

The Impact of Emotional Intelligence and Resilience on Nursing Work Efficiency: Evidence from The Qassim Health Cluster

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Abstract

Emotional intelligence plays an important role in nursing practice and influences how nurses interact with patients, families, and colleagues, thereby determining the quality of healthcare services. High work pressure can reduce work efficiency; therefore, resilience and emotional intelligence are considered essential psychological competencies. Nurses with high emotional intelligence tend to demonstrate more effective communication skills, stronger empathy, and the ability to manage conflicts constructively. The purpose of this study is to analyze the influence of emotional intelligence and nursing resilience on nurses' work efficiency, with work engagement as a mediating variable in the Qassim Health Cluster, Saudi Arabia. This study employed a quantitative approach using a cross-sectional survey design involving nursing staff working in various hospital service units. Data were collected through a structured questionnaire measuring emotional intelligence, nursing resilience, work engagement, and nursing work efficiency using a Likert scale. Data analysis was conducted using Structural Equation Modeling (SEM) to examine the relationships among variables and the mediating role of work engagement. The findings indicate that strengthening the psychological capacity of nursing staff can enhance work engagement and overall healthcare service efficiency. This study provides important implications for hospital management in formulating human resource development policies by assessing and improving emotional intelligence and psychological resilience among healthcare workers to enhance the quality of healthcare services and organizational performance, particularly in nursing practice.

Keywords: *Emotional Intelligence, Healthcare Workforce Performance, Nursing Work Efficiency, Nursing Resilience, Work Engagement*

Introduction

Modern healthcare systems increasingly depend on the competence and efficiency of healthcare professionals, particularly nurses who serve as the frontline providers of patient-centred care. Nurses are responsible not only for delivering direct clinical services but also for coordinating multidisciplinary care, monitoring patient conditions, and maintaining communication with patients' families and healthcare teams. Consequently, nursing performance significantly influences healthcare quality, patient safety, organizational effectiveness, and overall hospital sustainability (Cummings et al., 2021; Zhang et al., 2023). As healthcare demands continue to rise globally due to demographic transitions, chronic disease prevalence, and technological advancements, nurses are required to work in increasingly complex and demanding clinical environments.

Review of Related Literature

The growing complexity of healthcare delivery has intensified physical and psychological pressures experienced by nurses. Heavy workloads, emotional exhaustion, long working hours, and rapid decision-making requirements frequently contribute to occupational stress and declining work performance. Previous studies have reported that prolonged exposure to stressful clinical conditions may reduce productivity, increase burnout risk, and negatively affect healthcare quality and employee well-being (Dyrbye et al., 2020; West et al., 2020). Nursing professionals are particularly vulnerable because they continuously interact with patients experiencing pain, trauma, and critical illnesses, which creates substantial emotional strain and may weaken motivation and work efficiency over time (Kaushik et al., 2021).

Recent literature emphasizes the importance of psychological resources in maintaining healthcare professionals' performance under stressful conditions. Emotional intelligence has emerged as a significant factor because it enables individuals to recognize, regulate, and manage emotions effectively while maintaining positive interpersonal relationships in the workplace. Nurses with strong emotional intelligence are generally better at communication, empathy, emotional regulation, and conflict management, all of which contribute to improved work engagement and professional performance (Kim et al., 2022; Al-Hamdan et al., 2021). In addition, psychological resilience plays a crucial role in helping nurses adapt positively to workplace adversity and maintain psychological stability in challenging clinical situations. Resilient nurses tend to demonstrate stronger coping abilities, lower emotional exhaustion, and better work outcomes despite high occupational demands (Godoy et al., 2022; Lee et al., 2024).

Another important determinant of healthcare performance is work engagement, which reflects employees' energy, dedication, and absorption in their work roles. According to the Job Demands–Resources (JD-R) Theory, personal psychological resources such as emotional intelligence and resilience can strengthen employee engagement and ultimately improve work performance and organizational productivity (Bakker & Demerouti, 2020). However, empirical evidence examining the mediating role of work engagement in the relationship between emotional intelligence, resilience, and nurses' work efficiency remains limited, particularly within Middle Eastern healthcare settings, including Saudi Arabia. Therefore, this study aims to analyze the effects of emotional intelligence and psychological resilience on nurses' work efficiency with work engagement serving as a mediating variable among nurses in the Qassim Health Cluster, Saudi Arabia.

Methodology

Research Design

This study employed a quantitative approach using a cross-sectional survey design to analyze the relationships among emotional intelligence, nursing resilience, work engagement, and nurses' work efficiency. The quantitative approach was selected because it enables researchers to empirically examine relationships among variables through measurable and objective statistical analysis.

A cross-sectional design was used because data were collected from respondents at a single point in time representing the study population. This design allows researchers to describe the conditions of the research variables and identify relationships among variables within the context of healthcare organizations during the study period. The

study aimed to examine the effects of emotional intelligence and nursing resilience on nurses' work efficiency, with work engagement serving as a mediating variable.

Research Setting and Population

This study was conducted among nurses working in various hospitals within the Qassim Health Cluster, Saudi Arabia. The health cluster is part of the healthcare system responsible for providing healthcare services to communities in the Qassim region. The population of this study consisted of all nurses working in hospitals within the Qassim Health Cluster, including nurses assigned to various healthcare service units such as inpatient units, emergency departments, intensive care units, outpatient clinics, and other specialized units. Nurses working in these healthcare units have different job characteristics, which may lead to variations in emotional intelligence, psychological resilience, work engagement, and work efficiency levels.

The sampling technique used in this study was stratified random sampling. This method was chosen to ensure that the research sample adequately represented the various hospital service units included in the study population. In this technique, the nursing population was first grouped based on work units or healthcare departments. Respondents were then randomly selected from each group so that every service unit had an equal opportunity to be represented in the sample. The use of stratified random sampling aimed to improve sample representativeness and reduce potential bias in respondent selection. The total sample consisted of 262 nurses working in various hospital service units within the Qassim Health Cluster. This sample size was considered adequate for Structural Equation Modeling (SEM) analysis because it met the recommended minimum sample size for SEM studies, which generally ranges from 200 to 400 respondents.

Research Instrument

Data collection in this study was conducted using a structured questionnaire developed based on research instruments that had been widely used in previous studies. The questionnaire consisted of measures related to emotional intelligence, nursing resilience, work engagement, and nurses' work efficiency. All questionnaire items were measured using a five-point Likert scale.

Data Collection

Research data were collected through the distribution of questionnaires to nurses participating as study respondents. The questionnaires were distributed both directly and through online platforms to facilitate respondents in completing the survey. Before the data collection process, the researcher provided explanations regarding the objectives of the study and assured respondents that all information provided would remain confidential. Participation in this study was entirely voluntary.

Data analysis was performed using the Structural Equation Modeling (SEM) method with the assistance of SmartPLS software,

Analysis

Structural Model Analysis Results

Data analysis was performed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with the assistance of SmartPLS software to evaluate the structural relationships among emotional intelligence, nursing resilience, work engagement, and nurses' work efficiency. SEM-PLS was selected because it is considered appropriate for examining complex predictive models involving multiple latent variables and mediation

effects simultaneously. In addition, this analytical approach is suitable for behavioral and organizational research that emphasizes prediction and theory development. Prior to testing the structural model, the measurement model was evaluated to ensure the reliability and validity of all constructs. The findings demonstrated that all constructs achieved acceptable levels of reliability, as indicated by Cronbach's alpha and composite reliability values above the recommended threshold of 0.70. Furthermore, convergent validity was confirmed through Average Variance Extracted (AVE) values exceeding 0.50 for all constructs, indicating that the indicators adequately represented their respective latent variables. Discriminant validity was also established using the Fornell–Larcker criterion and Heterotrait–Monotrait Ratio (HTMT), confirming that each construct was conceptually distinct from the others.

The structural model assessment revealed that the proposed research model had substantial explanatory power. The R-square (R^2) value for work engagement was 0.58, indicating that emotional intelligence and nursing resilience jointly explained 58% of the variance in nurses' work engagement. This result suggests that psychological resources play an important role in enhancing nurses' psychological involvement and motivation at work. Meanwhile, the R-square value for nurses' work efficiency was 0.63, indicating that emotional intelligence, resilience, and work engagement collectively explained 63% of the variance in work efficiency. These findings demonstrate that the proposed model possesses strong predictive capability in explaining nurses' performance outcomes within healthcare organizations.

Hypothesis testing was conducted using the bootstrapping procedure to examine the significance of direct and indirect relationships among variables. The results showed that all hypothesized relationships produced t-statistics greater than 1.96 and p-values lower than 0.05, indicating statistically significant effects. Emotional intelligence and resilience were found to positively influence work engagement and nurses' work efficiency. In addition, work engagement significantly influenced work efficiency and partially mediated the relationships between emotional intelligence, resilience, and work efficiency. These findings support the Job Demands–Resources (JD-R) Theory and Conservation of Resources (COR) Theory, emphasizing the importance of psychological resources in improving nurses' engagement and performance in demanding healthcare environments.

Findings and Discussion

The Effect of Emotional Intelligence on Work Engagement

The results of this study demonstrated that emotional intelligence had a positive and statistically significant effect on nurses' work engagement. This finding suggests that nurses who possess stronger abilities to recognize, understand, regulate, and express emotions effectively are more likely to exhibit higher levels of psychological attachment to their work. In the nursing profession, emotional intelligence is particularly important because nurses are continuously exposed to emotionally demanding situations involving patients, families, and multidisciplinary healthcare teams. The ability to manage emotions appropriately enables nurses to remain motivated, focused, and psychologically connected to their professional responsibilities despite challenging working conditions. The findings are consistent with previous research indicating that emotional intelligence contributes significantly to employees' motivation, communication quality, and interpersonal relationships within healthcare organizations (Al-Hamdan et al., 2021). Nurses with high emotional intelligence are generally better equipped to manage

workplace conflicts, maintain positive social interactions, and provide empathetic patient care, all of which strengthen their engagement at work. Similarly, Kim et al. (2022) reported that emotionally intelligent nurses tend to demonstrate stronger organizational commitment, greater professional dedication, and higher resilience in dealing with occupational stressors.

From a theoretical perspective, this finding supports the Job Demands–Resources (JD-R) Theory, which emphasizes that personal resources such as emotional intelligence can enhance motivational processes and strengthen work engagement. Emotional intelligence functions as a valuable psychological resource that helps nurses manage emotional exhaustion and maintain enthusiasm in their daily tasks. Therefore, emotional intelligence not only influences interpersonal effectiveness but also contributes to sustaining positive work attitudes and improving overall nursing performance. Based on these findings, emotional intelligence can be considered a critical psychological factor that enhances nurses' work engagement and supports the sustainability of healthcare service quality within hospital organizations.

The Effect of Resilience on Work Engagement

The study results also showed that nursing resilience had a positive and significant effect on nurses' work engagement. Nurses who possess the ability to adapt to workplace pressure tend to demonstrate higher levels of energy and dedication in carrying out their professional responsibilities.

This finding is consistent with previous research indicating that psychological resilience helps healthcare professionals cope with occupational stress and improve their work engagement within organizations (Gotterson et al., 2021). Other studies have also shown that healthcare workers with high levels of resilience tend to experience better psychological well-being and are more capable of maintaining work motivation (Godoy et al., 2022).

These findings suggest that resilience is an important psychological resource in supporting nurses' work engagement.

The Effect of Emotional Intelligence on Nurses' Work Efficiency

The results demonstrated that emotional intelligence had a positive effect on nurses' work efficiency. Nurses with high levels of emotional intelligence tend to manage emotional pressure in the workplace more effectively, thereby improving work productivity. This finding is in line with previous studies showing that emotional intelligence plays an important role in improving healthcare professionals' performance and the quality of patient care (Zhang et al., 2023). Additionally, other studies have found that emotional intelligence can enhance interpersonal communication skills and teamwork effectiveness within healthcare organizations (Ahmed et al., 2024).

Therefore, emotional intelligence can be considered an important competency that contributes to improving nurses' work efficiency.

The Effect of Resilience on Nurses' Work Efficiency

The study findings also revealed that resilience had a positive and significant effect on nurses' work efficiency. Nurses with high resilience levels tend to be more capable of coping with workplace pressure while maintaining the quality of healthcare services provided to patients.

This finding is consistent with previous studies indicating that psychological resilience plays a significant role in improving healthcare professionals' performance and reducing the risk of work-related fatigue (Htay & Whitehead, 2021). Furthermore, other studies have demonstrated that healthcare workers with higher resilience levels tend to exhibit better work productivity (Lee et al., 2024). These findings indicate that psychological resilience can help nurses maintain work efficiency in highly demanding work environments.

The Mediating Role of Work Engagement

The mediation analysis results showed that work engagement mediated the relationships between emotional intelligence and resilience with nurses' work efficiency.

This finding indicates that emotional intelligence and resilience not only directly influence work efficiency but also improve work efficiency through increased work engagement among nurses.

These results support the Job Demands–Resources (JD-R) Theory, which suggests that psychological resources such as emotional intelligence and resilience can enhance work engagement, ultimately leading to improved individual performance (Bakker & Demerouti, 2020). Other studies have also shown that work engagement is an important factor linking psychological resources with healthcare professionals' performance (Martinez et al., 2023).

Therefore, improving nurses' emotional intelligence and psychological resilience may serve as an effective strategy for enhancing work engagement and overall healthcare service efficiency.

Research Limitations

- This study has several limitations that should be considered when interpreting the findings. First, the study used a cross-sectional design; therefore, the relationships identified among variables are associative and cannot fully explain causal relationships.
- The study was conducted only among nurses working in hospitals within the Qassim Health Cluster. Consequently, the generalizability of the findings to other healthcare organizational settings should be interpreted with caution.
- The data were collected using self-report questionnaires, which may increase the possibility of respondent perception bias in answering questionnaire items.

Recommendations for Future Research

Based on the limitations of this study, several recommendations for future research are proposed:

- Future studies are recommended to use longitudinal designs to examine causal relationships among emotional intelligence, resilience, work engagement, and nurses' work efficiency more comprehensively.
- Future research may expand the study scope by involving healthcare professionals from different hospitals or healthcare systems across various regions to improve the generalizability of findings.
- Further studies may also incorporate additional variables that potentially influence healthcare workers' efficiency, such as transformational leadership, organizational support, organizational culture, and employee well-being.

- Future research may combine quantitative and qualitative approaches (mixed methods) to gain a more comprehensive understanding of factors influencing healthcare professionals' performance.

Policy Implications

The findings of this study provide important implications for human resource management in the healthcare sector, particularly in nursing workforce development. Hospital management should consider the development of healthcare workers' psychological competencies as part of organizational performance improvement strategies.

Training programs focusing on emotional intelligence development may help nurses improve interpersonal communication skills, empathy toward patients, and conflict management abilities in the workplace. In addition, programs aimed at strengthening psychological resilience are essential to help nurses cope with high levels of work-related stress. Healthcare organizations also need to create work environments that support employee engagement through policies promoting psychological well-being, organizational support, and professional development for healthcare workers. Therefore, improving emotional intelligence, psychological resilience, and work engagement among nurses can become an effective strategy for enhancing healthcare service efficiency and overall organizational performance.

Conclusion

This study aimed to analyze the effects of emotional intelligence and nursing resilience on nurses' work efficiency, with work engagement serving as a mediating variable among nurses in the Qassim Health Cluster, Saudi Arabia. The findings revealed that emotional intelligence and resilience had positive and significant effects on nurses' work engagement. This indicates that nurses who possess the ability to understand and manage emotions, as well as strong psychological resilience, tend to demonstrate higher levels of work engagement in carrying out their professional responsibilities. In addition, the study found that emotional intelligence and resilience positively influenced nurses' work efficiency. Nurses with strong emotional intelligence were better able to manage emotional pressure in the workplace, thereby improving productivity and the quality of healthcare services. Meanwhile, psychological resilience helped nurses cope with workplace stress and maintain professional performance in challenging work situations. The mediation analysis further demonstrated that work engagement played an important role in mediating the relationship between emotional intelligence and resilience with nurses' work efficiency. These findings indicate that improvements in emotional intelligence and psychological resilience not only directly enhance work efficiency but also indirectly improve efficiency through increased work engagement among nurses. Overall, this study confirms that psychological factors such as emotional intelligence and resilience are important resources that can enhance nurses' work engagement and work efficiency within healthcare organizations.

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