



The Mediating Effect of Self-efficacy on Nurses' Emotional Intelligence and Social Responsibility

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Abstract

Introduction: Nurses need a wide range of skills and capabilities in their work. Among the most important are emotional intelligence, self-efficacy, and social responsibility. The present study examines the mediating effect of self-efficacy on nurses' emotional intelligence and social responsibility.

Methods: This descriptive and correlative study was carried out as a structural equation modeling work. The study population consisted of all nurses in the hospitals affiliated with Hamedan University of Medical Sciences in 2018. The participants were selected through ratio-stratified random sampling (n=223). Three standard Emotional Intelligence, General Self-efficacy, and Social Responsibility questionnaires were used for data gathering. Data analyses used SPSS v.24 and AMOS v.22 through structural equation modeling.

Results: The results indicated that the direct effect of emotional intelligence on self-efficacy ($p=0.001$, $r=0.56$) was positive and significant. The indirect effect of emotional intelligence and social responsibility was also positive ($p=0.148$, $r=0.130$); however, it was insignificant. Still, there was no relationship between social responsibility and self-efficacy ($r=0.001$, $p=0.971$). The indices supported the model's goodness of fit ($GFI=0.948$). The RMSEA value was equal to 0.73, which is in an acceptable range.

Conclusions: Considering the study's findings, improving nurses' self-efficacy through education based on emotional intelligence is essential. In addition, emotional intelligence should be one of the criteria taken into account in the process of recruiting nurses.

INTRODUCTION

Nurses are the main human resource group in healthcare organizations, so without them, they cannot fulfil their mission [1]. Over the past few decades, the concentration on the improvement of clinical performance and patient care has been growing, and nurses play a vital role in providing quality hospital care in this field [2]. To perform their essential role and fulfil their responsibilities, nurses need a wide range of skills

and capabilities, such as intelligence, self-efficacy, and responsibility [3, 4].

Emotional intelligence (EI) is the knowledge or competency of effectively using emotions and feelings to control social and emotional behaviours [5]. It is a set of non-cognitive capabilities and skills that improve one's capacity to deal with the pressures and requirements of the environment [6]. In other words, in nursing, nurses might face decision-making situations about patients'

death or life, making emotional awareness even more important [7]. Studies have shown that EI level has a notable effect on individuals' mental, social, and physical status. It has an inverse relationship with internal and external problems in life [8, 9]. Studies have shown that emotional intelligence in nurses and managers is in line with the increase in job satisfaction, professional achievements, clinical competencies, job performance, and Self-efficacy [10-12]. Yalalova EI could forge self-efficacy and clinical performance in nurses [13, 14].

Self-efficacy indicates one's belief about their ability to perform activities and to achieve specific goals [15]. Self-efficacy is a constructive capability through which the cognitive, social, emotional, and behavioural skills of individuals are organized to realize different objectives in an efficient way [16]. Perceived self-efficacy by individuals is a critical element of their performance, so by preparing the ground to gain the required knowledge and skills to become successful, their self-efficacy is improved in return [17]. Nurses with strong self-efficacy are more likely to confidently perform complex procedures and critical interventions. They trust their knowledge and abilities, reducing hesitation in crucial moments [18]. Responsibility can be an important component in the formation of self-efficacy [19].

Nursing is a job that relies on proper performance, social responsibility, and the provision of essential services to stakeholders [20]. Social responsibility is a continuous commitment to behave ethically and improve the quality of life of individuals, their families, and society on a larger scale [21]. Social responsibility is also defined as an organization's commitment to responsible social behaviour in response to social demands [22]. Social responsibility also improves decision-making abilities, creativity, and independent thought, opposite to submissiveness and obedience [23]. Increased nurse responsibility is associated with improvements in patient care quality and satisfaction [24]. Health sectors try to provide modern and up-to-date services to society and fulfil their social responsibility [25].

While some studies have explored the connections between emotional intelligence, self-efficacy, and social responsibility in nurses, the existing research remains limited. There is a need for more studies on the relationship between emotional intelligence, self-efficacy, and social responsibility in nurses to determine the factors affecting them. In light of this, the present study attempts to elaborate on the model of the relationship between emotional intelligence, self-efficacy, and social responsibility of nurses.

METHODS

Study Design

This quantitative cross-sectional study relies on structural methods to determine the variables affecting social responsibility in light of the mediating role of self-

efficacy and EI of nurses at Hamedan University of Medical Sciences in 2018.

After securing a letter of recommendation from the Hamedan University of Medical Sciences, the authors visited hospital officials to make the arrangements for data gathering. A list of nurses was prepared from Besat, Shahi Beheshtin, Farshchian (heart), Farshchian Sina, and Fatemie hospitals. Before administration of the questionnaires, the inclusion criteria were used to select the participants. To observe the ethical codes of research work, the authors briefed the participants about the study and its objectives and asked them to sign a consent letter. The participants were assured of the confidentiality of their information.

Participants

The participants were nurses in health education centres affiliated with Hamedan University of Medical Sciences who met the inclusion criteria. The inclusion criteria were six months of work experience at least in the centres under study, a desire to participate, and a B.Sc. of nursing or higher. The exclusion criterion was the failure to fill out the questionnaire. With a test power of 95%, an error level of 0.05, and a correlation level based on the previous study (0.25), the sample size was obtained equal to 203 [26]. By assuming 10% attrition, a total of 223 participants were selected.

$$\omega = \frac{1}{2} \ln \frac{1+r}{1-r} = 0.255$$

$$n_0 \frac{\left(Z_{1-\frac{\alpha}{2}} + Z_{1-\beta} \right)^2}{\omega^2} + 3 = 202.77 \cong 203$$

Data Gathering Tools

Data gathering tools were a demographics form, Bradbury and Graves's EI questionnaire, Sherer's self-efficacy questions, and a social responsibility questionnaire based on Carol's model.

EI Questionnaire

The questionnaire contains 28 items with subscales including self-awareness (items 1–6), self-management (items 7-15), social awareness (items 16-20), and relationship management (21-28). The items are designed based on Likert's six-point scale (never=1, ..., always=6). Based on Cronbach's alpha, the reliability of Bradbury and Grave's EI questionnaire in Iran was reported to be equal to 0.83 [27, 28]. In addition, Jebraieli reported that Cronbach's alpha of the tool was equal to 0.91 [29].

Sherer's General Self-efficacy Questionnaire

The questionnaire was designed in 1982 and included 17 items. Sherer and Maddux (1982) argued that the scale measures three aspects of behaviours, including the desire to initiate a behaviour, the desire to expand an attempt to complete a task, and facing challenges in a different way. The questionnaire is designed based on a

five-point scale (completely disagree =1, disagree =2, moderate =3, agree =4, completely agree =5). The total score of the tool ranges from 17 to 85, and items No.2, 4, 5, 7, 11, 12, 14, and 16 are scored inversely. Based on Cronbach's alpha, Sherer reported the tool's reliability as equal to 0.76 [30]. Asgharzadeh et al. showed with Iranian participants that the reliability and validity of Sherer's self-efficacy tools were acceptable, with Cronbach's alpha equal to 0.83 [31].

Social Responsibility Questionnaire

A responsibility questionnaire based on Carol's model measured nurses' social responsibility. The questionnaire contained 25 questions with four aspects, including economic responsibility (items 1-6), legal responsibility (items 7-13), ethical responsibility (items 14-21), and philanthropic responsibility (items 22-25). The questions are designed based on Likert's five-point scale (1=very low, 2= low, 3= to some extent, 4= high, 5= very high). The score range of the tool is from 25 to 125, and the higher the score, the higher the responsiveness of nurses. Social responsibility questionnaires have been used in many countries, including Iran. The reliability of the tool was reported to be equal to 0.84 by Zhu et al. [32]. In addition, Hosseinian et al. reported the tool's reliability equal to 0.86 [33].

Data Analyses

The SEM method was used to investigate these relationships and examine the proposed model. This study employs Structural Equation Modeling (SEM). SEM is a powerful statistical technique that allows us to examine the complex interplay between multiple variables. SEM considers both the direct and indirect effects of these variables, providing a more comprehensive understanding of the underlying mechanisms. All data analyses were done using SPSS (v.24) and AMOS (v. 22). To check the goodness of fit of the proposed method, several indices were used,

including X², x²/df, GFI, AGFI, NFI, CFI, IFIF, TLI, and RMSEA.

RESULTS

Table 1 lists the demographics of the participants. The nurses' mean EI, social responsibility, and self-efficacy scores were 71.25 ±1.31, 119.59±0.89, and 59.0±29.6, respectively. In addition, the mean age of the nurses was 29.74±5.82. Table 2 lists more detailed information about the three variables under study. Among the elements of EI, self-management (36.04±0.38) obtained the highest mean score; among the aspects of social responsibility, social responsiveness (89.41±22.0) received the highest mean score; and among the elements of self-efficacy, desire to face challenges (27.25±0.27) obtained the highest score (Table 1). Mean scores for nurses were social responsibility 71.25 (1.31), Emotional Intelligence 119.59 (0.89), and Self-efficacy 59.29 (0.60) (Table 2).

Table 1. Demographic characteristics of the participants.

	Participation Number (N=220)	Percent
Gender		
Male	37	16.6
Female	183	82.1
Age group		
22-26	69	38.5
27-31	47	26.3
32-36	39	21.8
37-41	17	9.5
42-46	7	3.9
Educational level		
Expert	194	87
Masters	22	9.9
Shift work		
Morning shift	20	9.2
In circulation	197	90.8
Work experience		
≤5	82	47.4
5-15	79	45.7
≥15	12	6.9

Table 2. Mean, standard deviation, minimum and maximum of social responsibility, emotional intelligence and self-efficacy and their dimensions of nurses

	Mean	SD	Minimum	Maximum
Social responsibility	71.25	1.31	25	116
Legal Responsibility	20.75	0.39	7	35
Economic Responsibility	18.48	0.28	6	30
Ethical Responsibility	22.89	0.41	8	38
Philanthropic Responsibility	9.87	0.25	4	20
Emotional Intelligence	119.59	0.89	65	158
Self-awareness	28.19	0.26	16	36
Self-management	36.04	0.38	19	52
Social awareness	20.6	0.21	9	30
Relationship management	34.62	0.35	20	48
Self-efficacy	59.29	0.6	44	81
Willingness to initiate behavior	14.40	0.16	8	20
Willingness to expend effort in completing the behavior	14.13	0.18	6	20
Persistence in face of adversity	27.25	0.27	18	37

Table 3. Model fit summary

Emotional Intelligence	→ Social responsibility	0.148
Emotional Intelligence	→ self-efficacy	0.001
Social responsibility	→ self-efficacy	0.971
RMSEA		0.073
TLI		0.929
IFI		0.960
CFI		0.959
GFI		0.948
AGFI		0.892
df		32
NFI		0.928
Chi-square – X2(df)		69.539
χ^2/df		2.173
sig		0.001

AGFI adjusted goodness of fit index; CFI, comparative fit index; df, degree of freedom; GFI, the goodness of fit index; IFI, incremental fit index; NFI, normed fit index; RMSEA, root mean square error of approximation; sig, significant; TLI, Tucker-Lewis index.

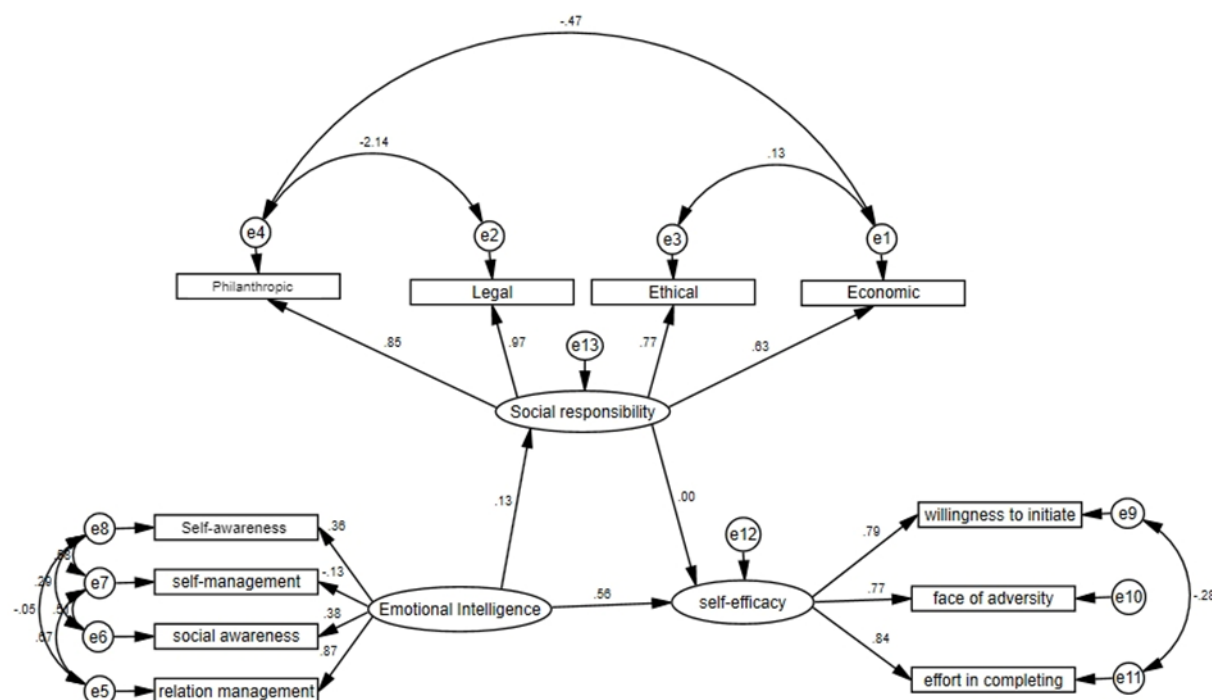


Figure 1. Results from a structural equation model for the association between emotional intelligence, self-efficacy and social responsibility. Represent significant analyses ($p < 0.05$).

In Figure 1, you can see the schematic view of the structural model drawn for emotional intelligence, self-efficacy, and social responsibility. Fitness indices were used to examine the goodness of fit, and estimates were made using the maximum likelihood method. The EI did not have a notable effect on social responsibility ($p = 0.148$), and taking into account the path coefficient, one unit increase in EI leads to a 0.13 point increase in social responsibility ($\beta = 0.13$). In addition, social responsibility did not have a notable effect on self-efficacy ($p = 0.971$), so changes in social responsibility score did not cause any change in self-efficacy score ($\beta = 0.00$). Still, EI had a notable effect on self-efficacy ($p = 0.001$), so a one-unit increase in EI would lead to a 0.56-point increase in self-efficacy ($\beta = 0.56$). The

indices supported the model's goodness of fit. The value of RMSEA was equal to 0.73, which is in an acceptable range. In addition, the CMIN/DF ratio was equal to 173.2, an acceptable range, and the GFI was equal to 0.948 (table 3) (Figure 1).

DISCUSSION

The results showed that EI affected self-efficacy in nurses, so there was a positive and significant relationship between EI and self-efficacy. That is, an increase in EI leads to an increase in self-efficacy in nurses. On the other hand, social responsibility did not have a notable effect on self-efficacy. Studies have shown that EI and the subscales are mainly moderate in most nurses. Saeed et al. studied the relationship between EI

and demographical variables in nurses and showed that the IE level in most nurses was moderate [34]. Their results are consistent with the present work. The level of self-efficacy and the subscales were also moderate in most nurses. Bahrami et al. showed that the perception of care self-efficacy of children nurses was at a good level [35], consistent with the present work. Several factors, such as management, environment, and education, can affect self-efficacy.

The results showed that social responsiveness and the subscales in most nurses were at a moderate level. Hoseinian et al. showed that most nurses had a high level of social responsibility, which is inconsistent with the present study [33]. The inconsistency can be explained by further studies and by determining the factors in social responsibility.

Shikhjani et al. showed a direct and positive relationship between EI and social responsibility in teenage boys [36]. Sarkhil et al. showed that social responsibility is notably related to all EI aspects except self-awareness. Among the aspects of EI, social skills, and the aspects of businesses' social responsibility, the quality of products had the highest priority [37]. A study in showed that social responsibility improved the quality of nursing services [38]. Kaor conducted a study on the relationship between EI, self-awareness, and the social responsibility of teachers [39].

Saiadi et al. showed a significant relationship between the elements of emotional creativity and EI and the self-efficacy of athletes. In addition, the elements of emotional creativity and EI explained a large part of the changes in the self-efficacy of athletes [40]. Hameli et al.'s study provides a relationship between emotional intelligence and the mediating effect of self-efficacy and organizational commitment [41].

Lee et al. showed that EI has a notable effect on nurses' self-efficacy and that self-efficacy was mediating between EI and job stress. Their results are consistent with the present study [42]. However, the present study did not support the mediating role of social responsibility between EI and self-efficacy. Nagia et al. showed a positive and significant relationship between EI and Online Teaching Self-Efficacy among Academic Nurse Educators [43].

Alrashidi et al. conducted a study in Saudi Arabia and showed that educational intervention increased EI in nursing school instructors, which increased self-efficacy [44]. In addition, Rodriguez et al. showed that EI is one of the predictors of self-efficacy [45]. Yu et al. study shows nurses' emotional intelligence and self-efficacy can be improved through practical training to help them cope with emotionally loaded situations and reduce stress responses [46]. According to the limited studies in line with the aim of this study in nurses, no study contrary to the results of the present study was found.

Limitation

The study's limitations included the large number of questions in the questionnaires, which caused the nurses to refuse to complete them. This was resolved as much as possible by explaining the study's practical objectives.

CONCLUSION

Emotional intelligence directly and positively affects self-efficacy in nurses, so an increase in EI leads to an improvement in self-efficacy in nurses. On the other hand, social responsibility does not have a notable effect on self-efficacy. Through implementing educational programs and taking measures to improve EI, it is possible to enhance self-efficacy in nurses working at hospitals. In addition, EI can be part of the recruitment criteria for finding competent nurses. Since emotional intelligence is related to self-efficacy, it is suitable that nursing planners and managers improve different dimensions of nurses' emotional intelligence, including self-awareness, self-management, social awareness and relationship management in different methods in nursing students and nurses by providing suitable grounds for the development of these characteristics and encourage these characteristics in nurses and nursing students and be included in nursing curricula and internships in some way.

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ETHICAL CONSIDERATIONS

The study was approved with the ethics code (IR.UMSHA.REC.1397.191) by the Research Committee, Hamedan University of Medical Science. Confidentiality of information, informed participation in the survey, signing a letter of consent, briefing the participants about the objective, and observing transparency in data gathering and analysis were some of the ethical concerns respected in this study.

CONFLICT OF INTEREST

There was no conflict of interest in this study.

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AUTHORS' CONTRIBUTIONS

AF was involved in the study conception, planning, data collection, data interpretation, and writing of the manuscript draft. ZMH was involved in the study conception, planning, data interpretation, and manuscript revision. RA contributed to the conception and planning, and MEGH contributed to data analysis,

interpretation, and critical manuscript revision. DSH is involved in data collection. All authors collaborated in the study and approved the final manuscript.

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