

## Evaluation of the Mediator Role of Burnout in the Relationship between Caring Behaviors and Self-Efficacy Perceptions in Surgical Nurses

Cerrahi Hemşirelerinde Bakım Davranışları İle Öz Yeterlilik Algısı Arasındaki İlişkide Tükenmişliğin Aracı Rolünün Değerlendirilmesi

Ceyda UZUN ŞAHİN<sup>1</sup>, Perihan ŞİMŞEK<sup>2</sup>

### ABSTRACT

**Aim:** This study was conducted to evaluate the mediator role of burnout in the relationship between caring behaviors and self-efficacy in surgical nurses.

**Methods:** The cross-sectional study was conducted with 205 surgical nurses. The data were collected using the Caring Behaviors Inventory, the Self-Efficacy Scale, and the Maslach Burnout Scale.

**Results:** A significant positive correlation was found between caring behaviors and self-efficacy scale scores (correlation coefficients ranged between 0.345-0.403;  $p<0.001$ ). While there was a negative and significant relationship between the emotional exhaustion and depersonalization sub-dimensions of the burnout scale and the scores obtained from the caring behaviors inventory ( $p<0.05$ ), no significant relationship was found in terms of the lack of personal accomplishments sub-dimension ( $p>0.05$ ). In the relationship between caring behaviors and self-efficacy, the lack of personal accomplishments, emotional exhaustion, and depersonalization sub-dimensions of burnout scale were found to have a negative partial mediator role.

**Conclusion:** Caring behaviors have a positive relationship with self-efficacy and a negative relationship with depersonalization and emotional exhaustion. Lack of personal accomplishments, emotional exhaustion, and depersonalization have a negative partial mediator role in the relationship between caring behaviors and self-efficacy.

**Keywords:** Burnout, Caring behaviors, Self-efficacy perception, Surgical nurses

### ÖZ

**Amaç:** Çalışmada, cerrahi hemşirelerinde bakım davranışları ile öz-yeterlilik arasındaki ilişkide tükenmişliğin aracı rolünün değerlendirilmesi amaçlandı.

**Metod:** Kesitsel nitelikte olan çalışma, 205 cerrahi hemşiresinin katılımıyla gerçekleştirildi. Veriler Bakım Davranışları Ölçeği, Öz-Yeterlilik Ölçeği ve Maslach Tükenmişlik Ölçeği ile toplandı.

**Bulgular:** Bakım davranışları ile öz yeterlilik ölçek puanları arasında pozitif yönde anlamlı bir ilişki saptandı (correlation coefficients ranged between 0.345-0.403;  $p<0,001$ ). Tükenmişlik ölçeğinin Duygusal tükenme ve Duyarsızlaşma alt boyutları ile bakım davranışları ölçeğinden elde edilen puanlar arasında negatif yönlü ve anlamlı bir ilişki varken ( $p<0.05$ ) kişisel başarı eksikliği alt boyutuyla anlamlı bir ilişki saptanmadı ( $p>0,05$ ). Bakım davranışları ile öz yeterlilik arasındaki ilişkide tükenmişliğin, kişisel başarı eksikliği, duygusal tükenme ve duyarsızlaşma alt boyutlarının negatif yönlü kısmi aracı rolü olduğu görüldü.

**Sonuç:** Bakım davranışları, öz yeterlilik ile pozitif; tükenmişlik ile negatif yönlü bir ilişkiye sahiptir. Bakım davranışları ile öz yeterlilik arasındaki ilişkide kişisel başarı eksikliği, duygusal tükenme ve duyarsızlaşmanın negatif yönlü kısmi bir aracı rolü bulunmaktadır.

**Anahtar Kelimeler:** Bakım davranışları, Cerrahi hemşireleri, Öz yeterlilik algısı, Tükenmişlik

Ethical approval was obtained from the Human Research Ethics Committee of Recep Tayyip Erdogan University. (Date: 27.05.2020 No: 40465587-050.01.04-124). The study was conducted in compliance with the ethical standards specified in the Helsinki Declaration.

<sup>1</sup> Dr. Öğr. Üyesi, Ceyda UZUN ŞAHİN, Recep Tayyip Erdoğan Üniversitesi Sağlık Hizmetleri Meslek Yüksekokulu, Tıbbi Hizmetler ve Teknikler Bölümü, ceydam61@gmail.com, ORCID: 0000-0002-1392-7409

<sup>2</sup> Dr. Öğr. Üyesi, Perihan ŞİMŞEK, Acil Afet Yönetimi, Trabzon Üniversitesi, Uygulamalı Bilimler Yüksekokulu, p\_simsek19@hotmail.com, ORCID: 0000 0002 0216 3968

İletişim / Corresponding Author: Ceyda UZUN ŞAHİN  
e-posta/e-mail: ceydam61@gmail.com

Geliş Tarihi / Received: 02.07.2022  
Kabul Tarihi/Accepted: 25.09.2022

## INTRODUCTION

Nursing is generally considered an art and science, and care shapes the theoretical framework of nursing. the patient.<sup>1</sup> Nursing care entails physical, emotional, mental, and social needs to improve a Nursing and care are based on a relational understanding, unity, and connection between the professional nurse and patient's health and well-being. Care is the center and core of nursing.<sup>2</sup> Caring behavior and the nurse's perception of effective caring behavior is an action performed by professional nurses who provide safety and attention to the patient. Care-related behavior has a significant role in associating the nursing interaction with the patient.<sup>3</sup>

Self-efficacy is a multifaceted concept that appears to have a significant impact on cognitive and emotional processes.<sup>4</sup> Individuals choose various courses of action based on the skills and abilities they believe they have. Self-efficacy is a fundamental concept in nursing care.<sup>5</sup> Various nursing studies reported a link between self-efficacy and the acquisition of clinical skills.<sup>6-7</sup>

Burnout, characterized by emotional exhaustion, depersonalization, and decreased personal accomplishment, is quite common among nurses.<sup>8</sup> This phenomenon arises from constant and chronic occupational stress, a

distinct feature of the nursing profession.<sup>9</sup> More than half of the four million nurses in the United States<sup>10</sup> and one in every ten nurses worldwide experience burnout.<sup>11</sup> Various individual factors are associated with burnout, including gender,<sup>12</sup> marital status,<sup>13</sup> and the tendency of healthcare professionals to prioritize patient care over their own well-being.<sup>14</sup> Burnout also occurs due to organizational-level factors arising from work environments such as higher nurse-patient ratios, increased electronic documentation, scheduling challenges, and management issues.<sup>14-15</sup>

Studies have shown that as self-efficacy increases, the sense of achievement becomes stronger and as a result, self-efficacy helps individuals to use their skills in the best way to solve the problems they face.<sup>6,16</sup> The applications required for surgical patients are extremely complex and vital. Therefore, the surgical nurse should have sufficient knowledge, skills, care behaviors, and self-efficacy perception to be able to identify the needs of the patient and meet these needs.<sup>17</sup> Starting from this point, this study was planned to evaluate the mediating role of burnout in the relationship between caring behaviors and self-efficacy perceptions in surgical nurses.

## MATERIAL AND METHODS

### Study design

This study is a cross-sectional and descriptive-correlational study.

### Setting and Time

The data were collected between 20 May 2021 and 01 June 2021 from surgical nurses working in the surgical units of two state hospitals in Turkey.

### Sampling

The population consists of volunteer surgical nurses in the surgical units of two hospitals located in the city center of Rize. The target population comprised of surgical

nurses employed in different hospitals. Cluster sampling was used to sample the participants in the target population. Inclusion criteria of the study were;

- being 18 years old and above,
- participating in the study voluntarily.

### Measurements

The data were collected using the questionnaire form developed by the researchers.

### The Questionnaire Form

The questionnaire form created by the researchers consists of five sections. There are five questions regarding socio-

demographic characteristics in the first section, seven questions about the professional experiences of nurses in the second section, the 30-item Caring Behaviors Inventory in the third section, the 22-item Maslach Burnout Inventory in the fourth section, and 16-item Nursing Profession Self-Efficacy Scale in the last section. It takes about 10 minutes to fill out the questionnaire.

### **The Caring Behaviors Inventory-30 (CBI-30)**

The Caring Behaviors Inventory was developed by Zane Robinson Wolf et al. in 1994 to examine patient care from a philosophical and ethical perspective.<sup>18</sup> The Turkish validity and reliability study was conducted by Gül and Dinç (2020) with patients and nurses.<sup>19</sup> The inventory, designed to evaluate nursing care, consists of 30 items and 3 sub-dimensions (respectful deference to others, being accessible, professional knowledge, and attitudes). It has no cut-off point, and the scores to be taken range between 30 and 180. Evaluation of the scale is made on the total score. A high score refers to a high perception of nursing care, and a low score refers to a low perception of nursing care. There is no reverse-scored item in the inventory, in which a six-point Likert-type rating with “never”, “rarely”, “sometimes”, “usually”, “almost always”, “always” options are used. The Cronbach's Alpha value for the caring behaviors inventory was determined as 0.989 in the study.

### **The Nursing Profession Self-Efficacy Scale**

The scale was developed by Caruso et al. to evaluate the professional self-efficacy of nurses.<sup>20</sup> The Turkish validity and reliability study was carried out by Karacaoğlu Vicdan and Taştekin.<sup>21</sup> The original scale is a 5-point Likert-type scale consisting of two sub-dimensions and 19 items. All the items are positive and scored as “strongly agree 5, agree 4, undecided 3, disagree 2, strongly disagree 1”. The first sub-dimension of the scale is Quality of Care (Items 1, 3, 4, 5, 6, 7, 8, 9,

12, 15, 18, and 19), the second sub-dimension is Occupational Situations (Items 2, 10, 11, 13, 14, 16, and 17). As the score on the scale increases, professional self-efficacy increases. In the study, the Cronbach's Alpha value for the Self-efficacy scale was found to be 0.957.

### **The Maslach Burnout Inventory**

It is a five-Likert-type scale and was developed by Maslach and Jackson to determine the level of burnout.<sup>22</sup> Turkish reliability and validity study was performed by Capri et al. (2011).<sup>23</sup> Cronbach's Alpha values for emotional exhaustion, lack of personal accomplishments, and depersonalization sub-dimensions in the study were determined as 0.924, 0.789, and 0.754, respectively.

### **Data analysis**

SPSS 24.0 program was used for statistical analysis and descriptive statistical methods, the conformity of quantitative data to normal distribution was tested with kurtosis and skewness values. The Pearson Correlation test was used to examine the relationship between the scales. The PROCESS macro developed by Hayes was utilized to measure the mediating effect. Significance was evaluated at  $p < 0.01$  and  $p < 0.05$  levels. Kurtosis and skewness values were considered to determine the conformity of the data to the normal distribution. If the cut-off points of the kurtosis and skewness values are not above 3 for skewness and 10 for kurtosis in terms of absolute values, they are considered to conform to a normal distribution.<sup>24</sup>

### **Ethical considerations**

Ethical consent was granted by the Human Research Ethics Committee of the local university (Date: 27 May 2020 No: 40465587-050.01.04-124). The participants were informed that they could withdraw from the study at any moment without providing any justification, and informed consent was obtained from each of them. The study was performed in accordance with the Declaration of Helsinki (Brazil, 2013).

### Limitation of the study

There are some limitations in this study. The complete universe was not reached in our study; therefore, the results of the present study cannot be reflected to the general population and the study was carried out in a single center. In addition, this study is a short-term study. Long-term experiences of

the research subjects would be a valuable avenue to explore in the future.

### Acknowledgements

We thank all the nurses who participated in this study.

## RESULTS AND DISCUSSION

The median age of the participants was 30 (min=20, max=46), and 66.3% were female. Of the surgical nurses in the study, 45.9% were married, 76.6% had a bachelors'

degree, and 39.5% had 1-5 years of working experience. The average weekly working time was more than 40 hours for 73.7% of participants (Table 1).

**Table 1. Sociodemographic Characteristics (n=205)**

Characteristics	n (%)	CBI* Score (Mean±SD)	Statistical analysis
<b>Gender</b>			
Female	136 (66,3)	143,8±31,40	t=3,004
Male	69 (33,7)	129,8±31,47	p=0,003
<b>Age</b>			
≤30	106 (51,7)	146,22±32,98	t=3,375
>30	99 (48,3)	131,47±29,29	p=0,001
<b>Education level</b>			
Below a bachelor's degree	33 (16,1)	140,21±35,375	t=0,218
Bachelor's degree	172 (83,9)	138,88±31,465	p=0,828
<b>Marital status</b>			
Married	94 (45,9)	137,93±29,506	t=-0,481
Single	111 (54,1)	140,09±34,137	p=0,631
<b>Working experience (year)**</b>			
1-5	81 (39,5)	146,14±35,997	F=3,525 0,031
6-10	50 (24,4)	136,76±28,620	
≥11	74 (36,1)	132,97±28,317	
<b>Weekly working hours</b>			
≤40 hours	54 (26,3)	149,19±28,140	t=2,739
>40 hours	151 (73,7)	135,49±32,656	0,007
<b>Did you willingly choose your profession?</b>			
Yes	124 (60,5)	149,10±25,966	t=5,643
No	81 (39,5)	123,79±34,476	<0,001
<b>Is nursing a suitable profession for you?</b>			
Yes	129 (62,9)	145,35±28,892	t=3,589
No	76 (37,1)	128,49±34,439	<0,001
<b>If you had a chance, would you choose nursing profession again?</b>			
Yes	96 (46,8)	148,30±25,764	t=4,075
No	109 (53,2)	130,99±34,833	<0,001
<b>Are you satisfied with the working environment? **</b>			
Yes	67 (32,7)	148,58±30,197	F=10,914 <0,001
No	37 (18,0)	119,43±42,861	
Partly	101 (49,3)	140,01±25,031	
<b>Are you considering leaving your institution?</b>			
Yes	64 (31,2)	126,30±39,970	t=-3,415
No	141 (68,8)	144,91±25,843	p=0,001

\*Caring Behavior Inventory, \*\* According to the Tamhane test, significant differences were found between those who worked for 1-5 years and those who worked for 11 years or more (p=0.036), and those who were "dissatisfied" and "partially satisfied" (p=0.025) and those who were "satisfied" (p=0.002).

The CBI scores of the participants were evaluated according to their demographic characteristics. The CBI score was significantly higher in women (p=0.003),

those younger than 30 years old (p=0.001), those who worked less than 40 hours a week (p=0.007), those who willingly chose the nursing profession (p<0.001), those who

considered nursing as a suitable profession for them ( $p < 0.001$ ), and those who did not consider leaving their institution ( $p = 0.001$ )

There was a negative and significant correlation between the scores obtained from the sub-dimensions of respectful deference to others, professional knowledge and attitudes, being accessible and the total score of the caring behaviors inventory and the emotional exhaustion (correlation coefficient: -0.259, -0.233, -0.281 -0.262;  $p < 0.05$ ) and depersonalization sub-dimensions of the burnout scale (correlation coefficient: -0.350, -0.321, -0.317, -0.336; respectively,  $p < 0.001$ ). No significant relationship was seen between the caring behaviors inventory total score and sub-dimensions scores and the lack of personal accomplishments sub-dimension of the burnout scale ( $p > 0.05$ ). A positive and significant correlation was found between the score obtained from the sub-dimensions of respectful deference to others, professional knowledge and attitudes, being accessible of the caring behaviors inventory, and the subdimensions of occupational

situations (correlation coefficient: 0.345, 0.350, 0.339, 0.352;  $p < 0.001$ ) and the quality of care (correlation coefficient: 0.359, 0.403, 0.377, 0.387, respectively;  $p < 0,001$ ) in the self-efficacy scale, the total score of the scale (correlation coefficient: 0.370, 0.395, 0.376, 0.388, respectively;  $p < 0.001$ ). The relationship between the self-efficacy scale and the sub-dimensions of the burnout scale scores revealed a negative and significant relationship between the total score of the self-efficacy scale and the scores of occupational situations and quality of care sub-dimensions of the scale and the lack of personal accomplishments sub-dimension (correlation coefficient: -0.242, -0.249, -0.212, respectively;  $p < 0.05$ ). There was a negative and significant relationship between sub-dimensions of the occupational situations and emotional exhaustion ( $r = -0.143$ ,  $p = 0.041$ ). However, no statistically significant relationship was detected between self-efficacy and other sub-dimensions of the burnout scale ( $p > 0.05$ ) (Table 2).

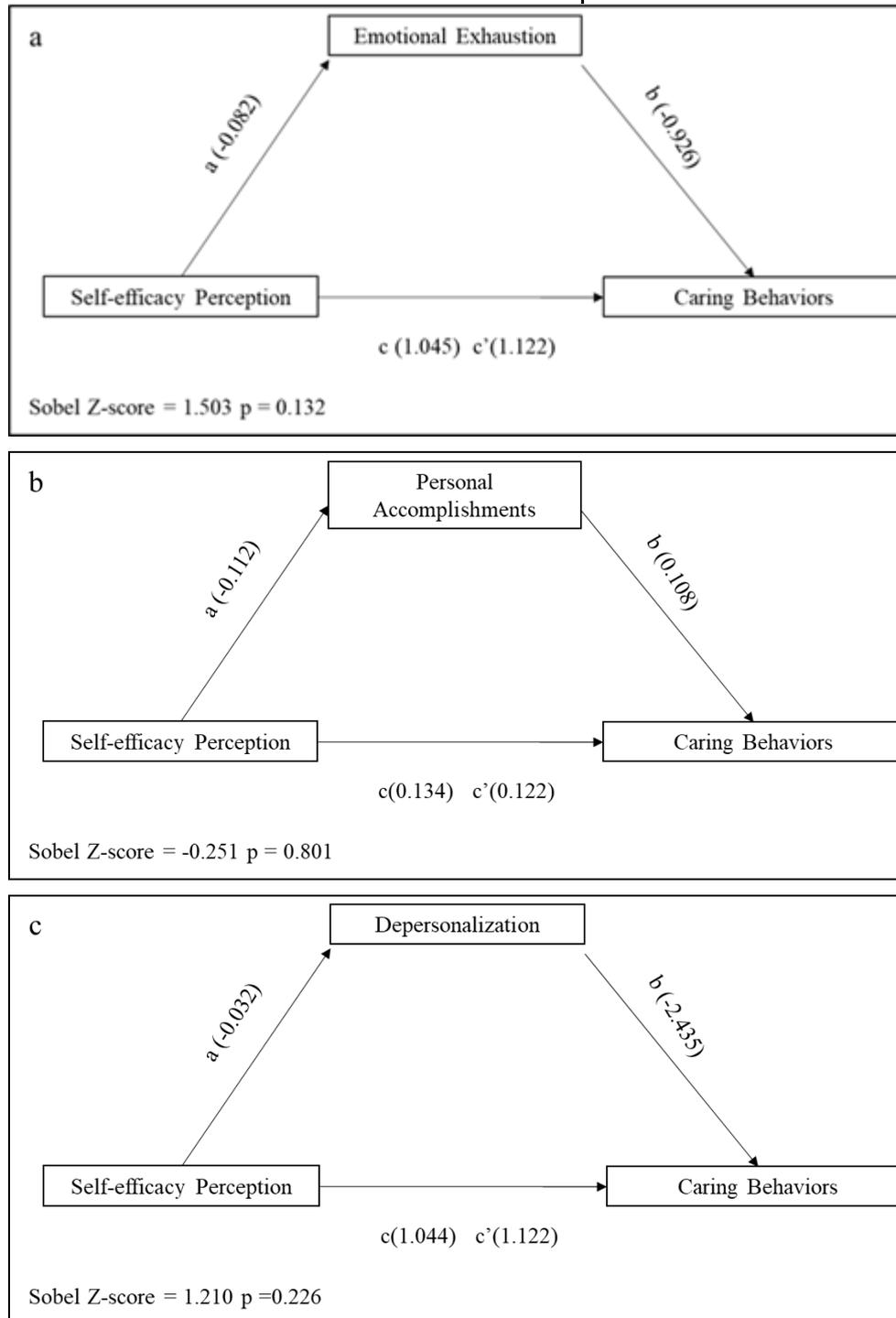
**Table 2. Correlations between caring behaviors, self-efficacy, and burnout (n=205)**

		1	2	3	4	5	6	7	8	9	10	
Care attitudes	Respectful deference to other	r	1									
		p										
	Professional knowledge and attitudes	r	,952	1								
		p	,000									
	Being accessible	r	,925	,950	1							
		p	,000	,000								
	Total score	r	,978	,986	,977	1						
		p	,000	,000	,000							
Exhaustion	Emotional exhaustion	r	-,259	-,233	-,281	-,262	1					
		p	,000	,001	,000	,000						
	Lack of personal accomplishments	r	-,071	-,079	-,078	-,077	-,456	1				
		p	0,309	0,261	0,267	0,269	0,000					
	Depersonalization	r	-,350	-,321	-,317	-,336	,779	-,461	1			
		p	,000	,000	,000	,000	,000	,000				
Self-efficacy	Occupational Situations	r	,345	,350	,339	,352	-,143	-,212	-,080	1		
		p	,000	,000	,000	,000	,041	,002	,255			
	Quality of care	r	,359	,403	,377	,387	-,088	-,249	-,090	,813	1	
		p	,000	,000	,000	,000	,211	,000	,201	,000		
	Total score	r	,370	,395	,376	,388	-,121	-,242	-,089	,952	,952	1
		p	,000	,000	,000	,000	,083	,000	,204	,000	,000	

R: Pearson's correlation coefficients

The Sobel test was used to determine whether burnout has a mediating effect on the relationship between caring behaviors

and self-efficacy perceptions in surgical nurses (Figure 1).



**Figure 1.** The mediating effect of a) emotional exhaustion b) lack of personal accomplishments, and c) depersonalization on the relationship between caring behaviors and self-efficacy perceptions in surgical nurses

The Z score determined for this model was calculated as 1.503 for emotional exhaustion, -0.251 for the lack of personal accomplishments, and 1.210 for depersonalization sub-dimensions of the Burnout scale. Since the Z scores were

bigger than 0.05 and were not statistically significant, it was concluded that three sub-dimensions of burnout (*emotional exhaustion, lack of personal accomplishments, and depersonalization*) had a mediating effect on the relationship

between caring behaviors and self-efficacy perceptions in surgical nurses. Table 3 presents the total effect, direct effect, and indirect effect values according to the sub-dimensions of the Burnout scale.

The difference between the total effect and the direct effect indicates the magnitude

of the indirect effect. As can be seen from Table 3, the indirect effect is positive for emotional exhaustion and depersonalization sub-dimensions and negative for lack of personal accomplishments sub-dimensions (Table 3).

**Table 3. Total, Direct and Indirect Effect Values (n=205)**

	Total effect	Direct Effect	Indirect Effect	Bootstrap Confidence interval BoLLCI- BoULCI	Mediating effect type
Emotional exhaustion	1.122	1.045	0.076	-0.040 - 0.271	Partial
Lack of personal accomplishments	1.122	1.134	-0.0123	-0.092-0.103	Partial
Depersonalization	1.122	1.044	0.078	-0.066-0.292	Partial

In this study, the mediating role of burnout in the relationship between caring behavior and self-efficacy perception in surgical nurses was explored. The data showed that the three sub-dimensions of burnout had a negative partial mediator role in the relationship between nursing care behavior and self-efficacy perception, and there was a positive and significant relationship between the caring behaviors inventory and the self-efficacy scale scores. Besides, while a negative and significant correlation was seen between the scores obtained from the caring behaviors inventory and the emotional exhaustion and depersonalization sub-dimensions of the burnout scale, no significant correlation was observed for the lack of personal accomplishments sub-dimension.

Consistent with some reports in the literature,<sup>25</sup> in this study, self-efficacy had a direct effect on caring behaviors, and there was a positive and significant relationship between the total score of the self-efficacy scale and its sub-dimension scores and the caring behaviors inventory scores. However, Dharmanegara et al. (2015) found that self-

efficacy has no significant effect on caring behaviors.<sup>26</sup>

Self-efficacy is among the most significant predictors of change in behavior,<sup>26</sup> and it predicts and influences performance.<sup>27</sup> In this respect, self-efficacy perception has a critical role in revealing behaviors,<sup>28</sup> and the significant correlation between nursing caring behaviors and self-efficacy in the study is thought to be related to this role. However, further comprehensive studies with larger samples are required to reveal the effect of self-efficacy on the development of care behaviors, the central concept and fundamental component for nursing.

The current study results revealed a negative correlation between emotional exhaustion, depersonalization, and caring behaviors, consistent with several recent studies. Sunryo et al. (2017) reported a negative effect of job burnout on caring behavior.<sup>29</sup> Moreover, Shen et al. found that CBI scores were negatively correlated with depersonalization, emotional exhaustion, and diminished personal accomplishment.<sup>30</sup> Similarly, Mudallal et al. found a significant negative correlation between the quality of

nursing care and emotional exhaustion and depersonalization.<sup>31</sup> Sarafis et al. noted that more stressful factors are related to worse behavior of the nurses towards their patients.<sup>32</sup> It has been known for many years that burnout has detrimental effects on nurses in terms of both physical health and psychological processes and reduces work performance.<sup>33</sup> The present study contributes to our understanding of the negative relationship of burnout with fulfilling caring behaviors. No significant relationship was seen between the lack of personal accomplishments sub-dimension and care behaviors in the study. Further studies on large samples are needed to better understand this relationship.

In the study, a negative and significant correlation was found between the occupational situations sub-dimension of the self-efficacy scale and emotional exhaustion, and there was no significant relationship between the other sub-dimensions that make up the scales. This may be because, unlike mental disorders that have a widespread effect on all life activities, burnout is primarily conceptualized based on the thoughts and feelings of those working in the service sector.<sup>34</sup> However, very little was found in the literature on the relationship between self-efficacy and burnout for nurses. For example, Alidosti et al. found an inverse relationship between nurses' self-efficacy and each of the three dimensions of burnout.<sup>35</sup> A possible explanation for the negative correlation between self-efficacy and burnout might be that work-related burnout reduces self-efficacy by leading to negative emotions such as depression, irritability, helplessness, and anxiety.<sup>10</sup>

It was determined in our study that emotional burnout played a negative mediating role in the relationship between

caring behaviors and self-efficacy and had a partial and limited indirect effect. Self-efficacy is one of the fundamental variables in the formation of a sense of competence and achievement in people. As self-efficacy increases, the sense of achievement becomes stronger, which helps individuals use their skills in the best way to solve the problems they face.<sup>16</sup> In this study, the lack of personal accomplishments sub-dimension played a negative mediating role in the relationship between self-efficacy and caring behaviors and had a partial and limited indirect effect. Self-efficacy also strengthens the belief that one can fulfill his/her duties under various and challenging conditions. Thus, self-efficacy improves one's ability to perform skills in the best way for effective performance.<sup>36</sup> In this respect, self-efficacy is a significant predictor of nurses' caring behaviors.<sup>37</sup> Emotional exhaustion, on the other hand, has an effect that reduces self-efficacy.<sup>38</sup> It is thought that the negative mediator role identified in the study stems from this effect of burnout.

It was determined that depersonalization had a negative mediator role in the relationship between self-efficacy and care behaviors. In a study with teachers, a negative emotional relationship was revealed between exhaustion and self-efficacy.<sup>39</sup> In studies with nurses, a negative correlation was found between depersonalization and self-efficacy by Alidosti et al.<sup>35</sup> and between depersonalization and caring behaviors by Shen et al.<sup>30</sup> On the other hand, emotion and moral sensitivity are high predictors for caring behaviors.<sup>40</sup> The results of this present study will contribute to the existing data in the literature by suggesting that depersonalization plays a negative mediator role in the positive relationship between nurses' caring behaviors and self-efficacy.

## CONCLUSION AND RECOMENDATION

There is a positive and significant relationship between caring behaviors and self-efficacy perceptions. Burnout, on the other hand, has a partial mediator role in this relationship. Care behaviors are among the

basic components of the nursing profession and are accepted as an indicator of professionalism in nursing care. Surgical nursing is a nursing field that requires special care before, during, and after surgery, and it

is of great importance to identify the elements related to the care behaviors of nurses working in this field in terms of professional development and patient care.

Increasing the perception of self-efficacy and reducing burnout as much as possible will contribute significantly to the improvement and development of nursing care behaviors.

## REFERENCES

1. Jasmine, T. (2009). "Art, Science, or Both? Keeping The Care In Nursing". *The Nursing Clinics of North America*, 44 (4), 415–421. <https://doi.org/10.1016/j.cnur.2009.07.003>.
2. Aydın, M, and Kaşıkçı, M. (2019). "Patients' Perceptions of Nursing Care". *Hemerge*, 21 (3), 14-24.
3. Oluma, A, and Abadiga, M. (2020). "Caring Behavior and Associated Factors Among Nurses Working In Jimma University Specialized Hospital, Oromia, Southwest Ethiopia". *BMC nursing*, 19 (3), 19-26. <https://doi.org/10.1186/s12912-020-0407-2>.
4. Zulkosky, K. (2009). "Self-efficacy: A Concept Analysis". In *Nursing Forum*, 44 (2), 93-102. Malden, USA: Blackwell Publishing Inc.
5. Kuiper, R.A, and Pesut, D.J. (2004). "Promoting Cognitive and Metacognitive Reflective Reasoning Skills In Nursing Practice: Self-Regulated Learning Theory". *Journal of Advanced Nursing*, 45 (4), 381–391. <https://doi.org/10.1046/j.1365-2648.2003.02921.x>
6. Bambini, D, Washburn, J, and Perkins, R. (2009). "Outcomes of Clinical Simulation For Novice Nursing Students: Communication, Confidence, Clinical Judgment". *Nursing Education Perspectives*, 30 (2), 79–82.
7. Kuiper, R, Murdock, N, and Grant, N. (2010). "Thinking Strategies of Baccalaureate Nursing Students Prompted By Self-Regulated Learning Strategies". *The Journal of Nursing Education*, 49 (8), 429–436. <https://doi.org/10.3928/01484834-20100430-01>
8. Robb, M. (2012). "Self-Efficacy with Application To Nursing Education: A Concept Analysis". *Nursing Forum*, 47 (3), 166–172. <https://doi.org/10.1111/j.1744-6198.2012.00267.x>
9. National Academies of Sciences, Engineering, and Medicine (2019). *National Academies of Sciences, Engineering, and Medicine. Taking Action against Clinician Burnout: a Systems Approach to Professional Well-Being*. The National Academies Press, Washington, Chapter 2 & 3. <https://www.nap.edu/read/25521/chapter/2#3>.
10. Maslach, C, and Leiter, M.P. (2016). "Understanding The Burnout Experience: Recent Research And Its Implications For Psychiatry". *World Psychiatry*, 15 (2), 103-111.
11. Woo, T, Ho, R, Tang, A, and Tam, W. (2020). "Global Prevalence Of Burnout Symptoms Among Nurses: A Systematic Review and Meta-Analysis". *J. Psychiatr. Res.* 123 (1), 9- 20. doi:10.1016/j.jpsychires.2019.12.015.
12. Purvanova, R.K, and Muros, J.P. (2010). "Gender Differences In Burnout: A Meta-Analysis". *J. Vocat. Behav.* 77 (2), 168–185. doi:10.1016/j.jvb.2010.04.006.
13. Adriaenssens, J, De Gucht, V, and Maes, S. (2015). "Determinants And Prevalence of Burnout in Emergency Nurses: A Systematic Review of 25 Years of Research". *Int. J. Nurs. Stud.* 52 (2), 649–661. doi:10.1016/j.ijnurstu.2014.11.004.
14. Liu, X, Zheng, J, Liu, K, Baggs, JG, Liu, J, Wu, Y, and You, L. (2018). "Hospital Nursing Organizational Factors, Nursing Care Left Undone, and Nurse Burnout As Predictors Of Patient Safety: A Structural Equation Modeling Analysis". *Int. J. Nurs. Stud.* 86 (2), 82–89. doi:10.1016/j.ijnurstu.2018.05.005.
15. Jun, J, Ojemeni, M.M, Kalamani, R, Tong, J, and Crecelius, M.L. (2021). "Relationship Between Nurse Burnout, Patient and Organizational Outcomes: Systematic Review". *International Journal of Nursing Studies*, 119, 103933. <https://doi.org/10.1016/j.ijnurstu.2021.103933>.
16. Basith, A, Syahputra, A, and Ichwanto, M.A. (2020). "Academic Self-Efficacy As Predictor Of Academic Achievement". *Jurnal Pendidikan Indonesia*, 9 (1), 163-170.
17. Akın, S, and Durna, Z. (2013). "A Comparative Descriptive Study Examining The Perceptions Of Cancer Patients, Family Caregivers, and Nurses On Patient Symptom Severity In Turkey". *Eur J Oncol Nurs* 17 (1), 30-37.
18. Wolf, Z, Giardino, E, Osborne, P, and Ambrose, M. (1994). "Dimensions Of Nurse Caring". *Journal Of Nursing Scholarship*, 26 (2), 107-111.
19. Gül, Ş, and Dinç, L. (2020). "Psychometric Evaluation Of The Caring Behaviours Inventory In Turkish Nurses and Patients". *Journal Of Nursing Measurement*, 28 (1), 60-72. doi.org/10.1891/JNM-D-18-00094.
20. Caruso, R, Pittella, F, Zaghini, F, Fida R, and Sili, A. (2016). "Development and Validation Of The Nursing Profession Self-Efficacy Scale". *Int Nurs Rev*, 63 (3), 455–64.
21. Kacaroglu, V.A, and Taştekin, A. (2019). "A Study Of Adapting The Nursing Profession Self-Efficacy Scale To Turkish". *Acibadem University Health Sciences Journal*, 10 (3), 504-510. <https://doi.org/10.31067/0.2019.183>.
22. Maslach, C, and Jackson, S.E. (1986). *Maslach Burnout Inventory Manual*. 2nd ed. Palo Alto (CA): Consulting Psychologists Press.
23. Capri, B, Gunduz, B, and Gokcakan, Z. (2009). "Adaptation of Maslach Burnout Inventory-Student Form (MTE-OF) to Turkish: Validity and reliability study". *Journal of Cukurova University Faculty of Education*, 01 (40), 134–147.
24. Kline, R.B. (2015). "Principles and Practice of Structural Equation Modeling". Guilford Publications.
25. Zahroh, R, Qomariah, S.N, Ningsih, S.U, and Bakar, A. (2020). "Self Efficacy Associated with Nurse Caring Behavior in Nursing Services in Private Hospitals". *International Journal of Psychosocial Rehabilitation*, 24 (9), 2710-2714.
26. Dharmanegara, I.B.A, and Pradesa, H.A. (2015). "The Influence of Self-Efficacy and Emotional Intelligence Toward Caring Behavior Among Nurses in Public Hospital Denpasar Bali". *IOSR Journal Of Nursing And Health Science Ver*, 4 (2), 2320-1940.
27. Talsma, K, Schüz, B, Schwarzer, R, and Norris, K. (2018). "I Believe, Therefore I Achieve (and Vice Versa): A Meta-Analytic Cross-Lagged Panel Analysis of Self-Efficacy and Academic Performance". *Learning and Individual Differences*, 61 (7), 136-150.
28. Bandura, A, and Adams, N.E. (1977). "Analysis of Self-Efficacy Theory of Behavioral Change". *Cognitive Therapy and Research*, 1 (4), 287-310.
29. Sunaryo, H, Nirwanto, N, and Manan, A. (2017). "The Effect of Emotional and Spiritual Intelligence on Nurses' Burnout and Caring Behavior". *International Journal of Academic Research in Bussines and Social Sciences*, 7 (12), 1211-1227.
30. Shen, A, Wang, Y, and Qiang, W. (2020). "A Multicenter Investigation Of Caring Behaviors and Burnout Among Oncology Nurses in China". *Cancer Nursing*, 43 (5), 246-253.
31. Mudallal, R.H, Saleh, M.Y, Al-Modallal, H.M, and Abdel-Rahman, R.Y. (2017). "Quality of Nursing Care: The Influence of Work Conditions and Burnout". *International Journal of Africa Nursing Science*, 7 (2017), 24-30.
32. Sarafis, P, Rousaki, E, Tsounis, A, Malliarou, M, Lahana, L, Bamidis, P, Niakas, D, and Papastavrou, E. (2016). "The Impact of Occupational Stress on Nurses' Caring Behaviors and Their Health Related Quality Of Life". *BMC Nursing*, 15 (1), 1-9.
33. Başar, U. (2020). *Hemşirelerde Tükenmişlik Sendromu: Nedenleri, Sonuçları ve Önleyici Stratejiler*. Sağlık ve Hemşirelik Yönetimi Dergisi, 7 (2), 303-309.
34. Leiter, M.P. (1992). "Burn-Out As A Crisis In Self-Efficacy: Implications". *Work & Stress*, 6 (2), 107-115.

35. Alidosti, M, Delaram, M, Dehgani, L, and Maleki Moghadam, M. (2016). "Relationship Between Self-Efficacy and Burnout Among Nurses in Behbahan City, Iran". *Women's Health Bulletin*, 3 (4), 1-5.
36. Schunk, D.H. (1995). "Self-Efficacy, Motivation, and Performance". *Journal of Applied Sport Psychology*, 7 (2), 112-137.
37. Jun, J, Ojemeni, M.M, Kalamani, R, Tong, J, and Crecelius, M.L. (2021). "Relationship Between Nurse Burnout, Patient and Organizational Outcomes: Systematic Review". *International Journal Of Nursing Studies*, 119, 103933. <https://doi.org/10.1016/j.ijnurstu.2021.103933>.
38. Dos Santos, L.M. (2020). "Stress, Burnout, and Low Self-Efficacy of Nursing Professionals: A Qualitative Inquiry". *Healthcare*, 8 (24), 424-464.
39. Ozkara, B. (2019). "An Investigation Into The Relationship Between Turkish EFL Teachers' Self-Efficacy and Burnout Level". *Journal Of Family Counseling and Education*, 4 (1), 12-24.
40. Taylan, S, Özkan, İ, and Şahin, G. (2021). "Caring Behaviors, Moral Sensitivity, and Emotional Intelligence in Intensive Care Nurses: A Descriptive Study". *Perspectives in Psychiatric Care*, 57 (2), 734-746.