ORIGINAL RESEARCH

Effect of Parent-Initiated Support on Career Calling Among Chinese Kindergarten Teachers: Basic Psychological Need Satisfaction as Mediator

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Purpose: Possessing a calling to teach is a core and essential quality of good kindergarten teachers, and it is critical to explore which factors positively impact kindergarten teachers' career calling. Developing a career calling is a meaning-making process that can be influenced by the actions of others in the workplace. During the frequent parent-teacher interactions, parent-initiated support may serve as significant interpersonal cues for kindergarten teachers in developing their career calling. Thus, the present study examined the effect of parent-initiated support on kindergarten teachers' career calling. Further, we investigated the multiple mediating roles of global and specific basic psychological need satisfaction based on the self-determination theory (SDT).

Methods: Cross-sectional data were collected from 629 kindergarten teachers in China and analyzed using Mplus 8.3 software and the Process 3.5 macro of SPSS 26.0 software. Before testing the hypothesis, we used Mplus 8.3 to save factor scores from the Bifactor model of basic psychological need satisfaction and two uni-dimensional models of parent-initiated support and career calling. Subsequently, using the Process 3.5 macro within SPSS 26.0 software, we conducted path analysis to examine the total and mediating effects between parent-initiated support and kindergarten teachers' career calling.

Results: The results revealed a positive effect of parent-initiated support on teachers' career calling. Teachers' global and specific competence need satisfaction partially mediated this positive effect, while the mediating effects of teachers' specific autonomy and relatedness need satisfaction were non-significant.

Conclusion: These findings suggest that parent-initiated support is an important job resource for kindergarten teachers' development of career calling. In addition to satisfying global psychological needs, satisfying specific needs (eg, competence need) provides additional benefits to kindergarten teachers' experience of career calling.

Keywords: parent-initiated support, career calling, basic psychological need satisfaction, kindergarten teacher, self-determination theory

Introduction

Excellent kindergarten teachers are an effective means of meeting people's demands for high-quality preschool education. A calling to teach is a core and essential quality of good teachers.[1] Teachers' strong sense of career calling means they feel a transcendent summons to pursue their career, link it closely to personal meaning and purpose in life, and tend to help others or advance the greater good via their career.[2,3] In recent years, there have been continuous media reports on the extreme phenomenon of child abuse among kindergarten teachers. It shows the urgency of the strong career calling to push kindergarten teachers to obey high-standard professional ethics. In addition, kindergarten teachers have to face numerous complicated tasks with high pressure but get low professional pay and social status. The serious effort-return

imbalance leads to high burnout and turnover ratio of kindergarten teachers.[4] Teachers with a solid career calling are more likely to actively engage in work, feel satisfied with jobs and lives, experience less job burnout,[5] and contribute to long-term and successful school improvement.[6] Therefore, it is necessary and valuable to deeply explore the positive predictors of career calling among kindergarten teachers.

Career calling formation at least moderately depends on interactions with the environment.[7] Career calling is a meaning-making process in which the acts of others at work constitute a crucial environmental factor.[8,9] Prior studies primarily focused on the positive acts of principals, such as transformational and spiritual leadership, and examined their effects on teachers' career calling.[10,11] However, given policymakers' ongoing emphasis on home-school cooperation, there is limited understanding of whether and how the acts of children's parents relate to kindergarten teachers' career calling. In 2023, the Chinese Ministry of Education proposed enhancing and actively implementing a cooperative education mechanism among schools, families, and society. It explicitly mandates that teachers maintain regular, close contact with parents and incorporates teachers' family education guidance into the teacher evaluation system. Due to the young age of students and the integrated nature of childcare and education work, kindergarten teachers communicate more frequently and intensively with parents than primary and secondary school teachers. These increasingly intensive parent-teacher interactions can both support and complicate the work of kindergarten teachers, necessitating close attention to parents' behaviour when exploring kindergarten teachers' work experiences. Thus, the present study adopts a positive perspective on home-school cooperation, focusing on the positive behaviours exhibited by children's parents (eg, parent-initiated support) to examine their effect on kindergarten teachers' career calling.

Parent-initiated support, as a specific type of social support,[12] might indirectly impact kindergarten teachers' career calling. Prior empirical studies suggested that social support predicts teachers' career calling through some indirect paths, such as work engagement and professional identity.[13] Parent-initiated support refers to autonomy support (eg, instrumental and emotional support) that parents actively provide to teachers.[12] Career calling is a highly self-determinating state and one type of personal flourishing and eudaimonic well-being.[14,15] Self-determination theory (SDT) posits that creating an autonomy-supportive environment through satisfying basic psychological needs impacts employees' effectiveness.[16,17] As implied by this empirical and theoretical evidence, there are mediating mechanisms between parent-initiated support and career calling, which could be explored to deepen our understanding of teachers' career calling formation. Therefore, based on the SDT, the present study examines the mediating effect of teachers' need satisfaction linking parent-initiated support to teachers' career calling.

Parent-Initiated Support and Kindergarten Teachers' Career Calling

Previous studies have shown that developing a career calling is an active meaning-making process.[8] Wrzesniewski et al claimed that acts of others (eg, leaders, colleagues, and customers) at work were critical cues for employees to shape the meaning of their jobs, roles, and selves.[9] When others at work convey messages of care, competence, or worth, employees interpret these positive cues as confirmation of their existence and significance. Parent-initiated support includes expressing parents' trust, love, and appreciation for teachers' work and showing high cooperation with teachers' work.[12] These positive cues from parent-initiated support will make teachers feel that their work and existence are significant, which is a key element of career calling.[2] Moreover, parent-initiated support implies collective expectations and empowers teachers' sense of responsibility, which are Chinese people's important guiding forces to pursue calling.[18]

Furthermore, parent-initiated support is social support from a specific source.[12] Substantial empirical studies have shown that social support is closely tied to individuals' career calling.[13,19] A longitudinal study by Dalla Rosa et al found solid evidence showing that a career calling is the consequence of social support rather than the opposite.[20] Those studies provide empirical evidence for the relationship between parent-initiated support and teachers' career calling.

The Mediating Role of Basic Psychological Need Satisfaction

According to SDT, humans are active and growth-oriented organisms with positive self-integration tendencies, whose operation requires fundamental nutrients (ie, basic psychological need satisfaction) to function.[16] Humans universally possess three basic psychological needs: autonomy need, competence need, and relatedness need.[17] Autonomy satisfaction refers to the experiences of volition and self-determination. Competence satisfaction refers to the feelings of

effectiveness and capability in completing challenging tasks. Relatedness satisfaction refers to the experiences of closeness and significance to relevant others. The presence of environmental conditions that allow the need satisfaction is a vital predictor of whether or not people will flourish. As much empirical evidence has shown,[21,22] humans' natural processes, such as movement towards flourishing and well-being, could operate optimally when social settings satisfy psychological needs. The SDT framework enlightens that basic psychological need satisfaction is the mediating mechanism of why some social environments promote individuals' flourishing development.

Recent studies suggested that need satisfaction can be separated into global need satisfaction and specific autonomy, competence, and relatedness need satisfaction left unexplained by the global levels.[23,24] The former component reflects individuals' global levels of three need satisfaction, and the latter reflects deviations or imbalances in the specific need satisfaction beyond the global level. Empirical evidence has shown that global need satisfaction is the critical predictor of well-being outcomes; three specific need satisfaction can also explain additional variances in the well-being outcomes.[23,24] Considering each need's distinctive nature, we would consider both global and specific need satisfaction.

Social support from various sources (eg, organization, supervisor) is a need-supportive environmental factor positively related to autonomy, competence, and relatedness need satisfaction.[22,25] Moreover, some scholars also found that organizational and colleague support could positively predict workers' global and specific levels of need satisfaction.[24,26] Similarly, parent-initiated support, as one kind of social support, may act as a need-supportive context to promote individuals' needs satisfaction. During parent-initiated support, parents' cooperation in children's education may give kindergarten teachers more authority and freedom in making educational decisions, which meets teachers' autonomy needs. Parents' affirmation and encouragement of teachers' work performance make teachers feel competent in their job tasks. Parents' emotional respect and gratitude make teachers feel their significance to relevant others. Thus, parent-initiated support would benefit teachers' autonomy, competence, and relatedness need satisfaction.

Basic psychological need satisfaction is essential for personal growth and well-being.[16] Career calling, as a representation of personal growth and well-being,[15] would be closely associated with individuals' basic psychological need satisfaction. Specifically, autonomy need satisfaction represents the freedom and sense of volition to follow their inner wills, values, and choices.[16] In a longitudinal study, Zhang et al found that following the true self could increase one's career calling,[3] indicating the association between autonomy need satisfaction and career calling. Furthermore, competence need satisfaction makes people feel a perfect fit between their skills/strengths/abilities and work, which is an essential source of career calling.[27] The significance of self-existence from the relatedness need satisfaction will make individuals feel self-meaningful, which is a core component of career calling.[2] Moreover, some empirical studies provided direct evidence for the relationship between need satisfaction and career calling. Zhang and Jin found that autonomy, competence, and relatedness need satisfaction could simultaneously and positively predict nurses' sense of career calling.[28] A person-centred study by Li et al also found that the more satisfied teachers feel in three needs, the stronger kindergarten teachers perceive career calling.[29] The above evidence implies the positive effect of the global and three specific need satisfaction on teachers' career calling. Consequently, we argue that parent-initiated support would be via kindergarten teachers' global and specific need satisfaction to help teachers perceive stronger career calling.

The Present Study

In summary, to help kindergarten teachers perceive intensive career calling, the present study focuses on parent-initiated support as the predictor of teachers' career calling. Further, the current study explores the mediating role of need satisfaction (including the global and three specific need satisfaction) between parent-initiated support and career calling. The theoretical model of this study is presented in Figure 1. We hypothesize:

Hypothesis 1: Parent-initiated support could positively predict kindergarten teachers' career calling.

Hypothesis 2: Need satisfaction (including the global and three specific need satisfaction) mediates the relationship between parent-initiated support and kindergarten teachers' career calling.
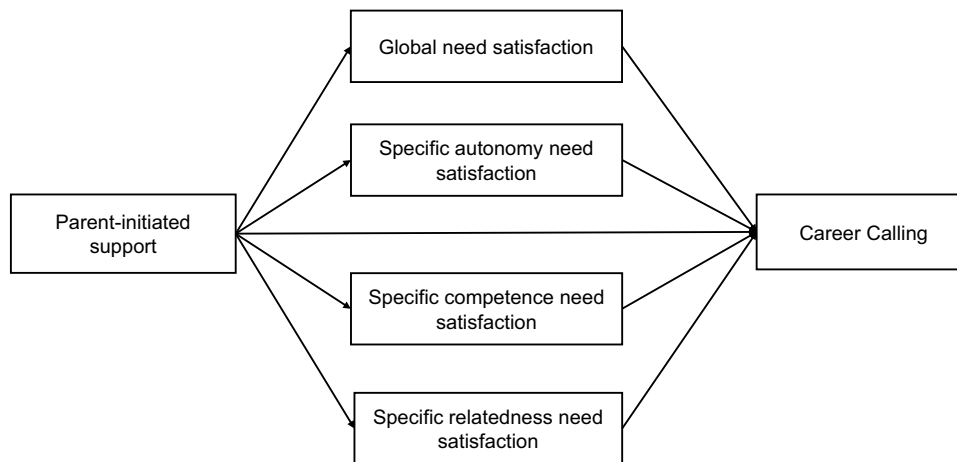
Figure 1 The theoretical research model.

Methods
Participants and Procedure
We used a purposive sampling approach to collect data from kindergarten teachers in China. The third author in our study organized substantial local and national training for kindergarten principals. We invited some kindergarten principals participating in training to help us deliver an online questionnaire link to their teaching staff. We purposefully selected kindergartens based on geographical distribution. The kindergartens we contacted are from three major economic zones, which include the eastern (eg, Liaoning and Guangdong Provinces), central (eg, Shanxi and Hunan Provinces), and western regions (eg, Shaanxi and Sichuan Provinces). By including teachers from these diverse backgrounds, we aimed to gain a more comprehensive understanding of the issues and perspectives that shape early childhood education in China. When sending the questionnaire link, all kindergarten teachers received written informed consent and instructions on completing the questionnaire. On the first page of the questionnaire, we clearly stated the purpose and content of our survey, emphasizing its anonymity and the use only for academic research publication. Only those who voluntarily agreed were enrolled in the data collection procedure. This study was approved by the Ethics Committee of Changchun Normal University.

A total of 809 kindergarten teachers participated in completing this questionnaire survey. Finally, 629 valid data were retained, and 180 data were excluded due to the following reasons: (a) The average response time per item was less than two seconds;[30] (b) They filled the whole survey with the same answer; (c) All items on a scale were not answered. By the software G*Power 3.1.9.7,[31] our sample size (N = 629) could achieve a power value above 0.80 (effect size = 0.15, α = 0.05, number of tested predictors = 5). Among the valid sample, the teachers' average age was 33.25 (SD = 7.52), ranging from 21 to 56 years old. Their average work experience was 11.66 (SD = 8.20), ranging from 1 to 36 years. Regarding the education levels, 200 (31.8%) had completed a junior college degree or below, and 429 (68.2%) had a bachelor's degree or above. Regarding the regional distribution, 308 (49.0%) were from the eastern regions, 120 (19.1%) were from the central regions, and 192 (30.5%) were from the western regions.

Measures
Career Calling
We applied the Brief Calling Scale (BCS) developed by Dik et al[32] and adapted in Chinese by Zhang et al.[8] This four-item scale contains the Search and Presence sub-scales, respectively assessing the extent to which individuals search for and perceive a career calling. This measure, rated on a 5-point scale (1 = "not at all true of me", 5 = "totally true of me"), has been widely used in Chinese worker samples, confirming good reliability and close association with related criterion variables (eg, work meaning and job satisfaction).[33] The present study used the two-item Presence sub-scale to represent

kindergarten teachers' perceptions of career calling. Higher scores indicate that kindergarten teachers perceive a stronger sense of career calling. In the current study, the two items of BCS-presence correlate at $r = 0.75$.

Parent-Initiated Support

We applied the Customer-initiated Support Scale developed by Zimmermann et al[12] and revised in Chinese by Zhang et al[34] to measure the degree to which teachers perceived support from their students' parents. We replaced "patients" with "parents" in the items to fit the teaching context. This unidimensional scale contains five items (eg, "The parents explicitly valued my work effort"). Items are rated on a 5-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree). Higher scores show that teachers experience intensive support from their students' parents. Since this scale was first applied in the Chinese teacher sample, we validated it on an independent kindergarten teacher sample (N = 201, M_{age} = 29.85, SD = 7.37). In this pilot test, this scale was found to have good validity (χ^2 (5) = 9.368, SRMR = 0.027, RMSEA = 0.066, CFI = 0.980, TLI = 0.961) and reliability (Cronbach's α = 0.88), suggesting this scale suit to assess parents-initiated support. In the current study, Cronbach's alpha was 0.91 for the whole scale.

Basic Psychological Need Satisfaction

We used the need satisfaction sub-scale of the Need Satisfaction and Frustration Scale (NSFS)[35] to measure teachers' psychological need satisfaction in work contexts. This nine-item sub-scale contains three dimensions: autonomy satisfaction (3 items; eg, "In my work, I feel free to decide what to do"), competence satisfaction (3 items; eg, "In my work, I feel I am very good at the things I do"), and relatedness satisfaction (3 items; eg, "In my work, I feel very close and connected with other people"). Items were rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Higher scores indicate teachers' higher satisfaction with basic psychological needs. Empirical studies have applied this scale in Chinese kindergarten teacher samples and showed its good reliability, construct validity, and close association with career calling.[29] In the current study, Cronbach's alphas were 0.88 for the need satisfaction scale, 0.83 for autonomy satisfaction, 0.85 for competence satisfaction, and 0.83 for relatedness satisfaction.

Analysis Strategy

In the preliminary analysis, we used SPSS 26.0 to implement the analysis of missing values and multivariate normality test. Moreover, we used Mplus 8.3 to conduct Harman's single-factor test to examine common method bias and the confirmatory factor analysis to validate how well the applied scales represent their underlying constructs. The factor scores of each variable were saved from the confirmatory factor analysis. Following recent recommendations,[23,24,36] we applied the bifactor exploratory structural equation modelling (bifactor ESEM) solution to examine the underlying factor structure of need satisfaction (details on this analysis, see Tables S1 and S2). Parent-initiated support was displayed by its uni-dimensional CFA model. Career calling was represented by the latent factor scores of the Presence sub-scale when constructing the two-dimensional model of the whole BCS scale. Factor scores were used for further mediation analysis because they could preserve the nature of the measurement model, maintain partial control for unreliability, and protect against the challenges from the bi-factor predictors.[23,37,38]

In the hypothesis test, we conducted the path analysis by the Process 3.5 macro of SPSS 26.0 (Model 4)[39] to examine whether parent-initiated support predicts kindergarten teachers' career calling via their need satisfaction (ie, global and three specific need satisfaction). Kindergarten teachers' region, work experiences, and education are control variables, and age will not be included because of the high correlation with work experiences (r = 0.91, p < 0.001).

Results

Preliminary Analysis

No variables had absolute skewness or kurtosis values above 1.00, and all appeared normally distributed on the histogram or P-P diagram. Using the software Mplus 8.3, the results of Harman's single-factor test showed an unacceptable fit between the model and the data, χ^2(104) = 1410.030, RMSEA = 0.141, SRMR = 0.097, CFI = 0.684, and TLI = 0.635. It indicated that the present study was not seriously compromised by common method bias.

The correlations of our study variables are presented in Table 1. Parent-initiated support positively relates to teachers' career calling, global need satisfaction, and specific competence need satisfaction (p < 0.001). Teachers' career calling

Table 1 The Correlations of Study Variables

	1	2	3	4	5	6
1. Career calling	—					
2. Global need satisfaction	0.50***	—				
3. Autonomy satisfaction	0.04	0.07	—			
4. Competence satisfaction	0.15***	0.18***	−0.13**	—		
5. Relatedness satisfaction	0.12**	0.11**	−0.04	−0.10*	—	
6. Parent-initiated support	0.41***	0.62***	−0.002	0.16***	0.06	—
7. Education	0.03	−0.01	0.10**	0.006	−0.01	0.05
8. Work experiences	0.03	0.11**	−0.002	0.11**	−0.09*	0.09*
9. Region 1	−0.02	−0.01	0.05	−0.02	0.05	−0.09*
10. Region 2	0.06	−0.01	−0.02	0.05	−0.004	0.03

Notes: N = 629. * p < 0.05; ** p < 0.01; *** p < 0.001. Education: 0 = junior college degree or below; 1 = bachelor degree or above. Region 1 and Region 2 are dummy variables transformed by teachers' region (western region as the reference). Region 1: 0 = not eastern region; 1 = eastern region. Region 2: 0 = not central region; 1 = central region. All variables (except for work experiences and education) are latent factor scores.

positively correlates with global need satisfaction and specific competence and relatedness need satisfaction (p < 0.01) but has no significant association with specific autonomy need satisfaction. Besides, teachers' region has non-significant relationships with the mediators (ie, global and specific need satisfaction) and outcome variables (ie, career calling). However, teachers' education is significantly associated with specific autonomy need satisfaction. Teachers' work experiences relate to global need satisfaction, and specific competence and relatedness need satisfaction. So, teachers' education and work experiences would be included as control variables in the subsequent mediation analysis.

Hypothesis Testing

The present study conducted path analysis by the Process 3.5 macro of SPSS 26.0 (Model 4, Bootstraps = 5000) to examine the effect of parent-initiated support on career calling and the mediating mechanisms of global and specific need satisfaction between them. The results of standardized path coefficients among the main variables and the hypothesized tests in the mediation model are presented in Figure 2, Tables 2 and 3.

As shown in Table 2 and Figure 2, the total effect of parent-initiated support on career calling is significantly positive (β = 0.41, p < 0.001). Moreover, when including the mediators, results still found a significant direct effect of parent-initiated support on teachers' career calling (β = 0.15, p < 0.001). It suggests that parent-initiated support could positively predict kindergarten teachers' career calling, supporting hypothesis 1.
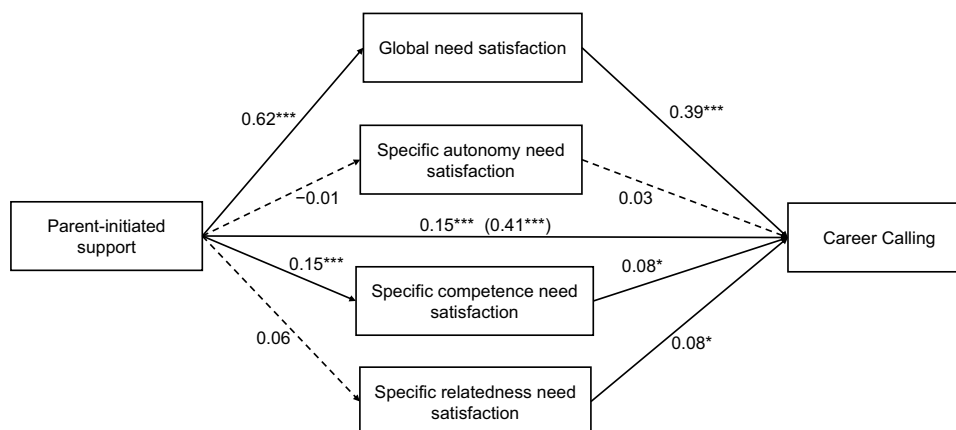

Figure 2 Multiple-mediation model linking parent-initiated support to kindergarten teachers' career calling.
Notes: N = 620. * p < 0.05; *** p < 0.001. The value in parentheses is the total effect of parent-initiated support on career calling. Numbers in the model are standardized path coefficients. The dashed line indicates that the path coefficient is non-significant.

Table 2 Results of Mediation Analysis

Outcome	Career calling	GNS	ANS	CNS	RNS	Career calling
	B [95% CI]	B [95% CI]	B [95% CI]	B [95% CI]	B [95% CI]	B [95% CI]
Predictors						
Education	0.01 [−0.11, 0.13]	−0.08[−0.21, 0.04]	0.20** [0.05, 0.34]	−0.001 [−0.10, 0.10]	−0.03 [−0.18, 0.13]	0.03 [−0.08, 0.15]
Work experiences	−0.001 [−0.01, 0.01]	0.006 [−0.001, 0.01]	−0.0004 [−0.01, 0.01]	0.01* [0.002, 0.01]	−0.01* [−0.02, −0.002]	−0.003 [−0.01, 0.004]
PIS	0.73*** [0.60, 0.86]	1.37*** [1.23, 1.50]	−0.02 [−0.18, 0.14]	0.22*** [0.11, 0.33]	0.13 [−0.03, 0.30]	0.27*** [0.12, 0.43]
GNS						0.31*** [0.24, 0.38]
ANS						0.02 [−0.04, 0.08]
CNS						0.10* [0.01, 0.18]
RNS						0.07* [0.01, 0.13]
R^2	0.17	0.39	0.01	0.04	0.01	0.28
F	30.84***	133.77***	2.33	7.66***	2.62	33.83***

Notes: $N = 620$. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Education: 0 = junior college degree or below; 1 = bachelor degree or above.
Abbreviations: PIS, Parent-initiated support; GNS, Global need satisfaction; ANS, Specific autonomy need satisfaction; CNS, Specific competence need satisfaction; RNS, Specific relatedness need satisfaction; CI, confidence interval.

Table 3 Results of Indirect Effects in the Multiple Mediation Model

Indirect Paths	β	SE	95% CI
Total indirect effect	0.26	0.03	[0.19, 0.32]
PIS → GNS → CC	0.24	0.03	[0.18, 0.31]
PIS → AS → CC	−0.0003	0.002	[−0.01, 0.003]
PIS → CS → CC	0.012	0.007	[0.0002, 0.03]
PIS → RS → CC	0.005	0.004	[−0.002, 0.02]

Note: $N = 620$.
Abbreviations: PIS, Parent-initiated support; CC, Career calling; GNS, Global need satisfaction; AS, Specific autonomy satisfaction; CS, Specific competence satisfaction; RS, Specific relatedness satisfaction; CI, confidence interval.

Additionally, parent-initiated support positively predicts teachers' global need satisfaction ($\beta = 0.62$, $p < 0.001$) and specific competence need satisfaction ($\beta = 0.15$, $p < 0.001$). However, parent-initiated support has non-significant effects on teachers' specific autonomy ($\beta = −0.01$, $p = 0.797$) and relatedness need satisfaction ($\beta = 0.06$, $p = 0.110$). Meanwhile, except for the specific autonomy need satisfaction ($\beta = 0.03$, $p = 0.465$), teachers' global and other specific need satisfaction all significantly predict teachers' career calling ($\beta_{global} = 0.39$, $p < 0.001$; $\beta_{competence} = 0.08$, $p < 0.05$; $\beta_{relatedness} = 0.08$, $p < 0.05$). These results show that parent-initiated support is positively associated with kindergarten teachers' global and specific need satisfaction, which leads to teachers' strong perceptions of career calling.

We further analyzed the mediating effects of global and specific need satisfaction between parent-initiated support and teachers' career calling. Results in Table 3 show a significant indirect of need satisfaction ($\beta_{total\ indirect} = 0.26$, 95% CI = [0.19, 0.32]), suggesting that parent-initiated support positively predicts teachers' career calling via need satisfaction. More precisely, global need satisfaction ($\beta = 0.24$, 95% CI = [0.18, 0.31]) and specific competence need satisfaction ($\beta = 0.012$, 95% CI = [0.0002, 0.03]) mediate the relationship between parent-initiated support and teachers' career calling. However, specific autonomy and relatedness need satisfaction do not mediate this relationship ($\beta_{autonomy} = −0.0003$, 95% CI = [−0.01, 0.003]; $\beta_{relatedness} = 0.005$, 95% CI = [−0.002, 0.02]). The mediation effects of global and specific competence need satisfaction accounted for 58.55% and 2.83% of the total effect, respectively. In summary, among the indirect paths via need satisfaction, the effect of parent-initiated support on teachers' career calling is through global need satisfaction and specific competence need satisfaction rather than specific autonomy and relatedness need satisfaction. Hypothesis 2 is partly supported.

Discussion

The present study explored parent-initiated support as a key predictor of kindergarten teachers' career calling and further clarified the mediating mechanism of teachers' basic psychological need satisfaction. As documented in prior studies,[23,24] there are global and specific (ie, imbalance) levels of need satisfaction, so we more precisely assessed the mediating effects of global and three specific need satisfaction. Our results show that parent-initiated support through teachers' need satisfaction predicts teachers' career calling. These detailed findings were discussed as follows.

As expected, parent-initiated support positively predicts kindergarten teachers' career calling. It is similar to prior studies; for example, support from the organization, supervisor, and significant others is closely associated with individuals' career calling.[19,20] Workers would react differently to distinct sources of social support.[40] Our study again confirms the importance of social support to workers' career calling, expands the sources of social support to the customers (ie, parents), and enriches how this new source of social support relates to workers' career calling. Future research could further compare different sources of social support to explore their distinct effects on workers' career calling.

When further examining the mechanism linking parent-initiated support and teachers' career calling, the present study found that parent-initiated support positively predicted teachers' global and specific competence need satisfaction but had no significant associations with teachers' specific autonomy and relatedness need satisfaction. Similar to our findings, empirical evidence also found that social support from organizations and colleagues was positively related to employees' global need satisfaction.[24,26] However, the correlations between social support and three specific need satisfaction show distinct results in different studies. Unlike our findings, Gillet et al[26] found that organizational support could positively predict employees' specific autonomy need satisfaction, negatively predict the specific competence need satisfaction, and be independent of the specific relatedness need satisfaction. Another research by Gillet et al[24] showed that colleague support was positively associated with employees' specific relatedness need satisfaction but uncorrelated with the specific autonomy and competence need satisfaction. As mentioned above, distinct sources of social support had different effects on employees' work-related outcomes.[40] It may be the reason to explain the difference between our results and prior studies.[24,26] Considering the positive effects of three specific need satisfaction beyond the global need satisfaction,[23] future research could take multiple social supports together to explore whether their interaction would bring higher levels of three specific need satisfaction.

Moreover, in line with our expectations, kindergarten teachers' global need satisfaction could positively predict teachers' career calling and mediate the effect of parent-initiated support on teachers' career calling. Consistent with the argument of SDT and prior studies,[17,22] when employees perceive much social support, they would experience global levels of need satisfaction across all three needs, which leads to strong career calling. Moreover, we found that the mediating effect of global need satisfaction far outweighs other paths linking support and calling, accounting for over half of the total effect. Similarly, prior studies have shown that the key driver of positive functioning and well-being is global satisfaction across all three needs. Our findings again support that all three needs are essential for personal flourishing that accords with SDT.[16]

Some interesting results appear when we explore the mediating effects of specific need satisfaction. We found that kindergarten teachers' specific competence need satisfaction could positively predict the perception of career calling and mediate the effect of parent-initiated support on teachers' career calling. When teachers perceive support from students' parents, a positive imbalance in teachers' specific competence satisfaction (beyond the global levels of need satisfaction) will appear, which has additional positive effects on teachers' career calling. The additional benefits of such a positive imbalance in competence satisfaction again suggest that the match between one's ability and work is vital to developing a career calling.[27] Moreover, consistent with prior studies,[23,24] our results support the idea that specific need satisfaction can explain unique outcome variance beyond that explained by global need satisfaction.

Contrary to our expectations, specific autonomy and relatedness need satisfaction do not mediate the relationship between parent-initiated support and teachers' career calling. Specifically, after global psychological needs are met, parent-initiated support has no additional effects on the specific autonomy and relatedness need satisfaction. According to the SDT, autonomy need closely relates to individuals' power, freedom, and independence in work decision-making; relatedness need reflects individuals' desire to establish harmonious interpersonal relationships in the workplace and

receive recognition, support, and respect from others. Leaders can directly empower job autonomy to teachers and create a safe organizational atmosphere. Colleagues can collaborate with teachers to foster a harmonious work atmosphere and support teachers' career development. Previous studies indicated that the correlative degree between social support and need satisfaction would vary greatly with different sources of support.[41] In addition to global need satisfaction, leaders' support only has unique positive effects on employees' specific autonomy need satisfaction,[24] and colleagues' support only has unique positive effects on employees' specific relatedness need satisfaction.[26] Our findings imply that, unlike leaders and colleagues, support from children's parents only has additional effects on specific competence need satisfaction rather than the other specific need satisfaction. Children's parents provide positive but limited benefits to teachers' autonomy and relatedness satisfaction, represented in satisfying the global nature of all three needs. Additionally, as expected, specific relatedness need satisfaction can positively predict career calling. Consistent with the SDT and previous studies,[28,42] satisfying the relatedness need has unique effects on career calling, even after controlling for the effects of the other need satisfaction. However, specific autonomy need satisfaction has non-significant effects on career calling. Previous studies have shown that people could be called to their careers from internal summons (eg, passion and intrinsic interest) and external forces (eg, a higher power, family legacy, or needs from society or nation).[3] It implies a possibility that even though teachers' autonomy needs are not satisfied, they also could perceive a sense of career calling driven by external forces. These multiple guiding forces of career calling may explain the complex association between the autonomy need satisfaction and career calling. This conjecture needs further research to explore.

In summary, these different effects of three specific need satisfaction support the distinctive nature of each need satisfaction. As implied by previous studies,[23] this finding reflects that the explanatory power of autonomy and relatedness need satisfaction almost overlap with global need satisfaction rather than that they are not crucial for teachers' career calling. Specific autonomy and relatedness satisfaction may be the anchor into which people organize global need satisfaction. This result is similar to prior studies, in which global need satisfaction has been found anchored into specific autonomy satisfaction (eg, among university students)[43] and relatedness satisfaction (eg, among nurses).[23] Future studies can explore whether this finding varies across distinct occupations, career stages, or cultures.

Theoretical and Practical Implications

The present study has some theoretical contributions. First, our findings enrich the research literature on the predictors of career calling in non-Western cultures by helping to distinguish the unique role of different components of need satisfaction on career calling. Moreover, the present study expands the source of social support (ie, support from customers) benefiting individuals' career calling. It further explores the mediating mechanism, deepening our understanding of how social support promotes individuals developing career calling. Second, our results broaden the knowledge about the effects of parents' positive behaviour and again provide empirical evidence for prior studies' argument that customers' positive behaviour would benefit employees' positive work experiences during frequent customer-employee interactions.[34,44] Third, our results enrich the empirical evidence for the SDT that emphasizes the benefits of need satisfaction to personal flourishing,[17] validate the global and specific natures of need satisfaction in the Chinese kindergarten teacher sample, and indicate the distinctive nature of each need in Chinese culture.

Regarding the practical implications, our results imply that children's parents could be a critical resource to assist kindergarten teachers in perceiving career calling. Kindergarten teachers could develop stronger career calling when they frequently perceive social support from the children's parents. In the home-school partnership context, kindergartens could encourage children's parents to support teachers, creating more opportunities for teachers to perceive parent-initiated support. For example, the kindergarten could create various activities (eg, opening day for parents and parents as one-day teaching assistants) to guide parents to see teachers' dedication, professionalism, and importance, and enrich parents' knowledge about how to raise children scientifically. By engaging in these activities that enhance communication between teachers and parents, preschool parents would be more likely to express their appreciation, trust, and understanding to teachers, and they could also better cooperate with teachers in their daily educational work. In addition, our findings indicate that global and specific competence and relatedness needs satisfaction should be nurtured because those seem to be the core drivers of kindergarten teachers' career calling. Kindergartens should pay more attention to

teachers who feel unsatisfied with their psychological needs and take proactive measures to protect teachers' satisfying experiences with psychological needs at work. Empirical evidence has shown that supervisors could be trained via some intervention programs to display more need-supportive behaviour for employees.[45,46] It implies that educational departments or kindergarten principal training centres could implement some need support intervention programs for principals to satisfy teachers' three psychological needs.

Limitations and Future Directions

The present study has limitations, suggesting some avenues for future research. First, we only focused on the Chinese kindergarten teacher sample, limiting the results' generalization to broader populations. Future research could replicate and extend these findings to other cultures or occupations. Second, due to the self-report data, future studies can gather multiple-source information to avoid potential biases and social desirability. Third, due to some principals' limitations on the survey's answer time, we applied the shortened but widely-used measure for career calling. Future research could use multidimensional scales to provide more information. Fourth, our cross-sectional data would preclude causal inferences among variables, suggesting longitudinal designs in future studies. Fifth, we only focused on parent-initiated support. Future research can explore whether various sources of social support impact individuals' career calling differently. Finally, we only considered need satisfaction as the mediator. Based on SDT, need satisfaction and frustration are distinct and affect career calling differently.[29] Future studies can explore their combined mediating effect between parent-initiated support and teachers' career calling.

Conclusion

Our findings suggest that parent-initiated support is beneficial to kindergarten teachers' career calling. Based on the SDT, the present study indicates that teachers' global and specific competence need satisfaction are the mediating mechanisms linking parent-initiated support and teachers' career calling. Social support from children's parents could create a need-supportive environment to satisfy teachers' psychological needs (especially with the satisfaction of competence needs), which assist teachers in experiencing career calling. Thus, parent-initiated support is an important job resource for kindergarten teachers' development of career calling.

Ethics Statement

This study was approved by the Ethics Committee of Changchun Normal University. The procedures used in this study adhere to the tenets of the Declaration of Helsinki. All participants provided informed consent and allowed us to use their data for academic research and publication. All the participants were anonymous, and their data were protected.

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Disclosure

The authors report no conflicts of interest in this work.

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