Original Article Health, Spirituality and Medical Ethics. 2019;6(1):25-32

Psychometric Properties of Iranian Version of Compassion to Others Scale in Nurses

Received 6 Feb 2018; Accepted 18 Dec 2018
http://dx.doi.org/10.29252/jhsme.6.1.25

Sajad Khanjani[1], Aliakbar Foroughi[2*], Mohammad Noori[3]
1 Department of Clinical Psychology, School of Behavioral Sciences and Mental Health (Tehran Psychiatric Institute), Iran University of Medical Sciences, Tehran, Iran.
2 Department of Psychology, Kermanshah University of Medical Sciences, Kermanshah, Iran.
3 Department of Psychiatry, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Abstract

Background and Objectives: Compassion has been identified as an essential element of nursing. The present study aimed to determine the psychometric properties of compassion to others scale and introduce a suitable measurement scale for the researchers in the field of psychological health.

Methods: This study was conducted on a total of 213 nurses in order to investigate the psychometric properties of compassion to others scale based on multistage sampling method. The data were analyzed using LISREL (version 8) and SSPS (version 18) software.

Results: The factor structure of compassion to others scale was confirmed according to the results of Confirmatory Factor Analysis in Iranian nurses. Compassion to others scale had a negative and significant correlation with the fear of compassion, anxiety, depression, and stress, burnout, as well as unhealthy cognitive emotion regulation skills, and also a positive and significant correlation with healthy cognitive emotion regulation skills ($P<0.05$). Furthermore, Cronbach's alpha coefficient, for the whole scale and factors, including kindness, indifference, common humanity, separation, mindfulness, and disengagement, were obtained as 0.92, 0.81, 0.61, 0.83, 0.78, 0.78, and 0.76, respectively.

Conclusion: In this study, the psychometric properties of Iranian version of compassion to others scale were confirmed. Therefore, this scale was proposed to measure the level of compassion to others in nurses.

Keywords: Compassion to Others, Psychometric Properties, Validity, Reliability.

***Correspondence:** Should be addressed to Mr. Aliakbar Foroughi. **Email:** foroughi_2002@yahoo.com

Please Cite This Article As: Khanjani S, Foroughi A, Noori M. Psychometric Properties of Iranian Version of Compassion to Others Scale in Nurses. Health Spiritual Med Ethics. 2019;6(1):25-32.

Introduction

The English term compassion is derived from the Latin pati, Greek pathein (meaning to suffer), and com (together with). Therefore, "compassion" means to "suffer with" another person (1). Compassion was studied from the psychology perspective only in the last decade. In practice, compassion in psychology is defined as sympathy for others' suffering and the desire to relieve it (2). Gilbert defined compassion as a basic kindness, with a deep awareness of the suffering of other people, along with the wish and effort to relieve it (1). Compassion is at the center of all religions around the world. For instance, Confucius was the first great teacher who proposed a golden rule. He stated that "Do not do to others what you do not want done to yourself" (3). Jesus Christ expressed that "'Love your neighbor as yourself" (1).
Prophet Muhammad (peace be upon him) also said in Islamic reminders that "The person whose neighbor does not feel safe from his wrongful behavior is not a believer" (4). Imam Ali (AS) stated that "Fear Allah! Fear Allah concerning your neighbors, for it is the advice of your prophet in a way that it is thought

neighbors shall inherit other neighbors" (5). All of these religions have also addressed human suffering as recited in the fourth verse of Al-Balad as "Verily, we have created man into [a life of] pain, toil, and trial" (6). Suffering is the first pure truth in Buddha's teachings. According to this doctrine, compassion helps to relieve from personal pain and promotes soothing cooperation (1).

Increasing evidence suggests that nurturing self-compassion and compassion to others has a strong impact on the reduction of negative emotions and increase positive emotions (7-11). Compassion is an important ethical principle among all healthcare professions, particularly nursing (12). A nurse's experience of accurate empathy and compassion is a healing power when it can be transferred to the patient through communication. Based on the evidence, it was shown that compassion is important for the successful treatment of patients. For instance, in one study, a provider's compassionate communication reduced anxiety in patients suffering from breast cancer (13). However, there is little understanding of various aspects regarding this construct, and only one scale was developed to measure compassion to others in the past years.

Pommier conceptualized the construct of compassion to others, which was based on Neff's studies on self-compassion, due to the similar base of compassion to others and self-compassion (2). Neff defines self-compassion as consisting of three main components (each one with two sides), namely self-kindness versus self-judgment, a sense of common humanity versus a feeling of isolation, and mindfulness versus over-identification with experience (14). Moreover, Pommier and Neff developed the scale of compassion to others based on Neff's studies that includes three constituents, each of which has two sides (a positive aspect versus a negative one). These components are kindness versus indifference, common humanity versus separation, and mindfulness versus disengagement.

In a study carried out by Pommier, it was confirmed that compassion to others encompasses six aspects. The scale of compassion to others had an acceptable content validity and convergent and divergent validity. The test-retest reliability of the tool was also satisfactory (2). Given the importance of the components of compassion to others scale in clinical care settings (especially such occupations as nursing) and main emphasis of Iranian-Islamic teachings on compassion to others, the present study was conducted to answer whether compassion to others is a reliable and valid scale to assess the compassion level in Iranian nursing community or not.

Methods

The present study was carried out on a total of 213 nurses working in hospitals in Tehran, Iran, using an analytical cross-sectional method. The recommended sample size for the confirmatory factor analysis is about 200 samples for ten factors (15,16). In this study, the subjects were selected by means of multistage cluster sampling method from Taleghni, Imam Hussein, Atia, Milad, and Masih Daneshvari Hospitals in Tehran in 2016. First, a list of all Tehran hospitals was prepared and then five hospitals were randomly selected. Afterwards, from each hospital, four wards were randomly chosen. Eventually all the nurses in each ward were asked to complete the questionnaires. In the present study, the wards of each hospital were considered as clusters. The inclusion criteria included having a bachelor's degree in nursing, willingness to cooperate in the project, not mental disorders and severe physical illnesses, no history of mental disorders, and no use of psychiatric medications. The nurses unwilling to continue participation were excluded from the study.

Study measurement scales

1.Compassion to others scale: The scale of compassion to others was proposed by Pommier in 2010. It consists of 24 items encompassing three contradictory components (each component with two sides), including kindness versus indifference, common humanity versus separation, and mindfulness versus isolation. The participants were scored in this scale based on a five-point Likert scale

(from almost never [0] to almost always [5]). Overall, Cronbach's alpha for compassion to others was estimated as 0.90. Moreover, Cronbach's alphas for the subscales of kindness, indifference, common humanity, separation, mindfulness, and isolation were reported as 0.77, 0.68, 0.70, 0.64, 0.67, and 0.67, respectively. The scale of compassion to others had a positive and significant correlation with the scale of social communication, subscale of the sympathetic worry in Davis's Interpersonal Reactivity, subscale of personal disturbance of Davis's Interpersonal Reactivity, Mehrabian's Questionnaire of Empathic Tendency and a negative and significant association with Reactivity Index (r=-0.15), (r=0.59) (2).

2. Fear of compassion scale: It was developed by Gilbert et al. in 2011, which consists of three subscales for the measurement of fear of compassion, including a) the fear of feeling or expressing compassion to others, b) fear of receiving compassion from others, and c) fear of self-compassion. The scale was scored based on a five-point Likert scale (from totally disagree [0] to totally agree [4]). Cronbach's alphas for the subscales of the fear of compassion for others, fear of receiving compassion from others, and fear of self-compassion in nurses were reported as 0.70, 0.80, and 0.83, respectively. Cronbach's alphas for therapists were 0.75, 0.85, and 0.86, respectively (17). In a study carried out on a population of Iranian nurses, construct validity and reliability of the scale have been confirmed (18).

3. Burnout Inventory: This is a commonly used tool to measure burnout, which was developed by Maslach. It consists of 22 items for the estimation of emotional exhaustion, depersonalization, and reduction of the sense of personal accomplishment within the framework of professional activities. This tool is especially useful in order to measure and prevent burnout level in professional groups, such as nurses and teachers. Maslach and Jackson tested the reliability of this tool using Cronbach's alpha. The Cronbach's alphas were reported as 0.90, 0.79, and 0.71 for emotional exhaustion, depersonalization, and the reduction of the sense of personal accomplishment (19). In Iran, the three-factor model of this inventory was confirmed and Cronbach's alphas were 0.76, 0.60, and 0.70 for emotional exhaustion, depersonalization, and the reduction of the sense of personal accomplishment (20).

4. Depression, Anxiety, and Stress Scale-21 (DASS-21): The DASS assesses anxiety, depression, and stress developed by Lovibond for the first time in 1995. The results of a study showed that Beck Anxiety Inventory has a strong correlation with DASS-21 (21). The relation between convergent validity coefficients with the quality of life scale were significant (mean between 0.3 and 0.5, $P \leq 0.01$) and the reliabilities of this scale was reported as 0.70, 0.66, and 0.76 for depression, anxiety, and stress in a general population in Mashhad, Iran (22).

5. Cognitive Emotion Regulation Questionnaire (CERQ): The CERQ has 36 items and 9 subscales, including self-blame, acceptance, rumination, positive refocusing, refocus on planning, positive reappraisal, putting into perspective, catastrophizing, and blaming others. This questionnaire was developed by Garnefski et al. (2001) to measure cognitive strategies used by each individual following the experience of stressful events (23). Among the Iranian population, the test-retest reliability and internal consistency of CERQ were at appropriate levels and the results of the scales, including self-blame, rumination, catastrophizing, and other-blame, revealed a significant and positive correlation with depression, anxiety, stress, and psychological distress, as well as a significant and negative association with psychological well-being (24).

Procedure: Current guidelines (25) for the cross-cultural adaptation of measuring tools generally recommend a multi-step process, including forward and back translations and steps to ensure the related conceptual equivalence. The following steps were taken in the present translation and preparation of compassion to others scale. The first step was the original version of compassion to others scale from English into Persian translated by

five PhD students in clinical psychology and assistant professors in clinical psychology from Shahid Beheshti University of Medical Sciences, Tehran, Iran, and Kermanshah University of Medical Sciences, Kermanshah, Iran. Any differences were resolved based on agreement. The second stage was back-translation from Persian into English performed by another two clinical psychologists proficient in Persian and English. Again, any differences were resolved based on agreement.

The third one was a pilot study conducted on a study population of 30 Iranian nurses in hospitals in Tehran to examine whether compassion to others was acceptable and understandable for the cases. The subjects in pilot study understood the sentences well and did not require any additional explanations. On the one hand, all the questions were answered, and in the description of the questionnaire, there was no comment about the incomprehensibility of the items. The face validity and content validity were assessed using the presentation of the preliminary 24-item scale to six experts in the field of clinical psychology. In the qualitative method of face validity, the experts confirmed that the questions with the dimensions of scale are appropriate and relevant and the words also reflect the concept of compassion. In a qualitative approach of content validity, experts affirmed that scale questions cover the concept of compassion and its subscales.

The construct validity of compassion to others scale was evaluated using structural equation modelling (SEM) with a sample of 213 Iranian nurses in hospitals in Tehran. The six-factor structure of the compassion to others scale, as suggested in the original version, was tested with LISREL software (version 8.5). The evaluation of the model is based on considering a variety of fit indices, which are briefly discussed here. The root mean square error of approximation (RMSEA) with 90% confidence interval was evaluated. The RMSEA expresses fit index per degree of freedom of the model, which should be<0.08 for acceptable fit, and 0.05 or lower indicating a very good fitting model (26). The goodness of fit index (GFI) and adjusted goodness of fit index (AGFI), which adjust for the number of parameters, were estimated, ranging from 0-1 with the values of 0.90 or greater indicating a good fitting model (27).

The comparative fit index (CFI) evaluates fit relative to a null model using non-centrality parameters (28). Moreover, CFI ranges from 0-1 with the values of 0.90 or greater indicative of good fitting models. The standardized root mean square residual (SRMR) is the average of the differences between the sample correlations and estimated population correlations. The SRMR ranges from 0-1and the values of 0.08 or less are desired (29). Finally, the normal Chi-square (Chi-square divided by the degree of freedom) should be less than 3 for an acceptable model (30). The CFA was performed on the covariance matrix of the compassion for others items. The model parameters were estimated using maximum likelihood.

In order to evaluate the test-retest reliability of the compassion to other scale, Pearson's correlation coefficients were calculated at two points of time over four weeks for the total scale and six subscales. Test-retest reliability was tested on a different sample of nurses (n=50). The following tools were used to verify the criterion validity, namely fear of compassion, Burnout Inventory, and DASS. In addition, unhealthy and healthy subscales in CERQ were utilized for divergent validity and convergent validity, respectively (n=213). The internal consistency of the compassion to others scale was calculated using Cronbach's alpha coefficient (n=213).

Analysis strategy: The data were cleaned and screened; furthermore, missing data were <5% of the data set; therefore, listwise deletion with no imputation of data was used in the present analyses. Removing or retaining the outliers was determined by the comparison of the original mean with the 5% trimmed mean. The assumptions of normality were checked, and skewness was not evident in the subscales and total scale score in normative group. Confirmatory factor analysis was selected to examine the suitability of compassion to others scale. This method offers a variety of statistical

tests and indices designed to assess the goodness-of-fit of the identified models (31).

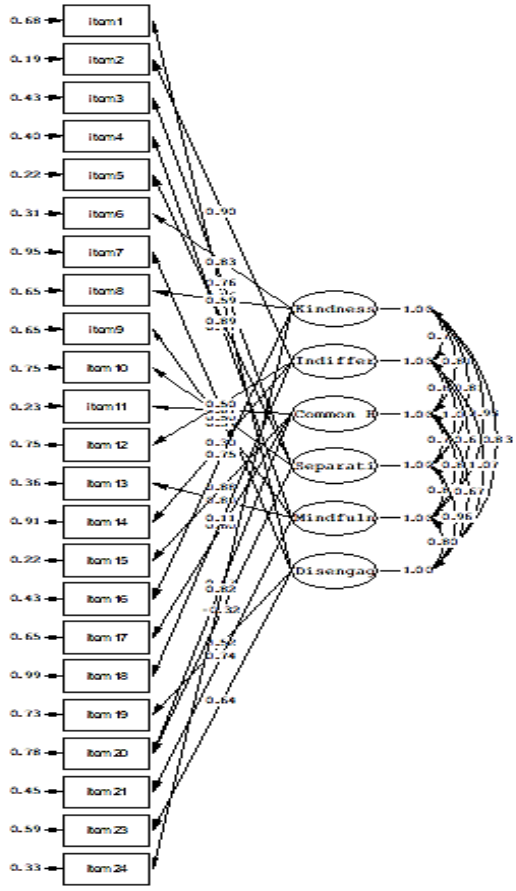

Figure1: Construct validity of Iranian Version of Compassion to Others Scale in Nurses

The LISREL software (version 8.5) was applied to examine the fitness of six-factor model of compassion to others scale. The concurrent validity was investigated by the analysis of Pearson's correlation coefficients between the compassion for others scores and fear of compassion, Burnout, DASS, and CERQ. Cronbach's alpha was calculated for the total compassion to others scale and its subscales. Pearson's correlation coefficients were estimated for the test-retest reliability of the compassion to others scale and its subscales. The data were analysed using SPSS software (version 18).

Ethical considerations: In this study, all the subjects were completely free to participate in the test, and due to moral consideration, the study goals were explained to them before filling the questionnaire. They were assured that the collected data will be analyzed as a group.

Result

The present study was conducted on a total of 213 nurses, including 117 (54.9%) male and 97 (45.1%) female participants with the age range of 21-55 (31.76±6.84). The mean score of compassion to others was obtained as 123.29±13.

In this study the validity of the compassion to others scale was established in two ways, namely construct validity, as well as divergent and convergent validity.

Based on the results of compassion to others scale, the six-factor model was tested, in which the items of the compassion to others scale were loaded on six latent factors (Figure 1(. Table 1 tabulates the results of fit indices for this model. As it can be observed, the six-factor model fitted the data well.

Pearson's correlation coefficient was calculated between the scores of tools, including fear of compassion, Burnout Inventory, DASS, CERQ, and compassion to others scale, and the results are presented in table 2. As it is shown in table 2, the correlation between compassion to others, fear of compassion, DASS-21, burnout, and negative cognitive emotion regulation is negative and significant ($P<0.05$), which indicates high divergence validity. Furthermore, compassion to others scale had a positive and significant association with cognitive emotion regulation strategy ($P<0.05$), demonstrating acceptable convergent validity.

In this study the reliability of the compassion to others scale was established in two ways, namely internal consistency and test-retest reliability.

Table 1. Goodness of fit indices for six-factor model of compassion to others

Fit indices	X^2	P-value	X^2/F	Root mean square residual	Goodness of fit index	Adjusted goodness of fit index	Normed Fit Index	Comparative fit index	Incremental Fit Index	Non Normed Fit Index	Root mean square error of approximation
Quantity	680.41	0.001	2.88	0.08	0/89	0.83	0.91	0.94	0.94	0.93	0.09

Internal consistency: Based on the results presented in table 3, Cronbach's alphas for compassion to others scale and its subscales were in the acceptable range, which indicated that compassion to others scale had excellent internal consistency (except for indifference subscale) (32, 33).

Table 2. Correlation between compassion to others, fear of compassion, DASS, burnout, and CERQ

Variable	1	2	3	4	5	6	7
Compassion to others	-						
Fear of compassion	-0.29**	-					
Anxiety	-0.27**	0.23**	-				
Depression	-0.34**	0.36**	0.38**	-			
Stress	-0.19*	0.22**	0.27**	0.40**	-		
Burnout	-0.41**	0.33**	0.42**	0.24**	0.32**	-	
Positive cognitive emotion regulation	0.39**	-0.19*	-0.33**	-0.35**	-0.39**	-0.30**	-
Negative cognitive emotion regulation	-0.28**	0.26**	0.41**	0.37**	0.35**	0.37**	-0.48**

*P<0.05,**P<0.01, DASS: Depression, anxiety, and stress scale, CERQ: Cognitive emotion regulation questionnaire

Test retest reliability: Based on the results demonstrated in table 3, it was shown that test-retest correlation coefficients of compassion to others scale and its subscales were in the acceptable range, which revealed the appropriate test-retest reliability (32).

Table 3. Reliability of the compassion to others scale and its subscales

Variable	Compassion to others	Kindness	Indifference	Common humanity	Separation	Mindfulness	Disengagement
Internal consistency	0.92	0.81	0.61	0.83	0.78	0.78	0.76
Test-retest reliability	0.91	0.82	0.78	0.81	0.79	0.86	0.83

Discussion

The present study aimed to assess the psychometric properties of compassion to others scale in nurses. The results showed that six factors, including kindness, indifference, common humanity, separation, mindfulness, and isolation had an acceptable goodness of fit index (GFI=0.89, NFI=0.91, RMSEA=0.09). These obtained results are consistent with the results of a study carried out by Pommier and Neff (2010). Moreover, they confirmed these six factors in factor analysis (2). In addition, these findings are in line with the results of a study conducted by Sprecher and Fehr (2005) about the questionnaire of compassionate love to relatives and strangers. In their study, the factors of kindness, care, and concern about others were considered as the features of sympathetic love to others (34).

The CERQ, DASS, Burnout Inventory, and fear of compassion scale were used to evaluate convergent and divergent validities of compassion to others scale. According to the results, it was revealed that compassion to others scale had a positive and significant correlation with positive emotional regulation strategies. On the other hand, compassion to others scale negatively and significantly correlated with fear of compassion scale. These results seemed logical, because the underlying conceptualization of these two forms of compassion (i.e. self-compassion and compassion to others) is similar and self-compassion and compassion to others are closely related (35).

On the other hand, compassion can be considered as a healthy relationship with our emotions. Therefore, there is a positive correlation between compassion to others and positive strategies of cognitive emotion regulation. Nevertheless, the fear of compassion scale, DASS, negative strategies of CERQ, and Burnout Inventory had a negative association with compassion to others scale. A negative correlation of these negative components (i.e., anxiety, depression, and stress, negative strategies of cognitive emotion regulation, burnout, as well as fear of compassion) with compassion to others can also be justified. These factors cause more personal distress and the individual will be overwhelmed by his negative emotions, which weakens the level of compassion to others (2).

The results of factor analysis indicated that kindness, common humanity, and mindfulness are the positive components of compassion to others scale. Neff (2003) defined kindness within the framework of the structure of self-

compassion as to be kind to ourselves and understand ourselves instead of harshly self-judgment and self-blame (14). Self-kindness refers to forgiveness, empathy, sensitivity, warmth, and patience in all aspects, including actions, feelings, thoughts, and impulses. Kind people consider unconditional value for themselves.

Self-kindness emphasizes that a person deserves love, happiness, and affection even after a failure (36). Therefore, this definition can be extended to kindness toward others (as one of the factors of compassion to others scale). Thereby, other people deserve kindness in failure and suffering rather than criticism and indifference (2). Common humanity is another factor of compassion to others scale. Neff (2003) described common humanity in the context of self-compassion as understanding that an individual's experience can be expanded to include the human experience (14). Accordingly, common humanity is also defined as the ability to understand the pain and suffering of others as a part of the human experience (2).

Mindfulness is the last positive factor of compassion to others scale. Kabat-Zinn defined mindfulness as focusing attention in a particular style. According to Kabat-Zinn, this particular style has three features as focusing on the present moment, intentionally and with nonjudgmental attitude (37). Mindfulness refers to not only cognitive attention but also a friendly and kindly interest in the present individual experience. Germer (2009) described the relationship between self-compassion and mindfulness as it follows: Mindfulness means feeling the pain and self-compassion signifies soothing yourself during pain. (38). Accordingly, compassion to others can be defined as it follows: Mindfulness means paying attention to and feeling others' pains and compassion signifies soothing others in pain (36).

The present study population restricted the possibility of generalizing the results to the entire population. Therefore, the psychometric properties of the scale of compassion to others should be assessed in other communities providing health care services.

Conclusion

The results of this study revealed that compassion to others scale is a reliable and valid tool. It is recommended to use compassion to others scale in other studies.

Conflict of interest

The author declares no conflict of interest.

Acknowledgements

The authors would like to thank the managers of Taleghni, Imam Hussein, Atia, Milad, and Messiah Daneshvari Hospitals in Tehran, Iran, and the nurses participating in this study for their cooperation.

References

1. Germer CK, Siegel RD. Wisdom and compassion in psychotherapy: Deepening mindfulness in clinical practice: Guilford Press; 2012.
2. Pommier E, Neff K. The compassion scale. Dissertation Abstracts International; 2010.
3. Armstrong K. Twelve steps to a compassionate life: Random House; 2011.
4. Tabari M. Dalaeal Alamah. Ghom: Iranian Culture Foundation; 2000. [Persian]
5. Majlesi A. Bahar Alanvar. Tehran: Islamiyya; 1984. [Persian]
6. Tahe O. Quran Majid, verse of Al-Balad. Ghom: Oswah; 2000.
7. Lutz A, Brefczynski-Lewis J, Johnstone T, Davidson RJ. Regulation of the neural circuitry of emotion by compassion meditation: effects of meditative expertise. PloS one. 2008;3(3):e1897. Link
8. Fredrickson BL, Cohn MA, Coffey KA, Pek J, Finkel SM. Open hearts build lives: positive emotions, induced through loving-kindness meditation, build consequential personal resources. J Pers Soc Psychol. 2008;95(5):1045. Link
9. Davidson R. Emotions from the perspective of western biobehavioral science. The Dalai Lama at MIT; 2006. p.141-50.
10. Goleman D. Destructive emotions: How we can overcome them: A scientific dialogue with the Dalai Lama. New York: Bantam Books; 2003.
11. Raes F, Pommier E, Neff KD, Van Gucht D. Construction and factorial validation of a short form of the self-compassion scale. Clin Psychol Psychother. 2011;18(3):250-5. Link
12. Fotaki M. Why and how is compassion necessary to provide good quality healthcare? Int J Health Policy Manag. 2015;4(4):199. Link
13. Fogarty LA, Curbow BA, Wingard JR, McDonnell K, Somerfield MR. Can 40 seconds of compassion reduce patient anxiety? J Clin Oncol. 1999;17(1):371-9. Link

14. Neff K. Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. Self Identity. 2003;2(2):85-101. Link
15. Kline R. Principles and Practice of Structural Equation Modeling. 3rd ed. New York: Guilford Press; 2011.
16. Shah R, Goldstein SM. Use of structural equation modeling in operations management research: Looking back and forward. J Oper Manag. 2006;24(2):148-69. Link
17. Gilbert P, McEwan K, Matos M, Rivis A. Fears of compassion: Development of three self-report measures. Psychol Psychother. 2011;84(3):239-55. Link
18. khanjani s, foroughi a, noori m. Construct validity and Psychometric Properties of Iranian Version of fear of compassion scales in Nurses. Tehran: Shahid Beheshti University of Medical Sciences; 2017. Link
19. Maslach C, Jackson SE. The measurement of experienced burnout. J Organ Behav. 1981;2(2):99-113. Link
20. Akbari R, Ghafar Samar R, Kiany G-R, Eghtesadi A-R. Factorial validity and psychometric properties of Maslach burnout inventory–the Persian version. Knowledge Health. 2011;6(3):1-8. [Persian] Link
21. Lovibond PF, Lovibond SH. The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. Behav Res Ther. 1995;33(3):335-43. Link
22. Maleki A, Asghari M, Salari R. Credit terms of scale, depression, anxiety Vastrs DASS-21 in the Iranian population. J Iran Psychol. 2005;1(4):9-12. [Persian] Link
23. Garnefski N, Kraaij V, Spinhoven P. Negative life events, cognitive emotion regulation and emotional problems. J Individ Differ. 2001;30(8):1311-27. Link
24. Samani S, sadeghi L. Suitability of psychometric indices of emotional cognitive regulation questionnaire. Psychol Methods Models. 2010;1(1):51-62. [Persian] Link
25. Guillemin F, Bombardier C, Beaton D. Cross-cultural adaptation of health-related quality of life measures: literature review and proposed guidelines. J Clin Epidemiol. 1993;46(12):1417-32. Link
26. Browne MW, Cudeck R. Alternative ways of assessing model fit. Sage Focus Editions. 1993;154:136-162. Link
27. Jöreskog KG, Sörbom D. LISREL 8: User's reference guide. Scientific Software International; 1996.
28. Bentler P. Comparative fit indexes in structural models (UCLA Statistics Series No. 9). Los Angeles: University of California; 1988.
29. Hu Lt, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Struct Equ Modeling. 1999;6(1):1-55. Link
30. Mulaik Psycho bull. SA, James LR, Van Alstine J, Bennett N, Lind S, Stilwell CD. Evaluation of goodness-of-fit indices for structural equation models. Quant Methods Psychol. 1989;105(3):430. Link
31. MacCallum RC, Browne MW, Sugawara HM. Power analysis and determination of sample size for covariance structure modeling. Psychol Methods. 1996;1(2):130. Link
32. Anastasi A, Urbina S. Psychological Testing. 7th edn. ed: NJ: Prentice Hall; 1997.
33. Nunnally J, Bernstein I. Psychometric Theory. 3rd edn ed. New York: McGraw-Hill; 1994.
34. Sprecher S, Fehr B. Compassionate love for close others and humanity. J Soc Pers Relat. 2005;22(5):629-51. Link
35. Lama HD. The four noble truths: fundamentals of Buddhist teachings; 1998.
36. Barnard LK, Curry JF. Self-compassion: Conceptualizations, correlates, & interventions. Rev Gen Psychol. 2011;15(4):289. Link
37. Kabat-Zinn J, Hanh TN. Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness. Delta; 2009.
38. Germer CK. The mindful path to self-compassion: Freeing yourself from destructive thoughts and emotions. New York: Guilford Press; 2009.