

## *Self-awareness or mindfulness: predicting nurses' burnout intensity*

Askarizadeh G<sup>1</sup>, Poormirzaei M<sup>2</sup>, Bagheri M<sup>3\*</sup>

<sup>1</sup>Assistant Professor, Dept. of Psychology, School of literature and human sciences, Shahid Bahonar University, Kerman, Iran

<sup>2</sup>PhD student, Dept. of Psychology, School of literature and human sciences, Shahid Bahonar University, Kerman, Iran

<sup>3\*</sup>Associate Professor, Dept. of Psychology, School of literature and human sciences, Shahid Bahonar University, Kerman, Iran

**\*Corresponding Author:** Dept. of Psychology, School of literature and human sciences, Shahid Bahonar University, Kerman, Iran

**Email:** mbibagheri@yahoo.com

**Received:** 12 Oct 2017

**Accepted:** 20 May 2018

### **Abstract**

**Background:** Nowadays, burnout is known as an important phenomenon. A review of related literature shows that self-awareness and mindfulness play important roles in predicting this phenomenon.

**Objectives:** The present study was conducted to determine the best predictor of the intensity of burnout between the concepts of self-awareness or mindfulness.

**Methods:** In this predictive correlational study. The nurses working in hospitals located in Kerman, Iran in 2017. were selected using the convenience sampling method (n=100) and answered Self-awareness, Mindfulness, and burnout questionnaires. Both descriptive (mean, standard deviation) and inferential statistics (Pearson correlation coefficient and multiple regression) were used to analyze the data with SPSS version 16 soft were.

**Results:** There was no significant correlation between self-awareness and burnout intensity ( $P \geq .05$ ); however, the relationship between mindfulness and all subscales of burnout was significant and negative ( $r = -.39$ ,  $P \leq .01$ ). Moreover, 21% of burnout intensity variance was explained by mindfulness. The self-awareness variable was not found to play a role in predicting burnout intensity.

**Conclusion:** Given the greater and more important role of mindfulness in predicting burnout intensity, it is recommended that training programs and mindfulness interventions prevent and reduce the negative effects of burnout during nurses' work hours.

**Keywords:** *Burnout, Consciousness, Mindfulness, Nurse*

### **Introduction**

Individuals' relationship with their occupation and the problems they encounter under unfavorable conditions is an important phenomenon in the modern age [1]. The personnel working in human service institutions often spend considerable time communicating with others, which is accompanied by numerous problems as well as a wide range of feelings including anger, fear, and disappointment, and the resultant stress may increase the risk of burnout [2]. Maslach (1981) defined burnout as a long-term response to

chronic emotional and interpersonal stress which is composed of three dimensions: 1) emotional exhaustion (a feeling of losing emotions after communicating with others), 2) depersonalization (negative feelings or cynical attitude toward service recipients), and 3) personal achievement deficits (tendency to evaluate one's work negatively) [3]. The negative results of burnout would affect not only the personnel but also the organization, employer, clients, and the entire working system in general [4].

Burnout is more common among healthcare workers such as nurses, especially when there is a shortage of nurses [5], than other working groups [6]. This occurs due to the fact that nurses are more exposed to stressors such as pain, death, interpersonal conflicts, lack of supervisory support, etc. and are affected by the conditions in their working environment [7]. According to Vargès & et al (2014) meta-analysis there are diverse burnout predictors of which job satisfaction and expertise are considered as the most important ones [8]. Recent studies have also shown that teaching skills such as self-awareness and mindfulness can reduce negative effects of workplace conditions [9,10].

Although there are many definitions of self-awareness, according to Fenigstein (1975), the designer of the first self-awareness scale based on the theory of objective self-awareness introduced by Wicklund and Duval (1972), self-awareness is the direct attention to the Self that involves three dimensions: personal self-awareness, public self-awareness, and social anxiety. These three aspects respectively imply the attention directed to hidden and personal aspects of self, such as emotions and feelings, attention to general aspects of self, such as appearance and behavior, and to fear of negative evaluations [11]. Self-awareness is one of the main determinants of the quality of communication and the continuity of treatment [12] and is, therefore, an important competency in demanding jobs such as nursing [13]. The nurses' role in treatment is sometimes beyond their duties given their high involvement in therapeutic relationships with patients [14]. Thus, self-awareness can positively affect nurses' intrapersonal and interpersonal factors such as self-efficacy, self-esteem, behavior toward patients, coping with conditions, and the like [15]. Mindfulness is rooted in many schools of thought, philosophies, and cultures [16]. It is defined as the virtue developed through practicing meditation every day and denotes a conscious state for understanding the entire mental content such as perception, senses, cognition, affection, etc. Other important elements of mindfulness include cordiality and friendliness, acceptance, and non-judgmental attitude towards the mind. Mindfulness may exist as a trait state in

individuals [17]. Although there is much individual variation with regard to mindfulness, it can be developed as a skill that allows individuals to predict how life events influence them and make better decisions through forming an awareness of the temporality of positive and negative emotions and, consequently, reduce habitual emotional responses [18,19]. Therefore, mindfulness considerably contributes to individuals' mental health [20], increases nurses' well-being through the above-mentioned characteristics and helps with the sustainability of necessary therapeutic features [21].

Some studies have been conducted on the relationship between these two skills (self-awareness and mindfulness) and burnout and its subscales. The results of those studies can be summarized as follows: self-awareness together with emotional intelligence increases self-efficacy and reduces burnout and job dissatisfaction [22]; it acts as a therapeutic tool in nurse-client relationships [23]; and it has a significant negative relationship with emotional exhaustion and depersonalization as well as a significant positive relationship with lack of personal accomplishment [24,25]. In addition, mindfulness is effective in improving nurses' relationships with patients and their colleagues [26]. Moreover, it has a strong negative relationship with all the three components of burnout, namely, emotional exhaustion, depersonalization, and lack of personal accomplishment [27] and acts as a significant predictor of those components [28,29]. A course of mindfulness workout reduces the degree of all components associated with burnout [30].

Self-awareness and mindfulness are construed of consciousness from disparate areas of psychology which appear to have overlapping variance [31]. Although the relationship between these two variables and burnout in nursing has already been studied, they have not been examined in combination with each other and as the predictors of the intensity of burnout. In fact, there is no evidence determining which of these two factors can have greater impacts on burnout. Considering the significant role of both variables in mental and physical health and well-being, this study was

conducted to find out which of these two concepts could predict burnout more effectively.

### Methods

This is a predictive correlational study. All nurses working in pediatric, surgical, orthopedic, and neurological wards in Fatemeh Zahra, Shafa, Bahonar, and Afzalipour hospitals in Kerman Iran between March and September in 2017 were selected using the convenience sampling (n=150). Participants characteristics include holding a bachelor's degree and having minimum one year of experience.

This study was approved by the Ethics Committee of the Psychology Department, Shahid Bahonar University of Kerman – code: E.A.96.7.17-01. In order to collect the data, after obtaining the university security's permission the researcher visited supervisors of each ward in the hospitals and explained objectives of the study. After ensuring confidentiality and receiving informed verbal consents from the participants, the questionnaires were eventually distributed among the nurses once. A responding guide was embedded in the beginning of the questionnaires that were arranged in different orders to control the effects of sequencing and participants' fatigue. The maximum time for answering the questionnaire was 15 minutes. The questionnaires were distributed simultaneously. The nurses completed the questionnaires in the head nurse's room and submitted it to the ward's head nurse or a research collaborator. The data collection went on for several months due to the high workload of nurses and was conducted by some individuals other than the researchers in order to prevent bias. Finally, 120 questionnaires were collected from among 150 questionnaires distributed during the whole period. However, 100 questionnaires could be analyzed statistically due to the exclusion of the incomplete questionnaires. Considering the sample selection criteria including a mean of three other studies (nearly 100 participants) [32-34] and the exclusion of self-awareness and mindfulness subscales [35], the researchers opted for the following measurement instruments in this study: Fenigstein et al.'s self-consciousness scale (1975) developed in the form of 23 items within a five-point Likert scale (0=extremely uncharacteristic

to 4=extremely characteristic) including the minimum and maximum scores of 0 and 94, respectively. Higher scores indicate higher levels of self-awareness. The questionnaire involves three subscales: private self-awareness, public self-awareness, and social anxiety [36], which were not used in this study; instead, the total scores were calculated. The validity of the questionnaires was confirmed using factor analysis suggested by Rafatpanah and Seif (2014) [37]. The Cronbach's alpha value of reliability for this scale was 76.

Additionally, the short version of Freiburg mindfulness inventory, which was developed by Walach et al. (2006), was used in this study. It consisted of 14 items with four choices in a four-point Likert scale (1=Seldom to 4=Always) and the minimum and maximum scores of 14 and 56, respectively. In this scale, higher scores indicate higher mindfulness [17]. Ghasemi et al. (2015) normalized the Freiburg mindfulness inventory in Iran, showed the Cronbach's alpha of 92 as its reliability, and confirmed its concurrent validity by using relevant scales [38]. The Cronbach's alpha reliability for this inventory was 64 in the present study. Maslach et al. (1981) developed the burnout inventory to measure the intensity and frequency of burnout in teachers. It consists of 22 items in which a seven-point Likert scale is used to measure the intensity of burnout (0=never to 6=very high) with the minimum and maximum scores of 0 and 132, respectively. Higher scores reveal higher burnout intensity. This inventory included emotional exhaustion, depersonalization, and personal achievement deficits as its subscales [2]. Given the insufficient current knowledge about the relationship among the above three subscales, Maslach suggests calculating the score of each subscale separately [39]. Therefore, the score of subscales was used instead of the total score of the inventory. Bayrami et al. obtained the Cronbach's alpha of 79 for the reliability of this inventory and found its content validity appropriate [40]. In this study, the Cronbach's alpha for the reliability of this inventory was 86. The data were analyzed using descriptive analyses and inferential statistics including Pearson's correlation coefficient and multiple linear regression.

**Results**

Out of 150 distributed questionnaires, 120 were returned. The data analysis was performed on 100 completed questionnaires as 20 questionnaires were not answered completely and, thus, were excluded from the study. Table 1 shows the

demographic information of the participants. The comparison of these two groups indicated that those who answered the questionnaires incompletely belonged to a lower age range and had fewer years of experience.

**Table 1: Demographic Characteristics**

	Variables	Dimensions	Number	Mean	SD
Participants	Gender	Male	30	-	-
		Female	70		
	Age	22-30	66	30.58	7.09
		31-41	24		
		42-52	10		
	Years of Services	≥10	72	7.45	5.97
11-20		24			
21-30		4			
Those answered the questionnaires incompletely	Gender	Male	2	-	-
		Female	18		
	Age	20-30	15	22.05	2.35
		31-41	5		
	Years of Services	≥10	13	2.47	1.94
		11-20	7		

Table 2 presents mean and standard deviation of the studied variables. As shown in the table, the maximum and minimum mean values were

perating to depersonalization and mindfulness, respectively.

**Table 2: Descriptive Indicators of Research Variables**

Variables	Mean	SD
Self-awareness	48.22	10.12
Mindfulness	35.60	5.07
Emotion exhaustion	17.76	10.26
Depersonalization	8.41	6.19
Lack of Personal achievement	22.44	7.08

Table 3 represents the results of the correlation among variables. As shown, only mindfulness had

a significant negative correlation with all subscales of burnout.

**Table 3: Correlational Matrix of Research Variables**

Variables	1	2	3	4
Self-awareness	1			
Mindfulness	.22*	1		
Emotion exhaustion	-.01	-.30**	1	
Depersonalization	-.09	-.29**	.66**	1
Lack of Personal achievement	-.13	-.28**	.14	.13

\* $p \leq .05$ , \*\* $p \leq .01$

Multiple linear regression was performed to predict the intensity of burnout's components in terms of self-awareness and mindfulness. In this

respect, the three assumptions of normal distribution, lack of multi-collinearity, and independence of errors were confirmed before the

analysis. Tables 4, 5, and 6 illustrate that 21% of burnout intensity variance was negatively

predicted through mindfulness, while self-awareness failed to predict burnout intensity.

**Table 4: Multiple Regression Analysis of Emotion Exhaustion**

Variable	B	$\beta$	t	R	R <sup>2</sup>	$\Delta R^2$	P	Tolerance	VIF
Self-awareness	.06	.06	.60	.31	.09	.07	.54	.95	1.05
Mindfulness	-.64	-.31	-3.21				.002		

**Table 5: Multiple Regression Analysis of Depersonalization**

Variable	B	$\beta$	t	R	R <sup>2</sup>	$\Delta R^2$	P	Tolerance	VIF
Self-awareness	-.01	-.02	-.27	.29	.08	.07	.78	.95	1.05
Mindfulness	-.35	-.29	-2.92				.004		

**Table 6: Multiple Regression Analysis of Lack of Personal Achievement**

Variable	B	$\beta$	t	R	R <sup>2</sup>	$\Delta R^2$	P	Tolerance	VIF
Self-awareness	-.05	-.07	-.75	.29	.08	.07	.45	.95	1.05
Mindfulness	-.37	-.27	-2.73				.007		

**Discussion**

The present study aimed at examining the relationship between self-awareness and mindfulness and burnout intensity. The results showed that self-awareness was insignificantly correlated with the intensity of burnout. However, mindfulness predicted 21% of the total variance in all subscales of burnout intensity. These results are consistent with Guillaumie (2017), Taylor (2016), Gustafsson (2015), Abenavoli (2013), and Goodman (2012), who indicated a relationship between mindfulness and burnout. However, the results disagree with Hassan (2015), Rasheed (2015), Hernandez (2015), and Reb (2013), who showed a relationship between self-awareness and burnout.

These two variables had not been studied in combination as predictors of burnout intensity since the above-mentioned studies examined them separately. The insignificant low contribution of self-awareness to the intensity of burnout could be explained by the fact that both variables were considered together in this study, whereby the evaluation of one variable in combination with another variable could lead to a different model and affect the results [41]. In addition, the difference between this study and previous studies in terms of measurement instruments, sample size

and type, context, and procedures could be added to the above-mentioned reasons.

In this regard, the theoretical explanation is that self-awareness often acts as a partial mediating variable in the relationship between mindfulness and mental health variables, as the maintenance of awareness allows people to experience mental functions directly [31,36-40, & 42]. Furthermore, paying attention to internal and external experiences would accelerate perception skills, improve executive functions responsible for controlling inhibition, monitor conflicts and emotional equanimity, and reduce biases [43], which occur through reducing activities in cortical central-mid structures and amygdala as well as increasing activities in sensory-motor areas [44].

As a simple strategy in organizations, the mechanism of mindfulness predicts lower levels of emotional exhaustion and pessimism that results in a decrease in burnout through reducing intellectual judgment and unthinking reactivity. Moreover, this helps the personnel to live in the moment and overcome challenges through increasing their tolerance against stressful working conditions and their ability to cope with what happens [28].

Due to the above-mentioned characteristics, mindfulness can actually reduce nurses'

depression and trait anxiety while increasing their wellbeing and performance through improving their relationship with colleagues and patients, enhancing sensitivity to patient experiences, enabling them to analyze complicated situations more clearly, and regulating the emotions in stressful situations [26], all of which would consequently decrease the risk of burnout.

The limitations of this study should be considered when interpreting and generalizing the results. One limitation is related to the fact that due to time and manpower restraints, the researchers had to employ the convenience sampling method for selecting the participants which may have biased the findings. Furthermore, the present study was conducted only on nurses working in pediatric, orthopedic, surgical, and neurological wards, which were selected for the better cooperation of their nursing personnel. Therefore, the results of this study cannot be generalized to other personnel and wards. In addition, the nurses participating in this study were older and had more work experience, and, therefore, their better adaptation with working conditions may show lower levels of burnout, similar to the studies conducted by Ang (2015) and Wu (2016). The criticality of nurses' job and concurrent distribution of a large number of different questionnaires in the hospitals may have led to a lack of willingness in some nurses to answer the questionnaires due to insufficient time and fatigue, which, in turn, may have resulted in losing a part of the sample and affecting the results. Regarding the specifications mentioned for the population in the methodology section, it appears that the nurses participating in this study were younger and had fewer years of work experience and, thus, were more willing and patient to answer the items which separated them from the nurses who did not participate in the study. Another limitation of this study is related to the questionnaires that were shorter in length and contained fewer items considering nurses' time constraint.

With regard to the higher contribution of mindfulness in predicting burnout, it is suggested that institutions include mindfulness-based training programs and interventions in nurses' working hours in order to prevent burnout and

reduce its adverse effects instead of training self-awareness as emphasized in previous studies. Furthermore, the relationship between mindfulness and self-awareness and other organizational variables can be evaluated in case of a larger sample via using randomized sampling methods which are more precise and can determine the contribution of each factor in predicting the target variables.

### Acknowledgments

Our deepest gratitude goes to the nurses who participated in this study. This study was approved with the ethics code E.A.96.7.17-01 by the Ethics Committee of Psychology Department, Shahid Bahonar University of Kerman, Iran.

**Conflict of interest:** There was no conflict of interest in this study.

### Funding:

There was no funding for this study.

### References

1. Maslach C, Schaufeli WB, Leiter MP. Job burnout. Annual review of psychology. 2001; 52(1): 397-422.
2. Maslach C, Jackson SE. The measurement of experienced burnout. Journal of organizational behavior. 1981; 2(2): 99-113.
3. Wang S, Liu Y, Wang L. Nurse burnout: personal and environmental factors as predictors. International journal of nursing practice. 2015; 21(1): 78-86.
4. Salyers MP, Bonfils KA, Luther L, Firmin RL, White DA, Adams EL, Rollins AL. The Relationship Between Professional Burnout and Quality and Safety in Healthcare: A Meta-Analysis. Journal of general internal medicine. 2016; 32(4): 475-82.
5. Jourdain G, Chenevert D. Job demands-resources, burnout and intention to leave the nursing profession: A questionnaire survey. International Journal of Nursing Studies. 2010; 47(6): 709-22.
6. Iglesias ME, de Bengoa Vallejo RB, Fuentes PS. The relationship between experiential avoidance & burnout syndrome in critical care nurses: A

- cross-sectional questionnaire survey. *International Journal of Nursing Studies*. 2010; 47(1): 30–7.
7. Garrosa E, Rainho C, Bernardo MJ, Monteiro MJ. The relationship between job stressors, hardy personality, coping resources and burnout in a sample of nurses: a correlational study at two time points. *International Journal of Nursing Studies*. 2010; 47(2): 205–15.
8. Vargas C, Cañadas GA, Aguayo R, Fernández R, Emilia I. Which occupational risk factors are associated with burnout in nursing? A meta-analytic study. *International Journal of Clinical and Health Psychology*. 2014; 14(1): 28-38.
9. Sutton A, Williams HM, Allinson CW. A longitudinal, mixed method evaluation of self-awareness training in the workplace. *European Journal of Training and Development*. 2015; 39(7): 610-27.
10. Little CA. *Mindfulness at Work* [Dissertation]. Queensland: The university of Queensland. 2016
11. Takishima-Lacasa JY, Higa-McMillan CK, Ebesutani C, Smith RL, Chorpita BF. Self-consciousness and social anxiety in youth: The Revised Self-Consciousness Scales for Children. *Psychological assessment*. 2014; 26(4): 1292.
12. Arnold EC, Boggs KU. *Interpersonal relationships: professional communication skills for nurses*. Missouri: Elsevier Health Sciences; 2015.
13. Engin E, Cam O. Effect of self-awareness education on the self-efficacy and sociotropy-autonomy characteristics of nurses in a psychiatry clinic. *Arch Psychiatr Nurs*. 2009; 23(2):148-56.
14. Eckroth-Bucher M. Self-awareness: A review and analysis of a basic nursing concept. *Advances in Nursing Science*. 2010; 33(4): 297-309.
15. Han S, Kim S. An Integrative Literature Review on Self-awareness Education/Training Programs in the Nursing Area. *Perspectives in Nursing Science*. 2016; 13(2): 59-69.
16. Academic Mindfulness Interest Group M, Academic Mindfulness Interest Group M. Mindfulness-based psychotherapies: a review of conceptual foundations, empirical evidence and practical considerations. *Australian and New Zealand Journal of Psychiatry*. 2006; 40(4): 285-94.
17. Walach H, Buchheld N, Buttenmüller V, Kleinknecht N, Schmidt S. Measuring mindfulness the Freiburg mindfulness inventory (FMI). *Personality and Individual Differences*. 2006; 40(8): 1543-55.
18. Emanuel AS, Updegraff JA, Kalmbach DA, Ciesla JA. The role of mindfulness facets in affective forecasting. *Personality and Individual Differences*. 2010; 49(7): 815-8.
19. Uusberg H, Uusberg A, Talpsep T, Paaver M. Mechanisms of mindfulness: The dynamics of affective adaptation during open monitoring. *Biological psychology*. 2016; 118: 94-106.
20. Tan LB, Martin G. Mind full or mindful: A report on mindfulness and psychological health in healthy adolescents. *International Journal of Adolescence and Youth*. 2016; 21(1): 64-74
21. White L. Mindfulness in nursing: an evolutionary concept analysis. *Journal of advanced nursing*. 2014; 70(2): 282-94.
22. Hassan SN, Robani A, Bokhari M. Elements of Self-Awareness Reflecting Teachers' Emotional Intelligence. *Asian Social Science*. 2015; 11(17): 109.
23. Rasheed SP. Self-Awareness as a Therapeutic Tool for Nurse/Client Relationship. *International Journal of Caring Sciences*. 2015; 8(1): 211-16.
24. Hernandez W, Luthanen A, Ramsel D, Osatuke K. The mediating relationship of self-awareness on supervisor burnout and workgroup Civility & Psychological Safety: A multilevel path analysis. *Burnout Research*. 2015; 2(1): 36-49.
25. Reb J, Narayanan J, Ho ZW. Mindfulness at work: Antecedents and consequences of employee awareness and absent-mindedness. *Mindfulness*. 2015; 6(1): 111-22.
26. Guillaumie L, Boiral O, Champagne J. A mixed-methods systematic review of the effects of mindfulness on nurses. *Journal of advanced nursing*. 2017; 73(5): 1017-34.
27. Gustafsson H, Skoog T, Davis P, Kenttä G, Haberl P. Mindfulness and its relationship with perceived stress, affect, and burnout in elite junior athletes. *Journal of Clinical Sport Psychology*. 2015; 9(3): 263-81.
28. Taylor NZ, Milliar PM. The contribution of mindfulness to predicting burnout in the

- workplace. *Personality and Individual Differences*. 2016; 89: 123-8.
29. Abenavoli RM, Jennings PA, Greenberg MT, Harris AR, Katz DA. The protective effects of mindfulness against burnout among educators. *Psychology of Education Review*. 2013; 37(2): 57-69.
30. Goodman MJ, Schorling JB. A mindfulness course decreases burnout and improves well-being among healthcare providers. *The International Journal of Psychiatry in Medicine*. 2012; 43(2): 119-28
31. Harrington R, Loffredo DA, Perz, CA. Dispositional mindfulness as a positive predictor of psychological well-being and the role of the private self-consciousness insight factor. *Personality and Individual Differences*. 2014: 71, 15-18.
32. Hoseini MA, Sedghi Goyaghaj N, Alamdarloo A, Farzadmehr M, Mosavi A. The relationship between job burnout and job performance of clinical nurses in shiraz shahid rajaei hospital (thruma) in 2016. *Journal of Clinical Nursing and Midwifery*. 2017; 6(2): 59-68. [In Persian]
33. Barghandan S, Khalatbari J. The Correlation between Cognitive Emotion Regulation and Spiritual Intelligence with Quality of Life among Emergency Department Nurses. *IJN*. 2017; 29(104) :46-54. [In Persian]
34. Boustanipour L, Saberi H, Soheili A. Prediction of level of aggression and interpersonal in ED nurses based on their occupational stress. *J Urmia Nurs Midwifery Fac*. 2017; 15(6) :478-87. [In Persian]
35. Biyabangard E. *Research methods in psychology and education sciences* Tehran: Doran; 2010. [In Persian]
36. Fenigstein A, Scheier MR, Buss AH. Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology*. 1975; 43: 522-27.
37. Rafat Panah M, Seif D. Predicting self awareness dimensions from personality traits among gifted students. *Developmental Psychology: Iranian Psychologist*. 2014; 40(10): 361-70. [In Persian]
38. Ghasemi Jobaneh R, Arab Zadeh M, Jalili Nikoo S, Mohammad Alipoor Z, Mohsenzadeh F. Survey the Validity and Reliability of the Persian Version of Short Form of Freiburg Mindfulness Inventory. *J Rafsanjan Univ Med Sci*. 2015; 14(2): 137-50. [In Persian]
39. Maslach C, Jackson SE, Leiter MP. *Maslach Burnout Inventory: Manual and Non-reproducible Instrument and Scoring Guides*. Mind Garden. 2010.
40. Bayrami M, Movahedi M, Movahedi Y, Azizi A, Mohammadzadigan R. The role of perceived social support in the prediction of burnout among nurses. 2014; 3 (1): 27-34. [In Persian]
41. Meyers LS, Gamst G, Guarino AJ. *Applied multivariate research: Design and interpretation*. London: Sage publication. 2006; 22.
42. Hollis-Walker L, Colosimo K. Mindfulness, self-compassion, and happiness in non-meditators: A theoretical and empirical examination. *Personality and Individual Differences*. 2011; 50(2): 222-7.
43. Vago DR. Mapping modalities of self-awareness in mindfulness practice: a potential mechanism for clarifying habits of mind. *Annals of the New York Academy of Sciences*. 2014; 1307(1): 28-42.
44. Lutz J, Brühl AB, Scheerer H, Jäncke L, Herwig U. Neural correlates of mindful self-awareness in mindfulness meditators and meditation-naïve subjects revisited. *Biological psychology*. 2016; 119: 21-30.
45. Ang SY, Dhaliwal SS, Ayre TC, Uthaman T, Fong KY, Tien CE, Zhou H, Della P. Demographics and personality factors associated with burnout among nurses in a Singapore tertiary hospital. *BioMed research international*. 2016.
46. Wu S, Singh-Carlson S, Odell A, Reynolds G, Su Y. Compassion fatigue, burnout, and compassion satisfaction among oncology nurses in the United States and Canada. In *Oncol Nurs Forum*. 2016; 43(4), 161-69.