Original Article

Determining the Relationship between Psychological Stability Levels and Emotional Eating Behaviors of Nurses Working in the Pandemic Service

Tuba Karabey, BSc, MSc, PhD, RN
Associate Professor, Tokat Gaziosmanpasa University Faculty of Health Science, Tokat, Turkey

Furkan Dogan, BSc, RN
Malatya Inonu University Turgut Ozal Medical Center, Malatya, Turkey

Corresponsdence: Tuba Karabey, BSc, MSc, PhD, RN, Associate Professor, Tokat Gaziosmanpasa University Faculty of Health Science, Tokat, Turkey Email: tubakarabey@hotmail.com

Abstract

Background: A high level of psychological resilience improves job satisfaction and performance, resulting in positive results in the field of health. As individuals' coping abilities decrease, they exhibit emotional eating behaviors.

Purpose: The research was conducted to determine the reflections of the psychological resilience levels of nurses working in the pandemic service on their emotional eating behaviors.

Method: The study is descriptive and cross-sectional. The sample of the study consists of 265 nurses working in the pandemic service in Turkey. Personal Information Form, Psychological Resilience Scale and Emotional Eating Behaviors Scale were used to collect data.

Results: The total mean score of the nurses on the Psychological Resilience Scale for Adults was 121.77 ± 15.05. Considering the scores of the nurses from the Psychological Resilience Scale for Adults sub-dimensions; It was determined that 22.69 ± 4.35 points were obtained from the Self-Perception sub-dimension, 13.24 ± 3.21 from the Future Perception sub-dimension, 14.09 ± 2.81 from the Structural Style sub-dimension, 21.8 ± 4.25 from the Social Competence sub-dimension, 22.91 ± 4.42 from the Family Cohesion sub-dimension, and 27.05 ± 4.12 from the Social Resources sub-dimension. The total mean score of the Emotional Eating Scale of the nurses was 73.94 ± 22.03. Considering the nurses' scores from the Emotional Eating Scale sub-dimensions; It was determined that 26.09 ± 9.72 points were obtained from the Eating in Situations of Tension sub-dimension, 22.15 ± 8.69 points from the Eating to Cope with Negative Emotions sub-dimension, 16.80 ± 4.33 points from the Self-Control sub-dimension, and 8.89 ± 2.44 points from the Control in the Face of Stimulus sub-dimension. There is a statistically significant negative correlation (p=0.001) between nurses' levels of resilience and emotional eating behaviors.

Discussion: It is very important to regularly monitor the psychological resilience levels and emotional eating behaviors of nurses working in critical services such as pandemic services, to identify nurses who need them and to provide psychosocial support. A negative and significant relationship was found between the psychological resilience levels and emotional eating behaviors of the nurses working in the pandemic service. It is very important to increase the psychological resilience of nurses, which has an important role in adapting and effectively coping with the COVID-19 epidemic. At this point, it is thought that supporting nurses will be an effective approach to prevent undesirable behaviors such as emotional eating behavior.

Conclusion: According to the results of our study, a negative and significant relationship was found between the psychological resilience levels and emotional eating behaviors of the nurses working in the pandemic service. It is very important to increase the psychological resilience of nurses, which has an important role in adapting and effectively coping with the COVID-19 epidemic. At this point, it is thought that supporting nurses will be an effective approach to prevent undesirable behaviors such as emotional eating behavior.

Keywords: emotional eating behaviors, nurses, pandemic, psychological stability, resilience

Introduction

There was a tendency to raise an unusual fear of COVID-19 infection because the infection is contagious, imminent and invisible (CDC, 2020; WHO, 2020). The COVID-19 pandemic not only threatens human life, but also has serious effects on society, economy and mental health (Godinic et al., 2020; Jakovljevic et al., 2020). The pandemic process has adversely affected the physical and mental health of many individuals and exposed health workers to a great threat (Kang et al., 2020). Nurses, who were at the forefront of the COVID-19 pandemic, faced many situations that negatively affected their mental health, such as shortage of protective equipment, high number of patients, risk of infection, being away from their families during social isolation, and the death of their colleagues (Cai et al., 2020; Akkus et al., 2021). As the pandemic progressed, changes occurred in daily life for nurses, resulting in different levels of adverse mental health conditions such as depression, anxiety, and insomnia (Albaqbali et al., 2021; Sahin et al., 2020). When the literature was examined, Kang et al., (2020) found that the COVID-19 pandemic process adversely affected the mental health of nurses at varying levels in their study. Again, Lai et al., (2020) reported that healthcare workers exposed to the COVID-19 pandemic experience high rates of depression, anxiety and insomnia.

Psychological resilience, which has an important role in nurses' adaptation to and effective coping with the COVID-19 epidemic, was negatively affected in this process (Kılınç & Sis Celik, 2021; Yoruk & Guler, 2021). Resilience refers to the ability to adapt successfully to difficulties, traumas or other major stressors (Cooper et al., 2020). A high level of psychological resilience improves nurses' job satisfaction and performance, resulting in positive results in the field of health (Labrague & Los Santos, 2021; Tabakakis, 2019). Yoruk & Guler (2021) stated in their study that high psychological resilience in nurses and midwives during the COVID-19 disease process is protective against depression and that increased psychological resilience is associated with reduced symptoms of stress, emotional exhaustion, depersonalization and depression. The combination of stress, anxiety and depression experienced during the pandemic process also affected eating behaviors (Coakley et al., 2021; Pellegrini et al., 2021). Tavolacci, Ladner & Déchelotte (2021) reported in their study that eating disorders increased significantly among university students during the COVID-19 pandemic process. The sudden onset of quarantine has led to over-buying and stockpiling of food and everyday supplies in response to the uncertainty of the duration of the pandemic and the stress of the ever-increasing number of infected individuals and news of death (Bolek, 2021). Along with the changes in eating habits and routines, such as the increase in meals cooked and consumed at home, changes have also occurred in individual behaviors. Many people reported that they ate more during quarantine, had more unhealthy eating habits overall, and had eating disorders (Ashby, 2020; Cecchetto et al., 2021). The concept of emotional eating, which is included in eating disorders, is a problem that occurs as a reaction to negative emotions and is expressed as a tendency to overeat (Turton, Chami, & Treasure, 2017). In studies, it is known that anxiety, stress and negative emotional state are among the factors that cause emotional eating (Ashby, 2020; Bourdier, 2018; Willem, 2021). According to the escape theory, people tend to eat to avoid the awareness created by ego-threatening stimuli. When the literature was examined, Phillou et al., (2020) found in their study that one-third of individuals without a history of eating disorders during the COVID-19 pandemic period increased their binge eating behaviors compared to the pre-pandemic period. Again, Direnzo et al., (2020) reported that half of the participants use food as a comfort tool in response to anxious situations and increase their food intake to feel better.

It is known that the psychological resilience of nurses working on the front line under these difficult conditions during the pandemic process is adversely affected. It is considered important to examine the psychological resilience levels and emotional eating behaviors of nurses working in pandemic services and to determine the relationship between them. However, no research has been found in the literature to examine the psychological resilience levels and emotional eating behaviors of nurses working in pandemic services. In this study, which is thought to contribute to the literature in this respect, it is aimed to determine the effect of the psychological resilience levels of nurses working in the pandemic service on emotional eating behaviors.

Methods

Participants and Setting: The research was conducted with 265 nurses working in the pandemic service for at least six months in a hospital in Turkey in December 2021. The total number of nurses working in the pandemic service in the hospital is 350. Sixty (60) nurses worked in the pandemic services for less than 6 months. The nurses who accepted to participate in the study and filled out the forms formed the sample of the study. The nurse who did not go to the hospital on leave, on a report or for other reasons did not participate in the data collection phase of the study. The purpose and nature of this study were explained to the participants, they were invited to participate in the research, and then the forms were applied.

Data collecting: In collecting the research data, three forms were used: the "Individual Information Form" created by the authors, the "Psychological Resilience Scale" to measure the psychological resilience levels of nurses, and the "Emotional Eating Scale", which evaluates the nursing students' care behaviors and emotional eating behaviors.

Individual Information Form: In this form created by the researchers, there are eight closed-ended questions including the participants' age, gender, working year, marital status, educational status, number of patients per nurse, the unit they work in, and their current position.

Psychological Resilience Scale for Adults: Psychological Resilience Scale for Adults, Fribog et al. It was developed by in 2003. The Turkish validity and reliability study of the scale was carried out in Basım and Cetin (2011). The scale, which is a 5-point Likert type, consists of a total of 33 questions. I always find a solution and often have no idea what to do.

The dimensions in the scale are called 'self-perception', 'perception of the future', 'structural style', 'social competence', 'family cohesion' and 'social resources'. The total Cronbach Alpha coefficient of the scale was calculated as 0.86 for both student and employee samples.

Emotional Eating Scale: The scale developed by Bilgen (2018) aims to measure the emotional eating severity of individuals in certain situations. The Emotional Eating Scale has 4 factors. These factors are: (1) Eating in times of tension, (2) Eating to cope with negative emotions, (3) Self-control and (4) Control versus stimulus The item numbers of this 4-factor scale are different from each other. Eating in situations of tension, which is the first factor, consists of 11 items. Eating consists of 10 items in order to cope with negative emotions, which is the second factor. - The third factor, self-control, consists of 6 items. - The fourth factor, stimulus versus control, consists of 3 items. Responses are scored between 1 and 5, with a 5-point Likert scale (1=never and 5=almost always). Therefore, the maximum score that can be obtained from this scale is 150. The Cronbach Alpha coefficient of the scale was stated as 0.942.

Data analysis: Data were analyzed with IBM SPSS V25 program. Frequency and percentage were used in the analysis of sociodemographic data. The skewness and kurtosis values (+1, -1) were examined with the Kolmogorov Smirnov test, and the conformity of the distribution of the data to the normal distribution was tested. Mann Whitney U test and Kruskall Wallis test were used for the comparison of normally

distributed data. Pearson correlation coefficient was used to examine the relationship between variables. The significance level was taken as $p<0.05$.

Ethical Considerations: Ethics Committee approval (2021-19/07) and institutional permission were obtained before the study was conducted. Nurses who agreed to participate in the study were informed about the purpose and process of the study, and their written and verbal consents were obtained. The study was conducted according to the principles of the Declaration of Helsinki.

Results

The distribution of the socio-demographic characteristics of the nurses is given in Table 1. The mean age of the nurses participating in the study was 27.47±4.37. 61.5% of the nurses are female, 97.4% are between the ages of 21-38, 80.8% are single, 75.5% are undergraduates, 43% are between 1-3 patients per nurse, and 83.8% are working. The year was determined to be in the range of 0-5 years.

When Table 2 is examined; The total mean score of the nurses on the Psychological Resilience Scale for Adults was 121.77 ± 15.05. Considering the scores of the nurses from the Psychological Resilience Scale for Adults sub-dimensions; It was determined that 22.69 ± 4.35 points were obtained from the Self-Perception sub-dimension, 13.24 ± 3.21 from the Future Perception sub-dimension, 14.09 ± 2.81 from the Structural Style sub-dimension, 21.8 ± 4.25 from the Social Competence sub-dimension, 22.91 ± 4.42 from the Family Cohesion sub-dimension, and 27.05 ± 4.12 from the Social Resources sub-dimension. The total mean score of the Emotional Eating Scale of the nurses was 73.94 ± 22.03. Considering the nurses' scores from the Emotional Eating Scale sub-dimensions; It was determined that 26.09 ± 9.72 points were obtained from the Eating in Situations of Tension sub-dimension, 22.15 ± 8.69 points from the Eating to Cope with Negative Emotions sub-dimension, 16.80 ± 4.33 points from the Self-Control sub-dimension, and 8.89 ± 2.44 points from the Control in the Face of Stimulus sub-dimension.

In Table 3, it was determined that there was a significant relationship between the gender variable of nurses and the Social Resources sub-dimension ($p<0.001$). Women's Psychological Resilience Scale social resources sub-dimension score is significantly lower than men's. It was determined that there was a significant relationship between the education level of the nurses and the Social Competence and Social Resources sub-dimensions ($p<0.001$). Social Competence and Social Resources sub-dimensions scores of health vocational high school graduates are significantly lower than undergraduate and graduate graduates. It was determined that there was a significant relationship between the number of patients per nurse and the Perception of the Future sub-dimension ($p<0.05$). As the number of patients per nurse increased, it was determined that the psychological resilience levels of the nurses decreased statistically significantly ($p<0.001$). Nurses whose working years are between 10-15 years have significantly higher Self-Perception sub-dimension scores than those whose working year is between 0-9 years ($p<0.05$).

Table 4 shows the comparison of the Emotional Eating Scale and its sub-dimensions according to the socio-demographic characteristics of the nurses. It was determined that there was a significant relationship between the age variable of the nurses and the Emotional Eating Scale total Eating in Tension States and Eating to Cope with Negative Emotions sub-dimensions ($p<0.001$). Those in the young age group (21-38) had significantly higher Emotional Eating Scale total and Eating in Tension States and Eating to Cope with Negative Emotions sub-dimensions scores than those in the advanced age group (39- 55). It was determined that there was a significant relationship between the marital status variable of the nurses and the scores of the Control Against Stimulus sub-dimension

(p<0.001). Those who are married have significantly higher scores on the Control Against Stimulus sub-dimension than those who are single. It was determined that there was a significant relationship between the number of patients per nurse and the total score of the Emotional Eating Scale and all its sub-dimensions (p<0.005). It was determined that as the number of patients per nurse increased, the total score and all sub-dimension scores increased.

Table 5 shows the relationship between nurses' Psychological Resilience Scale for Adults and Emotional Eating Scale and its sub-dimensions. It was determined that there was a negative significant correlation between the total score of the nurses' Psychological Resilience Scale For Adults and Emotional Eating Scale total score (r=-.586, p<.005). It was determined that there was a negative significant relationship between the total score of the nurses on the Psychological Resilience Scale for Adults and the Emotional Eating Scale sub-dimensions of Eating in Tension, Eating to Cope with Negative Emotions, and Self-Control sub-dimensions, respectively (r:-0.307,p: 0.001; r:-0.413, p: 0.002; r:-0.203, p: 0.001). It was determined that there was a negative and significant relationship between the total score of the nurses on the Emotional Eating Scale and the scores of the Self-Perception and Social Competence sub-dimensions of the Psychological Resilience Scale for Adults (r: -0.464, p: 0.000, respectively; r: -0.619, p: 0.002).

Table1. Socio-Demographical Characteristics of Nurses (n=265)

Sociodemographic Characteristics	n	%
Gender		
Female	163	61.5
Male	102	38.5
***Age**		
21-38	258	97.4
39-55	7	2.6
Marital Status		
Married	51	19.2
Single	214	80.8
Educational status		
Health vocational high School	35	13.2
Licence	200	75.5
Graduate	30	11.3
Number of patients per nurse		
1-3 patients	114	43
4-6 patients	48	18.1
7-9 patients	25	9.4
10-15 patients	20	7.5
16-21 patients	13	4.9
21 + patients	45	17
Year of study		
0-10 year	222	83.8
11-15 year	43	16.2

**Mean age: 27.47±4.37*

Table 2. Total and Sub-dimension Score Distribution of Nurses' Psychological Resilience Scale and Emotional Eating Behaviors Scale

	x̄±SD	Median(Min-Max)	Cronbach's Alpha
Psychological Resilience Scale	121.77 ± 15.05	121 (92 - 150)	0.836
Self Perception	22.69 ± 4.35	23 (12 - 30)	
Future Perception	13.24 ± 3.21	13 (6 - 20)	
Structural Style	14.09 ± 2.81	14 (9 - 20)	
Social Competence	21.8 ± 4.25	22 (14 - 30)	
Family Reconciliation	22.91 ± 4.42	22 (9 - 30)	
Social Resources	27.05 ± 4.12	27 (17 - 34)	
Emotional Eating Behaviors Scale	73.94 ± 22.03	72 (33 - 140)	0.953
Eating in Situations of Tension	26.09 ± 9.72	25 (12 - 51)	
Eating to Cope with Negative Emotions	22.15 ± 8.69	20 (10 - 46)	
Self-Control	16.8 ± 4.33	17 (7 - 30)	
Control Against Stimulus	8.89 ± 2.44	9 (3 - 13)	

Table 3. Comparison of To Psychological Resilience Scale and Emotional Eating Behaviors Scale according to the socio-demographic characteristics of nurses

	Psychological Resilience Scale		Self Perception		Future Perception		Structural Style		Social Competence		Family Reconciliation		Social Resources	
Variables	**x̄±SD**	**Test**	**x̄±SD**		**x̄±SD**	**Test**	**x̄±SD**	**Test**	**x̄±SD**	**Test**	**x̄±SD**	**Test**	**x̄±SD**	**Test**
Gender														
Female	123.26 ± 14.24	U:7499.500	22.72 ± 4.17	t:0.146	13.29 ± 3.36	t:0.339	14.26 ± 2.89	U:7264.500	22.02 ± 4.05	U:7489.000	23.14 ± 4.75	U:7484.500	25.8 ± 3.9	U:6003.500
Male	119.4 ± 16.05	p:0.180	22.64 ± 4.65	p:0.884	13.16 ± 2.97	p:0.735	13.83 ± 2.66	p:0.082	21.43 ± 4.55	p:0.173	22.54 ± 3.83	p:0.171	27.82 ± 4.07	**p:0.001**
Age														
21-38	121.37 ± 14.97	U:344.000	22.61 ± 4.33	U:505.500	13.19 ± 3.22	U:532.000	14.04 ± 2.8	t:-1.827	21.68 ± 4.24	U:356.500	22.89 ± 4.45	t:-0.488	26.95 ± 4.12	t:-2.220
39-55	136.57 ± 10.58	p:0.005	25.43 ± 4.69	p:0.046	15 ± 2.65	p:0.061	16 ± 2.65	p:0.069	26 ± 2.16	p:0.006	23.71 ± 3.09	p:0.626	30.43 ± 1.81	p:0.027
Marital Status														
Married	122.61 ± 16.67	U:5148.000	23.35 ± 4.42	t:1.218	13.88 ± 3.7	U:4486.500	14 ± 2.65	t:-0.266	21.08 ± 4.63	U:4652.000	23.98 ± 4.19	t:1.936	26.31 ± 4.32	t:-1.415
Single	121.57 ± 14.68	p:0.530	22.53 ± 4.33	p:0.224	13.09 ± 3.08	p:0.046	14.12 ± 2.85	p:0.790	21.97 ± 4.15	p:0.100	22.65 ± 4.44	p:0.054	27.22 ± 4.06	p:0.158
Educational status														
Health vocational high School	128.51 ± 18.38		21.97 ± 4.44		12.11 ± 3.64		14.51 ± 4.03		20.83 ± 4.77		25.26 ± 4.86		26.77 ± 4.41	
Licence	120.76 ± 14.31	W:2.827	22.9 ± 4.18	F:0.945	13.31 ± 2.96	F:3.326	14.02 ± 2.71	W:0.278	21.33 ± 3.99	W:17.494	22.53 ± 4.28	KW:9.904	26.68 ± 4.08	F:6.724

Graduate	120.67 ± 14.1	p:0.068	22.13 ± 5.27	p:0.390	14.1 ± 3.99	p:0.037	14.13 ± 1.43	p:0.758	25.29 ± 3.67	**p:0.0001**	22.7 ± 4.11	p:0.007	29.37 ± 3.35	**p:0.001**
Number of patients per nurse														
1-3 patients	118.62 ± 16.41		22.95 ± 4.06		17.45 ± 1.54		14.38 ± 2.81		24.23 ± 1.3		21.64 ± 4.8		28.72 ± 2.64	
4-6 patients	126.08 ± 13.6		22.98 ± 4.71		14.00 ± 3.06		13.79 ± 2.3		23.09 ± 3.12		24.06 ± 4.01		28.69 ± 0.48	
7-9 patients	125.84 ± 12.57		24.16 ± 3.14		12.46 ± 1.76		14.32 ± 3.8		23.15 ± 4.45		24.08 ± 4.33		28.1 ± 4.43	
10-15 patients	125.85 ± 13.33		22.15 ± 5.25		12.76 ± 4.09		14.9 ± 2.79		21.8 ± 3.28		24 ± 5.19		26.87 ± 4.42	
16-21 patients	121.38 ± 7.81	W:2.552	19.31 ± 5.09	W:2.393	12.84 ± 2.96	W:29.155	12.85 ± 1.82	W:2.102	20.45 ± 4.66	W:9.383	23.85 ± 2.15	W:3.328	26.9 ± 2.34	W:9.507
21 + patients	121.2 ± 15.08	p:0.050	22.11 ± 4.21	P:0.050	12.07 ± 2.76	**P:0.001**	13.58 ± 2.82	P:0.077	20.68 ± 4.52	**P:0.001**	23.49 ± 3.18	P:0.010	26.14 ± 4.37	**p:0.001**
Year of study														
0-10 year	120.79 ± 14.57	t:-2.444	22.29 ± 4.36	t:-3.458	13.2 ± 2.89	t:-0.370	13.97 ± 2.85	t:-1.603	21.55 ± 4.13	U:3861.500	22.81 ± 4.39	U:4365.000	26.97 ± 4.3	t:-0.876
11-15 year	126.86 ± 16.58	p:0.015	24.74 ± 3.73	**p:0.001**	13.47 ± 4.56	p:0.713	14.72 ± 2.5	p:0.110	23.05 ± 4.72	p:0.047	23.44 ± 4.6	p:0.373	27.44 ± 2.99	p:0.384

U: Mann Whitney U test, KW: Kruskall Wallis, F: One Way Anova test, W: Welch

Table 4. Comparison of Emotional Eating Behaviors and sub-dimensions of nurses according to their socio-demographic characteristics

	Emotional Eating Behaviors		Eating in Situations of Tension		Eating to Cope with Negative Emotions		Self-Control		Control Against Stimulus	
Variables	**$\bar{X}$±SD**	**Test**	**$\bar{X}$±SD**	**Test**	**$\bar{X}$±SD**	**Test**	**$\bar{X}$±SD**	**Test**	**$\bar{X}$±SD**	**Test**
Gender										
Female	76.1 ± 21.79	t:2.024	27 ± 9.53	t:1.927	23.24 ± 8.59	t:2.596	16.8 ± 4.27	t:0.425	9.06 ± 2.46	t:1.390
Male	70.5 ± 22.09	p:0.044	24.65 ± 9.89	p:0.055	20.42 ± 8.6	p:0.010	16.8 ± 4.45	p:0.882	8.63 ± 2.4	p:0.166
Age										
21-38	74.7 ± 21.81	t:9.489	26.43 ± 9.62	t:12.744	22.43 ± 8.64	U:216.500	16.9 ± 4.33	t:2.101	8.94 ± 2.44	U:481.500
39-55	46.14 ± 7.1	**p:0.001**	13.57 ± 2.15	**p:0.001**	12.14 ± 1.68	**p:0.001**	13.43 ± 3.41	p:0.037	7 ± 1.83	p:0.034
Marital Status										
Married	78.55 ± 29.29	t:1.320	27.67 ± 13.35	t:0.993	22.61 ± 10.6	t:0.354	18.25 ± 5.35	t:2.692	10.02 ± 2.89	U:3505.500
Single	72.85 ± 19.85	p:0.192	25.72 ± 8.64	p:0.324	22.05 ± 8.19	p:0.725	16.46 ± 3.99	p:0.008	8.62 ± 2.25	**p:0.001**
Educational status										
Health vocational high School	72.54 ± 16.59		25.89 ± 7.4		21.31 ± 8.18		16.43 ± 4.67		8.91 ± 1.6	

Licence	74.6 ± 22.37	W:0.379	26.22 ± 9.69	KW:0.497	22.5 ± 8.75	KW:1.182	17.01 ± 4.37	KW:1.731	8.88 ± 2.62	W:0.011
Graduate	71.2 ± 25.49	p:0.687	25.53 ± 12.32	p:0.780	20.87 ± 8.94	p:0.554	15.87 ± 3.64	p:0.421	8.93 ± 2	p:0.989
Number of patients per nurse										
1-3 patients	70.67 ± 19.34		24.44 ± 8.74		20.77 ± 11.07		16.52 ± 3.77		8.54 ± 2.65	
4-6 patients	70.25 ± 31.71		24.58 ± 13.25		21.18 ± 8.35		16.21 ± 6.79		8.69 ± 2.39	
7-9 patients	75.08 ± 17.8		25.4 ± 8.96		21.12 ± 6.72		17.07 ± 3.79		8.85 ± 2.15	
10-15 patients	76.54 ± 14.97		29.38 ± 4.75		21.08 ± 6.36		17.45 ± 2.16		9.4 ± 1.9	
16-21 patients	80.87 ± 16.35	KW:18.987	29.4 ± 6.71	KW:20.543	25.5 ± 8.77	KW:16.794	17.23 ± 3.42	KW:7.120	8.89 ± 2.45	W:7.533
21 + patients	82.8 ± 23.88	**p:0.002**	30.45 ± 11.33	**p:0.001**	25.51 ± 7.21	**p:0.005**	18.04 ± 3.18	p:0.003	10.52 ± 1.23	**p:0.000**
Year of study										
0-10 year	77 ± 20.9	U:2307.500	27.27 ± 9.24	U:2448.000	23.36 ± 8.5	U:2297.000	17.31 ± 4.11	U:3155.000	9.07 ± 2.47	U:3468.000
11-15 year	58.14 ± 21.18	**p:0.000**	20.05 ± 9.99	**p:0.000**	15.91 ± 6.85	**p:0.000**	14.21 ± 4.56	**p:0.000**	7.98 ± 2.1	**p:0.004**

U: Mann Whitney U test, KW: Kruskall Wallis, F: One Way Anova test, W: Welch

Table 5. The relationship between of Psychological Resilience Scale and Emotional Eating Behaviors Scale

		Psychological Resilience Scale Total Score	Self Perception	Future Perception	Structural Style	Social Competence	Family Reconciliation	Social Resources
Emotional Eating Behaviors Scale Total Score	**r***	-0.586	-0.464	0.009	-0.114	-0.619	-0.098	-0.108
	p	**0.002**	**0.000**	0.889	0.063	**0.002**	0.112	0.080
Eating in Situations of Tension	**r***	-0.307	-0.284	-0.019	-0.764	-0.17	-0.067	-0.520
	p	**0.001**	**0.000**	0.759	**0.007**	0.006	0.277	**0.051**
Eating to Cope with Negative Emotions	**r***	-0.413	-0.202	-0.081	-0.081	-0.192	-0.087	-0.047
	p	**0.002**	**0.001**	0.191	0.187	**0.002**	0.157	0.451
Self-Control	**r***	-0.203	-0.421	-0.039	-0.039	-0.257	-0.098	-0.484
	p	**0.001**	**0.000**	0.528	0.524	**0.000**	0.112	**0.003**
Control Against Stimulus	**r***	-0.672	-0.094	-0.007	-0.035	-0.110	-0.141	-0.104
	p	0.244	0.126	0.913	0.571	0.075	0.021	0.091

*Sperman Korelasyonu

Discussion

In our study, which was conducted to determine the effect of the resilience levels of nurses working in the pandemic service on their emotional eating behaviors, it was determined that the resilience levels of the nurses in the sample significantly affected their emotional eating behaviors, and in this context, our findings were discussed in relation to the relevant literature.

Psychological resilience, which has an important role in nurses' adaptation to and effective coping with the COVID-19 epidemic, has been adversely affected during the pandemic process (Kilinc & Sis Celik, 2021; Yoruk & Guler, 2021). Although personal protective equipment can relatively protect healthcare workers from infection, it has been reported that they do not protect them from the psychological effects of the pandemic (Spoorthy, Pratapa, & Mahant, 2020). In our study, it was found that the psychological resilience levels of the nurses working in the pandemic service were high (Table 2). The fact that the working years of the nurses included in our study were mostly short may be associated with a good level of psychological resilience. When the literature is examined, Cai et al., (2020) determined that personal safety concerns, concerns for families, and increased morbidity and mortality are critical factors triggering stress in healthcare professionals. Kang et al.,

(2020) determined that healthcare professionals who perceive themselves as physically weak have a higher rate of mental health problems. Chirico, Nucera & Magnavita, (2020) found that intense emotional and mental load during the pandemic process can cause burnout syndrome and suicidal thoughts in health professionals, as well as cause anxiety and depression. Fear and anxiety caused by a contagious disease can have devastating effects if not properly identified and managed. Due to the sudden emergence of the disease, it is predicted that the nurses are psychologically distressed, especially when the nurses are taken from their normal working environments to work in the pandemic services. Our study does not show parallelism with the literature in this aspect.

The most important function of social support is to act as a buffer by reducing or balancing the psychological damage caused by stressful life events and ongoing difficulties in life (Kilinc & Celik, 2020). In this study, it was determined that female nurses' use of social resources in the context of psychological resilience was lower than that of men. When the literature is examined, Abdollah et al., (2014) examined psychological resilience as a predictor of perceived stress and happiness in nurses in their study; it was found that gender was effective on the level of resilience; It was found that while women perceive more stress than men, they show even lower resilience. Again, Tonbur (2020) reported that women's psychological resilience levels are lower than men's in his study. In our study, it was found that as the education level of the nurses increased, their psychological resilience increased (p=0.001). When the literature is examined, Manomenidis et al., (2018) found that education level has a significant effect on psychological resilience and that nurses with higher education levels have higher psychological resilience. In our study, it was determined that as the number of patients per nurse increased, the psychological resilience levels of the nurses decreased (Table 3) (p=0.001). When the literature is examined, Guo et al., (2018) reported in their study that resilience decreases as the number of patients cared for by nurses increases. In our study, it was determined that as the working years of the nurses increased, their self-awareness levels increased, thus their psychological resilience levels increased (Table 3) (p=0.001). When the literature was examined, Kilinc & Celik (2020) reported that the level of psychological resilience of nurses increased as their working years increased. As healthcare professionals gain more experience, they become more capable of coping with negative situations and are thought to become more psychologically resilient. In this context, our study finding supports the literature.

In our study, it was determined that emotional eating behaviors of nurses were high. Timmerman & Acton (2021) found that stressful life situations and shift work of nurses increase emotional eating behaviors. Again, Pérez-Castillo, Zamora-Macorra & Lazarevich (2019 studies reported that stress, depression and anxiety of nurses increase emotional eating behaviors. It was determined that as the age of the nurses included in our study increased, their emotional eating behaviors also increased (Table 4) (p=0.001). Braden et al., (2018) did not find a relationship between the age variable and emotional eating behaviors (Table 4) (p=0.001). In our study, it was determined that emotional eating behaviors increased as the number of patients per nurse increased (Table 4) (p=0.001). It is thought that emotional eating behaviors increase in nurses due to the increasing number of patients, therefore workload and stress. When the literature is examined, Padilla et al., (2021) show that workload and fatigue are positively related to emotional eating, uncontrolled eating, and the percentage of calories from fat. As the working years of the nurses in our study increased, it was determined that emotional eating behaviors decreased (Table 4) (p=0.001). Examining the literature, Gifkins, Johnston & Loudoun (2018) reported in their study that experienced nurses, unlike inexperienced nurses, prepared pre-cooked meals at home and showed less emotional eating behavior.

In our study, it was revialed that there was a statistically significant negative relationship between the psychological resilience levels of nurses and their emotional eating behaviors.

In this context, the decrease in the psychological resilience levels of nurses increases their emotional eating behaviors. When the literature is examined, Tan & Chong (2014) reported that people with high levels of stress have problems in controlling the amount of food intake, which is directly related to emotional eating. Again, Spinosa et al., (2019) found a high level of relationship between psychological distress and emotional eating behavior in their study to determine the mediator role of psychological distress and emotional eating. However, no study has been found in the literature that reveals the relationship between the psychological resilience levels and emotional eating behaviors of nurses working in the pandemic service. Therefore, our study findings have been discussed in a limited way.

Study Limitations: There are some limitations to consider in this study. The study was limited to nurses working in pandemic services in Turkey. Therefore, the results cannot be generalized to the entire population.

Conclusion and Suggestions: According to the results of our study, a negative and significant relationship was found between the psychological resilience levels and emotional eating behaviors of the nurses working in the pandemic service. It is very important to increase the psychological resilience of nurses, which has an important role in adapting and effectively coping with the COVID-19 epidemic. At this point, it is thought that supporting nurses will be an effective approach to prevent undesirable behaviors such as emotional eating behavior. The level of psychological resilience is a phenomenon that can be improved when individuals' coping skills are increased and supported. Emotional eating behaviors are affected by various factors and make the lives of individuals more complex and difficult. In this context, it is very important to monitor the psychological resilience levels of nurses, especially those working in critical services such as pandemic services, at regular intervals, and to identify nurses who need them and provide psychosocial support. Again, it is important to identify nurses who exhibit emotional eating behavior and to take prevention and intervention approaches without causing major health problems.

Relevance for Clinical Practice: A negative and significant relationship was found between the psychological resilience levels and emotional eating behaviors of the nurses working in the pandemic service. It is very important to increase the psychological resilience of nurses, which has an important role in adapting and effectively coping with the COVID-19 epidemic. At this point, it is thought that supporting nurses will be an effective approach to prevent undesirable behaviors such as emotional eating behavior.

References

Abdollahi, A., Abu Talib, M., Yaacob, S. N. ve Ismail, Z. (2014). ProblemSolving Skills and Hardiness as Protective Factors against Stress in Iranian Nurses. *Issues in Mental Health Nursing*, 35(2), 100-107.

Akkus, Y., Karacan, Y., Guney, R., & Kurt, B. (2021). Experiences of nurses working with COVID-19 patients: A qualitative study. J Clin Nurs. 2022 May;31(9-10):1243-1257. doi: 10.1111/jocn.

Al Maqbali, M., Al Sinani, M., & Al-Lenjawi, B. (2021). Prevalence of stress, depression, anxiety and sleep disturbance among nurses during the COVID-19 pandemic: A systematic review and meta-analysis. *Journal of Psychosomatic Research*, *141*, 110343. uring COVID-19 pandemic in Turkey. *Journal of Community Health*, *45*(6), 1168-1177.

Ashby, N. J. (2020). Impact of the COVID-19 pandemic on unhealthy eating in populations with obesity. *Obesity*, *28*(10), 1802-1805.

Bolek, S. (2021). Food purchasing, preservation, and eating behavior during COVID-19 pandemic: A consumer analysis. *Italian Journal of Food Science*, 33(3), 14-24.

Bourdier, L., Morvan, Y., Kotbagi, G., Kern, L., Romo, L., & Berthoz, S. (2018). Examination of emotion-induced changes in eating: A latent profile analysis of the Emotional Appetite Questionnaire. *Appetite*, *123*, 72-81

Braden, A., Musher-Eizenman, D., Watford, T., & Emley, E. (2018). Eating when depressed, anxious, bored, or happy: are emotional eating types associated with unique psychological and physical health correlates?. *Appetite*, *125*, 410-417.

Cai, Z., Cui, Q., Liu, Z., Li, J., Gong, X., Liu, J., ... & Wang, G. (2020). Nurses endured high risks of psychological problems under the epidemic of COVID-19 in a longitudinal study

in Wuhan China. *Journal of psychiatric research*, *131*, 132-137.

Cecchetto, C., Aiello, M., Gentili, C., Ionta, S., & Osimo, S. A. (2021). Increased emotional eating during COVID-19 associated with lockdown, psychological and social distress. *Appetite*, *160*, 105122.

Centers for Disease Control and Prevention. (2020). *Coronavirus disease 2019 (COVID-19)*.

Chirico, F., Nucera, G., & Magnavita, N. (2020). COVID-19: protecting healthcare workers is a priority. *Infection Control & Hospital Epidemiology*, 41(9), 1117-1117. https://doi.org/0.1192/bji.2020.39

Coakley, K. E., Le, H., Silva, S. R., & Wilks, A. (2021). Anxiety is associated with undesirable eating behaviors in university students during the COVID-19 pandemic. Researchsquare.com 1-17 https://doi.org/10.21203/rs.3.rs-148637/v1

Cooper, A. L., Brown, J. A., Rees, C. S., & Leslie, G. D. (2020). Nurse resilience: A concept analysis. *International journal of mental health nursing*, 29(4), 553-575.

Frayn, M., & Knäuper, B. (2018). Emotional eating and weight in adults: a review. *Current Psychology*, *37*(4), 924-933.

Gifkins, J., Johnston, A., & Loudoun, R. (2018). The impact of shift work on eating patterns and self-care strategies utilised by experienced and inexperienced nurses. *Chronobiology international*, *35*(6), 811-820.

Godinic, D., Obrenovic, B., & Khudaykulov, A. (2020). Effects of economic uncertainty on mental health in the COVID-19 pandemic context: social identity disturbance, job uncertainty and psychological well-being model. *Int. J. Innov. Econ. Dev*, 6(1), 61-74.

Gurkan, K. P., Aydogdu, N. G., Dokuzcan, D. A., & Yalcinkaya, A. (2021). The effects of nurses' perceived stress and life satisfaction on their emotional eating behaviors. *Perspectives in Psychiatric Care*.

Jakovljevic, M., Bjedov, S., Jaksic, N., & Jakovljevic, I. (2020). COVID-19 pandemia and public and global mental health from the perspective of global health security. Psychiatria Danubina, 32(1), 6-14.

Kang L, Li Y, Hu S, Chen M, Yang C, Yang BX, et al. (2020). The mental health of medical workers in Wuhan, China dealing with the 2019 novel coronavirus. *Lancet Psychiatry.* 7:e14. doi: 10.1016/S2215-0366(20)30047-X

Kilinc, T., & Sis Celik, A. (2021). Relationship between the social support and psychological resilience levels perceived by nurses during the COVID-19 pandemic: A study from Turkey. *Perspectives in Psychiatric Care*, *57*(3), 1000-1008.

Labrague, L. J., & de Los Santos, J. A. A. (2021). Resilience as a mediator between compassion fatigue, nurses' work outcomes, and quality of care during the COVID-19 pandemic. *Applied Nursing Research*, 61, 151476.

Lai JB, Ma SM, Wang Y, Cai ZX, Hu JB, Wei N, et al., Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Netw Open.* (2020) 3:e203976–e. doi: 10.1001/jamanetworkopen.2020.3976

Ozcan, B. A., & Yesilkaya, B. (2021). Adverse Effect of Emotional Eating Developed During the COVID-19 Pandemic on Healthy Nutrition, a Vicious Circle: A cross-sectional descriptive study. *Revista Española de Nutrición Humana y Dietética*, 25,e1144-e1144.

Padilla, H. M., Wilson, M., Vandenberg, R. J., Davis, M., & Clark, M. A. (2021). Health behavior among working adults: Workload and exhaustion are associated with nutrition and physical activity behaviors that lead to weight gain. *Journal of Health Psychology,* 26(6), 892-904.

Pellegrini, C. A., Webster, J., Hahn, K. R., Leblond, T. L., & Unick, J. L. (2021). Relationship between stress and weight management behaviors during the COVID-19 pandemic among those enrolled in an internet program. *Obesity Science & Practice,* 7(1), 129-134.

Phillipou, A., Meyer, D., Neill, E., Tan, E. J., Toh, W. L., Van Rheenen, T. E., & Rossell, S. L. (2020). Eating and exercise behaviors in eating disorders and the general population during the COVID-19 pandemic in Australia: Initial results from the COLLATE project. *International Journal of Eating Disorders*, *53*(7), 1158-1165.

Roberts, N. J., McAloney-Kocaman, K., Lippiett, K., Ray, E., Welch, L., & Kelly, C. (2021). Levels of resilience, anxiety and depression in nurses working in respiratory clinical areas during the COVID pandemic. *Respiratory Medicine*, *176*, 106219.

Romo, L., & Berthoz, S. (2018). Examination of emotion-induced changes in eating: A latent profile analysis of the Emotional Appetite Questionnaire. *Appetite*, *123*, 72-81.

San Martin, A. H., Serrano, J. P., Cambriles, T. D., Arias, E. M. A., Méndez, J. M., del Yerro Álvarez, M. J., & Sánchez, M. G. (2020). Sleep characteristics in health workers exposed to the

COVID-19 pandemic. *Sleep Medicine*, *75*, 388-394.

Spoorthy, M. S., Pratapa, S. K., & Mahant, S. (2020). Mental health problems faced by healthcare workers due to the COVID-19 pandemic–A review. *Asian Journal of Psychiatry*, 51, 102119. https://doi.org/10.1016/j.ajp.2020.102119

Sahin, M. K., Aker, S., Sahin, G., & Karabekiroglu, A. (2020). Prevalence of depression, anxiety, distress and insomnia and related factors in healthcare workers During COVID-19 Pandemic in Turkey. J Community Health. 2020 Dec;45(6):1168-1177. doi: 10.1007/s10900-020-00921-w

Tabakakis, C., McAllister, M., Bradshaw, J., & To, Q. G. (2019). Psychological resilience in New Zealand registered nurses: The role of workplace characteristics. *Journal of Nursing Management,* 27(7), 1351-1358.

Timmerman, G. M., & Acton, G. J. (2001). The relationship between basic need satisfaction and emotional eating. *Issues in Mental Health Nursing,* 22(7), 691-701.

Tonbul, O. (2020). Examining the psychological resilience of individuals aged 20-60 in terms of some variables after the coronavirus (Covid-19) outbreak. *Humanistic Perspective*, *2*(2), 159-174.

Vyas, K. J., Delaney, E. M., Webb-Murphy, J. A., & Johnston, S. L. (2016). Psychological impact of deploying in support of the U.S. response to Ebola: A systematic review and meta-analysis of past outbreaks. *Military Medicine,* 181(11), e1515–e1531. https://doi.org/10.7205/MILMED-D-15-00473

Willem, C., Gandolphe, M. C., Doba, K., Roussel, M., Verkindt, H., Pattou, F., & Nandrino, J. L. (2020). Eating in case of emotion dys-regulation, depression and anxiety: Different pathways to emotional eating in moderate and severe obesity. *Clinical Obesity*, *10*(5), e12388.

World Health Organization. (2020). *Coronavirus Disease (COVID-2019) situation reports*. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/

Yoruk, S., & Guler, D. (2021). The relationship between psychological resilience, burnout, stress, and sociodemographic factors with depression in nurses and midwives during the COVID-19 pandemic: A cross-sectional study in Turkey. *Perspectives in Psychiatric Care*, *57*(1), 390-398