



OPEN ACCESS

EDITED BY
Seung-Wan Kang,
Gachon University, South Korea

REVIEWED BY
Ahmad Adeel,
The University of Chenab, Pakistan
Fan Zhiguang,
Jilin International Studies
University, China

*CORRESPONDENCE
Jeyong Jung
pancon@ulsan.ac.kr
Min-Jik Kim
mkim@koreatech.ac.kr

SPECIALTY SECTION
This article was submitted to
Occupational Health and Safety,
a section of the journal
Frontiers in Public Health

RECEIVED 05 September 2022
ACCEPTED 01 November 2022
PUBLISHED 17 February 2023

CITATION
Kim B-J, Lee J, Jung J and Kim M-J
(2023) Job insecurity during the
COVID-19 pandemic and
counterproductive work behavior: The
sequential mediation effects of job
stress and organizational identification
and the buffering role of corporate
social responsibility.
Front. Public Health 10:1037184.
doi: 10.3389/fpubh.2022.1037184

COPYRIGHT
© 2023 Kim, Lee, Jung and Kim. This is
an open-access article distributed
under the terms of the [Creative
Commons Attribution License \(CC BY\)](https://creativecommons.org/licenses/by/4.0/).
The use, distribution or reproduction
in other forums is permitted, provided
the original author(s) and the copyright
owner(s) are credited and that the
original publication in this journal is
cited, in accordance with accepted
academic practice. No use, distribution
or reproduction is permitted which
does not comply with these terms.

Job insecurity during the COVID-19 pandemic and counterproductive work behavior: The sequential mediation effects of job stress and organizational identification and the buffering role of corporate social responsibility

Byung-Jik Kim^{1,2}, Julak Lee³, Jeyong Jung^{4*} and
Min-Jik Kim^{5*}

¹College of Business, University of Ulsan, Ulsan, South Korea, ²Department Psychology, Yonsei University, Seoul, South Korea, ³Department of Industrial Security, Chung-Ang University, Seoul, South Korea, ⁴Department of Police Science, University of Ulsan, Ulsan, South Korea, ⁵School of Industrial Management, Korea University of Technology and Education, Cheonan, South Korea

Swift social and economic environmental changes such as those associated with the COVID-19 pandemic have led to decreased job security. Although numerous previous studies have examined the influence of job insecurity on employee perceptions, attitudes, and behaviors, the link between job insecurity and negative behavior and its underlying or intermedating mechanisms remain underexplored. The significance of an organization's positive behaviors, which fall under the umbrella of corporate social responsibility (CSR), also deserves more attention. To address these gaps, we examined both the mediator and the moderator in the association between job insecurity and negative employee behavior by establishing a moderated sequential mediation model. We hypothesized that the levels of employee job stress and organizational identification sequentially mediate the relationship between job insecurity and counterproductive work behavior as a representative negative behavior. We also hypothesized that CSR activities play a buffering role that moderates the influence of job insecurity on job stress. We used three-wave time-lagged data collected from 348 employees in South Korean organizations to demonstrate that job stress and organizational identification sequentially mediate the relationship between job insecurity and counterproductive work behavior, and that CSR activities function as a buffering factor that decreases the influence of job insecurity on job stress. The results of this research suggest that the levels of job stress and organizational identification (as sequential mediators) as well as CSR activities (as a moderator) are underlying mechanisms in the link between job insecurity and counterproductive work behavior.

KEYWORDS

job insecurity, counterproductive work behavior, job stress, organizational identification, CSR activities, moderated sequential mediation model

Introduction

Swift social and economic environmental changes brought about by events including the COVID-19 pandemic, the artificial intelligence (AI) revolution, and robot processing automation (RPA) can constitute great shocks, causing recession, and economic crisis. In order to effectively respond to such unexpected changes, organizations tend to implement massive restructuring and downsizing, causing their employees to experience high levels of job insecurity (1, 2). Job insecurity is defined as an employee's perception or belief about the uncertainty his or her employment (3). Previous studies reported that job insecurity crucially affects a variety of organizational outcomes by playing the role of a severe job stressor. For example, job insecurity has been known to substantially predict poor employee mental/physical health, perceptions, attitudes, and behaviors (e.g., job satisfaction, perceived organizational support, organizational commitment, organizational identification, organizational trust, employee engagement, creativity, and organizational citizenship behavior), and poor organizational-level outcomes (3–10). Although many studies of job insecurity have delved into the impacts of job insecurity on critical organizational outcomes, important research gaps remain (6, 9).

First, extant studies of the relationships between job insecurity and organizational outcomes are inconclusive (5, 6, 9, 11). For instance, meta-analyses showed that an unstable job substantially decreases the quality of individual-level outcomes (5). The harmful effects originate in the finding that job instability is likely to play a role-boosting factor that drastically increases employee stress and negative emotions (4, 8, 9, 11). In contrast, other studies have revealed that job instability tends to enhance the quality of employee outcomes or performance in an organization. This interesting phenomenon is based on the efforts of employees in response to job insecurity to preserve their job in the organization (10). Furthermore, research on job insecurity has shown that an unstable job is not related to employee outcomes (10, 12). These inconclusive results originate in the lack of studies on the intermediating or underlying mechanisms (i.e., mediators and moderators) of this link (9). Thus, work on the intermediating processes is critical.

Second, previous studies paid relatively less attention to employees' "negative behaviors" such as deviant or counterproductive work behavior (6, 9, 11). The extant research has mainly focused on employees' "positive" perceptions, attitudes, and behaviors such as job satisfaction, organizational commitment, organizational identification, organizational trust, voice/safety behavior, and organizational citizenship behavior (3–11). We acknowledge that positive perceptions, attitudes, and behaviors are crucial factors to determine organizational survival by significantly affecting organizational performance. However, considering that organizational life includes both positive and negative sides and that positive and negative aspects

pertinent to an employee's behaviors tend to possess different psychological mechanisms, understanding the influence of job insecurity on negative behaviors is important (6, 9, 13).

Third, extant studies of job insecurity have ignored the significance of organizational positive and benevolent behaviors toward society such as corporate social responsibility (CSR) activities (6, 9, 11). Although some studies have revealed a variety of contextual variables that moderates the influences of an unstable job on organizational outcomes at the macro-economic level (e.g., labor market condition, social safety network), organizational-level (e.g., previous financial performance, productivity, and quality of organizational communication), and individual-level (e.g., employee self-efficacy, proactive coping, and job involvement), those studies did not focus on the organization's "goodness," which is one of the most essential values in human society (6, 9). Considering that kindness and goodness (e.g., benevolent activities for society) are likely to have healing effects for human beings, it is important to investigate their moderating role.

To deal with these research gaps, we investigate the mechanisms intermediating between employee job insecurity and counterproductive work behavior (CWB) as a negative behavior in an organization. CWB can be defined as intentional action by an employee that directly/indirectly harms coworkers, customers, and the organization itself (14, 15). Employee job insecurity is a critical antecedent of CWB (16, 17). An employee who feels a sense of job insecurity tends to experience serious job stress (18, 19). Such stress may motivate employees to take revenge upon the organization by engaging in CWB (15).

In specific, we suggest that employee job stress and organizational identification sequentially mediate the association between job insecurity and CWB. Moreover, corporate social responsibility (CSR) may play a buffering role in the job insecurity-job stress link by moderating this relationship.

Job insecurity would increase employee job stress. Job stress refers to negative psychological states or negative responses toward various stimuli (i.e., job stressors) such as anxiety, anger, and depression (20). Extant research demonstrated that employee job insecurity functions as one of the most serious and critical job stressors and drastically increases levels of stress at work (6, 9, 11, 18). Based on social exchange theory (21), we suggest that employee job stress is likely to decrease organizational identification (22–24). Such identification is the degree to which an employee considers himself or herself to be one with his or her organization, functioning as a "root construct" in an organization to facilitate the quality of critical organizational outcomes (23, 24).

We propose that an employee's organizational identification is negatively associated with the level of his or her CWBs. According to social identity theory (23–25), an employee with a low level of organizational identification due to high job stress is not likely to believe that the success of his or her

organization is directly related to his or her own self-concept. Thus, the employee may not facilitate behaviors to contribute to the achievement of the organization's success or to stop engaging in behaviors that detract from this goal. Eventually, he or she fails to reduce actions harmful to the organization such as CWB or even increases such negative behaviors (26–28).

We use the context–attitude–behavior perspective to integrate the relationships among job insecurity, job stress, organizational identification, and counterproductive work behavior (29) by applying it to our sequential mediation model. This perspective proposes that a variety of social and contextual factors such as rules, systems, cultures, and climates exist in an organization and plays critical roles in building employee attitudes, eventually influencing employee behaviors. Job insecurity is a crucial social context that affects employee attitudes such as job stress and organizational identification. These attitudes are likely to lead to behavior such as CWB. Relying on these arguments, in this research we propose that employee job stress and organizational identification sequentially mediate the relationship between job insecurity and CWB.

Furthermore, we suggest that CSR functions as an important moderating factor that buffers the negative influence of job insecurity on job stress. As mentioned above, our argument that employee job insecurity increases job stress may be reasonable, but the influence of job insecurity on job stress may not apply to all situations or contexts in the same way since a variety of contextual/moderating factors directly/indirectly affects the job insecurity–job stress link in real organizations. Among many potential moderators, we propose that CSR, an organizational-level benevolent activity, plays a critical moderating role by buffering the negative impact of job insecurity on job stress. CSR describes an organization's moral efforts to facilitate the welfare of many stakeholders, including shareholders, employees, customers, suppliers, the government, and the environment itself (13, 30–33).

For example, when a firm proactively implements CSR, even if an employee of the firm feels a sense of job insecurity, the negative influence of the unstable job is likely to be decreased because the employee is more likely to perceive that his or her organization is respectable or reputable. Then, the employee may feel a sense of escalated social self (23–25), eventually enhancing their pride, identification, and commitment toward his or her organization (13, 30). These positive psychological states may function as a buffering factor by reducing the negative impacts of job insecurity. In other words, the positive psychological states that originate in CSR are likely to offset the negative influence of an unstable job. In contrast, when a firm passively or rarely implements CSR, an employee who is suffering from negative feelings such as anxiety, fear, or stress from job insecurity may not have an opportunity to enhance his or her social self, pride, and positive perceptions toward his or her organization. As a result, the negative influence of

job insecurity may not be resolved and could even be amplified (13, 26, 30, 33)].

Based on those findings, we attempt to analyze the influence of job insecurity on CWB through the sequential mediating effects of job stress and organizational identification. Moreover, we also propose that CSR practices play a contingent role that moderates the association between job insecurity and job stress (please see Figure 1). To empirically test our hypotheses, we built a moderated sequential mediation model with structural equation modeling (SEM) using three wave time lagged data from 348 Korean workers. We expect that this research will contribute to the literature on job insecurity and CWB as follows. First, we elucidated the inconclusive relationship between job insecurity and organizational outcomes by investigating intermediating mechanisms (i.e., mediators and moderators). Second, we found that CSR activities, as organizational-level positive and benevolent actions, play a contextual role that moderates the job insecurity–job stress link. Third, we delved into the influence of job insecurity on negative employee behaviors such as counterproductive work behavior, rather than positive perceptions or attitudes. Last, from a methodological perspective, we tried to complement the limitations of cross-sectional data by applying a longitudinal approach (i.e., 3-wave time-lagged research design).

Hypothesis 1: An employee's job insecurity may increase his or her CWB.

Hypothesis 2: An employee's job insecurity may increase his or her job stress.

Hypothesis 3: An employee's job stress may decrease his or her organizational identification.

Hypothesis 4: An employee's organizational identification may decrease his or her CWB.

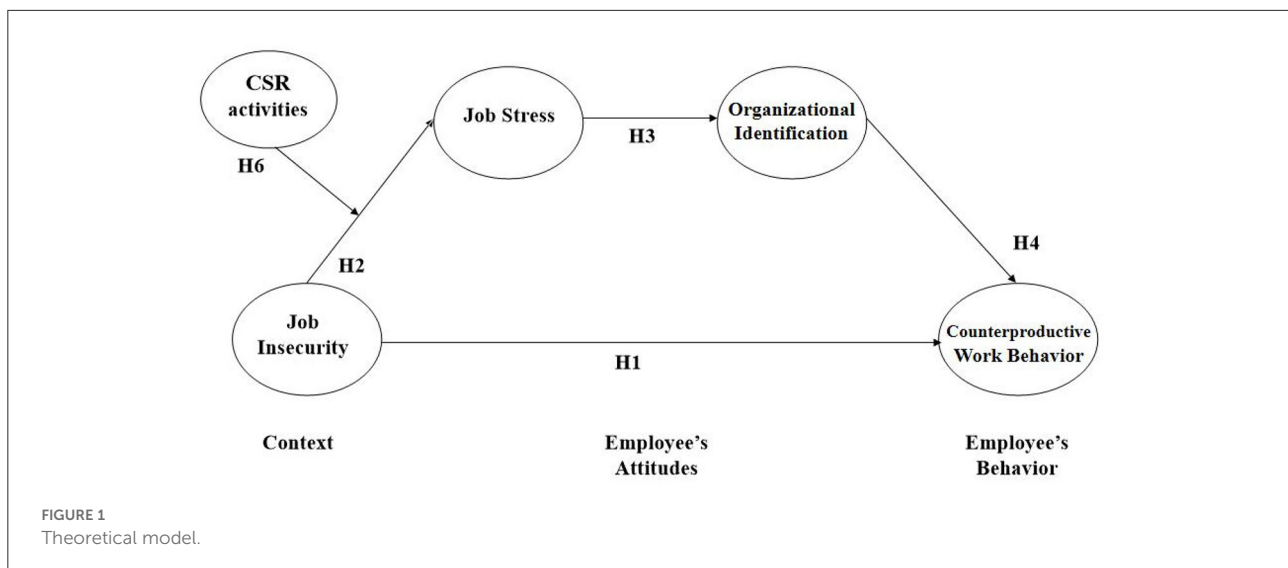
Hypothesis 5: Employee's job stress and organizational identification sequentially mediate the relationship between job insecurity and CWB.

Hypothesis 6: CSR moderates the relationship between job insecurity and job stress.

Methods

Participants and procedures

We surveyed current employees of organizations in South Korea over 19 years of age across three time points. They were recruited through an online survey company offering the largest population of research panelists in Korea, ~3,460,000 potential respondents. The participants reported their occupation status when they registered for online membership *via* a user authentication system (e.g., cellular phone number or email address). Such online survey systems have been shown to be reliable (34).



By collecting data for three time periods, we address the fundamental issue embedded in cross-sectional research design. The online system allowed us to track who responded to our survey, confirming lack of difference in participants from time point 1 to time point 3. The interval between surveys was 4 or 5 weeks. Our survey system was open for 2 or 3 days each at each time point to provide enough time for participants to respond. When the system was open, participants could access it at any time. The company monitored the integrity of data using traps for geo-IP violators and timestamps to flag efficient response. These safeguards restricted participants from logging into the survey site and filling out multiple surveys.

Experts in the research firm directly contacted participants to ask for permission to include them in our survey, assuring them that their participation was voluntary and their responses would remain confidential and only be used for research purposes. The company obtained both informed consent and agreement for compliance with ethical requirements from participants. The company provided the participants with rewards for their participation in the form of cash (US \$8). This research was approved by the institutional review board (IRB) of one of the participating universities in South Korea.

The research company randomly chose participants through stratified sampling to decrease the possibility of sampling bias. Stratified random sampling reduces bias due to employee characteristics that may influence the results of research (e.g., gender, age, position, education, and industry type). Using online survey tools, we were able to verify the lack of difference in respondents from time point one to time point three.

At time point 1, 512 employees participated in our survey; at time point 2, 421 workers participated in the second survey; and at time point 3, 357 employees responded to the third survey. To determine the sample size, we consulted previous research. First,

we calculated the minimum sample size using G*Power version 3.1.9.7. A power analysis using this program demonstrated that a sample size of 348 provided sufficient power (≥ 0.80) to detect a medium effect with an alpha level of $p = 0.05$ (35). In addition, Barclay et al. (36) suggested that one observable variable must be analyzed in at least 10 cases (i.e., the rule of 10) with SEM. Because this study includes 22 observable variables, our 348 cases (response rate: 67.97%) comprise an adequate sample. The time intervals among the time points were ~5 or 6 weeks. We deleted missing data from the raw material after 6 weeks. The characteristics of the sample are described in Table 1.

Measures

The survey measured distinct variables in our research model at each time point. At time point 1, the respondents were asked about job insecurity and CSR activities. At time point 2, we measured degrees of job stress and organizational identification. At time point 3, we collected data about participants' CWB. These variables were assessed through multi-item scales on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). We computed the internal consistency of each variable using Cronbach's alpha.

Job insecurity (time point 1, collected from employees)

We used four items for the job insecurity scale (37). Sample items were "If my current organization were facing economic problems, my job would be the first to go," "I will not be able

TABLE 1 Descriptive characteristics of the study sample.

Characteristic	Percent
Gender	
Male	50.0%
Female	50.0%
Age (years)	
20–29	14.7%
30–39	35.3%
40–49	33.9%
50–59	16.1%
Education	
Less than high school	8.6%
Community college	19.3%
Bachelor's degree	59.8%
Master's degree or higher	12.4%
Occupation	
Office worker	71.3%
Professional (Practitioner)	7.2%
Public official	6.0%
Manufacturing	5.7%
Sales and marketing	4.3%
Administrative	4.0%
Education	0.3%
Others	1.2%
Position	
Staff	25.0%
Assistant manager	21.6%
Manager or deputy general manager	31.9%
Department/general manager or director and above	21.5%
Tenure (years)	
<5	46.8%
5–10	27.1%
11–15	12.9%
16–20	7.5%
21–25	2.3%
More than 26	2.9%
Industry type	
Manufacturing	24.4%
Services	18.6%
Construction	11.9%
Health and welfare	10.2%
Information services and telecommunications	8.7%
Education	8.4%
Financial/insurance	4.1%
Consulting and advertising	1.2%
Others	12.5%

to keep my present job as long as I wish,” and “My job is not a secure one.” The Cronbach's alpha value was 0.90.

CSR (time point 1, collected from employees)

The CSR was measured using 12 items from the CSR scale suggested by Farooq et al. (38), which originated in Turker's CSR measure (39). The scale we utilized in this study consists of four dimensions for measuring CSR activities: (1) environment, (2) community, (3) employee, and (4) customer. Each of the four domains includes three items and indicates the corresponding stakeholders in the organization's social responsibility. For the environment domain, a sample item is “our organization participates in activities that aim to protect and improve the quality of the natural environment.” For the community domain, a sample item is “our organization contributes to campaigns and projects that promote the wellbeing of society.” For the employee domain, a sample item is “our organization supports employee growth and development.” For the customer domain, a sample item is “our organization respects consumer rights beyond legal requirements.” All items were previously used in empirical studies conducted in South Korean contexts [e.g., (7, 40)]. The Cronbach's alpha value was 0.91.

Job stress (time point 2, collected from employees)

To measure levels of employee job stress, we used four items of a job stress scale adapted from previous work (7, 41). Sample items were “At work, I felt stressed during the last 30 days,” “At work, I felt anxious during the last 30 days,” and “At work, I felt frustrated during the last 30 days.” The Cronbach's alpha value was 0.89.

Organizational identification (time point 2, collected from employees)

To measure the degree of employee organizational identification, we utilized five items from Mael and Ashforth (42). Some sample items are “When someone criticizes my organization, it feels like a personal insult” and “My organization's successes are my successes.” The Cronbach's alpha value was 0.84.

Counterproductive work behavior (time point 3, collected from employee supervisors)

The degree of CWB was measured through five items of the CWB scale by Fox et al. (14). The employees' immediate supervisor evaluated the level of employee CWB. A sample is

“This employee purposely worked slowly when things needed to get done.” The Cronbach’s alpha value was 0.91.

Control variables

Based on previous research (43), the dependent variable, CWB, was impacted by factors such as tenure, gender, position, and education of an employee. The control variables were collected at time point 2.

Statistical analysis

First, frequency analysis was performed to assess the participants’ demographic features. We conducted Pearson correlation analysis in SPSS 26 to compute the relationships among our research variables. Then, following Anderson and Gerbing (44), we used a two-step approach that consists of (1) measurement and (2) application of the structural model. To test the validity of the measurement model, we performed confirmatory factor analysis (CFA). Next, based on SEM, a moderated mediation model with the maximum likelihood (ML) estimator was used with the AMOS 23 program to test the structural model.

To test whether various model fit indexes were acceptable, we utilized a variety of goodness-of-fit indices including the comparative fit index (CFI), the Tucker–Lewis index (TLI), and the root mean square error of approximation (RMSEA). Previous research reported that CFI and TLI values >0.90 and RMSEA values <0.06 are appropriate (45). A bootstrapping analysis was implemented to test whether the indirect effect was significant (46) and whether our mediation hypothesis was supported with a 95% bias-corrected confidence interval (CI). If the CI does not include zero (0), this indicates

that the indirect effect is statistically significant at the 0.05 level (46).

Results

Descriptive statistics

Our research variables, including job insecurity, CSR, job stress organizational identification, and CWB, were significantly related. The correlation analysis results are shown in Table 2.

Measurement model

To test the discriminant validity of the main research variables (job insecurity, CSR, job stress, organizational identification, and CWB), we performed a CFA for all items by assessing the measurement model’s goodness-of-fit. To be specific, we compared our hypothesized model, a 5-factor model (job insecurity, CSR, job stress, organizational identification, and CWB), to other alternative models with fewer factors using a series of chi-square difference tests.

First, the hypothesized 5-factor model had a good and acceptable fit [χ^2 (df = 94) = 186.013; CFI = 0.970; TLI = 0.962; RMSEA = 0.053]. Then, we conducted a series of chi-square difference tests by comparing the 5-factor model to a 4-factor model [χ^2 (df = 98) = 732.341; CFI = 0.795; TLI = 0.749; RMSEA = 0.137], a 3-factor model [χ^2 (df = 101) = 1,326.855; CFI = 0.604; TLI = 0.529; RMSEA = 0.187], a 2-factor model [χ^2 (df = 103) = 1,811.057; CFI = 0.448; TLI = 0.356; RMSEA = 0.219], and a 1-factor model [χ^2 (df = 104) = 2,372.264; CFI = 0.266; TLI = 0.154; RMSEA = 0.251]. The 5-factor model was better than all others, indicating that the five variables have an appropriate degree of discriminant validity.

TABLE 2 Correlations among research variables.

	Mean	S.D.	1	2	3	4	5	6	7	8
1. Gender_T2	1.50	0.50	–							
2. Education_T2	2.76	0.78	–0.14**	–						
3. Tenure_T2	7.42	7.18	–0.25**	0.02	–					
4. Position_T2	2.90	1.61	–0.43**	0.21**	0.28**	–				
5. Job insecurity_T1	2.78	0.82	–0.11**	–0.06	–0.003	0.11*	–			
6. CSR_T1	3.19	0.68	–0.17**	0.13*	0.18**	0.16**	–0.13*	–		
7. Job Stress_T2	2.93	0.76	–0.001	–0.09	0.22	–0.06	0.25**	–0.11*	–	
8. OI_T2	3.42	0.71	–0.17**	0.92	0.14*	0.20**	–0.08	0.41**	–0.18**	–
9. CWB_T3	2.31	0.77	–0.10	–0.93	0.70	–0.07	0.18**	–0.08	0.26**	–0.19**

*p < 0.05. **p < 0.01. S.D., deviation; CSR, corporate social responsibility; OI, organizational identification; CWB, counterproductive work behavior.

TABLE 3 Results of the structural model.

Hypothesis	Path (Relationship)	Estimate	S.E.	Standardized estimate	Supported
1	Job insecurity → CWB	0.142	0.049	0.167**	Yes
2	Job insecurity → Job stress	0.208	0.049	0.241***	Yes
3	Job stress → OI	-0.154	0.052	-0.178**	Yes
4	OI → CWB	-0.251	0.067	-0.220***	Yes
6	Job insecurity × CSR	-0.209	0.063	-0.181***	Yes

** $p < 0.01$. *** $p < 0.05$. Estimate indicates standardized coefficients. SE, standard error.

Structural model

The current study includes a moderated sequential mediation model of the job insecurity-CWB link. In the sequential mediation structure, the job insecurity-CWB link is sequentially mediated by degree of employee job stress and organizational identification. In the moderation structure, CSR activities function as a buffering factor that moderates the impact of job insecurity on job stress.

Next, in the moderation structure, we multiplied the two variables (i.e., job insecurity and CSR) to form an interaction term. Before multiplication, the two variables were centered on their respective means to increase the validity of the moderation analysis by diminishing the degree of multi-collinearity between variables and minimizing the loss of correlations (47).

To test the impact of multicollinearity bias, we measured the values of variance inflation factors (VIF) and tolerances (47). The VIF values for job insecurity and CSR were 1.02 and 1.02, respectively. The values of tolerance were 0.98 and 0.98, respectively. The finding of VIF values smaller than 10 with tolerance values above 0.2 indicates that job insecurity and CSR are relatively free from the multi-collinearity issue.

Results of mediation analysis

To determine the best mediation model, we compared a full mediation model to a partial mediation model using a chi-square difference test. The full mediation model is identical to the partial mediation model except that it includes a direct path from job insecurity to counterproductive work behavior. The fit indices of both the full mediation model [$\chi^2 = 259.476$ (df = 118), CFI = 0.949, TLI = 0.933, and RMSEA = 0.059] and the partial mediation model [$\chi^2 = 251.185$ (df = 117), CFI = 0.951, TLI = 0.936, and RMSEA = 0.057] were acceptable. However, the chi-square difference test between the models [$\Delta\chi^2_{(1)} = 8.291$, $p < 0.01$] demonstrated that the partial mediation model was superior and indicates that job insecurity influences CWB indirectly rather than directly.

Control variables, such as tenure, education, and position, were included in the research model of the dependent variable,

CWB. Only position ($\beta = -0.12$, $p < 0.05$) and gender ($\beta = -0.12$, $p < 0.05$) were statistically significant. By including the control variables, our research model showed that job insecurity is significantly and positively associated with CWB ($\beta = 0.17$, $p < 0.01$), supporting Hypothesis 1; that job insecurity is significantly and positively associated with job stress ($\beta = 0.24$, $p < 0.001$), supporting Hypothesis 2; that job stress is significantly and negatively associated with organizational identification ($\beta = -0.18$, $p < 0.01$), supporting Hypothesis 3; and that organizational identification is significantly and negatively related to CWB ($\beta = -0.22$, $p < 0.001$), supporting Hypothesis 4 (Table 3, Figure 2).

Bootstrapping

To test the sequential mediation effects of job stress and organizational identification in the job insecurity-CWB link (Hypothesis 4), we conducted a bootstrapping analysis with a sample of 10,000 (46). The indirect mediation effect would be significant at a 5% level if the 95% bias-corrected confidence interval (CI) for the effect of mean indirect mediation excludes 0 (46).

The bias-corrected CI for the mean indirect effect did not include 0 [95% CI = (0.002, 0.025)]. This means that the indirect sequential mediation effects of job stress and organizational identification were statistically significant, supporting Hypothesis 5. The direct, indirect, and total effects of the paths from job insecurity to CWB are shown in Table 4.

Moderation analysis

We tested the moderation effect of CSR activities on the relationship between job insecurity and job stress through a mean-centering process using an interaction term. The coefficient of the interaction term ($\beta = -0.18$, $p < 0.001$) was statistically significant. This means that CSR activities moderate the relationship between job insecurity and job stress by playing a buffering role. When the level of CSR is high, the impact of

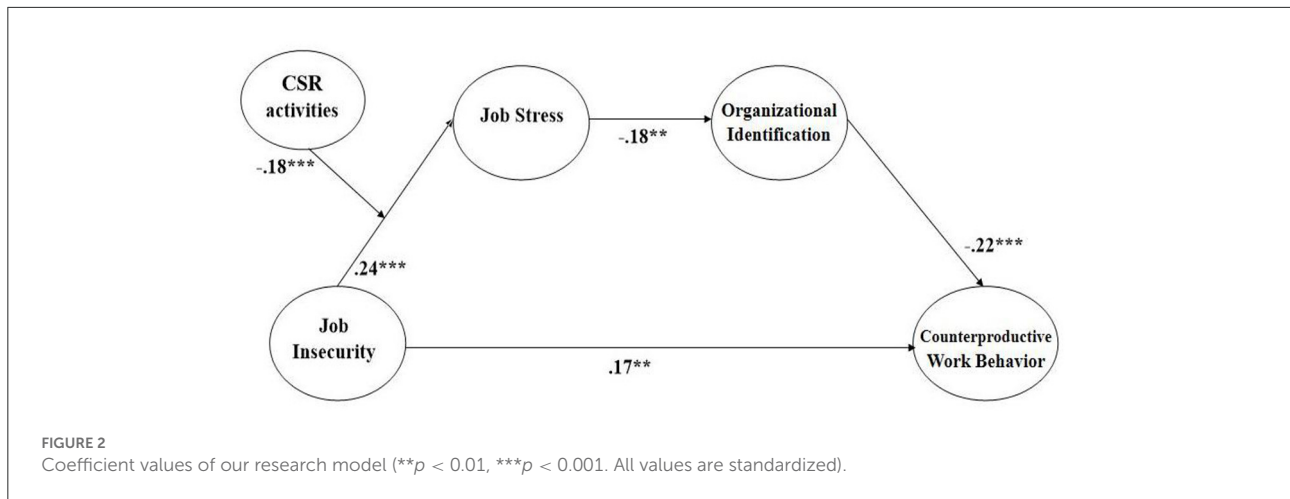
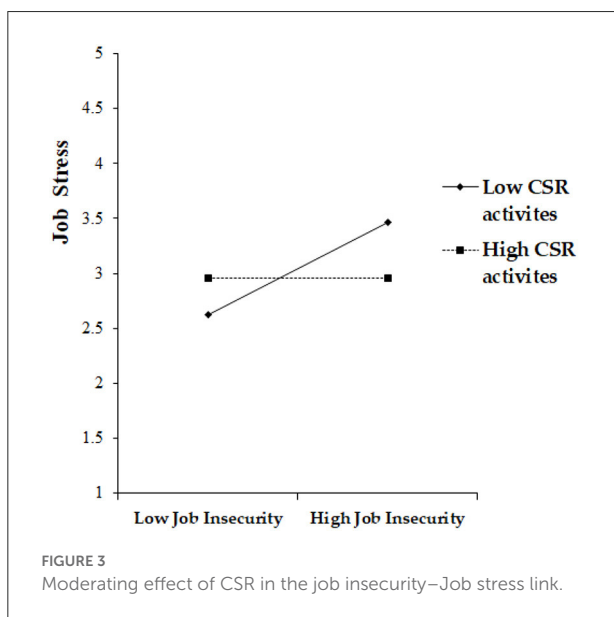


TABLE 4 Direct, indirect, and total effects of the final research model.

Model (Hypothesis 5)	Direct effect	Indirect effect	Total effect
Job insecurity → Job stress → OI → CWB	0.166	0.100	0.176

All values are standardized.



job insecurity on job stress is decreased, supporting Hypothesis 6 (please see Figure 3).

Discussion

Using 3-wave time-lagged data obtained for 348 employees in South Korea, we demonstrated that employee job stress and organizational identification function as sequential mediators in

the job insecurity-CWB link. Moreover, we determined that CSR plays a buffering role that reduces the negative impact of job insecurity on job stress. In the following sections, we describe the theoretical/practical implications and limitations of this paper and suggest ideas for future research.

Theoretical implications

We expect that the current research can contribute to the job insecurity literature from the theoretical point of view. First, to address the issue of inclusive results between job insecurity and organizational outcomes, we investigated the intermedating processes (i.e., mediators and moderators) (9). To be specific, based on the context–attitude–behavior perspective (29), we delved into the sequential mediating effect of employee job stress and organizational identification in the job insecurity-CWB link. Furthermore, we examined whether CSR activity functions as a buffering factor in the association between job insecurity and job stress.

In line with previous hypotheses and empirical studies, our results showed that employee job insecurity plays a role as a job stressor that substantially increases job stress (18). We found that employee job insecurity negatively influences work behavior. The degree of employee organizational identification is negatively related to his or her CWB (23–25). The overall mediating structure in the link was statistically validated. In addition, we identified CSR activities as a buffering factor explaining the job insecurity-job stress link. In summary,

we believe that this research can contribute to the job insecurity literature by bolstering existing studies that showed the detrimental impacts of job insecurity.

Second, we demonstrated that an organization's good and benevolent behavior to benefit society (i.e., CSR activity) functions as a critical contingent variable that moderates the job insecurity-job stress link. From the perspective of an employee, when the organization to which he or she belongs is perceived as reputable and respectable by proactively fulfilling responsibilities for its society, the employee is likely to feel a sense of escalated social self, enhanced pride, and positive perceptions toward the organization. These positive psychological states then directly/indirectly reduce the negative influences of job insecurity. In other words, the positive perceptions or emotions that originate in CSR offset the negative impacts of an unstable job. These results show the importance of organizational-level benevolent activities, which can be measured as level of CSR activities, as well as the necessity of good deeds in dealing with the negative impacts of job insecurity in an organization.

Third, we investigated the influence of job insecurity on employee CWB, as one of the critical 'negative behaviors' in an organization. Although many scholars have described the impact of job insecurity in organizations, previous studies have tended to focus on employees' positive perceptions, attitudes, and behaviors (e.g., organizational identification, employee engagement, job satisfaction, voice/safety behavior, organizational citizenship behavior, and innovative behavior), paying relatively less attention to negative behavior, such as CWB. Given that organizational life includes both positive and negative perspectives, but also that employees' positive and negative behaviors originate in different psychological mechanisms, our attempt to examine the impact of job insecurity on CWB contributes to the job insecurity literature (9, 13).

Practical implications

This research may provide some practical contributions for top management teams who want not only to understand the impacts of job insecurity on employee behaviors, but also to decrease the negative impacts. First, based on the empirical results of our research, we expect that top management teams could better understand the seriously harmful effects of job insecurity on employee behaviors. We empirically showed that job insecurity substantially increases negative behavior (i.e., CWB), which is closely related to organizational outcomes. Considering that an employee's behaviors tend to be directly associated with organizational performance, the degree of employee job insecurity could critically deteriorate an organization's competitive advantage and sustainability. The current study suggests that top management teams should

understand and carefully resolve these important issues based on a variety of rules, incentives, practices, and systems.

Second, the current study also provides direction for top management teams to diminish the negative influence of job insecurity in an organization. We suggest that leaders understand and adequately use the buffering effect of CSR to decrease the harmful results of job insecurity. Top management teams should not only actively implement CSR activities, but also effectively inform the employees of the organization's benevolent actions to aid society. Top management teams should consider the CSR activities as an effective investment instead of a reluctant moral duty. The good and benevolent behaviors of an organization (i.e., CSR) may significantly reduce the negative impacts of job insecurity.

Third, we provide useful indicators or criteria for top management teams who want to monitor and assess the harmful impacts of job insecurity as well as the effectiveness of various buffering factors (e.g., a variety of human resource management systems and practices for reducing the harmful effects of job insecurity). The results of this study demonstrate that degree job stress and organizational identification function as sequential mediators in the job insecurity-counterproductive work behavior link. This means that job stress and organizational identification are important criteria to understand and evaluate how job insecurity influences negative employee behavior. In addition, as aforementioned, the buffering effects of CSR activities can be measured or estimated by assessing change in job stress and organizational identification. In other words, when job stress and organizational identification are not changed after actively implementing CSR activities, this indicates that positive impacts of CSR may not be realized. In sum, we suggest that top management teams monitor the levels of sequential mediators to assess the impacts of both job insecurity and its buffering factors in an organization.

Limitations and suggestions for future research

Although we believe our research meaningfully contributes to the job insecurity and CWB literature, there are some limitations. First, we could not measure the degrees of job insecurity and CSR activities in an objective manner because we utilized only self-reported survey data that is likely to be subjective. Although we acknowledge that objective phenomena such as amount of CSR investment and downsizing rate are not likely to directly affect employee perceptions, attitudes, and behaviors, the objective measures are likely to be unconsciously reflected in his or her reactions. Therefore, we suggest that future research utilize both subjective and objective measures and compare the differential influences. Second, we did not

adequately consider external factors that significantly influence the degree of job insecurity. A variety of objective variables surrounds an employee's perception of his or her job insecurity including downsizing rates, quality or features of HRM systems, and characteristics of the social security system at the national level (7). Thus, we suggest that further research should control for such objective variables.

Third, although the fundamental values that CSR pursues should be universal in Western and Eastern contexts (48, 49), cultural differences are likely to exist affecting employee perceptions toward CSR activities. As South Korea has experienced rapid economic growth, there is a possibility that employees of South Korean firms may react differently to moral activities compared to employees of Western organizations (48). Therefore, the results of the current research should be carefully interpreted.

Conclusion

Relying on a context–attitude–behavior perspective, we assessed the influence of job insecurity on CWB. Our results demonstrated that job insecurity increases employee CWB *via* the sequential mediating roles of job stress and organizational identification. CSR functions as a positive moderator in the job insecurity–job stress link. These results indicate that the degrees of employee job stress and organizational identification are intermediating processes translating job insecurity into negative behavior. Moreover, CSR activities diminish the negative impact of job insecurity in an organization. Although this research has limitations, the current study can positively contribute to the job insecurity literature.

Data availability statement

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

References

1. Lam CF, Liang J, Ashford SJ, Lee C. Job insecurity and organizational citizenship behavior: exploring curvilinear and moderated relationships. *J Appl Psychol.* (2015) 100:499. doi: 10.1037/a0038659
2. Lin XS, Chen ZX, Ashford SJ, Lee C, Qian J. A self-consistency motivation analysis of employee reactions to job insecurity: the roles of organization-based self-esteem and proactive personality. *J Bus Res.* (2018) 92:168–78. doi: 10.1016/j.jbusres.2018.07.028
3. Lee C, Huang GH, Ashford SJ. Job insecurity and the changing workplace: recent developments and the future trends in job insecurity research. *Annu Rev Organ Psychol Organ Behav.* (2018) 5:335–59. doi: 10.1146/annurev-orgpsych-032117-104651

Ethics statement

The studies involving human/animal participants were reviewed and approved by Macromill Embrain Group of Ethics Committee.

Author contributions

B-JK contributed by writing the original draft of the manuscript and in the conceptualization, data collection, formal analysis, and methodology. JJ, JL, and M-JK contributed in the conceptualization, analysis, revision, and editing the manuscript. All authors have read and agreed to the published version of the manuscript.

Funding

This work was supported by the Korea Institute for Advancement of Technology (KIAT) grant funded by the Korea Government (MOTIE) (P0008703, The Competency Development Program for Industry Specialist).

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.

4. De Witte H, Pienaar J, De Cuyper N. Review of 30 years of longitudinal studies on the association between job insecurity and health and well-being: is there causal evidence? *Aust Psychol.* (2016) 51:18–31. doi: 10.1111/ap.12176
5. Gilboa S, Shirom A, Fried Y, Cooper C. A meta-analysis of work demand stressors and job performance: examining main and moderating effects. *Pers Psychol.* (2008) 61:227–71. doi: 10.1111/j.1744-6570.2008.00113.x
6. Jiang L, Lavaysse LM. Cognitive and affective job insecurity: a meta-analysis and a primary study. *J Manage.* (2018) 44:2307–42. doi: 10.1177/0149206318773853

7. Kim MJ, Kim BJ. The performance implication of corporate social responsibility: the moderating role of employee's prosocial motivation. *Int J Environ Res Public Health*. (2021) 18:3128. doi: 10.3390/ijerph18063128
8. Richter A, Näswall K. Job insecurity and trust: uncovering a mechanism linking job insecurity to well-being. *Work Stress*. (2019) 33:22–40. doi: 10.1080/02678373.2018.1461709
9. Shoss MK. Job insecurity: an integrative review and agenda for future research. *J Manage*. (2017) 43:1911–39. doi: 10.1177/0149206317691574
10. Staufienbiel T, König CJ. A model for the effects of job insecurity on performance, turnover intention, and absenteeism. *J Occup Organ Psychol*. (2010) 83:101–17. doi: 10.1348/096317908X401912
11. Sverke M, Låstad L, Hellgren J, Richter A, Näswall K. A meta-analysis of job insecurity and employee performance: testing temporal aspects, rating source, welfare regime, and union density as moderators. *Int J Environ Res Public Health*. (2019) 16:2536. doi: 10.3390/ijerph16142536
12. Loi R, Ngo H, Zhang L, Lau VP. The interaction between leader-member exchange and perceived job security in predicting employee altruism and work performance. *J Occup Organ Psychol*. (2011) 84:669–85. doi: 10.1348/096317910X510468
13. Gond JP, El Akremi A, Swaen V, Babu N. The psychological microfoundations of corporate social responsibility: a person-centric systematic review. *J Organ Behav*. (2017) 38:225–46. doi: 10.1002/job.2170
14. Fox S, Spector PE, Goh A, Bruursema K, Kessler SR. The deviant citizen: measuring potential positive relations between counterproductive work behaviour and organizational citizenship behaviour. *J Occup Organ Psychol*. (2012) 85:199–220. doi: 10.1111/j.2044-8325.2011.02032.x
15. Fox S, Spector PE, Miles D. Counterproductive work behavior (CWB) in response to job stressors and organizational justice: some mediator and moderator tests for autonomy and emotions. *J Vocat Behav*. (2001) 59:291–309. doi: 10.1006/jvbe.2001.1803
16. Van den Broeck A, Sulea C, Vander Elst T, Fischmann G, Iliescu D, De Witte H. The mediating role of psychological needs in the relation between qualitative job insecurity and counterproductive work behavior. *Car Dev Int*. (2014) 19:526–47. doi: 10.1108/CDI-05-2013-0063
17. Yiwen F, Hahn J. Job insecurity in the COVID-19 pandemic on counterproductive work behavior of millennials: a time-lagged mediated and moderated model. *Int J Environ Res Public Health*. (2021) 18:8354. doi: 10.3390/ijerph18168354
18. Cheng Y, Chen CW, Chen CJ, Chiang T. Job insecurity and its association with health among employees in the Taiwanese general population. *Soc Sci Med*. (2005) 61:41–52. doi: 10.1016/j.socscimed.2004.11.039
19. Gillespie NA, Walsh MHWA, Winefield AH, Dua J, Stough C. Occupational stress in universities: staff perceptions of the causes, consequences and moderators of stress. *Work Stress*. (2001) 15:53–72. doi: 10.1080/02678370117944
20. Spector PE, Chen PY, O'Connell BJ. A longitudinal study of relations between job stressors and job strains while controlling for prior negative affectivity and strains. *J Appl Psychol*. (2000) 85:211. doi: 10.1037/0021-9010.85.2.211
21. Whitener EM, Brodt SE, Korsgaard MA, Werner JM. Managers as initiators of trust: an exchange relationship framework for understanding managerial trustworthy behavior. *Acad Manage Rev*. (1998) 23:513–30. doi: 10.2307/259292
22. Abdelmoteleb SA. A new look at the relationship between job stress and organizational commitment: a three-wave longitudinal study. *J Bus Psychol*. (2019) 34:321–36. doi: 10.1007/s10869-018-9543-z
23. Ashforth BE, Mael F. Social identity theory and the organization. *Acad Manage Rev*. (1989) 14:20–39. doi: 10.2307/258189
24. Dutton JE, Dukerich JM, Harquail CV. Organizational images and member identification. *Admin Sci Q*. (1994) 39:239–63. doi: 10.2307/2393235
25. Al-Atwi AA, Bakir A. Relationships between status judgments, identification, counterproductive behavior. *J Manag Psychol*. (2014) 29:472–89. doi: 10.1108/JMP-02-2012-0040
26. Jeong JG, Kang SW, Choi SB. A multilevel study of the relationship between CSR promotion climate and happiness at work via organizational identification: moderation effect of leader-followers value congruence. *Int J Environ Res Public Health*. (2022) 19:6637. doi: 10.3390/ijerph19116637
27. Kim BJ, Choi SY. "Does a good company reduce the unhealthy behavior of its members?": the mediating effect of organizational identification and the moderating effect of moral identity. *Int J Environ Res Public Health*. (2021) 18:6969. doi: 10.3390/ijerph18136969
28. Kim BJ, Jung SY, Jung J. "Does a good firm diminish the bad behavior of its employees?": the sequential mediation effect of organizational trust and organizational commitment, and the moderation effect of work overload. *Int J Environ Res Public Health*. (2022) 19:6666. doi: 10.3390/ijerph19116666
29. Mulki JP, Jaramillo JF, Locander WB. Critical role of leadership on ethical climate and salesperson behaviors. *J Bus Ethics*. (2009) 86:125–41. doi: 10.1007/s10551-008-9839-4
30. Aguinis H, Glavas A. What we know and don't know about corporate social responsibility: a review and research agenda. *J Manage*. (2012) 38:932–68. doi: 10.1177/0149206311436079
31. Carroll AB. Corporate social responsibility: evolution of a definitional construct. *Bus Soc*. (1999) 38:268–95. doi: 10.1177/000765039903800303
32. Jeong JG, Kang SW, Choi SB. Employees' weekend activities and psychological well-being via job stress: a moderated mediation role of recovery experience. *Int J Environ Res Public Health*. (2020) 17:1642. doi: 10.3390/ijerph17051642
33. Jeong JG, Choi SB, Kang SW. Leader's perception of corporate social responsibility and team members' psychological well-being: mediating effects of value congruence climate and pro-social behavior. *Int J Environ Res Public Health*. (2022) 19:3607. doi: 10.3390/ijerph19063607
34. Landers RN, Behrend TS. An inconvenient truth: arbitrary distinctions between organizational, mechanical turk, and other convenience samples. *Ind Organ Psychol*. (2015) 8:142–64. doi: 10.1017/iop.2015.13
35. Faul F, Erdfelder E, Buchner A, Lang AG. Statistical power analyses using G* Power 3.1: tests for correlation and regression analyses. *Behav Res Methods*. (2009) 41:1149–60. doi: 10.3758/BRM.41.4.1149
36. Barclay D, Higgins C, Thompson R. The partial least squares (PLS) approach to causal modeling: personal computer adoption and use as an illustration. *Technol Stud*. (1995) 2:285–309.
37. Kraimer ML, Wayne SJ, Liden RC, Sparrowe RT. The role of job security in understanding the relationship between employees' perceptions of temporary workers and employees' performance. *J Appl Psychol*. (2005) 90:389–98. doi: 10.1037/0021-9010.90.2.389
38. Farooq O, Rupp DE, Farooq M. 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 Manage J*. (2017) 60:954–85. doi: 10.5465/amj.2014.0849
39. Turker D. Measuring corporate social responsibility: a scale development study. *J Bus Ethics*. (2009) 85:411–27. doi: 10.1007/s10551-008-9780-6
40. Kim BJ, Nurunnabi M, Kim TH, Jung SY. Does a good firm breed good organizational citizens? The moderating role of perspective taking. *Int J Environ Res Public Health*. (2019) 16:161. doi: 10.3390/ijerph16010161
41. Motowidlo SJ, Packard JS, Manning MR. Occupational stress: its causes and consequences for job performance. *J Appl Psychol*. (1986) 71:618. doi: 10.1037/0021-9010.71.4.618
42. Mael FA, Ashforth BE. Alumni and their alma mater: a partial test of the reformulated model of organizational identification. *J Organ Behav*. (1992) 13:103–23. doi: 10.1002/job.4030130202
43. Skarlicki DP, van Jaarsveld DD, Shao R, Song YH, Wang M. Extending the multifoci perspective: the role of supervisor justice and moral identity in the relationship between customer justice and customer-directed sabotage. *J Appl Psychol*. (2016) 101:108. doi: 10.1037/apl0000034
44. Anderson JC, Gerbing DW. Structural equation modeling in practice: a review and recommended two-step approach. *Psychol Bull*. (1988) 103:411–23. doi: 10.1037/0033-2909.103.3.411
45. Browne MW, Cudeck R. Alternative ways of assessing model fit. *Sociol Methods Res*. (1992) 21:230–58. doi: 10.1177/0049124192021002005
46. Shrout PE, Bolger N. Mediation in experimental and nonexperimental studies: new procedures and recommendations. *Psychol Methods*. (2002) 7:422–45. doi: 10.1037/1082-989X.7.4.422
47. Brace N, Kemp R, Snelgar R. *SPSS for Psychologists*. Palgrave Macmillan: Hampshire (2003).
48. Chun JS, Shin Y, Choi JN, Kim MS. How does corporate ethics contribute to firm financial performance? The role of collective organizational commitment and organizational citizenship behavior. *J Manage*. (2013) 39:853–77. doi: 10.1177/0149206311419662
49. Eisenbeiss SA. Eisenbeiss SA. Re-thinking ethical leadership: an interdisciplinary integrative approach. *Leadersh Q*. (2012) 23:791–808. doi: 10.1016/j.leaqua.2012.03.001