



## Research Paper

# The Relationship Between Moral Sensitivity and Anxiety Sensitivity in Nursing Students of Tehran Universities of Medical Sciences



Amirreza Ghasemipor Hombari<sup>1</sup>, Zahra Erfani<sup>1</sup>, Negar Hajinasab<sup>1</sup>, Reyhaneh Karimian<sup>1</sup>, Zahra Kashaninia<sup>2\*</sup>

1. Student Research Committee, School of Nursing and Midwifery, Iran University of Medical Sciences and Health Services, Tehran, Iran.  
2. School of Nursing and Midwifery, Iran University of Medical Sciences and Health Services, Tehran, Iran.



**Please cite this article as** Ghasemipor Hombari A, Erfani Z, Hajinasab N, Karimian R, Kashaninia Z. The Relationship Between Moral Sensitivity and Anxiety Sensitivity in Nursing Students of Tehran Universities of Medical Sciences. *Health Spiritual Med Ethics*. 2022; 9(4):225-232. <http://dx.doi.org/10.32598/hsmej.9.4.442.1>

**doi:** <http://dx.doi.org/10.32598/hsmej.9.4.442.1>



### Article info:

Received: 01 Sep 2022  
Accepted: 25 Mar 2023  
Publish: 01 Dec 2022

### Keywords:

Morals, Anxiety, Students, Nursing

## ABSTRACT

**Background and Objectives:** Moral sensitivity is the ability to recognize moral conflicts and consequences in decisions, and anxiety sensitivity is a structure of individual differences, in which a person fears physical symptoms associated with anxiety arousal. Anxiety sensitivity is vital in the persistence of anxiety disorders. This study was done to determine the relationship between moral sensitivity and anxiety sensitivity in nursing students of Tehran University of Medical Sciences.

**Methods:** This research was descriptive-correlational. The samples included 336 nursing students in all grades at Tehran Universities of Medical Sciences in 2020. Sampling was performed continuously using virtual space. In this research, the demographic information form, Moral Sensitivity Questionnaire (MSQ), and Anxiety Sensitivity Index (ASI) were used. Data were analyzed using SPSS software, version 16 and analytical and descriptive tests, such as Kruskal-Wallis and Mann-Whitney U tests.

**Results:** The score of moral sensitivity and anxiety sensitivity was obtained as 81 and 31.4, respectively. The correlation coefficient between moral sensitivity and anxiety sensitivity was not statistically significant ( $r=0.065$ ;  $P=0.238$ ). Also, the two components of fear of physical concerns had a significant relationship with the dimensions of benevolence and honesty.

**Conclusion:** Considering that the lack of interest in the nursing field increases anxiety sensitivity, it is suggested to activities be done to improve interest in nursing among students. Despite the lack of a significant relationship between these two components, the importance of these two components should not be neglected and it is better to carry out studies to better understand the factors affecting moral sensitivity and anxiety sensitivity and to improve these two components.

### \* Corresponding Author:

Zahra Kashaninia, Assistant Professor.

Address: School of Nursing and Midwifery, Iran University of Medical Sciences and Health Services, Tehran, Iran.

Phone: +98 (??) ???

E-mail: [kashaninia.za@iums.ac.ir](mailto:kashaninia.za@iums.ac.ir)



## Introduction

The performance of nurses as the largest group of service providers in the health-care system significantly affects the quality of healthcare. Therefore, a high level of standards for this profession is applied worldwide [1]. Caring is a vital concept and basically the art of nursing and it requires the personal, social, moral, and spiritual ability of the nurse [2]. Anxiety sensitivity is a structure of individual differences, in which a person fears physical symptoms associated with anxiety arousal [3]. Anxiety sensitivity is a mediating variable and plays a critical role between stress and diseases, which significantly affects the persistence of anxiety disorders [4]. People with high anxiety sensitivity often react negatively to anxiety symptoms, while people with low anxiety sensitivity may experience these symptoms as an unpleasant event, but they do not consider them threatening [5]. Anxiety sensitivity leads to biases in retrieving and processing information related to anxiety-inducing stimuli [6]; for this reason, it can lead to unethical behaviors in anxiety-provoking situations. Shams's study estimated the average score of anxiety sensitivity of nurses to be 41.34, indicating high anxiety sensitivity in nurses [7].

Nurses often face ethical problems in the workplace; therefore, they use their personal, job, and professional ethical values to solve them [8]. Since nurses have the most human communication with patients in terms of duration and depth, sometimes moral care is preferred over the technical aspect of nursing [9, 10]. Therefore, ethics in nursing is essential, especially in the field of nursing performance, protecting patient rights, and ensuring patient safety [10, 11].

Moral sensitivity is considered one of the main criteria of nurses' professional competence, which is effective in moral performance and improving the relationship between nurses and patients [12]. Ethical sensitivity, as the foundation of moral performance, can provide the basis for the growth and development of moral performance in healthcare systems [13]. A person with moral sensitivity considers moral phenomena from the perspective of ethics. He should be aware of the self's values and beliefs, the patients, and the moral principles governing society. Moral sensitivity is not only an "emotional" issue (relying on feelings to identify a moral conflict) but also a cognitive capacity obtained through personal experience and means the importance of morality in the existing situation [14, 15]. Moral sensitivity enables the ability to recognize moral conflicts, achieve an emotional and

intellectual understanding of vulnerable situations, and make a person aware of the results of his/her decision for others [16]. A study conducted in Iran reported that the average moral sensitivity was moderate [17]. In Sweden, the level of moral sensitivity of nurses was desirable [18]. Nurses with more moral sensitivity have better moral decision-making in situations [19]; thus, improving moral sensitivity enables nurses to provide effective moral care to their patients [17, 20].

Nurses are often exposed to unethical behaviors, and due to the high volume of work, it is possible to be indifferent to some unethical behaviors among them [21]. Identifying obstacles and ethical codes and making appropriate ethical decisions improve professional ethics and reduce the number of nursing errors [22]. The inability to act ethically can be mainly due to a lack of training in ethical issues [23]; therefore, to improve nursing ethics, it is necessary to design and develop a system of related structures and concepts [24].

Considering the role of ethics in providing nursing care and as a result, the quality of life and recovery of the patient, as well as the physical and mental health of the nurse, and on the other hand, the stressful working conditions of nurses, it is necessary to examine the factors affecting ethical decision-making and the relationship between moral sensitivity and anxiety sensitivity to make a more correct and effective decision by increasing the awareness of the relationship between these two components and the effect of anxiety sensitivity on moral sensitivity and consequently, the vigilance of nurses during work. Therefore, this study was conducted to determine the relationship between moral sensitivity and anxiety sensitivity in nurses.

## Methods

This study is descriptive and cross-sectional. After receiving the code of ethics, and according to the conditions of the COVID-19 pandemic, sampling was performed electronically and continuously from March 2020 to May 2021. The study population included all students studying nursing at bachelor's, master's, and Ph.D. levels in the Tehran Universities of Medical Sciences, including Tehran, Iran, Shahid Beheshti, Baqiyatullah, Artesh, Azad Varamin, and Tehran Branch in 2020. The inclusion criteria included consent to participate in the study, access to the Internet, and membership in social networks, and the exclusion criterion was incomplete completion of the questionnaire. According to Cochran's formula, the sample size was estimated to be 384 people. After the questionnaire was distributed

electronically, 540 students viewed the questionnaire, of whom 481 completed the questionnaire and 145 people were excluded from the study due to incomplete completion of the questionnaire. The data of 336 people who met the inclusion criteria were analyzed.

The tool for data collection included the demographic information questionnaire, moral sensitivity questionnaire (MSQ), and anxiety sensitivity index (ASI). The MSQ was prepared by Lützné et al. [18] in Sweden, which has 25 questions and includes six components, including respect for the client's autonomy (three questions), awareness of how to communicate (five questions), professional knowledge (two questions), experiencing problems and moral conflict (three questions), applying moral concepts (five questions) and honesty and benevolence (seven questions). MSQ is scored based on a 5-point Likert scale. The maximum score is 100 and the minimum score is zero. Accordingly, if the total score is between 0-50, it is considered as having low moral sensitivity, 50-75 as medium moral sensitivity, and 75-100 as high sensitivity. This index is used in different countries, including Iran. Cronbach's  $\alpha$  coefficient for this scale is 0.78, which shows that its reliability is desirable. Hasanpoor et al. examined the reliability of this index in Iran [25] and the reliability was 81.0.

ASI is a self-report index with 16 items. This index was created by Reiss and Patterson [26]. The structure of this index included three factors, fear of physical concerns (eight questions), fear of not having cognitive control (four questions), and fear of being observed by others (four questions). ASI is scored based on a five-point Likert scale (very low=1 to very high=5). The highest score is 80 and the lowest score is 16. Gaining a score of 33 to 80 means that a person has high anxiety sensitivity. Gaining a score of 26 to 33 indicates an average level of anxiety sensitivity. Also, gaining a score of 16 to 26 on this test means that the person experiences low anxiety sensitivity. Zargar et al. obtained the reliability of this index to be 0.85 via the internal correlation by calculating Cronbach's  $\alpha$  coefficient [27], indicating the appropriate reliability of this index.

This research was conducted after submitting the questionnaire to the Ethics Committee and receiving the Ethics code, preserving the dignity and rights of the participants and based on the plan provided. The data were collected through virtual space and by sending the link to the electronic questionnaire. Only the present research group could access the information and the information remained confidential.

After joining the student groups, the link to the questionnaire was provided to the students by the faculty officials. Sampling was done continuously and after the end of data collection, they were statistically analyzed using SPSS software, version 16. Mean $\pm$ SD were used for quantitative variables and frequency and percentage were used for qualitative variables. Due to the lack of normal data distribution, the Kruskal-Wallis and Mann-Whitney U tests were used to investigate the relationship between moral sensitivity and anxiety sensitivity with demographic variables. Spearman's correlation coefficient was also used to assess the relationship between moral sensitivity and anxiety sensitivity.

### 3. Results

The average age of the participants was 21.58 $\pm$ 3.74 years and the average passed academic semesters was 63.1 $\pm$ 1.4. Table 1 presents the demographic information of the studied samples. Most participants were female (62.8%) and single (93.8%) studying at the undergraduate level (91.4%) (Table 1).

The moral sensitivity of students with a score of 81 indicated high sensitivity, and the students with a score of 31.4 $\pm$ 9 had moderate anxiety sensitivity (Table 2).

According to Table 3, the relationship between the dimensions of moral sensitivity and anxiety sensitivity and the dimension of fear of physical concerns was associated with the dimension of benevolence and honesty. Also, the dimension of fear of not having cognitive control was associated with the dimensions of professional knowledge, the use of ethical concepts, benevolence, and honesty. The dimension of fear of being seen by others was also associated with the dimension of honesty and benevolence ( $P<0.05$ ).

Table 4 presents the effect of demographic variables on moral sensitivity and anxiety sensitivity; only gender had a significant relationship with moral sensitivity and the interest variable had a significant relationship with anxiety sensitivity.

Using Spearman's correlation coefficient, age was not related to any of the sensitivity dimensions, but the semester had a direct relationship with anxiety sensitivity ( $r=0.124$ ;  $P=0.039$ ), which means that by increasing each semester, their anxiety sensitivity also increases.

Also, the correlation coefficient between moral sensitivity and anxiety sensitivity was not statistically significant ( $P=0.238$ ;  $r=0.065$ ).

**Table 1.** Demographic Characteristics of nursing students

Variables		No. (%)
Gender	Male	125(37.2)
	Female	211(62.8)
Age (y)	18-24	294(87.5)
	25-29	33(9.8)
	>30	9(2.7)
Marital status	Single	315(93.8)
	Married	19(7.5)
	Divorced	2(0.6)
Education	Bachelor	307(4.91)
	Master's degree	15(4.46)
	Ph.D.	14(4.16)
Place of residence	Dormitory	106(31.5)
	Living with family	220(65.5)
	Living alone	10(3)
Job	Unemployed	273(81.3)
	Employed	63(18.8)
Socioeconomic status	Low	48(14.3)
	Moderate	235(69.6)
	Optimal	53(15.8)
Interest in nursing	Yes	264(78.6)
	No	72(21.4)
Semester	1	35(10.4)
	2	24(7.1)
	3	48(14.3)
	4	69(20.5)
	5	108(32.1)
	6	36(10.7)
	7	10(3)
	8	6(1.8)
Bachelor's degree		

**Table 2.** Mean score of the components of moral sensitivity and anxiety sensitivity in nursing students

Scale	Component	Mean±SD	Average Total Score of the Scale
Moral sensitivity	Respect for the client's independence	10.5±8.1	81
	Awareness of how to communicate	20.7±2.5	
	Professional knowledge	84.1±8.8	
	Experience problems and moral conflict	11.5±1.9	
	Applying ethical concepts	17.5±2.9	
	Honesty and benevolence	49±9.7	
Anxiety sensitivity	Fear of physical concerns	14.1±5.2	4.31
	Fear of lack of cognitive control	8.9±2.7	
	Fear of being seen as anxiety by others	8.3±2.3	

## Discussion

In this descriptive correlational study, the correlation between moral sensitivity and anxiety sensitivity among 336 nursing students in Tehran City, Iran was investigated. The results showed no significant correlation between moral sensitivity and anxiety sensitivity of the

participants; however, in subgroup analysis, the fear of physical concerns had a significant relationship with benevolence and honesty.

Szabó et al. also found no significant difference in moral sensitivity among people with generalized anxiety disorder compared to people with healthy control groups

**Table 3.** Correlation between the dimensions of moral sensitivity and dimensions of anxiety sensitivity in nursing students

Anxiety Sensitivity / Moral Sensitivity	Fear of Physical Concerns	Fear of Lack of Cognitive Control	Fear of Being Seen as Anxiety by Others
Respect for the client's independence	r=-0.016	r=-0.004	r=-0.018
	P=0.592	P=0.767	P=0.481
Awareness of how to communicate	r=-0.047	r=-0.005	r=-0.034
	P=0.124	P=0.664	P=0.279
Professional knowledge	r=0.041	r=0.124	r=0.032
	P=0.550	P=0.028	P=0.810
Experience problems and moral conflict	r=0.030	r=0.076	r=0.086
	P=0.862	P=0.309	P=0.346
Applying ethical concepts	r=0.089	r=0.138	r=0.049
	P=0.106	P=0.022	P=0.502
Honesty and benevolence	r=0.898	r=0.834	r=0.713
	P<0.001	P<0.001	P<0.001

**Table 4.** Relationship between demographic factors and moral sensitivity and anxiety sensitivity of nursing students

Variables		Moral Sensitivity		Anxiety Sensitivity	
		Mean±SD	P	Mean±SD	P
Gender	Male	79.76.79±9.70	0.005	30.22±8.71	0.083
	Female	81.75±7.61		32.08±9.25	
Age (y)	18-24	80.97±8.55	0.079	31.54±9.12	0.276
	25-29	82.48±8.59		31.24±8.90	
	>30	8+6.88±3.75		27±8.29	
Marital status	Single	81.61±8.52	0.486	31.40±9.19	0.801
	Married	79.52±4.95		32.15±7.30	
	Divorced	72.50±26.16		23±1.41	
Education	Bachelor's degree	80.91±8.16	0.427	31.58±9.21	0.477
	Master's degree	83.4±9.53		30±6.59	
	PhD.	63±12.72		34±16.97	
Place of residence	Dormitory	81.72±8.16	0.066	30.50±8.95	0.446
	Living with family	80.94±8.27		31.80±9.16	
	Living alone	75.20±10.34		31.80±8.95	
Job	Unemployed	80.86±8.34	0.485	31.33±9.15	0.712
	Employed	81.70±9.15		31.65±8.98	
Socioeconomic status	Low	81.97±10.82	0.607	32.95±10.02	0.198
	Moderate	80.98±7.99		31.54±9.17	
	Optimal	80.28±8.29		30.29±7.45	
Interest in nursing	Yes	81.27±8.43	0.283	30.88±8.94	0.37
	No	80.05±8.68		33.26±9.44	

[28]. Also, the study conducted by Saritaş et al., which examined the relationship between the level of anxiety of nurses in the intensive care unit and their level of moral sensitivities, did not report a significant relationship between these two components [29]. One of the remarkable results of Szabó et al.'s study was the improvement of moral sensitivity indicators in people with obsessive-compulsive disorder (OCD) compared to healthy people in the control group and people with generalized anxiety disorder. Considering that OCD consists of several components, including an anxiety component, the interpretation of these findings creates this hypothesis that the

correlation between OCD and moral sensitivity occurred through other pathophysiologies related to OCD and the anxiety component did not play a role in strengthening moral sensitivities [28].

Moral behaviors are associated with a combination of social factors, the surrounding environment, and neurological paths. Here, we examined the neuroanatomical components involved in creating moral sensitivities, related decisions, and anxiety sensitivity. One of the vital brain lobes in making moral decisions is the frontal lobe. In this lobe, the orbitofrontal cortex deals with the

emotional processing of moral decisions and the control of existing motivations, the cingulate cortex mediates emotional and rational conflicts in moral decisions, and the posterior lateral cortex deals with the cognitive control of relevant issues. Another crucial component in this path is the amygdala, which is vital in judging the emotional values of an action [30, 31].

In this study, women had significantly higher moral sensitivity. These results were consistent with the results of a meta-analysis by You et al. (2011) [32], while the results of Saritaş et al. study showed the predominance of moral sensitivities in men [29]. Among the causes of the obtained results, we can mention the acceptance of social roles and expected social behaviors, especially for each gender; hence, higher moral sensitivities in women are expected. Also, inconsistent results in Saritaş et al.'s study are justified by the lower number of males among the samples [29].

The lack of face-to-face access to students due to the spread of COVID-19 and the long-term distance of students from the educational environment and the clinic were the limitations of this study, which might have affected the results obtained. Therefore, it is suggested to conduct a study after the COVID-19 crisis. Due to the limited access to students, the sampling was performed virtually. According to the different educational conditions of these students, the results of this study can be biased. Also, because the online questionnaires were completed by the participants and no specialized understanding of the moral values of the people was done, the creation of bias in the results can be expected. The need for more studies considering the mentioned cases for further investigations in this field is unavoidable.

## Conclusion

The moral sensitivity of nursing students in Tehran Province was high and their anxiety sensitivity was moderate. Based on the results, moral sensitivity and anxiety sensitivity has no significant relationship. Considering that the lack of interest in the nursing field increases anxiety sensitivity, it is suggested to activities be done to increase interest in nursing among students.

However, the importance of these two components should not be neglected and it is better to conduct studies to better understand the components affecting moral sensitivity and anxiety sensitivity. It is also necessary for researchers to conduct more studies on the factors affecting moral sensitivity and anxiety sensitivity so that the

existing gaps in this field are minimized and we see the improvement of nursing services.

## Ethical Considerations

### Compliance with ethical guidelines

The present study was approved by the Research Committee of [Iran University of Medical Sciences](#) (Code IR.IUMS.REC.1399.1167).

### Funding

The present article is extracted from research funded by the Student Research Committee of [Iran University of Medical Sciences](#), Tehran, Iran (No. 99-3-15-19377).

### Authors' contributions

Study design: All authors; Data analysis and interpreting: Amirreza Ghasemipour Hombari, Zahra Erfani and Negar Hajinasab; Writing–review and editing: Amirreza Ghasemipour Hombari, Zahra Erfani, Negar Hajinasab, and Zahra Kashaninia.

### Conflict of interest

The authors declared no conflict of interest.

### Acknowledgments

The researchers sincerely appreciate and thank all the students who participated in this research, as well as the Research Vice-Chancellor of [Iran University of Medical Sciences](#).

## References

- [1] Farmahini Farahani M, Kashaninia Z, Hosaini MA, Biglarian A. [The effect of communication skills training on nurses on patients' satisfaction with communication (Persian)]. *Iran J Nurs Res*. 2007; 1(3):47-54. [[Link](#)]
- [2] Udomluck S, Tonmukayakul O, Tiansawad S, Srisuphan W. Development of Thai nurses' caring behavior scale. *Pac Rim Int J Nurs Res*. 2010; 14(1):32-44. [[Link](#)]
- [3] Gross JJ. Emotion regulation: Past, present, future. *Cogn Emot*. 1999; 13(5):551-73. [[DOI:10.1080/026999399379186](#)]
- [4] Cox BJ, Enns MW, Freeman P, Walker JR. Anxiety sensitivity and major depression: Examination of affective state dependence. *Behav Res Ther*. 2001; 39(11):1349-56. [[DOI:10.1016/S0005-7967\(00\)00106-6](#)] [[PMID](#)]

- [5] Ginsbur GS, Drake KL. Anxiety sensitivity and panic attack symptomatology among low-income African-American adolescents. *J Anxiety Disord.* 2002; 16(1):83-96. [DOI:10.1016/S0887-6185(01)00092-5] [PMID]
- [6] McCabe RE. Implicit and explicit memory for threat words in high-and low-anxiety-sensitive participants. *Cogn Ther Res.* 1999; 23(1):21-38. [DOI:10.1023/A:1018706607051]
- [7] Shams S. [Predicting coronavirus anxiety based on cognitive emotion regulation strategies, anxiety sensitivity, and psychological hardness in nurses (Persian)]. *J Nurs Manag.* 2021; 10(2):25-36. [Link]
- [8] Sari D, Baysal E, Celik GG, Eser I. Ethical decision making levels of nursing students. *Pak J Med Sci.* 2018; 34(3):724-729. [DOI:10.12669/pjms.343.14922] [PMID] [PMCID]
- [9] Borhani F, Abbaszadeh A, Mohamadi E, Ghasemi E, Hoseinabad-Farahani MJ. Moral sensitivity and moral distress in Iranian critical care nurses. *Nurs Ethics.* 2017; 24(4):474-82. [DOI:10.1177/0969733015604700] [PMID]
- [10] Yeom HA, Ahn SH, Kim SJ. Effects of ethics education on moral sensitivity of nursing students. *Nurs Ethics.* 2017; 24(6):644-52. [DOI:10.1177/0969733015622060] [PMID]
- [11] Gul S, Asiret G, Kahraman B, Devrez N, Buken N. [Investigating ethical decision-making levels of nursing students who did and did not take ethics courses (Turkish)]. *Hemar-G.* 2013; 1:23-31. [Link]
- [12] Borhani F, Abbaszadeh A, Mohsenpour M. [Illumination meaning of ethical sensitivity in nursing students: A qualitative study (Persian)]. *J Med Ethics.* 2013; 6(2):93-115. [DOI:10.22037/mej.v6i22.4211]
- [13] Karimi Noghondar M, Tavakoli N, Borhani F, Mohsenpour M. [Ethical sensitivity: A comparison between the nursing students and nurses of Azad University (Persian)]. *Iran J Med Ethics Hist Med.* 2016; 8(5):69-76. [Link]
- [14] Khalighi E, Solaimanizadeh L, Borji M, Tarjoman A, Soltany B, Zareie F. Investigating relationship between religious commitment and moral sensitivity in nurses working in ICU. *BMC Res Notes.* 2020; 13(1):41. [DOI:10.1186/s13104-020-4912-x] [PMID] [PMCID]
- [15] Kuilman L, Jansen GJ, Mulder LB, Middel B, Roodbol PF. Re-assessing the validity of the Moral Sensitivity Questionnaire (MSQ): Two new scales for moral deliberation and paternalism. *J Eval Clin Pract.* 2020; 26(2):659-69. [DOI:10.1111/jep.13353] [PMID]
- [16] Izadi A, Imani H, FariAsadi Noughabi F, Hajizadeh N, Naghizadeh F. [Moral sensitivity of critical care nurses in clinical decision making and its correlation with their caring behavior in teaching hospitals of Bandar Abbas in 2012 (Persian)]. *Iran J Med Ethics Hist Med.* 2013; 6(2):43-56. [Link]
- [17] Mohammady S, Borhani F, Roshanzadeh M. [Moral sensitivity and nurse's attitude toward patients' rights (Persian)]. *Iran J Med Ethics Hist Med.* 2017; 9(5):52-62. [Link]
- [18] Lützn K, Blom T, Ewalds-Kvist B, Winch S. Moral stress, moral climate and moral sensitivity among psychiatric professionals. *Nurs Ethics.* 2010; 17(2):213-24. [DOI:10.1177/0969733009351951] [PMID]
- [19] Storch JL, Kenny N. Shared moral work of nurses and physicians. *Nurs Ethics.* 2007; 14(4):478-91. [DOI:10.1177/0969733007077882] [PMID]
- [20] Kim HR, Ahn SH. [Moral sensitivity and moral distress among Korean hospital nurses (Korean)]. *Korean J Med Ethics.* 2010; 13(4):321-36. [DOI:10.35301/ksme.2010.13.4.321]
- [21] Oh Y, Gastmans C. Moral distress experienced by nurses: A quantitative literature review. *Nurs Ethics.* 2015; 22(1):15-31. [DOI:10.1177/0969733013502803] [PMID]
- [22] Mohajjel-Aghdam A, Hassankhani H, Zamanzadeh V, Khameneh S, Moghaddam S. Knowledge and performance about nursing ethic codes from nurses' and patients' perspective in Tabriz Teaching Hospitals, Iran. *J Caring Sci.* 2013; 2(3):219-27. [DOI:10.5681/jcs.2013.027] [PMID] [PMCID]
- [23] Baghaei R, Moradi Y, Aminolshareh S, Zareh H. [The ethical sensitivity of nurses in decision making in Ayatollah Taleghani Hospital, 1391 (Persian)]. *Nurs Midwifery J.* 2014; 11(11):1-7. [Link]
- [24] Robertson D, Snarey J, Ousley O, Harenski K, DuBois Bowman F, Gilkey R, et al. The neural processing of moral sensitivity to issues of justice and care. *Neuropsychologia.* 2007; 45(4):755-66. [DOI:10.1016/j.neuropsychologia.2006.08.014] [PMID]
- [25] Hassanpoor M, Hosseini M, Fallahi Khoshknab M, Abbaszadeh A. [Evaluation of the impact of teaching nursing ethics on nurses' decision making in Kerman social welfare hospitals in 1389 (Persian)]. *Iran J Med Ethics Hist Med.* 2011; 4(5):58-64. [Link]
- [26] Reiss S, Peterson RA, Gursky DM. Anxiety sensitivity, injury sensitivity, and individual differences in fearfulness. *Behav Res Ther.* 1988; 26(4):341-5. [DOI:10.1016/0005-7967(88)90088-5] [PMID]
- [27] Zargar Y, Ghsamenzad MA, Mehrabizadeh Honarmand M, Davoudi I. [The comparison of anxiety sensitivity, negative affectivity and alexithymia in asthma patients and normal subjects in Ahvaz (Persian)]. *J Psychol Achievements.* 2011; 18(2):21-38. [Link]
- [28] Szabó C, Németh A, Kéri S. Ethical sensitivity in obsessive-compulsive disorder and generalized anxiety disorder: the role of reversal learning. *J Behav Ther Exp Psychiatry.* 2013; 44(4):404-10. [DOI:10.1016/j.jbtep.2013.04.001] [PMID]
- [29] Saritaş S, Topdemir EA, Büyükbayram Z. The effect of intensive care unit nurses' anxiety levels on moral sensitivity. *J Vocat Sch Health Serv.* 2020; 8(3):906-18. [DOI:10.33715/inonusaglik.753126]
- [30] Fumagalli M, Priori A. Functional and clinical neuroanatomy of morality. *Brain.* 2012; 135(Pt 7):2006-21. [DOI:10.1093/brain/awr334] [PMID]
- [31] Yoder KJ, Decety J. The neuroscience of morality and social decision-making. *Psychol Crime Law.* 2018; 24(3):279-95. [DOI:10.1080/1068316X.2017.1414817] [PMID] [PMCID]
- [32] You D, Maeda Y, Bebeau MJ. Gender differences in moral sensitivity: A meta-analysis. *Ethics Behav.* 2011; 21(4):263-82. [DOI:10.1080/10508422.2011.585591]