

EMPIRICAL RESEARCH QUANTITATIVE

Risk perception and quality of working life of nurses in infectious disease department in China: The chain-mediating effects of psychological resilience and social support

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Abstract

Aim: To determine whether social support and psychological resiliency are significant mediators of the associations between risk perception and quality of working life in Chinese nurses working with infectious diseases.

Design: A cross-sectional study.

Methods: A cross-sectional survey of 879 nurses in infectious diseases department of specialty or general hospitals in China completed online questionnaires on the nurses' risk perception questionnaire, quality of working life, psychological resilience and the social support rating scale.

Results: Our study observed that risk perception directly negatively influences the quality of working life of infectious disease nurses, while psychological resilience and social support positively chain mediate this relationship.

Conclusion: Critical elements impacting the quality of working life of infectious disease nurses are risk perception, psychological resilience and social support. Managers may think about decreasing the level of risk perception and enhancing the quality of working life of infectious disease nurses by enhancing their psychological resilience and providing support.

Public Contribution: The quality of working life of infectious disease nurses should be a priority for nursing management; it is critical to maintain their health and well-being, raise the quality of care and lower turnover. Managers should create resilience-building programmes and support tools to assist nurses properly perceive risks and adopt protective strategies to deal with them to improve the quality of working life for nurses.

KEYWORDS

nurses in infectious disease department, psychological resilience, quality of working life, risk perception, social support

Hong-li Zhang, Chao Wu and Meng-yi Hu contributed equally to this work.

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1 | INTRODUCTION

With environmental degradation, climate change, and other uncontrollable factors, infectious diseases have become more frequent in recent years (Garg & Garg, 2023). The novel coronavirus (COVID-19), for example, is considered to be the most serious health crisis in human history and poses an enormous challenge to the healthcare system (Alhassan et al., 2023; Garg & Garg, 2023). During a pandemic, frontline nurses experience varying degrees of mental health problems such as anxiety, depression and work withdrawal, damaging the quality of working life (AlAteeq et al., 2020; Zhang et al., 2023). Social stigmatization, mental stress and changes in working conditions and habits have left nurses in a state of chronic stress and distress, leading to increased turnover and exacerbating the shortage of nurses (Azizkhani et al., 2023). As nurses who specialize in caring for patients with infectious diseases, infectious disease nurses were prioritized for frontline deployment during the pandemic in China (Niu et al., 2022). They play an important role in the prevention, control and treatment of infectious diseases and are a vital force in the response to current and future pandemics (Wu et al., 2021). According to Yan et al. (2022) study of 1536 infectious disease nurses in China, they had higher occupational stress and lower job satisfaction and overall quality of life (Yan et al., 2022). Improving the quality of their working life is therefore an important issue.

According to the Job Demands and Resources Model (JD-R model), risk perception affects an individual's quality of working life (Demerouti et al., 2001). In addition, nurses' quality of working life has been shown to be closely related to their job characteristics, occupational stress, psychological resilience and social support (Fu et al., 2018; Malliarou et al., 2021; Peng et al., 2022). However, as a specialized field within nursing, there is less research on the ways and mechanisms by which the risk perception of infectious disease nurses affects their quality of working life. Therefore, this study aimed to explore the mediating roles of psychological resilience and social support between risk perception and the quality of working life of infectious disease nurses in the context of major public health emergencies.

2 | BACKGROUND

Quality of working life refers to the interaction between a person and the occupation he or she is engaged in (Yeung et al., 2023). The organization provides spiritual and material needs, and employees reap the benefits of satisfaction and a sense of belonging, enabling them to realize their potential and commit themselves to achieving the organization's goals (Sampaio et al., 2022). It is a reflection of keeping nurses healthy at work and better able to provide services to patients (Wang et al., 2023), and predicts job satisfaction and burnout (Mercan et al., 2023; Shdaifat et al., 2023). Among the factors influencing the quality of working life, risk perception is an important subjective influence (Li et al., 2021). It refers to a person's psychological feelings and subjective perceptions when faced with possible risks (Fu & Wang, 2022). Surveys in Turkey have shown that nurses' perceived risk of viral infection and fear of unknown viruses have a

negative impact on their quality of working life (Baysal et al., 2022). In Spain, the COVID-19 pandemic increased the perceived risk of health care workers, leading to impairment of mental health and a further decline in quality of working life (Ortega-Galán et al., 2020). During the pandemic in China, healthcare workers perceived a high risk of infection and chose to leave their jobs to avoid physical and psychological harm, which negatively impacted quality of working life (Liu et al., 2022). Infectious disease departments concentrate on caring for people with infectious diseases, which have an incubation period, complex routes of bacterial and viral transmission. In those departments, nurses face several physical and psychological threats, often leading to a high level of risk perception (Zhang et al., 2021), which can have a detrimental effect on quality of their working life. Therefore, we propose the following hypothesis:

Hypothesis 1. Risk perception negatively predicts quality of working life of infectious disease nurses.

Psychological resilience is the ability to cope positively with difficulties and minimize negative impacts (Hoşgör & Yaman, 2022; Pollock et al., 2020). Numerous studies have shown that psychological resilience is a protective factor against the risk of burnout and stress (Jiménez-Fernández et al., 2022; Lin et al., 2022). It has been found that the degree of risk perception is closely related to the level of psychological resilience (Collantoni et al., 2021). According to Masten's Risk-Resilience Model, risk perception increases negative emotions. Resilient people manage and defuse those emotions through internal self-regulation to restore homeostasis (Masten, 2001), which is an important factor in having a positive quality of working life. Nurses with high psychological resilience are able to transform negative emotions at work into positive experiences, facilitating personal career adjustment (Yang et al., 2022), which contributes to the quality of working life. Therefore, we propose the following hypothesis:

Hypothesis 2. Psychological resilience has a mediating effect on the relationship between risk perception and quality of working life in infectious disease nurses.

Social support refers to the assistance and support a person receives in their interactions with the external environment (Shen et al., 2022). In previous studies, people with high social support were better protected; they had a correct perception of risk and avoided the negative effects of high risk perception (Liu et al., 2022). During the Spanish pandemic, emotional or material support increased nurses' sense of security in coping with risks, nurses felt recognized and valued, and faced risky challenges with confidence, which contributed to a better quality of work life. Conversely, not having good social support increases the risk of contracting infectious diseases (Kamberi et al., 2021). Therefore, we propose the following hypothesis:

Hypothesis 3. Social support has a mediating effect on the relationship between risk perception and quality of working life in infectious disease nurses.

Several studies have found a strong relationship between psychological resilience and social support (Ntontis et al., 2023; Peng et al., 2023), with psychological resilience changing dynamically in a supportive environment, creating a virtuous circle between the two (Chang et al., 2022). During the Chinese pandemic, front-line nurses with high levels of social support had higher levels of psychological resilience and were more likely to adopt a positive coping style when faced with risk (Jiang et al., 2022). Social support was found to be a contributing factor to psychological resilience (Pineda et al., 2022). Moderate risk perceptions increase nurses' sense of self-protection, while excessive risk perceptions increase nurses' physical and psychological distress (Mo et al., 2022). Individuals with high levels of resilience can avoid the harm of risk, reverse it as a growth experience, and actively seek support and help (Gebhard et al., 2022). Social support plays an important role in coping with stress and may mitigate psychosocial risks (Wu et al., 2022). Getting support from family and friends to refuel, and from coworkers and leaders to work through difficulties is more likely to result in a high quality of working life (Zeng et al., 2022). Therefore, we propose the following hypothesis:

Hypothesis 4. Psychological resilience and social support act as chain mediators between risk perception and quality of working life in infectious disease nurses.

Based on the above assumptions, this study constructs a theoretical model for the study as shown in Figure 1.

3 | METHODS

3.1 | Participants

Our study utilized a cross-sectional design. Convenience sampling method was used to select 879 nurses in the infection diseases departments of general and specialized hospitals in 7 provinces and cities, including Shaanxi, Shandong, Zhejiang, Shanghai, Beijing, Hunan and Jiangsu, to conduct the questionnaire survey. Inclusion criteria were as follows: (1) registered nurses who had been practicing infectious disease nursing for more than 1 year and (2) informed consent and voluntary participation in this study. Exclusion criteria were as follows: (1) nurses who were not on duty during the survey period and (2) internship or rotation nurses.

3.2 | Instruments

3.2.1 | Socio-demographic characteristics

Socio-demographic characteristics collected include age, years of working, education level, job title and marital status.

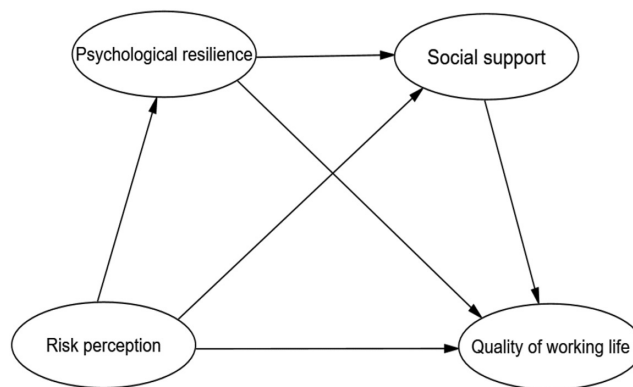


FIGURE 1 Theoretical framework of multiple mediating hypotheses for risk perception and quality of working life: (1) risk perception can affect the quality of working life; (2) risk perception affects quality of working life by means of psychological resilience; (3) risk perception affects quality of working life by being social support; (4) psychological resilience and social support act as mediators among risk perception and quality of working life.

3.2.2 | Measurement of risk perception questionnaire for nurses

The Chinese version of the nurses' risk perception questionnaire was developed by Zhang Xinwei (Zhang et al., 2016). The Cronbach's alpha coefficient of this scale is 0.947, which has good reliability and is widely used in nursing research (Chen, 2017). The questionnaire covers six dimensions, including physical safety risk (five items), physical function risk (four items), occupational exposure risk (four items), psychosocial risk (five items), organizational factors risk (four items) and time risk (six items). The questionnaire was administered on a 5-point Likert scale, with scores of 1–5 being *never*, *rarely*, *sometimes*, *often* and *almost always*. Scores ranged from 28 to 140, with higher total scores indicating greater risk awareness among nurses. For our study, the Cronbach's alpha coefficient was 0.97.

3.2.3 | Measurement of social support rating scale

The Chinese version of the social support rating scale was produced by Xiao Shuiyuan (Xiao, 1994). The scale has a high level of validity and reliability and is widely used in domestic and international studies (Pei et al., 2021; Zhang et al., 2020). The scale contains 10 items with 3 dimensions. Among them, four items were for subjective support, three items were for objective support and three items were for social support utilization. Items 1–4 and 8–10 are single-choice, with options 1, 2, 3 and 4 scoring 1, 2, 3 and 4 in order. The fifth item was designed with A, B, C and D receiving four points, and each option, from 'no' to 'full support,' received 1 to 4 points. In the sixth and seventh items, those who choose 'no source' will score 0 points, while those who choose 'the following sources' will be scored according to the number of choices; the

total score of the 10 items will be the total score of social support, which ranges from 1 to 66, with higher scores being associated with more social support. For our study, the Cronbach's alpha coefficient was 0.82.

3.2.4 | Measurement of psychological resilience

The psychological resilience scale was translated and revised by Chinese academic Nan Xiao et al. (Cheng et al., 2020). A total of 25 items and 3 dimensions, including resilience (13 items), strength (8 items) and optimism (4 items), were scored using Likert 5 scale. Each item is rated from '0' to '4', representing 'never' to 'always'. With a full score of 100, 0–56, 57–70 and 71–100 are low, medium and high levels, respectively. The scale has high validity and reliability and is extensively used around China (Chen et al., 2022; Xue et al., 2022). The Cronbach's alpha coefficient for our study was 0.96.

3.2.5 | Measurement of quality of working life

The quality of working life scale was developed by the West China School of Public Health, Sichuan University, China (Zhang et al., 2013). The scale is widely used in China to measure and evaluate the quality of working life of occupational groups, and the Cronbach's coefficient for the scale is 0.920, which provides satisfactory reliability. There are 7 dimensions and 32 items, including physical health (8 items), mental health (5 items), career satisfaction (8 items), career pride (3 items), career competence (2 items), work initiative (4 items) and career-family balance (2 items), were scored using a 5-point Likert scale. The total score is between 32 and 160, and the higher the total, the higher the quality of working life. For our study, the Cronbach's alpha coefficient was 0.95.

3.3 | Data collection

From June to September 2022, nurses were invited to participate in the study by distributing an anonymous e-questionnaire link to the nurses' WeChat group with the support and help of the hospital administrators and head nurses. The first page of the questionnaire described in detail the purpose and significance of the study, the method of completing the questionnaire, and the precautions to be taken. Nurses clicked on the 'Informed consent, voluntary participation' button to enter the questionnaire filling process. This was used to obtain informed consent from the nurses. We set the background settings to allow each IP address to complete the questionnaire only once, and the completion process took no less than 15 min. At the end of the survey, 900 questionnaires were collected. After excluding 21 incomplete questionnaires, a total of 879 valid questionnaires (97.67%) were returned.

3.4 | Statistical analysis

Descriptive statistics, correlation analysis and hierarchical linear regression analysis were performed using SPSS 26.0. In descriptive statistics, continuous variables were expressed using mean and standard deviation, and categorical variables were expressed using frequency and percentage analysis. We used Pearson's correlation coefficient to test the correlation between the variables. Stepwise multiple linear regression was used to analyse the effects of risk perception, psychological resilience and social support on nurses' quality of working life, where the probability that the independent variable has F in the equation is set to $\alpha_{\text{enter}} = 0.05$ and $\alpha_{\text{move}} = 0.10$.

Structural equation modelling (SEM) was conducted using AMOS 24.0 to explore the mechanisms by which psychological resilience and social support mediate the association between risk perception and quality of working life. Specifically, we used Bootstrap to measure and fit the model with 5000 replicate samples, with 95% confidence intervals not including 0 to indicate the significance of the mediating effect. Model fit indices: χ^2/df (χ^2 goodness-of-fit test) < 5, CFI (comparative fit index) > 0.90, TLI (Tucker–Lewis index) > 0.90, RMSEA (root mean square error approximation) < 0.08, SRMR (standard root mean-square residual) < 0.08 (Zhang et al., 2023). In addition, we used Harman's one-way test to check for common method bias, conducted exploratory factor analyses on all items from the four questionnaires, and assessed 23 factors with eigenvalues greater than 1 using nonrotated factor analyses. Given that the variance explained by the first common factor did not exceed the 40% criterion (23.440%), there was no significant common method bias in our study (Podsakoff et al., 2003).

3.5 | Ethical approval

The study was carried out under the ethical guidelines described in the Declaration of Helsinki. Written informed consent was obtained from all participants prior to the study, and they were informed that they could refuse to participate or withdraw from the study at any time. Ethical approval for this study was obtained from the Ethics Committee of Xijing Hospital, Fourth Military Medical University (KY20224143-1).

4 | RESULTS

4.1 | Sample feature

Table 1 summarizes the demographic of the participants. The mean age of the nurses was 32.61 years (SD = 6.42; 20–59 years), the average length of work was 5.09 years (SD = 6.22; 0–40 years) and the majority of participants were married (71.1%). Additionally,

15.2% had a junior college degree, 84.3% had a bachelor's degree and 0.5% had master's degree or higher. Lastly, in our sample, there were 96.7% participants with junior and mid-level professional titles.

4.2 | Descriptions and correlations of study variables

The results of our descriptive statistics and Pearson's correlation analysis of the data are shown in Table 2. Risk perception was significantly negatively associated with psychological resilience ($r = -0.230$, $p < 0.01$), social support ($r = -0.213$, $p < 0.01$), and quality of working life ($r = -0.644$, $p < 0.01$). Psychological resilience was significantly and positively associated with quality of working life ($r = 0.476$, $p < 0.01$), and with social support ($r = 0.416$, $p < 0.01$). Social support was significantly positively correlated with quality of working life ($r = 0.394$, $p < 0.01$).

TABLE 1 Sample demographics (N=879).

Variables	Category	Number	Percentage (%)
Age	20~29	314	35.7
	30~39	452	51.4
	≥40	113	12.9
Marital status	Unmarried	254	28.9
	Married	625	71.1
Education	Junior college	134	15.2
	Bachelors	741	84.5
	Masters or above	4	0.5
Years of working	<3	457	52.0
	3~10	191	21.7
	>10	231	26.3
Professional title	Junior	463	52.7
	Intermediate	387	44.0
	Senior	29	3.3

TABLE 2 Means, SD and correlations between the variables.

	1	2	3	4
1. Risk perception	1			
2. Psychological resilience	-0.230**	1		
3. Social support	-0.213**	0.416**	1	
4. Quality of working life	-0.644**	0.476**	0.394**	1
M	2.98	3.35	4.11	3.25
SD	0.78	0.65	0.87	0.58

Note: N=879.

** $p < 0.01$.

4.3 | Stepwise multiple linear regression of factors affecting the quality of working life of nurses in infectious diseases

Multiple linear regression analysis was used to analyse the effects of risk perception, psychological resilience and social support on the quality of working life of infectious disease nurses (Table 3). In the regression equation, quality of working life was the dependent variable and risk perception, psychological resilience and social support were the independent variables. The results showed that risk perception was a negative predictor of quality of working life ($p < 0.001$), psychological resilience and social support were positive predictors ($p < 0.001$), and the three variables explained a total of 54.9% of the total variance in the quality of working life of infectious disease nurses.

4.4 | The mediation model

We checked to make sure each model fit index complies with the standards. The findings demonstrate that all fit indices of the model meet the suggested criteria. Fit indices are as follows: χ^2 goodness-of-fit test ($\chi^2/df = 4.354 < 5.0$), Tucker-Lewis index (TLI) = 0.949 (> 0.80), comparative fit index (CFI) = 0.959 (> 0.80), root mean square error approximation (RMSEA) = 0.062 (< 0.08), standard root mean-square residual (SRMR) = 0.033 (≤ 0.08).

In Figure 2, risk perception was directly negatively affected on psychological resilience ($b = -0.244$, $p < 0.001$), and indirectly affected social support ($b = 0.470$, $p < 0.001$) and quality of working life ($b = 0.189$, $p < 0.001$). Risk perception was directly negatively affected by social support ($b = -0.164$, $p < 0.001$) and indirectly affected by quality of working life ($b = 0.189$, $p < 0.001$). Risk perception was directly negatively affected by the quality of working life ($b = -0.614$, $p < 0.001$). Figure 2 displays the route coefficients between the variables as well as the standardized loadings of the observable variables on each latent variable.

Table 4 shows the confidence intervals for the values of the mediating effects of the chain model. The results show that the analyses indicate that risk perception has a significant negative effect on quality of working life, in line with Hypothesis 1,

TABLE 3 Multiple linear regression analysis of factors influencing nurses' quality of working life.

	Variable	B	β	t	R ²	F	p
Level 1	(Constant)	4.683	-	78.771	41.4	619.861	<0.001
	Risk perception	-0.481	-0.644	-24.897			<0.001
Level 2	(Constant)	3.468	-	34.973	52.8	489.883	<0.001
	Risk perception	-0.422	-0.564	-23.646			<0.001
	Psychological resilience	0.310	0.347	14.535			<0.001
Level 3	(Constant)	3.174	-	29.518	54.9	354.692	<0.001
	Risk perception	-0.407	-0.544	-23.118			<0.001
	Psychological resilience	0.255	0.285	11.248			<0.001
	Social support	0.106	0.160	6.350			<0.001

with a total effect of 0.544, ($p < 0.001$, 95% C [-0.488, -0.602]). However, psychological resilience and social support played a partial mediating role in the mediation model. In Hypothesis 2, risk perception had a significant mediating effect on quality of working life through psychological resilience with an indirect effect of 0.048 ($p < 0.001$, 95% CI [-0.074, -0.026]). In Hypothesis 3, risk perception had an indirect effect of 0.023 ($p < 0.001$, 95% CI [-0.042, -0.011]) on quality of working life through social support. In Hypothesis 4, there was a significant chain mediated effect of psychological resilience and social support between risk perception and quality of working life. The indirect effect was 0.016 ($p < 0.001$, 95% CI [-0.008, -0.029]). Figure 1 shows the path model's theoretical framework.

5 | DISCUSSION

This study is the first to examine the impact of risk perception on quality of working life of nurses in Infectious Diseases Department, and to elucidate the chained mediating role of psychological resilience and social support. We sought to enhance the quality of working life of infectious disease nurses by identifying the predictive roles and impact pathways of risk perception, psychological resilience and social support.

This study explored the relationship between risk perception and quality of working life in infectious disease nurses and found that nurses with high risk perception had low quality of working life. The findings of the study support our hypothesis. This is contrary to the findings of Andrej Kirbiš, where risk perception may also have a beneficial impact on some work- and health-related outcomes. One example is the perceived risk of infectious diseases, which, for example, decreases vaccine hesitancy, which is a critical issue in some parts of the medical staff, especially among nurses (Kirbiš, 2023). According to the JD-R model, job demands require individuals to give physically or mentally can lead to a decrease in the quality of working life (Gameiro et al., 2020). Risk perception disrupts nurses' cognition and attention, drains nurses' coping resources and creates negative emotions that may lead to a decrease in the quality of working life (Li et al., 2021). In developed Western countries, nurses can practice independently and do not need the supervision of a

doctor anymore (Dunn & Pryor, 2023). The social status of nurses is higher, and the quality of working life is also high. In China, on the other hand, nurses can only carry out medical orders in their work (Zulfiqar et al., 2023). This is unfavourable to their quality of working life. Nursing manpower levels in China are lower than in developed countries, and nurses are at higher risk for musculoskeletal disorders because of their heavy workloads (Shen et al., 2020). In addition, nurse-patient relationships are strained and nurses are at high risk of experiencing workplace violence (Shi et al., 2021).

In this study, the quality of working life of nurses in the infectious disease department was moderate, lower than that of nurses in intensive care units and emergency departments (Chegini et al., 2019; Javanmardnejad et al., 2021). Therefore, measures should be provided to improve their perception of risk, in favour of promoting the quality of working life of nurses.

In Figure 2, the SEM shows that psychological resilience plays an important mediating role between risk perception and quality of working life. According to resource conservation theory, stress occurs when resources are threatened with loss or when resources are already lost (Lee et al., 2023). Risk perception serves as an important factor in depleting nurses' psychological resources, while reduced quality of working life is a manifestation of stress (Stefanatou et al., 2022). The findings show that high levels of risk perception undermine nurse resilience and further reduce quality of working life (Baysal et al., 2022), while nurses with high levels of resilience are able to cope with risk and have high levels of quality of working life (Sukut et al., 2022). Psychological resilience encourages individuals to explore coping skills, including self-regulation, objective analysis of facts, planning and problem solving to avoid negative consequences (e.g. reduced quality of working life) (Pehlivan Saribudak et al., 2023). Therefore, managers can take resilience training measures to effectively reduce the perception of risk and enhance the quality of nurses' working life.

The results of this study show that social support partially mediates the relationship between risk perception and quality of working life in infectious disease nurses. According to the JD-R model, high work demands (risk perception) and low work resources (social support), may lead to a reduction in quality of working life (Gameiro et al., 2020). Conversely, good social support can prevent or reduce the decline in quality of working life triggered

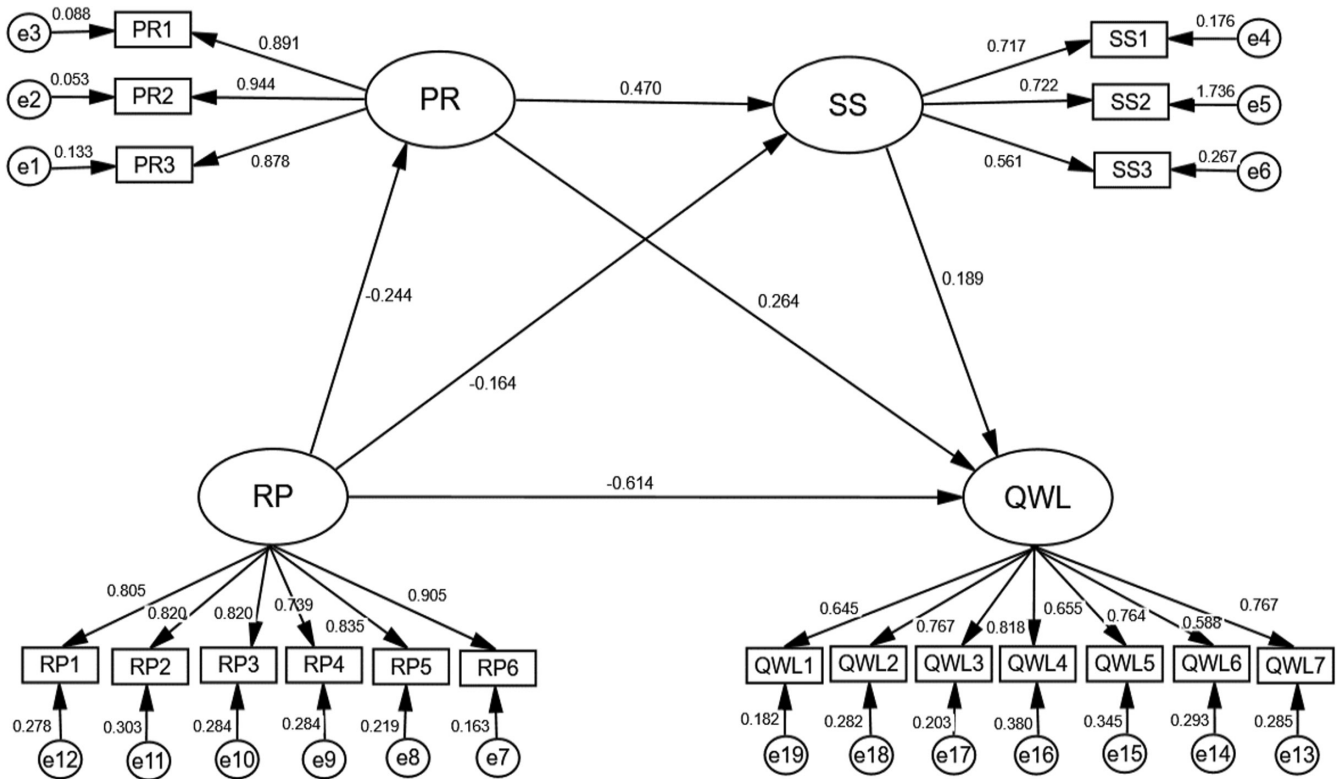


FIGURE 2 Multiple mediation model of risk perception and quality of working life. PR, psychological resilience; PR1-PR3, significant variables of psychological resilience; QWL, quality of working life; QWL1-QWL7, significant variables of quality of working life; RP, risk perception; RP1-RP6, significant variables of risk perception; SS, social support; SS1-SS3, significant variables of social support. *** $p < 0.001$.

TABLE 4 Analysing the results of the chain mediated model.

Path	B	95% CI	
		LLCI	ULCI
RP → PR → QWL	-0.048	-0.074	-0.026
RP → SS → QWL	-0.023	-0.042	-0.011
RP → PR → SS → QWL	-0.016	-0.029	-0.008

by risk perception (Ruiz-Fernández et al., 2021). Lack of support such as protective equipment, trust and emotional safety during a pandemic leads to elevated risk perceptions (Latsou et al., 2022). In addition, traditional Chinese culture emphasizes that family has a great influence on a person and that support from family members can enable individuals to move forward in their careers. In a study by Yan et al. (2022), infectious disease nurses reported that family members misunderstood their work and rarely supported them. This was detrimental to their quality of working life (Yan et al., 2022). Therefore, nursing administrators should enhance support for nurses in the form of providing all the necessary information, ensuring appropriate communication and other forms of support. Furthermore, it would be beneficial to provide training skills, career development opportunities to enhance nurses' confidence and make it easier for them to face up to the risks of the job and take reasonable countermeasures.

The study found a cascading mediating effect of psychological resilience and social support on risk perceptions and quality of working life in infectious disease nurses, supporting the hypothesis. The JD-R model has two paths. The first one, the motivational path divides the job resources into two forms: intrinsic (psychological resilience) and extrinsic (social support). Good job resources promote career development, increase good work experiences and reduce job demands (risk perceptions), generating positive outcomes (improved quality of working life) (Crawford et al., 2010). The second one, the interaction path, includes job demands and job resources that interact with each other. The more job resources an individual has, the more they are able to resist the negative effects of job demands (Gameiro et al., 2020). In this study, infectious disease nurses with higher resilience were more likely to have access to social support resources, enabling them to confront and cope with risk perceptions and improve their quality of working life. Therefore, according to our findings, the quality of working life of infectious disease nurses can be improved by increasing their level of psychological resilience and strengthening the pathway of risk-resistant support measures.

6 | LIMITATIONS

This study has a number of limitations. First, inferences of causality could not be established using a cross-sectional research design. In

addition, data collection was based on a self-reported questionnaire format, which is highly subjective and may be biased. Finally, in our study, we surveyed 879 infectious disease nurses in China, a small sample size that may affect certain statistical analyses or the ability to extend results to the general population. The next study will expand the sample size and scope of the survey and use a randomized controlled trial approach to assess the impact of psychological resilience and social support interventions on risk perceptions and the quality of working life of infectious disease nurses. We will also consider the impact of other factors on nurses' quality of working life and use a longitudinal study to validate the results.

7 | CONCLUSION

We extended the study of mechanisms of quality of working life. In this study, the quality of working life of infectious disease nurses was examined, and it was discovered that risk perception has a detrimental predictive effect on quality of working life, and social support and psychological resilience have been shown to have significant mediation effects on risk perception and quality of working life.

8 | RELEVANCE TO CLINICAL PRACTICE

Hospitals and nursing administrators should improve working conditions for infectious disease nurses to enhance their professional identity, optimize the quality of care, and stabilize the field for future emergencies. Nurses can be guided to correctly perceive risks by conducting lectures on workplace safety knowledge and skills, and drills on risk warning skills. Effective training programmes can also be developed to boost nurses' psychological resilience and promote their self-regulation. At the same time, necessary social support resources are provided to infectious disease nurses to build trusting relationships with nurses and to provide adequate emotional safety to further minimize the harm caused by risk perception and to improve the quality of working life. In conclusion, hospital administrators need to pay more attention to this special work group.

AUTHOR CONTRIBUTIONS

Hong-li Zhang, Chao Wu, and Meng-yi Hu were responsible for the design, data analysis, and article writing. Wen-jing Ma is involved in distributing and returning the questionnaires and checking for compliance. Xiao-ling Xu and Rui-jie Shi provided guidance on the design from a statistical perspective. Hong-juan Lang directed the study design and interpretation.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

ETHICS STATEMENT

The study was carried out under the ethical guidelines described in the Declaration of Helsinki. Written informed consent was obtained from all participants prior to the study, and they were informed that they could refuse to participate or withdraw from the study at any time. Ethical approval for this study was obtained from the Ethics Committee of Xijing Hospital, Fourth Military Medical University (KY20224143-1).

FUNDING INFORMATION

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SUPPORTING INFORMATION

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