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ORIGINAL RESEARCH
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Mentoring and Tacit Knowledge Transfer in Novice Teachers From Chinese Middle Schools: Mediating Effect of Job Crafting

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In this study, we explore how mentoring relates to tacit knowledge transfer among middle school novice teachers in China and how job crafting mediates this relationship. In total, 465 Chinese novice teachers participated in this study and completed a set of self-reports measuring the mentoring function, tacit knowledge transfer, and job crafting. An analysis of the reports indicated that: (1) Mentoring, job crafting, and tacit knowledge transfer were positively correlated; (2) Four sub-factors of the mentoring function and five sub-factors of job crafting were significantly related to tacit knowledge transfer; (3) job crafting played a mediating role between mentoring and tacit knowledge transfer; (4) the mediating path of task crafting and skill crafting (two sub-factors of job crafting) between mentoring and tacit knowledge transfer was significant, while the mediating effect of role crafting, cognitive crafting, and relationship crafting (the other three sub-factors of job crafting) was not significant.

Keywords: mentoring function, job crafting, tacit knowledge transfer, mediator, novice teacher

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INTRODUCTION

Researchers agree that teachers' knowledge is derived from not only professional training but also from teaching experiences (Ruan et al., 2019; Liu, 2020). For a teacher, the acquisition, transfer, creation, and utilization of knowledge should be an enjoyable process (Chen, 2004). However, a Chinese survey showed that 86% of middle school teachers had higher stress and heavier workloads, and 65% of novice teachers were tired in the process of gaining knowledge and teaching (2016). A mentor can help novice teachers during the process of gaining knowledge and teaching (Wei, 2021).

Polanyi (1997) identified two types of knowledge and indicated that explicit knowledge can easily be acquired and expressed, while tacit knowledge, located in the human mind was rather difficult to be obtained, shared, and utilized. However, a teacher needs to impart explicit and tacit knowledge in equal measures while teaching using appropriate teaching methods, teaching skills, and educational theory (Ye, 2015; Yu, 2018). A teacher needs to constantly enhance their capacity to transfer tacit knowledge, which is defined as "the capacity that individuals possess to make tacit knowledge explicit and enable explicit knowledge to become tacit" (Wang and Li, 2013). It has two dimensions: knowledge externalization (shifting from tacit knowledge to explicit knowledge) and knowledge internalization (shifting from explicit knowledge to tacit knowledge) (Nonaka et al., 1994; Rosellini and Hawamdeh, 2020).

Scholars agree that the transfer of tacit knowledge is important for any group so that the experiences and skills of an individual are shared and updated through communication and interactive activities, rather than just remaining in the individual's tacit knowledge (Ritesh, 2018). Franklin and Henry (2019) contended that mentoring was a crucial pathway to impart tacit knowledge to the newcomer through long-term observation and imitation. However, very few studies have investigated the transfer of tacit knowledge from the mentor to the newcomer, especially in the apprenticeship of novice teachers (Yu, 2018).

Exploring how a novice teacher effectively transfers tacit knowledge in a Chinese middle school, this study focuses on mentoring and novice teachers' tacit knowledge transfer. With this focus, we seek to identify key the functions of mentors and the key competencies of novice teachers and also bridge gaps in research on mentorship.

LITERATURE REVIEW

Mentoring and Tacit Knowledge Transfer

Massey and Montoya-Weiss (2006) indicated that tacit knowledge could be continuously obtained and updated through close interaction with others. However, this does not explain how interaction can effectively promote novice teachers' tacit knowledge transfer? In China, most middle school novice teachers first get assigned to a tutor and then form pairs of mentor-novice teachers. The mentor usually guides a novice teacher to learn teaching-knowledge and the novice teacher then continuously updates this knowledge by teaching the students (Yu, 2018). This process of the tutor's guidance exemplifies the mentoring function.

Mentoring is when "mentors provide all aspects of support to the apprentices and play a favorable guiding role in the process of instruction" (Kram, 1985; Johnson, 2008). It includes four functional dimensions: cultural transfer, teaching support, social psychological support, and role model (Yu, 2018). The cultural transfer function is referred to as "the mentor naturally transferring the school's culture to his apprentice". In the teaching support function, "the mentor gives guidance to the apprentice in terms of the teaching knowledge and skills". Social psychological support is when "the mentor does a favor for the apprentice in terms of interpersonal communication". And it is the role model function when "the mentor plays a role model in work, conduct and morality" (Yu, 2018). Given these definitions, how does mentoring effectively promote novice teachers' tacit knowledge transfer?

Organizational knowledge creation theory explains the relationship between mentoring and novice teachers' tacit knowledge transfer (Nonaka and Von Krogh, 2009). It emphasizes the importance of interactional activities with mentors who have rich tacit knowledge and have imparted it to newcomers to further their growth and advancement (Jacqueline, 2010). Hibbi et al. (2020) agreed that knowledge, especially tacit knowledge, is dynamic. It is born of human interactions; created, transferred, applied, and created again. First, under the mentor's guidance, novice teachers gradually absorb the transferred knowledge including explicit and tacit knowledge such as 'fresh' ideas, insights, and experiences from their mentors. This absorption enables them to reflect on teaching events and situations they encounter. Based on these reflections, novice teachers enhance their tacit knowledge through the process of sorting, adding, categorizing, and internalizing explicit knowledge. Later, this enhanced personal tacit knowledge further contributes to the positive interchange between the teacher's own explicit and tacit knowledge through personal practical experiences, and thus results in tacit knowledge transfer through a process of mutual interactions between tacit and explicit knowledge (Qiao et al., 2021). Tacit knowledge is transferred not only through verbal exchanges but also by observation, imitation, and personal practice following the mentor's guidance (Nonaka and Von Krogh, 2009; Amit and Swarup, 2016).

Previous literature indicates that high-quality mentoring involves a series of positive results (Nabi et al., 2021), such as recent changes in the recipient's behavior (Crisp and Cruz, 2009) and academic success (Jacobi, 1991; Jacqueline, 2010). A low-quality mentoring might lead to the teacher's inability to successfully transfer knowledge (Schlaegel and Koenig, 2014). Nabi et al. (2009) agreed that a good relationship between a mentor and novice teacher could enforce the effectiveness of knowledge transfer. Mentors, in Chinese collective culture, provide not only teaching support but also culture transfer support, interpersonal skills support, and psychological support for novice teachers (Hu, 2016; Yu, 2018). A novice teacher benefits from this mentoring as well as gaining tacit and explicit knowledge (Nonaka and Von Krogh, 2009). As the saying, "scholars must have their own teacher" (Han Yu, Tang Dynasty) confirms, mentoring can directly affect novice teachers' tacit knowledge transfer.

Job Crafting in Mediating Role

Nonaka and Von Krogh (2009) proffered the idea that interaction with others may be necessary, but not sufficient, for the effective transfer of tacit knowledge. The sufficient factor for transferring tacit knowledge is practical experience, which is deeply intertwined with an individual's actions, which further facilitated tacit knowledge transfer through learning by doing. For a successful tacit knowledge transfer, the system should provide opportunities for individuals to practically apply their knowledge (Becerra-Fernandez and Sabherwal, 2010). In this context, an individual's practice under the guidance of a mentor becomes very important. However, despite similar interactions, some novice teachers fared better in transferring between tacit and explicit knowledge, whereas others did not.

Some researchers have suggested that tacit knowledge is chiefly acquired and transferred through practical experience. This practical experience is rooted in creative and proactive actions, not in simple actions (Hildreth and Kimble, 2002). As novice teachers face new experiences, with their mentor's guidance, they can spontaneously take action to apply the knowledge to their job tasks and further enhance their tacit knowledge transfer (Becerra-Fernandez and Sabherwal, 2010; Rosellini and Hawamdeh, 2020). Some of the novice teachers' actions are the essence of job crafting. Job crafting is "the physical and cognitive changes individuals make in the task or relational

boundaries of their work" (Wrzesniewski and Dutton, 2001; p. 179). It includes the following five types of crafting: skill crafting (improving strategies or techniques of teaching), task crafting (altering the form or number of activities one engages in while doing the job), role crafting (altering how one sees the teaching profession), cognitive crafting (altering how one sees the job), relationship crafting (exercising discretion over with whom one interacts while doing the job) (Qi and Wu, 2016). Job crafting is also an act of continuous improvement. For instance, novice teachers' actions and job characters are shaped through their interactions with their mentors. When this occurs, the teachers' tacit knowledge transfer might be more effective if that knowledge transformational actions could be constantly re-created or crafted by the teacher. In this context, how does mentoring effectively contribute to the teachers' tacit knowledge transfer through the mediating effect of job crafting?

The socially embedded model of thriving at work indicated that when individuals are embedded in unit contexts that encourage decision-making discretion, broad information sharing, and a climate of trust and respect, they were more likely to learn. However, the individual's learning depends on agentic behaviors that could effectively improve their learning outcomes, including knowledge learning and utilization (Spreitzer et al., 2005). Knowledge sharing and cultural climate through interaction with mentors can help novice teachers' job crafting, which in turn enhances tacit knowledge transfer.

Empirical evidence suggests that job crafting is an effective approach to prompt an individual's further development (Zhang and Parker, 2019), such as work engagement (Chen et al., 2014), high performance (Li et al., 2021), and job satisfaction (Slemp et al., 2015). Shin et al. (2018) indicated that job crafting was a principal driver of work engagement. When an engaged worker alters his/her tasks and is devoted to the work activities and dealt with work demands effectively, the worker tended to produce constructive outcomes.

As mentioned earlier, if apprentices could fully make use of a mentor's guidance, and actively explore their job crafting of agentic behaviors, they were more likely to experience creative development, including tacit knowledge transfer. "The mentors lead the way; growth depends on the individual's hard work" (Qing Dynasty). We can infer that high-quality mentoring has a positive impact on novice teachers' tacit knowledge transfer through the action of job crafting.

PURPOSE OF THE STUDY

The purpose of this study was to evaluate the mentoring of novice teachers from Chinese middle schools, their tacit knowledge transfer, and job crafting to consider the influence of mentoring on teachers' tacit knowledge transfer and to verify the mediator role of job crafting in this relationship (see **Figure 1**). We tested whether the sub-factors of job crafting mediate the effect of mentoring on teachers' tacit knowledge transfer, supplying further information on the relationship. Our findings contribute to the growing attention on boosting teachers' tacit knowledge transfer.

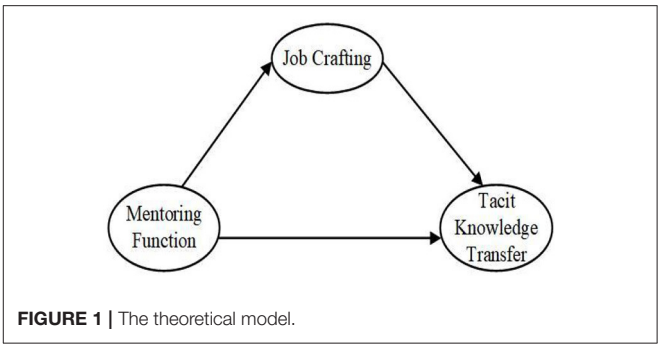

FIGURE 1 | The theoretical model.

The key research questions are indicated below:

(1) How does mentoring effectively promote novice teachers' tacit knowledge transfer?
(2) How does mentoring effectively contribute to novice teachers' tacit knowledge transfer through the mediating role of job crafting?

Based on theoretical and empirical research, we explored the direct relationship between mentoring, tacit knowledge transfer, and job crafting among novice teachers in Chinese middle schools (Chen et al., 2014; Zhang and Parker, 2019). More specifically, we explored to determine if all five sub-factors of job crafting acted as mediators in this relationship (Slemp et al., 2015; Li et al., 2021). We hypothesized that mentoring directly affected tacit knowledge transfer, and all five sub-factors of job crafting acted as mediators in this relationship. To provide answers to these questions we surveyed mentoring, job crafting, and tacit knowledge transfer among novice teachers in Chinese middle schools.

Based on the previous theoretical rationale, the following hypotheses were formulated:

H1: Mentoring is positively related to tacit knowledge transfer among novice teachers in Chinese middle schools.
H2: Mentoring is positively related to job crafting.
H3: Job crafting serves as a mediator between mentoring and tacit knowledge transfer.

To test H1 and H2, we performed a correlation analysis between mentoring, novice teachers' job crafting, and tacit knowledge transfer. To verify H3, we conducted the structural equation model (SEM) analysis. Accordingly, the mediating effect of job crafting was estimated by 5000 bootstrap samples to further test the mediating role of novice teachers' job crafting between mentoring and tacit knowledge transfer.

METHOD

Participants and Procedure

In this research, 550 novice teachers from Chinese middle schools were enrolled as participants. We mainly used the cluster sampling method to select seven middle schools in four cities in Jiangsu Province for the investigation (Changzhou, Wuxi, Suzhou, and Yancheng). Local education authorities were

commissioned through the middle school teachers' QQ and WeChat groups to invite novice teachers from middle school to provide information about their perceptions of the mentoring function, job crafting, and tacit knowledge transfer.

Then, these invited teachers were encouraged to send the questionnaire link to other middle school novice teachers they knew in these cities through the online platform Questionnaire Star.

After eliminating questionnaires based on the criteria of the rate of missing answers over 50%, 465 survey questionnaires were used, with a recovery rate of 84.5%. The age of the respondents ranged from 22 to 35 years, M = 27, SD = 3.51. Among the participants, about 33.5% were male, 66.5% were female; 32.3% were city teachers, and 67.7% were rural teachers (see **Table 1**).

Measures

Three scales were used to measure the mentoring function, tacit knowledge transfer, and job crafting among Chinese middle school novice teachers. Following is a more detailed explanation of these three scales.

Mentoring Function Scale

Mentoring function was assessed by adopting the scale developed by Yu (2018). Responses were rated on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The model-fitting results of the confirmatory factor analysis were good (χ^2/df = 2.715, GFI = 0.901, CFI = 0.911, TLI = 0.903, RMSEA = 0.077). The 30-item mentoring function scale comprised four dimensions: cultural transfer function (α = 0.950), teaching support function (α = 0.913), social psychological support (α = 0.935), and role model function (α = 0.944). The items for example included a 'Master teacher would give advice on my teaching design'. Cronbach's α was 0.967.

Job Crafting Scale

Job crafting was assessed by adopting the scale developed by Qi and Wu (2016). Responses were rated on a 5-point Likert scale ranging from 1 = never to 5 = always. The model-fitting results of the confirmatory factor analysis were good (χ^2/df = 2.671, GFI = 0.908, CFI = 0.927, TLI = 0.932, RMSEA = 0.068). The 22-item job crafting scale comprised five dimensions: skill crafting (α = 0.747), task crafting (α = 0.818), role crafting (α = 0.822), cognitive crafting (α = 0.739), and relationship crafting (α = 0.748). The items for example included: "I would like to try some new teaching methods at work". Cronbach's α was 0.904.

Tacit Knowledge Transfer Scale

Tacit knowledge transfer was assessed by adopting the scale developed by Wang and Li (2013). Responses were rated on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The model-fitting results of the confirmatory factor analysis were good (χ^2/df = 3,061, GFI = 0.936, CFI = 0.949, TLI = 0.935, RMSEA = 0.078). The 11-item tacit knowledge transfer scale comprised two dimensions: tacit knowledge internalization (α = 0.930), and tacit knowledge externalization (α = 0.913). The items for example included: 'I can understand the master's teaching skills and experience knowledge through practice and experienced knowledge'. Cronbach's α was 0.948.

Data Analysis

In the statistical analysis, SPSS 20.0 was applied for descriptive analysis, common method variance analysis, correlation analysis, and regression analysis. Specifically, descriptive analysis was performed to analyze the sample data and correlation analysis was conducted to determine the relationships between the main factors. Following this, regression analysis was performed to determine the effect of different dimensions of mentoring function and job crafting on tacit knowledge transfer.

Additionally, Amos24.0 was used for confirmatory factor analysis of the scale. The following values indicated a good fit: χ^2/df < 3, GFI > 0.90, CFI > 0.90, TLI > 0.90, and RMSEA <0.08 (Wen et al., 2004).

Finally, Mplus8.0 was used to measure the mediating impact of job crafting and its sub-dimensions between the mentoring function and tacit knowledge transfer. The model was proved

TABLE 1 | Participant demographics (*N* = 465).

Demographic variables	Mean	SD	Min	Max	N	%
Age	27	3.51	22	35		
Urban					150	32.3
Rural					315	67.7
Male					156	33.5
Female					309	66.5

TABLE 2 | The Skewness and Kurtosis for the Scales (*N* = 465).

Variables	Mean	SD	Min	Max	Skewness	Kurtosis
Mentoring function	109.24	21.72	30.00	149.00	−1.19	2.08
Job crafting	84.11	10.28	28.00	104.00	−1.17	1.98
Tacit knowledge transfer	41.05	8.90	11.00	102.00	−1.06	1.64

to fit well if RMSEA < 0.08 and CFI > 0.90 (Kline, 2011). The mediating effect was significant, supposing that the 95% confidence interval did not include zero, based on 5000 bootstrap samples.

RESEARCH FINDINGS

Descriptive Analysis

Descriptive statistics for participants' demographics, the skewness, and kurtosis for the scales are reported in **Tables 1**, **2**.

Table 2 shows mentoring, job crafting, and tacit knowledge transfer are approximately normally distributed. The skewness of the three scales respectively is: −1.19, −1.17, and −1.06; and Kurtosis is 2.08, 1.98, and 1.64, respectively.

Common Method Variance Analysis

Common method variance among variable items in **Table 3**.

Among all variable items, there are 18 items whose eigenvalues are greater than 1, with 72.342% cumulative explanation. The first factor of the cumulative explanation rate is 31.06%, which is less than the 40% critical value, so there is no problem with common method variance in our study.

Correlation Analysis

Correlations among studied variables are reported in **Table 4**.

All correlations between the mentoring function, tacit knowledge transfer, and job crafting were statistically significant, meaning hypothesis 1 and hypothesis 2 were preliminary verified. Specifically, mentoring was actively associated with tacit knowledge transfer and job crafting. Higher mentoring function and job crafting were related to stronger tacit knowledge transfer.

Regression Analysis

We ran a regression analysis to examine if different dimensions of the mentoring function and job crafting would predict tacit knowledge transfer.

As **Table 5** indicates, the cultural transfer function, teaching support, and social psychological support (three sub-factors of the mentoring function) might be the important factors to influence tacit knowledge transfer. The explanation of cultural transfer function was 39.4% ($\beta = 0.273$, $t = 4.870^{**}$), teaching support was 7.5% ($\beta = 0.281$, $t = 5.144^{***}$), and social psychological support was 2.8% ($\beta = 0.245$, $t = 4.471^{***}$).

Skill crafting, task crafting, and role crafting (three sub-factors of job crafting) might also be important factors to influence tacit knowledge transfer. The explanation of skill crafting was 15.6% ($\beta = 0.273$, $t = 4.870^{**}$), task crafting, 3.6% ($\beta = 0.281$, $t = 5.144^{***}$), and social psychological support, 1.3% ($\beta = 0.245$, $t = 4.471^{***}$).

Mediator Analysis

Based on the correlation and regression analyses, our paper conducted the structural equation model (SEM) analysis for the mediation model. The mediating effect was then estimated by 5000 bootstrap samples in Mplus.

Firstly, SEM analysis was conducted using Mplus 8.0. To improve the simplicity of the measurement and structural models, items were parceled as the indicators of sub-dimensions of latent variables. Then the sub-dimensions were item parceled as the indicators for mentoring function, job crafting, and tacit knowledge transfer (Bandalos, 2002).

Accordingly, the mediating effect was estimated by 5000 bootstrap samples. The product (β) of the standardized regression coefficients of the independent variable on the mediator and mediator on the dependent variable was estimated as the mediating effect. Supposing that β had significance in statistics ($p < 0.05$), it was considered that job crafting was the mediator of mentoring function on the tacit knowledge transfer.

TABLE 3 | The common method variance for variable items ($N = 465$).

Factor	Initial eigenvalue		
	Total	Variant rate	The cumulative explain rate
1	30.75%	31.06%	31.06%
The total rate of cumulative explain			72.34%

TABLE 4 | Correlations among studied variables ($N = 465$).

Variables	1	2	3	4	5	6	7	8	9	10
1. Teaching support	1									
2. Role mode	0.627**	1								
3. Social psychological support	0.653**	0.589**	1							
4. Cultural transfer support	0.674*	0.680**	0.676**	1						
5. Task crafting	0.419*	0.410**	0.332**	0.438**	1					
6. Cognitive crafting	0.281**	0.269*	0.282**	0.320**	0.491**	1				
7. Relationship crafting	0.352**	0.410**	0.293**	0.345**	0.500**	0.384**	1			
8. Role crafting	0.342**	0.446**	0.215**	0.342**	0.556**	0.460**	0.522**	1		
9. Skill crafting	0.408**	0.348**	0.382**	0.361**	0.536**	0.511**	0.445**	0.378**	1	
10. Tacit knowledge transfer	0.625**	0.561**	0.613**	0.628**	0.378**	0.327**	0.319**	0.328**	0.395**	1

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

TABLE 5 | Regression analysis for variables predicting job crafting ($N = 465$).

Dependent variable	Independent variable	R^2	ΔR^2	β	T	F	DW
Tacit knowledge transfer	Cultural transfer	0.394	0.394	0.273	4.870***	233.029	1.910
	Teaching support	0.469	0.075	0.281	5.144***	157.528	
	Social psychological	0.497	0.028	0.245	4.471***	117.266	
	Skill crafting	0.156	0.156	0.254	4.517***	66.156	1.483
	Task crafting	0.195	0.039	0.163	2.610***	43.198	
	Role crafting	0.208	0.014	0.141	2.474***	31.251	

***$p < 0.001$.

TABLE 6 | Structural equation fitting index of the study variables.

χ^2/df	RMSEA	CFI	TLI	SRMR
3.050	0.075	0.961	0.948	0.036

If the confidence interval was 95% without a value of 0, then the mediating effect was significant.

Job Crafting as Mediator

We took mentoring as an independent variable, novice teachers' tacit knowledge transfer as a dependent variable, and job crafting as an intermediary variable. In the model, the sub-dimensions were item parceled as the indicators for mentoring function, job crafting, and tacit knowledge transfer.

As shown in **Table 6**, χ^2/df = 3.050, RMSEA = 0.075, CFI = 0.961, TLI = 0.948, SRMR = 0.036, the fitting index of the structural equation model was good and the mediating model diagram was obtained (**Figure 2**).

As shown in **Figure 2**, mentoring was a significant influencing factor in novice teachers' job crafting (β = 0.627, $p < 0.001$) and tacit knowledge transfer (β = 0.806, $p < 0.001$). Novice teachers' job crafting could also promote their tacit knowledge transfer (β = 0.157, $p < 0.01$). Hypotheses 1 and 2 were further tested.

The mediating effect of job crafting was further estimated by 5000 bootstrap samples. The results (**Table 7**) showed that novice teachers' job crafting served as a mediator between the mentoring function and tacit knowledge transfer (β = 0.098, $p < 0.01$) with a bootstrap 95% confidence interval without a value of 0 (95% CI [−0.038, −0.129]). Hypothesis 3 was supported.

Different Dimensions of Job Crafting as Mediators

To further test the mediating effect of the sub-dimensions of job crafting, we also took the five dimensions of job crafting as mediators. We conducted SEM analysis and mediating effect analysis with 5000 bootstrap samples. In this model, the sub-dimensions of job crafting were item parceled as the indicators for the mentoring function and tacit knowledge transfer.

As shown in **Table 8**, The mediation model was good: χ^2/df = 15.057, RMSEA = 0.198, CFI = 0.747, TLI = 0.643, SRMR = 0.143. We found that skill crafting and task crafting (two sub-factors of job crafting) were significant and were retained in the model. Role crafting, cognitive crafting, and relationship crafting (the other three sub-factors of job crafting) were insignificant and not included in the model.

After deleting the insignificant paths, the model fit the data: χ^2/df = 3.228, RMSEA = 0.072, CFI = 0.932, TLI = 0.901, SRMR = 0.066. The fitting index of the structural equation model was good and the mediating model diagram was obtained (**Figure 3**).

As shown in **Figure 3**, mentoring was a significant influencing factor on novice teachers' skill crafting (β = 0.516, $p < 0.001$), task crafting (β = 0.383, $p < 0.001$), and tacit knowledge transfer (β = 0.267, $p < 0.001$). Novice teachers' skill crafting (β = 0.490, $p < 0.01$) and task crafting (β = 0.266, $p < 0.01$) also promote his tacit knowledge transfer.

Furthermore, the mediating analysis of 5000 bootstrap samples (**Table 9**) showed that novice teachers' skill crafting and task crafting played a mediating role between mentoring function and tacit knowledge transfer with the bootstraps' 95% confidence interval without the values of 0 (95% CI [0.017, 0.060]; [0.054, 0.125]).

DISCUSSION

This study explored the relationship between mentoring, novice teachers' job craft, and their tacit knowledge transfer in Chinese middle schools. It explored the research question: How does mentoring effectively affect novice teachers' transfer of tacit knowledge mediated by their job crafting? Overall, the paper found the direct and indirect paths, as discussed below.

The Direct Path From Mentoring to Novice Teachers' Tacit Knowledge Transfer

Organizational knowledge creation theory emphasizes that interaction with others, such as mentors, could create positive effects (Nonaka and Takeuchi, 2004). Our paper tested it in a sample of novice teachers from Chinese middle schools. The mentoring function directly promoted novice teachers' tacit knowledge transfer, supporting this thought.

The direct path showed that the mentoring function was positively related to novice teachers' tacit knowledge transfer (see **Table 7**). And the regression analysis showed that the mentor's culture transfer function might be the most important factor to influence novice teachers' tacit knowledge transfer (see **Table 5**). A strong school culture would create a strong influence on an individual's growth (Wang, 2016).

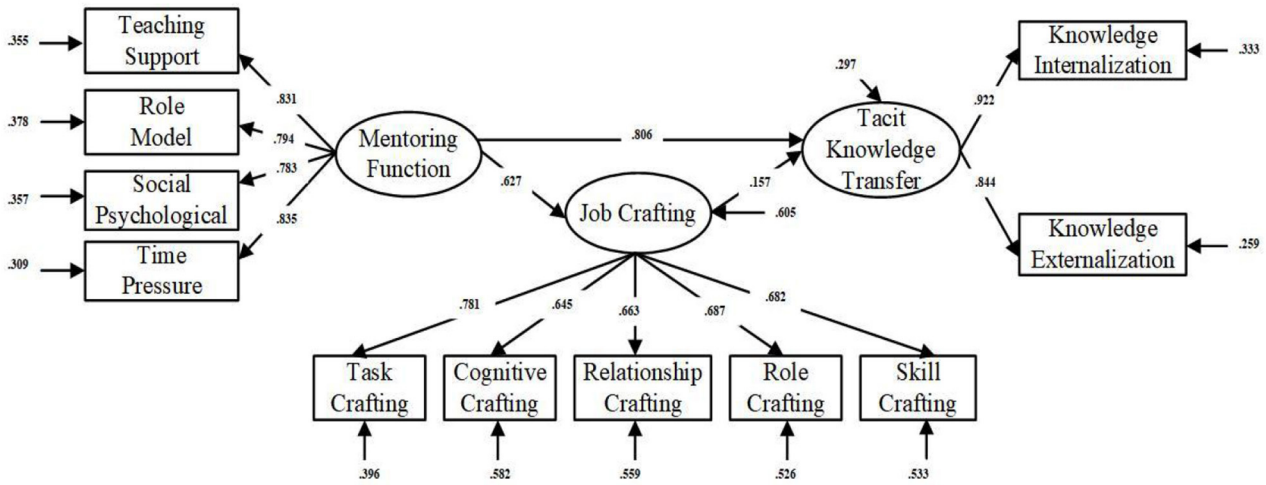

FIGURE 2 | Mediation model of job crafting between mentoring function and tacit knowledge transfer.

TABLE 7 | Mediating effect of job crafting between mentoring function and tacit knowledge transfer.

Path	*95% Confidence interval*		Effect value	SE	p
	***Boot CI* lower limit**	***Boot CI upper* limit**			
Direct: mentoring function- tacit knowledge transfer	0.605	0.855	0.806	0.059	0.000
Mentoring function- job crafting- tacit knowledgetransfer	−0.038	−0.129	0.098	0.043	0.008

TABLE 8 | Structural equation fitting index of the study variables.

	χ^2/df	*RMSEA*	*CFI*	*TLI*	*SRMR*
Initial path	15.057	0.198	0.747	0.643	0.143
Deleting no significant path	3.228	0.072	0.932	0.901	0.066

In the process of guidance, a mentor transferred school culture through their work attitudes, behaviors, and belief. In turn, the apprentice was gradually made aware of the school culture and tradition such as school history and its educational system. The atmosphere at the school and the mentor transferred enough confidence to the novice teacher. Since human relationships are an important part of Chinese culture (Qiao, 2017), in this culture, mentors provide not only teaching support but also culture transfer support, interpersonal skills, and social psychological support for novice teachers (Hu, 2016; Yu, 2018).

The Indirect Path With job Crafting's Two Dimensions as Mediators

Organizational knowledge creation theory emphasizes the effect of 'actions' (Nonaka and Von Krogh, 2009), and suggests that interactions could promote tacit knowledge transfer through communication, coordination, and even conflicts. Our second contribution is that our study empirically found job crafting was an active and effective action. Also, we tested the effect of mentoring on novice teachers' tacit knowledge transfer through the two dimensions of skill crafting and task crafting. In essence, the indirect path of job crafting's two dimensions as mediators was fully supported.

With the guidance of a mentor, an apprentice's skill crafting itself was a supporting tool for his/her knowledge externalization and internalization. Skill improvement could help facilitate the novice teacher to accomplish relevant tasks within efficient time (Qi and Wu, 2016). The novice teacher needs to constantly renew and focus on his/her teaching tasks such as course content and teaching method. When individuals focus on their task, they were more likely to reflect, adapt and develop a learning model including tacit knowledge transfer (Spreitzer et al., 2005). This means that even with a mentor's guidance, novice teachers constantly need to update the two key actions of skills and tasks.

When coming across challenges and setbacks, responsible mentors always give strength, confidence, and support. This kind of positive reinforcement motivates their apprentices to constantly build on their valuable practical experience through trial and error. Finally, apprentices will constantly grow, and some will eventually become mentors.

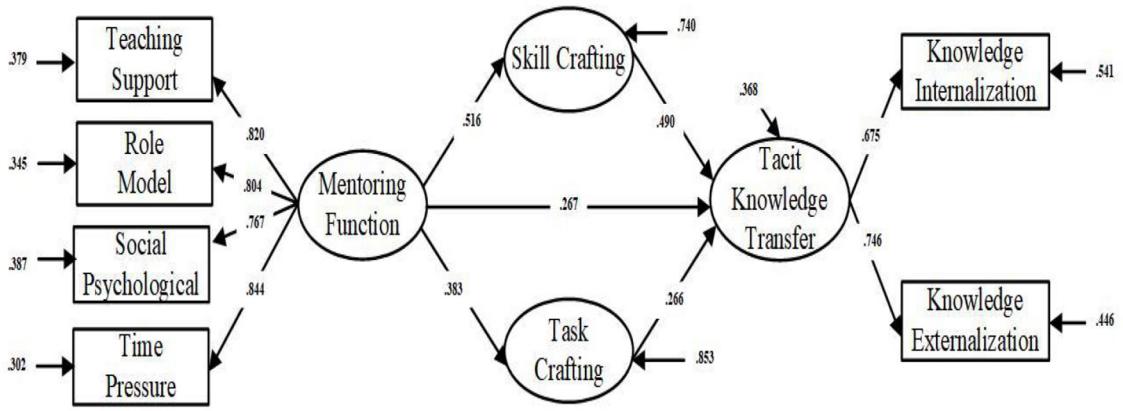

FIGURE 3 | Mediation model of different dimensions of job crafting.

TABLE 9 | Mediating effect of different dimensions of job crafting.

Path	*95% Confidence interval*		Effect value	SE	p
	***Boot CI* lower limit**	***Boot CI upper* limit**			
Direct: mentoring function- tacit knowledge transfer	0.605	0.855	0.806	0.067	0.000
Mentoring function- skill crafting- tacit knowledge transfer	0.017	0.060	0.253	0.028	0.000
Mentoring function- task crafting- tacit knowledge transfer	0.054	0.125	0.102	0.043	0.000

Organizational knowledge creation theory also attaches importance to the process of application and re-creation of knowledge. It means that some tacit knowledge transfer is born of long-term personal practical experience and re-adjustment. And job crafting, especially role crafting, cognitive crafting, and relationship crafting (the other three sub-factors of job crafting) was the process of behavioral adjustments. There may still be possible biases on account of the cross-section study and self-reports of respondents. And it may be the reason that role crafting, cognitive crafting, and relationship crafting (the other three sub-factors of job crafting) were insignificant and not included in the model.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This study has some limitations, which also offer future research directions.

On the one hand, our research only presented a structural model using quantitative research. We tested the relationship between mentoring functions, tacit knowledge transfer, and job crafting. Based on this model, future research might demonstrate the specific practice effect by providing a representative teaching case. This could help better understand the interacting details of tacit knowledge transfer. The empirical findings can be strengthened through qualitative data enrichment.

Given that all the respondents came from the Jiangsu province of China, the generalizability of the present study to other cultural contexts is a concern. Future research needs to consider expanding the scope of the sample across a wider range of cultural settings. Whether there are differences between Chinese and other countries' mentor functions and whether they have the same effect on novice teachers' growth are worthy of further exploration. By doing so, our results can be validated.

Finally, although the common method variance analysis showed that there is no problem with common method variance in our study, there may still be the possible biases represented by the respondents' self-reports, since the non-randomized sample was designed based on convenience sampling and the data was collected from the same person at the same time. Future research can collect data in multiple stages by employing a rigorous longitudinal design to replicate and extend our study's findings. Then the results will be more convincing.

CONCLUSION

This study found that excellent mentoring might be an important factor to inspire novice teachers' tacit knowledge transfer and job craft. A high-quality mentoring process is conducive to novice teachers' growth (Allen and Eby, 2003). In the Chinese context, mentors not only provide teaching support but also transfer cultural and social psychological constructs. The leading and supporting role of the mentor is very important for the apprentice's teaching performance (Hu, 2016; Yu, 2018).

The results also showed that skill crafting and task crafting were key mediators in the relationship between mentoring and tacit knowledge transfer. These skills could serve as a learning tool (Qi and Wu, 2016), and task crafting could serve as a

role booster of task focus and problem-solving (Lawler and Yoon, 1998). This process motivated novice teachers to enhance their tacit and explicit knowledge and efficiently transfer their tacit knowledge.

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 Chinese Psychological Society. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

XW: conceptualization, validation, writing-review and editing, supervision, project administration, and funding acquisition. JX: methodology, writing-original draft, and visualization. RH: validation, supervision, and funding acquisition. MY: data curation and formal analysis. XL: writing-review and editing. All authors contributed to the article and approved the submitted version.

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