

Emotional Intelligence, Work Engagement, and Turnover Intention Among Hospital Nurses: A Hierarchical Component Analysis

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Abstract

High turnover intention among hospital nurses poses serious challenges to healthcare organizations, affecting service quality and workforce stability. Understanding the psychological and organizational factors associated with turnover intention is essential for developing effective retention strategies. This study aimed to examine the relationships among emotional intelligence, work engagement, and turnover intention among hospital nurses, including health-promoting leadership, workload, and burnout as contextual variables within the model. A cross-sectional study was conducted among 98 nurses working in inpatient units using validated questionnaires. The data were analyzed using partial least squares structural equation modeling (PLS-SEM) with hierarchical component analysis. Emotional intelligence significantly predicted work engagement ($\beta = 0.507$, $p = 0.001$). Work engagement showed a strong negative association with turnover intention ($\beta = -0.610$, $p < 0.001$), while burnout was positively associated with turnover intention ($\beta = 0.385$, $p = 0.005$). In contrast, health-promoting leadership and workload did not show significant effects on work engagement or burnout. Mediation analysis indicated that work engagement significantly mediated the relationship between emotional intelligence and turnover intention ($\beta = -0.309$, $p = 0.003$). The model explained 24.5% of variance in work engagement and 31.6% of variance in turnover intention. These findings suggest that work engagement represents an important pathway linking emotional intelligence to turnover intention among nurses. Strategies aimed at strengthening nurses' emotional intelligence and fostering work engagement may help reduce turnover intention in hospital settings. This study contributes to the literature by applying hierarchical component analysis within a PLS-SEM framework to simultaneously examine multiple psychological and organizational predictors of turnover intention in the Indonesian hospital context.

Keywords: burnout, emotional intelligence, nurses, turnover intention, work engagement

Abstrak

Kecerdasan Emosional, Keterikatan Kerja, dan Turnover Intention pada Perawat Rumah Sakit: Analisis Komponen Hierarkis. Tingginya angka perawat yang berniat untuk berhenti/keluar dari pekerjaan (turnover intention) di rumah sakit menjadi tantangan serius bagi organisasi pelayanan kesehatan karena dapat memengaruhi kualitas pelayanan dan stabilitas tenaga kerja di institusi tersebut. Pemahaman mengenai faktor psikologis dan organisasi yang berkaitan dengan turnover intention sangat penting untuk mengembangkan strategi retensi yang efektif. Penelitian ini bertujuan untuk menganalisis hubungan antara kecerdasan emosional, keterikatan kerja, dan turnover intention pada perawat rumah sakit, dengan kepemimpinan yang mendukung kesehatan, beban kerja, dan kelelahan kerja (burnout) sebagai variabel kontekstual dalam model penelitian. Penelitian ini menggunakan desain potong lintang (cross-sectional) dengan melibatkan 98 perawat yang bekerja di unit rawat inap menggunakan kuesioner terstandar. Data dianalisis menggunakan partial least squares structural equation modeling (PLS-SEM) dengan hierarchical component analysis. Kecerdasan emosional secara signifikan memprediksi keterikatan kerja ($\beta = 0,507$; $p = 0,001$). Keterikatan kerja menunjukkan hubungan negatif yang kuat dengan turnover intention ($\beta = -0,610$; $p < 0,001$), sedangkan kelelahan kerja berhubungan positif dengan turnover intention ($\beta = 0,385$; $p = 0,005$). Sebaliknya, kepemimpinan yang mendukung kesehatan dan beban kerja tidak menunjukkan pengaruh yang signifikan terhadap keterikatan kerja maupun kelelahan kerja. Analisis mediasi menunjukkan bahwa keterikatan kerja secara signifikan memediasi hubungan antara kecerdasan emosional dan turnover intention ($\beta = -0,309$; $p = 0,003$). Model penelitian menunjukkan 24,5% variasi pada keterikatan kerja dan 31,6% variasi pada turnover intention. Temuan ini menunjukkan bahwa keterikatan kerja merupakan mekanisme penting yang menghubungkan kecerdasan emosional dengan turnover intention pada perawat. Oleh karena itu, strategi yang berfokus pada penguatan kecerdasan emosional serta peningkatan keterikatan kerja perawat berpotensi membantu menurunkan turnover intention di lingkungan rumah sakit.

Kata Kunci: burnout, intensi turnover, kecerdasan emosional, keterikatan kerja, perawat

Introduction

Turnover intention among nurses has become a critical challenge for healthcare systems worldwide. High turnover intention threatens workforce stability and disrupts the continuity of patient care, particularly in hospital settings where nurses play a central role in healthcare delivery. Nurses frequently encounter demanding workloads, emotional stress, and complex clinical responsibilities that may increase their intention to leave their organization or profession. Because turnover intention is widely recognized as a strong predictor of actual turnover behavior, identifying factors associated with nurses' intention to leave has become an important research priority in healthcare management (Labrague & de Los Santos, 2021).

Empirical evidence has indicated that turnover intention among nurses is a widespread global phenomenon. A meta-analysis involving more than 23,000 intensive care nurses across 23 countries reported that approximately 27.7% of nurses expressed intentions to leave their job (Labrague & de Los Santos, 2021). Similarly, recent global analyses have reported turnover intention prevalence rates ranging from 8% to 36% among nurses across different healthcare systems and regions (Ren et al., 2024). These findings demonstrate that nurse turnover intention represents a substantial workforce issue affecting healthcare organizations internationally.

High levels of turnover intention among nurses create serious consequences for healthcare systems. Nurse turnover increases recruitment and training costs, exacerbates staffing shortages, and disrupts team stability within healthcare institutions. Workforce instability may also negatively affect patient safety, continuity of care, and overall service quality. Moreover, increased workload among remaining nurses may contribute to emotional exhaustion and burnout, potentially

reinforcing a cycle of staff turnover in healthcare organizations (Auerbach et al., 2024). Therefore, addressing the factors associated with turnover intention has become increasingly urgent for maintaining sustainable healthcare systems.

Previous studies have identified several determinants of turnover intention among nurses, including workload, burnout, leadership, and psychological resources (Al Zamel et al., 2020; Auerbach et al., 2024). However, the mechanisms through which these factors interact remain insufficiently understood. In particular, relatively few studies have simultaneously examined emotional intelligence, health-promoting leadership, workload, work engagement, and burnout within a single analytical framework explaining turnover intention among nurses. Furthermore, limited research has applied hierarchical component analysis to capture the multidimensional nature of these constructs in explaining nurse turnover intention, particularly in the Indonesian hospital context.

The Job Demands-Resources (JD-R) framework provides a useful perspective for understanding how job demands and personal resources influence employee well-being and work outcomes (Bakker & Demerouti, 2017; Lesener et al., 2019). Within this framework, job demands such as workload may contribute to burnout, whereas personal resources such as emotional intelligence may enhance work engagement and positive work attitudes. Leadership behaviors that support employee well-being, such as health-promoting leadership, may also function as important organizational resources.

Guided by the JD-R framework, this study aims to examine the relationships among emotional intelligence, health-promoting leadership, workload, work engagement, burnout, and turnover intention among hospital nurses using hierarchical component analysis and partial least squares structural equation modeling (PLS-SEM). Based

on this framework, several hypotheses regarding the relationships among these variables were proposed. Accordingly, this study hypothesizes that emotional intelligence enhances work engagement and reduces turnover intention among Indonesian hospital nurses.

Methods

Study Design. This study employed a quantitative cross-sectional design to examine the relationships among emotional intelligence, health-promoting leadership, workload, work engagement, burnout, and turnover intention among hospital nurses. PLS-SEM was used to test the proposed model because it is suitable for predictive analysis, complex structural models, and studies involving relatively small sample sizes (Hair et al., 2022). PLS-SEM has been widely recommended for research focusing on prediction and theory development in management and healthcare studies.

Participants and Sample. The study was conducted in the inpatient units of a general hospital in Jakarta, Indonesia. At the time of data collection, the total number of registered nurses who met the inclusion criteria was 110. Therefore, the study attempted to apply a total population sampling approach (census method), in which questionnaires were distributed to the entire eligible population rather than selecting a subset of participants. The inclusion criteria were nurses who were actively working in inpatient care units, had at least six months of work experience in their current position, and were willing to participate in the study. Nurses who were on extended leave, temporary staff, or those working exclusively in outpatient or administrative roles were excluded. A total of 110 questionnaires were distributed, representing the entire eligible nurse population in the study setting. Of these, 102 questionnaires were returned, resulting in a response rate of 92.7%. Four questionnaires were excluded due to excessive mis-sing data (>10%), resulting in a final analytical sample of 98 nurses.

Variables and Instruments. All study variables

were measured using validated instruments that have been widely used in organizational and healthcare research. The questionnaires were translated into Indonesian using a translation and back-translation procedure to ensure linguistic equivalence. All items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating higher levels of the corresponding construct. Emotional intelligence was measured using the Wong and Law Emotional Intelligence Scale, which consists of 16 items across four dimensions: self-emotion appraisal, others' emotion appraisal, use of emotion, and regulation of emotion (Wong & Law, 2002). Health-promoting leadership was measured using the Health-Promoting Leadership Scale, which consists of 12 items assessing leadership behaviors that promote employee health and well-being (Franke et al., 2014). Workload was assessed using a five-item scale adapted from the job demands scale developed by Bakker et al. (2004). Work engagement was measured using the shortened version of the Utrecht Work Engagement Scale, which captures the dimensions of vigor, dedication, and absorption (Schaufeli et al., 2006). Burnout was measured using the Maslach Burnout Inventory-Human Services Survey, which assesses emotional exhaustion, depersonalization, and reduced personal accomplishment among human service professionals (Maslach & Jackson, 1981). Turnover intention was measured using a four-item scale adapted from Mobley et al. (1978). Higher scores across all scales indicated stronger levels of the measured constructs.

Data Collection. Data were collected during a three-week period in December 2025 using self-administered paper-based questionnaires distributed to nurses working in inpatient units. The participants were informed about the purpose of the study and assured that participation was voluntary. Completed questionnaires were returned anonymously in sealed envelopes to ensure confidentiality.

Data Analysis. Data analysis was conducted us-

ing PLS-SEM with SmartPLS version 4.0. The analysis followed a two-stage approach. First, the measurement model was evaluated by examining indicator reliability, internal consistency reliability, convergent validity, and discriminant validity using the heterotrait–monotrait (HTMT) ratio. Second, the structural model was assessed by examining path coefficients, the coefficient of determination (R^2), effect sizes (f^2), and mediation effects using bootstrapping with 5,000 resamples. Reflective-reflective hierarchical component models were specified for emotional intelligence, health-promoting leadership, and burnout using the repeated indicator approach (Sarstedt et al., 2019).

It is important to note that in the repeated indicator approach for reflective-reflective higher-order constructs (HOCs), the standardized loadings of lower-order constructs (LOC) onto their respective HOCs are typically lower than conventional indicator loadings. This occurs because the variance of each LOC is shared across multiple indicators that are repeated at the HOC level, distributing the explained variance across a larger set of items. Therefore, LOC-to-HOC loadings should be interpreted differently from standard item-level loadings, and values below the conventional 0.70 threshold are expected and acceptable within this modeling framework (Sarstedt et al., 2019).

Ethical Consideration. Ethical approval was obtained from the Health Research Ethics Com-

mittee of Universitas Pelita Harapan (Approval No. 059/MARS/EC/XII/2025) on 15 December 2025, prior to data collection. Participation in the study was voluntary, and informed consent was obtained from all respondents. The participants were assured that their responses would remain confidential and would be used only for research purposes.

Results

A total of 98 respondents were included in the final analysis. The majority of participants were female (79.6%), consistent with the gender distribution in the nursing profession. More than half of the respondents (51.0%) were under 30 years of age, reflecting a relatively young workforce. Most participants held a bachelor's degree in nursing (66.3%), and slightly more than half (54.1%) had more than two years of work experience (Table 1).

The measurement model was evaluated to assess indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Most indicator loadings exceeded the recommended threshold of 0.70. Internal consistency reliability was supported, with Cronbach's alpha values ranging from 0.792 to 0.963 and composite reliability values ranging from 0.849 to 0.973, exceeding the recommended minimum of 0.70. Convergent validity was confirmed, as average variance extracted values for all constructs were above 0.50 (range: 0.558–0.912) (Table 2).

Table 1. Sample Characteristics

Variable	Frequency (n)	Percentage (%)
Gender		
Male	20	20.4
Female	78	79.6
Age		
<30 years	50	51.0
30 – 40 years	35	35.7
≥40 years	13	13.3
Education		
Diploma	25	25.5
Bachelor's degree	65	66.3
Master's degree	8	8.2

Variable	Frequency (n)	Percentage (%)
Work Experience		
6 months – 2 years	45	45.9
> 2 years	53	54.1

Table 2. Measurement Model Assessment: Reliability and Convergent Validity

	Cronbach's alpha	rho_a	Composite reliability (CR)	Average variance extracted (AVE)
Self-emotion appraisal	0.922	0.931	0.945	0.811
Other's emotion appraisal	0.963	1.010	0.973	0.899
Use of emotion	0.825	0.977	0.868	0.623
Regulation of emotion	0.930	0.989	0.948	0.820
Awareness	0.853	0.853	0.911	0.774
Work design	0.888	0.933	0.928	0.811
Role model	0.952	0.987	0.969	0.912
Supportive communication	0.862	0.920	0.913	0.778
Workload	0.848	0.999	0.877	0.593
Depersonalization	0.935	1.003	0.947	0.751
Emotional exhaustion	0.912	0.444	0.880	0.558
Reduced Personal Accomplishment	0.953	1.180	0.955	0.726
Work engagement	0.945	0.977	0.956	0.756
Turnover intention	0.792	0.833	0.849	0.585

Note: rho_a values slightly exceeding 1.00 (e.g., depersonalization = 1.003, reduced personal accomplishment = 1.18, others' emotion appraisal = 1.01) may occur in PLS-SEM when constructs contain items with low or negative inter-item correlations. This is a known computational artifact of the rho_a formula and does not invalidate the reliability assessment; composite reliability (CR) and Cronbach's alpha values for all constructs remained within acceptable ranges (Hair et al., 2022).

Table 3. Discriminant Validity: Heterotrait-Monotrait (HTMT) Ratio

	AW	DP	EE	OEA	ROE	RM	RPA	SEA	SC	TI	UOE	WE	WD	WL
AW														
DP	0.438													
EE	0.276	0.817												
OEA	0.857	0.513	0.294											
ROE	0.953	0.313	0.257	0.704										
RM	0.907	0.284	0.201	0.699	0.779									
RPA	0.526	0.934	0.784	0.56	0.408	0.288								
SEA	0.547	0.32	0.175	0.468	0.575	0.43	0.409							
SC	1.045	0.438	0.351	0.756	0.905	0.799	0.513	0.370						
TI	0.211	0.229	0.199	0.152	0.124	0.204	0.317	0.122	0.182					
UOE	0.772	0.400	0.258	0.715	0.765	0.656	0.435	0.472	0.766	0.263				
WD	0.988	0.274	0.240	0.797	0.787	0.896	0.331	0.332	0.896	0.19	0.619	0.323		
WL	0.391	0.309	0.237	0.417	0.326	0.239	0.32	0.416	0.285	0.133	0.317	0.227	0.397	

Note: AW = awareness; DP = depersonalization; EE = emotional exhaustion; OEA = others' emotion appraisal; ROE = regulation of emotion; RM = role model; RPA = reduced personal accomplishment; SEA = self-emotion appraisal; SC = supportive communication; TI = turnover intention; UOE = use of emotion; WE = Work engagement; WD = work design; WL = workload.

Discriminant validity was assessed using the HTMT ratio. Most HTMT values between conceptually distinct constructs were below the recommended threshold of 0.90, indicating acceptable discriminant validity (Table 3). However, several HTMT values among LOCs slightly exceeded this threshold. These higher values occurred primarily among dimensions belonging to the same HOCs, such as the dimensions of health-promoting leadership and burnout. Because these constructs were modeled as reflective-reflective HOCs using the repeated in-

dicator approach, higher HTMT values among their dimensions are expected and do not necessarily indicate a lack of discriminant validity at the HOCs level (Sarstedt et al., 2019).

Emotional intelligence, health-promoting leadership, and burnout were modeled as reflective-reflective HOCs using a hierarchical component model. All LOCs loaded significantly onto their HOCs ($p < 0.001$). The standardized loadings of LOCs on their respective HOCs ranged from 0.242 to 0.434 (Table 4).

Table 4. Higher-Order Construct Loadings

LOC → HOC	β	T statistics	p values
SEA → emotional intelligence	0.253	10.557	<0.001
OEA → emotional intelligence	0.389	17.614	<0.001
UOE → emotional intelligence	0.242	10.584	<0.001
ROE → emotional intelligence	0.317	24.192	<0.001
AW → health-promoting leadership	0.270	26.076	<0.001
WD → health-promoting leadership	0.255	21.482	<0.001
RM → health-promoting leadership	0.282	24.806	<0.001
SC → health-promoting leadership	0.270	20.272	<0.001
DP → burnout	0.317	16.666	<0.001
EE → burnout	0.320	17.974	<0.001
RPA → burnout	0.434	24.937	<0.001

Note. LOC = low-order construct, HOC = high-order construct, SEA = self-emotion appraisal; OEA = others' emotion appraisal; UOE = use of emotion; ROE = regulation of emotion; AW = awareness; WD = work design; RM = role model; SC = supportive communication; DP = depersonalization; EE = emotional exhaustion; RPA = reduced personal accomplishment.

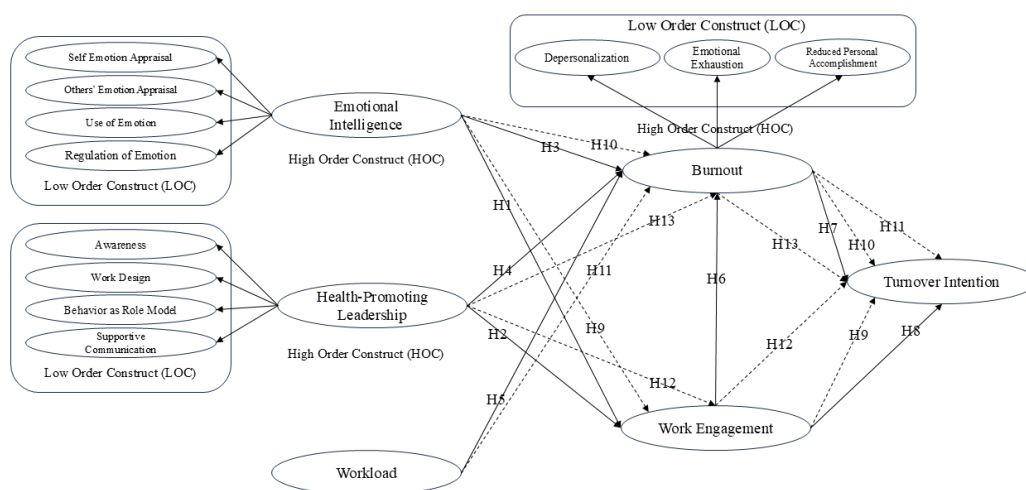


Figure 1. Hypothesized Structural Model

Note. The figure displays the complete structural model tested in this study. Solid arrows represent hypothesized direct effects (H1-H8); dashed arrows represent hypothesized indirect effects or mediation pathways (H9-H13). LOCs are shown within boxes with rounded rectangles; HOCs are represented as ovals. Emotional intelligence comprises four dimensions: self-emotion appraisal, others' emotion appraisal, use of emotion, and regulation of emotion. Health-promoting leadership comprises four dimensions: awareness, work design, behavior as role models, and supportive communication. Burnout comprises three dimensions: depersonalization, emotional exhaustion, and reduced personal accomplishment. Results of hypothesis testing for direct effects are presented in Table 5; mediation effects are presented in Table 6.

Table 5. Structural Model Results: Direct Effects

Hypothesis	Path	β	T statistics	f^2	P values	Result
H1	EI $\rightarrow$ WE	0.507	3.286	0.104	0.001	Supported
H2	HPL $\rightarrow$ WE	-0.014	0.109	0.000	0.913	Not supported
H3	EI $\rightarrow$ BO	-0.002	0.264	0.001	0.792	Not supported
H4	HPL $\rightarrow$ BO	-0.001	0.168	0.000	0.867	Not supported
H5	WL $\rightarrow$ BO	-0.009	1.764	0.051	0.078	Not supported
H6	WE $\rightarrow$ BO	0.012	2.846	0.083	0.004	Supported
H7	BO $\rightarrow$ TI	0.385	2.787	0.176	0.005	Supported
H8	WE $\rightarrow$ TI	-0.610	6.045	0.440	<0.001	Supported

Note. EI = emotional intelligence, HPL = health-promoting leadership, WL = workload, WE = work engagement, BO = burnout, TI = turnover intention.

Table 6. Mediation Analysis: Specific Indirect Effects

Hypothesis	Indirect Path	β	T statistics	P values	Result
H9	EI $\rightarrow$ WE $\rightarrow$ TI	-0.309	2.948	0.003	Supported
H10	EI $\rightarrow$ BO $\rightarrow$ TI	-0.001	0.247	0.805	Non-supported
H11	WL $\rightarrow$ BO $\rightarrow$ TI	-0.003	1.344	0.179	Non-supported
H12	HPL $\rightarrow$ BO $\rightarrow$ TI	0.000	0.164	0.870	Non-supported
H13	HPL $\rightarrow$ WE $\rightarrow$ TI	-0.009	0.105	0.917	Non-supported

Note. EI = emotional intelligence, HPL = health-promoting leadership, WL = workload, WE = work engagement, BO = burnout, TI = turnover intention.

Table 7. Coefficient of Determination (R^2)

Endogenous Variable	R-square
Burnout	0.999
Turnover Intention	0.316
Work Engagement	0.245

The hypothesized structural model was tested using PLS-SEM with bootstrapping procedures (5,000 subsamples). Emotional intelligence had a significant positive effect on work engagement ($\beta = 0.507$, $t = 3.286$, $p = 0.001$, $f^2 = 0.104$). Health-promoting leadership did not have a significant effect on work engagement ($\beta = -0.014$, $t = 0.109$, $p = 0.913$, $f^2 = 0.000$). Emotional in-

telligence ($\beta = -0.002$, $t = 0.264$, $p = 0.792$, $f^2 = 0.001$), health-promoting leadership ($\beta = -0.001$, $t = 0.168$, $p = 0.867$, $f^2 = 0.000$), and workload ($\beta = -0.009$, $t = 1.764$, $p = 0.078$, $f^2 = 0.051$) did not show significant effects on burnout. Work engagement showed a statistically significant but small positive effect on burnout ($\beta = 0.012$, $t = 2.846$, $p = 0.004$, $f^2 = 0.083$).

Work engagement had a significant negative effect on turnover intention ($\beta = -0.610$, $t = 6.045$, $p < 0.001$, $f^2 = 0.440$). Burnout had a significant positive effect on turnover intention ($\beta = 0.385$, $t = 2.787$, $p = 0.005$, $f^2 = 0.176$) (Table 5).

Mediation effects were examined using the bootstrapping procedure. Work engagement significantly mediated the relationship between emotional intelligence and turnover intention ($\beta = -0.309$, $t = 2.948$, $p = 0.003$). In contrast, the indirect effect of emotional intelligence on turnover intention via burnout was not significant ($\beta = -0.001$, $t = 0.247$, $p = 0.805$). Similarly, health-promoting leadership did not exhibit significant indirect effects on turnover intention through either work engagement ($\beta = -0.009$, $t = 0.105$, $p = 0.917$) or burnout ($\beta = 0.000$, $t = 0.164$, $p = 0.870$). Furthermore, the indirect effect of workload on turnover intention via burnout was not statistically significant ($\beta = -0.003$, $t = 1.344$, $p = 0.179$) (Table 6).

The explanatory power of the structural model was assessed using the coefficient of determination (R^2). The model explained 24.5% of the variance in work engagement ($R^2 = 0.245$). For turnover intention, the model explained 31.6% of the variance ($R^2 = 0.316$). The R^2 value for burnout was 0.999 (Table 7).

Discussion

This study examined the relationships among emotional intelligence, health-promoting leadership, workload, work engagement, burnout, and turnover intention among hospital nurses using hierarchical component modeling and PLS-SEM. Overall, the findings highlight the central role of psychological resources and motivational processes in explaining nurses' turnover intention. The results indicate that emotional intelligence significantly predicted work engagement, work engagement strongly predicted lower turnover intention, and burnout significantly increased turnover intention. Mediation analysis further confirmed that work engagement served as a key psychological mechanism linking emotional intelligence to turn-

over intention. However, several hypothesized relationships, including the effects of emotional intelligence, health promoting leadership, and workload on burnout, were not supported.

Consistent with theoretical expectations, emotional intelligence had a significant positive effect on work engagement. This finding supports the conceptualization of emotional intelligence

as a personal resource within the (JD-R) framework (Bakker & Demerouti, 2017) and aligns with prior studies demonstrating that emotionally intelligent employees tend to exhibit higher levels of engagement at work (Miao et al., 2017). In nursing contexts, emotional intelligence enables individuals to recognize, regulate, and effectively manage emotional experiences during demanding patient interactions. These capabilities help nurses maintain positive interpersonal relationships, cope with emotional stressors, and sustain motivation in challenging clinical environments (Görgens-Ekermans & Brand, 2012). From a practical perspective, this finding suggests that interventions aimed at strengthening emotional intelligence competencies, such as emotional awareness, emotion regulation, and empathy, may contribute to higher levels of work engagement among nurses.

Work engagement demonstrated a strong negative relationship with turnover intention, with a large effect size. This finding provides empirical support for the motivational process proposed by the JD-R model, in which job and personal resources enhance engagement, which subsequently reduces withdrawal intentions and strengthens organizational attachment (Schaufeli, 2021). Nurses who experience higher levels of vigor, dedication, and absorption in their work are substantially less likely to consider leaving their organization. The large effect-size observed in this relationship highlights the practical importance of promoting engagement within healthcare organizations. Strategies such as supportive leadership, meaningful work design, recognition of professional contributions, and opportunities for career development may strengthen

engagement and ultimately reduce turnover intention.

Burnout also emerged as a significant predictor of turnover intention. Nurses who reported higher levels of emotional exhaustion, depersonalization, and reduced personal accomplishment were more likely to express intentions to leave their organization. This finding is consistent with extensive literature identifying burnout as a major risk factor for employee withdrawal in health-care settings (Maslach & Leiter, 2016; Woo et al., 2020). Persistent exposure to high emotional demands, heavy workloads, and stressful patient care situations may gradually deplete nurses' psychological resources, increasing their likelihood of considering job departure. These results emphasize the importance of organizational strategies aimed at preventing burnout, including adequate staffing, workload management, emotional support systems, and the promotion of healthy work environments.

An unexpected finding of this study was the statistically significant but very small positive relationship between work engagement and burnout ($\beta = 0.012$). This result appears inconsistent with the JD-R framework, which typically conceptualizes work engagement and burnout as opposite psychological states. Previous research has generally reported a negative relationship between engagement and burnout, suggesting that engaged employees are less likely to experience exhaustion (Schaufeli, 2021). One possible explanation for this unexpected finding relates to the demanding nature of nursing work. Highly engaged nurses may invest considerable emotional, cognitive, and physical energy into their work, particularly in high-pressure clinical environments. When job demands remain persistently high and opportunities for recovery are limited, strong dedication to work may coexist with emotional exhaustion.

Another possible explanation involves the concept of "over engagement," in which employees who are deeply committed to their work may extend themselves beyond sustainable limits,

potentially increasing their vulnerability to fatigue and emotional strain over time. In addition, the magnitude of the coefficient observed in this study was extremely small, suggesting that the practical impact of this relationship is minimal. Methodological factors may also contribute to this finding. The use of cross-sectional data and the inclusion of multiple predictors within the structural model may produce suppression effects or alter the direction of small coefficients in PLS-SEM analyses. Therefore, this result should be interpreted cautiously and does not necessarily contradict the broader JD-R framework, but rather highlights the complex interaction between engagement, job demands, and recovery opportunities in demanding health-care environments.

Contrary to theoretical expectations, emotional intelligence, health-promoting leadership, and workload did not significantly predict burnout in this study. These findings differ from several previous studies that reported significant relationships between these factors and burnout among healthcare workers. For example, prior research has suggested that emotional intelligence may reduce burnout by enabling individuals to regulate negative emotions and cope effectively with stress (Miao et al., 2017), while supportive leadership behaviors have been shown to protect employees from excessive job strain. Similarly, high workload has frequently been identified as a major predictor of burnout in healthcare settings (Meredith et al., 2022). The absence of these relationships in the present study may reflect the contextual characteristics of the study setting. In Indonesian hospital environments, hierarchical organizational structures, collectivist cultural values, and strong professional commitment among nurses may influence how job demands and resources are experienced and interpreted. It is possible that nurses continue to fulfill professional responsibilities despite experiencing high demands, which may weaken the direct statistical association between these variables and burnout. Another possible explanation is that burnout in this context may be strongly influenced by other organizational

factors not included in the model, such as staffing policies, shift patterns, or institutional support systems.

The structural model also produced an unusually high coefficient of determination for burnout ($R^2 = 0.999$). This result is likely attributable to the hierarchical component modeling approach used in the study, in which burnout was modeled as a reflective-reflective HOC composed of its lower-order dimensions using the repeated indicator method. In such cases, extremely high R^2 values may occur because the HOC is largely explained by its underlying dimensions rather than by independent predictors in the structural model. Therefore, this value should be interpreted as a methodological artifact of the modeling approach rather than as substantive explanatory power.

The findings of this study have several practical implications for healthcare organizations. First, developing nurses' emotional intelligence may represent an effective strategy for strengthening work engagement and reducing turnover intention. Training programs focusing on emotional awareness, emotion regulation, and interpersonal communication skills may help nurses better manage the emotional demands of patient care. Second, the strong relationship between work engagement and turnover intention suggests that hospitals should prioritize organizational practices that enhance engagement, such as providing meaningful work roles, recognizing professional contributions, and offering opportunities for career development. Finally, although burnout did not function as a mediator in the model, its direct association with turnover intention highlights the importance of implementing burnout prevention strategies, including workload management, adequate staffing, and psychosocial support programs.

Several limitations should be acknowledged when interpreting the results of this study. First, a cross-sectional design limits the ability to establish causal relationships among variables. Longitudinal research is needed to confirm the tem-

poral dynamics among job resources, work engagement, burnout, and turnover intention. Second, all data were collected using self-report questionnaires from a single source, which may increase the risk of common method bias. Third, the study was conducted in a single hospital setting, which may limit the generalizability of the findings to other healthcare organizations. Future studies should examine these relationships across multiple hospitals and healthcare systems to enhance external validity. Future research could also employ longitudinal designs, multi-level modeling approaches, and intervention studies to further explore how emotional intelligence and work engagement interventions influence nurse retention over time. Finally, a relatively small sample size should be considered when interpreting the results, and replication with larger samples is recommended.

Conclusion

This study examined the relationships among emotional intelligence, health-promoting leadership, workload, work engagement, burnout, and turnover intention among hospital nurses using a hierarchical component modeling approach with PLS-SEM. The findings suggest that work engagement plays a central role within the proposed model. In particular, work engagement showed the strongest relationship with turnover intention, demonstrating a large negative effect. This result indicates that nurses who experience higher levels of engagement are substantially less likely to report intentions to leave their organization.

The findings also suggest that emotional intelligence may contribute indirectly to nurse retention by supporting higher levels of work engagement. In addition, burnout was identified as an important factor associated with turnover intention, reinforcing previous evidence that emotional exhaustion and psychological strain remain key challenges in healthcare work environments. While emotional intelligence, health-promoting leadership, and workload did not show significant direct associations with burnout in this study, the overall

model highlights the complex interplay among psychological resources, job demands, and motivational processes in shaping nurses turn-over intentions.

From a practical perspective, the results suggest that nursing management strategies aimed at strengthening work engagement and supporting nurses' emotional competencies may contribute to improved workforce stability. Interventions focusing on emotional intelligence development, supportive organizational environments, and engagement-enhancing work conditions may be particularly relevant for healthcare organizations seeking to reduce turnover intention among nurses. Given the relatively small sample size and single-site design, the findings should be interpreted with caution. Future research should further investigate these relationships using longitudinal designs and larger multi-site samples to better understand the dynamic mechanisms underlying nurse retention in different healthcare contexts.

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Data Availability Statement

The datasets generated and analyzed during the current study are not publicly available due to confidentiality and institutional data protection policies. However, the data may be made available from the corresponding author upon reasonable request and with permission from the participating institution.

Author Contributions

Catrin Catrin: Conceptualization, Methodology, Investigation, Data Curation, Formal Analysis, Writing-Original Draft. **Christopher Wisnu:** Investigation, Validation, Writing-Review & Editing. **Pauline Henriette Pattyranie Tan:** Conceptualization, Methodology, Formal Analysis, Supervision, Writing-Review & Editing.

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