



(ISSN: 2602-4047)

Uçar Çabuk, F. (2023). The Relationship Between Earthquake Anxiety and The Well-Being of Mothers with Preschool Children After The February 6 Earthquake in Turkey, *International Journal of Eurasian Education and Culture*, 8(22), 1251-1267.

DOI: <http://dx.doi.org/10.35826/ijoecc.737>

Article Type (Makale Türü): Research Article

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## THE RELATIONSHIP BETWEEN EARTHQUAKE ANXIETY AND THE WELL-BEING OF MOTHERS WITH PRESCHOOL CHILDREN AFTER THE FEBRUARY 6 EARTHQUAKE IN TURKEY

**Feyza UÇAR ÇABUK**

*Assist. Prof. Dr., Osmaniye Korkut Ata University, Osmaniye, Türkiye, feyza\_ucar@hotmail.com*

*ORCID: 0000-0001-7341-0420*

*Received: 15.06.2023*

*Accepted: 19.08.2023*

*Published: 01.09.2023*

### ABSTRACT

Well-being is related to early relationships and experiences and is affected by current psychological variables. The February 6 earthquakes are expected to affect the well-being of mothers who have experienced post-earthquake changes in their children and themselves. The anxiety and well-being of mothers with preschool children are affected their children. This study examines the relationship between earthquake anxiety and the well-being of mothers with preschool children. The study group of this relational survey model study consisted of 197 mothers with preschool children who were in one of the cities where the earthquake occurred on February 6 in Turkey. The data were collected using the Personal Information Form, Earthquake Anxiety Scale and Well-Being Scale. The data obtained in this study were analyzed using SPSS 22 package program. As a result of the study, it was observed that the mothers had high earthquake anxiety. It was determined that the earthquake anxiety of the mothers who were trapped under the rubble and lost a first-degree relative was higher, and their well-being was lower than those who were not trapped under the rubble and did not lose a first-degree relative. It was determined that the earthquake anxiety of mothers who lost a relative was significantly higher than those who did not lose a relative. It was determined that there was no significant relationship between the mother's marital status and employment status, and their earthquake anxiety. It was determined that there was a meaningful relationship between mothers' earthquake anxiety and their well-being; mothers with less earthquake anxiety had higher well-being.

**Keywords:** February 6 earthquake, anxiety, well-being, preschool.

## INTRODUCTION

Earthquake is a natural disaster that not only causes destruction and loss of life but also can potentially affect community life and create serious psychological effects negatively (Nakajima, 2012). Traumatic experiences such as earthquakes negatively affect individuals psychologically, socially, economically, and physiologically (Aykut & Soner-Aykut, 2020). After these negative experiences, individuals may feel fear, anxiety and experience sleep disorders (NIMH, 2021; WHO, 2018). Anxiety, a natural element of human development, is a reaction the mind or body develops against a dangerous situation (Sims & Owen, 1993). Morosanova et al. (2019) state that anxiety is understanding complex or disturbing problems. It is considered normal for an individual to feel anxious depending on various problems that they experience daily. Still, worrying at short time intervals and high levels are considered pathological. Anxiety, a painful feeling that the individual does not like, is also necessary for the individual's existence (Ulutaş & Demiriz, 2003).

On February 6, 2023, earthquakes with epicenters in Pazarcık and Elbistan districts of Kahramanmaraş caused a major disaster in 11 provinces. According to the announced data, more than 50 thousand died, 307 thousand buildings and 893 independent sections were destroyed, and approximately 14 million people were affected by this disaster. Anxiety is an obvious source of distress, especially when the nature of the threat is not well understood, its occurrence is uncertain, and individuals feel they have little control over the onset or termination of stress (Çiçek & Almalı, 2020; Taha et al. 2013). After the February 6 earthquake, it is thought that the continuation of aftershocks caused individuals to be unable to control the situation and anxious.

It is known that individuals are negatively affected after traumatic events such as earthquakes, and their well-being decreases (Shepherd et al., 2017; Uchida et al., 2014). Well-being is a combination of feeling good and functioning well, including experiencing positive emotions such as happiness and satisfaction, having some control over their life, having a sense of purpose, and establishing and maintaining positive relationships (Huppert, 2009). Although different dimensions of well-being are discussed, attention is paid to the balance between positive and negative effects by looking at general psychological functioning and happiness (Diener & Lucas, 2000). Positive emotions include being energetic, eager, spiritually aroused, and determined, while negative emotions include unpleasant feelings such as anxiety, anger, sadness, guilt, and contempt. The balance between positive and negative emotions contributes to life satisfaction (Diener & Larsen, 1993) and determines well-being. Karabacak-Çelik (2023) found that post-earthquake trauma symptoms had a significant negative relationship with hope and well-being in a study conducted with 188 adults who had experienced the February 6 earthquake. In support of this finding, Sönmez (2022) emphasized that individuals may experience depression, anxiety, sleep, physical symptoms, and dissociative and sexual dysfunction after the earthquake.

In the literature, well-being is related to perfectionism (Park & Jeong, 2015), self-efficacy and interaction anxiety (Kılınç, 2017), loneliness (Çeçen & Cenkseven, 2007), social skills (Özen & Gülaçtı, 2012), self-understanding (Sarıcaoğlu & Arslan, 2013), authenticity, self-esteem, and trait anxiety (Beydoğan Tangör & Curun, 2016), life satisfaction, social anxiety, self-efficacy, and anxiety (Çiçek & Almalı, 2016), healthy eating (Huang & Humphreys,

2012), attachment styles and relationships (Love & Murdock, 2004; Lane & Fink, 2015; Homan, 2016; Jin & Wang, 2016), and cognitive emotion regulation (Gross & John, 2003; Melody, 2009; Panahi et al., 2013). However, a study investigating the relationship between earthquake anxiety and the well-being of mothers with preschool children after the February 6 earthquakes, which took place very recently, has not yet been found in the literature.

Psychological well-being is related to early relationships and experiences and is affected by current psychological variables (Ryff, 1989). The February 6 earthquakes are expected to affect the well-being of mothers who have experienced post-earthquake changes in their children and themselves. In Pernoud's (1994) study, there is a relationship between the mother's satisfaction with her life and the closeness she establishes with her child. When the mother feels psychologically and physiologically tired, it negatively affects the child. Şahin and Görünmez (2022) examined the relationship between mother's and children's anxiety levels and found a positive relationship between mothers' anxiety levels and the anxiety levels of preschool children. Similar studies (Şahin & Görünmez, 2022; Ulutaş & Alisinanoğlu, 2004) also found a relationship between mothers' anxiety levels and their children's anxiety levels. According to the system theory explaining family systems, parents can affect all family functions (Shaw & Bell, 1993). This effect increases, especially in preschool years, and is essential for healthy parent relationships and children's development (Öngider, 2013). Considering that anxiety is contagious (Alisinanoğlu & Ulutaş, 2003; Muris & Merckelbach, 1998), the anxiety and well-being of mothers of preschool children are expected to affect their children. In this context, it is important to examine mothers' earthquake anxiety and well-being according to various variables.

In this study, which aims to examine the effect of the relationship between earthquake anxiety and the well-being of mothers with preschool children, answers to the following questions are sought:

1. Do earthquake anxiety of mothers with preschool children vary according to their demographic characteristics?
2. Does the well-being of mothers with preschool children vary according to their demographic characteristics?
3. Is there a relationship between earthquake anxiety and the well-being of mothers with preschool children?

## **METHOD**

### **Research Model**

This study is a correlational survey model. In correlational survey models, it is aimed to determine the existence and degree of change between two or more variables (Karasar, 2005). The correlational survey model is to reveal the relationship or effect between two different quantitative variables through a correlation coefficient (Fraenkel et al., 2012). In this study, the relational survey model was used since it aimed to determine the relationship between earthquake anxiety and the well-being of mothers with preschool children in one of the provinces where the earthquake occurred on February 6.

**Study Group**

The study group consisted of 197 mothers with preschool children in one of the cities where the earthquake occurred on February 6. The age of the mothers ranged between 21 and 43, with an average of 32. Informations about the mothers in the study group are given in Table 1.

**Table 1.** Information on Mothers with Preschool Children.

		n	%
What is your marital status?	Married	183	92.9
	Single	14	7.1
How many children do you have?	1 Child	63	32.0
	2 Children	69	35.0
	3 Children and above	65	33.0
What is your education level?	Literate/Primary school	53	26.9
	Middle School	44	22.3
	High School	27	13.7
	Associate degree/undergraduate	73	37.1
Are you currently working?	Yes	71	36.0
	No.	126	64.0
Were you trapped under the rubble during the February 6 earthquake?	Yes	12	6.1
	No.	185	93.9
During the February 6 earthquake, was your house destroyed?	Yes	23	11.7
	No.	174	88.3
What is the damage status of your house?	No Damage	50	25.4
	Slightly damaged	92	46.7
	Moderately damaged	20	10.1
	Extremely damaged	35	17.8
In the February 6 earthquake, did you lose a first-degree relative (mother/father/wife/child)?	Yes	11	5.6
	No.	186	94.4
In the February 6 earthquake, did you lose any relatives?	Yes	93	47.2
	No.	104	52.8

**Data Collection Process**

The study data were collected using the Personal Information Form, Earthquake Anxiety Scale, and Well-Being Scale. The form created through Google Documents was sent to the mothers via Whatsapp on May 10-22, 2023. Mothers who volunteered to participate in the study completed the form. Ethics committee approval of the article was obtained by Osmaniye Korkut Ata University/Social Sciences Scientific Research And Publication Ethics Committee with the decision dated 09.05.2023 and numbered 2023/5/8.

Personal Information Form; It includes questions to determine the marital status, educational status, employment status, the status of being trapped under rubble, destruction of their houses, losing a relative in the earthquake, etc., of mothers with preschool children.

The Earthquake Anxiety Scale was developed by Bal and Akgül (2023) to measure earthquake anxiety. The lowest score obtained from the one-factor scale consisting of 34 items in total is 34, and the highest score is 170. High scores on the scale indicate high earthquake anxiety, while low scores indicate low earthquake anxiety. There is no reverse coding in the scale items. The Cronbach Alpha reliability method was used to measure the scale's reliability, and the alpha value was determined as 0.998. Two Half, Spearman-Brown and Guttman Methods were used to measure the internal consistency of the Earthquake Anxiety Scale. It is seen that the Cronbach's Alpha of 18 items in the first part of the Earthquake Anxiety Scale is .89, and the Cronbach's Alpha of 18 items in the second part is .90. These results show that the reliability levels of both halves of the scale are high. The scale has no reverse coding (Bal & Akgül, 2023).

Well-being Scale: The Well-being (PERMA) Scale developed by Butler and Kern (2015, 2016) aims to measure Martin Seligman's five-dimensional conceptualization of well-being (positive emotions, context, positive relationships, meaning, and achievements). The scale consists of 15 items, 3 items in each dimension. In addition to these items, Butler and Kern (2015, 2016) added 8 filler items to the scale. One of these items is an indicator of general well-being. The 15 well-being items are evaluated together when calculating the total well-being score. Apart from these, there are 7 filler items on the scale. Items 7, 12, 14, and 20 are coded by reversing them Adapted to Turkish by Demirci et al (2017).The Cronbach Alpha internal consistency coefficient for the total score of the scale is .91.

### **Data Analysis**

The data obtained in this study were analyzed using SPSS 22 package program. Since the data were not normally distributed, the Mann-Whitney U test was used for comparisons between paired groups, and Kruskal Wallis H Test was used for comparisons between three or more groups. A descriptive statistical method was used to evaluate the study data. 0.05 was used as the significance level, and it was stated that there was a significant difference/relationship in the case of  $p < 0.05$ , and there was no significant difference/relationship in the case of  $p > 0.05$ .

### **FINDINGS**

The analyses of mothers' earthquake anxiety related to different variables are presented in Table 2. Table 2 shows no significant difference between the earthquake anxiety of mothers with preschool children and their marital status, employment status, house destruction status, and house damage status ( $p > 0.05$ ). There is a significant difference between the earthquake anxiety of the mothers and being under rubble, losing a first-degree relative, and losing a relative ( $p < 0.05$ ). Mothers trapped under rubble, mothers who lost a first-degree relative, and mothers who lost a relative had higher earthquake anxiety.

**Table 2.** Evaluation of Mothers' Earthquake Anxiety According to Different Variables.

	n	$\bar{X}$	sd	Test value
<b><u>Marital Status</u></b>				
Married	183	131.51	22.62	U:1279
Single	14	129.71	31.77	p:0.992
<b><u>Employment status</u></b>				
Yes	71	131.49	23.79	U:4471
No	126	131.32	23.09	p:0.996
<b><u>Status of being trapped under rubble</u></b>				
Yes	12	146.42	23.10	U:674.5
No	185	130.41	23.02	<b>p:0.016</b>
<b><u>Status of house destruction in the earthquake</u></b>				
Yes	23	138.39	25.27	U:1564.5
No	174	130.45	22.93	p:0.089
<b><u>Damage condition of the house</u></b>				
No Damage	50	129.96	22.67	H:2.53
Slightly damaged	92	129.89	23.60	p:0.469
Moderately damaged	20	134.35	24.65	
Extremely damaged	35	135.63	22.84	
<b><u>Loss of a first-degree relative</u></b>				
Yes	11	146.82	20.54	U:604.5
No	186	130.47	23.16	<b>p:0.023</b>
<b><u>Loss of a relative</u></b>				
Yes	93	139.31	20.46	U:2998.5
No	104	124.29	23.45	<b>p:0.0001</b>
TOTAL	197	131,38	23,28	

It was determined that the earthquake anxiety of the mothers who lost a first-degree relative (mother/father/spouse/child) and who lost any relative was significantly higher than those who did not lose any relative.

Table 3 shows no significant difference between the mother's marital status and all sub-dimensions of well-being ( $p>0.05$ ). It is seen that there is no significant difference between the scores of the mothers on the PERMA Scale "Attachment," "Positive Relationships," "Meaning," and "Achievements" sub-dimensions and their employment status. It was determined that there was a significant difference in terms of the "Positive Emotions" sub-dimension score and that working mothers had higher "Positive Emotions" sub-dimension scores than non-working mothers ( $p<0.05$ ). It was determined that there was no significant difference between the scores of the mothers in the "Relationships," "Meaning," and "Achievements" sub-dimensions of the PERMA Scale and their status of being under the rubble. It was determined that there was a significant difference in terms of "Positive Emotions" and "Attachment" sub-dimension scores and that the scores of the mothers who were not under the rubble were higher than those of the mothers who were under the rubble ( $p<0.05$ ).

**Table 3.** Evaluation of Mothers' Well-Being According to Different Variables.

	Positive emotions		Attachment		Positive relationships		Meaning		Achievements	
	$\bar{X}$	sd	$\bar{X}$	sd	$\bar{X}$	sd	$\bar{X}$	sd	$\bar{X}$	sd
<b>Marital Status</b>										
Married(n:183)	16.95	5.47	18.21	6.01	18.20	5.36	18.04	5.97	18.68	5.63
Single(n:4)	15.57	9.62	15.07	8.51	14.86	8.63	16.21	9.78	16.07	9.52
Test value	U:1090.5p:0.353		U:990 p:0.156		U:959 p:0.117		U:1182.5 p:0.631		U:1074.5 p:0.314	
<b>Employment status</b>										
Yes( n:71)	17.99	5.79	18.76	5.93	18.28	5.96	19.41	6.00	19.35	5.90
No(n:126)	16.21	5.78	17.55	6.40	17.79	5.54	17.07	6.33	18.02	6.01
Test value	U:3679.5p: <b>0.039</b>		U:3962 p:0.183		U:4121.5 p:0.359		U:3458.5 p: <b>0.008</b>		U:2788 p:0.074	
<b>Status of being trapped under rubble</b>										
Yes (n:12)	13.33	7.68	13.50	8.91	17.58	7.17	14.83	7.32	16.75	7.14
No(n:185)	17.08	5.65	18.28	5.95	17.99	5.60	18.11	6.20	18.61	5.91
Test value	U:699.5 p: <b>0.032</b>		U:710 p: <b>0.036</b>		U:997.5 p:0.556		U:770.5 p:0.076		U:888.5 p:0.246	
<b>Status of house destruction in the earthquake</b>										
Yes (n:23)	12.30	5.57	12.57	7.19	16.09	6.29	14.13	7.17	14.70	6.55
No(n:174)	17.45	5.61	18.70	5.76	18.21	5.57	18.41	6.02	19.00	5.74
Test value	U:967.5p: <b>0.0001</b>		U:1026.5p: <b>0.0001</b>		U:1540.5 p:0.073		U:1285 p: <b>0.005</b>		U:1220 p: <b>0.002</b>	
<b>Damage condition of the house</b>										
No Damage (n:50)	17.66	5.02	19.28	5.21	17.76	96.37	19.36	5.14	20.18	5.40
Slightly damaged (n:92)	17.53	6.05	18.37	6.11	18.39	104.22	18.14	6.45	18.54	6.24
Moderately damaged (n:20)	15.90	5.38	15.85	6.29	18.00	94.35	15.60	6.55	16.85	5.17
Extremely damaged (n:35)	14.43	6.09	16.34	7.44	17.11	91.70	16.57	6.85	16.91	6.10
Test value	H:9.41 p: <b>0.024</b>		H:6.28 p:0.099		H:1.59 p:0.662		H:6.1 p:0.107		H:7.41 p:0.061	
<b>Loss of a first-degree relative</b>										
Yes (n:11)	11.27	6.20	12.18	7.63	14.36	6.27	11.91	6.01	13.18	5.44
No (n:186)	17.18	5.66	18.33	6.00	18.18	5.59	18.27	6.15	18.81	5.88
Test value	U:486.5 p: <b>0.003</b>		U:585.5 p: <b>0.017</b>		U:689.5 p:0.069		U:527 p: <b>0.007</b>		U:5.31 p: <b>0.005</b>	
<b>Loss of a relative</b>										
Yes (n:93)	16.45	5.71	17.80	6.42	18.10	6.07	17.85	6.15	18.67	6.09
No (n:104)	17.20	5.95	18.15	6.11	17.85	5.34	17.97	6.46	18.35	5.92
Test value	U:4459 p:0.344		U:4743 p:0.816		U:4829.5 p:0.987		U:4709.5 p:0.751		U:4794.5 p:0.917	

It was determined that there was no significant difference between the scores of the mothers in the "Positive Relationships" sub-dimensions of the PERMA Scale and that their houses were destroyed in the earthquake. It was determined that there was a significant difference in terms of "Positive Emotions," "Attachment," "Meaning," and "Achievements" sub-dimension scores and that the scores of mothers whose houses were not destroyed in the earthquake were higher than those of mothers whose houses were destroyed.

It was determined that there was no significant difference between the scores of the mothers on the PERMA Scale "Attachment," "Positive Relationships," "Meaning," and "Achievements" sub-dimensions and the damage status of the house in the earthquake. It was determined that there was a significant difference in the "Positive

Emotions" sub-dimension score, and the scores of mothers whose houses were undamaged and slightly damaged were significantly higher than those whose houses were moderately and extremely damaged.

It was determined that there was no significant difference between the well-being of mothers with preschool children and the status of losing any relative in the earthquake. It was determined that there was no significant difference between the scores of the mothers from the PERMA Well-being Scale "Positive Relationships" sub-dimensions and the status of losing a first-degree relative. It was determined that there was a significant difference in terms of "Positive Emotions," "Attachment," "Meaning," and "Achievements" sub-dimension scores, and the scores of mothers who did not lose a first-degree relative were significantly higher than those who did.

**Table 4.** The Relationship between Mothers' Earthquake Anxiety and Their Well-Being.

		Positive emotions	Attachment	Positive relationships	Meaning	Achievements
Earthquake Anxiety Scale total score	r	-,393**	-,325**	-,209**	-,283**	-,205**
	p	0,000	0,000	0,003	0,000	0,004

According to Table 4, there is a significant and inverse relationship between the mothers' "Earthquake Anxiety Scale total score" and the PERMA scale "Positive Emotions" sub-dimension score ( $p < 0.05$ ;  $r = -0.393$ ). There is a significant and inverse relationship between the "Earthquake Anxiety Scale total score" and the "attachment" sub-dimension score ( $p < 0.05$ ;  $r = -0.325$ ). There is a significant and inverse relationship between the "Earthquake Anxiety Scale total score" and the "R positive relationships" score ( $p < 0.05$ ;  $r = -0.209$ ). There is a significant and inverse relationship between the "Earthquake Anxiety Scale total score" and the "Meaning" score ( $p < 0.05$ ;  $r = -0.283$ ). There is a significant and inverse relationship between the "Earthquake Anxiety Scale total score" and the "Achievements" score ( $p < 0.05$ ;  $r = -0.205$ ). There is a significant and inverse relationship between the "Earthquake Anxiety Scale total score" and the "Happiness" score ( $p < 0.05$ ;  $r = -0.413$ ). There is a significant and inverse relationship between the "Earthquake Anxiety Scale total score" and the "Health" score ( $p < 0.05$ ;  $r = -0.330$ ). There is a significant and linear relationship between the "Earthquake Anxiety Scale total score" and the "Negative" score ( $p < 0.05$ ;  $r = 0.288$ ). There is a significant and linear relationship between the "Earthquake Anxiety Scale total score" and the "Loneliness" score ( $p < 0.05$ ;  $r = 0.213$ ). As the mothers' total scores on the "Earthquake Anxiety Scale" increase, their scores in all sub-dimensions of the PERMA scale decrease.

**CONCLUSION and DISCUSSION**

In this study, which aimed to examine the effect of the relationship between earthquake anxiety and the well-being of mothers with preschool children, it was determined that mothers had high earthquake anxiety. Mothers' high earthquake anxiety is thought to cause their children high earthquake anxiety. McClure et al. (2001) examined the effect of mothers' anxiety on children's behaviors and found that maternal anxiety level was a

significant predictor of anxiety in children. In the study of Alisinanoğlu and Ulutaş (2003), it was determined that there was a statistically significant relationship between children's anxiety levels and their mothers' anxiety levels. Şahin and Görünmez (2022) also found a positive relationship between mothers' anxiety levels and the anxiety levels of preschool children. In Eray et al.'s (2017) study with adolescents affected by the Van earthquake in 2011, it was observed that moving was ineffective in coping with post-earthquake stress, and the importance of family support came to the fore. It is thought that mothers' high well-being and low anxiety after the earthquake are effective in the support they will provide to their children. Yumbul et al. (2018) conducted a study to determine the effect of the earthquake on mother-child relationships. They showed that psychological trauma caused by the earthquake and displacement disrupted and exacerbated mothers' coping skills. It was also observed that mothers affected by the earthquake showed more physical and verbal violence against their children. Mothers who received counseling during this process had stronger physical and emotional bonds with their children.

It was determined that there was no significant difference between the earthquake anxiety and well-being of mothers with preschool children and their marital status. Similarly, in Özen Kutanis and Tunç (2013) study, no significant difference was found between marital status and mean state and trait anxiety scores. In the study of Erdoğan and Aksoy (2020) which examined the coping strategies of people in the earthquake-stricken region with earthquake stress, no relationship was found between marital status in the dimensions of seeking social support and positive reappraisal, while a statistically significant difference was found in favor of married people in terms of marital status in the dimension of religious coping. Lack of adequate social, psychological, and financial support is a pre-disaster risk factor that increases posttraumatic stress disorder symptoms (Agustini et al., 2011; Ma et al., 2011). Married mothers were expected to be less anxious by receiving their spouses' social, psychological, and financial support. However, in this study, no relationship was found between marital status and earthquake anxiety and well-being, and it was observed that both married and single mothers had high anxiety levels. This is thought to be due to the destructive effect of the earthquake.

It was determined that there was no significant difference between the earthquake anxiety of mothers with preschool children and their employment status. It was determined that there was no significant difference between the PERMA Well-being Scale "Attachment," "Positive Relationships," "Meaning," and "Achievements" sub-dimension scores of the mothers and their employment status. It was determined that there was a significant difference in the "Positive Emotions" sub-dimension score and that working mothers had higher "Positive Emotions" sub-dimension scores than non-working mothers. However, Budirahayu (2019) found that women's participation in a common business activity before the earthquake helped to improve the social, economic, and psychological conditions experienced by women and their families due to the earthquake and was influential in healing post-earthquake trauma. In this study, the mother's employment status did not affect earthquake anxiety. However, studies show that anxiety levels increase in children with low socioeconomic status (Girgin,

1990; Yenilmez & Özbey, 2006). The mother's employment is thought to increase the family's socioeconomic status and decrease the children's anxiety.

In the February 6 earthquake, it was determined that the mothers' anxiety under the rubble was significantly higher than those who were not. It was determined that there was no significant difference between the PERMA Well-being Scale "Relationships," "Meaning," and "Achievements" sub-dimensions scores of mothers with preschool children and their status of being under the rubble. It was determined that there was a significant difference in the "Positive Emotions" and "Attachment" sub-dimension scores and that the scores of mothers who were not under the rubble were higher than those of mothers under the rubble. This is an expected result. The more exposure to earthquakes and the more frightening and painful experiences, the higher the level of being affected. There are many studies supporting this result in the literature. Similar results were found in the survey conducted by Kardaş (2013) with people who experienced the Van earthquake. A study conducted by Sönmez et al. (2017) found that posttraumatic stress disorder was higher in those physically damaged by the earthquake, those who experienced the loss of relatives, and those whose places were damaged during the earthquake. In Sarman's (2012) study, the mean depression scores of those whose relatives, friends, or neighbors were trapped under the rubble were higher. Losing a family member or a loved one negatively affects a person's psychology (Makwana, 2019; Peek, 2008). Ali et al. (2012) examined the effects of the 2005 earthquake in Pakistan and found that individuals who were unemployed and living in temporary housing had higher stress levels.

It was determined that there was no significant difference between the earthquake anxiety of mothers with preschool children and the destruction and damage status of their houses. It was determined that there was no significant difference between the scores obtained by the mothers from the PERMA Well-being Scale "Positive Relationships" sub-dimensions and their house being destroyed in the earthquake. It was determined that there was a significant difference in terms of "Positive Emotions," "Attachment," "Meaning," and "Achievements" sub-dimension scores and that the scores of mothers whose houses were not destroyed in the earthquake were higher than those of mothers whose houses were damaged. It was determined that there was no significant difference between the PERMA Well-being Scale "Attachment," "Positive Relationships," "Meaning," and "Achievements" sub-dimension scores of mothers with preschool children and the damage status of the house in the earthquake. It was determined that there was a significant difference in the "Positive Emotions" sub-dimension score, and the scores of mothers whose houses were undamaged and slightly damaged were significantly higher than those whose houses were moderately and severely damaged. In the study conducted by Duraku et al. (2023) after the Albanian earthquake, it was found that those whose houses were heavily damaged and destroyed had higher posttraumatic stress scores and that damaged houses caused feelings of insecurity. Jenkins and Meltzer (2012) also found that people who continued to live where they were living experienced less stress than those who had to move.

In the February 6 earthquake, it was determined that the earthquake anxiety of mothers who lost a first-degree relative (mother/father/spouse/child) and those who lost a relative was significantly higher than those who did not lose a relative. It was determined that there was no significant difference between the well-being of mothers with preschool children and the status of losing any relative in the earthquake. It was determined that there was no significant difference between the scores of the mothers from the PERMA Well-being Scale "Positive Relationships" sub-dimensions and the status of losing a first-degree relative. It was determined that there was a significant difference in terms of "Positive Emotions," "Attachment," "Meaning," and "Achievements" sub-dimension scores, and the scores of mothers who did not lose a first-degree relative were significantly higher than those who did. The study of Berkay et al. (2003) determined that those who stated that a relative died under the rubble after the earthquake experienced more anxiety and depression. Khan, 2006; Zhang et al., 2012 studies said that losing a relative significantly increases posttraumatic stress. The study of Duraku et al. (2021) determined that those exposed to the earthquake during the earthquake event, injured or witnessed the injury or death of another person, or lost a relative had more posttraumatic stress disorders. In addition to the long-term consequences on survivors' mental and physical health, disasters such as earthquakes also cause psychological distress in the general population that can result in long-term trauma and depression (Agustini et al., 2011; Ali et al., 2012). This effect is higher among people trapped under rubble, lost family members, witnessed an earthquake, or experienced economic hardship due to an earthquake.

It was determined that there was a significant relationship between mothers' earthquake anxiety and their well-being, and mothers with less earthquake anxiety had higher levels of well-being. In a similar study by Çiçek and Almalı (2020), individuals' anxiety levels negatively affect their psychology. As a result of a study conducted by Uchida et al. (2014) determined that there were negative and statistically significant relationships between individuals' well-being levels and posttraumatic stress disorders. Shepherd et al. (2017) revealed that individuals' posttraumatic stress symptoms increased, and their well-being decreased after the earthquake. In a study conducted by Taşçı and Özsoy (2021) with individuals exposed to the earthquake that occurred in Elazığ in 2020, it was found that individuals who experienced the earthquake had higher stress disorders than individuals who did not experience the earthquake. In the study conducted by Karabacak-Çelik (2023) after the February 6 earthquakes, it was found that people with high hope and well-being had significantly lower post-earthquake trauma symptoms. It was seen that post-earthquake trauma symptoms were predicted considerably by well-being and hope variables. This study finding overlaps with similar studies in the literature (Moreno-Rosset et al., 2016; Lawton et al., 2017; Sola-Carmona, 2013).

In this section, the data obtained in the findings section are discussed. The findings obtained within the framework of the research should be compared with the relevant literature and discussed with the author's comments. In the conclusion part, the main ideas emerging as a result of the discussions should be explained.

## **SUGGESTIONS**

As a result, earthquakes can have short and long-term adverse effects (Köknel, 1987). In this context, the following suggestions can be made:

It is recommended to take necessary precautions before the earthquake occurs to reduce the destructive effect of the earthquake and thus minimize individuals' earthquake anxiety and the psychological effects of the earthquake.

Studies can be conducted to determine the relationship between earthquake anxiety and the well-being of parents and preschool children.

Studies examining fathers' earthquake anxiety and well-being according to various variables can be conducted.

It is recommended to provide earthquake preparedness training to reduce earthquake anxiety among parents and children.

It is recommended to provide psychological support after the earthquake to reduce the well-being and anxiety of mothers.

Recommendations should be made according to the findings of the study. It should also include recommendations for future studies and applications in the field that will contribute to the literature.

## **ETHICAL TEXT**

In this article, the journal writing rules, publication principles, research and publication ethics, and journal ethical rules were followed. The responsibility belongs to the author for any violations that may arise regarding the article. Ethics committee approval of the article was obtained by Osmaniye Korkut Ata University/Social Sciences Scientific Research And Publication Ethics Committee with the decision dated 09.05.2023 and numbered 2023/5/8.

**Author Contribution Rate:** The author's contribution rate is %100.

**REFERENCES**

- Agustini, E. N., Asniar, I., & Matsuo, H. (2011). The prevalence of long-term posttraumatic stress symptoms among adolescents after the tsunami in Aceh. *Journal of Psychiatric and Mental Health Nursing, 18*, 543–549. <https://doi.org/10.1111/j.1365-2850.2011.01702.x>
- Ali, M., Farooq, N., Bhatti, M. A., & Kuroiwa, C. (2012). Assessment of prevalence and determinants of posttraumatic stress disorder in survivors of earthquake in Pakistan using Davidson trauma scale. *Journal of Affective Disorders, 136*(3), 238–243. <https://doi.org/10.1016/j.jad.2011.12.023>
- Alisinanoğlu, F., & Ulutaş İ. (2000). Çocuklarda kaygı ve bunu etkileyen etmenler. *Milli Eğitim Dergisi, 145*(1), 15-19.
- Alisinanoğlu, F., & Ulutaş, İ. (2003). Çocukların kaygı düzeyleri ile annelerinin kaygı düzeyleri arasındaki ilişkinin incelenmesi. *Gazi Üniversitesi Eğitim ve Bilim, 28*(128).
- Sims, A., & Owen, D. (1993). *Psychiatry*, Bailliere Tindall, London, 1993, s.88-97.
- Ayktut, S., & Soner-Ayktut, S. (2020). Covid-19 pandemisi ve travma sonrası stres bozukluğu temelinde sosyal hizmetin önemi. *Toplumsal Politika Dergisi, 1*, 56-66. <https://dergipark.org.tr/pub/tpd/issue/54902/764078>
- Beydoğan Tangör, B., & Curun F. (2016). Psikolojik iyi oluşun yordayıcıları olarak bireysel farklılıklar özgünlük benlik saygısı ve sürekli kaygı. *Eğitim ve Öğretim Araştırmaları Dergisi, 5*, 4, 1-13.
- Bal, F., & Akgül, Ö. (2023). Deprem kaygısı ölçeği geliştirme çalışması. *Journal of Academic Social Science, 139*, 77-96. <https://doi.org/10.29228/ASOS.68461>
- Berkay, F., Çelen, N., & Kuşdil, M. E. (2003). 1999 Marmara Depreminin Mudanya Halkı Üzerindeki Psiko-Sosyal Etkileri. *Uludağ Üniversitesi Fen-Edebiyat Fakültesi Sosyal Bilimler Dergisi, 4*(4), 1-24. <https://dergipark.org.tr/pub/sosbilder/issue/23119/246928>
- Budirahayu, T., Farida, A., Amala, S., & Sughmita M. (2019). Women's Resilience in preserving family life following an earthquake in North Lombok Regency, West Nusa Tenggara, Indonesia. *Journal of International Women's Studies, 20*(9), 107-120. <https://vc.bridgew.edu/jiws/vol20/iss9/10>
- Butler, J., & Kern, M. L. (2015). The PERMA-Profil: A brief multidimensional measure of flourishing. Available from <http://www.peggykern.org/questionnaires.html>.
- Butler, J., & Kern L. M. (2016). The Perma profiler: A brief multidimensional measure of flourishing. *International Journal of Wellbeing, 6*(3), 1-48. <https://doi.org/10.5502/ijw.v6i3.526>
- Çeçen, A.R., & Cenkseven, F. (2007). Üniversite öğrencilerinde yalnızlığın yordayıcısı olarak psikolojik iyi olma. *Çukurova Üniversitesi Sosyal Bilimler Enstitüsü Dergisi, 16* (2), 109-118. <https://dergipark.org.tr/pub/cusosbil/issue/4377/59975>
- Çiçek, B., & Almali, V. (2020). COVID-19 Pandemisi sürecinde kaygı öz-yeterlilik ve psikolojik iyi oluş arasındaki ilişki: Özel sektör ve kamu çalışanları karşılaştırması. *Turkish Studies, 15*(4), 241-260. [10.7827/TurkishStudies.43492](https://doi.org/10.7827/TurkishStudies.43492)

- Demiriz S., & Ulutaş İ., (2003). 9-12 Yaş çocuklarının kaygı düzeylerinin bazı değişkenlere göre incelenmesi. *Ege Eğitim Dergisi*, 3(1), 1-9.
- Diener, E., & Larsen, R. J. (1993). *The experience of emotional well-being*. In M. Lewis & J. M. Haviland (Eds.), *Handbook of emotions* (pp. 405–415). The Guilford Press.
- Diener, E., & Lucas, R. E. (2000). Explaining differences in societal levels of happiness: Relative standards, need fulfillment, culture and evaluation theory. *Journal of Happiness Studies: An Interdisciplinary Forum on Subjective Well-Being*, 1(1), 41–78. <https://doi.org/10.1023/A:1010076127199>
- Eray, Ş., Uçar, H. N., & Murat, D. (2017). The effects of relocation and social support on long-term outcomes of adolescents following a major earthquake: A controlled study from Turkey. *International Journal of Disaster Risk Reduction*, 24, 46-51. <https://doi.org/10.1016/j.ijdr.2017.05.026>
- Erdoğan, C. N., & Aksoy, Ö. N. (2020). Deprem stresi ile baş etme stratejileri balıkesir örneği. *Sosyal Bilimler Akademi Dergisi*, 3(2), 88-103. <https://doi.org/10.38004/sobad.704072>
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to Design and Evaluate Research in Education* (8th Ed.). McGraw-Hill.
- Girgin, G. (1990). *Farklı sosyo ekonomik kesimden 13–15 yaş grubu öğrencilerinde kaygı alanları ve kaygı düzeyinin başarıyla ilişkisi*. Yayınlanmamış Yüksek Lisans Tezi, Dokuz Eylül Üniversitesi. Sosyal Bilimler Enstitüsü.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 12(85), 348-362.
- Homan, K. J. (2016). Self-compassion and psychological well-being in older adults. *Journal of Adult Development*, 16(23), 111–119.
- Huang, H., & Humphreys, B. R. (2012). Sports participation and happiness: Evidence from US microdata. *Journal of Economic Psychology*, 33(4), 776-793.
- Huppert, F. A. (2009). Psychological well-being: Evidence regarding its causes and consequences. *Applied psychology: Health and well-being*, 1(2), 137-164.
- Hyseni Duraku, Z., Uka, F., Cërmjani, D. et al. An early assessment of presence of probable post-traumatic stress disorder and its associated risk factors in a cohort of survivors of the 2019 Albania earthquake. *Current Psychology*, 42, 6886–6896 (2023). <https://doi.org/10.1007/s12144-021-02024-8>
- Jenkins, R., & Meltzer, H. (2012). *The mental Health Impacts of Disasters*. Government Office of Science.
- Jin, L., & Wang, C.D.C. (2016). International students' attachment and psychological well being: the mediation role of mental toughness. *Counselling Psychology Quarterly*, 31(1), 59-78. <https://doi.org/10.1080/09515070.2016.1211510>
- Karabacak-Çelik, A. (2023). Deprem sonrası travma belirtileri, umut ve iyi oluş arasındaki ilişkinin incelenmesi. *TRT Akademi*, 8 (18), 574-591. <https://doi.org/10.37679/trta.1275268>
- Karasar, N. (2005). *Bilimsel Araştırma Yöntemi: Kavramlar İlkeler Teknikler* (15.Baskı). Nobel.

- Kardaş, F., & Tanhan, F. (2018). Van depremini yaşayan üniversite öğrencilerinin travma sonrası stres, travma sonrası büyüme ve umutsuzluk düzeylerinin incelenmesi. *Van Yüzüncü Yıl Üniversitesi Eğitim Fakültesi Dergisi*, 15(1), 1-36. <https://dergipark.org.tr/tr/pub/yyuefd/issue/40566/490529>
- Kılınc, M. (2017). Psikolojik iyi oluşun yordayıcıları olarak öz-yeterlik ve etkileşim kaygısı. *Uluslararası Eğitim Bilimleri Dergisi*, (13), 207-216. <https://dergipark.org.tr/tr/pub/inesj/issue/40066/476692>
- Köknel, Ö. (1987). *Zorlanan İnsan*. İstanbul: Altın kitaplar Yayınevi.
- Lane, R. D., & Fink, G. R. (2015). Neural activation during selective attention to subjective emotional responses. *Neuroreport*, 8(18), 3969-3972. <https://doi.org/10.1097/00001756-199712220-00024>
- Lawton, E., Brymer, E., Clough, P., & Denovan, A. (2017). The relationship between the physical activity environment, nature relatedness, anxiety, and the psychological well-being benefits of regular exercisers. *Frontiers in Psychology*, 8, 1-11. <https://doi.org/10.3389/fpsyg.2017.01058>
- Love, K. M., & Murdock, T. B. (2004). Attachment to parents and psychological well-being: an examination of young adult college students in intact families and stepfamilies. *Journal of Family Psychology*, 18(4), 600-608. <https://doi.org/10.1037/0893-3200.18.4.600>
- Ma, X., Liu, X., Hu, X., Qiu, C., Wang, Y., Huang, Y., & Li, T. (2011). Risk indicators for post-traumatic stress disorder in adolescents exposed to the 5.12 Wenchuan earthquake in China. *Psychiatry research*, 189(3), 385-391. <https://doi.org/10.1016/j.psychres.2010.12.016>
- Makwana, N. (2019). Disaster and its impact on mental health: A narrative review. *Journal of Family Medicine and Primary Care*, 8(10), 3090-3095. [https://doi.org/10.4103/jfmpc.jfmpc\\_893\\_19](https://doi.org/10.4103/jfmpc.jfmpc_893_19).
- McClure, E. B., Brennan, P. A., Hammen, C., & Le Brocque, R. M. (2001). Parental anxiety disorders, child anxiety disorders, and the perceived parent-child relationship in an Australian high-risk sample. *Journal of abnormal child psychology*, 29(1), 1-10. <https://doi.org/10.1023/a:1005260311313>
- Melody, W.K.Y. (2009). *A cultural comparison of cognitive emotion regulation strategies moderation of cultural values psychosocial well being*. Master's Thesis, City University of Hong Kong.
- Moreno-Rosset, C., Arnal-Remón, B., Antequera-Jurado, R., & Ramírez-Uclés, I. (2016). Anxiety and psychological wellbeing in couples in transition to parenthood. *Clínica y Salud*, 27(1), 29-35. <https://doi.org/10.1016/j.clysa.2016.01.004>
- Morosanova, V., Fomina, T., & Filippova, E. (2019). The relationship between the conscious self-regulation of schoolchildren's learning activity, their test anxiety level, and the final exam result in mathematics. *Behavioral Sciences*, 10(1), 16-26. <https://doi.org/10.3390/bs10010016>
- Muris, P., & Merckelbach, H. (1998). Perceived parental rearing behaviour and anxiety disorders symptoms in normal children. *Personality and Individual Differences*, 25(6), 1199-1206. [https://doi.org/10.1016/S0191-8869\(98\)00153-6](https://doi.org/10.1016/S0191-8869(98)00153-6)
- National Institute of Mental Health-NIMH (2021). *Post-traumatic stress disorder*. Available from: <https://www.nimh.nih.gov/health/statistics/post-traumatic-stress-disorder-ptsd>.

- Öngider N. (2013). Boşanmanın Çocuk Üzerindeki Etkileri. *Psikiyatride Güncel Yaklaşımlar*, 5(2), 140-161. <https://doi.org/10.5455/cap.20130510>
- Özen, Y., & Gülaçtı, F. (2012). Öğretmen adaylarının sosyal beceri ve psikolojik iyi oluş düzeylerinin incelenmesi. *Uluslararası Hakemli Beşeri ve Akademik Bilimler Dergisi*, 1(1), 83-101.
- Panahi, S., Yunus, M. D., Suraya, A. & Samsilah, R. (2013). Correlates of psychological well being amongst graduate students in Malaysia. *Life Science Journal*, 10(3), 1859-1870. <https://doi.org/10.7537/marslsj100313.277>
- Park, H., & Jeong, D. Y. (2015). Psychological well-being, life satisfaction and self-esteem among adaptive perfectionists, maladaptive perfectionists and nonperfectionists. *Personality and Individual Differences*, 72, 165-170.
- Peek, L. (2008). Children and disasters: Understanding vulnerability, developing capacities, and promoting resilience: An introduction. *Children's Youth and Environments*, 18(1), 1–29. <https://www.jstor.org/stable/10.7721/chilyoutenvi.18.1.0001>.
- Pernoud, L. (1994). *Bu Zamanda Anne Olmak Kolay Değil*. İstanbul: E Yayınları.
- Özen Kutanis, R., & Tunç, T. (2013). Hemşirelerde benlik saygısı ile durumluk ve sürekli kaygı arasındaki ilişki: bir üniversite hastanesi örneği. *ISGUC The Journal of Industrial Relations and Human Resources*, 15(2),1-15. DOI: 10.4026/1303-2860.2013.0222.x
- Ryff, C. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 4(57), 1069–1081. <https://doi.org/10.1037/0022-3514.57.6.1069>
- Sarıcaoğlu, H., & Arslan, Ç. (2013). Üniversite öğrencilerinin psikolojik iyi olma düzeylerinin kişilik özellikleri ve öz-anlayış açısından incelenmesi. *Kuram ve Uygulamada Eğitim Bilimleri*, 13(4), 2087-2104.
- Sarman, A., (2012). *Elazığ İli Karakoçan ilçesinde yaşanan yıkıcı deprem sonrasında, depremi yaşayan ilköğretim çağı çocuklarda kaygı düzeyi, depresyon belirtileri ve etkileyen faktörler*. [Yayınlanmamış Yüksek lisans tezi]. Fırat Üniversitesi Sağlık Bilimleri Enstitüsü.
- Shaw, D. S., & Bell, R. Q. (1993). Developmental theories of parental contributors to antisocial-behavior. *Journal of Abnormal Child Psychology*, 21, 493–518. <https://doi.org/10.1007/BF00916316>
- Shepherd, D., McBride, D., & Lovelock, K. (2017). First responder well-being following the 2011 Canterbury earthquake. *Disaster Prevention and Management: An International Journal*, 26(3), 286-297. <https://doi.org/10.1108/DPM-06-2016-0112>
- Sola-Carmona, J. J., López-Liria, R., Padilla-Góngora, D., Daza, M. T., & Sánchez-Alcoba, M. A. (2013). Anxiety, psychological well-being and self-esteem in Spanish families with blind children. A change in psychological adjustment? *Research in Developmental Disabilities*, 34(6), 1886-1890. <https://doi.org/10.1016/j.ridd.2013.03.002>
- Sönmez, M. B. (2022). Depremin psikolojik etkileri, psikolojik destek ve korkuyla baş etme. *TOTBİD Dergisi*, 21, 337-343. <https://doi.org/10.5578/totbid.dergisi.2022.46>
-

- Sönmez, M. O., Nazik, F., & Pehlivan, E. (2017). Van depremi sonrası üniversite öğrencilerinde travma sonrası stres bozukluğu prevalansı. *Uluslararası Hakemli Psikiyatri ve Psikoloji Araştırmaları Dergisi*, 9(1), 6-11. <https://doi.org/10.17360/UHPPD.2017.2.2>
- Nakajima, Ş. (2012). Deprem ve sonrası psikolojisi. *Okmeydanı Tıp Dergisi* 28(2), 150-155, 2012. <https://doi.org/10.5222/otd.sup2.2012.150>
- Şahin, H., & Görünmez, M. (2022). Anne kaygı düzeyi ile çocuk kaygı düzeyi arasındaki ilişkinin incelenmesi. *Iğdır Üniversitesi Sosyal Bilimler Dergisi*, (31), 324-349. <https://doi.org/10.54600/igdirsosbilder.1130687>
- Taha, S., Matheson, K., Cronin, T., & Anisman, H. (2013). Intolerance of uncertainty, appraisals, coping, and anxiety: The case of the 2009 H1N1 pandemic. *British Journal of Health Psychology*, 19(3), 592–605. <https://doi.org/10.1111/bjhp.12058>
- Taşçı, G. A., & Özsoy, F. (2021). Deprem travmasının erken dönem psikolojik etkileri ve olası risk faktörleri. *Cukurova Medical Journal*, 46(2), 488-494. <https://doi.org/10.17826/cumj.841197>
- World Health Organization-WHO (2018). *World Health Statistics 2018: Monitoring Health for the SDGs, Sustainable Development Goals*. Geneva.
- Uchida, Y., Takahashi, Y., & Kawahara, K. (2014). Changes in hedonic and eudaimonic well-being after a severe nationwide disaster: the case of the great east japan earthquake. *Journal of Happiness Studies*, 15, 207–221. <https://doi.org/10.1007/s10902-013-9463-6>
- Yenilmez, K., & Özbey, N. (2006). Özel okul ve devlet okulu öğrencilerinin matematik kaygı düzeyleri üzerine bir araştırma. *Uludağ Üniversitesi Eğitim Fakültesi Dergisi*, 19(2), 431-448. <https://dergipark.org.tr/tr/pub/uefad/issue/16684/173379>
- Yumbul, C., Wieling, E. & Celik, H. Mother–Child relationships following a disaster: The experiences of Turkish mothers living in a container city after the 2011 Van earthquake. *Contemp Fam Ther* 40, 237–248 (2018). <https://doi.org/10.1007/s10591-017-9445-7>