Original Article

Psychometric properties of the Persian version of the nursing moral disengagement scale

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Abstract

Moral disengagement is a set of cognitive mechanisms through which a person violates his/her moral standards without losing his/her dignity. Therefore, a tool has been designed to measure moral disengagement in nurses. This study aims to determine the psychometric properties of the Nursing Moral Disengagement scale. In this methodological study, 440 nurses working in hospitals of Mashhad were selected by the availability sampling method. The translation was carried out using the forward-backward method. The final version of the tool was psychometrically tested for validity (exploratory and confirmatory factor analysis) and reliability (internal consistency and relative stability).

Four factors were extracted in the exploratory factor analysis, and since the factor loadings of all the tool items were higher than 0.3, they were all retained. The tool's general fit indices indicated the model's confirmation and optimal fit. Cronbach's alpha and relative stability coefficients for the whole questionnaire were 0.90 and 0.89, respectively. The study results showed that this tool has good validity and reliability and can therefore measure behaviors related to moral disengagement in nurses, so that appropriate interventions can be designed to reduce these harmful behaviors.

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Introduction

Ethics is a basic part of nurses' daily work (1). Ethical behavior in nurses is regulated by national and international ethical guidelines and codes that reflect the common ethical principles of this profession (2). Nurses constitute the largest number of service providers in health-care systems who are morally responsible and responsive for their behavior. Ethics is necessary in all jobs, but it is more so in the nursing profession because spiritual behavior, combined with the responsibilities of nurses, plays an influential role in improving and restoring the health of patients (3). A nurse should efficiently perform the assigned tasks with a strong work conscience and without the need for superior supervision, and if there is a mistake, immediately report it and take action to fix it (4). Making ethical decisions and being aware of the reasons for those decision is an integral part of nurses' daily work, and many situations in the field of nursing care require making ethical decisions (5). According to the results, about 11% of all nurses face ethical challenges and problems daily, and 36% every few days (3). Several studies have reported nurses' problems in adhering to ethical standards as a source of moral distress in nurses (6 - 8). Some obstacles that can cause a decrease in adherence to ethical standards and lead to moral disengagement in nurses include: inadequate number of nursing personnel and heavy workload, lack of ethics retraining courses, low nursing salaries, inappropriate division of labor, lack of sufficient control and supervision, fatigue and discouragement toward the nursing profession, unpleasant experiences of previous encounters with patients, weak beliefs concerning ethical issues, and excessive interventions of patients' companions (9 - 11).

The concept of moral disengagement was initially developed by Albert Bandura. Bandura has proposed the mechanism of moral disengagement to explain why and how, in some situations, committed and honest people act against their moral principles without experiencing any guilt or shame (12). Moral disengagement can be viewed as a cognitive distortion or bias that allows individuals, such as nurses, to perceive their transgressive actions and the resulting negative outcomes in a socially and morally favorable, or at least tolerable, way, while avoiding the need to completely abandon their shared personal and

societal values or moral codes (13). In view of the issues mentioned earlier and the importance of understanding moral disengagement in nurses, an authentic, specific and comprehensive tool is needed to discover and evaluate the problems in this field. The Nursing Moral Disengagement scale was designed and psychometrically evaluated for the first time by Fida et al. in 2015 based on Bandura's moral disengagement theory. This questionnaire contains 22 items that measure nurses' moral disengagement on a 5-point Likert scale ranging between 1 (completely disagree) and 5 (completely agree) (13). Despite the urgent need to pay attention to and measure nurses' moral disengagement in Iran, there are no specialized native measurement tools in this field; considering this need, and the importance of localization and cultural adaptation of the instruments developed in other cultural contexts, we conducted a psychometric evaluation of the Nursing Moral Disengagement scale as one of the few tools in this area. In addition to providing the necessary scientific basis for conducting further studies in the country, the translation and localization of this tool eliminate the need to repeat the translation, confirm validity and reliability, and design and build a new questionnaire in this field. Therefore, this study was conducted to determine the psychometric properties of the Persian version of the Nursing Moral Disengagement scale.

Methods

We did a methodological study to translate and psychometrically evaluate the Nursing Moral Disengagement scale, and for this purpose we used a cross-sectional design. The study participants included 440 nurses working in public and private hospitals in Mashhad. The inclusion criteria were: having at least six months' work experience, wanting to participate in the study, being employed at the time of completing the questionnaire, and having a bachelor's degree or higher in nursing. After obtaining written permission for the translation and psychometric evaluation of the tool from the designer (Fida et al), we received approval for this project from the ethics committee of Gonabad University of Medical Sciences under the code IR.GMU.REC.1401.077.

The Tool

In this study we examined the Persian version of the Nursing Moral Disengagement scale developed by Fida et al. in 2015. This questionnaire contains 22 items that measure moral disengagement on a 5-point Likert scale ranging from 1 (completely disagree) to 5 (completely agree). The minimum score for each person in this questionnaire is 22,

and the maximum score is 110. Fida et al. reported the Cronbach's alpha coefficient of their questionnaire to be 0.86. In addition, exploratory and confirmatory factor analysis showed that the factor loadings for all the items were higher than 0.48 and 0.46, respectively, and the items explained 0.51 and 0.56 of the total variance. The intra-group correlation coefficient for this questionnaire was 0.83 (13).

The Translation Process

At this stage, the original questionnaire was translated into Persian by skilled translators using the forward-backward translation method and in keeping with the steps proposed by the World Health Organization tool translation guide (14). These steps were: 1) translation of the questionnaire from English to Persian by two forward translators (FWT), 2) reconciliation of the two translations of the previous stage into a single questionnaire, 3) re-translation of the temporary version of the questionnaire from Persian to English by two backward translators (BWT), 4) comparing the translated version with the original version of the questionnaire, and 5) making appropriate changes in the questionnaire and preparing the final version of the translation. The reconciliation of the two translations was done according to the opinions of a group of experts comprised of the leading researchers, expert translators, experts in the design and construction of tools, and people from the target group. Finally, a single translation was selected to be utilized in the following stages.

Validity

Face Validity

At this stage, face validity was assessed qualitatively and quantitatively. In the qualitative method, ten nurses for whom the tool was designed were asked in face-to-face communication to express their opinion on the level of difficulty, appropriateness, and possible ambiguity of the items of the Nursing Moral Disengagement scale to check whether they had the same viewpoints as the researcher and the other nurses. In the quantitative method, the impact score method was used to reduce and eliminate inappropriate items. Finally, items with an impact score equal to or greater than 1.5 were considered suitable for analysis in the following stages of the study and were retained (15).

Content Validity

The content validity of the questionnaire was examined qualitatively and quantitatively. In the qualitative approach, interviews were conducted with several experts (nursing professors and nurses), and they were asked to present their

correctional views in writing about the grammar, appropriateness of words, order of items, and the method of scoring after carefully studying the instrument; changes were then made in the questionnaire based on their recommendations. To evaluate the content validity quantitatively, the content validity ratio (CVR) was calculated using Lawshe's formula, the content validity index (CVI) was calculated based on Waltz and Bausell's model along with calculation of modified Kappa statistic using Polit and Beck's approach. Finally, the content validity index of the whole instrument was determined.

Construct Validity

Exploratory and confirmatory factor analysis were used to assess the construct validity of the Persian version of the Nursing Moral Disengagement scale. Experts consider 3 to 10 samples to be appropriate for each item (16, 17), and therefore ten people were allocated to each of the 22 items. Finally, a total of 440 nurses (220 for exploratory factor analysis and 220 for confirmatory factor analysis) were selected using the availability sampling method.

Reliability

The internal consistency and relative stability methods were employed to examine the tool's reliability by calculating Cronbach's alpha coefficient. SPSS version 22 and AMOS version 24 were used in this study.

Results

Face Validity

In qualitative face validity and according to the opinions of 10 nurses, slight changes were applied in the items that needed to be corrected until the meanings were improved and ambiguities were clarified. In addition, in quantitative face validity, the impact score was calculated for all the items and was higher than 1.5. Thus, all the items were retained and considered suitable for further analysis by the nurses.

Content Validity

In the qualitative assessment of content validity, changes were made in some items based on the opinions of the experts. For example: "An employee cannot be blamed for wasting supplies if the organization does nothing to control the wastage" was changed to "A nurse cannot be blamed for wasting supplies if the organization does nothing to control the wastage"; however, no items were deleted. Content validity index and ratio were used to check quantitative content validity. In this study, the content validity ratio of the items was in the range of 0.8 to 1, and according to the Lawshe table and considering the number of

experts (10 people), items with values greater than 0.62 were accepted and retained (Table 1). Modified Kappa statistic was used to bring the evaluators to an agreement and to eliminate cases selected by chance. Values over 0.74 of modified Kappa statistic were considered excellent, between 0.6 and 0.73 good, and less than 0.6 weak. In the end, after applying the results of calculating the ratio and content validity index for each item, the average value of the content validity index of the remaining items was calculated as the average of the I-CVIs for all the items on the scale (S-CVI/Ave). According to Polit and Beck (2006), a value of 0.9 on this index would indicate acceptable validity. In the present study, this value was calculated as 1.00, which shows the content validity of the Nursing Moral Disengagement scale to be acceptable in the cultural context of the Iranian nursing community.

Table 1. *Characteristics of the participating experts in content validity assessment.*

Gender	
Male	5
Female	5
Profession of the experts	
Nursing professor and specialist in psychometric evaluation of instruments	2
Associate professor of nursing	3
Assistant professor of nursing	2
Clinical nurse	3
Mean of professional experience (years)	23.2 ± 5.3 years

This study investigated exploratory factor analysis and confirmatory factor analysis using the items analysis method. Some researchers believe that homogeneity should be controlled before factor analysis. Pearson's correlation matrix was used to check the correlation of the items with each other and each item with the whole instrument. Values between 0.3 and 0.8 were considered desirable. There were no correlation values over 0.8, which would indicate repetitive items, and therefore no items were removed in this way. The highest correlation coefficient was 0.658 (between items 5 and 9), and the lowest was 0.143 (between items 8 and 4).

Before conducting the factor analysis, it is recommended to perform the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy Test to check the sampling adequacy, and Bartlett's Test of Sphericity to check the data classification ability. The amount of KMO in the study was equal to 0.911, which shows sampling adequacy. In addition, Bartlett's Sphericity Test was significant in this study, which shows the

ability to categorize the items and form the factor ($P < 0.001$, chi-square = 2112.533, df = 231).

Exploratory Factor Analysis

In the exploratory factor analysis with varimax rotation, four factors were obtained whose eigenvalues were greater than one and collectively explained at least 50% of the variance of the desired concept. The factor loadings of all the items were between 0.317 and 0.808, as presented in Table 2. Factor loading values above 0.3 were considered acceptable, and as a result, all the items in the instrument were retained. Based on the exploratory factor analysis, four main factors were formed: distortion of behavior, distortion of agency, distortion of consequence, and dehumanization. The scree plot diagram also confirms four factors (figure 1). Finally, this factor structure was evaluated using confirmatory factor analysis in order to check the fit.

Table 2. *Four-factor structure and factor loading of each item after varimax rotation.*

Factor	Item Number	The First Factor	The Second Factor	The Third Factor	The Fourth Factor
Distortion of Behavior	Item 1	0.730			
	Item 8	0.724			
	Item 10	0.359			
	Item 11	0.468			
	Item 12	0.442			
	Item 15	0.610			
	Item 21	0.691			
Distortion of Agency	Item 2		0.552		
	Item 5		0.808		
	Item 6		0.532		
	Item 9		0.801		
	Item 13		0.678		
	Item 16		0.529		
	Item 17		0.757		
	Item 20		0.365		
	Item 22		0.415		
Distortion of Consequence	Item 3			0.340	
	Item 4			0.355	
	Item 18			0.317	
Dehumanization	Item 7				0.491
	Item 14				0.421
	Item 19				0.643

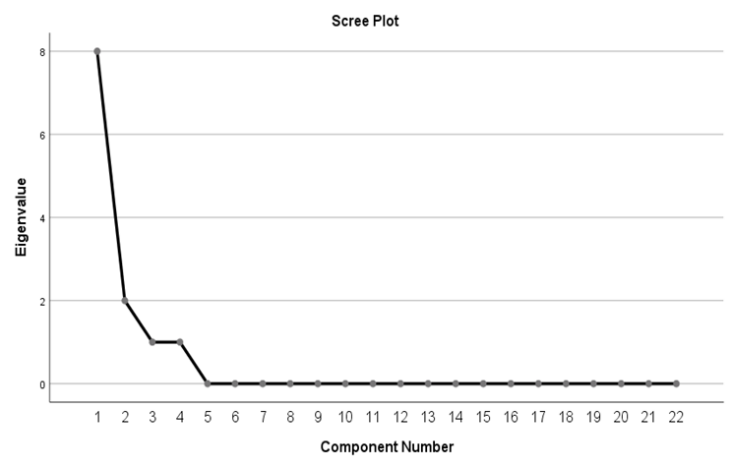

***Figure 1**. Scree plot diagram.*

Confirmatory Factor Analysis

Confirmatory factor analysis of the Nursing Moral Disengagement scale was loaded on four relevant factors, as shown in figure 2. For the factor analysis models to have a good fit, the chi-square ratio to degree of freedom should be less than 3, the normed fit index (NFI), goodness of fit index (GFI) and comparative fit index (CFI) should be higher than 0.90, and the root mean square error of stimation index (RMSEA) should be less than 0.1 (18). For this 22-item tool, the results of the evaluation were as follows: NFI = 0.93, CFI = 0.96, GFI = 0.83, chi-square ratio to degree of freedom ($\chi 2/DF$) = 2.33, RMSEA = 0.078, and degree of significance (P) = 0.000. According to the findings, all the indicators showed the optimal fit of the model.

Reliability

In the present study, the reliability of the tool was examined using two internal consistency and stability methods on a population of 50 nurses. Cronbach's alpha coefficient for the subscales and the whole instrument was relatively high (0.905), indicating good reliability. In addition, the reliability of the instrument was assessed using the test-retest stability method. In the two stages of post-test after data collection, the intra-cluster correlation coefficients for the entire instrument showed the stability of the Nursing Moral Disengagement scale at different times of measurement in nurses (0.899).

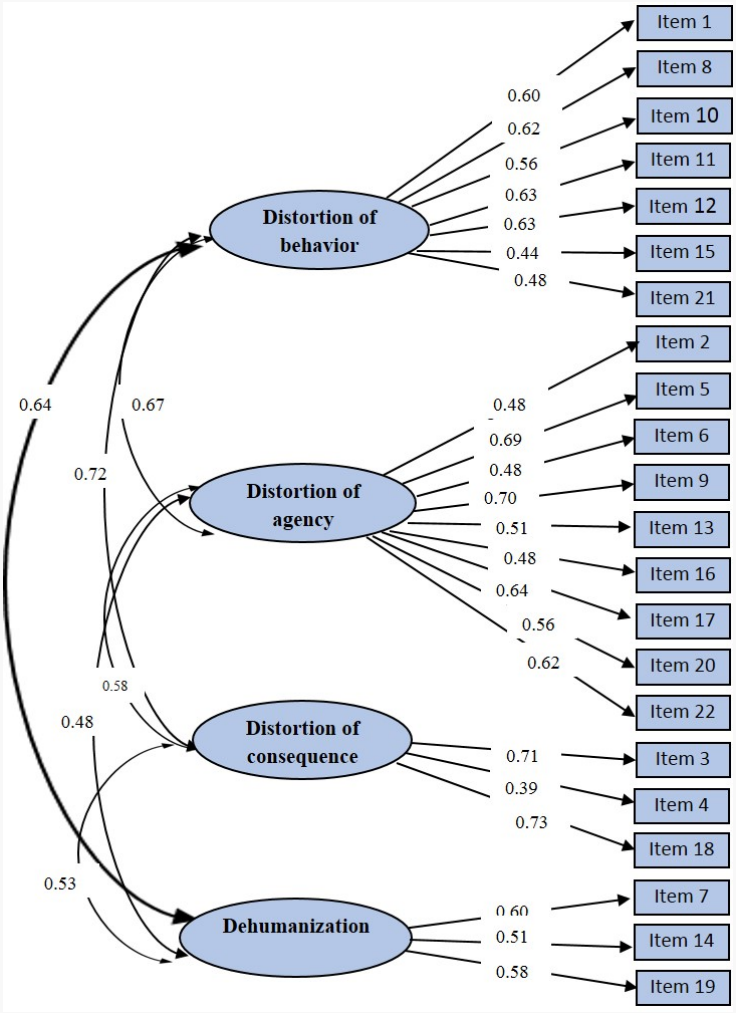

Figure 2. *Path coefficients obtained from the confirmatory factor analysis of the four factors of the Nursing Moral Disengagement scale.*

Discussion

This study aimed to investigate the psychometric properties of the Nursing Moral Disengagement scale and determine its factor structure among Iranian nurses. Study population consisted of 440 working nurses, and the validity and reliability of the scale were confirmed in the Iranian nursing community. The study investigated the psychometrics of the scale according to the cultural background of the Iranian society for the first time in the country. In exploratory factor analysis four factors were extracted that explained at least 50%

of the variance of the desired concept. We repeated the factor analysis and carefully examined the results of its types, considering eigenvalues greater than one and factor loadings greater than 0.3 to assign each item to its factor. Finally, a questionnaire with 22 items (without removing any of the items in the original questionnaire) and four factors was considered more suitable than other options after repeating the factor analysis and carefully examining the results of its types, and considering eigenvalues greater than one and factor loadings greater than 0.3 to assign each item to its factor. We tried to choose the most appropriate name out of the selected names for each agent according to the content of its item, and with a comment on the social cognitive theory concepts of Bandura's ethics, which is the foundation of the Nursing Moral Disengagement scale. In the exploratory factor analysis of the original instrument designed by Fida et al. only one factor explained 51% of the total variance of the desired concept. In addition, the factor loadings of all items were above 0.48. Therefore, in the above-mentioned study, all the mechanisms of moral disengagement were integrated into one dimension (13). The translation and psychometrics of the tool aimed to verify its compliance with the cultural background of the society. Therefore, the four-factor structure of this tool was extracted in the current study in accordance with the cultural background of the Iranian nursing community. We also investigated similar studies that had psychometrically analyzed the same concept as the present study, i.e., Bandura's moral disengagement, in different groups, and found that not all eight mechanisms of moral disengagement are necessarily extracted in different analyses. For example, Souri et al. extracted 32 items in one factor in the psychometric analysis of Bandura's Moral Disengagement scale in the Iranian student community (19). Sadeghnejad and Khodabakhshi-Koolaee et al. investigated the psychometric properties of the Moral Disengagement questionnaire in aggressive driving, and extracted 17 items in four factors: dehumanization, moral justification, displacement of responsibility, and distortion of consequences (20). In a study by Swan et al., thirteen items were extracted in one factor with a variance of 34% (21). Detert et al. studied six factors as important mechanisms of moral disengagement in decision-making (22), and Bandura introduced only one integrated factor using exploratory factor analysis and the varimax rotation method (23). In the present study, the path coefficients obtained from the confirmatory factor analysis of the four-factor Nursing Moral

Disengagement scale showed that all the factor loadings of the 22 items were above 0.4. This means that the items in this instrument are good indicators for measuring the related variables. In addition, the model fit indices of the four-factor structure of the Nursing Moral Disengagement scale showed acceptable fit, and therefore, this scale can be used among Iranian nurses. Fida et al. also confirmed the one-dimensional structure of the Nursing Moral Disengagement scale in the Italian nursing community through confirmatory factor analysis, which is In line with the results of the present study (13). In addition, in the study by Souri et al., results of the confirmatory factor analysis indicated acceptable fit for the Moral Disengagement scale among Iranian students. Although the factor loadings of some items were less than 0.4, the items were not removed due to the desirability of the fit indices (19). According to Poursoltani Zarandi et al., the results of the fit indices in the confirmatory factor analysis indicated the desirability of the structure of the six-factor model of the Moral Disengagement scale among athletes (24). Lee et al. also used confirmatory factor analysis to determine the validity of the Moral Disengagement tool in pharmacists and confirmed the fit of the structural model of the two sections of their tool, one with twelve and the other with fifteen items (25).

In this study, the reliability of the tool was examined by both internal consistency and stability methods on 50 nurses, and Cronbach's alpha coefficient indicated excellent reliability of the tool. In addition, the stability of the instrument was confirmed by the test-retest method. In the two stages of the post-test after data collection, intra-cluster correlation coefficients for the entire instrument showed the stability of the Nursing Moral Disengagement scale at different measurement times in nurses. Therefore, according to the above results, the Nursing Moral Disengagement scale is highly reliable in the Iranian nursing community. In line with the findings of the present study, the results of the studies by Fida et al (alpha coefficient 0.87) (13), Bandura et al (0.85) (26), Lee et al (0.81) (25), Wang et al (0.86) (27), Yang et al. (0.86) (28), Souri et al (0.84) (19), Poursoltani Zarandi et al (0.87) (24) and Sadeghnejad et al (0.89) (20), have shown that the Moral Disengagement scale is a reliable tool for measuring the concept of moral disengagement in different populations. The psychometric analysis conducted in the present study shows the validity of the Nursing Moral Disengagement scale in the Iranian nursing

community. Moral disengagement has been defined as the tendency in nurses to behave unethically and inhumanly in their work environment and at the same time maintain self-respect and feel good about themselves. According to Bandura et al, the self-regulation of moral behavior and the tendency to exhibit moral disengagement are part of a triple system of mutual causation in which behavior, cognition and environment continuously act as determining interaction factors (12, 29). Moral disengagement can be related to organizational culture and nursing management. One negative consequence of moral disengagement is the possibility of individual mechanisms permeating the organizational culture. An "immoral culture" can spread throughout an organization, causing moral disengagement to become more socialized, learned, activated and routinized, creating a vicious circle involving individuals, teams and the entire organization. This vicious circle can expand and undermine common laws, norms and moral codes (30, 31). In addition, it is crucial to examine how a stressful work environment facilitates recourse to moral disengagement, which can increase the likelihood of adopting deviant and immoral behaviors. It is clearly also essential to examine the role of nursing managers in nurses' moral disengagement (32, 33).

One of the strengths of the present study is that it carried out a psychometric assessment of the Nursing Moral Disengagement scale on Iranian nurses and in accordance with their cultural background for the first time. It should be added that although the researcher tried to give the research samples enough time to complete the questionnaires in a calm and stress-free environment, individual differences and mental states of the participants may have affected their responses. Clearly, complete control of the participants was beyond the responsibility of the researcher.

Conclusion

The results of our study supported the four-factor structure for the Persian version of the 22-item Nursing Moral Disengagement scale and determined that this tool has good validity and reliability. Therefore, health policy makers can use this tool to evaluate behaviors related to nurses' moral disengagement, and design and implement appropriate interventions to reduce harmful behaviors.

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Conflict of Interests

The authors declare no conflict of interests.

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References:

1. Kangasniemi M, Pakkanen P, Korhonen A. Professional ethics in nursing: an integrative review. J Adv Nurs. 2015;71(8): 1744-57.

2. Stievano A, Tschudin V. The ICN code of ethics for nurses: a time for revision. Int Nurs Rev. 2019;66(2): 154-6.

3. Farasatkish R, Shokrollahi N, Zahednezhad H. Critical care nurses' moral sensitivity in Shahid Rajaee heart center hospital. Iranian Journal of Cardiovascular Nursing. 2015;4(3):36-45. (in Persian)

4. Sadeghi K, Alavi A. The relationship between moral knowledge, sensitivity and performance of nurses working in emergency units. Bioethics Journal. 2018;8(30):35-44. (in Persian)

5. Lützen K, Blom T, Ewalds-Kvist B, Winch S. Moral stress, moral climate and moral sensitivity among psychiatric professionals. Nursing Ethics. 2010;17(2): 213-24.

6. DeKeyser Ganz F, Berkovitz K. Surgical nurses' perceptions of ethical dilemmas, moral distress and quality of care. J Adv Nurs. 2012;68(7): 1516-25.

7. Oh Y, Gastmans C. Moral distress experienced by nurses: a quantitative literature review. Nurs Ethics. 2015;22(1):15-31.

8. Riedel PL, Kreh A, Kulcar V, Lieber A, Juen B. A scoping review of moral stressors, moral distress and moral injury in healthcare workers during COVID-19. Int J Environ Res Public Health. 2022;19(3):1666.

9. Hashmatifar N, Mohsenpour M, Rakhshani M. Barriers to moral sensitivity: viewpoints of the nurses of educational hospitals of Sabzevar. Journal of Medical Ethics & History of Medicine. 2014;7(1):34-42. (in Persian)

10. Ozden D, Arslan GG, Ertugrul B, Karakaya S. The effect of nurses' ethical leadership and ethical climate perceptions on job satisfaction. Nurs Ethics. 2019;26(4):1211-25.

11. Aitamaa E, Leino-Kilpi H, Iltanen S, Suhonen R. Ethical problems in nursing management: The views of nurse managers. Nurs Ethics. 2016;23(6):646-58.

12. Bandura A. Moral disengagement: How people do harm and live with themselves: Worth publishers; 2016.

13. Fida R, Tramontano C, Paciello M, Kangasniemi M, Sili A, Bobbio A, et al. Nurse moral disengagement. Nurs Ethics. 2016;23(5):547-64.

14. Mental Health and Substance Use. [cited in 2023]. Available from: http://www. who. int/substance_abuse/research_tools/translation/en/

15. Taghizadeh Z, Ebadi A, Montazeri A, Shahvari Z, Tavousi M, Bagherzadeh R. Psychometric properties of health related measures. Part 1: Translation, development, and content and face validity. Payesh (Health Monitor). 2017; 16(3): 343-57. (in Persian)

16. Grove SK, Burns N, Gray J. The practice of nursing research: Appraisal, synthesis, and generation of evidence: Elsevier Health Sciences; 2012.

17. Plichta SB, Kelvin EA. Munro's statistical methods for health care research: Philadelphia, PA: Wolters Kluwer; 2013.

18. Albright JJ. Confirmatory factor analysis using AMOS, LISREL, and MPLUS. The Trustees of Indiana University. 2008.

19. Souri H, Kadivar P, Keramati H, Hassanabadi H. The study of factor structure, reliability and validity of Persian version of the moral disengagement scale. Biquarterly Journal of Cognitive Strategies in Learning. 2019;7(12):17-32. (in Persian)

20. Sadeghnejad F, Khodabakhshi-Koolaee A. Investigating the psychometric properties of Diving Moral Disengagement Scale (DMDS). Iranian Journal of Psychiatric Nursing (IJPN) Original Article. 2020;8(5). (in Persian)

21. Swann A, Lennon A, Cleary J. Development and preliminary validation of a scale of driving moral disengagement as a tool in the exploration of driving aggression. Transportation research part F: traffic psychology and behaviour. 2017;46: 124-36.

22. Detert JR, Trevino LK, Sweitzer VL. Moral disengagement in ethical decision making: a study of antecedents and outcomes. J Appl Psychol. 2008;93(2):374-91.

23. Bandura A, Barbaranelli C, Caprara GV, Pastorelli C. Mechanisms of moral disengagement in the exercise of moral agency. Journal of personality and social psychology. 1996;71(2): 364.

24. Poursoltani Zarandi H, Gharah M, Mousavi rad S. Determining validity and reliability of Moral Disengagement questionnaire in Sport. Journal of Human Resource Management in Sport. 2017;4(2):219-29. (in Persian)

25. Lee C, Segal R, Kimberlin C, Smith WT, Weiler RM. Reliability and validity for the measurement of moral disengagement in pharmacists. Res Social Adm Pharm. 2014;10(2): 297-312.

26. Bandura A. Selective moral disengagement in the exercise of moral agency. Journal of Moral Education. 2002;31(2):101-19.

27. Wang C, Ryoo JH, Swearer SM, Turner R, Goldberg TS. Longitudinal relationships between bullying and moral disengagement among adolescents. Journal of youth and adolescence. 2017; 46: 1304-17.

28. Yang X, Wang Z, Chen H, Liu D. Cyberbullying perpetration among Chinese adolescents: The role of interparental conflict, moral disengagement, and moral identity. Children and Youth Services Review. 2018; 86: 256-63.

29. Moore C, Detert JR, Klebe Treviño L, Baker VL, Mayer DM. Why employees do bad things: moral disengagement and unethical organizational behavior. Personnel Psychology. 2012; 65(1):1-48.

30. LeBlanc MM, Kelloway EK. Predictors and outcomes of workplace violence and aggression. J Appl Psychol. 2002;87(3):444-53.

31. Samnani A-K, Salamon SD, Singh P. Negative affect and counterproductive workplace behavior: The moderating role of moral disengagement and gender. Journal of business ethics. 2014; 119: 235-44.

32. Brown ME, Treviño LK, Harrison DA. Ethical leadership: a social learning perspective for construct development and testing. Organizational behavior and human decision processes. 2005;97(2):117-34.

33. Christian JS, Ellis AP. The crucial role of turnover intentions in transforming moral disengagement into deviant behavior at work. Journal of business ethics. 2014; 119: 193-208.