



The mediating role of ethical leadership on professional commitment and moral sensitivity in the control of blood pressure by intensive care unit (ICU) nurses

322

El papel mediador del liderazgo ético en el compromiso profesional y la sensibilidad moral en el control de la presión arterial por enfermeros de unidades de cuidados intensivos (UCI)

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Abstract

Introduction & Background: Correct decision-making regarding nursing requires sufficient sensitivity to ethical issues, and failure to address ethical issues in care may lead to ignoring the principles and ethical values of nursing in providing proper care to patients. The present study investigates the relationship between moral sensitivity and professional commitment of nurses working in ICU departments in controlling patients' blood pressure, emphasizing the mediating role of ethical leadership of nursing managers in hospitals affiliated to Shiraz University of Medical Sciences.

Methods: The current research is of a descriptive-correlation type. Data collection tools included demographic information form, Brown, Trevino and Harrison ethical leadership questionnaire, Allen Mayer professional commitment questionnaire and Lutzen moral sensitivity questionnaire. Mean (standard deviation) and interval scale were used to describe quantitative data. Pearson's correlation coefficient and structural equation model and AMOS software were used for data analysis.

Results: There is a positive and significant relationship between professional commitment and ethical leadership in controlling patients' risk factors such as blood pressure. Also, there is a positive and significant relationship between moral leadership and moral sensitivity. According to the structural equation model, the relationship between professional commitment and moral sensitivity is confirmed with the mediating role of moral leadership in blood pressure control.

Conclusion: Based on the results of the research, it can be said that there is a relationship between professional commitment and moral sensitivity of nurses working in ICU departments in blood pressure control, and the ethical leadership of managers plays a mediating role.

Keywords: Professional commitment, ethical sensitivity, ethical leadership.

Introducción y antecedentes. La toma correcta de decisiones en relación con la enfermería requiere suficiente sensibilidad hacia las cuestiones éticas, y no abordar las cuestiones éticas en la atención puede llevar a ignorar los principios y valores éticos de la enfermería al brindar una atención adecuada a los pacientes. El presente estudio investiga la relación entre la sensibilidad moral y el compromiso profesional de los enfermeros que trabajan en los departamentos de la UCI en el control de la presión arterial de los pacientes, destacando el papel mediador del liderazgo ético de los gestores de enfermería en los hospitales afiliados a la Universidad de Ciencias Médicas de Shiraz.

Métodos. La presente investigación es de tipo descriptiva-correlación. Las herramientas de recolección de datos incluyeron un formulario de información demográfica, un cuestionario de liderazgo ético de Brown, Treviño y Harrison, un cuestionario de compromiso profesional de Allen Mayer y un cuestionario de sensibilidad moral de Lutzen. Se utilizaron la media (desviación estándar) y la escala de intervalo para describir los datos cuantitativos. Para el análisis de los datos se utilizaron el coeficiente de correlación de Pearson y el modelo de ecuaciones estructurales y el software AMOS.

Resultados. Existe una relación positiva y significativa entre el compromiso profesional y el liderazgo ético en el control de los factores de riesgo de los pacientes, como la presión arterial. Además, existe una relación positiva y significativa entre el liderazgo moral y la sensibilidad moral. Según el modelo de ecuaciones estructurales, la relación entre compromiso profesional y sensibilidad moral se confirma con el papel mediador del liderazgo moral en el control de la presión arterial.

Conclusión. Con base en los resultados de la investigación, se puede decir que existe relación entre el compromiso profesional y la sensibilidad moral de los enfermeros que trabajan en los departamentos de UCI en el control de la presión arterial, y el liderazgo ético de los gestores juega un papel mediador.

Palabras clave: Compromiso profesional, sensibilidad ética, liderazgo ético.

Professional commitment is defined as the belief in professional values. It is an effort to actualize these values, the tendency for self-improvement, and the determination to maintain membership in that profession ¹. Professional commitment includes three affective, continuance, and normative aspects ². Researchers have found that leader ethics directly affect subordinates. When subordinates receive positive support from their leader, they are associated with improved performance, and this increases subordinates' organizational commitment by improving the leader's member exchange behavior. As a result, the organization will reach its goal ³. Affective commitment is related to a person's affective attachment to the organization. Continuance commitment is the costs that a person incurs after leaving the organization. In this type of commitment, the employee has so much organizational commitment that he or she thinks that leaving the organization will be costly for him or her. Normative commitment is a person's sense of duty to stay in the organization. It means that he or she feels that staying in that organization is the right action. Professional commitment is useful for the survival of a profession. If the members of the profession commit themselves to the professional values and goals, the tasks of this profession will be performed more efficiently ⁴.

The nursing profession has certain criteria, such as commitment to providing services to society, belief in respect and value to people, and commitment to education and independence. Commitment is the primary concept in these criteria ⁵. Enhancing and promoting professional commitment has good outcomes for both nurses and patients. Nurses with high commitment try to achieve professional values and have higher efficiency. They also have more creativity and innovation, a high level of trust, and a tendency to do group work, which is necessary for the better functioning of the healthcare system ^{6,7}. Nurses are always involved in ethical concepts and problems in their work environment. Working with dying patients, observing the suffering and disease of patients, lack of organizational support, and working to meet organizational demands are among the ethical challenges of nurses. Hence, they should consider the concept of ethical sensitivity since their ethical performance in providing nursing care to patients depends on this issue. Also, nurses face a wide range of ethical ambiguities in their professional interactions with others. Their behavior in this situation and a lot of professional decisions suggest that they need ethical sensitivity to properly resolve these ambiguities. However, the results of the present study suggest that ethical sensitivity in nurses is at a moderate level of 42-58% ⁸. Ethical sensitivity is defined as the ability to recognize the existence

of an ethical issue or an ethical dimension in situations where there is no apparent ethical conflict ⁹.

Having ethical sensitivity is theoretically a positive characteristic for healthcare professionals since recognizing ethical issues is a prerequisite for making the right decisions and performing ethical behaviors ⁹. This characteristic is the source of nursing ethics and the prerequisite of nursing behaviors. When nurses face ethical issues while performing daily services, it plays a major role in the recognition and judgment of nurses ¹⁰. An organization's employees as followers of an ethical leader can learn ethical behaviors by observing and imitating ethical leaders as their role models ¹¹. Kim and Lin reported that organizational leaders can teach an attitude of ethical sensitivity to physicians and nurses so they are first affected and then they show ethical reactions to situations in which others need care ¹². Ethical leadership is the demonstration of appropriate normative behavior by a leader through personal actions and interpersonal relationships so he or she tries to transfer guidance and decision-making to followers through two-way communication ¹³.

Ethical leadership is very significant in the nursing profession since this profession deals with people's health and life ¹⁴. Nursing leaders, such as matrons, supervisors, and head nurses, are among the factors that affect the thoughts and behaviors of nurses and have a mediating role in organizational and professional values in organizational environments. Leadership in nursing plays a major role in ethical care and creating a culture of caring ^{11, 15}. All nurses should observe professional ethics. In this regard, ICU nurses face more ethical challenges than other nurses ¹⁶. Since they face unusual and life-threatening situations and expensive equipment when providing services in these units are mostly faced with life-threatening situations. This issue causes complex ethical confusion ¹⁷.

Owing to the special work environment and the community of the patients receiving care, observing ethical standards in intensive care units is very significant ^{18, 19}. Each of the variables has been investigated and analyzed separately in different studies. However, no study has investigated the relationship between them. Despite the comprehensiveness of the concepts of professional commitment and ethical sensitivity, there is no study available on the effect of these variables on each other through the ethical leadership of nursing managers in hospitals. Thus, the present study investigates the relationship between ethical sensitivity and professional commitment of nurses working in ICU departments with an emphasis on the mediating role of ethical leadership of nursing managers in blood pressure control as a major risk factor in many diseases in hospitals affiliated with Shiraz University of Medical Sciences.

This article is the result of the project with code of ethics number IR.SUMS.NUMIMG.REC.1402.005. The present study is a descriptive-correlational study type. It investigates the relationship between ethical sensitivity and professional commitment of nurses working in the ICU departments of hospitals affiliated with Shiraz University of Medical Sciences, with an emphasis on the mediating role of ethical leadership of nursing managers in 2021. The statistical population of the study included all nurses working in the ICU departments of hospitals affiliated with Shiraz University of Medical Sciences. Based on the general rule, 5 samples will be collected according to the number of parameters that will be estimated ²⁰. In this study, we have 59 questions, 3 correlations between the dimensions, and 62 estimates, of which 5 samples will be recorded for each. Thus, the sample size will be 310 people. Considering 10% probability of dropout in the samples, the final sample size was calculated at 341 people and they were included in the study using a convenience sampling method. The inclusion criteria of the study included having at least a nursing degree, at least one year of employment history in the ICU ¹⁵, and willingness to participate in the study ¹⁸. The exclusion criteria included not answering all the questions in the questionnaire (despite the necessary explanations by researchers) and the existence of a certain order in answering the questions of the questionnaires ²¹.

After obtaining the code of ethics from the ethics committee of Shiraz University of Medical Sciences and permission from the Research Deputy of the university, the researcher randomly selected 3 hospitals out of 5 medical sciences hospitals in Shiraz and then referred them to the ICU departments of these hospitals. Using a proportional stratified method, he selected 341 nurses as the sample of the study, considering study inclusion criteria. He explained the work process to them and stated that their participation in the research was voluntary. Then, he obtained their written informed consent. The questionnaires were completed by the nurses and the participants will be assured that the questionnaires will remain anonymous. Data collection tools included a demographic information form, Brown, Trevino, and Harrison ethical leadership questionnaire, Allen Mayer professional commitment questionnaire, and Lutzen ethical sensitivity questionnaire. The demographic characteristics form is a researcher-made form designed to record characteristics such as age, gender, marital status, education level, employment history, and type of employment.

Brown, Trevino and Harrison's (2005) ethical leadership questionnaire was designed to measure subordinates'

views or perceptions of their leaders' ethical behaviors. This scale has 10 items that measure the two dimensions of the ethical person (6 items) and ethical manager (4 items). The items are scored on a four-point Likert scale (from 1=strongly disagree to 5=strongly agree). The minimum and maximum scores are between 10 and 100, respectively, and higher scores indicate a stronger ethical style of leaders in managing their subordinates²².²³ Brown et al. (2005) confirmed the validity of this questionnaire (CFI = 0.95)²³. The reliability of this tool by Xu et al. was reported at 0.94 using the internal correlation method. Khan et al. also reported its reliability at 0.94 using the mentioned method^{22, 25}. In Iran, the validity and reliability of the Persian version of this questionnaire were confirmed. Khokhar et al. reported the CFI value at 0.91 using the confirmatory factor analysis method. They also reported the reliability of the tool at 0.91²⁶. Tehranineshat, et al. confirmed the reliability of this questionnaire by internal correlation method with Cronbach's alpha coefficient of 0.72²³.

The professional Commitment Questionnaire was developed by Allen and Mayer (1990). It has 24 items scored on a Likert scale (from strongly disagree = 1 to strongly agree = 5). It includes three dimensions of affective commitment (8 items), and continuance commitment (8 items), and normative commitment (8 items). The minimum and maximum scores are 24 and 120, respectively, for the total professional commitment, and commitment scores for each dimension are between 8 and 40^{27, 28}. Higher scores indicate the higher professional commitment of the subjects²⁹. Allen and Mayer confirmed the construct validity of this questionnaire by the factor analysis method. Its reliability using the test-retest method was reported at 0.87, 0.79, and 0.73, respectively, for the three dimensions of affective commitment, continuance commitment, and normative commitment³⁰. The validity of this questionnaire was confirmed in Iran by Ghazemzadeh et al. using a factor analysis method³¹. Lotfi et al also reported the reliability of this questionnaire for the dimensions of affective, continuance, and normative commitment using the internal correlation method and calculating Cronbach's alpha at 88%, 91%, and 87%, respectively. They reported the reliability of the whole tool at 89 %²⁹. Lutzen Ethical Sensitivity Questionnaire (ESQ) (1994). It was developed by Lutzen and was first used at the Karolinska Nursing Institute (Sweden-Stockholm) in 1994 to evaluate the ethical sensitivity of physicians and nurses working in the psychiatric clinic and then in other units³². It includes 25 questions and 6 dimensions. The dimensions of ethical sensitivity of this questionnaire include autonomy, benevolence, trust in medical knowledge and principles of care, the experience of ethical conflict, structuring ethical meaning, and interpersonal orientation. Its questions are scored on a four-option Likert scale as strongly agree (4), moderately agree (3), moderately disagree (2), strongly disagree (1), and I have no opinion (0)¹⁷. The construct validity of the original version of this questionnaire was confirmed by

Lutzen et al. (1994) using factor analysis³³. Öztürk et al. and Karakoc Kumsar et al. obtained their construct validity at 0.85 and 0.89, respectively^{34, 35}. In Iran, Nejad Saravi et al. used the content validity index (CVI) to examine the validity of this questionnaire. The agreement coefficient of the researchers' opinions was obtained at 92%³⁶. Also, Salari et al. and Amiri et al. used the reliability of this tool using the internal correlation method and calculated its Cronbach's alpha at 0.76 and 0.70, respectively^{37, 38}.

Mean (standard deviation) and an interval scale were used to describe quantitative data. Pearson's correlation coefficient and structural equation model and AMOS software were used to analyze the data.

Results

In the present study, general questions including age, education level, marital status, and employment history were asked of the respondents. The results obtained from the demographic statistics of the respondents regarding age group showed that 48.8% of the respondents were 26-30 years old, 22.4% were 30-35 years old, 21.7% were 35-40 years old, and 7.1% were older than 45 years. Regarding the education level, 73.1% had a bachelor's degree, and 26.9% had a master's degree. Regarding the marital status of the respondents, 69.8% were married, 21.4% were single, and 8.8% belonged to other cases. Regarding employment history, 14.6% had less than 10 years, 36.3% had 10-15 years, 28.2% had 15-20 years, and 20.9% had more than 20 years of employment history.

The present study results revealed a significant relationship between ethical sensitivity and ethical leadership. As shown in (Table 1), there is a positive and significant relationship between ethical sensitivity and ethical leadership given the correlation coefficient of 0.421 and the significance level of 0.000. There is a relationship between ethical leadership and professional commitment. There is a positive and significant relationship between ethical leadership and professional commitment given the correlation coefficient of 0.511 and the significance level of 0.000. There is a relationship between the dimensions of ethical leadership and the dimensions of nurses' professional commitment.

Regarding the relationship between the dimensions of ethical leadership and professional commitment, the relationship between ethical manager and normative commitment (with a correlation coefficient of 0.471 and a significance level of 0.000), the relationship between the ethical person and normative commitment (with a correlation coefficient of 0.464 and a significance level

of 0.000), and the relationship between continuous commitment (with a correlation coefficient of 0.461 and a significance level of 0.000), respectively, had a higher correlation coefficient. There is a relationship between the dimensions of ethical leadership and the ethical sensitivity of nurses. The relationship between the ethical person and ethical sensitivity (with a correlation coefficient of 0.401 and a significance level of 0.000), and the relationship between the ethical manager and ethical sensitivity (with a correlation coefficient of 0.451 and a significance level of 0.000), respectively, have a significant correlation. There is a relationship between ethical sensitivity and professional commitment through the mediating variable of ethical leadership. (Figure 1) and (Figure 2) show the model of structural equations regarding the above hypothesis.

Figure 2. Values of standardized coefficients obtained from structural equation modeling

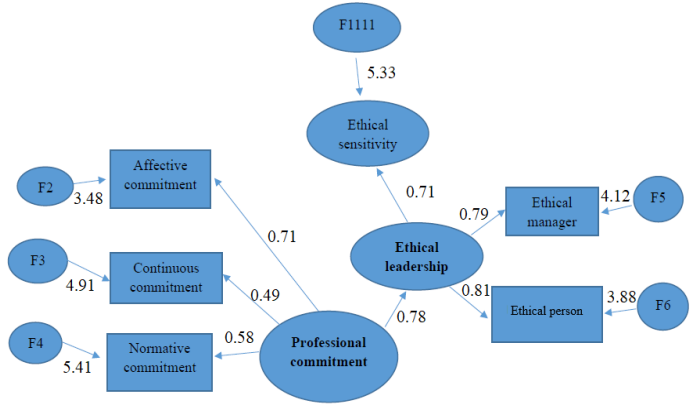


Table 1. Correlation test and significance level between variables

		Ethical leadership	Ethical manager	Ethical person
Ethical sensitivity	Correlation coefficient	0.421	0.451	0.401
	Significance level	0.000	0.000	0.000
Professional commitment	Correlation coefficient	0.511	0.424	0.512
	Significance level	0.000	0.000	0.000
Affective commitment	Correlation coefficient	0.202	0.215	0.301
	Significance level	0.000	0.000	0.000
Continuous commitment	Correlation coefficient	0.402	0.301	0.461
	Significance level	0.000	0.000	0.000
Normative commitment	Correlation coefficient	0.521	0.471	0.464
	Significance level	0.000	0.000	0.000

To test the hypothesis, path analysis with a likelihood estimation method was used. The results of (Table 2) show the fit of the model. Also, it was found that the goodness of fit index (GFI=0.096), adjusted goodness of fit index (AGFI=0.094), normed fit index (NFI=0.091), non-normed fit index (NNFI=0.096), and comparative fit index (CFI=0.096) indicate the good fit of the model with the data.

Table 2. Fit indices

Index	Degree of freedom/chi-squared	RSMEA	GFI	AGFI	CFI	NFI	NNFI	IFI
Calculated value	2.43	0.091	0.096	0.094	0.096	0.091	0.096	0.095
Result	Fit	Fit	Fit	Fit	Fit	Fit	Fit	Fit

The t-value indicates the significance of the path coefficients. Thus, there is a positive and significant relationship between professional commitment and ethical leadership (Table 3). Also, there is a positive and significant relationship between ethical leadership and ethical sensitivity. Given the structural equation model, the relationship between professional commitment and ethical sensitivity with a mediating role of ethical leadership is confirmed.

Figure 1. Significant values obtained from structural equation modeling

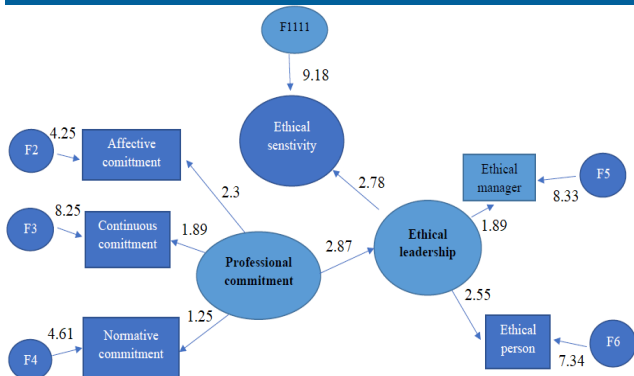


Table 3. Path coefficients and their significance

Relationship between variables	Path coefficient	t-value	Relationship	Type of relationship
Professional commitment Ethical Leadership	0.78	2.08	Yes	Direct
Ethical leadership Ethical sensitivity	0.71	2.66	Yes	Direct

Based on these results, it can be shown that having an ethical leader, an ethical manager, and being an ethical person has a very effective role in providing appropriate and competent medical services and ultimately improving the patient's condition, such as reducing risk factors such as blood pressure.

Nurses are forces that directly affect the quality of care. Accordingly, having a high professional commitment is one of the essential elements of basic treatment. Nurses with high professional commitment are always trying to achieve professional values. Thus, they will have higher work efficiency. However, nurses with lower professional commitment have a higher rate of absenteeism and provide low-quality services. The results revealed that nurses in ICU departments have high affective, continuance, and normative commitment. Shortage of nursing personnel is a major problem in public health worldwide. If nurses do not have affective commitment, they will leave it owing to the difficulty of the profession. A shortage of nurses will have consequences such as an increase in death rate, an increase in infection and medication errors, and an increase in days of hospitalization³⁹. Several studies have indicated that the professional commitment of nurses can be improved by implementing policies and programs for hiring nurses⁶. The results suggest that nurses who have high professional commitment also have high ethical sensitivity. Studies indicate a positive relationship between the ethical sensitivity of the organization and the commitment of employees. Organizations that have higher ethical values and sensitivity benefit from employees with higher commitment⁴⁰. The study by Modoodi et al., revealed a positive relationship between professional commitment and ethical sensitivity⁴¹. Khosravani et al., reported a positive relationship between organizational commitment and ethical sensitivity⁴².

The results of a study by Mohammadimehr & Hosseinpour, also revealed a significant positive relationship between professional commitment and ethical sensitivity. It is consistent with the results of the present study. Ethical sensitivity requires nurses to recognize the needs of patients by learning and interpreting their verbal and non-verbal behaviors. It creates an ethical attitude and response in nurses, which enables effective and ethical care of patients¹¹. Studies have indicated that a high level of ethical sensitivity increases the quality of nursing services and leads to better clinical decision-making, more appropriate use of codes of behavior, and a lower level of stress. However, the lack of this characteristic causes ethical conflicts and endangers patient care. It finally results in reduced satisfaction of patients and the effectiveness of treatment^{3, 9}. High professional com-

mitment and ethical sensitivity require having an ethical model. The results revealed that nurses with high professional commitment and ethical sensitivity were role models and ethical leaders. The results of previous studies suggest that ethical leadership can positively affect the sensitivity and ethical behavior of employees since ethical leadership can change the concept of morale and behavior of employees with guidelines and examples of their actual ethical behavior⁴³.

The study by Mohammadi, et al., showed a positive relationship between ethical leadership and ethical sensitivity⁴³. Zhang et al., conducted a study on Chinese nurses and reported a positive and significant relationship between ethical leadership and the ethical sensitivity of nurses. Their results also showed that ethical climate plays a mediating role in the relationship between ethical leadership and the ethical sensitivity of nurses. They are consistent with the results of the present study⁴⁴. The results of a study by Mohammadimehr & Hosseinpour, revealed a significant positive relationship between ethical leadership and ethical sensitivity¹¹. In addition to the effect of ethical leadership on the ethical sensitivity of employees, the results of a previous study indicate that the behavior of an ethical leader directly affects the commitment and job satisfaction of employees⁴⁵. Also, unethical behaviors negatively and significantly affect the job commitment and loyalty of employees. This result confirms the results of the present study⁴⁶.

Many disease such as the cardiovascular system, as a muscular pump responsible for blood circulation throughout the body, is perfused by the coronary artery system, and this system consists of a collection of arteries and veins. Any defect in the cardiovascular system can lead to cardiovascular disease (CVD) and cause various complications in patients. Correct management of these patients with job commitment and leadership ethics can be associated with reducing the mortality and disability of patients, especially in patients hospitalized in ICU⁴⁷.

Paying attention to regional differences in injury patterns and causes has an important role in disease prevention and control policies under leadership patterns in many sectors. Proactive policies should be based on available data in order to make important decisions of leadership teams^{48, 49}.

Ethical leadership in nursing involves creating an appropriate environment and supporting it to provide high-quality and cost-effective health care and ensure ethical behavior. Nightingale, as one of the first nursing leaders, paid much attention to ethical aspects. He listed the ethical characteristics of nursing leaders as honesty, fairness, impartiality, respect for employee needs, and having a broad view of employee characteristics¹⁵.

It can be concluded that ethical leadership can increase the inner satisfaction of the leader, nurses, and patients, organizational commitment, willingness to report problems to nurses, improve the health and well-being of employees, and cause more optimal service and ethical behaviors in employees. Additionally, the ethical characteristics of leaders cause trust in leadership, leadership effectiveness, supervision, teamwork, ethical sensitivity, productivity, and employee's intention to stay in the organization.

Conflict of interests

The author has no conflicts of interest to disclose.

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