The impact of moral resilience on nurse turnover intentions: the mediating role of job burnout in a cross-sectional study

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Abstract

Background High nursing staff turnover is a critical issue that negatively impacts the quality of care and patient safety. Turnover intentions, a key predictor of actual turnover, reflect an individual's likelihood of leaving their current position. Understanding the underlying mechanisms driving nurse turnover intentions is crucial for developing targeted interventions to stabilize the nursing workforce globally.

Objectives This study aims to explore the relationship between moral resilience, job burnout, and turnover intentions among nurses, focusing on the mediating role of job burnout in this relationship.

Design This study employed a quantitative, cross-sectional design.

Methods A convenience sample of 322 registered nurses was recruited from two tertiary hospitals in China between August and October 2023. Data were collected using the Chinese version of the Rushton Moral Resilience Scale (Chi-RMRS), the Maslach Burnout Inventory (MBI), and the Turnover Intention Scale. Data analyses were conducted using SPSS 26.0 and Amos 21.0. The study followed the STROBE guidelines for observational research.

Ethical consideration Before the commencement of data collection, the Institutional Review Board of Hunan Traditional Chinese Medical College (YXLL202401004) granted ethical approval.

Results The proposed model exhibited an excellent fit to the data, with fit indices as follows: $\chi^2/df = 1.819$, CFI = 0.977, TLI = 0.961, RMSEA = 0.072 (90% confidence interval [CI]: 0.033 to 0.107). The structural equation model revealed that moral resilience was inversely associated with job burnout and turnover intentions. Furthermore, job burnout fully mediated the relationship between moral resilience and turnover intentions ($\beta = -0.473$, $p = 0.007$). Further analysis indicated that the depersonalization component of job burnout was the sole mediator in the relationship between moral resilience and turnover intention ($\beta = -3.934$, 95% CI [-5.837, -1.932]).

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Conclusion The findings indicate that moral resilience among nurses is negatively associated with turnover intentions, with this effect fully mediated by the depersonalization dimension of job burnout. Enhancing moral resilience in nurses may be valuable strategy for healthcare administrators to mitigate job burnout and subsequently reduce turnover intentions.

Keywords Nurses, Turnover intention, Job burnout, Moral suffering, Moral resilience

Introduction

The global healthcare system is currently in the midst of a significant shortage of professional nurses, a crisis that is estimated to reach a deficit of 13 million in the near future [1]. This shortage is largely attributed to an aging population and the enduring effects of the COVID-19 pandemic [2]. The high nursing turnover rates, which significantly contribute to this shortage [3], not only increase nursing errors and clinical workloads but also reduce the quality of care, patient satisfaction, and nurse career development [4–6], while imposing substantial financial burdens on healthcare systems due to the costs of recruiting and training new staff [7, 8]. This creates a vicious cycle of diminished team efficiency and morale, further exacerbating turnover [9, 10]. Turnover intentions among nurses, defined as the likelihood of nurses permanently leaving their positions, are robust predictors of actual turnover [11]. Investigating these intentions provides valuable insights into employee needs, forming the basis for effective retention strategies [12, 13]. Global variation exists in nurse turnover intentions, with notable rates reported in countries such as the United States [14], China [15], Japan [16], and Thailand [17], particularly in the wake of the COVID-19 pandemic. Despite extensive research efforts, high turnover rates persist, highlighting the urgent need for a deeper exploration of the factors influencing these intentions and the underlying mechanisms [18].

Job burnout, characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment, is a significant predictor of turnover intentions among nurses [19]. Nurses are more susceptible to burnout due to the demanding nature of their work, which involves sustained patient contact and the provision of continuous care, often under stressful conditions [20]. The detrimental effects of burnout extend beyond individual well-being, affecting job satisfaction and organizational commitment and ultimately compromising the quality of care and safety [21–23]. Furthermore, the economic implications of burnout-induced turnover are considerable, with estimates indicating an average annual cost of $16,736 per nurse [24]. Given these consequences, it is imperative to identify and address the factors contributing to job burnout to reduce turnover intentions effectively.

Despite the ethical dimensions inherent in nursing practice [25], the influence of ethical factors on nurse turnover intentions remains underexplored. Understanding the mechanisms by which ethical challenges contribute to turnover intentions could provide valuable insights for developing targeted interventions. In this context, moral resilience has emerged as a beacon of hope, a potential strategy to mitigate the adverse consequences of burnout and subsequent turnover intentions [26, 27]. Moral resilience refers to the capacity to preserve or restore moral integrity in response to moral complexities, confusion, distress, or setbacks in daily practice [28]. As a virtue, moral resilience not only protects nurses' well-being and professional values but also enhance their ability to deliver high-quality care [29]. It plays a crucial role in managing ethical dilemmas, reducing psychological distress, and preventing personal injury [30]. Although interdisciplinary research suggests a negative correlation between moral resilience and both job burnout and turnover intentions, empirical studies specifically focusing on registered nurses are scarce, highlighting the need for further investigation.

The Job Demands-Resources (JD-R) model provides a comprehensive framework for understanding the interplay between job demands, job resources, and their impact on burnout and turnover intentions [31]. According to this model, job demands, such as work intensity, emotional stress, and ethical conflicts, require sustained physical or psychological effort, leading to physiological and psychological costs, including fatigue, anxiety, and burnout [32]. Conversely, job resources, which facilitate goal achievement and foster personal growth, can buffer the impact of job demands, thereby reducing the likelihood of burnout [33]. Within this framework, burnout is a critical outcome that can impair physical and emotional health [34], diminish job satisfaction, and increase the propensity for absenteeism and turnover [35, 36].

Moral resilience can be conceptualized as a job resource within the JD-R model [37]. As a significant personal trait, moral resilience equips individuals with job demands, mitigates burnout, and maintains work engagement. This is particularly pertinent in healthcare settings, where ethical dilemmas and moral distress are frequently encountered [26]. Theoretical perspectives suggest that individuals with higher moral resilience can better manage moral distress, reducing the risk of burnout and the associated turnover intentions [27, 38]. This capacity to maintain moral integrity and a strong sense of job embeddedness may explain the protective role of

moral resilience against job burnout and turnover intentions [39].

Empirical evidence supports these theoretical propositions. Studies indicate that healthcare professionals with higher levels of moral resilience experience lower levels of burnout and are less likely to develop turnover intentions and alleviate moral distress, thereby reducing burnout [11, 20]. Furthermore, research consistently demonstrates that burnout significantly predicts turnover intentions [40]. For example, in social work, professionals experiencing high levels of burnout are more likely to express intentions to leave their positions, with job satisfaction often mediating this relationship [41].

Despite the growing body of research, the specific pathways through which moral resilience influences turnover intentions via job burnout still need to be explored, particularly in nursing. The JD-R model provides a robust theoretical basis for investigating these relationships. By examining how job resources, such as moral resilience, can counteract job demands and reduce burnout, this study aims to elucidate their impact on turnover intentions among nurses. To address this gap, we propose the following hypotheses: (1) nurses' moral resilience is negatively associated with their job burnout and turnover intentions, and (2) job burnout mediates the relationship between moral resilience and turnover intentions among registered nurses.

Materials and methods
Design
This study employed a cross-sectional, online questionnaire survey design. The results were reported according to the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines [42].

Participants
Participants were recruited using a convenience sampling strategy from two tertiary hospitals in China between August and October 2023. Eligible participants included professional nurses aged 18 years or older with a valid nursing practice license and a minimum of one year of clinical experience. Participation in the study was voluntary. Exclusion criteria included nurses in administrative roles, those currently on any form of leave (e.g., sick, maternity, or marriage), and those with serious illnesses. Based on recommended guidelines [43], the initial target sample size was set at 200. However, considering an anticipated response rate of 66–83% observed in the previous survey [44], the theoretical sample size was adjusted to 234 to 268. To enhance statistical power and accommodate potential non-responses or incomplete data, we determined a final sample size of 322 participants.

Data collection
Data collection was conducted using the WenJuanXing platform (https://www.wjx.cn). The principal researcher established collaborative relationships with chief nurses at the two hospitals to facilitate survey dissemination. Initially, the principal researcher provided a comprehensive overview of the study to all participating chief nurses, who subsequently briefed the registered nurses within their respective hospitals. The survey link was distributed via WeChat working groups. Participants were required to provide informed consent before accessing the survey, with assurances that participation was voluntary and could be withdrawn at any time without any adverse effects on their careers. A pilot study with 8 registered nurses indicated that completing the questionnaires took 6 to 15 min. Therefore, responses that took less than 6 or more than 15 min were excluded to ensure data quality, as these might indicate rushed or inattentive completion.

Instruments
Sociodemographic information
A sociodemographic data form was developed, informed by prior research [29, 45, 46], to collect participants' sociodemographic information, including age, length of employment, gender, place of birth, marital status, educational level, type of employment, professional title, night shift frequency, and monthly income.

Rushton moral resilience scale
Moral resilience was assessed using the Rushton Moral Resilience Scale (RMRS), initially developed by Heinze and colleagues, which demonstrated a Cronbach's alpha (α) of 0.84 [26]. The scale comprises 17 items, divided into four subscales: response to moral adversity, personal integrity, relational integrity, and moral efficacy. Participants respond on a 4-point Likert scale, with scores ranging from 1 (disagree) to 4 (completely agree). The overall moral resilience score was calculated as the average of the 17 items, with higher scores indicating greater resilience. Our team translated and validated the Rushton Moral Resilience Scale (RMRS) into Chinese, resulting in three subscales: ability to cope with adversity flexibly, relational moral soundness, and moral efficacy [29]. The Chinese version of the RMRS showed satisfactory reliability, with a Cronbach's alpha of 0.811. In this study, the scale achieved a Cronbach's alpha of 0.761.

Maslach burnout inventory scale
Job burnout was measured using the Chinese version of the 16-item Maslach Burnout Inventory-General Survey (MBI-GS), demonstrating high reliability and validity among Chinese medical staff [47, 48]. The MBI-GS consists of three subscales [47]: emotional exhaustion (EE),

depersonalization (DP), and reduced personal accomplishment (rPA), with responses rated on a 7-point Likert scale ranging from 0 ("never") to 6 ("every day"). The 6 items for PA are reverse-scored, with higher scores indicating more severe burnout. In this study, the scale achieved a Cronbach's alpha of 0.737.

Turnover intention scale

The 6-item Turnover Intention Scale, developed by Michael and Spector, was used to evaluate the participants' turnover intentions [49]. This scale comprises three subscales: one's probability of leaving a current job, the desire to look for another job, and the likelihood of finding a job beyond one's current sector. Participants responded on a 4-point Likert scale, with scores ranging from 1 ("never") to 4 ("often"). Higher scores indicate a stronger propensity for turnover. The scale, culturally adapted to Chinese, has demonstrated robust internal reliability, with a Cronbach's alpha of 0.773 [50]. It is widely used to assess nurses' turnover intentions [50, 51]. In this study, the scale achieved a Cronbach's alpha of 0.914.

Table 1 Characteristics of the participants ($n = 322$)

Characteristics	*n*	Frequency, %	Mean	SD
Age, years			32.04	5.47
Duration of employment, years			9.38	5.88
Gender				
Female	252	78.3		
Male	70	21.7		
Birthplace				
Rural	220	68.3		
Urban	102	31.7		
Marital status				
Married	212	65.8		
Unmarried	110	34.2		
Educational level				
Associate degree or below	34	10.6		
Bachelor's degree	268	83.2		
Master's degree or above	20	6.2		
Employment type				
State-employed	98	30.4		
Contract-employed	212	65.8		
Human agency	12	3.7		
Professional title				
Primary	212	65.8		
Intermediate	98	30.4		
Senior	12	3.7		
Shift-night				
Yes	196	60.9		
No	126	39.1		
Income per month, RMB				
< 5000	42	13.0		
5001 to 8000	154	47.8		
> 8000	126	39.1		

Statistical analysis

Data were analyzed using IBM SPSS 26.0 for descriptive statistics and correlation analysis. Categorical variables were presented as frequencies and percentages, while continuous variables were presented as means and standard deviations (SD), reflecting the large sample size [52, 53]. Pearson's correlation analysis was conducted to examine relationships between variables. Structural equation modeling (SEM) was performed using AMOS to investigate the mediating effect of job burnout on the relationship between moral resilience and turnover intention, employing the robust maximum likelihood method for model estimation. Model fit was assessed using recommended cutoff values: chi-square/degree of freedom ($\chi2/df$) < 3, Comparative Fit Index (CFI > 0.90), Tucker-Lewis Index (TLI > 0.90), and Root Mean Square Error of Approximation (RMSEA < 0.08) [54]. The significance of direct and indirect effects was evaluated using 95% bias-corrected confidence intervals (CI) obtained from bootstrap sampling [55]. Additionally, a multiple mediation analysis was conducted using SPSS PROCESS V3.5 to assess the indirect effects of moral resilience on turnover intention via different dimensions of job burnout [56]. The bias-corrected nonparametric Bootstrap test with 5000 resamples was used to calculate 95% confidence intervals, with intervals not including 0 indicating significant mediation effects [57, 58]. A two-tailed p-value of < 0.05 was considered statistically significant.

Ethical consideration

This study was approved by the Institutional Review Board (IRB) of Hunan Traditional Chinese Medical College (YXLL202301004). The survey was conducted anonymously to ensure participants' privacy and confidentiality. Access to the completed questionnaires was restricted to the research team via password-protected systems, and all data were used exclusively for research purposes.

Results

Participant characteristics

Our study included 322 valid questionnaires for analysis. The average age of the participating registered nurses was 32.0 years, with an average employment tenure of 9.38 years. Most participants were female (252, 78.3%) and held bachelor's degrees (268, 83.2%). A significant proportion of the nurses were born in rural areas (220, 68.3%), were married (212, 65.8%), and were employed under contract by hospitals (212, 65.8%). For detailed breakdown of the participants' demographic and professional characteristics, please refer to Table 1.

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Scores of variables

As shown in Table 2, the mean overall score for moral resilience was 2.875 (SD=0.362). The subscale scores were as follows: 2.643 (SD=0.583) for the ability to respond flexibly to moral adversity, 2.570 (SD=0.511) for relational moral soundness, and 3.334 (SD=0.465) for moral efficacy. The average overall job burnout score was 16.020 (SD=4.353), with subscale scores of 16.553 (SD=6.802) for EE, 13.780 (SD=6.249) for DP, and 17.534 (SD=11.247) for rPA. The average overall turnover intention score among these nurses was 12.640 (SD=4.802), with subscale scores of 3.957 (SD=1.818) for the probability of leaving the current job, 4.050 (SD=1.713) for the desire to seek another job, and 4.634 (SD=1.809) for the likelihood of finding a job outside the current sector.

Correlations for variables

Our Pearson's correlation analysis revealed significant relationship between the key variables. Moral resilience was found to be negatively correlated with both job burnout ($r=-0.269$, $p<0.01$) and turnover intentions ($r=-0.364$, $p<0.01$). Furthermore, job burnout was positively correlated with turnover intentions ($r=0.366$, $p<0.01$). For detailed breakdown of the correlations, please refer to Table 2.

Mediation analysis

Following the initial data fitting, the RMSEA did not meet the desired criterion (RMSEA=0.108), although other fit metrics are satisfactory. The measurement model was subsequently modified according to the modification indices. The revised model demonstrated satisfactory fit: $\chi^2/df=1.819$, CFI=0.977, TLI=0.961, RMSEA=0.072 (90% CI: 0.033 to 0.107). As depicted in Fig. 1; Table 3, moral resilience directly negatively affected on job burnout ($\beta = -0.656$, $p=0.007$). In contrast, while job burnout had a direct positive effect on turnover intentions ($\beta=0.721$, $p=0.012$). Furthermore, the negative impact of moral resilience on their turnover intentions was fully mediated by job burnout ($\beta = -0.473$, $p=0.007$).

Additionally, a multiple mediation model analysis was conducted using SPSS PROCESS (Model 4) to explore the mediating roles of the three dimensions of job burnout in the relationship between moral resilience and turnover intention. The results indicated that depersonalization fully mediated the relationship between moral resilience and turnover intention ($\beta = -3.934$, 95% CI [-5.837, -1.932]), accounting for 13.29% of the total effect. No significant mediating effects were observed for emotional exhaustion and reduced personal accomplishment, as shown in Table 4.

Despite the absence of significant mediating effects for emotional exhaustion and reduced personal accomplishment, comparative tests were performed to assess

Table 2 Correlations for variables measured in this study (n = 322)

Variable	Mean±SD	a	b	c	d	e	f	g	h	i	j	k	l
a. MR	2.875±0.362	1											
b. MR1	2.643±0.583	0.798**	1										
c. MR2	2.570±0.511	0.762**	0.561**	1									
d. MR3	3.334±0.465	0.571**	0.204**	0.015	1								
e. JB	16.020±4.353	-0.269**	-0.310**	-0.247**	-0.028	1							
f. EE	16.553±6.802	-0.484**	-0.457**	-0.333**	-0.256**	0.697**	1						
g. DP	13.780±6.249	-0.556**	-0.468**	-0.443**	-0.275**	0.651**	0.847**	1					
h. rPA	17.534±11.247	0.352**	0.230**	-0.196**	0.323**	0.367**	-0.378**	-0.399**	1				
i. TI	12.640±4.802	-0.364**	-0.320**	-0.225**	-0.242**	0.366**	0.556**	0.629**	-0.325**	1			
j. Turnover 1	3.957±1.818	-0.425**	-0.355**	-0.256**	-0.305**	0.464**	0.613**	0.693**	-0.281**	0.913**	1		
k. Turnover 2	4.050±1.713	-0.385**	-0.378**	-0.235**	-0.227**	0.327**	0.527**	0.583**	-0.327**	0.922**	0.818**	1	
l. Turnover 3	4.634±1.809	-0.175*	-0.135*	-0.118	-0.121	0.197*	0.360**	0.420**	-0.270**	0.863**	0.645**	0.680**	1

MR, moral resilience; MR1, the ability to respond flexibly to moral adversity; MR2, relational moral soundness; MR3, moral efficacy; EE, emotional exhaustion; DP, depersonalization; rPA, reduced personal accomplishment; JB, job burnout; TI, turnover intention; Turnover 1, one's probability of leaving a current job; Turnover 2, the desire to look for another job; Turnover 3, the likelihood of finding a job beyond one's current sector. *Statistical significance at the level of 0.01 (two-tailed). SD, standard deviation
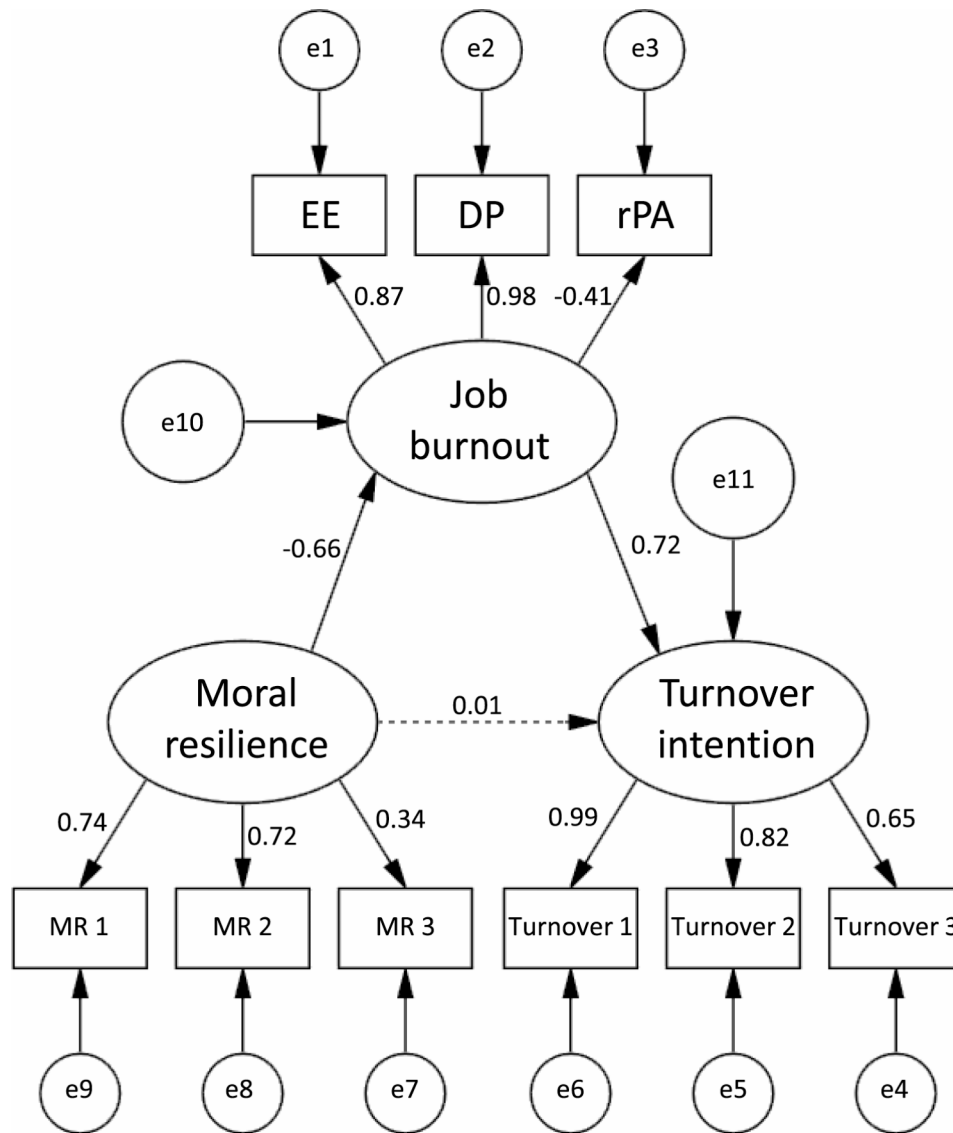
Fig. 1 The structural equation model of moral resilience, job burnout and turnover intentions. The solid line indicates statistical significance and dotted line represents no statistical significance

Table 3 Pathways of moral resilience and job burnout in turnover intentions

Structural paths	β	95% confidence interval		p
		Lower	Upper	
Direct paths				
MR→ JB	-0.656	-0.745	-0.565	**0.007**
JB→ TI	0.721	0.582	0.854	**0.012**
MR→ TI	0.005	-0.180	0.206	0.926
Effects on Turnover intentions				
Direct effects: MR→ TI	0.005	-0.180	0.206	0.926
Indirect effects: MR→ JB→ TI	-0.473	-0.601	-0.357	**0.007**
Total effects: MR→ TI	-0.468	-0.622	-0.321	**0.009**

Note MR, moral resilience; JB, job burnout; TI, turnover intention

Table 4 Multiple mediation analysis of job burnout dimensions on the relationship between moral resilience and turnover intentions

Structural paths	β	95% confidence interval	
		Lower	Upper
MR→ EE → TI	-0.447	-1.965	0.854
MR→ DP→ TI	-3.934 [a]	-5.837	-1.932
MR→ rPA→ TI	-0.391	-1.124	0.221
IndEff [EE] minus IndEff [DP]	3.486 [a]	0.164	6.471
IndEff [EE] minus IndEff [rPA]	-0.057 [a]	1.799	1.474
IndEff [DP] minus IndEff [rPA]	3.543 [a]	-5.539	-1.404

Note[a]Empirical 95% confidence interval does not overlap with zero; IndEff, Indirect Effect; MR, moral resilience; EE, emotional exhaustion; DP, depersonalization; rPA, reduced personal accomplishment; JB, job burnout; TI, turnover intention

the mediating relative impact of different dimensions of job burnout. These comparisons confirmed the relative importance of each dimension in the relationship between moral resilience and turnover intention. Significant differences were found between the mediating effects of depersonalization and emotional exhaustion (β=3.486, 95% CI [0.164, 6.471]), as well as between depersonalization and reduced personal accomplishment (β = -0.057, 95% CI [1.799, 1.474]). Additionally, there was a significant difference in the mediating effects between emotional exhaustion and reduced personal accomplishment (β=3.543, 95% CI [-5.539, -1.404]), as detailed in Table 4.

Discussion

This study demonstrates that nurses' moral resilience is negatively related to both job burnout and turnover intentions; job burnout is also negatively associated with turnover intentions. Furthermore, our findings reveal that job burnout fully mediates the relationship between moral resilience and turnover intentions. Further analysis indicates that only depersonalization fully mediates the specific relationship among three dimensions of job burnout. At the same time, emotional exhaustion and reduced personal accomplishment do not exhibit significant mediating effects. These findings contribute to the theoretical understanding of the JD-R model by illustrating how moral resilience, as a crucial job resource, can mitigate the detrimental effects of job demands, such as emotional stress and ethical conflicts, on job burnout and turnover intentions.

The first key finding is the negative association between nurses' moral resilience and turnover intentions, consistent with previous studies conducted in the post-COVID-19 era [20] and among interdisciplinary healthcare professionals [27]. Nurses frequently encounter ethical challenges that can lead to moral distress, injury, and residue [59]. Moral resilience, defined as maintaining or restoring moral integrity in the face of such challenges [60], is vital for sustaining emotional and psychological well-being and career development [39]. Increased moral resilience has been shown to enhance nurses' work engagement, thereby reducing their intentions to leave their profession [39]. Furthermore, moral resilience improves ethical judgment and self-regulation, allowing nurses to respond more effectively to ethical challenges, further reducing turnover intentions [26, 28]. These findings underscore the role of moral resilience as a crucial job resource that mitigates job demands and reduces turnover intentions, offering practical implications for nurse retention strategies.

The study also confirms the positive correlation between job burnout and turnover intentions, aligning with existing studies [61]. This relationship emphasizes

the harmful impact of job burnout on nursing staff turnover, where increased job demands lead to burnout, subsequently raising turnover intentions. Job burnout can impair nurses' ability to further burnout [62]. In addition, nurses experiencing burnout may struggle to deliver high-quality care, potentially harming patients and engaging in unethical practices [40, 63]. High turnover rates exacerbate workforce shortages, compelling remaining staff to shoulder additional workloads, further aggravating burnout and work-life imbalance [64]. Therefore, it is crucial for nursing administrators to understand the relationship between job burnout and turnover intentions [65] and to create supportive work environments that alleviate burnout and enhance job satisfaction, thereby reducing turnover.

The third finding of our study is the negative correlation between nurses' moral resilience and their job burnout, consistent with previous findings [27, 66]. Healthcare professionals often face moral stressors and ethical dilemmas, such as medical errors, moral uncertainty, and ethical conflicts, which can lead to cognitive dissonance, secondary trauma, and moral distress or injury [67, 68]. Persistent moral distress and injury can accumulate into moral residue, eventually triggering job burnout [28, 30, 39]. Our study extends the JD-R model by demonstrating that fostering moral resilience is essential for preventing moral distress, reducing moral injuries, and effectively mitigating job burnout. Moral resilience enables healthcare professionals to navigate ethical complexities better, reducing the accumulation of moral stressors [28]. As Rushton [26] highlights, cultivating moral resilience involves deepening the capacity to address ethical challenges rather than avoiding or suppressing them, thereby effectively mitigating the impacts of moral distress and injury. Overall, strengthening the moral resilience of healthcare professionals is pivotal in enhancing their job satisfaction and career longevity, significantly reducing the risk of job burnout and improving overall work efficiency and quality.

Fourth, the study identifies job burnout as a complete mediator of the relationship between moral resilience and turnover intentions. According to the Conservation of Resources Theory [69], nurses with insufficient moral resilience may struggle when facing ethical challenges [70, 71], leading to the depletion of critical psychological resources, such as a sense of integrity [72]. This resource loss can trigger a cascading effect, exacerbating moral distress and job burnout [73]. The continuous depletion of resources may prompt nurses to consider resigning to avoid further harm [69]. Therefore, enhancing moral resilience is crucial to breaking this negative cycle by alleviating job burnout and reducing turnover intentions. These findings deepen our understanding of job burnout as a mediating mechanism between moral resilience

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and turnover intentions and highlight the importance of interventions aimed at boosting moral resilience to reduce nurse turnover rates and improve workforce stability.

Finally, this study reveals that depersonalization, rather than emotional exhaustion or reduced personal accomplishment, mediates the relationship between moral resilience and turnover intentions. Although moral resilience was significantly correlated with all three dimensions of burnout, our findings suggest that depersonalization plays a unique and critical role in this relationship. Previous studies have shown that moral resilience primarily impacts depersonalization and emotional exhaustion dimensions of burnout [27], a finding supported by a systematic review [74]. However, our study did not find a mediating effect of emotional exhaustion underscoring the specific influence of depersonalization. This underscores the need for healthcare organizations to develop targeted strategies that address clinical practice's complex moral and ethical dimensions rather than relying on a generalized approach to support nursing professionals [27].

This study has several limitations. First, the cross-sectional design precludes the establishment of causal relationships between moral resilience, job burnout, and turnover intention. Future longitudinal studies with larger sample sizes are necessary to validate and deepen our understanding of these relationships. Second, using a convenience sampling strategy, while practical and suitable for the study's objectives, may introduce biases that could compromise the reliability and generalizability of the findings. Lastly, the reliance on self-report questionnaires for data collection presents the risk response bias, which could affect the accuracy of the results.

Conclusions

This study demonstrates that moral resilience is negatively associated with job burnout and turnover intentions among registered nurses. Furthermore, it establishes that job burnout fully mediates the relationship between moral resilience and turnover intentions, thereby enriching our understanding of the dynamics among these three variables. These findings suggest that interventions to enhance moral resilience effectively mitigate job burnout and reduce turnover intentions. Nursing administrators should prioritize creating an ethical work environment and implementing programs that strengthen nurses' moral competencies through targeted moral education.

Implications for clinical practice

The observed negative relationship between moral resilience and turnover intentions, mediated by the depersonalization dimension of job burnout, highlights the importance of interventions designed to enhance moral resilience among nurses. Clinical administrators and healthcare policymakers should consider implementing targeted training, support systems, and work environments that foster ethical practice and resilience-building activities. Addressing job burnout, which acts as a mediator in this relationship, can effectively reduce turnover intentions, thereby stabilizing the nursing workforce. Resilience training workshops, peer support groups, and organizational changes that reduce workload and enhance job satisfaction are recommended. By improving nurse retention, these interventions will likely enhance patient care quality and overall healthcare outcomes, providing reassurance and confidence to the healthcare community.

Implications for future research

The findings of this study underscore the critical role of moral resilience in reducing job burnout and turnover intentions among nurses, suggesting several avenues for future research. Longitudinal studies are needed to confirm the causal relationships between moral resilience, job burnout, and turnover intentions over time. Intervention studies should be conducted to evaluate the effectiveness of programs that enhance moral resilience in reducing job burnout and turnover intentions. Additionally, future research should explore the specific components of moral resilience that are most effective in these contexts. Examining the influence of organizational and environmental factors on moral resilience and its effects on job burnout and turnover intentions across different healthcare settings and cultural contexts further validates and extends the generalizability of the current findings.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s12912-024-02357-2.

Supplementary Material 1

Declarations

Ethics approval and consent to participate
This research followed the ethical guidelines of the 1975 Declaration of Helsinki and was approved by the Institutional Review Board of Hunan Traditional Chinese Medical College (YXLL202401004). Informed consent was obtained from all research participants prior to the online survey, who could withdraw at any time or from any item of their own desire.

Human ethics and consent to participate
Not applicable.

Consent for publication
Not applicable.

Competing interests
The authors declare no competing interests.

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