

## The Measurement Of The Level Of Compassion Of Nurses In Operating Room

Fadime Çınar\*

*Sabahattin Zaim University, Faculty of Health Sciences, Health Management, Istanbul, Turkey*

DOI: <https://doi.org/10.15520/ijmhs.v9i12.2762>

Reviewed By: Dr.  
Daniel V.  
Department: Medical

### ABSTRACT

**Purpose:** The aim of this study was to determine the compassion levels and the factors that affect the compassion levels of the operating room nurses, which is an important part of the surgical process. **Methods:** This descriptive study was conducted with 236 nurses working in the operating rooms of public and private hospitals between December 2017 and January 2018, which allowed the study to be carried out in Istanbul. The Compassion Scale and the Individual Information Form were used to collect data. The SPSS 23 for Windows computer program was used to analyze the frequency, Mann-Whitney U Test, Kruskal-Wallis H Test, **Result:** 47.1% of the operating room nurses were male and 52.9% were female. The mean total score of the operating room nurses Compassion Scale was  $3.92 \pm 0.85$ . According to gender, kindness, common humanity, mindfulness, disengagement and total compassion level in male; indifference and separation were higher in female ( $p < 0.05$ ). According to marital status, the size of indifference was higher in married, all other dimensions were higher in single nurses. **Conclusion:** In the light of the findings obtained from the study, it can be said that the highest average score can be taken from the scale, and the compassion levels of the operating room nurses are high.

**Keywords:** Nursing, care, compassion, operating room nurses

\*Corresponding author.

Email:

[fadime.cinar@izu.edu.tr](mailto:fadime.cinar@izu.edu.tr)

## INTRODUCTION

Nursing is a complex discipline that requires a range of specialist knowledge and skills covering science and art. For this reason, it requires blending the patient with an understanding and compassionate approach with the latest information and practice standards with nursing practices [1]. The General Medical Council (2000) and the Nursing Midwifery Council (2008) state that health professionals must have compassion as well as knowledge and skills [2,3]. Compassion as a fundamental value in health care is defined as the desire to understand and alleviate the pain or misfortune of others [4,5]. Compassion is an empathic reaction to suffering. It is the result of a rational process that seeks to find a solution to suffering through certain moral actions and to take care of people's wellbeing. For this reason, compassion includes the sensitivity shown to understand the suffering of others, the willingness to help to find a solution to the current situation and to increase the welfare of the suffering person [4,6,7].

The compassion, which is often confused with other concepts, can be used instead of the sense of awareness against the distress of others. The most general definition of compassion is the empathy and desire to help people who need help [8,9]. However, in other words, there are some features such as stealing, letting, being morally and psychologically high. Compassion may not involve positive participation on the suffering side; whereas compassion has an intense interest and respect for the other [10]. Compassion; this includes behavior, empathy, and sympathy. Neff and Pommier (2013) stated that empathy and compassion are very similar and sometimes used interchangeably. But compassion and empathy, in general, are defined as different concepts [11]. Pommier (2010), six component model based on self-compassion; kindness, commonhumanity, mindfulness, indifference, separation and disengagement [12]. Kindness means that the

individual is insightful and relevant to himself and others. Being insightful creates a sense of closeness, reducing the differentiation between the person and others. Mindfulness of the sharing means being aware of the fact that people are not perfect and can make mistakes. The individual becomes aware that suffering from compassion for himself and others is a common experience of all mankind. In this way, people who perceive the suffering as part of a common life that is not independent of themselves, but conscious awareness is a balanced approach towards the negative feelings of the individual. Thus, the individual does not allow himself to take away the pain when he suffers or witnesses someone who is suffering [13]. In the literature, it is stated that various forms of compassionate behavior provide psychological benefits such as positive mood [14], diminished depressive symptoms [15,16] increased self-esteem, increased social support [17,18].

Pain can be a trigger in the emergence of mercy. Death, physical injury and old age, diseases, recurrent disasters and loneliness are various situations that cause people to suffer. Health professionals, especially nurses, often witness this kind of suffering because of the nature of their work [8,19]. Compassion requires people to be respected and valued as individuals and to understand and respond to their human experience in the processes of health care. In these aspects, compassion is the duty of health professionals in their daily work [4,6]. Nursing care, which has the most privileged role, requires not only technical knowledge and skills, but also compassion for caregivers. Because nurses witness the most vulnerable moments and special situations of the people they care for [5]. A humanistic approach and compassion are regarded as the basis for perfect nursing care [4]. Universally, patients keep care and mercy equal. Nurses share the joys, sorrow and pain of the

patients. Nurses need to be compassionate, courageous and open to be able to manage these shares effectively [18]. In the operating rooms, surgery clinics, intensive care units and all other long-term care settings, it has been emphasized that it affects the management of symptoms positively [20].

Compassion, communication and high quality look are necessary elements to provide. For this reason, nurses should develop adequate knowledge, technical skills, attitudes and interpersonal relations for care, and also have compassionate care [5]. In order to find and manage the factors affecting compassion, there is a need to measure the levels of compassion. In order to measure the level of compassion in the operating room nurses, who are involved in surgical interventions where trauma, pain and suffering process is low or not, patient studies are not yet sufficient [20]. Because of the importance of compassion in the provision of health care, this study was carried out to investigate the compassion levels of the nurses and the factors affecting the levels of compassion.

## **MATERIAL AND METHODS**

### **Purpose of the research**

The purpose of this descriptive study is to investigate the compassion levels of the nurses and the factors affecting the levels of compassion.

### **Place and Time of Research, Universe, Sample**

A descriptive study, this study was conducted between December 2017 and January 2018. The universe of the study completed at least one year in the public and private hospitals operating in the European side of Istanbul in the beginning of 2017 and operated nurses (N = 493). No sampling method was used in the study and all of the universe was included in the study. However,

214 nurses did not want to participate in the study. 43 participants who did not fully answer the questions in the Compassion Scale were excluded. For this reason, 236 nurses were included in the sample.

### **Collection of Data**

Data collection created by researchers scanned the literature and obtained by face-to-face survey method with Individual Information Form and Compassion Scale was used [9,12,21].

Individual Information Form consists of 4 questions which include socio-demographic characteristics for determining age, marital status, educational status and total year of work in the profession.

The Compassion Scale: Developed by Pommier (2010) adapted to Turkish by the Akdeniz and the Deniz (2016), Compassion Scale: Developed by (Pommier [12], adapted to Turkish by the Akdeniz and the Deniz [22] Turkish adaptation of this scale was done on university students by Akdeniz and the Deniz. Therefore, this study was performed simultaneously with the validity and reliability of the Turkish operating nurses [23]. This scale able to measure compassion for others by six dimensions (Kindness (6,8,16,24), Indifference (2,12,14,18), Common Humanity (11,15,17,20), Separation (3,5,10,22), Mindfulness (4,9,13,21) and Disengagement (1,7,19,23) 24-item, It is a 5-point likert-type scale. Scoring of items in scale, 1 = Never, 2 = Rarely, 3 = Occasional 4 = Frequent, 5 = Always. It is calculated by inverting the scores of the sub-dimensions of indifference, separation and disengagement. The lowest possible score is 24, and the highest score is 120. As the score from the scale increases, the level of compassion of the operating the operating room nurses is increasing.

As a result of the confirmatory factor analysis (CFA) performed by the Akdeniz and Deniz [22] the existence of six dimensions constituting the

structure of the scale was confirmed. The Cronbach Alpha internal consistency reliability coefficient for the whole scale was .85. Factor loads of the sub-dimensions of the scale; for the sub-dimension of kindness .61- .74, .56-.69 for indifference, .54-.83 for common humanity, .51-.73 separation, .55- .72 for mindfulness, and .58-.68 for disengagement from it ranges. The fit indices of the scale (CFI = .97; NNFI = .96; SRMR = .05 and RMSEA = .06) were found. The internal consistency reliability coefficients ranged from .57 to .77 for sub-dimensions. In the validity and reliability study of the Turkish version, it was determined that the English form scores of 41 people who have mastered English and Turkish languages and the Turkish form scores re-applied after 25 days were  $r = .78$  ( $p < .01$ ).

The reliability of the scale was assessed by item analysis, internal consistency and timeinvariance (test-retest). The repetition of the test was repeated by repeating 30 participants twice in 2 weeks. These results were consistent with the findings obtained from the Akdeniz and the Deniz [13] and the scale were determined as six dimensions and 24 items. The aim of this study was to validate the validity and reliability of the Turkish version of the scale. Scope validity, surface validity, confirmatory factor analysis was performed. The Kaiser-Meyer Olkin (KMO) coefficient of the scale was 0.76 and the result of Barlett test was  $X^2 = 3223,652$ ;  $p = 0.000$  ( $p < 0.05$ ). The fit indices of the scale (CFI = .98; NNFI = .97; SRMR = .05 and RMSEA = .07) were determined. Internal consistency reliability coefficients for the sub-dimensions, it was found to be between .64 and .77. Internal consistency coefficient of the scale. The Cronbach Alpha value was 0.821 [22]. The Turkish form of the scale was consistent for operating room nurses.

### Data Collection Method and Ethical Aspect

Ethics committee approval was obtained from the research institution (approval no:2017/02). In order to implement the study, the hospital management was informed and written informed consent was obtained. Participants received written and verbal consent to participate in the study. The researchers were informed about the data collection forms and the research. The surveys were distributed to the nurses who agreed to participate in the study and the questionnaires were distributed and a one-hour period was given. This time was finally gathered.

### Evaluation of Data

Data were analyzed in SPSS 23.0 for Windows (SPSS Inc., Chicago, IL, USA) with a 95% confidence interval. Frequency tables and descriptive statistics were used to interpret the findings. Nonparametric methods were used for non-normal distribution values. "Mann-Whitney U Test" (Z table value), Kruskal Wallis H Test method in comparison of measurement values of three or more independent groups, and their non-parametric methods. "Bonferroni Correction" was used for binary comparisons.

### Findings

The results of the analysis of the descriptive data of the participants included in the study were evaluated. 36.8% of the nurses participating in the study were the male and 63.2% were the female. 60.2% of the nurses were 30 years and under, 22.5 % between 31-40 years old, 10.2% between 41-50 years old and 7.2 % were 51 and older. 42.8 % of nurses had experienced between 1-5 years, 18.6 % between 6-10 years, 19.1 % between 10-15 years and 19.5 % had 15 years and more experienced. 58.8 % of all nurses were married and 41.2 % were single (Table 1).

**Table 1: The Individual Information of operating room nurses (n = 236)**

	Number of people (n)	Percent (%)
<b>Gender</b>		
Male	87	36.8
Female	149	63.2
<b>Age group</b>		
30 and under	142	60.2
31-40	53	22.5
41-50	24	10.2
51 and over	17	7.2
<b>Professional experience</b>		
1-5 years	101	42.8
6-10 years	44	18.6
10-15 years	45	19.1
15 years and over	46	19.5
<b>Marital status</b>		
Married	139	58.8
Single/divorced	97	41.2

In Table 2, the mean size of "Kindness Subscale" was ( $4.13 \pm 0.54$ ), and the mean of the "Indifference Subscale" ( $2.04 \pm 0.65$ ) "Common Humanity Subscale" "average ( $4.18 \pm 0.93$ );" Separation Subscale "average ( $1.86 \pm 0.58$ ), Mindfulness Subscale average ( $3.68 \pm 0.71$ ); Disengagement Subscale "average ( $1.78 \pm 0.68$ ), the mean of Compassion Scale Total ( $3.92 \pm 0.85$ ) was found.

**Table 2. Mean scores of the "The Compassion Scale" of the operating room nurses (n=236)**

	Mean	S.D	Median	Min.	Max.
Kindness	4.13	0.54	4.2	1.0	5.0
Indifference*	2.04	0.65	4.2	1.0	5.0
Common Humanity	4.18	0.63	4.2	1.0	5.0
Separation*	1.86	0.58	4.2	1.0	5.0
Mindfulness	3.68	0.71	4.2	1.0	5.0
Disengagement*	1.78	0.68	4.2	1.0	5.0
Compassion Scale Total	3.92	0.85	4.2	2.4	5.0

\* The total score averages are calculated as reverse.

According to gender, kindness, common humanity, mindfulness, disengagement and total compassion level in male; indifference and separation were higher in female. According to gender, only the difference in caring size between groups was significant ( $p < 0.05$ ), ( $Z = -2.095$ ,  $p = 0.036$ ) (Table 3)

**Table 3: Differences between mean scores of "Compassion Scale" according to gender of operating room nurses**

	Man		Women		Z	p
	Mean	S.D	Mean	S.D		
Kindness	4.3	0.65	3.92	0.56	<b>-2,095*</b>	<b>0,036*</b>
Indifference	1.9	0.62	2.65	0.64	-,074	0,941
Common Humanity	4.2	0.58	3.89	0.52	-,683	0,495
Separation	1.8	0.53	2.0	0.59	-,760	0,447
Mindfulness	4.2	0.58	4.0	0.58	-1,920	0,055
Disengagement	2.2	0.38	1.6	0.58	-,824	0,410
Compassion Scale Total	4.3	0.68	3.92	0.64	-1,248	0,214

\*2 independent normal distribution in comparison with the scores of the group that do not have "Mann-Whitney U test (Z-table value) Mean: average value; S.D: Standard Deviation

According to age, kindness, common humanity and mindfulness were higher among the 41-50 age-related staff; Indifference and Separation were higher among the 31-40 age-related staff; and disengagement was higher among the 51 age-related staff. According to the age group of 41-50 kindness ( $X^2=8.478$ ;  $p=0.037$ ), common humanity ( $X^2=8.817$ ;  $p=0.032$ ) and mindfulness dimensions ( $X^2=11.285$ ;  $p=0.010$ ) were significant ( $p<0.05$ ) (Table 4).

**Table 4: Differences between mean scores of amet "Compassion of Scale" scores of operating room nurses according to their age**

	30 years and under		Between 31-40 years		Between 41-50 years		51 year and above		X <sup>2</sup>	p
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D		
Kindness	3.8	0.65	4.2	0.63	3.9	0.68	3.8	0.55	<b>8.478</b>	<b>0.037</b>
Indifference	1.9	0.62	2.3	0.62	2.0	0.62	1.9	0.61	3.448	0.328
Common Humanity	3.9	0.58	3.8	0.57	4.3	0.58	3.7	0.58	<b>8.817</b>	<b>0.032</b>
Separation	1.8	0.53	2.4	0.65	1.8	0.53	1.8	0.53	4.578	0.205
Mindfulness	4.0	0.58	3.8	0.56	4.2	0.55	4.0	0.58	<b>11.285</b>	<b>0.010</b>
Disengagement	2.2	0.38	2.0	0.42	2.3	0.64	2.5	0.58	2.253	0.522
Compassion Scale Total	4.0	0.68	3.8	0.82	4.3	0.68	4.0	0.68	1.921	0.127

X<sup>2</sup>: Kruskal Wallis test value, S.D: Standard Deviation

According to the results of the difference analysis, the results of the difference analysis between the groups ( $X^2 = 12.293$ ;  $p = 0.006$ ) and the associated cutting dimensions ( $X^2 = 12.519$ ;  $p = 0.006$ ) were statistically significant ( $p < 0.05$ ) (Table 5).

**Table 5: Differences between mean scores of amet "Compassion of Scale" scores of according to occupational experience of operating room nurses**

	1-5 years		6-10 years		11-15 years		Above 15 years		X <sup>2</sup>	p
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D		
Kindness	3.8	0.63	4.3	0.57	3.6	0.63	3.7	0.63	.875	0.831
Indifference	1.9	0.62	1.7	0.61	1.9	0.62	2.2	0.62	11.092	0.011
Common Humanity	4.0	0.59	3.6	0.57	3.8	0.59	3.7	0.57	.194	0.978
Separation	1.8	0.65	1.5	0.61	1.8	0.64	2.4	0.65	<b>12.293</b>	<b>0.006</b>
Mindfulness	3.8	0.56	4.2	0.65	3.5	0.58	3.6	0.56	.860	0.835
Disengagement	2.2	0.42	1.5	0.42	2.1	0.40	2.4	0.68	<b>12.519</b>	<b>0.006</b>
Compassion Scale Total	3.8	0.82	3.7	0.62	3.8	0.82	4.1	0.72	2.636	0.050

For comparison of three or more independent groups without normal distribution, \*X<sup>2</sup>: Kruskal Wallis test was used. S.D: Standard Deviation

According to marital status, the size of indifference was higher in married, all other dimensions were higher in single staff. There was no statistically significant difference between the dimensions according to marital status ( $p > 0.05$ ).

**Table 6: Differences between mean scores of arasındaki "Compassion of Scale" arasındaki according to marital status of operating room nurses**

	Married		Single		Z	p
	Mean	S.D	Mean	S.D		
Kindness	3.2	0.63	3.5	0.63	-.401	0,689
Indifference	2.2	0.63	1.5	0.62	-.380	0,704
Common Humanity	4.0	0.59	3.4	0.59	-.891	0,373
Separation	1.8	0.55	2.3	0.65	-1,035	0,301
Mindfulness	3.3	0.56	3.5	0.56	-1,402	0,161
Disengagement	1.7	0.52	2.3	0.65	-.855	0,393
Compassion Scale Total	3.4	0.62	3.6	0.72	-1,221*	0,223

S.D: standard deviation; Z: Mann-Whitney-U-test value.

## DISCUSSION

In this study, the relationship of nurses' compassion levels with various demographic characteristics was investigated. In the study, the levels of compassion were examined in six dimensions as kindness, indifference, common humanity, separation, mindfulness and disengagement.

The mean score of compassion scale of the operating room nurses was  $3.92 \pm 0.85$ . The higher the score, the higher the level of compassion. Considering that the highest score that can be obtained from the scale is 5, it can be said that the level of compassion of the operating room nurses is high. With this result, it can be said that the operating room nurses compassion is high. In many studies in the literature, compassion has been reported as the factor that causes occupational fatigue for nurses. Hooper et al. (2010) reported compassion fatigue in a large proportion (86%) of emergency care, intensive care, oncology and nephrology nurses [23]. In his study, Gök (2015) reported that nurses generally experience compassion fatigue and choose the method of isolation from the intensive care setting outside the workplace and in the workplace [24]. There are studies reporting that the level of mercy varies by gender. Salazar (2015) reported in his study that the level of self-pity is higher in males and in females than in others [25]. In the study of Tatum (2012) with university students, it was found that the mean scores of female's compassion scale were higher than male [26]. In other studies, it is stated that women are expected to have higher levels of compassion [25,27,28,29]. In our study, it is observed that the dimensions of indifference and dislocation are in women and the other dimensions are in men, but there is a statistically significant difference between sex groups in terms of tenderness ( $p < 0, 05$ ). This result in our study can be considered as the nature of women who

are more sensitive, attentive and rooted and at the same time more sensitive. In addition, the female gender in our sample is thought to have an effect on this result.

Kelly et al. (2015) reported that the age, liking the job and being satisfied with the profession had a statistically significant effect on the compassion fatigue [30]. Sacco et al. (2015) reported that compassion fatigue was higher in older nurses [31]. In our study, it was observed that the size of indifference and separation was higher in nurses between the ages of 31 and 40 and the attachment size was higher in participants aged over 51 years. All other dimensions are higher in participants aged 41-50 years. According to the results of difference analysis, the levels of compassion, sharing awareness and conscious awareness differed significantly from the age groups ( $p < 0.05$ ). This result is parallel to the development of the profession within itself. Nurses, who were generally younger, had higher levels of indifference and dislocation. In the case of individuals with very old age and near retirement age, the level of disconnection is higher. Thus, it can be stated that the results of the research show that the compassion developed in time with the nurses. In the professional experience, it is seen that the share consciousness of those who have less experience and the ones who have more experience are higher level of indifference, disconnection and disconnection. The results of the difference analysis showed that the disconnection and associated shear dimensions differed significantly between the groups ( $p < 0.05$ ). Therefore, it can be stated that the level of mercy is a concept that is low at the beginning of the profession, rising in the middle and decreasing at the end.

According to marital status, the size of indifference was higher in married nurses and all



other dimensions were higher in single nurses. However, the results of the difference analysis showed that these differences between the groups were not statistically significant ( $p > 0.05$ ). For this reason, marriage status does not cause a statistically significant difference on the level of compassion of nurses.

## CONCLUSION

Providing compassionate care requires a holistic approach. Nurses should be compassionate to communicate well with patients, to serve as their advocates, and to assist in individual needs of patients, when they are unable to perform, and to provide optimal better care. With the compassionate care practices that may be a quality indicator, patient satisfaction levels can be increased, and the patient's comfort can be ensured and the patient feels good. Compassionate care practices; It is thought to affect the management of symptoms positively in surgical clinics, operating rooms, intensive care units and all other long-term care settings. The results of the study show that only age has a significant effect on nurses' level of compassion in terms of their level of compassion, and that other demographic variables do not have a significant effect on nurses' compassion levels. When evaluated in this respect, it is possible to state that the professional professionalism levels of nursing training and nurses trained as a result of these studies are successful and not affected by the demographic effects. Besides, it is possible to state that having a society with a high level of compassion and human values, which are driven by the social structure, is reflected in the research results. Therefore, in order to ensure continuity of the research results, it will be useful to extend the wider sample, to take into account the results obtained, to give in-service training on the compassion to the nurses and to focus on this subject in the university education.

## *Limitations of the Research*

Research 2017 in Istanbul, Turkey public and private hospitals operating on total of 236

operating nurses working in opinions and scale items limited to data.

## *Conflict Of Interest*

There is no conflict of interest for this article. This research was carried out in accordance with Helsinki Declaration criteria.

## *Financial Support*

This study did not receive financial support from any institution.

## REFERANCES

1. Perry A.G.(2013). Fundamentals of Nursing: Nursing Today. Edited by Potter PA, Perry AG, Stockert PA, Hall AM. 8th ed. St. Louis Missouri, Elsevier Mosby, 1-13.
2. Medical Research Council.(2000). A framework for the development and evaluation of RCTs for complex interventions to improve health. London: MRC, 2000.
3. Nursing, A., & Council, M.(2008).Code of professional conduct for nurses in Australia. Australian Nursing and Midwifery Council.
4. Bray L, O'Brien MR, Kirton J, Zubairu K, Christiansen A.(2014). The role of professional education in developing compassionate practitioners: A mixed methods study exploring the perceptions of health professionals and pre-registration students. Nurse Education Today. 34:480-486.
5. Bloomfield J, Pegram A.(2015). Care, compassion and communication. Nursing Standard , 29 (25):45-50.

6. Perez-Bret E, Altisent R, Rocafort J.(2016). Definition of compassion in healthcare: A systematic literature review. *International Journal of Palliative Nursing*. 22:599-606.
7. Polat F.,N, and Erdem R.(2017). Merhamet yorgunluğu düzeyinin çalışma yaşam kalitesi ile ilişkisi: Sağlık profesyonelleri örneği. *Süleyman Demirel Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*.2017; 26(1): 291-312.
8. Cingel M. Compassion in care: A qualitative study of older people with a chronic disease and nurses. *Nursing Ethics*. 2011; 18(5): 672–685.
9. Pommier, E. A. The compassion scale. *Dissertation Abstracts International Section A: Humanities and Social Sciences*.2011; 72, 1174
10. Ekstrom, L. W.(2012). Liars, medicine, and compassion. *The Journal of medicine and philosophy*.37(2), 159–180.
11. Neff, K. D., & Pommier, E.(2013).The relationship between self- compassion and other-focused concern among college undergraduates, community adults, and practicing meditators. *Self and Identity*. 12, 160–176.
12. Pommier A.N.(2010). The Compassion Scale. The Graduate School of The University of Texas at Austin, Doctoral Thesis.
13. Akdeniz S, Deniz ME.(2016). Adaptation of compassion scale to Turkish: validity and reliability study. *The Journal of Happiness & Well-Being*. 2016;4(1):50-61.
14. Hutcherson, C. A., Seppala, E. M., & Gross, J. J.(2008). Loving-kindness meditation increases social connectedness. *Emotion*. 8(5), 720–724.
15. Gilbert, P. & Procter, S. (2006).Compassionate mind training for people with high shame and self-criticism: A pilot study of a group therapy approach. *Clinical Psychology and Psychotherapy*. 13(6), 353-379.
16. Shapiro, S. L., Brown, K. W., & Biegel, G. M.(2007). Teaching self-care to caregivers: Effects of mindfulness-based stress reduction on the mental health of therapists in training. *Training and Education in Professional Psychology*. 1(12), 105–115.
17. Crocker, J., & Canevello, A. (2008).Creating and undermining social support in communal relationships: The role of compassionate and self-image goals. *Journal of Personality and Social Psychology*.95(3), 555–575.
18. Lemay, E. P., & Clark, M. S.(2008). How the head liberates the heart: Projection of communal responsiveness guides relationship promotion. *Journal of Personality and Social Psychology*. 94(4), 647–671.
19. Berman A, Snyder SJ, & Frandsen G.(2016) *Kozier and Erb's Fundamentals of Nursing Concept, Process, and Practice*. 10th ed. Edinburgh, Pearson Education Limited.2016;425-429
20. Uğurlu, A. K., & Eti Aslan, F. Compassion and Nursing: Is Compassion Measurable ?. *Turkey Clinics Nursing Science*.2017;9(3).
21. Neff, K.D.(2003). The development of validation of a scale to measure self compassion. *Self and Identity*.2(3), 223-250.
22. Çınar, F., & Eti Aslan, F. (2018). Measurement of compassion levels of operating room nurses: Turkish validity and reliability study. *Kocaeli Medical Journal*,7(3), 222-229
23. Hooper C, Craig J, Janvrin DR, Wetsel MA, & Reimels E.(2010). Compassion Satisfaction, Burnout, And Compassion

- Fatigue Among Emergency Nurses Compared With Nurses in Other Selected Inpatient Specialties. *J Emerg Nurs.*36(5): 420-7.
24. Gök A.(2015). The unbearable weight of compassion: compassion fatigue in nurses. *Journal of Süleyman Demirel University Faculty of Economics and Administrative Sciences.* 20(2): 299-313.
25. Salazar LR. (2015).Exploring the relationship between compassion, closeness, trust, and social support in same-sex friendships. *The Journal of Happiness & Well-Being;* 2015;3(1): 15-29.
26. Tatum, K.J.(2012). Adherence to Gender Roles as a Predictor of Compassion and Self-Compassion in Women and Men. Baylor University, Doctoral dissertation. 2012.
27. Chakrabarti B, & Baron-Cohen S.(2006). Empathizing: neurocognitive developmental mechanisms and individual differences. *Progress in Brain Research.* 156:403-417.
28. Salazar LR. (2016) The relationship between compassion, interpersonal communication apprehension, narcissism and verbal aggressiveness. *The Journal of Happiness & Well-Being.*2016; 4(1):1-14.
29. Adam D, Taylor R.(2014), Compassionate care: Empowering students through nurse education. *Nurse Education Today.*2014;34:1242-1245.
30. Kelly L, Runge J, & Spencer C.(2015).Predictors of compassion fatigue and compassion satisfaction in acute care nurses. *Journal of Nursing Scholarship ,* 47(6): 522–528.
31. Sacco TL, Ciurzynski SM, & Harvey M.E.(2015).Ingersoll GL. Compassion satisfaction and compassion fatigue among critical care nurses. *Critical Care Nurse.* 35(4): 32-44.