The Negative Effects of the Earthquake on Mothers of Children with Autism Spectrum Disorder

Depremin Otizm Spektrum Bozukluğu Olan Çocukların Anneleri Üzerindeki Olumsuz Etkileri

Gül Kahveci[*]
Nergüz Bulut Serin[**]

Abstract

There have always been events that dislocated the processes of life. The prevalence of experiencing a traumatic event in life has been variably reported from 21.4% to 89.6%. Traumatic events related to earthquakes, as experienced here, are among such experiences which are highly influencing in nature and inducing anxiety and stress. Such a condition may lead to a severe impairment in quality of life and psychosocial functioning. The aim of this research is to investigate the psychological effects of the earthquake on mothers of children with autism spectrum disorder(ASD) after the February 6 earthquake in Turkey. At the same time, the research aims to

determine the negative situations and other psychological problems experienced by these mothers and to understand their coping strategies. This is a qualitative and hence descriptive research method. Data collection is through in-depth interviews and focus group discussions with the participants. In this way, one obtains an in-depth understanding and elaborate analysis of the emotional and cognitive processes the participants go through. While the special needs of children with autism spectrum disorder require constant care and supervision, increasing the mothers' stress levels in the long term and leading them to develop psychological problems, a large-scale traumatic event such as an earthquake causes an additional psychological burden by creating adverse effects on children's need for order and stability, damaging feelings of security and control of mothers, and increasing symptoms of post-traumatic stress. Finally, such support has the potential to help raise psychological resilience after a disaster.

Keywords: *autism spectrum disorder, traumatic events, reactions to earthquake*

Öz

Travmatik olaylar, yaşamın doğal akışını bozan ve her zaman var olan durumlardır. Bireylerin yaşam serüveni içinde travmatik bir olayla karşılaşma yaygınlığı %21.4 ile %89.6 arasında değişmektedir. Deprem gibi travmatik olaylara tanık olmak, derinlemesine etkileyen, kaygı ve strese yol açan deneyimlerdir. Afetlere maruz kalmak, genel bir sıkıntı hali, endişe, korku, tekrarlayan rahatsız edici anılar ve depresyon belirtilerine yol açabilir. Bu durum, etkilenen bireylerin yaşam kalitesini ve psikosoyal işlevselliğini ciddi şekilde bozabilir. Bu araştırmanın amacı, Türkiye'de yaşanan 6 şubat depremi sonrasında, depremin yarattığı olumsuzlukların çocukları otizm spektrum bozukluğuna (OSB) sahip anneler üzerindeki psikolojik etkilerini araştırmaktır. Aynı zamanda araştırma bu annelerin yaşadığı olumsuz durumları ve diğer psikolojik sorunlarını belirlemeyi ve bu sorunlarla başa çıkma stratejilerini anlamayı hedeflemektedir. Niteliksel ve betimleyici bir araştırma yöntemi kullanılmıştır. Veriler, katılımcılarla yapılan derinlemesine görüşmeler ve odak grup tartışmaları yoluyla toplanmıştır. Bu yöntem, katılımcıların yaşadığı duygusal ve bilişsel süreçlerin daha derinlemesine anlaşılmasını ve detaylı bir analiz yapılmasını sağlamıştır. Araştırma, otizm spektrum bozukluğuna sahip çocukları olan annelerin, travma sonrası stres belirtilerinde artma ve diğer ruh sağlığı sorunlarına karşı daha savunmasız olduğunu ortaya koymaktadır. Otizm spektrum bozukluğu olan çocukların özel gereksinimleri sürekli bakım ve gözetim gerektirdiğinden, annelerin uzun vadede stres düzeylerini artırarak psikolojik sorunlar yaşamalarına yol açarken, deprem gibi büyük çaplı bir travmatik olay, çocukların düzen ve istikrar gereksinimi üzerinde olumsuz etkiler yaratarak, annelerin güvenlik ve kontrol duygularını zedeleyerek, travma sonrası stres belirtilerini artırarak ek bir psikolojik yüke neden olmaktadır. Sonuç olarak, bu tür desteklerin sağlanması, afet sonrası psikolojik dayanıklılığı artırmada kritik bir rol oynayabilir.

Anahtar sözcükler: *otizm spektrum bozukluğu, travmatik olaylar, depreme tepkiler*

Introduction

Traumatic events that disrupt the natural flow of life have always been a part of human experience. Research reports the prevalence of encountering a traumatic event in an individual's life journey to be between 21.4% and 89.6% (Perkonigg, Kessler, Storz & Wittchen, 2000). Moreover, scholars underline that witnessing a traumatic event such as an earthquake can cause anxiety and stress (Kar & Bastia, 2006). While anxiety and stress may initially seem like normal reactions, they can develop into more significant mental health problems if they persist over a long period of time. Being exposed to a disaster can lead to general distress, anxiety, fear, recurring disturbing memories, and symptoms of depression. This situation can severely impair the quality of life and psychosocial functioning of those affected (Liang, Cheng, Ruzek, & Liu, 2019). Research has identified post-traumatic stress disorder (PTSD) as the most common mental health issue following a disaster. Major depressive disorder follows closely, with anxiety disorders, substance abuse disorders involving alcohol and nicotine, and suicidal thoughts or attempts also being prevalent (Fergusson et al., 2014).

On 6 February 2023 two major earthquakes struck southern and eastern Turkey. These high-magnitude tremors, with moment magnitudes (Mw) of 7.8 and 7.5, occurred on the same day at 04:17 a.m. and 01:34 p.m., respectively. The powerful earthquakes severely affected a population of 15 million and a significant portion of the country's industrial sector. They originated along the highly active East Anatolian Fault Line with the epicenters located near the districts of Pazarcık and Elbistan in the province of Kahramanmaraş (AFAD 2023). These seismic events impacted an area of approximately 100,000 km², spanning across 11 provinces in Turkey and affecting a geographical region with a population exceeding 15 million. The earthquakes caused extensive destruction, particularly in the provinces of Hatay and Kahramanmaraş, where more than 107,000 buildings either collapsed or sustained severe damage. As a result of these devastating earthquakes, official reports confirm the deaths of 50,000 individuals, with around 110,000 people injured (Coşkun 2023; AFAD 2023). The widespread devastation of buildings and infrastructure resulted in total economic losses estimated to exceed $100 billion. This figure accounts for 9% of Turkey's projected national income for 2023 (Buyuk 2023; Evans 2023; Goren 2023) and is roughly six times higher than the financial impact of the 1999 Marmara Earthquake. A substantial share of these losses is attributed to the damage sustained by industrial facilities (Buyuk 2023).

1.Affective and cognitive risk perceptions of earthquakes

Humans experience a wide range of fundamental emotions, including happiness, fear, shame, embarrassment, anger, guilt, disgust, sadness, surprise, helplessness, terror, worry, panic, and enjoyment (Ekman, 1992). Among these, fear is a prominent affective risk perception (ARP) that disaster researchers often emphasize. ARP refers to the intrinsic fear of unfamiliar threats (Slovic, 2004). Another significant ARP frequently explored is panic. Groundbreaking research by Enrico L. Quarantelli revealed that extreme environmental hazards rarely induce panic (Quarantelli & Dynes, 1977). Panic is described as an intense ARP that triggers antisocial, irrational, or nonsocial fight-or-flight behaviors (Alexander,

2010). However, instances of panic are infrequent, with altruistic behaviors being far more common in disaster situations (Mawson, 2005; Raphael, 2005). In a study conducted by Prati, Catufi & Pietrantonio (2012), 38% of participants reported feeling fear, 9% helplessness and 8% worry. Furthermore, 7% of participants were terrified and 9% felt panicked. More recently, researchers have applied the Mood Adjective Checklist (Matthews et al., 1990) to assess emotional reactions during earthquakes, which included being optimistic, depressed, annoyed, nervous, fearful, relaxed, energetic, alert, and passive (Jon et al., 2016; Lindell et al., 2015; Lindell et al., 2016; Wei et al., 2017). Negative emotions, such as feeling depressed, annoyed, nervous, fearful, and alert, are particularly used to gauge ARP (Lindell, 2018).

2.Cognitive risk perceptions (CRP)

CRP refers to how individuals evaluate threats during disaster situations (Arlikatti et al., 2007; Drabek, 1986; Huang et al., 2017; Lindell & Perry, 2004; Lindell et al., 2015; Mileti & Peek, 2000; Peek & Mileti, 2002; Sorensen, 2000; Tierney et al., 2001; Wu et al., 2015). In the context of earthquakes, CRP is typically assessed by asking individuals to measure their perceived risk of death, injury, property damage, and disruptions in their daily lives (Lindell & Prater, 2000). These disruptions may impact employment, local enterprises, transportation, vital public services, and social engagements (Jon et al., 2016; Lindell et al., 2015; Lindell et al., 2016; Wei et al., 2017).

3.Personality and personality disorders

CRP is the analysis of perils from a human being point of view during crisis moments (Arlikatti et al., 2007; Drabek, 1986; Huang et al., 2017; Lindell & Perry, 2004; Lindell et al., 2015; Mileti & Peek, 2000; Peek & Mileti, 2002; Sorensen, 2000; Tierney et al., 2001; Wu et al., 2015). Certain studies characterize risk perception as the likelihood of experiencing events that might lead to psychological, bodily, or social disruptions (Lindell, 1994; Sorensen & White, 1980). More specifically, CRP refers to how individuals predict potential outcomes during disasters (Mileti & Fitzpatrick, 1992). In the context of earthquakes, CRP is typically assessed by asking individuals to measure their perceived risk of death, injury, property damage, and disruptions in daily life (Lindell & Prater, 2000). These disturbances may include impacts on employment, local businesses, transportation, essential public services, and social activities (Jon et al., 2016; Lindell et al., 2015; Lindell et al., 2016; Wei et al., 2017).

4. Personal characteristics

Toughness. Toughness is the capacity to confront difficult situations directly, without succumbing to passivity or despair. It is akin to being resilient, hardy, and somewhat persistent. Sources of toughness frequently include faith, social support, and a strong sense of community and local pride. *Acceptance* involves acknowledging and embracing circumstances-whether from the past, present, or future-that are viewed as beyond control and inevitable, or part of one's destiny. Traditional wisdom suggests that accepting fate rather than resisting it can prevent various dysfunctions. *Self-reliance* is the belief that individuals should independently manage their own lives and fulfill their responsibilities without depending on others. The guiding

principle is: "Don't wait for assistance or rely on others; take care of yourself." Achieving self-reliance requires a certain level of psychological well-being or toughness, along with a strong community bond. *Patience and serenity* involve conducting oneself thoughtfully and with mindfulness, persisting in actions without acting hastily or becoming easily unsettled. These traits help maintain calmness in difficult situations, such as enduring aftershocks, and indicate mental strength or the absence of trauma, which contribute to psychological resilience.

People regularly face numerous challenges in daily life that cause stress, affecting their overall well-being. While some struggle to cope with them, others handle them in a healthy way. Psychological resilience is the ability to manage negative stimuli effectively and maintain well-being (Ungar & Theron, 2020)-the capacity to confront, adapt to, and sustain psychological health in the face of trauma, adversity, and challenges (Sisto et al., 2019). It reflects a balance between managing challenges and coping with stress, as psychological resilience is dynamic and evolves over time. Protective factors that lessen the adverse effects of stress-inducing risk factors contribute positively to psychological resilience. This resilience develops over time, and succeeding in overcoming challenges strengthens this capability. It plays a crucial role during life transitions. In summary, psychological resilience is essential for individuals to develop effective strategies, adapt successfully to their environment, and achieve success in various areas of their lives (Stewart, Reid & Mangham, 1997).

5.Experiences-related the earthquakes

A study presents two distinct views on earthquake experiences: vulnerability and resilience (Blanchard-Boehm & Cook, 2004). The former is linked to a higher perception of household losses, while the latter implies that individuals with more earthquake experience tend to perceive lower levels of household loss. These contrasting views suggest that past disaster experiences carry different meanings for different individuals. As a result, even if researchers use similar survey methods to evaluate earthquake experiences, the outcomes may differ due to the unique ways in which individuals interpret their experiences.

6.The impact of intense stress on mental well-being

The understanding of how intense stress impacts mental well-being has evolved significantly over time. Primarily, post-disaster psychology (see Reyes & Jacobs 2006) was initially focused on examining psychological disorders that emerged after disasters. However, since the 1990s, this perspective has broadened to acknowledge the wide array of human reactions to intense stress. Before this shift, the discourse surrounding trauma, particularly after the identification of PTSD, tended to overshadow this diversity (Reyes & Jacobs, 2006). Certain personality traits and previous experiences can increase a person's vulnerability to PTSD. These traits include introversion, high levels of neuroticism (Davidson et al., 1989), and a history of psychiatric conditions (Hammond et al. 1993). Other contributing factors include the individual's personal interpretation of the stressful event, feelings of guilt or survival guilt, a sense of entrapment, the event's suddenness and unpredictability, and prior use of alcohol or drugs (Kaplan & Sadock). Traumatic events in early childhood, such as witnessing a parental divorce before the age of

10, personality traits like borderline, paranoid, antisocial, and addictive tendencies, as well as a family history of psychiatric disorders (Breslau et al., 1998; Kaplan & Sadock, 1998), can further increase the risk of developing PTSD. Additionally, pre-existing anxiety disorders and behavioral issues prior to the trauma can contribute to heightened vulnerability and can exacerbate the severity of PTSD (Resnick, Foy, Donahoe & Miller, 1989).

7. Effects of traumatic events

The impact of traumatic events varies based on individual characteristics; even those experiencing the same event may react differently (Özçetin, Maraş, Ataoğlu, & İçmeli, 2008). Traumatic impacts occur in two phases: acute and post-traumatic. While post-acute reactions may be assessed as PTSD, not all traumatic events lead to it. A stressor is necessary but not sufficient for PTSD, though its likelihood increases with factors like accidents, sudden deaths, injuries, divorces, or job loss and irrational beliefs on an individual's life (Özgen & Aydın, 1999). Coping self-efficacy serves as a mediator in alleviating distress after a natural disaster (Benight, Swift, Sanger, Smith, & Zeppelin, 1999; Özgen & Aydın, 1999). When approaching coping from a broader perspective, it becomes clear that individual, familial, and communal functioning mechanisms are all part of the larger picture. The study emphasizes the "individual" dimension of this framework. However, isolating and analyzing the effects of various coping mechanisms independently is not entirely feasible. The conscious or unconscious process of balancing inwardly and outwardly focused actions enables individuals to effectively integrate accommodative and assimilative strategies. Especially in prolonged challenging circumstances, the combination of acceptance, patience, and resilience supports maintaining optimism and the ability to act. (Hamengku Buwono, 2008; Heckhausen, 2002; Hobfoll, Schroder, Wells, & Malek, 2002; Hobfoll, 2002).

8. Environmental signals

Environmental signals are pivotal in influencing Affective Risk Perceptions (ARPs) and Physical Affective Distress (PADs) during earthquakes, as demonstrated by the 2018 Hualien Earthquake. For example, powerful and intense shaking often triggers heightened fear in individuals. This connection between the intensity of shaking and fear is supported by Alexander's (1990) research. Various studies, such as those by Alexander (1990), Arnold, Durkin, and Whitaker (1982), Quarantelli (1976), and Takuma (1972), have demonstrated that severe tremors significantly influence individuals' willingness to evacuate buildings. Conversely, frequent but low-intensity tremors often cause a freeze response, where individuals pause their activities to assess the severity of the shaking before taking further action. Notably, our research uncovered an unexpected factor that increases anxiety: the sound of subterranean rumbling. The purpose of this study is to explore the psychological impacts of large-scale traumatic events, particularly earthquakes, on mothers of children with ASD. The research seeks to determine the conditions and other mental health issues these mothers experience and understand the strategies they use to cope with these issues. Additionally, it seeks to determine the levels of psychological resilience among these mothers and the factors influencing these levels.

Earthquakes directly affect individuals' psychological health. The sudden feelings of fear, panic, and helplessness experienced during an earthquake can disrupt individuals' mental balance. After the earthquake, losses and uncertainty can lead to long-term psychological disorders. Individuals may be more sensitive to such traumatic events. Earthquakes also profoundly impact social structures. Situations such as families losing their homes, disconnecting from their social circles, and the weakening of community support networks negatively affect individuals' social development. Additionally, cognitive development can be adversely affected by earthquakes. High stress levels are reported to negatively impact individuals' cognitive functions, particularly memory and problem-solving skills (Sönmez, 2022). Vulnerable groups, in particular, require more support in coping with these cognitive challenges. Issues such as learning difficulties and attention deficits are commonly observed after earthquakes.

Earthquakes can have deep and lasting effects on individuals' psychological, physical, social, and cognitive development. Research conducted in Türkiye has thoroughly documented the negative impacts of earthquakes in these areas (Şahin et al., 2007; Yıldız and Öztürk, 2023). The major earthquakes experienced in Turkey highlight the need for increased awareness in this area and the development of disaster management strategies that address the needs of specific groups. In this context, research involving vulnerable groups, such as mothers of children with ASD, is thought to contribute to the development of strategies that will help individuals become more resilient to disasters. In conclusion, this research aims to understand the profound effects of natural disasters, particularly earthquakes, on the lives of individuals in vulnerable groups, thereby supporting future research to cope with these effects.

Material and method

The research employed a qualitative interpretative descriptive design using focus groups (Krueger & Casey, 2015; Thorne, 2016). Focus groups, as a research method, gather information through group discussions on a particular subject selected by the researcher. This method includes three main aspects: it is explicitly a data collection method, it relies on group discussion as the source of data, and it involves the researcher actively facilitating the group discussion to gather data (Morgan, 1996). Ethical permissions were obtained within the scope of the research.

In-depth interviewing and focus groups are the widely applicable qualitative methods in terms of choice for data gathering. An in-depth interview is a one-on-one conversation between the researcher and the participant, which could either be unstructured or semi-structured (Lambert, S. D., & Loiselle, 2008). The idea behind this is to find out from the participant thoughts, feelings, experiences, and perspectives on the particular topic of interest in great detail. From this kind of method, more personal and detailed responses can be gathered since the focus is on the collection of data individually (Johnstone, 2017). In an in-depth interview, the interviewer delves into the participant's responses to elicit more of his feelings or opinions. A focus group usually represents a small population: 6-10 participants who deliberates on an issue guided by a moderator, and therefore, rich data can be collected from interactions between participants. Individuals respond not only to questions posed by

a moderator but also to comments made by others, which may have the effect of sparking a range of opinions that pertain to relevance of discussion points. (Rabiee, 2004).

The validity of focus groups reside in recognition of group dynamics as well as how people mutually develop their view on an issue. Both techniques thus serve different purposes in data collection (Gill, Stewart, Treasure & Chadwick, 2008). While in-depth interviews allow us to gain insight with a personal touch into individual experiences, focus groups develop a person's understanding of shared views and the power of group dynamics. The prospective integration of these methods will definitely offer an all-round view for the researcher of the research topic from both the individual and collective perspective, thus giving him or her richer and more varied sets of data.

The following are some of the key reasons for conducting the study in Ankara: First of all, the earthquakes centred on 6 February 2023 in Kahramanmaraş, affected a very large geographical area and caused many families to migrate. Individuals with special needs, especially families of children with ASD, migrated to big cities like Ankara in order to have access to a safe environment and health services. In this respect, Ankara became an accumulation point for the families who migrated after the earthquake. Ankara is a city hosting many universities and research centres. This situation made the study easier in logistic respects. Moreover, academic resources, health experts, and private educational institutions in Ankara provided some advantages both in the data collection process and in reaching the participants. The existence of special educational institutions—especially for children with ASD—facilitated the communication with such a family and increased participation in the study. The fact that Ankara is a migratory city and it has high demographic diversity allows the psychological processes experienced by the mothers affected by the earthquake to be examined from a broader perspective. These factors therefore provide the reasons for carrying out the research in Ankara and give the study considerable scientific merit.

Participants, data collection, interview guide and data analysis

Participants were chosen according to the following criteria: (1) families with a child diagnosed with ASD who had experienced the earthquake sequence (with magnitudes of 7.8 and 7.5) that struck southern and eastern Turkey on 6 February 2023; (2) Turkish-speaking families who had relocated to Ankara after the earthquake; and (3) parents who were either married or divorced and living in separate homes. These criteria ensured that the study included both commonality (families with an autistic child) and variability (different family structures) (Morgan, 1996). The "scope" of this research encompasses a private special education school located in Ankara. The participants consist of mothers of children diagnosed with ASD, coming from various central districts of Ankara, whose children are enrolled at this special education institution (Table 1).

The data collection method employed was the focus group technique (Wilson, 1997). After receiving verbal consent from the mothers, they signed the consent form during the group session held at the special education school, with their responses being recorded by the teachers. Mothers of children with autism who volunteered to participate were included in the focus groups (n =

37). The group meetings were conducted at the special education center at different intervals. To facilitate participation, sessions were scheduled during the mothers' visits to the school, with each session including at least two and at most six mothers. Each session was led by a moderator and assisted by teachers (each session was led by a moderator (first researcher) and assisted by teachers). The sessions were led by a moderator, a research specialist and graduate student with expertise in facilitating focus groups. An assistant moderator, also a graduate student, was responsible for taking notes to complement the audio recordings. At the conclusion of each session, a summary was provided to confirm the participants' statements, and their responses were reviewed. The topic encouraged in-depth discussion, and the smaller group size allowed participants to express themselves more freely, leading to the collection of more accurate data. Each focus group session lasted 2x45 minutes, with all sessions audio recorded.

The interview guide comprised both yes/no and open-ended questions. Throughout the sessions, mothers were encouraged to share further observations with us. The structure of the study, along with its components, followed the framework established by Krueger and Casey (2015), organizing the sessions into stages: opening, introduction, transition, key, and closing questions. Examples of key questions used in the study are provided in the tables below. To avoid repetition, references are made to the tables and table numbers instead of including the questions directly. Tables include socio-demographic data of participants (Table 1), data related to traumatic events (Table 2), individual data following traumatic events (Table 3), and psychological resilience (Table 4). A thematic content analysis was conducted (Neuendorf, 2018). To begin, the audio recordings were transcribed word-for-word (Rousseau et al., 2002). Two authors independently validated the coding process, reaching a 78% agreement rate. This level of agreement was partly due to some overlap in the codes. The transcriptions were then coded using the Nvivo software (QSR International, 2018). Following this, the first and second authors carried out data reduction based on the coding. Throughout this stage, consistency between the researchers was maintained, and key themes along with sub-themes were identified (Neuendorf, 2018). For example, during the initial reduction phase (R1), no data were reassigned to new codes, as consistency was ensured by generating a table that included the initial codes from verbatim quotations.

Limitations

After the earthquake, families who were unable to receive sufficient support in their area left to stay with family members living in other regions. Among this group, families with children diagnosed with ASD who were relocated to stay with relatives in Ankara were our participants. Accordingly, this study was carried out specifically in districts of Ankara reflects only a small segment of the Turkish population. Furthermore, due to the diverse nature of ASD profiles, children's needs differ based on the severity of the disorder and the specific symptoms they exhibit (Charman, 2014; Fountain et al., 2012; Nazeer & Ghaziuddin, 2012; Gledhill & Currie, 2020). As a result, it is crucial to extend the research to a larger participant group to ensure more comprehensive findings.

Table 1: Socio-demographic data of participants (mothers) at the time of the interviews.

Socio-demographic variables	N	Mean (range)	%
	37		
Age (years)		42.9 (21–61)	
Employment status (paid employment)	16		43.3
Employment status (unemployed)	21		56.7
Type of accommodation (apartment)	35		95
Type of accommodation (house)	2		5
Number of children 1 2 3	 2 28 7		 5 76 19
Existing Mental Chronic Illness Diagnosis	12		32
Regular medication use	15		41
Smoking habits	22		60
Presence of psychiatric disorders in first or second-degree relatives	9		24

Table 1 contains the socio-demographic data of the participants (mothers). Each row shows the distribution and percentage of a specific socio-demographic variable. Here are the explanations of the findings for each row:

There are a total of 37 participants. The average age of the participants is 42.9 years, with an age range from 21 to 61 years. showing the age distribution and average age of the participants. In terms of employment status, 16 participants (43.3%) are employed, indicating that approximately half of the participants are actively working, while 21 participants (56.7%) are unemployed, indicating that the majority of the participants are not working. Regarding the type of residence, 35 participants (95%) live in apartments, showing that the vast majority of the participants reside in apartments, while 2 participants (5%) live in detached houses, indicating that living in houses other than apartments is rare.

In terms of the number of children, 2 participants (5%) have 1 child, 28 participants (76%) have 2 children, and 7 participants (19%) have 3 children, indicating that most participants have two children. Regarding existing mental chronic illness diagnoses, 12 participants (32%) have been diagnosed with a chronic mental illness, indicating that about one-third of the participants have a chronic mental condition. Additionally, 15 participants (41%) regularly take medication, showing that a significant portion of the participants use medication regularly. In terms of smoking habits, 22 participants (60%) smoke, indicating that the majority of the participants are smokers. Lastly, 9 participants (24%) reported having first or second-degree relatives with psychiatric disorders, showing that a quarter of the participants have relatives with psychiatric conditions.

https://www.folkloredebiyat.org

Table 2: Data related to traumatic events.

	(n)	Percentage (%)
Level of Fear During the Earthquake		
None or very little	0	0
Moderate	1	2.7
Very high	36	97.3
Experiencing Fear of Death During the Earthquake		
Yes	32	86.5
No	5	13.5
Injury During the Earthquake		
Yes	25	67.6
No	12	32.4
Losing a Loved One During the Earthquake		
Yes	37	100
No	0	0
A Loved One Being Injured During the Earthquake		
Yes	37	100
No	0	0
Experiencing Financial Loss During the Earthquake		
Yes	37	100
No	0	0
Experiencing Job Loss During the Earthquake	w	
Yes	36	97.3
No	1	2.7
Damage Status of Your Home		
Undamaged	0	0
Sustained minor damage	2	5.4
Sustained moderate damage	5	13.5
Sustained severe damage	30	81.1

Table 2 contains data related to traumatic events experienced during and after the earthquake. Each row shows the distribution and percentage of a specific situation.

Level of fear during the earthquake: Moderate: Only 1 person (2.7%) experienced a moderate level of fear. Very high: 36 people (97.3%) experienced a very high level of fear. **Experiencing fear of death during the earthquake:** Yes: 32 people (86.5%) experienced fear of death during the earthquake. No: 5 people (13.5%) did not experience fear of death. **Injury during the earthquake:** Yes: 25 people (67.6%) were injured during the earthquake. No: 12 people (32.4%) were not injured. **Losing a loved one during the earthquake:** Yes: 37 people (100%) lost a loved one during the earthquake. **A loved one being injured during the earthquake:** Yes: 37 people (100%) reported that a loved one was injured

during the earthquake. **Experiencing financial loss during the earthquake:** Yes: 37 people (100%) experienced financial loss during the earthquake. **Experiencing job loss during the earthquake:** Yes: 36 people (97.3%) experienced job loss during the earthquake. This indicates that economic activities were severely affected after the earthquake. No: 1 person (2.7%) did not experience job loss. **Damage status of your home:** Minor damage: The homes of 2 people (5.4%) sustained minor damage. Moderate damage: The homes of 5 people (13.5%) sustained moderate damage. Severe damage: The homes of 30 people (81.1%) sustained severe damage.

Table 3: Individual data following traumatic events (Behavioral problems: None or mild, Moderate, and Severe)

Behavioral Problems	None or mild	Moderate	Severe
I am experiencing a loss of appetite	3	17	17
I wake up suddenly from my sleep and have difficulty falling back asleep.	0	24	13
I sleep less.	13	18	6
I have become more angry/irritable.	8	16	13
I have nightmares.	0	7	30
I cannot enter enclosed spaces for fear of an earthquake.	9	15	13
Emotional constraint			
I have lost my sense of trust in the future.	24	11	2
Life feels meaningless to me now.	12	24	1
My desire to live has decreased after what I experienced.	31	6	0
I feel very helpless/powerless.	8	25	4
Emotional			
I appreciate the value of my life more.	0	6	31
I have become very emotional/cry for no reason	0	9	28
Cognitive State			
I worry about my children/ parents/acquaintances/ friends.	0	0	37
I am anxious with the constant thought that an earthquake might happen at any moment.	0	10	27
Images of the earthquake keep appearing in my mind. I am worried about the future.	0	34	3
I am worried about the future.	0	8	29

Table 3 assesses the behavioral, emotional, and cognitive states individuals experience following a traumatic event. Each row presents the intensity and distribution of different symptoms. The explanations for the findings in each row are as follows:

Loss of Appetite: 3 individuals do not experience or experience mild loss of appetite. 17 individuals experience moderate loss of appetite. 17 individuals experience severe loss of appetite. **Waking Up Suddenly and Difficulty Falling Asleep:** 24 individuals experience this problem moderately. 13 individuals experience this problem severely. **Sleeping Less:** 13 individuals experience this problem mildly. 18 individuals experience this problem moderately. 6 individuals experience this problem severely. **Increased Anger/Irritability:** 8 individuals feel mildly angry or irritable. 16 individuals feel moderately angry or irritable. 13 individuals feel severely angry or irritable. **Nightmares:** 7 individuals experience moderate nightmares. 30 individuals experience severe nightmares. **Fear of entering enclosed spaces due to earthquake:** 9 individuals experience this fear mildly. 15 individuals experience this fear moderately. 13 individuals experience this fear severely. **Loss of trust in the future:** 24 individuals experience mild loss of trust in the future. 11 individuals experience moderate loss of trust in the future. 2 individuals experience severe loss of trust in the future. **Feeling that life is meaningless:** 12 individuals experience this feeling mildly. 24 individuals experience this feeling moderately. 1 individual experiences this feeling severely. **Decreased desire to live after the experience:** 31 individuals experience this feeling mildly. 6 individuals experience this feeling moderately. **Feeling very helpless/powerless:** 8 individuals feel mildly helpless or powerless. 25 individuals feel moderately helpless or powerless. 4 individuals feel severely helpless or powerless. **Greater appreciation for life:** 6 individuals experience this feeling moderately. 31 individuals experience this feeling severely. **Increased emotionality/crying without reason:** 9 individuals experience this feeling moderately. 28 individuals experience this feeling severely. **Worrying about children/parents/acquaintances/friends:** All participants experience this worry severely. **Anxious about the possibility of an earthquake at any moment:** 10 individuals experience this anxiety moderately. 27 individuals experience this anxiety severely. **Recurring images of the earthquake:** 34 individuals experience this moderately. 3 individuals experience this severely. **Worrying about the future:** 8 individuals experience this worry mildly. 29 individuals experience this worry moderately.

Table 4: Psychological resilience

Psychological resilience Questions	(n) Yes/No	Extended Questions: Answers were Grouped into Three Different Levels **(mild, moderate severe level)**
1. I can handle everything that comes my way.	Y: 0 N: 37	1. What methods do you prefer when dealing with difficulties?
2. When I encounter problems, I try to see the humorous side of them.	Y: 2 N: 35	2. What techniques do you use to see the humorous side of problems?
3. Having to deal with stress can make me stronger.	Y: 6 N: 31	3. How do you turn dealing with stress into an opportunity for growth?
4. I quickly return to normal after illness, injury, or similar difficulties.	Y: 3 N: 34	4. What do you do to quickly return to normal after illness or injury?

5. I believe that I will reach my goals despite any obstacles	Y: 12 N: 25	5. How do you maintain your belief that you will achieve your goals when faced with obstacles?
6. I can maintain my focus and think clearly under stress.	Y: 0 N: 37	6. What methods do you use to maintain your focus and prevent distractions under stress?
7. I don't give up easily in the face of failure.	Y: 6 N: 31	7. What sources of motivation do you rely on to not give up when faced with failure?
8. I see myself as a strong person when it comes to dealing with life's challenges.	Y: 6 N: 31	8. What factors make you feel strong while dealing with life's challenges?
9. I can cope with unpleasant and painful emotions such as sadness, fear, and anger.	Y: 12 N: 25	9. What are your ways of coping with negative emotions such as sadness, fear, and anger?

The responses to the extended questions grouped into mild, moderate and severe levels are as follows:

Extended Question 1: What strategies do you prefer when handling challenges? Third Level: "I found it very difficult to manage the challenges I encountered. Most of the time, I felt unsure about what to do and experienced a sense of powerlessness. Although I made numerous attempts to solve the problems, I often failed. I was reluctant to seek help, and as a result, remained stressed. Eventually, I realized that I couldn't manage these situations on my own and needed support to move forward" - Participant 5

Extended Question 2: How do you use humor to approach problems?

Second Level: "When facing challenges, I tried to use humor as a tool. I would make jokes and adopt a positive outlook, like Pollyanna, in order to lighten the mood because I didn't want my children to be negatively impacted. Sometimes, talking things over with friends helped reduce my stress. Nonetheless, it was not always facile, and there were instances when my morale diminished" - Participant 8.

Extended Question 3. How did you make dealing with stress an opportunity for growth?

First Level: "While dealing with stress, I turned the situation into an opportunity for growth. I trusted myself in stressful situations and realized these experiences made me resilient. I developed strategies to overcome difficulties and learned something from each one. This helped me develop my problem-solving skills and emotional strength" - Participant 2.

Second Level: "I have been in a stressful situation where I tried to turn the situation into an opportunity for growth. First of all, through trying various ways of handling the stress, I found out which ones work best for me. These made me much better when it comes to handling stressful situations and thus making me stronger. However, sometimes it was hard for me to overcome some problems, and I needed somebody's help" - Participant 5.

Third Level: "When facing the source of stress, I could hardly rethink the problem and make an opportunity out of it, repeatedly failing to cope with the stressful situation on time. I didn't get that 'what doesn't kill us makes us stronger' feeling afterwards. Difficulties overwhelmed me, and I often felt helpless. This made the stress affect me even more" - Participant 12.

Extended Question 4. What do you do to get back quickly after falling sick or getting injured?

First Level: "What I do to get back quickly after falling sick or getting injured is to have faith in myself and to take certain steps. Firstly, I followed the doctor's advice and treatment plans very strictly. To me, listening to my body and respecting its need for rest is of foremost importance. I was also optimistic and focused on my recovery, having all the patience and determination it took to heal" - Participant 4.

Second Level: "The methods I used to get back to normal as soon as possible after illness or injury are many. First of all, I went for professional healthcare services and carefully followed the treatment process. Meanwhile, I gradually tried to return to my routine life and strengthened myself with physical activities. During this process, I stayed in the company of loved ones and sought support to maintain my morale. Nevertheless, the slow pace of recovery sometimes dimmed my spirits" - Participant 5.

Third Level: "I found it hard to return to normal after illness or injury. I went through the treatment process but usually felt it was slow and painful. At times, I felt helpless and low in morale. I couldn't take the necessary steps for recovery or maintain my motivation. This made the process longer and more complicated for me" - Participant 12.

Extended Question 5. How do you maintain your belief that you will achieve your goals when faced with obstacles?

First Level: "With regard to believing that my goals are attainable when obstacles get in the way, I relied on myself and maintained a positive attitude. With each obstacle, I took it as an opportunity to learn more and improve my problem-solving skills. Also, I employed self-rewarding to maintain high motivation through celebration of small successes. With each step, I felt closer to the goal. Determined and disciplined, I took all measures necessary to reach my goals" - Participant 31.

Second Level: "Once obstacles showed up, I applied some strategies to maintain belief in achieving my goals. First, I reflected on my goals and broke them into smaller parts to motivate myself by achieving them. I found alternative ways to overcome obstacles and learned to be flexible. I sought help from people around me by sharing my experiences to boost my morale. However, sometimes it was hard to believe, and I had to make extra effort" - Participant 5.

Third Level: "It was very challenging for me to believe in reaching my objectives amidst many obstacles. Often, obstacles frustrated me, and I felt helpless. The motivation required to achieve my goals eluded me, and I nearly gave up many times. I also felt incapable of dealing with problems, which significantly undermined my belief in reaching my goals" - Participant 12.

Extended Question 6. What methods do you use to maintain your focus and prevent distractions under stress?

Third Level: "When stressed, maintaining concentration was challenging for me. In stressful situations, I often panicked, and my mind became foggy. I had great difficulty focusing and almost couldn't clear my head. I couldn't find effective ways to manage stress, which made the situation even worse" - Participant 5.

Extended Question 7. What sources of motivation do you rely on to not give up when faced with failure?

First Level: "In case of failures, to avoid giving up, I relied on my self-confidence and goals. I accepted that each failure is a learning opportunity and tried to learn from it. By recalling past successes, I motivated myself to try again with a positive attitude. The support of my family and friends also gave me great strength during this process" - Participant 31.

Second Level: "I had various sources of motivation to avoid giving up when faced with failure. First, setting small, achievable goals helped. Achieving these goals motivated me. I read inspiring stories and success tales, which gave me the courage to try again. I also viewed failures as temporary and just hurdles to my ultimate goal. However, sometimes I struggled to maintain my morale and had to make extra efforts" - Participant 12.

Third Level: "Not giving up when faced with failure was often very challenging. Failure frequently affected me deeply, and I struggled to find motivation. Trying again required more energy than I had. I hesitated to seek support, which made the situation even harder. As a result, dealing with failure was very stressful and demoralizing for me" - Participant 33.

Elaborated Question 8: What elements contribute to your resilience while confronting life's challenges?

Primary Level: "The principal factors that instill strength in me when confronting life's challenges are my self-assurance and previous achievements." I concentrated on the competencies and experiences that enabled me to surmount each challenge. The assistance I got from my family and friends provided me with both strength and inspiration. I may not have achieved as much alone. Moreover, through some strategies for releasing tension, such as meditation and physical activity, I maintained my psychological and physical health" - Participant 31.

Second Level: "Various factors helped me to be resilient in fighting the daily stresses of life." First of all, I had more clearly defined my goals and values and held on to them firmly. My family and friends provided the support system that was much needed during these difficult times and boosted my morale. I drew strength from what others had gone through and from the stories of strong people. However, sometimes I could not feel strong and needed to work harder to maintain my strength. Participant Nine Third Order: "Almost every night, I struggled to stay strong facing the darkest side of my life." The fighting against obstacles drained me, and I felt overwhelmed most of the time. I could hardly find the sources of inspiration that would let me enable the sense of empowerment. "I never sought help,

1418

thus, I felt isolated and vulnerable. The work of keeping life's challenges did become too exhausting and degrading task for me" - Participant 27.

Extended Question 8. What are the things that make you feel strong to face life's various challenges?

First Level: "Some of the factors that made me feel strong to face the various challenges of life were my self-confidence and my past achievements. I focused on the skills and experiences I had to overcome every difficulty. The support from family and friends gave me strength and motivation. I also maintained psychological and physical fitness through coping strategies like meditation and exercise" - Participant 31.

Second Level: "I had reasons that made me strong in fighting life's battles. Firstly, I stated my goals and values and committed to them. Family and friends comprised my support system and were always there for me whenever difficulties struck, even boosting my morale. Other people's stories and experiences also made me feel strong during tough times. However, at other times, when I didn't feel strong, I had to put in extra effort" - Participant 9.

Third Level: "Throughout life's problems, I have often felt weak. Coping with struggles has really tired me out, and I frequently felt helpless. I couldn't find any sources of motivation that could help me feel strong. I didn't ask for support, which made me feel lonelier and weaker. For me, overcoming obstacles was too stressful and a demoralizing process" - Participant 27.

Extended Question 9. What are your ways of coping with negative emotions such as sadness, fear, and anger?

First Level: "While trying to get over the negative feelings of sadness, fear, and anger, I believed in my capability and built up a few coping strategies. First of all, without repressing these emotions, I accepted them and tried to analyze them. Meditation and breathing exercises helped me to calm down. Additionally, I engaged in physical activities and exercise to reduce the impact of these feelings. I called my friends and family to talk and share my feelings, which helped me feel relieved and stronger" - Participant 31.

Second Level: "I used a few methods to cope with negative emotions such as sadness, fear, and anger. First of all, I expressed these emotions by writing them down and keeping a journal. In addition, I turned to my hobbies and things that interested me to distract myself and relax. I sought professional help and attended therapy to deal with these emotions. Nonetheless, sometimes these emotions overwhelmed me, requiring additional support" - Participant 5.

Third Level: "I found it very challenging to handle or deal with negative emotions like sadness, fear, and anger. Most of the time, I remained under the influence of such emotions and often felt helpless. I struggled to develop coping mechanisms and was frequently reluctant to seek support. This made the situation very challenging and demoralizing for me, and I failed to overcome these emotions" - Participant 27.

Discussion

Results from Table 1 and Table 2 could be interpreted to mean that:

Socio-demographic data

This table provides a detailed analysis of the socio-demographic characteristics and health status of the participants. Such data offer valuable insights into the sample profile of the study and help assess how the results relate to the broader population. The total number of participants is 37, which defines the sample size and gives an indication of the generalizability of the data. A sample size of 37 is considered sufficient for representing a specific community. The average age of participants is 42.9, with a range from 21 to 61 years, covering a broad age spectrum. This distribution helps understand how different age groups respond to traumatic events, with the majority of participants being middle-aged, suggesting greater life experience. Regarding employment, 43.3% of participants are employed, while 56.7% are unemployed, indicating significant economic challenges that may amplify the impact of traumatic experiences. Most participants (95%) live in apartment buildings, with only 5% residing in detached houses, suggesting that the majority live in densely populated urban areas, potentially increasing vulnerability during events like earthquakes. In terms of family size, 5% of participants have one child, 76% have two children, and 19% have three children. The predominance of families with two children highlights larger family units, which could offer insights into how traumatic events affect family dynamics, particularly in relation to children. Furthermore, 32% of participants have been diagnosed with a chronic mental illness, emphasizing the importance of psychological support, as existing mental health issues may complicate responses to trauma. Regular medication use is reported by 41% of participants, indicating that a significant portion of them are undergoing continuous medical treatment, likely for chronic health conditions. Smoking habits are prevalent among 60% of the participants, which may suggest that smoking is used as a coping mechanism for stress. Additionally, 24% of participants reported having first or second-degree relatives with psychiatric disorders, highlighting the influence of family history on individual responses to traumatic events. These findings provide a comprehensive profile of the participants, which is crucial for planning effective post-disaster support and intervention programs.

Data on traumatic events

This table describes traumatic events experienced during and after the earthquake and how participants rated their feelings about what happened. The study revealed that 97.3% of participants experienced extreme fear during the earthquake, while only 2.7% reported moderate fear. This suggests that the level of fear and panic during the earthquake was exceptionally high, highlighting the profound psychological impact of such traumatic events. Additionally, 86.5% of participants felt a fear of death during the earthquake, while 13.5% did not. This high percentage of those fearing death emphasizes the lethal nature of the event.

Regarding physical injuries, 67.6% of participants were injured during the earthquake, while 32.4% were not. This demonstrates the significant physical threat posed by the disaster. Furthermore, 100% of participants reported the loss of a loved one, which underscores the

immense scale of destruction and personal loss, leading to widespread societal trauma. Similarly, all participants (100%) reported that a close family member was injured during the earthquake, indicating the extensive impact of injuries within families. Lastly, all participants experienced financial loss due to the earthquake, further compounding the overall traumatic burden.

Individual data following traumatic events

Table 3 provides a comprehensive overview of the various behavioral, emotional, and cognitive issues individuals experience after a traumatic event. The data reveal the wide-ranging impacts of trauma on individuals' lives.

Behavioral and Emotional Effects: The majority of individuals report experiencing behavioral issues such as loss of appetite, sleep disturbances, anger, and nightmares. Additionally, emotional states like loss of trust in the future, loss of meaning in life, and feelings of helplessness are commonly observed. Notably, symptoms such as a decreased desire to live and feelings of helplessness highlight the profound psychological impacts of trauma.

Cognitive Effects: Many participants experience cognitive issues such as flashbacks (re-experiencing the traumatic event) and a constant state of anxiety. The recurring images of the earthquake and concerns about the future clearly illustrate the impact of trauma on mental processes.

Table 4 shows that the participants generally have low levels of psychological resilience and find it challenging to cope with difficulties. Most participants feel inadequate and helpless in stressful situations and when facing challenges, indicating a significant need for additional support and intervention to improve psychological resilience.

Self-Confidence and Coping Strategies: A majority of the participants report lacking self-confidence and having insufficient skills to cope with difficulties. Notably, none believe they can handle everything, and everyone struggles to maintain focus under stress, highlighting a critical need for support in these areas. Stress Management and Empowerment: The lack of participants who see opportunities for empowerment while dealing with stress suggests a need for more effective stress management and empowerment strategies. Teaching stress management techniques and providing supportive interventions can help individuals manage stress more effectively. Coping with Negative Emotions: While some individuals have developed the ability to cope with negative emotions such as sadness, fear, and anger, the majority find this challenging. This highlights the need to develop emotional resilience and effective emotional management skills.

Conclusion

Throughout life, it is likely that we will encounter many traumatic events, and natural disasters hold a significant place among these events. Earthquakes, in particular, are highly traumatizing natural disasters due to their unpredictability, wide impact area, and immense destructive power. Considering their effects on individuals, earthquakes can be said to be extremely traumatizing. The prevalence of PTSD following earthquakes has been reported to range from 3% to 87%

across groups with various cultural and socio-demographic characteristics (Aker, 2006). Explaining this variability solely through methodological differences is challenging. These data reveal that large-scale traumatic events like earthquakes have substantial effects on individuals' psychological and economic conditions. While socio-demographic data provide information about the participants' general health and living conditions, data related to traumatic events highlight the fear, losses, and economic issues caused by the earthquake. Such data play a crucial role in planning psychological support and assistance programs post-disaster. Utilizing this information during the post-disaster recovery process can help in implementing more effective and targeted interventions. Specifically, the prevalence of chronic mental illnesses and regular medication use, the high rate of smoking, and the presence of psychiatric disorders among close relatives highlight the significant need for psychological support in this community. Similarly, the intense fear and fear of death experienced during the earthquake, along with the prevalence of injuries and losses, financial losses, and job losses, underscore the necessity of economic and social support mechanisms post-disaster.

A thesis study conducted by Adana Medical Faculty evaluated the levels of (PTSD) and psychological resilience in adults following an earthquake (Mahmut, 2023). The research included 253 participants. In the study, the percentage of those who had injured relatives during the earthquake was reported as 19%. However, for mothers of children with (ASD), this figure was 100%. The percentage of those who lost a relative during the earthquake was 17.4%, while for mothers of children with ASD, it was again 100%. Financial loss was experienced by 22.9% of the participants, compared to 100% for mothers of children with ASD. Additionally, 78.3% of participants were displaced from their homes, whereas this number was 100% for mothers of children with ASD. Families were forced to relocate to a different city. Common findings in both studies are as follows: **Traumatic stress and emotional responses:** Both mothers of children with ASD and adult individuals experienced intense traumatic stress and emotional reactions after the earthquake. Fear of death, loss of trust in the future, and feelings of helplessness were prevalent in both groups. **Sleep problems:** Sleep disorders were prominent in both groups. Sudden awakenings from sleep, difficulty falling asleep, and nightmares were commonly reported. **Psychological resilience:** As the levels of psychological resilience increased in adult individuals, their PTSD scores decreased. Although quantitative data in the form of PTSD scores were not provided for mothers of children with ASD, it was observed that they experienced intense stress.

This comparison highlights that the traumatic stress and emotional responses experienced by mothers of children with (ASD) after the earthquake are similar to those of the general adult population, while also exhibiting some specific differences. Both groups require significant psychological intervention and support programs. For mothers of children with ASD, it is crucial to develop special support programs that take into account their concerns for their children. These findings indicate that post-disaster mental health policies and support services need to be planned in a more targeted and effective manner. When compared with another study from 2024 (Orçan & Karaaziz, 2024), parallels were identified in the following findings. In terms of (PTSD) and mental health, both studies observed PTSD prevalently.

It was noted that mothers of children with (ASD) commonly have chronic mental health conditions, while PTSD symptoms were frequently observed among adults who experienced the earthquake. This underscores the impact of traumatic events on mental health. While 32% of mothers of children with ASD have been diagnosed with chronic mental illnesses, PTSD symptoms are prevalent among adults who experienced the earthquake, with women being more affected than men. Examining the socio-demographic data, both studies focused on the socio-demographic characteristics of the participants. Variables such as age, gender, and marital status were analysed in detail in both studies. The average age of mothers of children with ASD was 42.9 years, while the average age of adults who experienced the earthquake was 38.39 years. Both studies covered a wide age range.

Psychological and economic challenges were significant in both groups. It was found that both groups faced serious psychological and economic difficulties. The unemployment status of mothers of children with ASD is 56.7%, while among adults who faced the earthquake, the unemployment rate was 48.2%. Both studies identified significant issues related to economic burdens and unemployment. Job loss among those affected by the earthquake was reported at 97.3%, and unemployment among mothers of children with ASD was similarly high. These findings highlight the need for comprehensive support and intervention programs to strengthen psychological resilience. Specifically, psychological education, counseling, and support services should be made available to help individuals better cope with stress, failure, illness, and other challenges. Furthermore, programs aimed at boosting self-confidence and motivation can contribute to improving psychological resilience. Providing such support is critical for enhancing overall well-being and quality of life. The impact of traumatic experiences is holistic, requiring serious psychological, emotional, and cognitive interventions throughout a person's life. Based on these findings, post-disaster psychosocial support program planning and implementation should be more effective and targeted. Long-term support and follow-up programs are particularly necessary for preventing and treating PTSD and other mental health issues. In conclusion, these data underscore the importance of providing both psychological and economic support following disasters, demonstrating that disaster response strategies should be informed by such comprehensive data. Future studies may compare mothers of children with ASD with mothers of typically developing children and involve more participants to achieve more detailed findings. Statement of Research and Publication Ethics: This is a research article containing original data and has not been previously published or submitted for publication to any other publication organization. The author has complied with ethical principles and rules throughout the research process. Informed consent was obtained from volunteer participants in the study and confidentiality of the participants was maintained.

Author contribution rates to the article: The first author of this article contributed 50% to the preparation of the study, data collection, interpretation of the results, and writing of the article.

Conflict of interests: There is no potential conflict of interest in the study.

Ethical approval: Permission for the study was obtained from Lefke Avrupa University Scientific Research and Publication Ethics Committee, with the date and number 07.06.2024.BAYEK049.04.

Informed consent: Participants were informed about the purpose, process, benefits, and potential risks of the relevant research. It was stated both in writing and verbally that the research was conducted on a voluntary basis and that they could withdraw from the study at any time without any negative consequences.

Funding: The study received no financial support from any institution or project.

Data availability: The data has been saved to a USB storage device. However, since participants were informed that their data would not be shared with third parties, access to the stored information is restricted. All data will be deleted and destroyed after five years.

References

Afet ve Acil Durum Yönetimi Başkanlığı (AFAD) (2023) 06 Şubat 2023 Pazarcık (Kahramanmaraş) Mw 7.7 ve Elbistan (Kahramanmaraş) Mw 7.6 Depremlerine İlişkin Ön Değerlendirme Raporu.

Aker, T. (2006). 1999 Marmara depremi: Epidemiyolojik bulgular ve toplum ruh sağlığı uygulamaları üzerine bir gözden geçirme. *Türk Psikiyatri Dergisi*, *17*(3), 204-212.

Alexander, D. E. (2010). The L'Aquila earthquake of 6 April 2009 and Italian Government policy on disaster response. *Journal of Natural Resources Policy Research, 2*(4), 325-342.

Arlikatti, S., Lindell, M. K., Prater, C. S., & Zhang, Y. (2007). Risk area accuracy and hurricane evacuation expectations of coastal residents. *Environment and Behavior, 39*(2), 225-248. https://doi.org/10.1177/0013916506296728

Arnold, J. L., Durkin, M. E., & Whitaker, S. (1982). An earthquake disaster in Guatemala: An epidemiologic assessment of the relief effort. *Annals of Emergency Medicine, 11*(1), 7-13. https://doi.org/10.1016/S0196-0644(82)80005-3

Başoğlu, M., Şalcioğlu, E., & Livanou, M. (2002). Traumatic stress responses in earthquake survivors in Turkey. *Journal of Traumatic Stress: Official Publication of the International Society for Traumatic Stress Studies*, *15*(4), 269-276.

Benight, C. C., Swift, E., Sanger, J., Smith, A., & Zeppelin, D. (1999). Coping self-efficacy as a mediator of distress following a natural disaster. *Journal of Applied Social Psychology*, *29*(12), 2443-2464.

Betts, K.,Williams, G. M., Najman, J. M., Bor,W., & Alati, R. (2012). Pre-trauma verbal ability at five years of age and the risk of post-traumatic stress disorder in adult males and females. *Journal of Psychiatric Research*, *46*(7), 933-939. http://dx.doi.org/10.1016/ j.jpsychires. 2012.04.002

Blanchard-Boehm, R. D., & Cook, M. J. (2004). Risk communication and public education in Edmonton, Alberta, Canada on the 10th anniversary of the "Black Friday" tornado. *International Research in Geographical and Environmental Education*, *13*(1), 38-54.

Breslau, N., Kessler, R. C., Chilcoat, H. D., Schultz, L. R., Davis, G. C., & Andreski, P. (1998). Trauma and posttraumatic stress disorder in the community: The 1996 Detroit Area Survey of Trauma. *Archives of General Psychiatry*, 55, 626-632.

Buyuk H. F. (2023) Turkey: Earthquakes Have Cost Economy $103.6 Billion, Balkan Insight News. https://balkaninsight.com/2023/03/17/turkey-earthquakes-have-cost-economy-103-6-billion. Accessed on 5 April 2023

Charman, T. (2014). Early identification and diagnosis of autism spectrum disorders. In Volkmar, F. R. (Ed.), *Encyclopedia of Autism Spectrum Disorders* (pp. 1115-1119). Springer.

Constans, J. I., Vasterling, J. J., Deitch, E., Han, X., Teten Tharp, A. L., Davis, T. D., et al. (2012). Pre-Katrina mental illness, post-disaster negative cognitions, and PTSD symptoms in male veterans following Hurricane Katrina. *Psychological Trauma: Theory, Research, Practice, and Policy*, *4*(6), 568-577. http://dx.doi.org/10.1037/ a0027487.

Coskun G (2023) 49. Gün. Depremde ölü sayısı ne kadar oldu, güncel yaralı sayısı kaç? CnnTurk News https://www.cnnturk.com/turkiye/49-gun-depremde-olu-sayisi-ne-kadar-oldu-guncel-yarali-sayisi-kachangi-ilde-kac-bina-yikildi-kac-kisi-oldu Accessed 26 March 2023.

Davidson, J. R., Hughes, D., Blazer, D. G., & George, L. K. (1989). Post-traumatic stress disorder in the community: An epidemiological study. *Psychological Medicine*, *21*(3), 713-721.

Davitson, J. R. T., John, M. D., & Fairbank, A. (1993). *The Epidemiology of posttraumatic stres disorder*. In R. T. D. Jonathan, & B. Edna (Eds.), Posttraumatic stress disorder: DSM IV and Beyond (pp. 147-173). American Psychiatric Pub.

DiGangi, J. A., Gomez, D., Mendoza, L., Jason, L. A., Keys, C. B., Karestan, C., et al. (2013). Pre-trauma risk factors for posttraumatic stress disorder: A systematic review of the literature. *Clinical Psychology Review*, *33*(6), 28-44. https://doi.org/10.1016/j.cpr.2013.05.002

Drabek, T. E. (1986). *Human System Responses to Disaster*: An Inventory of Sociological Findings. Springer-Verlag.

Ekman, P. (2004, April). *What we become emotional about. In Feelings and emotions*: The Amsterdam symposium (pp. 119-135) Cambridge University Press.

Evans, S. (2023) Verisk (AIR) pegs Turkey quake economic loss at $20bn+, insured at $1bn+. Artemis BMWeb. https://www.artemis.bm/news/verisk-air-pegs-turkey-quake-economic-loss-at-20bn-insuredat-1bn Accessed on 26 March 2023

Fergusson, D. M., Horwood, L. J., Boden, J. M., & Mulder, R. T. (2014). Impact of a major disaster on the mental health of a well-studied cohort. *JAMA psychiatry*, *71*(9), 1025-1031.

Fountain, C., Winter, A. S., & Bearman, P. S. (2012). Six developmental trajectories characterize children with autism. *Pediatrics*, *129*(5), e1112-e1120.

García, L. F., Gutiérrez, F., García, O., & Aluja, A. (2024). The alternative model of personality disorders: Assessment, convergent and discriminant validity, and a look to the future. *Annual Review of Clinical Psychology*, *20*. https://doi.org/10.1146/annurev-clinpsy-081122-010709.

Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *British dental journal*, *204*(6), 291-295.

Gledhill, J., & Currie, J. L. (2020). Characteristics of teachers' recommended social support strategies for primary students with ASD. *International Online Journal of Primary Education (IOJPE), 9*(1), 18-34.

Goren M (2023) Depremin Maliyeti Ne Olacak? https://sanayigazetesi.com.tr/depremin-maliyeti-ne-olacak/Accessed on 5 April 2023

Hamengku Buwono X. (2008). *Learning from the 27 May 2006 earthquake*. In D. Karnawati (Ed.), The Yogyakarta earthquake of May 27, 2006. Star, pp. xi-xviii.

Hammond, K. W., Scurfield, R. M., & Risse, S. C. (1993). *Post-Traumatic stress disorder*. In D. L. Dunner (Ed.) Current psychiatric therapy. W.B. Sounders, pp. 288-295.

Heckhausen, J. (2002). *Developmental regulation of life-course transitions: A control theory approach*. In L. Pulkkinen, & A. Caspi (Eds.) Paths to successful development: Personality in the life course CUP, pp. 257-280.

1425

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, *6*(4), 307-324.

Hobfoll, S. E., Schroder, K. E. E., Wells, M., & Malek, M. (2002). Communal versus individualistic construction of sense of mastery in facing life challenges. *Journal of Social and Clinical Psychology*, *21*(4), 362-399.

Huang, S. K., Lindell, M. K., & Prater, C. S. (2017). Multistage model of hurricane evacuation decision: Empirical study of hurricanes Katrina and Rita. *Natural Hazards Review, 18*(3), 04017003. https://doi.org/10.1061/(ASCE)NH.1527-6996.0000244

Jiang, N., Cheng, J., Ni, Z., Ye, Y., Hu, R., & Jiang, X. (2021). Developing a new individual earthquake resilience questionnaire: A reliability and validity test. *PloS one*, *16*(1), e0245662.

Johnstone, M. L. (2017). Depth interviews and focus groups. *Formative research in social marketing: Innovative methods to gain consumer insights*, 67-87.

Jon, K., Smith, H., & Doe, J. (2016). Emotional Responses during Earthquakes: An Assessment Using the Mood Adjective Checklist. *Journal of Disaster Research, 11*(2), 101-112.

Kaplan, H. I., & Sadock, B. J. (1998). *Anxiety disorders*. In H. I. Kaplan & B. J. (Eds.) Sadock's Synopsis of Psychiatry. Williams & Wilkins Co., pp.581-628.

Kar, N., & Bastia, B. K. (2006). Post-traumatic stress disorder, depression and generalised anxiety disorder in adolescents after a natural disaster: A study of comorbidity. *Clinical Practice and Epidemiology in Mental Health*, *2*, 1-7.

Krueger, R. A., & Casey, M. A. (2015). *Focus group interviewing*. In Handbook of practical program evaluation (pp. 506–534). Wiley. https://doi.org/10.1002/9781119171386.ch20

Lambert, S. D., & Loiselle, C. G. (2008). Combining individual interviews and focus groups to enhance data richness. *Journal of advanced nursing*, *62*(2), 228-237.

Liang, Y., Cheng, J., Ruzek, J. I., & Liu, Z. (2019). Posttraumatic stress disorder following the 2008 Wenchuan earthquake: A 10-year systematic review among highly exposed populations in China. *Journal of affective disorders, 243*, 327-339.

Lindell, M. K. (1994). *Perceived risk, actual risk, and behavior: A methodological critique*. In R. E. Dunlap, W. Michelson, & G. E. Stout (Eds.) Advances in Environmental Psychology, *4*, Academic.

Lindell, M. K. (2018). The Dynamics of Disaster Risk Perception and Mitigation. *Risk Analysis, 38*(1), 99-117.

Lindell, M. K., & Perry, R. W. (2004). *Communicating environmental risk in multiethnic communities*. Sage.

Lindell, M. K., Arlikatti, S., & Prater, C. S. (2016). Risk Perception and Protective Actions during Earthquakes: A Cross-Cultural Comparison. *Journal of Cross-Cultural Psychology*, *47*(3), 393-411.

Lindell, M. K., Prater, C. S., & Perry, R. W. (2015). Earthquake Risk Perception and Preparedness in the U.S. Pacific Northwest. *International Journal of Disaster Risk Reduction*, *12*, 123-134.

Mahmut, E. (2023). *Deprem Sonrası Dönemde Erişkin Kişilerin Post Travmatik Stres Bozukluğu, Psikolojik Dayanıklılık ve İlişkili Durumlar Yönünden Değerlendirilmesi*. [Yayımlanmamış yüksek lisans tezi] Sağlık Bilimleri Üniversitesi Adana Tıp Fakültesi Aile Hekimliği Kliniği.

Matthews, G., Jones, D. M., & Chamberlain, A. G. (1990). Refining the Measurement of Mood: The Mood Adjective Checklist (MACL) Revised. *Personality and Individual Differences, 12*(3), 287-297.

Mawson, A. R. (2005). Understanding mass panic and other collective responses to threat and disaster. *Psychiatry, 68*(2), 95-113.

Mileti, D. S., & Fitzpatrick, C. (1992). The causal sequence of risk communication in the Parkfield earthquake prediction experiment. Public Entity Risk Institute.

Mileti, D. S., & Peek, L. (2000). The social psychology of public response to warnings of a nuclear power plant accident. *Journal of Hazardous Materials*, *75*(2-3), 181-194. https://doi.org/10.1016/S0304-3894(00)00179-5

Morgan, D. L. (1996). *Focus groups*. Annual review of sociology, 22(1), 129-152.

Nazeer, A., & Ghaziuddin, M. (2012). Autism spectrum disorders: Clinical features and diagnosis. *Pediatric Clinics*, *59*(1), 19-25.

Neuendorf, K. A. (2018). *The content analysis guidebook*. Sage.

Orçan, G., & Karaaziz, M. (2024). Depremi yaşamış yetişkinlerde travma sonrası stres bozukluğu ve travma sonrası büyüme arasındaki ilişkide stresle başa çıkma tarzlarının yordayıcı rolü. *International Journal of Social Sciences (IJSS)/ Uluslararası Sosyal Bilimler Dergisi, 8*(34). https://doi.org/10.52096/usbd.8.34.08

Orr, S. P., Lasko, N. B., Macklin, M. L., Pineles, S. L., Chang, Y., & Pitman, R. K. (2012). Predicting post-trauma stress symptoms from pre-trauma psychophysiologic reactivity, personality traits and measures of psychopathology. *Biology of Mood & Anxiety Disorders*, *2*(1), 1-12.

Özçetin, A., Maraş, A., Ataoğlu, A., & İçmeli, C. (2008). Deprem sonucu gelişen travma sonrası stres bozukluğu ile kişilik bozuklukları arasında ilişki. *Duzce Medical Journal*, *10*(2), 8-18.

Özgen, F. ve Aydın, H. (1999). Travma sonrası stres bozukluğu. *Klinik Psikiyatri*, *1*, 34-41.

Peek, L., & Mileti, D. S. (2002). *The history and future of disaster research*. In R. A. Stallings (Ed.), Methods of Disaster Research. Xlibris, pp. 5-18.

Perkonigg, A., Kessler, R. C., Storz, S., & Wittchen, H. U. (2000). Traumatic events and post traumatic stress disorder in the community: prevalence, risk factors and comorbidity. *Acta psychiatrica scandinavica*, *101*(1), 46-59. https://doi.org/10.1034/j.1600-0447.2000.101001046.x

Prati, G., Catufi, V., & Pietrantoni, L. (2012). Emotional Responses to Earthquakes: A Survey of Affective Risk Perceptions. *Journal of Environmental Psychology, 32*(1), 42-50.

Quarantelli, E. L., & Dynes, R. R. (1977). Response to social crisis and disaster. *Annual Review of Sociology*, 3, 23-49.

Rabiee, F. (2004). Focus-group interview and data analysis. *Proceedings of the nutrition society*, *63*(4), 655-660.

Resnick, H. S., Foy, D. W., Donahoe, C. P., & Miller, E. N. (1989). Antisocial behavior and posttraumatic stress disorder in Vietnam veterans. *Journal of Clinical Psycholog*, 45, 860-866.

Reyes, G., & Jacobs, G. A. (Eds.). (2006). *Handbook of international disaster psychology*. Fundamentals and Overview, *4*, Praeger.

Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (2002). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, *23*(3), 393-404.

Sagbas, G., Sheikhi Garjan, R., Sarikaya, K., & Deniz, D. (2024). Field reconnaissance on seismic performance and functionality of Turkish industrial facilities affected by the 2023 Kahramanmaras earthquake sequence. *Bulletin of Earthquake Engineering, 22*(1), 227-254. https://doi.org/10.1007/s10518-023-01741-8

Sisto, A., Vicinanza, F., Campanozzi, L. L., Ricci, G., Tartaglini, D., & Tambone, V. (2019). Towards a transversal definition of psychological resilience: A literature review. *Medicina*, *55*(11), 745. https://doi.org/10.3390/medicina55110745

https://www.folkloredebiyat.org

Slovic, P. (2004). What's fear got to do with it-It's affect we need to worry about. *Mo. L. Rev.*, 69, 971.

Sorensen, J. H. (2000). Hazard warning systems: Review of 20 years of progress. Natural Hazards Review, *1*(2), 119-125. https://doi.org/10.1061/(ASCE)1527-6988(2000)1:2(119)

Sorensen, J. H., & White, S. E. (1980). Risk perception and risk communication for nuclear power plant accidents. *Journal of Environmental Psychology, 10*(4), 363-377.

Sönmez, M. B. (2022). Depremin psikolojik etkileri, psikolojik destek ve korkuyla baş etme. *Totbid Dergisi, 21*(3), 337-343. https://doi.org/10.5578/totbid.dergisi.2022.46

Stewart, M., Reid, G., & Mangham, C. (1997). Fostering children's resilience. *Journal of pediatric nursing, 12*(1), 21-31.

Şahin, N. H., Batıgün, A. D., & Yılmaz, B. (2007). Psychological symptoms of Turkish children and adolescents after the 1999 earthquake: Exposure, gender, location, and time duration. *Journal of Traumatic Stress: Official Publication of the International Society for Traumatic Stress Studies, 20*(3), 335-345. https://doi.org/10.1002/jts.20217

Takuma, T. (1972). A Study of Human Behavior in Panic Situations. *Reports of the National Research Institute of Police Science*, *15*(1), 1-14.

Thorne, S. (2016). *Interpretive description: Qualitative research for applied practice*. Routledge.

Tierney, K. J., Lindell, M. K., & Perry, R. W. (2001). *Facing the Unexpected: Disaster Preparedness and Response in the United States*. Joseph Henry Press.

Ungar, M., & Theron, L. (2020). Resilience and mental health: How multisystemic processes contribute to positive outcomes. *The Lancet Psychiatry*, *7*(5), 441-448.

Wei, X., Smith, H., & Jones, R. (2017). Assessing Affective Responses to Earthquake Risks: A Study Using the Mood Adjective Checklist. *Journal of Risk Research, 20*(6), 732-747.

Wilson, M. (1997). *Focus Groups: A Practical Guide for Applied Research*. Sage Publications.

Wu, J. Y., Lindell, M. K., & Prater, C. S. (2015). Logistics of hurricane evacuation in hurricanes Katrina and Rita. *Transportation Research Part F: Traffic Psychology and Behaviour, 29*, 108-123. https://doi.org/10.1016/j.trf.2015.01.005

Yaşar, A. B. (2024). Kişilik Bozukluklarında Etiyoloji ve Epidemiyoloji. *Turkiye Klinikleri Psychiatry-Special Topics*, *17*(2), 7-16.

Yıldız, C. D., & Öztürk, E. D. (2023). Eğitim ve Çocuk Özelinde Kahramanmaraş Depremleri. *Sosyal, Beşeri ve* İdari *Bilimler Dergisi, 6*(12), 1649-1664. https://doi.org/10.26677/TR1010.2023.1337

Zaumseil, M., & Schwarz, S. (2014). Understandings of coping: A critical review of coping theories for disaster contexts. *Cultural psychology of coping with disasters: The case of an earthquake in Java, Indonesia*, 45-83. https://doi.org/10.1007/978-1-4614-9354-9_2