

Relationship Between Post-Earthquake Trauma Level and Emotional Eating Behavior in Adults

Yetişkinlerde Deprem Sonrası Travma Düzeyi ile Duygusal Yeme Davranışı Arasındaki İlişki

Emine Merve Ekici¹, Ziya Erokay Metin²

Received/Geliş tarihi: 19.07.2024 • Accepted/Kabul tarihi: 12.11.2024

ABSTRACT

Aim: The aim of this study was to investigate the relationship between trauma level and emotional eating in adults after a natural disaster, earthquake.

Subjects and Methods: The study data were collected through a web-based questionnaire form and Snowball Sampling Method was used. The study included 524 adult individuals. Socio-demographic characteristics and anthropometric measurements of the individuals were questioned. The post-earthquake trauma levels of the individuals were evaluated with the 'Post-Earthquake Trauma Level Determination Scale' and their emotional eating status was evaluated with the 'Emotional Eating Scale'. The data obtained from the study were analyzed with SPSS 26.0 (Statistical Package for Social Science) statistical programme.

Results: A total of 387 women and 137 men were included in the study. 48.1% of these individuals are located in the earthquake zone. Of the individuals who participated in the study, 49.2% were married, 65.3% were university graduates and 34.2% had a diagnosed disease. More body weight gain and loss were observed in individuals in the earthquake region than in those not in the earthquake region ($p<0.05$). Trauma level and sub-dimension mean scores of the individuals in the earthquake zone were higher than the participants in the non-earthquake zone ($p<0.05$). A positive, weak and significant relationship was observed between the post-earthquake trauma level score and emotional eating ($r=0.23$, $p<0.001$), eating in a state of tension ($r=0.23$, $p<0.001$), eating to cope with negative emotions ($r=0.24$, $p<0.001$), self-control ($r=0.15$, $p<0.001$) and control in the face of stimulus ($r=0.10$, $p<0.001$).

Conclusion: In conclusion, this study found a statistically significant positive relationship between post-earthquake trauma level and emotional eating. In order to prevent emotional eating and related eating disorders that may occur due to trauma that develops after a natural disaster, public awareness should be raised and precautions should be taken in this regard.

Keywords: emotional eating, earthquake, emotional trauma, natural disaster

ÖZET

Amaç: Bu çalışmanın amacı, bir doğal afet olan deprem sonrasında yetişkinlerde travma düzeyi ile duygusal yeme arasındaki ilişkiyi araştırmaktır.

Bireyler ve Yöntem: Çalışma verileri araştırmacılar tarafından oluşturulan web tabanlı bir anket formu yardımıyla toplanmış ve Kartopu Örneklem Yöntemi kullanılmıştır. Çalışmaya 524 yetişkin birey dâhil edilmiştir. Bireylerin sosyo-demografik

1. **Correspondence/İletişim:** Health Sciences University, Gulhane Faculty of Health Sciences, Department of Nutrition and Dietetics, Ankara, Türkiye
Email: mrvekici06@gmail.com • <https://orcid.org/0000-0001-5409-6309>

2. Health Sciences University, Gulhane Faculty of Health Sciences, Department of Nutrition and Dietetics, Ankara, Türkiye • <https://orcid.org/0000-0002-0685-8150>

özellikleri ve antropometrik ölçümleri sorgulanmıştır. Bireylerin deprem sonrası travma düzeyleri “Deprem Sonrası Travma Düzeyi Belirleme Ölçeği” ile duygusal yeme durumları ise “Duygusal Yeme Ölçeği” ile değerlendirilmiştir. Çalışmadan elde edilen verilerin analizi SPSS 26.0 (Statistical Package for Social Science) istatistik programı ile yapılmıştır.

Bulgular: Çalışmaya 387 kadın, 137 erkek alınmıştır. Bu bireylerin %48.1’i deprem bölgesinde yer almaktadır. Çalışmaya katılan bireylerin %49.2’si evli, %65.3’ü üniversite mezunu ve %34.2’sinin tanısı konmuş bir hastalığı bulunmaktadır. Deprem bölgesindeki bireylerde, deprem bölgesinde olmayanlara göre daha fazla vücut ağırlık artışı ve kaybı gözlenmiştir ($p<0.05$). Deprem bölgesindeki bireylerin travma düzeyi ve alt boyut puan ortalamaları deprem olmayan bölgedeki katılımcılara göre daha yüksektir ($p<0.05$). Deprem sonrası travma düzeyi puanı ile duygusal yeme ($r=0.23$, $p<0.001$), gerginlik durumunda yeme ($r=0.23$, $p<0.001$), olumsuz duygularla baş etmek için yeme ($r=0.24$, $p<0.001$), kendini kontrol etme ($r=0.15$, $p<0.001$) ve uyaranlar üzerinde kontrol ($r=0.10$, $p<0.001$) arasında pozitif yönde, zayıf ve anlamlı bir ilişki gözlenmiştir.

Sonuç: Bu çalışmada deprem sonrası travma düzeyi ile duygusal yeme arasında istatistiksel olarak anlamlı pozitif bir ilişki bulunmuştur. Doğal afet sonrası gelişen travmanın da etki ettiği duygusal yeme ve buna bağlı oluşabilecek yeme bozukluklarını önlemek için halkın bilinçlendirilmesi ve bu konuda önlemlerin alınması gerekmektedir.

Anahtar kelimeler: *duygusal yeme, deprem, duygusal travma, doğal afet*

INTRODUCTION

Obesity rates are linked to a high prevalence of post-traumatic stress disorder, a common and expensive mental health condition (1). In this context, studies have reported that the possible relationship between stress and the development of obesity may occur with emotional eating (2,3). Emotional eating is defined as the tendency to overeat in response to negative emotions and is reported as a coping response to stress situations. According to psychosomatic theory, the typical response to stress is loss of appetite but in some individuals the response to stress is manifested by overeating (4).

Major earthquakes can result in unpredictable environmental damage, fatalities, and health risks (5). Such large-scale earthquakes are known to have negative effects on mental health in the long term (6). Previous studies have reported that disaster victims are at risk of posttraumatic stress disorder and that the degree of exposure to a disaster is associated with this situation (7,8). The prevalence of post-traumatic stress problems in society is parallel to the prevalence of stressors. Although post-traumatic stress disorder can be seen at any age, the prevalence is higher in young adults (9). In an epidemiologic study conducted

by Helzer et al. (10) the lifetime prevalence of post-traumatic stress problems was found to be 0,5% in men and 1-3% in women.. However, the risk of developing psychopathology increases by 17% after events or disasters affecting large masses (11). Post-traumatic stress disorder may occur in 3% of those who face natural disasters (12). Various ethnic, cultural, psychological, physical, familial, social factors and personal characteristics play a role in the pathogenesis of this disorder (13). Although the post-earthquake period is stressful for people, it will not be the same for everyone. Some earthquake regions will suffer more damage than others (14) and people’s methods of coping with stress differ. In this context, determining the level of trauma is key in investigating post-earthquake eating behavior (4).

Studies investigating the relationship between post-traumatic stress disorder and eating behavior generally draw attention to difficulties in emotion regulation (4,15). In this context, it is important to determine the relationship between trauma level and eating behavior after a traumatic event. The aim of this study was to investigate the relationship between the level of trauma and emotional eating in adults

after the occurrence of a natural disaster. Our study differs from previous similar studies in that the cause of trauma was a real earthquake and it was conducted both on earthquake victims in the earthquake zone and on a population not in the earthquake zone but exposed to news about the earthquake.

SUBJECTS AND METHODS

The study was conducted to determine the relationship between post-earthquake trauma level and emotional eating states of individuals after the Kahramanmaraş earthquake in Türkiye, which is characterized as the natural disaster of the century. Study data were collected with the help of a web-based survey form created by the researchers and the Snowball Sampling Method was used. The sample was reached via social media. The sample size was calculated as minimum 324 adult individuals with 5% error and 95% confidence level with the Sample Sizing Calculator 2.0.4 licensed program of Roasoft software. The study included 524 adult individuals (387 women, 137 men) between the ages of 19-65, who checked the “I consent to participate in this study voluntarily” tab at the beginning of the web-based survey form and completed the survey completely. Individuals who did not fit the specified age range, who were receiving any psychological treatment, and who were not volunteers were not included in the study. Both adults in and out of the earthquake zone participated in the study. In this way, the differences between both groups were also compared. Before starting the study, ethics committee approval was received from the Health Sciences University, Gülhane Scientific Research Ethics Committee with decision number 2023-332 dated 26.09.2023. All procedures in the study were carried out in accordance with the Declaration of Helsinki. With the help of a questionnaire, individuals’ socio-demographic characteristics (questions such as general descriptive characteristics, health status, location during the earthquake, changes in body weight after the earthquake, access to water and food after the earthquake) and self-reported anthropometric measurements were questioned.

The individuals’ post-earthquake trauma level was evaluated with the “Post-Earthquake Trauma Level Determination Scale (16) and their emotional eating status was evaluated with the “Emotional Eating Scale” (17).

Post-Earthquake Trauma Level Determination Scale

The validity and reliability of the Post-Earthquake Trauma Level Determination scale, which was developed to quickly and easily evaluate post-traumatic stress disorder symptoms in individuals after the Van earthquake, was determined by Tanhan et al (16). The scale consists of a total of 20 items and 5 sub-dimensions. The scale sub-dimensions include behavioral problems, emotional limitation, affective problems, cognitive structure and sleep problems. It is scaled with a five-point likert scale. Likert style expressions; are as follows; “strongly disagree”, “somewhat agree”, “moderately agree”, “very much agree” and “completely agree”. The lowest score that can be obtained from the scale is 20 and the highest score is 100. Increasing scores from the scale indicate that individuals’ level of exposure to earthquakes also increases.

Emotional Eating Scale

The Turkish validity and reliability study of the Emotional Eating scale was conducted by Bilgen (17) in 2018. Turkish Emotional Eating Scale was developed to measure the emotional eating level of adults and consists of a total of four factors and 30 items. The sub-dimensions of the scale are respectively; include eating in situations of tension, eating to cope with negative emotions, self-control, and control over stimuli. Responses are scored between 1 and 5 on a 5-point Likert scale (1=never and 5=almost always). A minimum of 30 and a maximum of 150 points can be obtained from the scale evaluation. The cut-off score is 75, and a score above 75 is considered to have emotional eating behavior (18).

Anthropometric Measurements

In the study, body weight and height measurements were self-reported. Body mass index (BMI), expressed in kg/m^2 , was calculated by dividing body weight by the square of height in meters and was categorized according to the World Health Organization (WHO) standards. Individuals with a BMI of less than $18.50 \text{ kg}/\text{m}^2$ were classified as underweight. Those with a BMI ranging from 18.50 to $24.99 \text{ kg}/\text{m}^2$ were categorized as having a normal weight. Participants with a BMI between 25.0 and $29.99 \text{ kg}/\text{m}^2$ were classified as overweight, while those with a BMI of $30.0 \text{ kg}/\text{m}^2$ or greater were considered obese (19).

Statistical Analysis of Data

Data analysis for the study was conducted using SPSS version 26.0 (Statistical Package for the Social Sciences). Initially, normality tests were performed to assess the distribution and skewness of the data, with results presented as mean (\bar{x}) and standard deviation (SD). For comparing differences between two independent groups, the Mann-Whitney U test, appropriate for nonparametric numerical data, and the Pearson chi-square test, suitable for qualitative data, were employed. Spearman's rank correlation analysis, a non-parametric method, was utilized to explore relationships between numerical variables. To predict the total score for Post-Earthquake Trauma, regression analysis was applied. Variables not following a normal distribution were logarithmically transformed to better approximate normality for the linear regression analysis. Statistical significance was established at $p < 0.05$.

RESULTS

A total of 524 individuals participated in the study (female: 387, male: 137) and 48.1% of these individuals were located in the earthquake zone. Of the individuals who participated in the study, 49.2% were married, 65.3% had a university degree and 34.2%

had a diagnosed disease. After the earthquake, more body weight change was observed in individuals in the earthquake zone ($p < 0.05$). Accordingly, after the earthquake, 31.7% of those living in the earthquake zone had an increase in body weight and 35.3% had a decrease, while 61.8% of individuals not living in the earthquake zone had no change in body weight. Among the individuals in the earthquake zone, 72.5% stated that they had problems accessing water and 62.9% stated that they had problems accessing food after the earthquake. 72.5% of individuals in the earthquake zone stated that they had problems accessing water and 62.9% had problems accessing food after the earthquake. When the BMI grouping was analyzed, it was observed that overweight and obesity were more common in individuals in the earthquake zone ($p < 0.05$). Information on the general characteristics of the individuals is given in Table 1.

In the study, post-earthquake trauma levels and emotional eating status of individuals were evaluated. Accordingly, the trauma level and sub-dimension mean scores of the individuals in the earthquake zone were higher than the individuals in the non-earthquake zone ($p < 0.05$). Although emotional eating status and mean scores were higher outside the earthquake zone, it was not statistically significant ($p > 0.05$). The mean score of "control in the face of stimuli", one of the emotional eating sub-dimensions, was higher in individuals in the non-earthquake region ($p < 0.05$) (Table 2).

In the study, the relationship between the post-earthquake trauma level of the individuals and their BMI and emotional eating levels was examined (Table 3). Accordingly, a positive, weak and significant relationship was observed between the post-earthquake trauma level score and emotional eating, eating in case of tension, eating to cope with negative emotions, self-control and control over stimuli.

Table 1. General characteristics of the participants in the study

Parameters	Earthquake zone (n=252)	Non-earthquake zone (n=272)	Total (n=524)	P value
Sex				
Female	184 (73.0)	203 (74.6)	387 (73.9)	0.67
Male	68 (27.0)	69 (25.4)	137 (26.1)	
Age (years, mean±SD)	32.74±9.22	29.76 ±9.50	31.19 ±9.47	<0.001*
Marital status				
Married	145 (57.5)	113 (41.5)	258 (49.2)	<0.001*
Single	107 (42.5)	159 (58.5)	266 (50.8)	
Education status				
Primary education	11 (4.4)	2 (0.7)	13 (2.5)	<0.001*
Secondary education	12 (4.8)	0 (0.0)	12 (2.3)	
High school	43 (17.1)	38 (14.0)	81 (15.5)	
University	159 (63.1)	183 (67.3)	342 (65.3)	
Master's/PhD	27 (10.7)	49 (18.0)	76 (14.5)	
Diagnosed disease status				
Yes	90 (35.7)	89 (32.7)	179 (34.2)	0.47
No	162 (64.3)	183 (67.3)	345 (65.8)	
Food preference				
Fatty foods	27 (10.7)	23 (8.5)	50 (9.5)	0.81
Carbohydrate foods	84 (33.3)	91 (33.5)	175 (33.4)	
Protein foods	97 (38.5)	112 (41.2)	209 (39.9)	
Vegetable foods	44 (17.5)	46 (16.9)	90 (17.2)	
Weight change after earthquake				
Increased	80 (31.7)	51 (18.8)	131 (25.0)	<0.001*
Decreased	89 (35.3)	53 (19.5)	142 (27.1)	
Unchanged	83 (32.9)	168 (61.8)	251 (47.9)	
BMI classification (kg/m²)				
Underweight (<18.5)	7 (2.8)	17 (6.3)	24 (4.6)	0.04*
Normal (18.5-24.99)	125 (49.6)	153 (56.3)	278 (53.1)	
Overweight (25-29.99)	80 (31.7)	72 (26.5)	152 (29.0)	
Obese (≥30)	40 (15.9)	30 (11.0)	70 (13.4)	

BMI: Body Mass Index * The χ^2 test was performed between the patient and the control groups for total participants.

In addition, correlation test was applied for the relationship between emotional eating score and BMI level, and it was observed that emotional eating score increased as BMI increased ($r: 0.31, p<0.0001$).

When the factors that could affect the Post-Earthquake Trauma total level score was evaluated with linear regression analysis, the model was

deemed important ($R^2=0.286; p<0.001$) (Table 4). It was determined that being in the earthquake zone and the total score of the emotional eating scale affected the total score of the post-earthquake trauma scale ($p<0.05$). Although marital status and educational status differed between the two groups, they were not among the factors affecting the post-earthquake trauma level score.

Table 2. Evaluation of individuals' post-earthquake trauma and emotional eating status

Parameters	Earthquake zone (n=252)	Non-earthquake zone (n=272)	Total (n=524)	P value
Post-earthquake trauma scale score	63.95±15.48	49.05±13.90	56.26±16.45	<0.001*
Behavior problems	11.88±3.69	8.45±3.29	10.11±3.89	<0.001*
Excitement limitation	15.56±5.57	12.19±4.89	13.82±5.49	<0.001*
Affective	10.76±2.78	9.57±2.23	10.15±2.58	<0.001*
Cognitive structuring	15.76±4.07	12.35±4.11	14.00±4.43	<0.001*
Sleep problems	9.98±3.56	6.47±3.34	8.17±3.87	<0.001*
Emotional eating score	71.18±28.79	74.12±26.41	72.70±27.59	0.058
Emotional eating n (%)				
<75 points	159 (63.1)	150 (55.1)	309 (59.0)	0.06
≥75 points	93 (36.9)	122 (44.9)	215 (41.0)	
Eating in a state of tension	22.72±11.00	23.35±10.12	23.05±10.55	0.21
Eating to cope with negative emotions	21.91±11.68	22.72±10.97	22.33±11.31	0.19
Self-control	16.84±4.41	16.97±4.65	16.91±4.53	0.43
Control in the face of stimuli	7.52±3.29	8.80±3.14	8.19±3.27	<0.001*

* $P < 0.05$ is significant. The Mann-Whitney U test was performed between the groups in and out of the earthquake zone for total participants.

Table 3. The relationship between the level of post-earthquake trauma and BMI and emotional eating levels of individuals

Parameters	Earthquake zone r (p)	Non-earthquake zone r (p)	Total r (p)
Emotional eating score	0.24 (<0.001)*	0.34 (<0.001)*	0.23 (<0.001)*
Eating in a state of tension	0.25 (<0.001)*	0.31 (<0.001)*	0.23 (<0.001)*
Eating to cope with negative emotions	0.26 (<0.001)*	0.33 (<0.001)*	0.24 (<0.001)*
Self-control	0.13 (<0.001)*	0.23 (<0.001)*	0.15 (<0.001)*
Control in the face of stimulus	0.18 (<0.001)*	0.22 (<0.001)*	0.10 (<0.001)*
BMI (kg/m ²)	0.04 (0.52)	0.00 (0.95)	0.07 (0.08)

BMI: Body Mass Index, * $P < 0.05$ is significant. Spearman's rank correlation coefficient test was performed between the groups in and out of the earthquake zone for total participants.

Table 4. Linear regression analysis for prediction of post-earthquake trauma level

Model	Post-Earthquake Trauma Level Score		
	Beta	t	P-Value
Marital status	-0.060	-1.583	0.114
Education status	-0.073	-1.904	0.057
Being in an earthquake zone	-0.443	-11.517	<0.001*
Emotional eating score	0.268	7.162	<0.001*
		$R^2=0.286$; $p<0.001^*$	

Variables values: Marital status (Married= 1, Single=2), Education status (Primary education=1, Secondary Education=2, High School=3, University=4, Master's/PhD=5, Being in an earthquake zone (Yes=1, No=2) *Significant at P -value < 0,05

DISCUSSION

In this study we aimed to investigate the relationship between the level of trauma and emotional eating in adults after the occurrence of a natural disaster. In our study the main findings were such as; 1) weight change of individuals in the earthquake zone was statistically significant compared to individuals not in the earthquake zone; 2) post trauma level of individuals in the earthquake zone was higher than individuals not in the earthquake zone; 3) trauma level and emotional eating status were positively correlated in both individuals in the earthquake zone and those not in the earthquake zone; 4) being in the earthquake zone and emotional eating score were found to be associated with the level of post-earthquake trauma.

On the 6th of February 2023, a 7.7 magnitude earthquake centered in Pazarcık district of Kahramanmaraş province, followed by a second 7.6 magnitude earthquake centered in Elbistan occurred in Turkey. It was stated that 11.020 aftershocks occurred after these two severe earthquakes. After these earthquakes, a total of 44.218 people lost their lives, 80.278 people were injured, 528.146 people were evacuated to other safe provinces and 1.971.589 earthquake victims evacuated by their own means in Kahramanmaraş, Gaziantep, Şanlıurfa, Diyarbakır, Adana, Adıyaman, Osmaniye, Hatay, Kilis, Malatya and Elazığ provinces (19). Two significant conclusions have been drawn as a result of the disasters that people have faced over the past 50 years. Two things about disasters are that they are difficult to manage and that they are utterly unpredictable (20). According to this, considering the large area affected by the earthquake and the number of people affected, it can be easily mentioned that the earthquake in question caused a social trauma and therefore the earthquake in question was a traumatic event (21).

Post-traumatic stress disorder occurs with excessive neurobiological responses to trauma and these responses lead to problems such as sleep disorders, decreased immunity and emotional instability (22). Therefore, post-traumatic process may be associated with health problems such as weight change (23). In a study examining the relationship between post-traumatic stress disorder and body mass index, being overweight or obese was found to be associated with post-traumatic stress disorder (24). In addition, a study of Iraq and Afghanistan veterans reported that those with post-traumatic stress disorder and depression had the highest risk of being overweight or obese (25). In another cross-sectional study, it was observed that post-traumatic stress disorder was associated with obesity in both men and women. In the same study, it was also reported that binge eating did not play a mediating role in this relationship (26). In our study, the trauma level of those in the earthquake zone was significantly higher and at the same time, the weight changes of these individuals were higher than those who were not in the earthquake zone. Both body weight gain and loss were observed more in people living in earthquake zones than in those not living in earthquake zones. In particular, disasters that affect large areas such as earthquakes negatively affect food distribution networks and infrastructure, which in turn negatively affects disaster victims' access to food (27). Therefore, as shown by the results of our study the trauma and nutritional status of individuals in the earthquake zone are adversely affected and it is necessary to take measures for these situations.

Studies examining the relationship between eating behavior and stress levels have found results of increased and decreased food consumption (2,28). Furthermore, Kuijer and Boyce (4) reported that reduced healthy eating habits were associated with

stress levels caused by a natural disaster. In the same study, emotional eating was also reported to increase overeating behavior. In our study, we found a significant relationship between the level of post-earthquake trauma and emotional eating scores of individuals, whether they were in the earthquake zone or not. As expected, the level of post-earthquake trauma was found to be higher in individuals living in the earthquake zone. However, no significant result was found when emotional eating levels were evaluated between the two groups. Although there was no difference in emotional eating scores between the groups, the relationship between trauma level and emotional eating was clear in the general sample. Among the reasons for the lack of a significant difference between the groups in terms of emotional eating, it can be hypothesized that the earthquake and its aftermath may be a stressful experience, but it does not create the same level of stress for everyone. In addition, people differ in the way they evaluate and cope with stressful situations (4). Moreover, eating behavior may be affected by the disruption of food systems, increased food insecurity and changes in daily routines after a disaster (29). Apart from these, similar to the results of our study, a systematic review examining the relationship between emotional eating and the stress factor created by the Covid-19 process reported a relationship between emotional eating and depression (30). Although the level of stress caused by Covid-19 and the earthquake is different, the information that stress and emotional eating are related forms the basis for further studies. Our study has several notable strengths, including the assessment of the relationship between post-earthquake trauma and emotional eating, and the examination of these factors in individuals both within and outside the earthquake-affected zone. Nevertheless, there are several limitations that should be addressed in future research. Firstly, anthropometric measurements were based on self-reports, which hindered the ability to assess trauma scores and emotional eating in relation to changes in body weight. Secondly, dietary records were not

collected, which limits the capacity to evaluate diet quality and its potential association with emotional eating. Incorporating dietary records in future studies could provide valuable insights into this relationship.

In conclusion, this study found a statistically significant positive relationship between post-earthquake trauma level and emotional eating. In addition, according to the regression model we created, it was observed that emotional eating is one of the factors that increase the level of post-earthquake trauma. In the light of these results, in the planning of post-earthquake health services, it is recommended that decision-makers should be aware of the importance of emotional eating in order to prevent negative eating behaviors of earthquake survivors.

Author contributions • **Yazarlık katkısı:** *Study design: EME Data collection: EME Data analysis: EME ; Draft preparation: EME, ZEM; Critical review for content: EME, ZEM, Final approval of the version to be published: EME, ZEM. • Çalışmanın tasarımı: EME; Verilerin elde edilmesi: EME; Verilerin analiz edilmesi: EME, Makale taslağının oluşturulması: EME, ZEM; İçerik için eleştirel gözden geçirme: EME, ZEM; Yayınlanacak versiyonun son onayı: EME, ZEM.*

Ethics approval • **Etik Kurul Onayı:** *Ethics committee approval was received from the Health Sciences University, Gülhane Scientific Research Ethics Committee with decision number 2023-332 dated 26.09.2023. • Etik kurul onayı Sağlık Bilimleri Üniversitesi, Gülhane Bilimsel Araştırma Etik Kurulu'ndan 26.09.2023 tarih ve 2023-332 karar numarası ile alınmıştır.*

Conflict of interest • **Çıkar çatışması:** *The authors declare that they have no conflict of interest. • Yazarlar çıkar çatışması olmadığını beyan ederler.*

REFERENCES

- Hall KS, Hoerster KD, Yancy Jr WS. Post-traumatic stress disorder, physical activity, and eating behaviors. *Epidemiol Rev.* 2015;37(1):103–15.
- O'Connor DB, Jones F, Conner M, McMillan B, Ferguson E. Effects of daily hassles and eating style on eating behavior. *Heal Psychol.* 2008;27(1S):S20.

3. van den Bos R, de Ridder D. Evolved to satisfy our immediate needs: Self-control and the rewarding properties of food. *Appetite*. 2006;47(1):24–9.
4. Kuijter RG, Boyce JA. Emotional eating and its effect on eating behaviour after a natural disaster. *Appetite*. 2012;58(3):936–9.
5. Zhang L, Liu X, Li Y, Liu Y, Liu Z, Lin J, et al. Emergency medical rescue efforts after a major earthquake: lessons from the 2008 Wenchuan earthquake. *Lancet*. 2012;379(9818):853–61.
6. Kvestad I, Ranjitkar S, Ulak M, Chandyo RK, Shrestha M, Shrestha L, et al. Earthquake exposure and post-traumatic stress among Nepalese mothers after the 2015 earthquakes. *Front Psychol*. 2019;10:734.
7. Piccardi L, Palmiero M, Nori R, Baralla F, Cordellieri P, D'Amico S, et al. Persistence of traumatic symptoms after seven years: Evidence from young individuals exposed to the L'Aquila earthquake. *J loss trauma*. 2017;22(6):487–500.
8. Dell'Osso L, Carmassi C, Massimetti G, Stratta P, Riccardi I, Capanna C, et al. Age, gender and epicenter proximity effects on post-traumatic stress symptoms in L'Aquila 2009 earthquake survivors. *J Affect Disord*. 2013;146(2):174–80.
9. Özçetin A, Maraş A, Ataoğlu A, İçmeli C. Deprem sonucu gelişen travma sonrası stres bozukluğu ile kişilik bozuklukları arasında ilişki. *Duzce Med J*. 2008;10(2):8–18.
10. Helzer JE, Robins LN, McEvoy L. Post-traumatic stress disorder in the general population. *N Engl J Med*. 1987;317(26):1630–4.
11. Rubonis A V, Bickman L. Psychological impairment in the wake of disaster: The disaster–psychopathology relationship. *Psychol Bull*. 1991;109(3):384.
12. Hammond KW, Scurfield RM, Risse SC. Post-traumatic stress disorder. *Curr Psychiatr Ther*. 1993;288–95.
13. Kaplan H, Kaplan SB. *Sadock's synopsis of psychiatry*. Baltimore: William & Wilkins; 1994.
14. Folkman S. Stress: appraisal and coping. In: *Encyclopedia of behavioral medicine*. Springer; 2020. p. 2177–9.
15. Echeverri-Alvarado B, Pickett S, Gildner D. A model of post-traumatic stress symptoms on binge eating through emotion regulation difficulties and emotional eating. *Appetite*. 2020;150:104659.
16. Tanhan F, Kayri M. Deprem sonrası travma düzeyini belirleme ölçeğinin geçerlik ve güvenilirlik çalışması. Kuram ve Uygulamada Eğitim Bilim. 2013;13(2):1013–25.
17. Bilgen SŞ. Türkçe Duygusal Yeme Ölçeği geliştirilmesi geçerlilik ve güvenilirliği çalışması (Yüksek lisans tezi). Üsküdar Üniversitesi Sos Bilim Enstitüsü, İstanbul; 2018.
18. Gürkan KP, Aydoğdu NG, Dokuzcan DA, Yalçinkaya A. The effects of nurses' perceived stress and life satisfaction on their emotional eating behaviors. *Perspect Psychiatr Care*. 2022;58(3).
19. Koç M, Yalçın S. Afetlerde Krize Müdahale: Kahramanmaraş Depremi'nde Aile ve Sosyal Hizmetler Bakanlığı'nın Çalışmaları. *Uluslararası Sos Hizmet Araştırmaları Derg*. 2023;3(2):93–105.
20. Kocoglu E, Demir FB, Öteles ÜU, Özeren E. Post-Earthquake Trauma Levels of University Students Evaluation: Example of 6 February Kahramanmaraş Earthquake. *High Educ Stud*. 2023;13(2):121–7.
21. Yelboğa N. Kahramanmaraş Depremi Özelinde Travmatik Yas Ve Sosyal Hizmetin Yas Danışmanlığı Müdahalesi. *Uluslararası Toplum Bilim Derg*. 2023;7(1):97–121.
22. Heim C, Nemeroff CB. Neurobiology of posttraumatic stress disorder. *CNS Spectr*. 2009;14(1 Suppl 1):13–24.
23. LeardMann CA, Woodall KA, Littman AJ, Jacobson IG, Boyko EJ, Smith B, et al. Post-traumatic stress disorder predicts future weight change in the Millennium Cohort Study. *Obesity*. 2015;23(4):886–92.
24. Vieweg WVR, Fernandez A, Julius DA, Satterwhite L, Benesek J, Feuer SJ, et al. Body mass index relates to males with posttraumatic stress disorder. *J Natl Med Assoc*. 2006;98(4):580.
25. Maguen S, Madden E, Cohen B, Bertenthal D, Neylan T, Talbot L, et al. The relationship between body mass index and mental health among Iraq and Afghanistan veterans. *J Gen Intern Med*. 2013;28:563–70.
26. Pagoto SL, Schneider KL, Bodenlos JS, Appelhans BM, Whited MC, Ma Y, et al. Association of post-traumatic stress disorder and obesity in a nationally representative sample. *Obesity*. 2012;20(1):200–5.
27. Perdana T, Onggo BS, Sadeli AH, Chaerani D, Achmad ALH, Hermiatin FR, et al. Food supply chain management in disaster events: A systematic literature review. *Int J Disaster Risk Reduct*. 2022;103183.
28. Wardle J, Steptoe A, Oliver G, Lipsey Z. Stress, dietary restraint and food intake. *J Psychosom Res*. 2000;48(2):195–202.
29. Hunter L, Gerritsen S, Egli V. Changes in eating behaviours due to crises, disasters and pandemics: a scoping review. *Nutr Food Sci*. 2023;53(2):358–90.
30. Burnatowska E, Surma S, Olszanecka-Glinianowicz M. Relationship between mental health and emotional eating during the COVID-19 pandemic: A systematic review. *Nutrients*. 2022;14(19):3989.