personality traits in predicting job performance. *Acad. Manag. J.* 58, 1149–1179. doi: 10.5465/amj.2010.0837

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Acad. Manag. J.* 33, 692–724.

Kanario, M. C. (2017). *Influence of sports innovation on organizational performance: A case of football kenya federation*. Nairobi: United States International University-Africa.

Kanungo, R. N., and Mendonca, M. (1996). *Sage series in business ethics: Sage series in business ethics*. Thousand Oaks, CA: Sage Publications.

Karim, S., and Nadeem, S. (2019). Understanding the unique impact of dimensions of ethical leadership on employee attitudes. *Ethics Behav.* 29, 572–594. doi: 10.1080/10508422.2019.1580582

Kark, R., Shamir, B., and Chen, G. (2003). The two faces of transformational leadership: Empowerment and dependency. *J. Appl. Psychol.* 88, 246–255. doi: 10.1037/0021-9010.88.2.246

Khan, M. A. S., Du, J. G., Anwar, F., Khan, H., Shahzad, F., and Qalati, S. A. (2021). Corporate social responsibility and the reciprocity between employee perception, perceived external prestige, and employees'.

Emotional labor. *Psychol. Res. Behav. Manag.*14, 61–75. doi: 10.2147/prbm.s27 7850

Khattak, S. R., Zada, M., Nouman, M., Rahman, S. U., Fayaz, M., Ullah, R., et al. (2022). Investigating inclusive leadership and pro-social rule breaking in hospitality industry: Important role of psychological safety and leadership identification. *Int. J. Environ. Res. Public Health* 19:8291. doi: 10.3390/ijerph1914 8291

Khuntia, R., and Suar, D. (2004). A scale to assess ethical leadership of Indian private and public sector managers. *J. Bus. Ethics* 49, 13–26. doi: 10.1023/B:BUSI. 0000013853.80287.da

Kim, B. J., Kim, M. J., and Kim, T. H. (2021). The power of ethical leadership": The influence of corporate social responsibility on creativity, the mediating function of psychological safety, and the moderating role of ethical leadership. *Int. J. Environ. Res. Public Health* 18:2968. doi: 10.3390/ijerph1806 2968

Kleysen, R. F., and Street, C. T. (2001). Toward a multi-dimensional measure of individual innovative behavior. *J. Intellect. Cap.* 2, 284–296. doi: 10.1108/ eum0000000005660

Knippenberg, D. V., and Hogg, M. A. (2003). *Leadership and Power: Identity processes in groups and organizations*. Thousand Oaks, CA: Sage, 1–4.

Krause, D. E. (2004). Influence-based leadership as a determinant of the inclination to innovate and of innovation-related behaviors. *Leadersh. Q.* 15, 79–102. doi: 10.1016/j.leaqua.2003.12.006

Laursen, K., and Salter, A. (2006). Open for innovation: The role of openness in explaining innovation performance among U.K. *Strateg. Manag. J.* 27, 131–150. doi: 10.1002/smj.507

Le, L. H., and Hancer, M. (2021). Using social learning theory in examining YouTube viewers' desire to imitate travel vloggers. *J. Hosp. Tour. Technol.* 12, 512–532. doi: 10.1108/jhtt-08-2020-0200

Lee, K. (2016). Ethical leadership and followers' taking charge: Trust in, and identification with, leader as mediators. *Soc. Behav. Pers. Int. J.* 44, 1793–1802. doi: 10.2224/sbp.2016.44.11.1793

Li, Y. B., Zhang, G. Q., Wu, T. J., and Peng, C. L. (2020). Employee's corporate social responsibility perception and sustained innovative behavior: Based on the psychological identity of employees. *Sustainability* 12:8604. doi: 10.3390/ su12208604

Liang, J., Farh, C. I. C., and Farh, J.-L. (2012). Psychological Antecedents of Promotive and Prohibitive Voice: A Two-Wave Examination. *Acad. Manag. J.* 55, 71–92. doi: 10.5465/amj.2010.0176

Liu, M. S. (2013). Effect of HIWP and employee knowledge innovation on organizational innovation performance. *AMPROC* doi: 10.5465/ambpp.2013.39

Liu, W., Zhang, P., Liao, J., Hao, P., and Mao, J. (2016). Abusive supervision and employee creativity The mediating role of psychological safety and organizational identification. *Manag. Decis.* 54, 130–147.

Liu, Y. J., and Gui, P. (2017). A study on the influence of leader external learning, team external learning activities and employee innovation behavior. *Paper presented at the 14th international conference on innovation and management (ICIM 2017)*. Swansea: Univ Wales Trin St David.

Loogma, K., and Nemeržitski, S. (2014). Constructing model of teachers'innovative behavior in school environment: Secondary data analysis from TALIS survey. *Paper presented at network conference of European Educational Research Association*, Istanbul.

Lührmann, T., and Eberl, P. (2016). Leadership and identity construction: Reframing the leader-follower interaction from an identity theory perspective. *Leadership* 3, 115–127. doi: 10.1177/174271500707 3070

Mael, F., and Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. *J. Organ. Behav.* 13, 103–123. doi: 10.1002/job.4030130202

Martins, E. C., and Terblanche, F. (2003). Building organisational culture that stimulates creativity and innovation. *Eur. J. Innov. Manag.* 6, 64–74. doi: 10.1108/ 14601060310456337

Mayer, D. M., Aquino, K., Greenbaum, R. L., and Kuenzi, M. (2012). Who displays ethical leadership, and why does it matter? an examination of antecedents and consequences of ethical leadership. *Acad. Manag. J.* 55, 151–171.

McLeod, J., Jenkin, A., Walters, G., and Irving, R. (2021). The role and performance of supporter directors: A social exchange theory perspective. *Sport Manag. Rev.* 24, 862–885. doi: 10.1080/14413523.2021.1880744

Miao, Q., Newman, A., Yu, J., and Xu, L. (2013). The relationship between ethical leadership and unethical pro-organizational behavior: Linear or curvilinear effects? *J. Bus. Ethics* 116, 641–653.

Mitonga-Monga, J., and Cilliers, F. (2016). Perceived ethical leadership: Its moderating influence on employees' organisational commitmentin and organisational citizenship behaviours. *J. Psychol. Africa* 26, 35–42. doi: 10.1080/ 14330237.2015.1124608

Mo, S. J., Ling, C. D., and Xie, X. Y. (2019). The curvilinear relationship between ethical leadership and team creativity: The moderating role of team faultlines. *J. Bus. Ethics* 154, 229–242. doi: 10.1007/s10551-016-3430-1

Moultrie, J., and Young, A. (2010). Exploratory study of organizational creativity in creative organizations. *Creat. Innov. Manage.* 18, 299–314.

Nejati, M., Brown, M. E., Shafaei, A., and Seet, P. S. (2021). Employees' perceptions of corporate social responsibility and ethical leadership: Are they uniquely related to turnover intention? *Soc. Responsib. J.* 17, 181–197. doi: 10.1108/ srj-08-2019-0276

Newman, A., Kiazad, K., Miao, Q., and Cooper, B. (2014). Examining the cognitive and affective trust-based mechanisms underlying the relationship between ethical leadership and organisational citizenship: A case of the head leading the heart? *J. Bus. Ethics* 123, 113–123. doi: 10.1007/s10551-013-1803-2

Ng, T. W. H., Feldman, D. C., and Lam, S. S. K. (2010). Psychological contract breaches, organizational commitment, and innovation-related behaviors: A latent growth modeling approach. *J. Appl. Psychol.* 95, 744–751. doi: 10.1037/a0018804

Nikiforos, S., Tzanavarisl, S., and Kermanidis, K. L. (2020). Virtual learning communities (VLCs) rethinking: Influence on behavior modification-bullying detection through machine learning and natural language processing. *J. Comput. Educ.* 7, 531–551. doi: 10.1007/s40692-020-00166-5

Ouakouak, M. L., and Ouedraogo, N. (2017). Antecedents of employee creativity and organisational innovation: An empirical study. *Int. J. Innov. Manag.* 21:1750060. doi: 10.1142/s1363919617500608

Pasricha, P., and Rao, M. K. (2018). The effect of ethical leadership on employee social innovation tendency in social enterprises: Mediating role of perceived social capital. *Creat. Innov. Manag.* 27, 270–280. doi: 10.1111/caim.12287

Peng, W., and Rode, J. C. (2010). Transformational leadership and follower creativity: The moderating effects of identification with leader and organizational climate. *Hum. Relat.* 63, 1105–1128. doi: 10.1177/001872670935 4132

Pratt, M. (1998). "To be or not to be?: Central questions in organizational identification," in *Identity in organizations: Building theory through conversations*, ed. P. G. D. Whetten (Thousand Oaks, CA: SAGE Publications, Inc), 171–208.

Probst, T. M., Gailey, N. J., Jiang, L. X., and Bohle, S. L. (2017). Psychological capital: Buffering the longitudinal curvilinear effects of job insecurity on performance. *Saf. Sci.* 100, 74–82. doi: 10.1016/j.ssci.2017.02.002

Reed, J. (2004). *Getting to the heart of school improvement*. New York, NY: Enquirer.

Resick, C. J., Hanges, P. J., Dickson, M. W., and Mitchelson, J. K. (2006). A cross-cultural examination of the endorsement of ethical leadership. *J. Bus. Ethics* 63, 345–359. doi: 10.1007/s10551-005-3242-1

Resick, C. J., Hargis, M. B., Shao, P., and Dust, S. B. (2013). Ethical leadership, moral equity judgments, and discretionary workplace behavior. *Hum. Relat.* 66, 951–972.

Riegelman, R. K., and Garr, D. R. (2011). Healthy people 2020 and education for health: What are the objectives? *Am. J. Prev. Med.* 40, 203–206. doi: 10.1016/j. amepre.2010.10.017

Rottmann, H. G., and Ratto, C. G. (2018). Physical education: Rethinking pedagogical practices and sociabilities around sports in contemporary culture. *Revista Praxis Educ.* 14, 374–393. doi: 10.22481/praxis.v14i28.3476

Saeed, M. A., Tabassum, H., Zahid, M. M., Jiao, Y., and Nauman, S. (2022). Organizational flexibility and project portfolio performance: The roles of environmental uncertainty and innovation capability. *Eng. Manage. J.* 34, 249–264. doi: 10.1080/10429247.2021.1884450

Schumpeter, J. A. (1911). *The theory of economic development: An inquiry into profits, capita i, credit, interest, and the business cycle*. Cambridge: Harvard University Press.

Schumpeter, J. A. (1983). American progress and economic institutions. *J. Inst. Theor. Econ.* 139, 191–196.

Schwepker, C. H., and Dimitriou, C. K. (2021). Using ethical leadership to reduce job stress and improve performance quality in the hospitality industry. *Int. J. Hosp. Manag.* 94:102860. doi: 10.1016/j.ijhm.2021.102860

Scott, S. G., and Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Acad. Manag. J.* 37, 580–607. doi: 10.2307/256701

Shalley, C. E., Zhou, J., and Oldham, G. R. (2016). The effects of personal and contextual characteristics on creativity: Where should we go from here? *J. Manag.* 30, 933–958. doi: 10.1016/j.jm.2004.06.007

Shamir, B., Zakay, E., Breinin, E., and Popper, M. (1998). Correlates of charismatic leader behavior in military units: Subordinates' attitudes, unit characteristics, and superiors' appraisals of leader performance. *Acad. Manag. J.* 41, 387–409. doi: 10.2307/257080

Shao, j. J, cherian, j, xu, l, zaheer, m, samad, s, comite, u, et al. (2022). A csr perspective to drive employee creativity in the hospitality sector: A moderated mediation mechanism of inclusive leadership and polychronicity. *Sustainability* 14:6273. doi: 10.3390/SU14106273

Shin, S. J., and Zhou, J. (2003). Transformational leadership, conservation, and creativity: Evidence from Korea. *Acad. Manag. J.* 46, 703–714. doi: 10.5465/30040662

Siemsen, E., Roth, A. V., Balasubramanian, S., and Anand, G. (2009). The influence of psychological safety and confidence in knowledge on employee knowledge sharing. *Manuf. Serv. Oper. Manag.* 11, 429–447. doi: 10.1287/msom.1080.0233

Tang, H. M. (2017). Effects of leadership behavior on knowledge management and organization innovation in medicine and health sciences. *Eurasia J. Math. Sci. Technol. Educ.* 13, 5425–5433. doi: 10.12973/eurasia.2017.00840a

Treviño, L. K., Brown, M., and Hartman, L. P. (2016). A qualitative investigation of perceived executive ethical leadership: Perceptions from inside and outside the executive suite. *Hum. Relat.* 56, 5–37. doi: 10.1177/0018726703056001448

Tsai, C. T., and Kao, C. F. (2004). The relationships among motivational orientations, climate for organization innovation, and employee innovative behavior: A test of Amabile's motivational synergy model. *J. Manage.* 21, 571–592. (in Chinese).

Tse, H. H. M., and Chiu, W. C. K. (2014). Transformational leadership and job performance: A social identity perspective. *J. Bus. Res.* 67, 2827–2835. doi: 10.1016/j.jbusres.2012.07.018

Tu, Y. D., and Lu, X. X. (2013). How ethical leadership influence employees' innovative work behavior: A perspective of intrinsic motivation. *J. Bus. Ethics* 116, 441–455. doi: 10.1007/s10551-012-1455-7

Tu, Y. D., Lu, X. X., Choi, J. N., and Guo, W. (2019). Ethical leadership and team-level creativity: Mediation of psychological safety climate and moderation of supervisor support for creativity. *J. Bus. Ethics* 159, 551–565. doi: 10.1007/s10551-018-3839-9

Tynan, R. (2005). The effects of threat sensitivity and face giving on dyadic psychological safety and upward communication. *J. Appl. Soc. Psychol.* 35, 223–247. doi: 10.1111/j.1559-1816.2005.tb02119.x

Ullah, I., Mirza, B., and Hameed, R. M. (2022). Understanding the dynamic nexus between ethical leadership and employees' innovative performance: The intermediating mechanism of social capital. *Asian J. Bus. Ethics* 11, 45–65. doi: 10.1007/s13520-022-00141-6

Walumbwa, F. O., and Schaubroeck, J. (2009). Leader personality traits and employee voice behavior: Mediating roles of ethical leadership and work group psychological safety. *J. Appl. Psychol.* 94, 1275–1286. doi: 10.1037/a0015848

Wang, J., Kim, H. R., and Kim, B. J. (2021). From ethical leadership to team creativity: The mediating role of shared leadership and the moderating effect of leader-member exchange differentiation. *Sustainability* 13:11280. doi: 10.3390/su132011280

West, M. A., and Farr, J. L. (1989). Innovation at work: Psychological perspectives. *Soc. Behav.* 4, 15–30.

Wu, T. J., Gao, J. Y., Wang, L. Y., and Yuan, K. S. (2020). Exploring links between polychronicity and job performance from the person-environment fit perspective-the mediating role of well-being. *Int. J. Environ. Res. Public Health* 17:3711. doi: 10.3390/ijerph17103711

Xie, Y. P., Xue, W., Li, L., Wang, A. M., Chen, Y., Zheng, Q. L., et al. (2018). Leadership style and innovation atmosphere in enterprises: An empirical study. *Technol. Forecast. Soc. Chang.* 135, 257–265. doi: 10.1016/j.techfore.2018.05.017

Yang, J., Chang, M., Chen, Z., Zhou, L., and Zhang, J. (2020). The chain mediation effect of spiritual leadership on employees' innovative behavior. *Leadersh. Organ. Dev. J.* 42, 114–129. doi: 10.1108/lodj-10-2019-0442

Yarberry, S., and Sims, C. (2021). The Impact of COVID-19-prompted virtual/remote work environments on employees' career development: Social learning theory, belongingness, and self-empowerment. *Adv. Dev. Hum. Resour.* 23, 237–252. doi: 10.1177/15234223211017850

Younas, A., Wang, D. P., Javed, B., Rawwas, M. Y. A., Abdullah, I., and Zaffar, M. A. (2020). Positive psychological states and employee creativity: The role of ethical leadership. *J. Creat. Behav.* 54, 567–581. doi: 10.1002/joc b.391

Yuan, X. (2009). *An exploratory study of high school students' creativity and mathematical problem posing in China and the United States.* Ann Arbor, MI: Proquest LLC.

Zhang, X., and Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Acad. Manag. J.* 53, 107–128. doi: 10.5465/amj.2010.48037118

Zhao, C., Tian, G., Wen, Z., and Gao, X. (2021). Charismatic leadership and millennial employee innovation performance relationship mediated by employees' leadership, professional, and organizational identification. *Soc. Behav. Pers. Int. J.* 49:e9643.

Zhong, J., Li, Y. Q., and Luo, J. L. (2022). The trickle-down effects of inclusive leadership on employees' innovative behavior: The joint moderating effects of vicarious learning and organizational inclusion climate. *J. Leadersh. Organ. Stud.* 29, 342–358. doi: 10.1177/15480518211059941

Zhou, J., and Hoever, I. J. (2014). Research on workplace creativity: A Review and redirection. *Ann. Rev. Organ. Psychol. Organ. Behav.* 1, 333–359. doi: 10.1146/annurev-orgpsych-031413-091226

Zhu, W., He, H., Treviño, L. K., Chao, M. M., and Wang, W. (2015). Ethical leadership and follower voice and performance: The role of follower identifications and entity morality beliefs. *Leadersh. Q.* 26, 702–718.

Zikic, J., and Saks, A. M. (2009). Job search and social cognitive theory: The role of career-relevant activities. *J. Vocat. Behav.* 74, 117–127.

Check for updates

Workplace suspicion, knowledge hiding, and silence behavior: A double-moderated mediation model of knowledge-based psychological ownership and face consciousness

Mengying Wu[1,2]*, Wei Li[2], Lei Zhang[2], Chi Zhang[3] and Hanhui Zhou[4]

[1]College of Philosophy, Law and Political Science, Shanghai Normal University, Shanghai, China, [2]Glorious Sun School of Business and Management, Donghua University, Shanghai, China, [3]Kedge Business School, Marseille, France, [4]Business School, Huaqiao University, Quanzhou, China

Silence behavior is a common and influential phenomenon in organizations. Scholars have explored a lot of antecedents for silence behavior, but rarely from the perspective of colleagues. Based on the conservation of resources theory and self-regulation theory, the study constructs a double-moderated mediating model to explore the relationship between workplace suspicion and silence behavior as well as its mechanism. This study conducts a three-wave questionnaire survey and adopts 303 valid pairs of samples from 23 companies in China to validate the research hypotheses. A confirmatory factor analysis in the AMOS software and the PROCESS bootstrapping program in SPSS is used in this study. Our findings indicate that workplace suspicion is positively correlated with silence behavior; knowledge hiding mediates the relationship between workplace suspicion and silence behavior; knowledge-based psychological ownership moderates this mediating effect by strengthening the negative impact of workplace suspicion on knowledge hiding; and face consciousness moderates the mediating effect by weakening the positive impact of workplace suspicion on knowledge hiding. Managerial and practical implications, limitations, and future research directions are discussed and offered.

1. Introduction

In today's era of increasingly complex business and fierce competition environment (Roscoe et al., 2020; Lang et al., 2022), as the basic elements of the company, employees play an exceedingly critical role in the discovery, opinions, and suggestions of issues (Ng and Feldman, 2012; Liu et al., 2020; Song et al., 2021). However, a large number of employees are reluctant to speak up and choose to remain silent (Milliken et al., 2003; Prouska and Psychogios, 2018). In an interview with employees of an American high-technology corporation, Detert and Edmondson (2011) found that approximately 50% of the interviewees felt uncomfortable speaking up and were extremely sensitive

to the problems of the enterprise or work. This phenomenon is frequently observed and is called "employee silence" (Dyne et al., 2003; Brinsfield, 2013), and it can exert destructive impacts on both organizations and individuals. In terms of organizations, employee silence could reduce the quality and efficiency of organizational decision-making as well as be a critical barrier to organizational change and development (Morrison and Milliken, 2000; Dyne et al., 2003). Regarding individuals, as a significant demoralizing force (Srivastava et al., 2019), employee silence could generate stress (Morrison and Milliken, 2000; Xue and Yang, 2021), and job burnout (Srivastava et al., 2019), thereby decreasing innovative work behavior (Guo et al., 2018; Maqbool et al., 2019) and task performance but increasing deviant behavior (Xue and Yang, 2021). Therefore, how to manage employee silence behavior has attracted the extensive attention of scholars and practitioners.

Currently, a large number of studies have confirmed the influencing factors of employee silence from different perspectives, providing great help for organizations to understand and manage employee silence, including individual factors such as individual cognition (Yan et al., 2022), personality differences (Timming and Johnstone, 2015; Wan et al., 2021), and self-esteem level (Duan et al., 2018); leadership factors such as leadership style (Li and Xing, 2021; Wei et al., 2022) and leader-member exchange relationship (Xu et al., 2015; He et al., 2022); organizational factors such as organizational structure (Wynen et al., 2020), atmosphere (Tangirala and Ramanujam, 2008; Wang and Hsieh, 2013; Zhu and Xie, 2018), and politics (Jaweria and Jaleel, 2016); and other factors. However, whether employees will remain silent depends not only on their own leadership and organizational factors but also on the influence of colleagues, because the behaviors and attitudes of employees will inevitably be influenced by their colleagues in the same group (Schulte et al., 2012; Chen et al., 2021). Consequently, it is particularly necessary to find the reasons for employees' silence among colleagues. Recent empirical studies show that employees could respond to negative behaviors (e.g., ostracism and bullying) in the workplace by keeping silent (Rai and Agarwal, 2018; Liu et al., 2020; Yao et al., 2022). Similarly, will workplace suspicion, a relatively obscure negative behavior among colleagues (Bobko et al., 2014; Zhou et al., 2017), affect employee silence behavior? The focus on workplace suspicion could thus expand our understanding of the reasons for silence behavior in the organization.

While the relationship between workplace suspicion and colleagues' silence behavior has been ignored, research about the underlying mechanism through which workplace suspicion is associated with colleagues' silence behavior is even scarce. To solve the above problems, this study attempts to explore the influence of colleagues' suspicion on employees' silence behavior in the workplace from the perspective of resource conservation theory (COR). The COR theory indicates that individuals strive to maintain valued resources to protect themselves from further resource loss when facing a threatened or actual loss of resources (Hobfoll and Stevan, 1989). Drawing on the COR theory, suspicion perceivers (i.e., employees who suspect their colleagues) could consume a lot of cognitive resources when they suspect the targets (Fein, and Steven., 1996) and then may adopt knowledge hiding as a resource-protecting strategy (Feng and Wang, 2019). In addition, when colleagues engage in knowledge-hiding behavior, employees will remain silent as a psychological breach of contract (Bari et al., 2020). Inspired by this, we found "a key," knowledge hiding, to open the "black box" of the relationship between workplace colleagues' suspicion and silence behavior. Knowledge hiding may afford a circumstance for the suspicious targets to explain and attribute the suspicious behavior of the suspicion perceivers.

However, not all employees will show the same degree of behavioral response when facing workplace suspicion. The COR theory points out that individuals' responses to resource loss associated with workplace stressors are contingent on their characteristics and differences (Hobfoll and Shirom, 2001). Knowledge-based psychological ownership makes an individual psychologically keep some particular knowledge and regard it as the extension of personality (Khalid et al., 2019), which functions as an accelerator in knowledge hiding (Peng, 2013). Apart from that, self-regulation theory holds that individual behavior is affected by behavioral expectations and social expectations to a certain extent (Baumeister et al., 2005). Face consciousness as a human, universal in nature (Ho, 1976) seems more salient in collectivistic societies like China and has a profound impact on individual behavior (Zhang et al., 2011; Zheng et al., 2017; Jin et al., 2022). Therefore, we further expand our research model by examining whether knowledge-based psychological ownership and face consciousness alleviate or reinforce the effect of workplace suspicion on knowledge hiding, even on colleagues' silence behavior.

In summary, this study explores the influence of workplace suspicion on colleagues' silence behavior, focusing on the mediating effect of knowledge hiding and the moderating effect of knowledge-based psychological ownership and face consciousness (see Figure 1 for the overall theoretical model). The research makes some contributions. First, it extends our present knowledge regarding the antecedents of silence behavior from the perspective of colleagues. Second, by relating suspicion to knowledge hiding and colleagues' silence behavior, we answer the call of Bobko et al. (2014) for embedding the concept of suspicion in research on business and applied psychology. Third, we test the explanatory mechanism through which workplace suspicion instigates the suspicion targets to stay silent by examining the intermediate role of knowledge hiding. Finally, the study provides new insights into the boundary conditions of workplace suspicion influencing colleagues' behavior.

2. Literature review and hypotheses

2.1. Workplace suspicion and silence behavior

Drawing heavily upon Bobko et al.' (2014, p. 336) definition of state suspicion, we define workplace suspicion (WS) as *an*

FIGURE 1
Overall theoretical model.
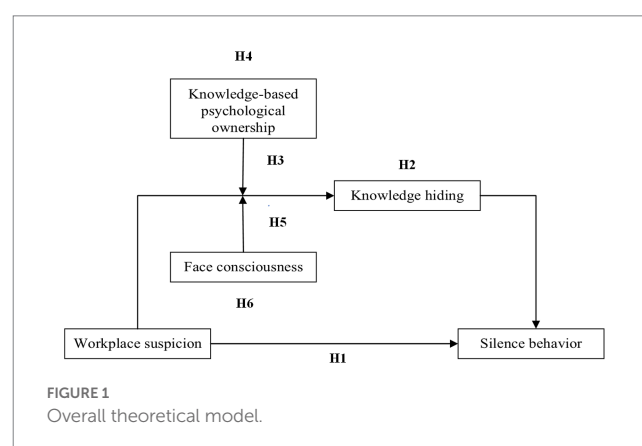
employee's simultaneous state of cognitive activity, uncertainty, and perceived malintent about other employees and underlying information. Suspicion, a unique construct, often emerges as a mindset that is neither trusting nor distrusting (Knox, 1970; Fein, and Steven., 1996). Specifically, unlike distrust (Marwan, and Sinaceur., 2010) and other types of interpersonal conflict in the workplace, workplace suspicion has its own unique characteristics. First, workplace suspicion is a perceiver variable, which means it is a kind of personal subjective feeling. Second, as a form of interpersonal conflict, workplace suspicion is implicit rather than explicit. Finally, the definition of workplace suspicion encompasses a number of key elements such as cognitive activity, uncertainty, and perceived malintent, and these elements must be present at the same time.

Employee silence behavior refers to a deliberate intention to withhold ideas, information, opinions, or questions about the job or organizational possible issues and improvements (Dyne et al., 2003). Scholars emphasize that only when employees consciously withhold their views can it be called silence, but the situation of no idea and no voice is not included (Knoll and Dick, 2013). Dyne et al. (2003) propose four dimensions, namely, acquiescent silence, opportunistic silence, defensive silence, and pro-social silence of employee silence behavior, and many other scholars have divided it into acquiescent silence, defensive silence, and indifferent silence (Morrison and Milliken, 2000). An employee may apply one or more of these strategies to remain silent. However, regardless of which path they take, the same result is that they deliberately keep silent in the organization. Based on this view, this study follows the previous research (Tangirala and Ramanujam, 2008), paying attention to the overall level of silence behavior.

According to the COR theory (Hobfoll and Stevan, 1989), this study believes that employees may adopt an avoidance-oriented coping behavior, such as silence behavior at work, to deal with the suspicion of colleagues so as to prevent further loss of resources and retain their remaining resources. The COR theory (Hobfoll and Stevan, 1989) points out that individuals have the motivation to protect their valuable resources and obtain new resources to help them achieve their own goals. Moreover, when faced with pressure sources, individuals' protection of existing resources is more prominent than the acquisition of new resources (Ng and Feldman, 2012). Academic research suggests that a suspicion perceiver usually takes a more distant and indifferent approach to the suspicion target (Fein and Hilton, 1994). The suspicion perceiver may reduce involvement in the form of nonimmediacy, inexpressiveness, nervous activity, or rigid, overcontrolled behavior that disrupts conversation management (Burgoon et al., 1996). Accordingly, workplace suspicion makes it difficult for colleagues to communicate deeply, which imperceptibly aggravates the consumption of psychological resources by suspicion targets. In the face of this chronic stressor of workplace suspicion, suspicion targets tend to remain silent to protect and observe their limited resources (Hobfoll and Shirom, 2001) and prevent further loss of resources and the adverse effects of suspicion, rather than engaging in more extra-role behaviors to obtain new resources. Therefore, we presume the following hypothesis:

> *Hypothesis 1*: Workplace suspicion is positively related to silence behavior.

2.2. The mediating role of knowledge hiding

The research suggests that knowledge hiding mediates between workplace suspicion and colleagues' silence behavior. Connelly et al. (2012) defined knowledge hiding as "an intentional attempt by an individual to withhold or conceal knowledge that has been requested by another person" (p. 65). Unlike silence behavior, knowledge hiding occurs when an individual is requested to share knowledge. Connelly et al. (2012) also expressed that knowledge hiding as a kind of subjective behavior includes rationalized hiding, evasive hiding, and intentional hiding. It is worth mentioning that we also focus on the overall level of knowledge hidden in this article.

Drawing upon COR theory, individuals will strive to protect and obtain resources when they are faced with an actual or threatening loss of resources (Hobfoll and Stevan, 1989). Suspicion triggers an active, attributional thinking that leads the perceiver to elaborate on the true motive for the target's action, attributing possible negative motives (Fein and Hilton, 1994; Fein, and Steven., 1996; Kim et al., 2004; Bobko et al., 2014). In the process, the relatively large amount of cognitive resources devoted to attributional analyses may tax perceivers' resources (e.g., energy, time) needed for other tasks (Fein and Hilton, 1994; Lyons et al., 2011). In this situation, suspicion perceivers will become defensive and attempt to conserve remaining resources (Hobfoll and Shirom, 2001). Specifically, when facing requests from their colleagues, they are very unlikely to spend extra time and energy on knowledge sharing to avoid resource loss or further consumption but engage in knowledge hiding instead. In addition, given that suspicion perceivers are in a state of uncertainty and perceived malintent about others (Connelly et al., 2012), they could think mindfully that suspicion targets may be a threat to themselves in the near future. Furthermore, knowledge, as an important individual resource (Hobfoll and Stevan, 1989; Connelly et al., 2012), is also the fear of being threatened. Thus, drawing on COR theory, knowledge hiding may work as a coping strategy in order to ensure that there are sufficient resources to resist potential threats (Wheeler et al., 2010). According to the above, the research posits that workplace suspicion is an important indicator to predict knowledge hiding.

Furthermore, to explain why knowledge hiding leads to colleagues' silence behavior, we also refer to COR theory (Hobfoll and Stevan, 1989), which suggests that individuals tend to maintain, conserve, and acquire resources. Although interpersonal relationships should be one of the most important sources of employees' condition resources, knowledge-hiding behaviors directly cause them to deteriorate (Connelly et al., 2012; Connelly and Zweig, 2015). Focal employees suffering from hidden knowledge lose their psychological resources instead of being supplemented by resources from colleagues. In this case, focal employees have insufficient work resources (a lack of support from colleagues), which may aggravate their concerns about the risk of employee voice and make them have serious negative expectations for the results of employee voice, and are more inclined to remain silent. Besides, due to the extra time and energy required for advice, focal employees suffering from knowledge hiding are difficult to willing to make behaviors that may lead to the loss of resources again and are more likely to adopt avoidance-oriented coping behaviors (e.g., silence behavior) to maintain remaining resources. In line with the idea, the existing literature describes that when colleagues feel that they have been denied knowledge, they will

also avoid offering suggestions, opinions, and guidance and keep silent (Bari et al., 2020; Jin et al., 2023).

In summary, the above discussions on the influence of workplace suspicion on knowledge hiding and the impact of knowledge hiding on silence behavior suggest that knowledge hiding can afford a circumstance for the suspicion target to explain and attribute the suspicion perceiver's suspicion. Therefore, we presume the following hypothesis:

> *Hypothesis 2*: Knowledge hiding mediates the relationship between workplace suspicion and silence behavior.

2.3. The moderating role of knowledge-based psychological ownership

Previous literature has indicated that individuals' reactions toward workplace stressors may vary in degree (Rai and Agarwal, 2018; Liu et al., 2020). The COR theory emphasizes that individuals' responses to resource loss associated with workplace stressors are contingent on their individual characteristics and differences (Hobfoll and Shirom, 2001). Psychological ownership that focuses on knowledge represents such an individual characteristic. More specifically, knowledge-based psychological ownership refers to "a state in which individuals feel as though the knowledge of ownership or a piece of knowledge is 'theirs' (i.e., 'It is mine!')" (Pierce et al., 2001, p. 299; Peng, 2013, p. 400). Employees have personal control over knowledge because it is viewed as a principal source of bargaining power in organizations (Peng, 2013). It is likely that workplace suspicion can result in knowledge hiding, but the extent to which workplace suspicion results in knowledge hiding will be a large function of knowledge-based psychological ownership.

As already outlined, researchers suggest that psychological ownership has frequently emerged as one of the factors that is able to influence individual attitudes and behaviors (Dyne and Pierce, 2004; Peng, 2013; Butt, 2021). Knowledge-based psychological ownership may increase the motivation for knowledge hiding (Peng, 2013). More precisely, employees with high knowledge-based psychological ownership could pay more attention to the knowledge and knowledge value, and they are likely to take control of the knowledge that they view as personal property rather than disclose and transfer it (Gao and Riley, 2010; Peng, 2013; Huo et al., 2016). Brown et al. (2014) have confirmed that individuals with psychological ownership over specific aspects (e.g., knowledge) are inclined to control that knowledge and unwilling to share it with others. Similarly, as suggested by Huo et al. (2016), psychological ownership will increase the territorial nature of knowledge and thus accelerate knowledge hiding.

By extension, the positive relationship between workplace suspicion and knowledge hiding should be strengthened at a higher level of knowledge-based psychological ownership. Previously, we proposed that when workplace suspicion increases from low to high levels, employees become more and more involved in knowledge hiding because suspicion consumes their psychological resources and threatens their real resources (e.g., knowledge). This effect will be more pronounced among those with high levels of knowledge-based psychological ownership. First, as suggested by Ghani et al. (2020), individuals with higher psychological ownership are inclined

toward the target, so they are deliberate and thoughtful in their reactions to workplace stressors. Knowledge-based psychological ownership enables individuals to psychologically retain some specific knowledge and regard it as an extension of personality, so as to obtain a sense of esteem, protection, and efficacy from it (Peng, 2013; Qin et al., 2021). By a logical extension of these points, employees with high knowledge-based psychological ownership attach more importance to knowledge value, carry out more cognitive activities, and think about uncertainty, thus increasing knowledge hiding when facing the pressure of their own suspicion. Meanwhile, the sense of possession and control of knowledge makes employees always vigilant against external threats. Therefore, when workplace suspicion moves from low to high levels, employees with higher knowledge-based psychological ownership strongly feel that the territoriality of knowledge (Huo et al., 2016) and malice of suspicion target and are more likely to hide knowledge. In contrast, employees with lower knowledge-based psychological ownership perceive less ownership and control of knowledge, and thus they less deliberately emphasize that knowledge is "mine" when facing the pressure of their own suspicion. Therefore, we presume the following hypothesis:

> *Hypothesis 3*: Knowledge-based psychological ownership moderates the relationship between workplace suspicion and knowledge hiding, such that the relationship is stronger for employees with higher knowledge-based psychological ownership.

Thus far, we have explained how workplace suspicion leads to silence behavior *via* knowledge hiding and proposed that knowledge-based psychological ownership plays a moderating role in the relationship between workplace suspicion and knowledge hiding. According to the suggestion of Preacher et al. (2007), we further proposed a moderated mediation hypothesis that knowledge-based psychological ownership moderates the indirect effect of workplace suspicion on colleagues' silence behavior *via* knowledge hiding. Since knowledge-based psychology intensifies the possibility of knowledge-hiding behavior caused by workplace suspicion, in the long run, the accumulation of knowledge-hiding behavior leads to an increase in the focus employee's (i.e., the suspicion and hidden target) silence behavior. Therefore, we presume the following hypothesis:

> *Hypothesis 4*: Knowledge-based psychological ownership moderates the indirect effect between workplace suspicion and silence behavior through knowledge hiding. Such an effect is more pronounced when knowledge-based psychological ownership is high rather than low.

2.4. The moderating role of face consciousness

Face consciousness refers to individuals' desire to maintain, enhance, or avoid losing face with significant others in social interactions (Bao et al., 2003). As Zhang et al. (2011) suggested, face consciousness includes two correlated dimensions, namely, the desire to gain face and the fear of losing face. Specifically, "desire to gain face" reflects the individual's desire to gain more social face, and "fear of losing face" reflects the individual's fear of losing his or her existing

social face (Zhang et al., 2011). The self-regulation theory holds that individual behavior is not only governed by his/her own subjective will but also affected by behavioral expectations and social expectations (Baumeister et al., 2005), so individuals are likely to adjust their behavior in response to social expectations. Face consciousness has motivational characteristics, and different levels of face consciousness could have important impacts on the subsequent cognition and action of individuals (Wang et al., 2019; Xu et al., 2022). Zheng et al. (2017) suggested that face consciousness could lead to employees' desires for respect or recognition from their managers and colleagues, as well as concern about their own status and how others perceive them. Based on this, we infer that the influence of workplace suspicion on knowledge hiding would also be affected by face awareness.

From the perspective of "the desire for face," individuals with a desire to gain face often yearn for social attention and recognition and tend to improve their fame through self-marketing and other means (Zhang et al., 2011; Jin et al., 2022). Knowledge, as a special personal possession, often provides a vehicle for the display and even enhancement of the face. In other words, it is an important way for employees to gain face by showing their ability or erudition and fully displaying their strengths and advantages through active knowledge sharing rather than knowledge hiding. Accordingly, compared with employees who have a low level of face consciousness, employees with a high level of face consciousness are more likely to adjust their expressive self-presentation (i.e., reduce rather than increase knowledge hiding) to maintain desired public appearances (Ho, 1976; Zhang et al., 2011; Xu et al., 2022), although workplace suspicion may make them worry about others' requests for knowledge.

Additionally, from the "fear of losing face" perspective, employees with strong face consciousness are under pressure to live up to others' expectations in order to maintain face (Gong et al., 2015; Zhao et al., 2019), and they worry naturally more about the loss of face (Chow et al., 1999). If an employee intentionally exposes their ignorance of knowledge when facing a knowledge request, they are easily afraid that they could be considered lacking knowledge and thus engage less in knowledge hiding (Zhao et al., 2019). Therefore, in the face of workplace suspicion, although employees with a high face consciousness may still hide knowledge, they have a stronger motivation to choose to reduce knowledge hiding as much as possible to avoid losing face. Conversely, the pain of "losing face" of employees with low face consciousness is lower than that of employees with high face consciousness (Xu et al., 2022), so they have a relatively weak tendency to deliberately suppress knowledge hiding when they suspect their colleagues.

In sum, compared with employees with low face consciousness, employees with high face consciousness will give priority to the gain and loss of face and adjust their behavior out of face consideration, no matter how high or low the level of suspicion in the workplace. Therefore, we presume the following hypothesis:

> *Hypothesis 5*: Face consciousness moderates the relationship between workplace suspicion and knowledge hiding, such that the relationship is weaker for employees with higher face consciousness.

Combined with hypotheses 2 and 5, it can be further speculated that workplace suspicion indirectly promotes the occurrence of colleagues' silence behavior through knowledge hiding, and the indirect effect depends on the level of employees' facial awareness. Therefore, we presume the following hypothesis:

> *Hypothesis 6*: Face consciousness moderates the indirect effect between workplace suspicion and silence behavior through knowledge hiding. Such an effect is more pronounced when face consciousness is low rather than high.

3. Materials and methods

3.1. Participants and procedures

The data were collected from 23 companies in eastern and southern China, including Shanghai, Nanchang, Guangzhou, Jinan, and other cities. These companies are mainly engaged in education, training, business consulting, machinery manufacturing, and other industries. The research takes the form of offline research, and the specific sampling process is as follows: first, the research team contacts the subjects who may participate in the research with the help of relationships, informs them of the form and purpose of the research, and makes a commitment to the subjects that the data is only used for academic research. Second, after obtaining the permission of the subjects, each subject is asked to determine 2–4 colleagues who have more contact with them in the same work team, and the investigator randomly invites one of those colleagues (i.e., focus employees) to conduct research, so as to finally form the data of the "employee-colleague" pairing. Furthermore, we committed all respondents regarding the confidentiality of the data, asked them to remain relaxed while filling out the questionnaire, and assured them that there is no correct or incorrect answer. As a result, as many natural answers as possible were obtained. To reduce the potential biases of the common method, the data collection procedure was completed in three phases, each separated by 40 days. In phase 1, initial subjects were required to assess their suspicion of peers, their level of knowledge-based psychological ownership, and face consciousness. In phase 2, initial subjects were asked to answer questions about knowledge hiding. In phase 3, the selected colleagues reported silence behavior and demographic characteristics.

In phase 1 of the survey, a total of 368 questionnaires were distributed to the employees, and 341 (92.66%) questionnaires were completed and returned. In phase 2, we requested these 341 respondents to answer the questionnaires and acquired 324 (88.04%) valid employee questionnaires. In phase 3, colleagues corresponding to employees in phase 2 were required to assess related questionnaires, and 303 colleagues returned their completed surveys. Finally, 303 "employee-colleague" matching questionnaires were formed, with a valid recovery rate of 82.33% (after excluding invalid questionnaires such as incomplete answers and irregular answers). Of the 303 corresponding targets, 178 (58.75%) are males and 125 (41.25%) are females, and the average age was 30.66 years. Moreover, regarding educational background, most of them have a bachelor's degree (66.01%) or a master's degree or above (20.13%), and the remaining 13.86% have a junior college education or below. Among them, most are general employees (73.9%), and managers are about 26.1%.

3.2. Measures

The measures were translated into Chinese and went through translation-back-translation procedures (Brislin, 1970) to verify the questionnaire in Chinese. The research used measuring instruments from prior studies, and the responses for all items ranged from 1 ("strongly disagree") to 5 ("strongly agree") on a Likert scale, except for the control variables such as gender, age, education, and position.

3.2.1. Workplace suspicion

Using the measurement method of Bellou and Gkorezis (2016) for reference, we adapted the five-item scale to assess workplace suspicion developed by Bobko et al. (2014). The sample items included "In the process of interacting with a colleague, I become more and more suspicious." Cronbach's alpha for this scale was 0.83. (i.e., answered by suspicion perceivers).

3.2.2. Knowledge hiding

The knowledge-hiding scale, including three items, was adapted by Peng (2013) for the Chinese context. Sample items included "I always withhold helpful information or knowledge from others." Cronbach's alpha calculated for this scale was 0.85. (i.e., answered by suspicion perceivers).

3.2.3. Silence behavior

We used a five-item scale designed by Tangirala and Ramanujam (2008) to assess silence behavior. Sample items included "Although I have ideas or suggestions to improve my work, I do not say them." Cronbach's alpha calculated for this scale was 0.90. (i.e., answered by suspicion targets).

3.2.4. Knowledge-based psychological ownership

Following the previous research (Peng, 2013), we asked employees to evaluate knowledge-based psychological ownership using a short, three-item version of the scale created by Dyne and Pierce (2004). The sample items included "I feel a very high degree of personal ownership of the knowledge." The scale's reliability was 0.88. (i.e., answered by suspicion perceivers).

3.2.5. Face consciousness

Face consciousness was measured with 11 items developed by Zhang et al. (2011). The sample items included "I hope people think that I can do better than most others." Cronbach's alpha was 0.90. (i.e., answered by suspicion perceivers).

3.2.6. Control variables

We controlled suspicion targets' gender, age, education, and level of position as demographic variables, which have been shown to influence silence behavior (Tangirala and Ramanujam, 2008; Rai and Agarwal, 2018). Gender was coded as 0 = male and 1 = female. Age was coded 1 = 25 or below, 2 = 26–35, 3 = 36–45, and 4 = 46 or above. Education was coded 1 = vocational school or under, 2 = university, and 3 = graduate school. The level of position was coded 1 = general staff, 2 = low-level managers, 3 = middle managers, and 4 = senior managers.

3.3. Validity analyses

This study used several diagnostic analyses for addressing the common method bias. First, as previously mentioned, the data collection procedure was completed using a time lag approach. Second, the Harman monofactor analysis test was used to analyze the common method biases of the sample data, and the unrotated monofactor interpretation variable was 31.88%, not accounting for half of the total variance explained. Third, the one-factor model provided a poor fit [χ^2(df) = 1568.39 (120), χ^2/df = 13.07, $p < 0.01$; CFI = 0.55; TLI = 0.48; IFI = 0.55; RMSEA = 0.20], which indicated that the common method bias was not a serious threat in this study.

With regard to the rationality of the data structure, confirmatory factor analyses (CFA) using AMOS 24.0 were conducted to test the discriminant validity of the five constructs, namely, workplace suspicion, knowledge hiding, silence behavior, knowledge-based psychological ownership, and face consciousness. The discriminant validity of each scale was tested by comparing χ^2(df), χ^2/df, $\Delta\chi^2$(Δdf), CFI, TLI, IFI, and RMSEA (see Table 1). It is generally believed that an ideal model is proved if $1 < \chi^2$/df < 3, CFI > 0.90, TLI > 0.90, IFI > 0.90, and RMSEA < 0.08 (Bentler and Bonett, 1980).

As shown in Table 1, the expected five-factor model (workplace suspicion, knowledge hiding, silence behavior, knowledge-based psychological ownership, and face consciousness) provided a reasonable fit to the data [χ^2(df) = 291.35 (108), χ^2/df = 2.70, $p < 0.01$; CFI = 0.94; TLI = 0.93; IFI = 0.94; RMSEA = 0.07]. In addition, we measured seven alternative models with different combinations of focal variables. The results reported that our expected model had significantly better fitted the data than the alternative models. Moreover, according to Bentler and Bonett (1980), we also used χ^2 difference ($\Delta\chi^2$) to determine the best-fitting model. The results indicated that the baseline five-factor model was significantly improved compared with the four-factor model [$\Delta\chi^2$(5) = 266.63 or 537.05, $p < 0.01$]; the three-factor model [$\Delta\chi^2$(8) = 557.11 or 828.49, $p < 0.01$]; the two-factor model [$\Delta\chi^2$(10) = 878.86 or 913.84, $p < 0.01$]; and the single-factor model [$\Delta\chi^2$(12) = 1277.04, $p < 0.01$], suggesting that the five focal variables could be clearly distinguished.

Besides, we used CR and AVE to evaluate the convergent validity of all variables. The composite reliability of all five constructs exceeds 0.70, and the AVE values of all constructs exceed 0.50. These reveal that convergent validity is good. In addition, the discriminative validity was further verified. The square roots of all variables' AVE values are larger than 0.70, exceeding the correlations of all variables in Table 2. Therefore, all constructs have adequate consistent and discriminant validity. In conclusion, the results of the validity analysis show that the data construct is clear and suitable for correlation analysis.

4. Results

4.1. Descriptive statistics and correlation analysis

Table 2 shows the means, standard deviations, and correlations of the variables. In line with our expectation, workplace suspicion was positively related to silence behavior ($r = 0.34$, $p < 0.01$) and

TABLE 1 The results of confirmatory factor analysis.

Measurement models		$\chi^2(df)$	$\Delta\chi^2(\Delta df)$	χ^2/df	CFI	TLI	IFI	RMSEA
Five-factor	WS, KH, SB, KPO, FC	291.35(108)**	-	2.70	0.94	0.93	0.94	0.07
Four-factor	WS + FC, KH, SB, KPO	557.98(113)**	266.63(5)**	4.94	0.80	0.83	0.86	0.11
Four-factor	WS + KPO, KH, SB, FC	828.40(113)**	537.05(5)**	7.33	0.72	0.73	0.78	0.15
Three-factor	WS + FC, KH + SB, KPO	848.46(116)**	557.11(8)**	7.31	0.72	0.73	0.77	0.15
Three-factor	WS + KPO, KH + SB, FC	1119.84(116)**	828.49(8)**	9.65	0.69	0.63	0.69	0.17
Two-factor	WS + KPO + KH, SB + FC	1170.21(118)**	878.86(10)**	9.92	0.67	0.62	0.67	0.17
Two-factor	WS + FC + KH, SB + KPO	1205.19(118)**	913.84(10)**	10.21	0.64	0.61	0.66	0.18
One-factor	WS + KH + SB + KPO + FC	1568.39(120)**	1277.04(12)**	13.07	0.55	0.48	0.55	0.20

WS, workplace suspicion; KH, knowledge hiding; SB, silence behavior; KPO, knowledge-based psychological ownership; FC, face consciousness. "+" means that two factors are combined into one factor. **$p < 0.01$.

TABLE 2 Descriptive statistical results and correlation coefficients matrix.

	1	2	3	4	5	6	7	8	9
Gender	−								
Age	0.08	−							
Education	0.04	0.05	−						
Level of position	−0.01	0.57**	−0.04	−					
WS	−0.01	0.07	0.03	−0.06	**0.83**				
KH	−0.09	0.03	−0.06	−0.04	0.46**	**0.85**			
SB	−0.05	−0.08	−0.06	−0.14*	0.34**	0.55**	**0.90**		
KPO	−0.02	0.07	0.01	0.02	0.28**	0.47**	0.33**	**0.88**	
FC	0.04	0.05	−0.02	0.10	−0.40**	−0.59**	−0.53**	−0.55**	**0.90**
M	1.59	30.66	2.06	1.34	3.07	2.67	2.89	3.35	2.88
SD	0.49	5.59	0.58	0.64	0.47	0.92	0.86	0.82	0.71

$N = 303$. WS, workplace suspicion; KH, knowledge hiding; SB, silence behavior; KPO, knowledge-based psychological ownership, FC, face consciousness; M, mean; SD, standard deviation. **$p < 0.01$, *$p < 0.05$. Cronbach's α reliability coefficients appear on the diagonal.

significantly affected knowledge hiding ($r = 0.46$, $p < 0.01$); knowledge hiding had a positive relationship with silence behavior ($r = 0.55$, $p < 0.01$). Hypothesis 1 was initially supported and provides a basis for further analysis.

4.2. Mediation results

Table 3 presents the results, analyzed by SPSS 26.0 and the PROCESS program developed by Hayes and Preacher (2014), for the mediated and moderated effects of the model. We used model 4 of the PROCESS program to test the mediation effect. The result revealed that workplace suspicion is positively associated with silence behavior ($\beta = 0.60$, $p < 0.01$) supports hypothesis 1. When we add knowledge hiding into the model as a mediator, we found that the direct effect of workplace suspicion on silence behavior was not significant ($\beta = 0.19$, n.s.) but the indirect effect was ($\beta = 0.60$, $p < 0.01$). Moreover, the indirect effect accounted for 68.33% of the total effect, which indicates that knowledge hiding mediated the influence of workplace suspicion on silence behavior. In addition, bootstrapping procedures were used to construct the confidence interval (CI) in estimating the mediating effect. As can be seen from the result, the indirect effect of workplace suspicion on silence behavior *via* knowledge hiding was also

significant (95% CI [0.26, 0.58], excluding 0). Consequently, hypothesis 2 was supported.

4.3. Moderation results

We used model 1 of the PROCESS program to test the moderation effect (hypotheses 3 and 5). Hypothesis 3 predicts that knowledge-based psychological ownership moderates the relationship between workplace suspicion and knowledge hiding, such that the relationship is stronger for employees with higher knowledge-based psychological ownership. Consistent with this hypothesis, the results in the middle of Table 3 reveal that the interaction of workplace suspicion with knowledge-based psychological ownership had a significant impact on knowledge hiding ($\beta = 0.21$, $p < 0.05$). Furthermore, to obtain a more intuitive response, the interaction effects of knowledge-based psychological ownership or face consciousness at different levels (i.e., −1 SD and +1 SD), we plotted the moderating effect figures separately according to the suggestions of Cohen et al. (1985). Figure 2 reveals that the impact of workplace suspicion on knowledge hiding was significant when knowledge-based psychological ownership was high (effect size = 0.87, $p < 0.01$) rather than low (effect size = 0.53, $p < 0.01$). Thus, hypothesis 3 was supported.

TABLE 3 Conditional process analysis: mediation and moderation results.

	Effect	SE	Boot 95% CI		Proportion of effect
			LL	UL	
Total effect: WS → SB	0.60**	0.10	0.41	0.80	
The mediating effect test					
Direct effect: WS → SB	0.19	0.12	−0.07	0.41	31.67%
Indirect effect: WS → KH → SB	0.41**	0.08	0.26	0.58	68.33%

The moderating effect test					
The moderating results		Effect	SE	Boot 95%CI	
				LL	UL
KPO ↓ WS → KH	Low (M − 1 SD)	0.51**	0.12	0.27	0.74
	Mean(M)	0.70**	0.09	0.52	0.88
	High (M + 1 SD)	0.89**	0.11	0.67	1.11
	Interaction	0.23*	0.10	0.04	0.43
FC ↓ WS → KH	Low (M − 1 SD)	0.78**	0.12	0.54	1.03
	Mean(M)	0.55**	0.09	0.36	0.73
	High (M + 1 SD)	0.31**	0.11	0.09	0.53
	Interaction	−0.34**	0.10	−0.53	−0.14

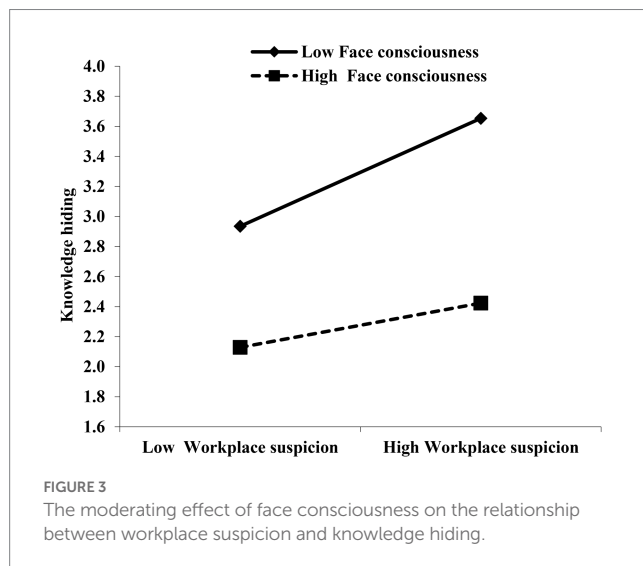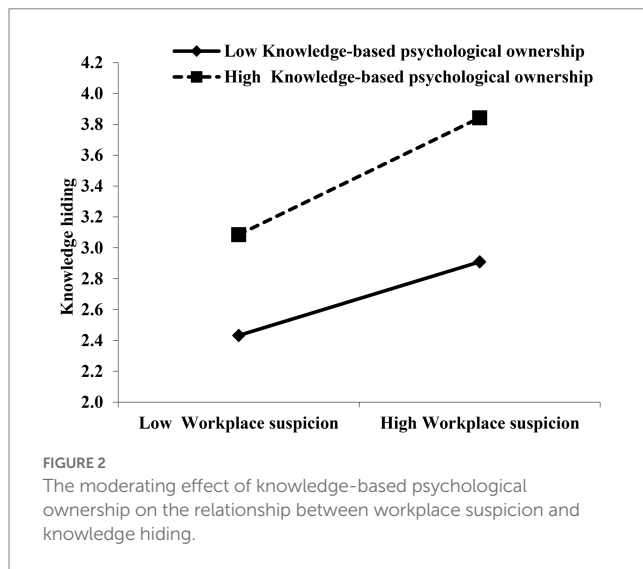| **The moderated mediation effect test**					
The bootstrapping results of conditional indirect effect		Effect	SE	Boot 95%CI	
				LL	UL
KPO ↓ WS → KH → SB	Low (M − 1 SD)	0.25**	0.08	0.10	0.40
	Mean(M)	0.33**	0.07	0.19	0.47
	High (M + 1 SD)	0.41**	0.08	0.25	0.58
	The results of moderated mediation	0.10*	0.05	0.01	0.19
FC ↓ WS → KH → SB	Low (M − 1 SD)	0.35**	0.08	0.20	0.51
	Mean(M)	0.25**	0.06	0.13	0.38
	High (M + 1 SD)	0.15*	0.07	0.03	0.29
	The results of moderated mediation	−0.14**	0.05	−0.24	−0.05

WS, workplace suspicion; KH, knowledge hiding; SB, silence behavior; KPO, knowledge-based psychological ownership; FC, face consciousness. Bootstrapping sample size = 5,000, N = 303, **p < 0.01, *p < 0.05.

Hypothesis 5 predicts that face consciousness moderates the relationship between workplace suspicion and knowledge hiding, such that the relationship is weaker for employees with higher face consciousness. The results showed that the interaction of workplace suspicion with face consciousness was significantly related to knowledge hiding ($\beta = -0.30$, $p < 0.01$). As shown in Figure 3, the impact of workplace suspicion on knowledge hiding was more significant when face consciousness was low (effect size = 0.76, $p < 0.01$) rather than high (effect size = 0.33, $p < 0.01$). These findings supported hypothesis 5.

Furthermore, we applied model 7 of the SPSS PROCESS macro to test the moderated mediation effects (hypotheses 4 and 6). Hypothesis 4 assumes that knowledge-based psychological ownership moderates the indirect effect between workplace suspicion and silence behavior through knowledge hiding and that such an effect is more pronounced

when knowledge-based psychological ownership is higher. Following Hayes (2015), we first analyzed the index of moderated mediation, which provides a statistically more formal test than testing the indirect relationships at high and low values of moderator. The index of moderated mediation was significant (effect size = 0.10, $p < 0.05$), which indicated that hypothesis 3 was supported. Moreover, as shown in Table 3, the indirect effect of workplace suspicion on silence behavior through knowledge hiding was more positive (effect size = 0.41, $p < 0.01$) at a high level (i.e., +1 SD) of knowledge-based psychological ownership than at a low level (i.e., −1 SD) of knowledge-based psychological ownership (effect size = 0.25, $p < 0.01$). Therefore, these findings provided support for hypothesis 4.

We then examined face consciousness as a moderator. In hypothesis 6, the indirect effect between workplace suspicion and silence behavior through knowledge hiding obscures the focus on the

FIGURE 2
The moderating effect of knowledge-based psychological ownership on the relationship between workplace suspicion and knowledge hiding.

FIGURE 3
The moderating effect of face consciousness on the relationship between workplace suspicion and knowledge hiding.

moderating role. Consistent with hypothesis 6, the index of moderated mediation was negative and significant (effect size = −0.14, $p < 0.01$). The indirect effect of workplace suspicion on silence behavior through knowledge hiding was more positive (effect size = 0.35, $p < 0.01$) at a low level (i.e., −1 SD) of knowledge-based psychological ownership than at a high level (i.e., +1 SD) of knowledge-based psychological ownership (effect size = 0.15, $p < 0.05$). In other words, high face consciousness has a stronger inhibition of the indirect effect. These findings lend support to hypothesis 6.

5. Discussion

Based on the conservation of resources theory and self-regulation theory, this study explained how and when workplace suspicion may lead to colleagues' silence behavior. We developed and studied a double-moderated mediation model in which the relationship between workplace suspicion, knowledge hiding, and silence behavior is moderated by knowledge-based psychological ownership and face consciousness. This

study found that workplace suspicion is a negative phenomenon in the workplace that can deplete both suspicion perceivers' and suspicion targets' resources. Specifically, workplace suspicion is positively correlated with silence behavior; knowledge hiding mediates the relationship between workplace suspicion and silence behavior; knowledge-based psychological ownership moderates this mediating effect by strengthening the negative impact of workplace suspicion on knowledge hiding; and face consciousness moderates the mediating effect by weakening the positive impact of workplace suspicion on knowledge hiding. This study provided a new idea for the organization on how to prevent and control knowledge-hiding and silence behaviors from the perspective of colleagues. Managers and practitioners are suggested to consider the phenomenon of workplace suspicion and the focus on employees' knowledge-based psychological ownership and face consciousness when working to weaken knowledge-hiding and silence behavior.

5.1. Theoretical implications

This study provides several theoretical implications. First, the study contributes to silence behavior literature by examining workplace suspicion as an antecedent variable of a colleague's perspective. Some scholars have explored the antecedents of employees' silence behavior from the perspective of individuals, leaders, and organizations (e.g., Wynen et al., 2020; Wan et al., 2021; Wei et al., 2022). However, as an important source of information in the organization (Chen et al., 2021; Jin et al., 2022), the influence of colleagues' behavior (especially suspicious behavior) on employees' silence behavior has been ignored by previous studies. Based on this, we explore how workplace suspicions affect colleagues' silence behavior from a binary perspective.

Second, the research advances the current understanding of workplace suspicion by theoretically proposing and empirically testing its negative consequences. Suspicion is a widespread and influential phenomenon in organizations, but relevant empirical research is very limited (Bobko et al., 2014; Zhou et al., 2017). The behavioral responses of suspicion perceivers and suspicion targets were investigated, respectively. We established a correlation between workplace suspicion and silence behavior as well as analyzed the underlying mechanisms between the two through the behavior of suspicion perceivers. This research responds to the call of scholars (e.g., Bobko et al., 2014) for more research on suspicion in the field of organizational behavior.

Third, from a COR theory perspective, this article reveals that knowledge hiding provides a unique and novel theoretical account for the effects of workplace suspicion combined with individual factors on colleagues' silence behavior. He et al. (2021) pointed out that it is essential to increase research on the consequences of knowledge hiding to enrich the antecedents' knowledge-hiding consequences research path, and our study responds to this call. The research on the intermediary mechanism of knowledge hiding extends Bari et al.'s (2020) study that found a positive relationship between knowledge hiding and employee silence and provides a new theoretical basis for the related research on knowledge hiding and silence behavior.

Finally, drawing on the conservation of resources theory and self-regulation theory, the double boundary conditions at the individual level are verified in the process of workplace suspicion of knowledge hiding. In the previous studies on knowledge hiding, numerous

researchers have paid attention to the role of knowledge-based psychological ownership, and our findings are basically consistent with them. In addition, the study responds to the call of some scholars that consciousness has a universal nature that ought to be extended to a myriad of further research areas (Kim and Nam, 1998; Zhang et al., 2011). In short, this study clarifies the moderating conditions for the negative effects of workplace suspicion from the perspective of individual differences, which provides further evidence for the situational behavior of colleagues' silence and also enriches the literature on knowledge-based psychological ownership and face consciousness.

5.2. Practical implications

Our findings offer several managerial implications. First of all, workplace suspicion will positively exacerbate knowledge hiding and colleagues' silence behavior. Therefore, active measures should be taken by organizations to restrain workplace suspicion. For instance, when the teams recruit employees, it is necessary to properly test the suspicion tendency of candidates and to reduce the appointment of individuals with excessive suspicion. Besides, managers need to care about the real thoughts of individuals and give employees some opportunities (e.g., a team-building activity) to allow them to know each other. The sense of mutual trust among employees, especially marginalized workers (e.g., new employees), should be cultivated and enhanced.

Second, our results support that knowledge hiding plays a dominant role in mediating the relationship between workplace suspicion and silence behavior. Therefore, organizations should build a working environment that is filled with knowledge sharing rather than knowledge hiding and reduce risks from colleagues through employee voice. Furthermore, combined with the scholars' (e.g., He et al., 2021) theoretical viewpoint that organizational atmosphere can alleviate the negative effect of knowledge hiding, this article suggests that a knowledge-sharing atmosphere and a learning atmosphere should be created within the organization to encourage staff knowledge exchange and suppress the negative effect of staff knowledge hiding.

Finally, our results support the idea that knowledge-based psychological ownership and face consciousness are important in moderating the relationship between workplace suspicion and knowledge hiding. Accordingly, we put forward some suggestions for organizations and practitioners. On the one hand, managers must attach importance to knowledge-based psychological ownership. In practice, it is feasible for organizations to boost employees' team awareness and cooperation, which helps them claim their knowledge as "ours." Organizations should guide employees to reduce their sense of territorial protection in knowledge sharing (Huo et al., 2016) and strive to make employees realize that sharing knowledge with others will not make them lose their advantages but can increase each other's knowledge stocks through "reciprocity" to achieve win-win results. On the other hand, practitioners need to pay attention to employees' facial consciousness. For example, we recommend that organizations give full play to the role of spiritual motivation when designing the incentive system. More specifically, organizations can adopt the methods of honor motivation and responsibility motivation to give more recognition and respect to employees who have made certain knowledge-sharing contributions, give them greater rights and responsibilities, and make face consciousness the eliminator for knowledge hiding.

5.3. Limitations and future research directions

This research certainly has some limitations. First, considering that the focus of this study is on the behaviors themselves, we did not separate their dimensions to examine whether workplace suspicion has differential effects on them. However, it can be considered to explore the specific relationships and mechanisms between different dimensions of these variables in more detail. A future study could develop a comprehensive model by considering multiple dimensions of these variables. Second, although we designed a three-stage time-lag study to attempt to establish the causality of variables, the proposed causality may not be fully determined since the data were essentially relevant. Besides, although we controlled the suspicion targets' gender, age, education, and level of position factors that may affect silence behavior, there are also other important factors. For these reasons, a longitudinal, experimental design or the addition of important control variables would be ideal for future research to improve the robustness of research conclusions. Third, the study merely examined the moderating roles at individual levels (i.e., knowledge-based psychological ownership and face consciousness). In the future, other personality traits (e.g., neuroticism) and situational moderators (e.g., organizational ethical climate) may be considered alternative boundary conditions.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Author contributions

MW and WL: conceptualization and validation. MW: methodology and software. WL and LZ: formal analysis. LZ: investigation. CZ: resources. MW: data curation, supervision, and funding acquisition. WL: writing—original draft preparation. WL and HZ: writing—review and editing. MW and CZ: project administration. All authors contributed to the article and approved the submitted version.

Funding

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

References

Bao, Y., Zhou, K., and Su, C. (2003). Face consciousness and risk aversion: do they affect consumer decision-making? *Psychol. Mark.* 20, 733–755. doi: 10.1002/mar.10094

Bari, M. W., Ghaffar, M., and Ahmad, B. (2020). Knowledge-hiding behaviors and employees' silence: mediating role of psychological contract breach. *J. Knowl. Manag.* 24, 2171–2194. doi: 10.1108/JKM-02-2020-0149

Baumeister, R. F., Dewall, C. N., Ciarocco, N. J., and Twenge, J. M. (2005). Social exclusion impairs self-regulation. *J. Pers. Soc. Psychol.* 88, 589–604. doi: 10.1037/0022-3514.88.4.589

Bellou, V., and Gkorezis, P. (2016). Unveiling the link between facets of positive nonverbal communication and perceived leader effectiveness: a moderated mediation model. *Hum. Perform.* 29, 310–330. doi: 10.1080/08959285.2016.1157597

Bentler, P. M., and Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychol. Bull.* 88, 588–606. doi: 10.1037/0033-2909.88.3.588

Bobko, P., Barelka, A. J., Hirshfield, L. M., and Lyons, J. B. (2014). Invited article: the construct of suspicion and how it can benefit theories and models in organizational science. *J. Bus. Psychol.* 29, 335–342. doi: 10.1007/s10869-014-9360-y

Brinsfield, C. T. (2013). Employee silence motives: investigation of dimensionality and development of measures. *J. Organ. Behav.* 34, 671–697. doi: 10.1002/job.1829

Brislin, R. W. (1970). Back-translation for cross-cultural research. *J. Cross Cult. Psychol.* 1, 185–216. doi: 10.1177/135910457000100301

Brown, G., Crossley, C., and Robinson, S. L. (2014). Psychological ownership, territorial behavior, and being perceived as a team contributor: the critical role of Trust in the Work Environment. *Pers. Psychol.* 67, 463–485. doi: 10.1111/peps.12048

Burgoon, J. K., Bulkr, D. B., Ebesu, A. S., White, C. H., and Rockwell, P. A. (1996). Testing interpersonal deception theory: effects of suspicion on communication behaviors and perceptions. *Commun. Theory* 6, 243–267. doi: 10.1111/j.1468-2885.1996.tb00128.x

Butt, A. (2021). Determinants of top-down knowledge hiding in firms: an individual-level perspective. *Asian Bus. Manag.* 20, 259–279. doi: 10.1057/s41291-019-00091-1

Chen, X., Peng, J., Lei, X., and Zou, Y. C. (2021). Leave or stay with a lonely leader? An investigation into whether, why, and when leader workplace loneliness increases team turnover intentions. *Asian Bus. Manag.* 20, 280–303. doi: 10.1057/s41291-019-00082-2

Chow, C. W., Harrison, G. L., Mckinnon, J. L., and Wu, A. (1999). Cultural influences on informal information sharing in Chinese and Anglo-American organizations: an exploratory study. *Account. Organ. Soc.* 24, 561–582. doi: 10.1016/s0361-3682(99)00022-7

Cohen, J., Cohen, P., West, S. G., and Aiken, L. S. (1985). Applied multiple regression/correlation analysis for the behavioral sciences. *J. Am. Stat. Assoc.* 80, 485–486. doi: 10.2307/2287930

Connelly, C. E., and Zweig, D. (2015). How perpetrators and targets construe knowledge hiding in organizations. *Eur. J. Work Organ. Psy.* 24, 479–489. doi: 10.1080/1359432X.2014.931325

Connelly, C. E., Zweig, D., Webster, J., and Trougakos, J. P. (2012). Knowledge hiding in organizations. *J. Organ. Behav.* 33, 64–88. doi: 10.1002/job.737

Detert, J. R., and Edmondson, A. C. (2011). Implicit voice theories: taken-for-granted rules of self-censorship at work. *Acad. Manage. J.* 54, 461–488. doi: 10.5465/amj.2011.61967925

Duan, J. Y., Bao, C. Z., Huang, C. Y., and Brinsfield, C. T. (2018). Authoritarian leadership and employee silence in China. *J. Manag. Organ.* 24, 62–80. doi: 10.1017/jmo.2016.61

Dyne, L. V., Ang, S., and Botero, I. C. (2003). Conceptualizing employee silence and employee voice as multidimensional constructs. *J. Manage. Stud.* 40, 1359–1392. doi: 10.1111/1467-6486.00384

Dyne, L. V., and Pierce, J. L. (2004). Psychological ownership and feelings of possession: three field studies predicting employee attitudes and organizational citizenship behavior. *J. Organ. Behav.* 25, 439–459. doi: 10.1002/job.249

Fein, A., and Steven, J. (1996). Effects of suspicion on attributional thinking and the correspondence bias. *J. Pers. Soc. Psychol.* 70, 1164–1184. doi: 10.1037/0022-3514.70.6.1164

Fein, S., and Hilton, J. L. (1994). Judging others in the shadow of suspicion. *Motiv. Emot.* 18, 167–198. doi: 10.1007/BF02249398

Feng, J., and Wang, C. (2019). Does abusive supervision always promote employees to hide knowledge? From both reactance and COR perspective. *J. Knowl. Manag.* 23, 1455–1474. doi: 10.1108/JKM-12-2018-0737

Gao, Y. F., and Riley, M. (2010). Knowledge and identity: a review. *Int. J. Manag. Rev.* 12, 317–334. doi: 10.1111/j.1468-2370.2009.00265.x

Ghani, U., Teo, T., Li, Y., Usman, M., Islam, Z. U., Gul, H., et al. (2020). Tit for tat: abusive supervision and knowledge hiding-the role of psychological contract breach and psychological ownership. *Int. J. Environ. Res. Public Health* 17, 1240–1256. doi: 10.3390/ijerph17041240

Gong, S., Chen, J., and Jie, L. (2015). Need for uniqueness as a mediator of the relationship between face consciousness and status consumption in China. *Nt. J. Psychol.* 52, 349–353. doi: 10.1002/ijop.12216

Guo, L., Decoster, S., Babalola, M. T., De Schutter, L., Garba, O. A., and Riisla, K. (2018). Authoritarian leadership and employee creativity: the moderating role of psychological capital and the mediating role of fear and defensive silence. *J. Bus. Res.* 92, 219–230. doi: 10.1016/j.jbusres.2018.07.034

Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivar. Behav. Res.* 50, 1–22. doi: 10.1080/00273171.2014.962683

Hayes, A. F., and Preacher, K. J. (2014). Statistical mediation analysis with a multicategorical independent variable. *Br. J. Math. Stat. Psychol.* 67, 451–470. doi: 10.1111/bmsp.12028

He, P., Jiang, C., Xu, Z., and Shen, C. (2021). Knowledge hiding: current research status and future research directions. *Front. Psychol.* 12:748237. doi: 10.3389/fpsyg.2021.748237

He, P., Sun, R., Zhao, H., Zheng, L., and Shen, C. (2022). Linking work-related and non-work-related supervisor-subordinate relationships to knowledge hiding: a psychological safety lens. *Asian Bus. Manag.* 21, 525–546. doi: 10.1057/s41291-020-00137-9

Ho, Y. F. (1976). On the concept of face. *Am. J. Sociol.* 81, 867–884. doi: 10.1086/226145

Hobfoll, S. E., and Shirom, A. (2001). Conservation of resources theory: applications to stress and management in the workplace. *Public. Policy Adm.* 87, 57–80.

Hobfoll, S., and Stevan, E. (1989). Conservation of resources. A new attempt at conceptualizing stress. *Am. Psychol.* 44, 513–524. doi: 10.1037/0003-066X.44.3.513

Huo, W., Cai, Z., Luo, J., Men, C., and Jia, R. (2016). Antecedents and intervention mechanisms: a multi-level study of randd team's knowledge hiding behavior. *J. Knowl. Manag.* 20, 880–897. doi: 10.1108/JKM-11-2015-0451

Jaweria, K., and Jaleel, A. (2016). Perceived organizational politics and employee silence: supervisor trust as a moderator. *J. Asia Pac. Econ.* 21, 174–195. doi: 10.1080/13547860.2015.1092279

Jin, X. J., Wang, J. D., He, X. K., Yan, Z. Y., Xu, L. W., Wei, C. F., et al. (2023). Improving vibration performance of electric vehicles based on in-wheel motor-active suspension system via robust finite frequency control. *IEEE Trans. Intell. Transp. Syst.* 24, 1–13. doi: 10.1109/TITS.2022.3224609

Jin, X., Wang, J., Yan, Z., Xu, L., Yin, G., and Chen, N. (2022). Robust vibration control for active suspension system of in-wheel-motor-driven electric vehicle via μ-synthesis methodology. *J. Dyn. Syst. Meas. Control-Trans. ASME* 144, 1–13. doi: 10.1115/1.4053661

Khalid, M., Gulzar, A., and Khan, A. K. (2019). When and how the psychologically entitled employees hide more knowledge? *Int. J. Hosp. Manag.* 89:102413. doi: 10.1016/j.ijhm.2019.102413

Kim, P., Ferrin, D., Cooper, C., and Dirks, K. (2004). Removing the shadow of suspicion: the effects of apology versus denial for repairing competence-versus integrity-based trust violations. *J. Appl. Psychol.* 89, 104–118. doi: 10.1037/0021-9010.89.1.104

Kim, J. Y., and Nam, S. H. (1998). The concept and dynamics of face: implications for organizational behavior in Asia. *Organ. Sci.* 9, 522–534. doi: 10.1287/orsc.9.4.522

Knoll, M., and Dick, R. V. (2013). Do I hear the whistleaeuro broken vertical bar? A first attempt to measure four forms of employee silence and their correlates. *J. Bus. Ethics* 113, 349–362. doi: 10.1007/s10551-012-1308-4

Knox, K. (1970). Conceptual and methodological considerations in the study of trust and suspicion. *J. Confl. Resolut.* 14, 357–366. doi: 10.2307/173516

Lang, Y., Zhang, H., Liu, J., and Zhang, X. (2022). Narcissistic enough to challenge: the effect of narcissism on change-oriented organizational citizenship behavior. *Front. Psychol.* 12:792818. doi: 10.3389/fpsyg.2021.792818

Li, X. B., and Xing, L. (2021). When does benevolent leadership inhibit silence? The joint moderating roles of perceived employee agreement and cultural value orientations. *J. Manage. Psychol.* 36, 562–575. doi: 10.1108/JMP-07-2020-0412

Liu, X. W., Yang, S. G., and Zhu, Y. (2020). Silent counterattack: the impact of workplace bullying on employee silence. *Front. Psychol.* 11:572236. doi: 10.3389/fpsyg.2020.572236

Lyons, J. B., Stokes, C. K., Eschleman, K. J., Alarcon, G. M., and Barelka, A. J. (2011). Trustworthiness and IT suspicion: an evaluation of Nomological network. *Hum. Factors* 53, 219–229. doi: 10.1177/0018720811406726

Maqbool, S., Černe, M., and Bortoluzzi, G. (2019). Micro-foundations of innovation: employee silence, perceived time pressure, flow and innovative work behaviour. *Eur. J. Innov. Manag.* 22, 125–145. doi: 10.1108/EJIM-01-2018-0013

Marwan, A., and Sinaceur, K. (2010). Suspending judgment to create value: suspicion and trust in negotiation—ScienceDirect. *J. Exp. Soc. Psychol.* 46, 543–550. doi: 10.1016/j.jesp.2009.11.002

Milliken, F. J., Morrison, E. W., and Hewlin, P. F. (2003). An exploratory study of employee silence: issues that employees don't communicate upward and why. *J. Manage. Stud.* 40, 1453–1476. doi: 10.1111/1467-6486.00387

Morrison, E. W., and Milliken, F. J. (2000). Organizational silence: a barrier to change and development in a pluralistic world. *Acad. Manage. Rev.* 25, 706–725. doi: 10.2307/259200

Ng, T. W. H., and Feldman, D. C. (2012). Employee voice behavior: a meta-analytic test of the conservation of resources framework. *J. Organ. Behav.* 33, 216–234. doi: 10.1002/job.754

Peng, H. (2013). Why and when do people hide knowledge? *J. Knowl. Manag.* 17, 398–415. doi: 10.1108/JKM-12-2012-0380

Pierce, J. L., Kostova, T., and Dirks, K. T. (2001). Toward theory of psychology ownership in organizations. *Acad. Manage. Rev.* 26, 298–310. doi: 10.2307/259124

Preacher, K. J., Rucker, D. D., and Hayes, A. F. (2007). Addressing moderated mediation hypotheses: theory, methods, and prescriptions. *Multivar. Behav. Res.* 42, 185–227. doi: 10.1080/00273170701341316

Prouska, R., and Psychogios, A. (2018). Do not say a word! Conceptualizing employee silence in a long-term crisis context. *Int. J. Human Resour. Manage.* 29, 885–914. doi: 10.1080/09585192.2016.1212913

Qin, Y., Xie, Y., and Cooke, F. L. (2021). Unethical leadership and employee knowledge-hiding behavior in the Chinese context: a moderated dual-pathway model. *Asian Bus. Manag.* 17, 1–25. doi: 10.1057/s41291-021-00154-2

Rai, A., and Agarwal, U. A. (2018). Workplace bullying and employee silence: a moderated mediation model of psychological contract violation and workplace friendship. *Pers. Rev.* 47, 226–256. doi: 10.1108/PR-03-2017-0071

Roscoe, S., Skipworth, H., Aktas, E., and Habib, F. (2020). Managing supply chain uncertainty arising from geopolitical disruptions: evidence from the pharmaceutical industry and brexit. *Int. J. Oper. Prod. Manag.* 40, 1499–1529. doi: 10.1108/IJOPM-10-2019-0668

Schulte, M., Cohen, N., and Klein, K. (2012). The coevolution of network ties and perceptions of team psychological safety. *Organ. Sci.* 23, 564–581. doi: 10.1287/orsc.1100.0582

Song, Y., Tian, Q. T., and Kwan, H. K. (2021). Servant leadership and employee voice: a moderated mediation. *J. Manage. Psychol.* 37, 1–14. doi: 10.1108/JMP-02-2020-0077

Srivastava, S., Jain, A., and Sullivan, S. (2019). Employee silence and burnout in India: the mediating role of emotional intelligence. *Pers. Rev.* 48, 1045–1060. doi: 10.1108/PR-03-2018-0104

Tangirala, S., and Ramanujam, R. (2008). Employee silence on critical work issues: the cross level effects of procedural justice climate. *Pers. Psychol.* 61, 37–68. doi: 10.1111/j.1744-6570.2008.00105.x

Timming, A. R., and Johnstone, S. (2015). Employee silence and the authoritarian personality: a political psychology of workplace democracy. *Int. J. Organ. Anal.* 23, 154–171. doi: 10.1108/IJOA-06-2013-0685

Wan, M., Zhang, Y. J., and Li, M. Z. (2021). Do narcissistic employees remain silent? Examining the moderating roles of supervisor narcissism and traditionality in China. *Asian Bus. Manag.* 1, 1–25. doi: 10.1057/s41291-021-00153-3

Wang, Y. D., and Hsieh, H. H. (2013). Organizational ethical climate, perceived organizational support, and employee silence: a cross-level investigation. *Hum. Relat.* 66, 783–802. doi: 10.1177/0018726712460706

Wang, L., Wei, F., and Zhang, X. A. (2019). Why does energy-saving behavior rise and fall? A study on consumer face consciousness in the Chinese context. *J. Bus. Ethics* 160, 499–513. doi: 10.1007/s10551-018-3944-9

Wei, H. L., Shan, D. L., Wang, L., and Zhu, S. Y. (2022). Research on the mechanism of leader aggressive humor on employee silence: a conditional process model. *J. Vocat. Behav.* 135:103717. doi: 10.1016/j.jvb.2022.103717

Wheeler, A. R., Halbesleben, J., and Shanine, K. (2010). Eating their cake and everyone else's cake, too: resources as the main ingredient to workplace bullying. *Bus. Horiz.* 53, 553–560. doi: 10.1016/j.bushor.2010.06.002

Wynen, J., Kleizen, B., Verhoest, K., Laegreid, P., and Rolland, V. (2020). Just keep silent horizontal ellipsis defensive silence as a reaction to successive structural reforms. *Public Manag. Rev.* 22, 498–526. doi: 10.1080/14719037.2019.1588358

Xu, A. J., Loi, R., and Lam, L. W. (2015). The bad boss takes it all: how abusive supervision and leader–member exchange interact to influence employee silence. *Leadersh. Q.* 26, 763–774. doi: 10.1016/j.leaqua.2015.03.002

Xu, S., Yang, Z., Liu, P. Q., and Yang, F. (2022). How does mentoring affect mentees innovation behavior: the role of self-expansion and social face consciousness. *Curr. Psychol.* doi: 10.1007/s12144-022-02977-4

Xue, T. D., and Yang, W. C. (2021). The mediating effect of perceived stress and moderating effect of trust for the relationship between employee silence and behavioral outcomes. *Psychol. Rep.* 124, 1715–1737. doi: 10.1177/0033294120942914

Yan, A. M., Guo, H., Zhou, Z. Q. E., Xie, J. L., and Ma, H. (2022). How moral identity inhibits employee silence behavior: the roles of felt obligation and corporate social responsibility perception. *J. Bus. Ethics*. doi: 10.1007/s10551-022-05263-2

Yao, L., Ayub, A., Ishaq, M., Arif, S., Fatima, T., and Sohail, H. M. (2022). Workplace ostracism and employee silence in service organizations: the moderating role of negative reciprocity beliefs. *Int. J. Manpow.* 43, 1378–1404. doi: 10.1108/ijm-04-2021-0261

Zhang, X. A., Cao, Q., and Grigoriou, N. (2011). Consciousness of social face: the development and validation of a scale measuring desire to gain face versus fear of losing face. *J. Soc. Psychol.* 151, 129–149. doi: 10.1080/00224540903366669

Zhao, H. H., Zhang, H. Y., and Xu, Y. (2019). How social face consciousness influences corrupt intention: examining the effects of honesty–humility and moral disengagement. *J. Soc. Psychol.* 159, 443–458. doi: 10.1080/00224545.2018.1507992

Zheng, X., Diaz, I., Zheng, X., and Tang, N. (2017). From deep-level similarity to taking charge: the moderating role of face consciousness and managerial competency of inclusion. *Leadersh. Org. Dev. J.* 38, 89–104. doi: 10.1108/LODJ-06-2015-0134

Zhou, X., Liao, J. Q., Liu, Y., and Liao, S. (2017). Leader impression management and employee voice behavior: trust and suspicion as mediators. *Soc. Behav. Pers.* 45, 1843–1854. doi: 10.2224/sbp.6686

Zhu, Y., and Xie, B. B. (2018). The relationship between the perceived climate of team cha-xu and employee silence: research on affective commitment and traditionality. *Acta Psychol. Sin.* 50, 539–548. doi: 10.3724/SP.J.1041.2018.00539

Appendix

Appendix 1. Questionnaire items.

Construct	Measuring items
Workplace suspicion (WS) (Bobko et al., 2014)	WS1 In the process of interacting with a colleague, I become more and more suspicious.
	WS2 I was on my guard when interacting with my colleagues.
	WS3 I was not suspicious about what was being presented to me. (S, reverse scored)
	WS4 I am not suspicious of anything that happens. (S, reverse scored)
	WS5 I am suspicious of my colleagues.
Knowledge hiding (KH) (Peng, 2013)	KH1 I always withhold helpful information or knowledge from others.
	KH2 I always try to hide innovative achievements.
	KH3 I do not transform personal knowledge and experience into organizational knowledge.
Silence behavior (SB) (Tangirala and Ramanujam, 2008)	SB1 I choose to remain silent when I have concerns about the work.
	SB2 Although I have ideas for improving the work, I do not speak up.
	SB3 I say nothing to others about the problems I notice in my workgroup.
	SB4 I remain silent when I have information that might help prevent an incident in my workgroup.
	SB5 I keep quiet instead of asking questions when I want to get more information about the work.
Knowledge-based psychological ownership (KPO) (Peng, 2013)	KPO1 This is my knowledge. KPO2 I feel a very high degree of personal ownership of the knowledge. KPO3 I sense that this is my knowledge.
Face consciousness (FC) (Zhang et al., 2011)	FC1 I hope people think that I can do better than most others.
	FC2 I hope that I can talk about things that most others do not know.
	FC3 I hope that I can possess things that most others thirst for.
	FC4 It is important for me to get praise and admiration.
	FC5 I hope to let people know that I have association with some big names.
	FC6 I hope that I have a better life than most others in others' view.
	FC7 I always avoid talking about my weakness.
	FC8 I try to avoid letting others think that I am ignorant, even if I really am.
	FC9 I do my best to hide my weakness before others.
	FC10 If I work in an organization of bad reputation, I will try not to tell others about that.
	FC11 It is hard for me to acknowledge a mistake, even if I am really wrong.

Frontiers in
Psychology

Paving the way for a greater understanding of human behavior

The most cited journal in its field, exploring psychological sciences - from clinical research to cognitive science, from imaging studies to human factors, and from animal cognition to social psychology.

Discover the latest Research Topics

See more →

frontiers | Research Topics

frontiers

Frontiers in
Psychology