

ORIGINAL ARTICLE

The relationship between optimism and job satisfaction for Chinese specialist nurses: A serial-multiple mediation model

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Abstract

Aim: This study aimed to examine the relationship between optimism, core self-evaluations, positive coping strategies, and job satisfaction for Chinese specialist nurses.

Methods: A cross-sectional design was used. Two hundred and seventy-eight Chinese specialist nurses answered the Chinese Minnesota Satisfaction Questionnaire, the Chinese Revised Life Orientation Test, the Chinese Core Self-Evaluations Scale, and the Chinese Simplified Coping Style Scale. Descriptive analysis, independent-sample T-tests, one-way analysis of variance, Pearson correlation analyses, and bootstrap method were conducted to analyze data.

Results: Total effect ($c = 0.860$, $SE = 0.143$, 95% CI 0.579–1.142) of optimism on job satisfaction was significant. The path through single mediation of core self-evaluations (point estimate = 0.165; 95% CI 0.041–0.318), the path through the single mediation of positive coping (point estimate = 0.124; 95% CI 0.042–0.254), and the path through both mediators (point estimate = 0.033; 95% CI 0.005–0.085) were all statistically significant. The total indirect effect was also statistically significant (point estimate = 0.322; 95% CI 0.151–0.535).

Conclusions: This study concluded that optimism was first sequentially associated with core self-evaluations and then associated with positive coping strategies, which was in turn related to job satisfaction of Chinese specialist nurses. Clinical nursing administrators should take measures that focus on improving specialist nurse job satisfaction to further improve their retention rates.

KEYWORDS

coping, core self-evaluations, job satisfaction, optimism, specialist nurses

1 | BACKGROUND

In recent years, due to multiple occupational stressors, the job satisfaction of nurses in China has been found to be low and declining, which constitutes a great challenge to

the global healthcare system (Wu, Wang, Lam, & Hesketh, 2014). Job satisfaction is defined as a pleasure or a positive emotional state that can be created by the perceived benefits of a person's job or job experiences (Nayeri, Forooshani, & Arabloo, 2018). The literature has revealed that nurses with decreased job satisfaction are more likely to suffer from physical and mental illness, such as depression, burnout, and other conditions (Kumar et al., 2007).

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The position of clinical specialist nurse emerged in the beginning of the 21st century in China as the result of the challenge to provide more comprehensive nursing care (Nie, Zhang, & Zhao, 2017). Advanced roles for nurses included more concentration on education, research, and clinical management to provide safe, accessible, and more effective health care (Nie, Zhang, & Zhao, 2017). Specialist nurses, whose numbers are scarce in China, are critical to the delivery of comprehensive health care in a country (Cao, Li, He, Liu, & Liu, 2015). Unfortunately, available data regarding specialist nurse retention rates are discouraging (Fairman, Rowe, & Hassmiller, 2011). Studies have indicated that the turnover rates for specialist nurses in 2011 and 2016 were 12.6 and 8.5%, respectively (Fairman, Rowe, & Hassmiller, 2011). Job satisfaction plays a significant role on nurse retention (Hairr, Salisbury, & Johannsson, 2014). When a higher level of job satisfaction is generated, there is an increase in professional commitment, which makes it easier for a person to stay in the profession (Hairr, Salisbury, & Johannsson, 2014).

As described above, it is necessary to explore the factors and relationships that affect specialist nurse job satisfaction, and the factors that can contribute to their intention to leave. Due to the increased recognition of the significance of workforce job satisfaction, the number of studies that have been performed on nursing job satisfaction have increased worldwide (Bautista et al., 2020; Uchmanowicz et al., 2019; Cheung & Lee, 2018; Mousazadeh, Yektatalab, & Momennasab, 2018). However, studies regarding Chinese nursing specialist job satisfaction have been limited.

2 | LITERATURE REVIEW

2.1 | Job satisfaction

In 2010, Hayes and Bonner (2010) reviewed the literature and summarized a number of factors that contribute to nursing job satisfaction labeled as intra-personal, inter-personal, and extra-personal factors (Hayes & Bonner, 2010). Intra-personal factors describe the attributes that the nurse brings as an individual to the job, such as their education, age, gender, and individual coping strategies (Hayes & Bonner, 2010). Inter-personal factors are those factors that relate to interactions between the nurse and others, and these include professional relationships and interactions among nurses and other medical staff (Hayes & Bonner, 2010). Extra-personal factors pertain to the attitudes of nurses toward the institution, and are described in terms of governmental policies, pay, and organization (Hayes & Bonner, 2010). Previous studies

that have investigated job satisfaction have paid more attention to job-related factors (Goh & Lopez, 2016; Wen, Zhang, Wang, & Tang, 2018). Individual characteristics are generally not easy to change, but they can reflect the responses of nurses in different positions to their job and help us to explore the internal mechanisms of job satisfaction.

2.2 | Optimism, coping strategies, and job satisfaction

Recent years have seen a growing interest in the influence of positive psychology on mental and physical health (Lianov, Fredrickson, Barron, Krishnaswami, & Wallace, 2019). Optimism, core self-evaluations, and positive coping strategies are important parts of positive psychology that have been found to be closely related to satisfaction (Rabinowitz, 2018; Zhang, Miao, Sun, Xiao, & Ren, 2014). Optimism is an aspect of an individual's positive trait or general tendency that can enable him or her to anticipate positive results, even in the midst of difficult and unfavorable situations (Monzani & Steca, 2014; Volkmann, Scharloo, Langguth, Kalkouskaya, & Salewski, 2013). Individuals who take an optimistic perspective often have more desirable adjustment outcomes and greater courage when tasks become difficult or when they encounter obstacles than those who do not (Gallagher, Long, & Richardson, 2019). Furthermore, prior studies have shown that optimism was crucial for the development of physical and mental health, reduction of burnout, and improvement in an individual's welfare including happiness, job performance, and satisfaction (Sansoni, De Caro, Marucci, Sorrentino, & Mayner, 2016; Chen, Perng, & Chang, 2016). Optimistic individuals have been reported to possess positive coping strategies and show greater persistence to a situation compared with their more pessimistic counterparts (Willis et al., 2016).

Coping strategies are defined as any cognitive or behavioral action used in response to stressors that exceed personal resources (Lazarus & Folkman, 2013). Coping strategies fall into two broad categories, namely positive and negative coping strategies (Vinothkumar, Arathi, Joseph, Nayana, & Jishma, 2016). Negative coping strategies do not reduce stress/strain in the long run but augment it, and these strategies include self-blame, escape/avoidance, wishful thinking, and other strategies (Vinothkumar et al., 2016). Positive coping strategies, such as problem solving or seeking advice, have been confirmed to reduce stress (Vinothkumar et al., 2016). A systematic review provided insights into how Iranian nurses handle stress, and this review examined that the

effect of coping strategies, especially positive coping, was associated with high job satisfaction and had important positive outcomes in several areas of health care (Ghiyasvandian, 2014). It is also well established that coping strategies are determined by one's internal state and external factors (Willis et al., 2016). Previous research has indicated that optimism is a ubiquitous human tendency and trait affecting the performance and coping styles of women in the workplace (Fry, 1995). With these findings in mind, the first hypothesis proposed is the following.

H1a: *Optimism and positive coping strategies should have a positive influence on job satisfaction.*

H1b: *Optimism is positively associated with positive coping strategies.*

H1c: *The relationship between optimism and job satisfaction is mediated by positive coping strategies.*

2.3 | Core self-evaluations, optimism, and job satisfaction

Core self-evaluation refers to an individuals' basic conclusions or basic evaluations of their own worthiness, effectiveness, and capability (Barač, Prlić, Plužarić, Farčić, & Kovačević, 2018). There are four traits that meet the criteria, including self-esteem, neuroticism, locus of control, and generalized self-efficacy (Barač et al., 2018). The relationship between these four traits and optimism are highly correlated, and this has been well examined in many studies (Ha, 2014; Bonsaksen et al., 2018). More precisely, there exists a high correlation between core self-evaluation and optimism. Core self-evaluation also has received great attention in the research of work experiences in recent years. For instance, a longitudinal study found that core self-evaluation contributed to higher job satisfaction (Wu, 2012). Moreover, the ability of core self-evaluations to mediate between optimism and life satisfaction was revealed in a cross-sectional study (Jiang, Li, Jiang, Yu, & Liu, 2014). Lai and Wing reported that women with high optimism separate themselves from the unemployment problem better than those with low optimism and prevent unemployment from damaging their self-concept and self-esteem, thus achieving job satisfaction (Lai & Wong, 1998). On the basis of existing research, a second hypothesis is proposed.

H2a: *Core self-evaluation is positively related to optimism and job satisfaction.*

H2b: *The relationship between optimism and job satisfaction is mediated by core self-evaluations.*

2.4 | Coping strategies and core self-evaluation

As mentioned earlier, coping strategies are affected by an individual's internal resources (Willis et al., 2016). More specifically, four traits of core self-evaluation are associated with effective coping strategies (van Mierlo et al., 2014). Prior studies have confirmed that individuals with higher core self-evaluations also engaged in less negative coping strategies (Virkes, Maslić Seršić, & Lopez-Zafra, 2017). Moreover, coping style had a partial mediating effect on the relationship between core self-evaluations and the burnout syndrome among Chinese nurses (Li, Guan, & Chang, 2014). According to the existing findings, a third hypothesis is proposed.

H3a: *Core self-evaluation is positively associated with positive coping strategies.*

H3b: *Optimism is first sequentially associated with core self-evaluations and then associated with positive coping strategies, which is in turn related to job satisfaction.*

Prior studies have examined the two or three variables mentioned above and their relationships in various kinds of samples. However, job satisfaction is a complex phenomenon, and the interactive path of these four intra-factors in Chinese specialist nurses is unknown. Here, the perspective of positive psychology was used to investigate protective factors of job satisfaction that could reduce work pressure in a cohort of specialist nurses. In brief, the aim of this study is to explore the relationship between optimism, core self-evaluation, positive coping strategies, and job satisfaction within a sample of Chinese specialist nurses. To our knowledge, there is a lack of cross-sectional studies that have explored the internal mechanisms of job satisfaction in Chinese specialist nurses. It is believed that this study will shed new light into current nursing research for two core reasons. First, based on the increasing number of studies that are investigating personality and job satisfaction, this study will deepen the understanding of this topic in a specific sample of Chinese specialist nurses. Second, our study will have useful implications for nursing practice and management. These implication include the design of better healthcare management programs to improve specialist nurse job satisfaction and retention rates and to facilitate a more effective nursing personnel selection process.

3 | METHODS

3.1 | Design and sample

This study used a cross-sectional design to examine the relationship between optimism, core self-evaluations, positive coping strategies, and job satisfaction for Chinese specialist nurses. Using purposive sampling, a total of 313 specialist nurses from 32 hospitals in Anhui Province, China were recruited for the present study. The respondent should meet the following selection criteria: (a) a specialist nurse, (b) understanding and reading skills, and (c) willing to participate in our research. All of the respondents had passed a series of strict examinations and finished their specialist nursing training in the following professional fields: intensive care, ambulance services, theater nursing, diabetes care, blood purification care, pediatric intensive care, colostomy care, oncology, and orthopedic nursing.

3.2 | Ethical consideration

After approval by the ethics committee of the author's institution (Approval No. 2018003), two trained researchers explained the purpose, importance and methods of the research to all respondents. Consent forms were also received before they filled in the questionnaires.

3.3 | Measures

The self-report questionnaire included the Sociodemographic Characteristics Questionnaire (SCQ), the Life Orientation Test (LOT-R), the Core Self-Evaluations Scale (CSES), the Simplified Coping Style Scale (SCSQ) and the Minnesota Satisfaction Questionnaire (MSQ).

The SCQ was designed to collect sociodemographic data, including gender, age, level of education (technical secondary school, junior college, college or above), years of service, and level of monthly income.

The LOT-R was used to assess the dispositional optimism of specialist nurses. The scale includes six items and each item is rated from 1 to 5 (1 = strongly disagree, 5 = strongly agree) (Kucmin, Kucmin, Turska, Turski, & Nogalski, 2018). The Chinese version of LOT-R examined adequate internal consistency (Zhao, Huang, Li, Zhao, & Peng, 2015; He, Cao, Feng, Guan, & Peng, 2013). The Cronbach's alpha coefficient for the LOT-R was .74 in our research.

The CSES was used to assess the core self-evaluations of specialist nurses. The scale is composed of 12 items, and items are rated from "strongly disagree" to "strongly

agree" (scored 1-5) (Smedema, Morrison, Yaghmaian, Deangelis, & Aldrich, 2016). The retest reliability for CSES is 0.81. (Judge, Bono, & Thoresen, 2003). The Cronbach's alpha coefficient calculated in the present study was .81.

The SCSQ was used to evaluate the coping style of specialist nurses. It consists of 20 items, including positive coping strategies (items 1-12) and negative coping strategies (items 13-20) (Chen et al., 2019). Multilevel scoring was used for each item (range 0-3), higher scores indicating higher frequencies of relevant coping (Chen et al., 2019). In the present sample, the Cronbach's alpha coefficients were .78, .71, and .79 for each subscale dimension of positive coping strategies, negative coping strategies, and the whole scale, respectively.

The MSQ was used to measure job satisfaction of specialist nurses. The questionnaire contains three dimensions, including intrinsic job satisfaction (12 items), extrinsic job satisfaction (six items), and general job satisfaction (two items) (Dong, Wang, Fan, Chen, & Mou, 2017). Items rate from "very dissatisfied" to "very satisfied" (scored 1-5) (Dong et al., 2017). Higher scores reflect a higher level of job satisfaction (Dong et al., 2017). The Cronbach's alpha coefficients for MSQ was .849 in our study. The Cronbach's alpha coefficients for the overall job satisfaction, intrinsic job satisfaction, extrinsic job satisfaction, and general job satisfaction subscales were .77, .76, .73 and .71, respectively.

3.4 | Data collection procedures

With the help of directors from the local nursing institute, two trained investigators selected the proper respondents according to the criteria listed above via an intelligent information system and contacted them. After granting permission, the participants completed the questionnaire anonymously via a web survey and sent the informed consent form back to the investigators via email.

3.5 | Data analysis

We analyzed the data by using IBM SPSS statistics version 24.0 for Windows (IBM Corp., Armonk, NY, USA). Descriptive and univariate analyses were used to describe and test the impact of basic sociodemographic variables on job satisfaction. A Pearson correlation analyses of the four variables (job satisfaction, core self-evaluations, optimism, and positive coping strategies) was performed. To test the important roles of core self-evaluations and positive coping strategies in mediating the relationship

between optimism and job satisfaction in this study, we adopted model 6 of PROCESS macro for SPSS provided by Hayes (2013). Following the recommendations of Hayes, we used 10,000 bootstrap bias-corrected 95% bias-corrected confidence intervals (CI) for mediation analyses in the test from the Serial-Multiple Mediation Model 6. If the 95% CI of the mediation effect did not contain zero, then the mediation effect would be significant at the .05 level. The core hypothesis model we tested was how optimism (the independent variable) influences job satisfaction (the dependent variable) via core self-evaluations (the first mediating variable) and optimism (the second mediating variable). Furthermore, both the direct and the total effect were tested. Age, education, years of service, and monthly income were treated as covariates.

4 | RESULTS

4.1 | Sociodemographic characteristics and univariate analyses

Of the 313 questionnaires distributed, 278 were found eligible for data analyses. All 278 of these Chinese specialist

nurses were married women. Demographic information and study measures for all of the participants were described as means and standard deviations or percentages. And the distribution of job satisfaction is shown in Table 1. The mean age of the sample ($n = 278$) was 30.62 ± 4.24 years (mean \pm SD), while the mean years of service was 9.53 ± 4.87 (mean \pm SD). The average scores of internal, external, general, and total job satisfaction among the specialist nurses were 43.22 ± 4.49 (mean \pm SD), 18.48 ± 3.29 (mean \pm SD), 6.89 ± 1.26 (mean \pm SD), and 68.58 ± 7.68 (mean \pm SD), respectively. Additionally, according to Table 1, there were no significant differences in job satisfaction related to age ($F = 0.48$, $p = .227$), education ($F = 1.75$, $p = .180$), years of service ($F = 0.72$, $p = .540$), and monthly income ($F = 1.13$, $p = .288$) among the participants.

4.2 | Correlation analyses

The Pearson correlations of the four variables are shown in Table 2. The results revealed that job satisfaction was positively associated with core self-evaluations ($r = .29$, $p < .01$), optimism ($r = .35$, $p < .01$), and positive coping

TABLE 1 Descriptive statistics and the distribution of job satisfaction

Category	Subcategory	Number of Chinese specialist nurses		Job satisfaction	
		N	%	Mean	SD
Age (year)	≤ 30	154	55.40	68.28	7.73
	31–40	116	41.73	68.86	7.76
	> 40	8	2.88	70.63	5.68
F				0.48	
p				.227	
Education	Technical secondary school	2	0.72	63.50	14.85
	Junior college	96	34.53	69.65	7.13
	College or above	180	64.75	68.59	7.68
F				1.75	
p				.180	
Years of service	≤ 5	73	26.26	67.51	8.04
	6–10	107	38.49	68.99	7.47
	11–20	92	33.09	68.87	7.72
	> 20	6	2.16	70.33	6.98
F				0.72	
p				.540	
Monthly income, RMB (US \$)	$\leq 3,000$ (≤ 480)	62	22.30	67.74	6.97
	$> 3,000$ (> 480)	216	77.70	68.83	7.88
F				1.13	
p				.288	

strategies ($r = .31, p < .01$). Core self-evaluations were positively related with optimism ($r = .41, p < .01$) and positive coping strategies ($r = .24, p < .01$). Moreover, optimism was positively correlated with positive coping strategies ($r = .27, p < .01$).

4.3 | Mediation analyses

As shown in Figure 1 and Table 3, total effect ($c = 0.860$, $SE = 0.143, t = 6.017, p < .001$) of optimism on job satisfaction was found to be significant, which supported H1a. The direct paths from optimism to positive coping strategies ($B = 0.376, SE = 0.105, t = 3.593, p < .001$) were significant, which supported H1b. And the path through the single mediation of positive coping strategies (point estimate = 0.124; 95% CI 0.042–0.254) was statistically significant, which supported H1c.

The paths from core self-evaluations ($B = 0.270$, $SE = 0.099, t = 2.729, p < .01$) and positive coping strategies ($B = 0.329, SE = 0.085, t = 3.859, p < .001$) to job satisfaction were significant, which supported H2a. The path through single mediation of core self-evaluations (point estimate = 0.165; 95% CI 0.041–0.318) was significant, which supported H2b.

The path from the first mediator (core self-evaluations) to the second mediator (positive coping strategies) was also significant ($B = 0.166, SE = 0.068, t = 2.424, p < .01$), which supported H3a. The path through both mediators (point estimate = 0.033; 95% CI 0.005–0.085) was significant, which supported H3b. Moreover, when optimism and the two mediating variables were entered into the model, the direct effect of optimism on job satisfaction was also found to be significant ($c' = 0.539$, $SE = 0.153, t = 3.516, p < .001$). Overall, these results revealed that serial-multiple mediation had occurred. The

TABLE 2 Correlations between job satisfaction, core self-evaluations, optimism, and positive coping strategies

Variables	1	2	3	4
1. Job satisfaction	1.00			
2. Core self-evaluations	0.29*	1.00		
3. Optimism	0.35*	0.41*	1.00	
4. Positive coping strategies	0.31*	0.24*	0.27*	1.00
Mean	68.59	35.47	14.51	23.62
Standard deviation	7.68	4.76	3.08	5.19

* $p < .01$.

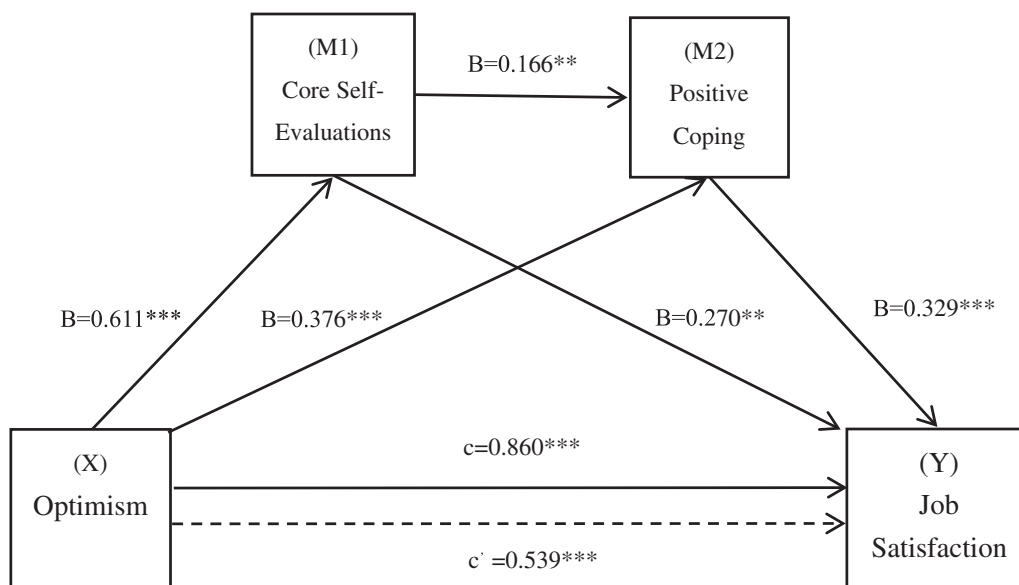


FIGURE 1 Serial-multiple mediation of core self-evaluations and positive coping strategies in the relationship between optimism and job satisfaction. Note: * $p < .05$, ** $p < .01$, *** $p < .001$

TABLE 3 Bootstrapping indirect effects and 95% confidence intervals (CI) for the final mediational model

	Point estimates	Boot SE	95% CI	
			Lower	Upper
Model pathways				
Total indirect effect of X on Y	0.322	0.096	0.151	0.535
X → M1 → Y	0.165	0.070	0.041	0.318
X → M1 → M2 → Y	0.033	0.020	0.005	0.085
X → M2 → Y	0.124	0.053	0.042	0.254
Contrasts				
Model 1 minus model 2	0.131	0.067	0.010	0.277
Model 1 minus model 3	0.041	0.083	−0.121	0.218
Model 2 minus model 3	−0.091	0.053	−0.219	−0.007

Note: N = 278. Number of bootstrap samples for bias-corrected bootstrap confidence intervals: 10,000. Level of confidence for all confidence intervals: 95%. X = optimism, M1 = core self-evaluations, M2 = positive coping strategies, Y = job satisfaction. Model 1 = optimism - core self-evaluations - job satisfaction; Model 2 = optimism - core self-evaluations - positive coping strategies - job satisfaction; Model 3 = optimism - positive coping strategies - job satisfaction.

total indirect effect was also statistically significant (point estimate = 0.322; 95% CI 0.151–0.535).

In addition, three pairs of contrasting findings were found. The path through single mediation by core self-evaluations was observed to have stronger mediating power than the path through serial-multiple mediation. Moreover, the path through single mediation by positive coping strategies was observed to have stronger mediating power than the path through serial-multiple mediation.

5 | DISCUSSION

This study was conducted on a sample of Chinese specialist nurses because there is a need to assess their job satisfaction and there is a lack of studies in this field. The level of job satisfaction was described, and a model of the relationship between optimism, core self-evaluations, positive coping strategies, and job satisfaction was developed. The results of this study found that the level of job satisfaction for Chinese specialist nurses was 68.58 ± 7.68 (mean \pm SD), which is considerably lower than the level found for nurses located in the United States (Sharp, 2008). However, this level was higher than levels found for nurses located in Iran and South Africa (Bagheri Hosseini et al., 2018; Khunou, 2016). These discrepancies in job satisfaction levels are attributed to differences in economic, social, and cultural backgrounds. In short, this finding reveals that the level of job satisfaction in Chinese specialist nurses was disappointing and proper intervention is urgently needed. Hence, the aim of this study was to examine the internal mechanisms of job satisfaction for Chinese specialist nurses.

In the mediation analysis, a model of the association of intra-personal factors of job satisfaction for Chinese specialist nurses was explored. This type of analysis is compatible with positive psychology (Fredrickson, 2001). The relationship between optimism and job satisfaction is mediated by positive coping strategies among Chinese specialist nurses, which is consistent with our first hypothesis. This result means that specialist nurses with higher levels of optimism and positive coping strategies tended to have higher levels of job satisfaction. In fact, this result was not surprising, as there is a positive relationship between optimism, positive coping strategies, and workplace outcomes (Kim & Han, 2019). It is possible to claim that optimists tend to think positively when coping with difficulties, which prevents them from experiencing negative moods (Gallagher, Long, & Richardson, 2019). Also, when positive individuals are faced with obstacles, they place a greater focus on interactions with society to seek more useful resources (Affinito & Louie, 2018). The next result was that optimism affected job satisfaction indirectly through positive coping strategies, which is similar to the results of past research (Chang, 2015). This could be ascribed to the belief that optimistic individuals have more positive attitudes toward stress (Ho et al., 2011). Therefore, they are more likely to utilize resources positively to deal with stressors, and job satisfaction is generated during the coping process (Vinothkumar et al., 2016).

It was also found that the relationship between optimism and job satisfaction is mediated by core self-evaluations for Chinese specialist nurses, which is compatible with the second hypothesis. It can be concluded that specialist nurses with higher levels of optimism and

core self-evaluations tended to have higher levels of job satisfaction. Additionally, optimism affected job satisfaction indirectly through core self-evaluations. It is well known that optimism and core self-evaluations are important positive internal resources for well-adjusted individuals to have physical health and happiness (Xu & Yu, 2019). Past research has found that individual optimism and core self-evaluations were positively correlated with job satisfaction (Sansoni et al., 2016; Wu, 2012). Individuals with a high level of core self-evaluation are capable, cope with job challenges, and are satisfied with their lives (Yoo & Lee, 2019). Naturally, those specialist nurses who believe they can overcome difficulties with good outcomes, even though they are experiencing a great deal of work stress, will have higher job satisfaction, which is indicated by attribution theory (Jiang et al., 2014). Both optimism and core self-evaluations have positive effects on job satisfaction, and optimism may benefit the enhancement of personal evaluations of oneself, eventually enhancing a person's life satisfaction (Jiang et al., 2014). Hence, it is easy to examine that core self-evaluation plays a part in the mediation effect between optimism and job satisfaction (Barač et al., 2018).

According to existing theory and research, when individuals are exposed to threats, they determine how to respond after appraising the situation, and personal traits can affect the manner in which people cope with stressors (Barač et al., 2018). Previous research has indicated that it is likely that those individuals with high core self-evaluations may select more adaptive or positive coping strategies, and this results in successfully facing challenging situations (Virkes, Maslić Seršić, & Lopez-Zafra, 2017). Therefore, the third hypothesis is supported. In particular, both optimism and core self-evaluation are positive traits, and these two traits are highly related to each other. Similarly, this study also confirmed the serial-multiple mediator model which states that core self-evaluations are first sequentially associated with optimism, and then with positive coping strategies, which are in turn related to job satisfaction.

5.1 | Limitations

Certainly, there are some limitations to the current study. First, the specialist nurses were recruited from only the Anhui Province, and future research should conduct a national analysis. Second, self-reported questionnaires were used in this study, and this can result in response biases. Therefore, objective measures should be used in future research. Third, this study utilized a cross-sectional design, and this type of design cannot establish causal relationships between optimism, core self-evaluations,

positive coping strategies, and job satisfaction. Future research should conduct related studies of longitudinal models to confirm these findings. Finally, the current study explored only three predictive factors of job satisfaction for specialist nurses. Other factors that may have an effect on job satisfaction should be investigated in future research.

6 | CONCLUSION

This study clearly implied that the level of Chinese specialist nurse job satisfaction was relatively low. The relationship between optimism, core self-evaluations, positive coping strategies, and job satisfaction among Chinese specialist nurses was explored using a serial-multiple mediation model. This study is the first study to show that optimism was first sequentially associated with core self-evaluations and then with positive coping strategies, which was in turn related to job satisfaction. Proper job satisfaction interventions for specialist nurses were also discussed in this study. In China, specialist nurses are selected via a series of strict examinations and training. From the results of this study, several suggestions for nurses and hospital managers were developed. Specifically, because both optimism and core self-evaluation are personal stable traits, administrators should add psychological testing to their application evaluation procedures to screen for specialist nurses with high levels of optimism and core self-evaluations, for these traits make staff more capable of minimizing negative moods. In addition, nursing administrators should arrange related academic forum or training sessions during the training of specialist nurses to help them to utilize positive coping strategies.

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DISCLOSURE

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

All authors contributed to the final manuscript. T.Z. wrote and revised the manuscript. H.P.L. and Q.W. designed the study. T.Z. and S.Y.M. collected and analyzed the data.

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