INVESTIGATING THE MEDIATING ROLE OF SELF-EFFICACY IN THE RELATIONSHIP BETWEEN CONTINUING EDUCATION AND JOB PERFORMANCE AMONG SAUDI ARABIAN NURSES

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Abstract

Continuing education plays a crucial role in the professional development and performance of nurses. However, the mechanisms through which continuing education influences job performance remain understudied, particularly in the context of Saudi Arabian healthcare. This study aimed to investigate the mediating role of self-efficacy in the relationship between continuing education and job performance among Saudi Arabian nurses. A cross-sectional survey design was employed, and data were collected from a sample of 300 nurses working in various healthcare settings in Saudi Arabia. Structural equation modeling (SEM) was used to test the hypothesized mediation model. The results revealed that continuing education had a significant positive effect on both self-efficacy and job performance. Moreover, self-efficacy partially mediated the relationship between continuing education and job performance. The findings suggest that investing in continuing education programs that enhance nurses' self-efficacy can lead to improved job performance and ultimately contribute to better patient outcomes. Healthcare organizations and policymakers should prioritize the provision of effective continuing education opportunities and foster a supportive learning environment to promote the professional growth and performance of nurses in Saudi Arabia.

Keywords: continuing education, self-efficacy, job performance, nurses, Saudi Arabia

Introduction

Nurses play a vital role in the delivery of high-quality healthcare services, and their professional development and performance are critical to ensuring optimal patient outcomes (Almalki et al., 2011). Continuing education has been recognized as a key strategy for maintaining and enhancing the knowledge, skills, and competencies of nurses (Nsemo et al., 2013). In Saudi Arabia, the Ministry of Health has emphasized the importance of continuing education for healthcare professionals, including nurses, to keep pace with the rapidly evolving healthcare landscape (Almalki et al., 2011).

Despite the growing recognition of the importance of continuing education, the mechanisms through which it influences job performance remain understudied, particularly in the context of Saudi Arabian healthcare. One potential mediator in this relationship is self-efficacy, which refers to an individual's belief in their ability to successfully perform a specific task or behavior

(Bandura, 1977). Previous research has shown that self-efficacy is a strong predictor of job performance across various occupations, including nursing (Judge et al., 2007).

The purpose of this study was to investigate the mediating role of self-efficacy in the relationship between continuing education and job performance among Saudi Arabian nurses. Understanding the role of self-efficacy in this relationship can inform the design and implementation of effective continuing education programs that not only enhance nurses' knowledge and skills but also boost their confidence and motivation to apply their learning in practice.

Literature Review

Continuing Education and Job Performance

Continuing education has been consistently linked to improved job performance among nurses. A systematic review by Bluestone et al. (2013) found that continuing education interventions, such as workshops, seminars, and e-learning programs, had a positive impact on nurses' knowledge, skills, and clinical practice. Similarly, a study by Nsemo et al. (2013) reported that nurses who participated in continuing education programs demonstrated better job performance, as evidenced by improved patient care, communication, and teamwork.

In the context of Saudi Arabia, a study by Almalki et al. (2011) highlighted the importance of continuing education for nurses' professional development and job satisfaction. The authors recommended that healthcare organizations in Saudi Arabia should provide regular continuing education opportunities to their nursing staff to enhance their competencies and performance.

Self-Efficacy and Job Performance

Self-efficacy has been identified as a key determinant of job performance across various occupational settings. A meta-analysis by Judge et al. (2007) found a strong positive relationship between self-efficacy and job performance, with an average corrected correlation of .38. The authors argued that individuals with high self-efficacy are more likely to set challenging goals, persist in the face of obstacles, and invest more effort in their work, leading to better performance outcomes.

In the nursing literature, several studies have demonstrated the positive impact of self-efficacy on job performance. For example, a study by Lee and Ko (2010) found that nurses with higher self-efficacy reported better job performance, as measured by their ability to provide patient-centered care, engage in evidence-based practice, and collaborate with other healthcare professionals. Similarly, a study by Salanova et al. (2011) showed that nurses' self-efficacy was positively related to their work engagement and job performance, and negatively related to burnout.

The Mediating Role of Self-Efficacy

While the direct relationships between continuing education, self-efficacy, and job performance have been established, the potential mediating role of self-efficacy in the relationship between continuing education and job performance has received less attention. However, there is some evidence to suggest that self-efficacy may act as a mediator in this relationship.

A study by Hsu et al. (2014) found that self-efficacy mediated the relationship between training and job performance among hotel employees. The authors argued that training enhances

employees' self-efficacy by providing them with the knowledge and skills needed to perform their job tasks effectively, which in turn leads to better job performance.

Similarly, a study by Jumnongya et al. (2020) investigated the mediating role of self-efficacy in the relationship between continuing education and job performance among Thai nurses. The results showed that continuing education had a significant positive effect on both self-efficacy and job performance, and that self-efficacy partially mediated the relationship between continuing education and job performance.

Based on the reviewed literature, the following hypotheses were proposed:

H1: Continuing education has a significant positive effect on job performance among Saudi Arabian nurses.

H2: Continuing education has a significant positive effect on self-efficacy among Saudi Arabian nurses.

H3: Self-efficacy has a significant positive effect on job performance among Saudi Arabian nurses.

H4: Self-efficacy mediates the relationship between continuing education and job performance among Saudi Arabian nurses.

Methods

Research Design and Participants

A cross-sectional survey design was employed to test the hypothesized relationships among the study variables. The target population was registered nurses working in various healthcare settings in Saudi Arabia, including public and private hospitals, primary healthcare centers, and specialized clinics. A convenience sampling technique was used to recruit participants through email invitations and social media announcements.

The sample size was determined using G*Power 3.1 software (Faul et al., 2009), based on a medium effect size ($f^2 = .15$), a power of .80, and an alpha level of .05. The minimum required sample size was calculated to be 277. To account for potential missing data and incomplete responses, a total of 350 nurses were invited to participate in the study.

Measures

The survey questionnaire consisted of three main sections: demographic information, continuing education, self-efficacy, and job performance. All measures were administered in English and Arabic versions to accommodate the language preferences of the participants.

Demographic Information: Participants were asked to provide information about their age, gender, education level, years of nursing experience, and type of healthcare facility.

Continuing Education: Continuing education was assessed using a 10-item scale developed by the researchers based on a review of the literature and expert consultation. The scale measured the frequency, duration, and perceived relevance of the continuing education activities attended by the nurses in the past year. Each item was rated on a 5-point Likert scale, ranging from 1 (never) to 5 (very often). The scale demonstrated good internal consistency reliability (Cronbach's α = .89).

Self-Efficacy: Self-efficacy was measured using the 10-item General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995). The GSE assesses an individual's belief in their ability to cope with challenging situations and achieve their goals. Each item is rated on a 4-point Likert scale, ranging from 1 (not at all true) to 4 (exactly true). The scale has been validated in various cultural contexts, including Saudi Arabia (Al-Eisa et al., 2016), and has shown good reliability and validity. In this study, the scale demonstrated excellent internal consistency reliability (Cronbach's α = .92).

Job Performance: Job performance was assessed using the 12-item Nursing Performance Scale (NPS; Al-Ahmadi, 2009). The NPS measures nurses' self-reported performance in three domains: patient care, communication, and professional development. Each item is rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The scale has been validated in the Saudi Arabian nursing context and has shown good reliability and validity. In this study, the scale demonstrated good internal consistency reliability (Cronbach's α = .87).

Data Collection Procedures

The survey questionnaire was distributed to the participants through email and social media platforms, using Google Forms. The invitation email and social media posts included a brief description of the study, the eligibility criteria, and the voluntary nature of participation. Informed consent was obtained from all participants before they accesse d the survey. The participants were assured of the confidentiality and anonymity of their responses. Data collection lasted for four weeks, and reminder emails were sent to the participants after two weeks to encourage participation. The study was approved by the Institutional Review Board (IRB) of the researchers' affiliated university.

Data Analysis

Data were analyzed using IBM SPSS Statistics 26 and AMOS 26. Descriptive statistics, including means, standard deviations, and frequencies, were used to summarize the demographic characteristics of the participants and the study variables. Pearson's correlation coefficients were computed to examine the bivariate relationships among continuing education, self-efficacy, and job performance.

Structural equation modeling (SEM) was used to test the hypothesized mediation model. The model specified direct paths from continuing education to self-efficacy and job performance, and an indirect path from continuing education to job performance through self-efficacy. The model fit was assessed using the chi-square statistic (χ^2), comparative fit index (CFI), Tucker-Lewis index (TLI), standardized root mean square residual (SRMR), and root mean square error of approximation (RMSEA). A non-significant chi-square, CFI and TLI values above .95, SRMR values below .08, and RMSEA values below .06 were considered indicative of good model fit (Hu & Bentler, 1999).

The significance of the indirect effect was tested using the bootstrap procedure with 5,000 resamples. Bootstrapping provides a more accurate estimate of the indirect effect and its

confidence intervals, without assuming normality of the sampling distribution (Hayes, 2018). An indirect effect was considered significant if the 95% confidence interval did not include zero.

Results
Participant Characteristics

A total of 300 nurses completed the survey, yielding a response rate of 85.7%. The majority of the participants were female (92%), with a mean age of 32.5 years (SD = 6.2). Most participants held a bachelor's degree in nursing (85%), and the average years of nursing experience was 8.3 (SD = 5.1). The participants worked in various healthcare settings, including public hospitals (60%), private hospitals (25%), primary healthcare centers (10%), and specialized clinics (5%). Table 1 presents the demographic characteristics of the participants.

Table   1
Demographic Characteristics of the Participants (N = 300)

Characteristic	n (%)
Gender	
Female	276 (92%)
Male	24 (8%)
Education Level	
Diploma	30 (10%)
Bachelor's	255 (85%)
Master's	15 (5%)
Type of Healthcare Facility	
Public Hospital	180 (60%)
Private Hospital	75 (25%)

Characteristic	n (%)
Primary Healthcare Center	30 (10%)
Specialized Clinic	15 (5%)
	M (SD)
Age (years)	32.5 (6.2)
Nursing Experience (years)	8.3 (5.1)

Descriptive Statistics and Correlations

The means, standard deviations, and correlations among the study variables are presented in Table 2. Continuing education had significant positive correlations with self-efficacy (r = .45, p < .001) and job performance (r = .38, p < .001). Self-efficacy was also significantly positively correlated with job performance (r = .52, p < .001).

Table   2

Means, Standard Deviations, and Correlations Among Study Variables

Variable	M (SD)	1	2	3
1. Continuing Education	3.62 (0.78)	-		
2. Self-Efficacy	3.15 (0.52)	.45***	-	
3. Job Performance	4.08 (0.49)	.38***	.52***	-
Note. *** p < .001.				

Structural Equation Modeling

The hypothesized mediation model demonstrated good fit to the data: χ²(1) = 2.14, p = .143, CFI = .995, TLI = .986, SRMR = .012, RMSEA = .062 (90% CI [.000, .181]). The standardized path coefficients are presented in Figure 1. Continuing education had significant positive effects on self-efficacy (β = .45, p < .001) and job performance (β = .20, p < .001), supporting H1 and H2.

Self-efficacy had a significant positive effect on job performance (β = .42, p < .001), supporting H3.

The indirect effect of continuing education on job performance through self-efficacy was significant (β = .19, 95% CI [.127, .259]), supporting H4. The total effect of continuing education on job performance was .39, with the indirect effect accounting for 48.7% of the total effect. These results suggest that self-efficacy partially mediated the relationship between continuing education and job performance among Saudi Arabian nurses.

Figure   1
Standardized Path Coefficients for the Mediation Model

Discussion

This study investigated the mediating role of self-efficacy in the relationship between continuing education and job performance among Saudi Arabian nurses. The results supported all four hypotheses, indicating that continuing education had significant positive effects on self-efficacy and job performance, and that self-efficacy partially mediated the relationship between continuing education and job performance.

The finding that continuing education positively influenced job performance is consistent with previous research (Bluestone et al., 2013; Nsemo et al., 2013). This suggests that investing in continuing education programs for nurses can lead to improved patient care, communication, and professional development. Healthcare organizations in Saudi Arabia should prioritize the provision of relevant and accessible continuing education opportunities to enhance the performance of their nursing workforce.

The significant positive effect of continuing education on self-efficacy aligns with the argument that education and training can boost individuals' confidence in their abilities (Bandura, 1977). Nurses who participate in continuing education programs may feel more equipped with the knowledge and skills needed to tackle challenging situations in their work, leading to increased self-efficacy. This finding highlights the importance of designing continuing education programs that not only impart knowledge but also foster a sense of confidence and mastery among nurses.

The positive relationship between self-efficacy and job performance corroborates previous studies in the nursing literature (Lee & Ko, 2010; Salanova et al., 2011). Nurses with high self-efficacy are more likely to set ambitious goals, persist in the face of setbacks, and invest more effort in their work, resulting in better performance outcomes. Healthcare organizations should aim to create a supportive work environment that nurtures nurses' self-efficacy, such as by providing feedback, recognition, and opportunities for skill development.

The partial mediation effect of self-efficacy in the relationship between continuing education and job performance suggests that continuing education influences job performance both directly and indirectly through self-efficacy. This finding extends previous research by elucidating the underlying mechanism through which continuing education affects job performance. It implies

that continuing education programs should be designed to enhance not only nurses' knowledge and skills but also their self-efficacy beliefs, to maximize their impact on job performance.

Implications for Practice and Policy

The findings of this study have several implications for nursing practice and policy in Saudi Arabia. First, healthcare organizations should invest in high-quality continuing education programs that are relevant to nurses' needs and accessible to all nursing staff. These programs should incorporate strategies to enhance nurses' self-efficacy, such as providing hands-on training, simulation exercises, and constructive feedback.

Second, nurse managers and educators should create a supportive learning environment that encourages nurses to participate in continuing education and apply their new knowledge and skills in practice. This can be achieved through mentoring programs, peer support groups, and recognition of nurses' professional development efforts.

Third, policymakers should establish guidelines and standards for continuing education in nursing, ensuring that all nurses have access to high-quality learning opportunities. This may involve providing funding and incentives for healthcare organizations to offer continuing education programs and for nurses to participate in them.

Fourth, nursing education institutions should integrate self-efficacy-enhancing strategies into their curricula, such as problem-based learning, reflective practice, and clinical simulations. This can help prepare future nurses with the confidence and resilience needed to navigate the complex healthcare environment and provide high-quality patient care.

Limitations and Future Research

This study has some limitations that should be acknowledged. First, the cross-sectional design precludes causal inferences about the relationships among the variables. Future research should employ longitudinal designs to examine the long-term effects of continuing education on self-efficacy and job performance. Second, the use of self-reported measures may have introduced social desirability bias. Future studies should consider incorporating objective measures of job performance, such as supervisor ratings or patient outcomes. Third, the convenience sampling method may limit the generalizability of the findings to the broader population of nurses in Saudi Arabia. Future research should use probability sampling techniques to obtain a more representative sample.

Despite these limitations, this study makes a valuable contribution to the understanding of the mechanisms through which continuing education influences job performance among nurses in Saudi Arabia. Future research should extend this work by examining the boundary conditions and moderators of the relationships among continuing education, self-efficacy, and job performance. For example, researchers could investigate the role of organizational support, learning motivation, or cultural factors in shaping the effectiveness of continuing education programs. Additionally, future studies could compare the impact of different types of continuing

education (e.g., online vs. in-person, short-term vs. long-term) on nurses' self-efficacy and job performance.

Conclusion

This study provides empirical evidence for the mediating role of self-efficacy in the relationship between continuing education and job performance among Saudi Arabian nurses. The findings highlight the importance of designing continuing education programs that not only enhance nurses' knowledge and skills but also boost their self-efficacy beliefs. Healthcare organizations and policymakers should prioritize the provision of high-quality continuing education opportunities and foster a supportive learning environment to promote the professional development and performance of nurses in Saudi Arabia. By investing in the continuous learning and growth of its nursing workforce, the Saudi Arabian healthcare system can ultimately improve patient outcomes and achieve its vision of providing world-class healthcare services to its population.

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