ปัจจัยที่มีอิทธิพลต่อความต้องการลาออกของพยาบาลวิชาชีพในโรงพยาบาลมหาวิทยาลัย

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บทคัดย่อ

การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่มีอิทธิพลต่อความต้องการลาออกจากงานของพยาบาลวิชาชีพที่โรงพยาบาลมหาวิทยาลัยในกรุงเทพมหานคร โดยใช้การออกแบบการศึกษาแบบ Cross-sectional study กลุ่มตัวอย่างประกอบด้วยพยาบาลจำนวน 343 คนจากกลุ่มประชากรทั้งหมด 3,446 คน การศึกษาครั้งนี้มีวัตถุประสงค์ ศึกษาปัจจัยทางประชากร ความพึงพอใจในงาน การหมดไฟในการทำงาน ความต้องการและทรัพยากรในการทำงาน ส่งผลต่อเจตนาการลาออกของพยาบาลอย่างไร การวิเคราะห์ด้วยการถดถอยเชิงลำดับ (Ordinal logistic regression) พบว่าโมเดลนี้อธิบายความแปรปรวนของเจตนาการลาออกได้ประมาณ 15.2% (Pseudo R^2 = 0.152, p < 0.001) ผลการศึกษาพบว่า พยาบาลที่อายุน้อย (Gen Y และ Gen Z) มีแนวโน้มที่จะมีเจตนาการลาออกสูงกว่า Gen X แต่หลังจากปรับค่าตัวแปรแล้ว ผลการศึกษาพบว่าไม่พบความสัมพันธ์ที่มีนัยสำคัญทางสถิติ พยาบาลที่มีระดับการหมดไฟสูงมีความน่าจะเป็นที่จะลาออกจากงานสูงกว่าพยาบาลที่มีการหมดไฟต่ำถึง 5.17 เท่า (AOR = 5.17, p < 0.001) ซึ่งผลนี้ยังคงมีความนัยสำคัญหลังจากปรับค่าตัวแปรอื่นๆ นอกจากนี้ ความพึงพอใจในงานยังมีบทบาทสำคัญ โดยพยาบาลที่มีความพึงพอใจในงานสูงมีโอกาสน้อยที่จะลาออกจากงานถึง 81% (AOR = 0.19, p = 0.012) ผลการศึกษายังพบว่า พยาบาลที่ทำงานในแผนกผู้ป่วยใน (IPD) มีความน่าจะเป็นในการลาออกสูงกว่า แต่หลังจากปรับค่าตัวแปรแล้ว ไม่พบความนัยสำคัญทางสถิติ การศึกษาครั้งนี้มีความสำคัญในการเสนอแนวทางการบริหารทรัพยากรบุคคลในองค์กรการแพทย์ โดยการปรับปรุงสภาพการทำงาน การจัดการภาระงาน และการส่งเสริมโอกาสในการพัฒนาอาชีพเพื่อลดการลาออกและเพิ่มการเก็บรักษาพยาบาลวิชาชีพ

คำสำคัญ: ลาออก ความพึงพอใจในงาน การหมดไฟในการทำงาน พยาบาล ทรัพยากรในการทำงาน

Factors Influencing Turnover Intention among Professional Nurses in University Hospitals

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Abstract

This study investigates the factors influencing turnover intention among professional nurses at a university hospital in Bangkok, Thailand. A cross-sectional design was employed, involving 343 nurses selected from a population of 3,446 using simple random sampling. The main objective was to explore how demographic factors, job satisfaction, burnout, job demands, and resources contribute to nurses' intentions to leave their jobs. Ordinal logistic regression analysis was conducted to assess these factors, with a model that accounted for approximately 15.2% of the variance in turnover intention (Pseudo R^2 = 0.152, $p < 0.001$). The results indicated that younger nurses (Gen Y and Gen Z) were more likely to express turnover intentions compared to older nurses, but these associations lost statistical significance after adjustment. Nurses with high levels of burnout were 5.17 times more likely to have turnover intentions compared to those with low burnout (AOR = 5.17, $p < 0.001$), a finding that remained significant after controlling for other factors. Job satisfaction also played a critical role, with high satisfaction reducing turnover intention by 81% (AOR = 0.19, $p = 0.012$). Furthermore, nurses working in inpatient departments (IPD) had a higher turnover intention, although this was not statistically significant after adjustment. These findings highlight the importance of addressing burnout and enhancing job satisfaction through better organizational support, workload management, and career development opportunities to reduce turnover and improve retention among nurses. The study's findings have important implications for HR strategies in healthcare organizations aiming to enhance workforce stability and quality patient care.

Keywords: Turnover Intention, Job Satisfaction, Burnout, Nurses, Job Resources

1. Background and Significance

Professional nurses constitute approximately 75% of public health providers and are a crucial element of healthcare organizations [1, 2]. Nurses do everything from health promotion and disease prevention to treatment and rehabilitation. Their efforts have a direct impact on patient outcomes and healthcare organization performance [3]. However, a global nursing shortage has become a critical issue.

The World Health Organization (WHO) projects a shortfall of approximately 4.5 million nurses worldwide by 2030 [4]. Nurse turnover rates remain high across many countries. Annual turnover has been reported around 15–19% in some settings and above 30% in others. Such high turnover not only exacerbates workforce shortages but can also undermine the quality of patient care and safety. Health policymakers and hospital administrators worldwide are therefore increasingly concerned with improving nurse retention, recognizing that a stable nursing workforce is vital for effective healthcare delivery [5].

Thailand is facing a serious nursing shortage, with the inadequate nurse-to-population ratio. The current ratio falls short of the Ministry of Public Health's target of one nurse per 322 people, with the actual ratio standing at one professional nurse per 343 people [6]. This is consistent with the overall health workforce report, which reflects that all health regions have an ongoing need for medical personnel across all health sectors, especially nurses [7]. Data from the Thailand Nursing Council show that approximately 3.96% of professional nurses leave the system each year (roughly 7,000 nurses annually), despite the training of about 10,000 new nurses per year. This indicates that the issue lies not only in producing new nurses but in retaining the existing workforce [8].

A recent survey of nurse turnover at a large university hospital in Bangkok found an average annual resignation rate of about 5.3% over the past eight years (excluding retirements). This turnover rate is notably higher than the ~3.96% national average attrition mentioned above. Such a loss of experienced nurses can lead to insufficient staffing, increasing the workload on the remaining staff and potentially reducing the quality of patient care. Ensuring a sufficient number of competent professional nurses with appropriate experience is essential for delivering high-quality care, improving patient outcomes, and supporting the performance and stability of healthcare organizations[1].

Many previous studies [9, 10] have investigated related factors to predict intention to quit among nurses. Job satisfaction, emotional exhaustion, workload demands, and available workplace resources were key factors influencing nurse intention. Yujeong Kim [9] suggested that creating better working environments and improving nursing leadership could reduce nurse turnover. Additionally, balancing job demands and resources while considering nurses' age is essential for creating targeted programs to help the organization reach its goals [10]. Supporting educational opportunities, career advancement, education, and organizational policies that improve nurses' well-being and job satisfaction can promote care quality and professional nurse retention.

In Thailand, many research studies have identified factors that contribute to shortages of professional nurses, including heavy workload, inadequate work resources, inadequate educational opportunities for upskilling, and a lack of support to develop education and research training. Key factors include career

advancement limitations, insufficient salary affecting wellbeing, and poor work environments reducing productivity, all of which lead to increased stress, burnout, and job dissatisfaction [11, 12].

Although turnover intention is frequently analyzed as a continuous variable in many studies [13-15]. Some have categorized it into meaningful ordinal levels, such as low, neutral, and high intention to leave. Classifying turnover intention may improve understanding by clearly differentiating groups at varying levels of risk. Therefore, in this study, turnover intention was categorized into three ordered groups based on the overall assessment score. The ordinal logistic regression was used to determine factors associated with higher levels of turnover intention. Therefore, the purpose of this research is to examine the relationships between job satisfaction, burnout, job demands, and job resources that influence turnover intentions among professional nurses. The study aims to gather detailed information to enhance understanding and support the development of effective HR strategies that improve working conditions and promote long-term retention of nursing staff.

2. Materials and Methods

2.1 Objectives

To study the factors influencing the turnover intention of professional nurses in university hospitals.

2.2 Population and Sample

The research population consists of professional nurses at a university hospital, Bangkok, Thailand. The sample was selected according criteria: 1. Professional nurses working at a university hospital for at least 1 year 2. Direct patient care providers 3. Voluntary participation with signed consent. Using Cochran's sample size formula cited in Mingkamon Pibanwong [16] , with a 95% confidence level and proportion of nurses with turnover intention of 0.282 (28.2%) from Wannakorn Homsuwan [17], the required sample size was 286. To account for a 20% non-response and incomplete questionnaire rate, the final sample size is 343 participants.

2.3 Research Instruments

The research questionnaires contain 98 questions, including questions about personal information, job satisfaction, burnout, job Demands-Resources, and turnover intention. The Cronbach's alpha coefficient for each section was greater than 0.80. **Personal Information Questionnaire** contains 7 items, including gender, age, marital status, education level, work duration at this hospital, department, and weekly working hours. Job Satisfaction Questionnaire based on the **Abridged Job Descriptive Index (aJDI) questionnaire** adapted from Jeffrey M. Stanton et al. [18] and cited in Rina Rani Baral [19]. This 25 items measured on a 3-point Likert scale (0 = no, 1 = not sure, 3 = yes). For negative items, the scoring is reversed. Higher scores (range: 0–75) indicate greater job satisfaction. **Burnout Questionnaire** based on the concept developed by Maslach and Jackson in 1981 [20, 21]was used. covering three dimensions: emotional exhaustion (9 items), depersonalization (5 items), and personal accomplishment (8 items). Responses were rated on a 7-point Likert scale from 0 (never) to 6 (every day), with subscale scores interpreted separately. **The Job Demands-Resources Scale (JDRS)**, were evaluated using the 41-item Job Demands-Resources Scale (JDRS) adapted

from Jackson and Rothmann [22]. Items were rated on a 4-point Likert scale (1 = never to 4 = always), with reversed scoring for negatively worded items. Higher total scores reflect lower demands and greater available resources. **Turnover Intention Questionnaire** based on the turnover theory concept by Mobley et al. [23] was used to assess the turnover intention, comprising 3 items rated on a 5-point scale. These items assessed thoughts of leaving, job search behavior, and desire to leave. Total scores were categorized into low (3–6), neutral (7–10), and high (11–15) turnover intention levels.

2.4 Data Collection

The data collection was conducted from 1 August 2024 to 31 October 2024 after approval from the Ethical Review Committee for Human Research Faculty of Public Health, Mahidol University (IRB No : MU-MOU CoA No.2024-002). The researcher received 333 completed questionnaires, representing a 97.08% response rate.

2.5 Data Analysis

Data analysis was conducted using STATA Program version 18.0. Continuous variables were presented as means with standard deviations while categorical variables were presented as frequencies and percentages for the nurses' general characteristics. The chi-square test was used to assess associations between demographic factors and turnover intention levels. Ordinal logistic regression was used to identify potential factors that might affect the turnover intentions of nurses. The p-value of < 0.05 indicated statistical significance.

3. Research Results

The demographic characteristics of the sample had an average age of 32.43 years (SD = 7.03), or approximately 33 years. Most participants were female, accounting for 97.3%, and 79.28% of the respondents were single. On average, nurses at the hospital had worked for 9.68 years (SD = 6.91). The majority of nurses held Bachelor's degree at 91.59%. Among respondents who responded to the questionnaire there were 80.48% of nurses who were working in inpatient departments (IPD). Their average weekly working hours were 52.02 (SD = 11), or approximately 52 hours per week.

(Table 1) As for processes of turnover intention 32.13% reported high frequency of thoughts about leaving their job within the past year (combining 'Often' and 'Always' responses). In addition 18.92% stated they searched to move to other job positions frequently (combining 'Often' and 'Always' responses). Moreover, 25.23% reported that they have a strong need to leave their current position (responses of 'Often' or 'Always'). The final measurement of turnover intention among professional nurses resulted in three groups. The largest group, which comprised those with low intention to leave, included 148 people representing 44.44 %. The second group with neutral intention consisted of 109 people, making up around 32.73 %. The last and smallest group, consisting of nurses with high intention to leave the job comprised 76 people representing 22.82 %

(**Table 1** Number and Percentage of Intention to Leave among Professional Nurses at a University Hospital (n=333)

	Turnover intention level (n%)				
	Never	Rarely	Sometimes	Often	Always
Think about leaving : n%	60(18.02)	90(27.03)	76(22.82)	73(21.92)	34(10.21)
Search for a new job : n%	123(36.94)	71(21.32)	76(22.82)	45(13.51)	18(5.41)
Feel the need to leave : n%	77(23.12)	90(27.03)	82(24.62)	53(15.92)	31(9.31)
Overall Turnover intention : n%	148(44.44)		109(32.73)	76(22.82)	
Overall Turnover intention : Mean (SD)	4.46(1.20)		8.65(1.11)	12.61(1.54)	

Age, work experience, and department were significantly related to the nurses' intention to leave their jobs. The younger nurses aged between 28 to 30 had a higher tendency toward leaving intentions (36%) than those who were over 36 years (14.67%). Nurses with 6 to 8 years of experience had the highest intention to leave the job (36.84%). Moreover, nurses working in the IPD showed a higher rate of leaving intentions than nurses who were working in the OPD (68.42%). On the other hand, other demographic factors including gender (p=0.128), marital status (p=0.493), working time per weeks(p=0.088) and education level (p=0.881) were not significantly associated with the intention of the nurses to leave the job.

Table 2 Ordinal logistic regression

		Turnover intention					
		OR	95%(CI)	P*	AOR	95%(CI)	P*
Age	Gen X (44-59)	Ref.			Ref.		
	Gen Y (28-43)	2.58	1.23, 5.39	0.012	1.18	0.48, 2.89	0.702
	Gen Z (18-27)	2.29	1.03, 5.08	0.040	0.98	0.35, 2.75	0.974
Status	Single	Ref.			Ref.		
	Married	0.79	0.47,1.33	0.380	1.31	0.70, 2.44	0.394
	Divorced	2.47	0.49,12.33	0.268	5.68	0.90, 35.88	0.064
Education	Bachelor's degree	Ref.			Ref.		
	Master's degree	0.88	0.42, 1.85	0.745	1.10	0.44, 2.77	0.827
Experience	1-10 Year	Ref.			Ref.		
	>10 year	0.50	0.32, 0.78	0.002	0.70	0.38, 1.28	0.251
Department	IPD				Ref.		
	OPD	1.94	1.16, 3.24	0.011	1.18	0.66, 2.09	0.568
Working hour	1-40 hr/wk	Ref.			Ref.		
	41-48 hr/wk	0.99	0.55, 1.76	0.973	0.95	0.50, 1.81	0.899
	49-56 hr/wk	1.84	1.04, 3.24	0.034	1.42	0.76, 2.65	0.259
	>56 hr/wk	1.98	1.12, 3.51	0.019	1.44	0.76, 2.72	0.258

Table 2 Ordinal logistic regression

		Turnover intention					
		OR	95%(CI)	P*	AOR	95%(CI)	P*
Satisfaction	Low	Ref.			Ref.		
	Neutral	0.25	0.08, 0.78	0.017	0.42	0.12, 1.42	0.165
	High	0.08	0.02, 0.26	0.001	0.19	0.05, 0.69	0.012
Job- Demand resource	High Job Demand, Low Job Resources	Ref.			Ref.		
	Neutral	0.39	0.05, 2.68	0.343	1.44	0.15, 13.42	0.745
	Low Job Demand, High Job Resources	0.12	0.02, 0.90	0.039	1.03	0.10, 10.47	0.974
Burnout	Low	Ref.			Ref.		
	High	6.80	4.32, 10.72	0.001	5.17	3.16, 8.47	<0.001

*Ordered logistic regression   Pseudo R^2 = 0.152 Prob > chi2 = <0.001

(Table 2) The ordinal logistic regression analysis analysis output determined the factors associates with turnover intention. The overall model is extremely statistically significant (χ^2, p < 0.001) with a pseudo R^2 of 0.152, indicating that the included predictors account for approximately 15.2% of the variation in turnover intention.

Demographic Data: Nurses in **Gen Y** (28-43) were 2.58 times more likely to have turnover intentions compared to Gen X (44-59) (OR = 2.58, p = 0.012), but this association was no longer statistically significant after adjusting for other factors (AOR = 1.18, p = 0.702). Similarly, **Gen Z** (18-27) nurses were 2.29 times more likely to have turnover intentions compared to Gen X (OR = 2.29, p = 0.040), but after adjustment, the effect diminished (AOR = 0.98, p = 0.974). **Married nurses** had lower odds of turnover intention compared to **single nurses** (OR = 0.79, p = 0.380), with a slight increase in the adjusted model (AOR = 1.31, p = 0.394). **Divorced nurses** had higher odds of turnover intention in the unadjusted model (OR = 2.47, p = 0.268), and the odds increased, but not significantly after adjustment (AOR = 5.68, p = 0.064). In terms of **education**, nurses with a **master's degree** had similar odds of turnover intention to those with a **bachelor's degree** (OR = 0.88, p = 0.745), and the relationship remained non-significant after adjustment (AOR = 1.10, p = 0.827). Nurses with **more than 10 years of experience** had lower odds of turnover intention in the unadjusted model (OR = 0.50, p = 0.002), but this effect was not significant after adjusting for other factors (AOR = 0.70, p = 0.251). Regarding **department**, nurses in the **OPD** had a significantly higher likelihood of turnover intention compared to those in the **IPD** (OR = 1.94, p = 0.011), but this difference was not statistically significant after adjustments (AOR = 1.18, p = 0.568). Finally, while nurses working **49-56 hours**

per week (OR = 1.84, p = 0.034) and **more than 56 hours per week** (OR = 1.98, p = 0.019) had higher turnover intentions compared to those working **1-40 hours per week**, these relationships became non-significant after adjusting for other variables (AOR = 1.42, p = 0.259; AOR = 1.44, p = 0.258, respectively).

Satisfaction and Turnover Intention: Professional nurses with a neutral level of satisfaction were 75% less likely to show any intentions of leaving their job compared to those who showed low levels of satisfaction (1-0.25 = 0.75 or 75%, p = 0.017). In addition, the high job satisfaction levels of nurses greatly decreased the chance of turnover intention by as much as 92% (1-0.08 = 0.92 or 92% p = 0.001) before controlling for other factors. After adjusting for other factors, both neutral and high job satisfaction remained associated with decreased odds of turnover intention, by 58% (1 - 0.42 = 0.58, p = 0.165) and 81% (1 - 0.19 = 0.81, p = 0.012), respectively, with high satisfaction still statistically significant.

Job-Demand and Resources and Turnover Intention: In the unadjusted model, nurses with neutral job demands and resources were 61% (1-0.39 = 0.61 or 61%, p=0.343) less likely to have turnover int entions compared to those with high job demands and low job resources. After controlling for other factors, nurses with neutral job demands and resources were 1.44 times more likely to have turnover intentions (AOR = 1.44, p=0.745). However, both relationships were not statistically significant. Nurses with low job demands and high job resources were significantly 88% less likely to have turnover intentions compared to those with high job demands and low job resources (1-0.12=0.88 or 88%, p = 0.039). However, after controlling for other factors, there was no difference in turnover intentions between nurses with high job demands and low job resources versus those with low job demands and high job resources, and this relationship was not statistically significant (AOR = 1.03, p=0.974).

Burnout and Turnover Intention: Nurses experiencing high burnout were 6.80 times more likely to have turnover intentions compared to those with low burnout (OR = 6.80, 95% CI: 4.32-10.72, p = 0.001), indicating a strong positive association. Even after adjusting for other factors, nurses with high burnout were 5.17 times more likely to have turnover intentions compared to those with low burnout (AOR = 5.17, 95% CI: 3.16, 8.47 p = 0.001). Both the unadjusted and adjusted results were highly statistically significant.

4. Discussion

This study aimed to analyze factors influencing turnover intention among professional nurses at a university hospital in Bangkok, Thailand.

Characteristic: Age, work experience, and department were significantly associated of turnover intention. Younger nurses (Gen Y and Z) had higher odds of considering resignation, Likewise, Suxian Luo [24] who noted that early-career nurses, especially those aged 23–25, are more vulnerable to turnover. Nurses with less than 10 years of experience also showed greater intent to leave. Nurses with less than 10 years of experience also showed greater intent to leave, Consistent with Pauline C Beecroft et al. [25] who reported high turnover in nurses within the first 8 years. Additional, Inpatient nurses had greater turnover intention than those in outpatient department, likely due to higher workloads and emotional strain. Eun-Kyoung Lee [15] found that that stress from patient interactions and insufficient support in inpatient departments further contributes to nurses' desire to leave. In our study, several nurses expressed feeling

unprepared for the overwhelming workload and intense academic expectations that come with the dual role of providing clinical care and serving as a mentor. This mismatch between job expectations and reality may drive their desire to leave. Although the association between being divorced and turnover intention was not statistically significant (p = 0.064), the high adjusted odds ratio (AOR = 5.68) suggests a potentially meaningful association. The large AOR suggests a potentially meaningful association in practical or clinical terms, particularly considering that it exceeds even the AOR observed for burnout. From a practical standpoint, divorced nurses may face higher emotional stress, increased caregiving responsibilities, or reduced social support, which could influence their intention to leave. Therefore, although this variable was not statistically significant, the observed trend may still warrant further investigation in future studies with larger sample sizes.

Job Satisfaction was found to be a strong protective factor. Nurses reporting high satisfaction had significantly reduced odds of turnover intention. This relationship support findings by Mélanie Lavoie-Tremblay et al. [26] and Nantsupawat et al. [27] which found that low satisfaction related to inadequate pay, limited promotion, and lack of leadership support increased intention to resign. Key dissatisfaction factors include inadequate staffing, insufficient pay, limited promotion opportunities, and lack of leadership support [28, 29]. In our study, dissatisfaction appears particularly related to unfulfilled promotional opportunities coupled with insufficient acknowledgment for high-quality clinical work. Even though nurses contribute to both service and teaching , their academic advancement is often slower than expected. This perceived inequity may undermine their motivation to remain.

Burnout was strongly associated with turnover intention. Nurses with high burnout were over five times more likely to consider leaving. Based on Maslach and Jackson's model, emotional exhaustion, depersonalization, and reduced personal accomplishment drive this syndrome. Jie Zheng [30] and Nigel Mantou Lou [31] both confirm burnout's predictive power in nurse turnover. In our context, many nurses in our setting experience compounded stress from balancing clinical work with administrative and academic duties. This leads to emotional fatigue and a sense of underappreciation. Some have expressed that resignation is the only viable way to preserve their mental and physical health. To reduce burnout and turnover, hospitals must prioritize workload redistribution, supportive supervision, and mental health resources. Strategies such as flexible scheduling, wellness programs, and leadership coaching have shown positive effects in retention [30].

Job-Demand Resource analysis revealed that nurses with low job demands and high job resources had lower turnover intention. This finding differs somewhat from Sawitree kaewnan et al. [32], who found that work resources and conditions were crucial factors in Thai nurses' career decisions. And still differs slightly from previous research by Van der Heijden et al. [10] who found the impact of job demands and resources on nurses' burnout and occupational turnover intention. They suggest that while increasing job resources may be effective to protect nurses' well-being and job demands and resources often operate through their effects on burnout rather than directly influencing turnover intention. Some nurses in our study have shared they feel "resource-rich but time-poor," which reduces the effectiveness of those supports. Our adjusted analysis suggests that job demands-resources influence turnover intention indirectly

through burnout and job satisfaction rather than directly, consistent with previous research [32]. As a university hospital with adequate baseline resources and workload management, the direct impact of job demands-resources on turnover may be minimized. Therefore, while maintaining adequate staffing and organizational support remains important [33, 34]. Interventions should prioritize addressing burnout and enhancing job satisfaction as key retention strategies in well-resourced university hospital.

5. Conclusion

This study highlights significant factors of nurse intention to turnover, including age, work experience, and department, with the inpatient wards and young nurses being the highest at risk of being vulnerable due to job stress and job dissatisfaction. Job satisfaction significantly reduces turnover, but burnout due to emotional exhaustion and depersonalization significantly increase turnover. Although job demands and job resources were not directly predictive of turnover intention, these effects may be mediated by burnout and job satisfaction. To improve retention, healthcare organizations need to enhance staffing, pay, career growth, and leadership support, and provide mental health services, stress management programs, and work-life balance initiatives to minimize burnout and ensure a stable nursing workforce.

6. Limitations of this Study and Recommendations for Future Research: The cross-sectional design limits causal inference, and the use of self-reported measures may introduce response bias, particularly regarding sensitive topics such as burnout and turnover intention. This limitation affects our ability to establish causal relationships between the variables. Therefore, mediation analysis should be applied to better understand these causal relationships. Additionally, longitudinal data should be considered to assess trends in turnover intention over time and track changes in related variables. Moreover, qualitative studies may provide deeper insights into individual and organizational factors that influence nurses' intentions to leave or remain in their positions.

8. Declaration of AI and AI Assisted Technologies in the Writing Process: During the preparation of the manuscript, the authors used Claude AI (Anthropic, Version 3.5 Sonnet, 2024) for grammar correction, sentence structure improvement throughout the manuscript writing process.

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