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RESEARCH ARTICLE

VIEWS OF SECONDARY SCHOOL STUDENTS ON FEBRUARY 6 KAHRAMANMARAŞ EARTHQUAKES

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Abstract

Earthquakes impact not only physical structures but also the economic, sociological, and psychological conditions of individuals. The devastating effects of the earthquakes that occurred on February 6, 2023, centered around Kahramanmaraş, greatly affected Turkey, turning into a major disaster that resulted in loss of lives and property. This research aims to examine the effects of the 2023 Kahramanmaraş earthquakes on secondary school students' perspectives The study group consists of a total of 76 students from 5th, 6th, 7th, and 8th grades who were studying at a secondary school in Hatay and experienced the earthquake, selected through purposeful sampling.. In this study, which uses a case study design from qualitative research methods, the participants' views were obtained through a semi-structured interview form. During the interviews with the participants, 8 questions were asked, and the answers were analyzed through content analysis. The findings of the research revealed that the participants' views and perceptions of the earthquake were negative. Most participants stated that they were negatively affected by the earthquake, and they had difficulty meeting even their basic needs during that time. The findings obtained from this research can contribute to revealing the impact of earthquakes on students and help in determining measures to be taken in light of potential consequences. Furthermore, it is recommended that psychosocial support be provided to students who have felt the effects of the earthquake in every stage of their lives and have been deeply affected by it, particularly those who have lost a family member.

Keywords: Earthquake, case study, interview.

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A R A Ş T I R M A M A K A L E S İ

ORTAOKUL ÖĞRENCİLERİNİN 6 ŞUBAT KAHRAMANMARAŞ DEPREMLERİNE YÖNELİK GÖRÜŞLERİ

Öz

Depremler sadece fiziksel yapıları değil aynı zamanda bireylerin ekonomik, sosyolojik ve psikolojik durumlarını da etkilemektedir. 6 Şubat 2023'te Kahramanmaraş merkezli meydana gelen depremlerin yıkıcı etkileri Türkiye'yi büyük ölçüde etkilemiş, can ve mal kayıplarına yol açan büyük bir afete dönüşmüştür. Bu araştırmanın amacı, 2023 Kahramanmaraş depremlerinin ortaokul öğrencilerinin bakış açılarına olan etkilerini incelemektir. Çalışma grubu, amaçlı örneklemleme kullanılarak depremi yaşayan Hatay'daki ortaokulda eğitim gören 5., 6., 7. ve 8. sınıf düzeylerinde öğrenim gören toplam 76 öğrenci oluşturmaktadır. Nitel araştırma yöntemlerinden vaka çalışması deseninin kullanıldığı bu çalışmada, katılımcıların görüşleri yarı yapılandırılmış görüşme formu aracılığıyla alınmıştır. Katılımcılarla yapılan görüşmelerde 8 soru sorulmuş ve verilen yanıtlar içerik analizi ile analiz edilmiştir. Araştırmanın bulguları, katılımcıların depreme ilişkin görüş ve algılarının olumsuz olduğunu ortaya koymuştur. Katılımcıların çoğu depremden olumsuz etkilendiklerini ve o dönemde temel ihtiyaçlarını bile karşılamakta zorlandıklarını belirtmişlerdir. Bu araştırmadan elde edilen bulgular, depremlerin öğrenciler üzerindeki etkisinin ortaya çıkarılmasına ve olası sonuçlar ışığında alınacak önlemlerin belirlenmesine katkıda bulunabilir. Ayrıca, depremin etkilerini hayatlarının her aşamasında hisseden ve bundan derinden etkilenen, özellikle de bir aile üyesini kaybeden öğrencilere psikososyal destek sağlanması önerilir.

Anahtar Kelimeler: Deprem, durum çalışması, görüş

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Geniş Özet

Depremler, yalnızca yer kabuğunun kırılması sonucu ortaya çıkan fiziksel bir olgu değildir; aynı zamanda bireylerin psikolojik, sosyal ve ekonomik yaşamlarını çok yönlü biçimde etkileyen karmaşık afetlerdir. 6 Şubat 2023 tarihinde Kahramanmaraş merkezli olarak meydana gelen iki büyük deprem, Türkiye'de geniş bir coğrafyada yıkıcı sonuçlar doğurmuş ve özellikle çocuklar üzerinde derin travmatik etkiler bırakmıştır. Hatay, depremin en ağır sonuçlarının yaşandığı illerden biri olmuş, burada yaşayan öğrenciler afet sürecini doğrudan deneyimlemişlerdir. Çocukların afetleri nasıl algıladıkları, bu olayı hangi kavramlarla ilişkilendirdikleri, deprem öncesi ve sonrası süreçlerde ne tür zorluklar yaşadıkları ve hangi duygusal tepkileri verdikleri, afet sonrası planlanan psikososyal destek programları için büyük önem taşımaktadır. Çünkü çocukların anlamlandırma biçimleri, afet sonrası iyileşme sürecini doğrudan etkilemektedir.Bu araştırma, Hatay'da depremi bizzat deneyimlemiş ortaokul öğrencilerinin 6 Şubat Kahramanmaraş depremlerine ilişkin görüşlerini derinlemesine incelemektedir. Çalışmada öğrencilerin deprem kavramına yönelik çağrışımları, deprem nedenlerine ilişkin açıklamaları, deprem öncesi ve sonrası süreçlerde alınması gereken önlemlere dair düşünceleri, yaşadıkları problemlere ilişkin deneyimleri ve deprem sonrasındaki duygusal tepkileri analiz edilmiştir. Ayrıca öğrencilerin yaşadıkları evlerin dayanıklılığına yönelik algıları da araştırmanın önemli bir boyutunu oluşturmaktadır. Böylece çalışma, deprem sonrası çocuk deneyimlerini çok boyutlu bir çerçevede ele almayı amaçlamaktadır.

Yöntem

Araştırma, nitel araştırma desenlerinden durum çalışması (case study) yöntemi ile yürütülmüştür. Durum çalışması, belirli bir olgunun kendi bağlamı içerisinde derinlemesine anlaşılmasını mümkün kıldığı için afet gibi karmaşık olaylarda bireysel deneyimleri analiz etmek açısından uygun bir yöntemdir. Çalışmanın katılımcıları, Hatay'da bir devlet ortaokulunda öğrenim gören ve depremi doğrudan yaşamış olan 76 öğrenciden oluşmaktadır. Katılımcılar, amaçlı örnekleme yöntemlerinden kriter örnekleme ile seçilmiş; kriter olarak "depremi bizzat yaşamış olmak" belirlenmiştir. Veriler, yarı yapılandırılmış görüşme formu aracılığıyla toplanmıştır. Formda deprem algısı, deprem nedenlerine ilişkin düşünceler, deprem öncesi hazırlıklar, deprem sonrası yardımlar, yaşanan zorluklar, duygusal tepkiler ve evlerin sağlamlığına dair toplam yedi açık uçlu soru yer almaktadır. Görüşmeler gönüllülük esasına göre gerçekleştirilmiş, öğrencilerin kimlik bilgileri gizli tutulmuş ve etik ilkeler titizlikle gözetilmiştir. Verilerin analizinde içerik analizi yöntemi kullanılmıştır. Öncelikle görüşme metinleri tekrar tekrar okunarak anlamlı ifadeler kodlanmış, ardından bu kodlar benzerliklerine göre birleştirilerek temalar oluşturulmuştur. Başlangıçta 13 tema belirlenmiş, temalar arası ilişkiler gözden geçirilerek bunlar 7 ana tema altında toplanmıştır. Kodlayıcılar arası güvenirlik, Miles ve Huberman formülü ile hesaplanmış ve %88,45 olarak bulunmuştur. Bu oran, çalışmanın güvenirlik düzeyinin yüksek olduğunu göstermektedir.

Bulgular

Çalışma bulguları, öğrencilerin depremi büyük ölçüde olumsuz çağrışımlarla ilişkilendirdiklerini göstermektedir. Öğrencilerin deprem kelimesini düşündüğünde en sık ifade ettikleri kavramlar korku, ölüm, enkaz, acı, kayıp, çaresizlik, açlık ve susuzluk olmuştur. Bu durum, depremin öğrenciler için yalnızca fiziksel bir tehlike değil, aynı zamanda zihinsel ve duygusal düzeyde tehdit edici bir deneyim olduğunu ortaya koymaktadır. Depremin nedenine ilişkin açıklamalarda öğrencilerin çoğu bilimsel açıklamalara yer vermiş, fay hatlarında biriken enerjinin açığa çıkmasıyla depremin meydana geldiğini ifade etmiştir. Bununla birlikte bazı öğrenciler depremin nedenini "Allah'ın takdiri", "insanların kötü davranışları", "hava olayları" gibi bilimsel olmayan faktörlerle açıklamıştır. Bu bulgu, öğrencilerin deprem algısının hem eğitim yoluyla edindikleri bilimsel bilgilerden hem de aile ve kültürel çevreden gelen inanç ve değerlerden etkilendiğini göstermektedir. Deprem öncesi alınması gereken önlemlere ilişkin görüşlerde acil durum çantası hazırlama, dayanıklı bina yapımı ve evdeki eşyaların duvara sabitlenmesi gibi temel güvenlik tedbirleri öne çıkmıştır. Öğrencilerin bu önlemlerden haberdar olması, afet bilincinin belirli düzeyde yerleştiğini göstermektedir. Deprem sonrası yapılması gereken yardımlara ilişkin bulgularda ise dayanışma, empati ve temel ihtiyaçların karşılanması güçlü bir biçimde vurgulanmıştır. Öğrenciler özellikle su, gıda, barınma, hijyen malzemeleri ve giysi gibi yardım türlerinin öncelikli olduğunu ifade etmiştir. Ayrıca bazı öğrenciler, evleri sağlam olan kişilerin depremzedelere kapılarını açması gerektiğini belirterek toplumsal dayanışmanın önemine dikkat çekmiştir. Öğrencilerin deprem sonrası yaşadıkları zorluklar arasında en sık dile getirilenler yiyecek ve suya erişim zorluğu, yağmur altında kalma, barınma problemi, sağlık hizmetlerine ulaşamama ve iletişim eksikliğidir. Duygusal açıdan öğrencilerin çoğu yoğun korku, kaygı, üzüntü ve belirsizlik yaşadıklarını ifade etmiştir. Bir kısmı depremden sonra günlerce uyumakta zorlandığını, bazıları ise artçı sarsıntılardan aşırı derecede etkilendiğini belirtmiştir. Evlerinin sağlamlığına ilişkin değerlendirmelerde öğrencilerin bir bölümü evlerinin dayanıklı olduğunu düşündüğünü belirtirken önemli bir bölümü ikinci bir depremde

evlerinin yıkılmasından korktuğunu ifade etmiştir. Bu durum, barınma güvenliğinin çocukların psikolojik iyilik hâli üzerinde ne kadar etkili olduğunu göstermektedir.

Sonuç ve Tartışma

Araştırma bulguları, depremi doğrudan deneyimleyen öğrencilerin bu olayı büyük ölçüde travmatik, tehdit edici ve olumsuz bir yaşantı olarak algıladığını göstermektedir. Öğrencilerin anlatımları, depremin yalnızca fiziksel yıkımla sınırlı olmayan; aynı zamanda güven, istikrar ve kontrol duygusunu derinden sarsan bir deneyim olduğunu ortaya koymaktadır. Temel ihtiyaçlara erişimde yaşanan güçlükler—özellikle su, gıda, barınma ve sağlık hizmetlerine ulaşamama—öğrencilerde çaresizlik hissini artırmış ve bu durum afetin ilk günlerinden itibaren uzun süreli kaygı düzeylerinin yükselmesine yol açmıştır. Deprem sonrası duygusal tepkiler incelendiğinde, öğrencilerin yoğun korku, belirsizlik, panik, uyku bozuklukları, sarsıntı hissiyle irkilme ve sürekli tetikte olma gibi travma belirtileri gösterdikleri görülmüştür. Bu tepkilerin bir kısmı depremin üzerinden uzun zaman geçmesine rağmen devam etmekte olup, afet sonrası psikolojik iyileşme sürecinin karmaşık ve zaman alan bir süreç olduğunu göstermektedir. Bu bulgular, afet sonrası uygulanacak psikososyal destek çalışmalarının yüzeysel değil, planlı, bütüncül ve uzun vadeli bir çerçevede yürütülmesi gerektiğine işaret etmektedir. Okullarda travma farkındalığı eğitimlerinin yapılması, öğretmenlerin travma sonrası stres belirtilerini tanıyabilmesi ve öğrencilere uygun yönlendirmeler yapabilmesi açısından önem taşımaktadır. Aynı şekilde dayanıklılık programlarının uygulanması, öğrencilerin baş etme stratejileri geliştirmesine, duygusal düzenleme becerilerini güçlendirmesine ve afet sonrası yeniden yapılanma sürecine daha sağlıklı şekilde uyum sağlamasına katkı sağlayacaktır. Deprem eğitimlerinin yalnızca bilimsel açıklamalarla sınırlı kalmayıp, kültürel inanışları, toplumsal değerleri ve yerel deneyimleri de içine alacak biçimde yeniden yapılandırılması, öğrencilerin depremi hem rasyonel hem de kültürel çerçevede anlamlandırmasına yardımcı olacaktır.

Sonuç olarak araştırma, deprem sonrası çocukların yaşantılarının çok yönlü ele alınması gerektiğini ve afet yönetimi politikalarının çocuk odaklı yaklaşımı merkezine alması gerektiğini göstermektedir. Çocukların deneyimleri görünür kılındıkça, afet sonrası müdahale süreçleri daha etkili, kapsayıcı ve ihtiyaçlara duyarlı şekilde planlanabilecektir.

INTRODUCTION

Nature is the stage for events that can change human life and sometimes lead to sad and serious transformations. Among these events, earthquakes, which often occur suddenly and are unpredictable, are at the forefront. In the literature, an earthquake is described as “the event in which the energy that arises from the fracture of the Earth’s crust due to the effect of tectonic forces spreads in the form of seismic waves, shaking the surrounding environment and the Earth’s surface with great force” (Altun Efe et al., 2023).). Earthquakes are one of the most destructive natural disasters, causing extensive human, material, and economic losses across the globe. According to the United States Geological Survey (USGS), over 16,000 earthquakes of magnitude 4.0 or higher occur worldwide every year, with about 100 of them reaching or exceeding magnitude 6.0. Earthquake-prone regions include areas along tectonic plate boundaries, such as the Pacific "Ring of Fire", the Himalayan region, and southern Europe and western Asia—including Türkiye.

Türkiye is located on one of the world’s most seismically active regions, sitting at the convergence of the Eurasian, Arabian, and African plates. The country is traversed by major fault lines, especially the North Anatolian Fault Zone (NAFZ) and the East Anatolian Fault Zone (EAFZ), which make large parts of the country vulnerable to severe earthquakes. Historical records and recent studies show that Türkiye has experienced more than 20 major earthquakes (Mw ≥ 7.0) in the last century alone, including the 1939 Erzincan (Mw 7.8), 1999 İzmit (Mw 7.4), and 2011 Van (Mw 7.2) earthquakes (AFAD, 2023; EMDAT, 2024). According to reports published by Türkiye’s Disaster and Emergency Management Authority (AFAD), the Centre for Research on the Epidemiology of Disasters (CRED), and the United Nations Office for the Coordination of Humanitarian Affairs (UN OCHA), the earthquakes that struck Kahramanmaraş on February 6, 2023, caused unprecedented levels of destruction and human suffering. The earthquakes that struck southeastern Türkiye on February 6, 2023, were among the deadliest and most devastating in the country’s modern history. The first quake, with a magnitude of 7.7, occurred near Pazarcık at 04:17 local time. Approximately nine hours later, a second major earthquake (Mw 7.6) struck near Elbistan, located around 95 km northeast of the first epicenter. More than 11 provinces, including Kahramanmaraş, Hatay, Gaziantep, Malatya, Adıyaman, Osmaniye, Diyarbakır, and Şanlıurfa, were heavily affected. The disaster resulted in the death of over 50,000 people across Türkiye and Syria, while more than 107,000 individuals were injured. It was reported that over 200,000 buildings either collapsed or were severely damaged. In total, approximately 14 million people were affected, with more than 1.9 million displaced from their homes. Economic losses were estimated to range between 34 and 85 billion USD, depending on the methodology and scope of the reporting agency (AFAD, 2023; CRED, 2023; UN OCHA, 2023). These earthquakes not only caused widespread physical destruction but also led to a profound psychological impact, particularly among vulnerable groups such as children and adolescents. School closures, loss of family members, displacement, and post-traumatic stress symptoms were common experiences reported in the affected regions. In this context, Hatay stands out as one of the most heavily impacted provinces in terms of both human and structural losses.

Earthquakes not only affect physical structures but also deeply impact people’s economic, psychological, and sociological conditions (Fırat, 2022). The experiences before, during, and after an earthquake significantly shape individuals’ psychological states. The shock, anxiety, fear, and helplessness experienced during an earthquake leave deep marks on people’s lives (Güneri, 2023). Studies on the psychological problems created by earthquakes are important for understanding the effects of large-scale disasters on human beings. These studies, often conducted on selected samples, reveal which groups are more affected and which ones have developed coping strategies. For instance, studies conducted on different demographic groups such as secondary school students, university students, primary school children, and older individuals provide valuable data on how each age group responds to earthquakes and what strategies they develop to cope with them.

The views of individuals are of great importance in revealing how the situation is perceived by individuals and how deep the psychological effects are. Especially, emotions such as fear and anxiety created by natural disasters like earthquakes are shaped differently in children compared to adults. Examining the differences between children and adults offers significant data on how studies can be structured according to age groups.

The major disaster that occurred in Kahramanmaraş on February 6, 2023, changed many lives and caused significant losses for many people. As such major disasters occur, both societies and scientists have begun to study them more extensively.

Studies on the psychological consequences of earthquakes are crucial for understanding how large-scale disasters impact human mental health. Research shows that post-disaster symptoms such as anxiety, depression, and post-traumatic stress disorder (PTSD) are commonly observed in survivors (García-Vera et al., 2016; Tang et al., 2017). These studies, often conducted on specific populations, reveal which groups are more vulnerable and which ones develop effective coping strategies. For example, comparative studies among primary school children, secondary school students, university students, and older adults have shown that psychological responses differ significantly by age group (Sumer et al., 2005; Lai et al., 2010).
Children and adolescents are especially vulnerable to the emotional consequences of disasters due to their developmental stage and limited coping mechanisms (Pfefferbaum et al., 2015). Emotions such as fear, confusion, and anxiety are shaped differently in children compared to adults. Understanding these differences can guide the design of age-appropriate psychosocial interventions and educational programs after disasters.

Studies have shown that understanding the psychological state and thoughts of students who were exposed to the earthquake guides future actions (Yıldız & Öztürk, 2023). The earthquakes have led to psychological disorders such as fear, stress, anxiety, and depression in students, significantly disrupting their learning processes (Hsu, Tsai, Chang, & Liang, 2017). The psychological impacts experienced after the earthquake have negatively affected students' participation in the educational process and lowered their motivation to learn. In this context, it is crucial to gather students' opinions regarding the earthquake. Understanding their experiences helps identify their psychological conditions and the challenges they face in their educational journeys, enabling educators and psychological counselors to provide more effective support. Moreover, students' views on the earthquake provide valuable data for shaping educational policies and developing post-disaster educational strategies. Therefore, considering that the traumas students have experienced may lead to failures in education, this could encourage the necessary steps to be taken to address disruptions in education and accelerate students' recovery processes (Dickey, 2015). Collecting students' opinions also supports the process of building empathy and trust in educational environments, which helps students regain their motivation in education. For this reason, understanding the psychological and emotional states of students after the earthquake allows for a more effective and sensitive approach to be developed in their educational processes ıdentifying students' perceptions of the earthquake can be effective in guiding future studies and interventions with students. Moreover, the 2023 Kahramanmaraş earthquakes affected a large population. For this reason, it is particularly important that the research focuses on students who experienced the earthquake in Hatay, one of the most affected cities. In order to support the main objective of the research, sub-problems were utilized. These sub-problems were structured to examine students' experiences regarding the 2023 Kahramanmaraş earthquakes in a multidimensional manner. Through these questions, students' associations with the concept of earthquakes, their perceptions of the causes, their views on preparedness and post-disaster responses, and the emotional reactions and difficulties they experienced were systematically explored. Additionally, by including questions about students' thoughts on the structural safety of their homes, the study aimed to better understand their risk perceptions related to natural disasters. In this way, the sub-problems directly support the main purpose of the study, which is to provide an in-depth understanding of students' earthquake-related experiences and views.

METHODOLOGY

In this study, it used a case study design, which is one of the qualitative research designs. A case study is a research design that allows the researcher to collect detailed information about a current situation or event within a specific context or case (Yin, 2011; Creswell, 2013). The focus of this study is on the earthquake experiences of the students under investigation. Since the aim of the study is to examine secondary school students' views on earthquakes, semi-structured interviews were preferred. In semi-structured interviews, the questions are predefined, and data are collected using these questions (Karasar, 1998). These interviews have advantages such as ease of analysis, allowing the interviewee to express themselves, and providing the opportunity for in-depth information when necessary (Büyüköztürk, 2010).

The current study focused on the secondary school students' view of who lived in Hatay on February 6 Kahramanmaraş earthquakes. Research and publication ethics were followed. The study was approved by the Hatay Mustafa Kemal University Human Subjects Research Ethics Committee (Date: 07.02.2025, Number: 03/18).

Participants

In this study, purposeful sampling was used to select participants who directly experienced the Kahramanmaraş earthquakes. Purposeful sampling enables researchers to select information-rich cases relevant to the study's aim (Patton, 2015). This method is widely used in qualitative research when in-depth understanding is needed from participants with direct experience (Creswell & Poth, 2018). The participants were selected using the purposive sampling method, specifically criterion sampling (Aykırı, 2018). Interviews were conducted with 76 students who experienced the 2023 Kahramanmaraş earthquakes to collect data. The participants of this study are secondary school students attending a public school in Hatay province. The participants were given the necessary information about the study. To ensure confidentiality, codes ranging from D1 to D76 were assigned to the participants instead of using their names. A total of 76 students took part in the study, consisting of both female and male students from 5th through 8th grades. This breakdown provides a clearer view of the demographic composition of the sample and ensures that data interpretation takes into account the participants' educational level and gender. The following table presents the distribution of the participating students based on their grade levels and gender.

Table 1. Distribution of the participating students by grade level and gender

Grade Level	Female (n)	Male (n)	Total (n)
5th Grade	9	8	17
6th Grade	11	10	21
7th Grade	12	12	24
8th Grade	8	6	14
Total	40	36	76

The table shows the distribution of the 76 participants based on their grade level and gender. The sample included students from 5th to 8th grade, with a relatively balanced gender distribution: 40 females and 36 males.

Data Collection Tools

The data for the study were collected in Februrary- March 2025. Secondary school students who had experienced the 2023 Kahramanmaraş earthquakes were selected. The interviews were conducted with voluntarily participating students. The interviews took place face-to-face at the students' school. At the beginning of the interview, the purpose of the research was explained to the participants, emphasizing that this study would not be considered as an educational assessment, and that the participants' teachers would not evaluate them based on the study.

In this study, the semi-structured interview form was developed through a systematic and literature-based process to ensure methodological rigor. First, the suitability of using a qualitative, semi-structured approach was confirmed by reviewing the relevant literature, which highlights its effectiveness in exploring individuals' lived experiences, especially in emotionally sensitive contexts such as natural disasters (Kallio et al., 2016). An initial item pool was created based on a comprehensive review of previous studies on earthquakes, trauma, and post-disaster emotional responses in children and adolescents. This pool consisted of open-ended questions designed to explore students' perceptions, emotions, coping strategies, and views on disaster preparedness. To ensure content validity, the draft form was evaluated by three field experts—two in educational sciences and one in psychological counseling—who provided feedback on the clarity, relevance, and appropriateness of the items. Following expert review, necessary revisions were made, including eliminating repetitive items and simplifying complex phrasing. A pilot application was then conducted with four secondary school students from the target population to assess the comprehensibility and effectiveness of the questions. Based on pilot feedback and cognitive debriefing interviews, the final version of the interview form was refined and finalized with seven core questions that were aligned with the research objectives and deemed appropriate for eliciting in-depth, meaningful responses (Eton et al., 2012; Kallio et al., 2016). Also, some questions were revised for clarity, and redundant or overlapping items were removed. As a result of this process, the final interview form was reduced to 7 main questions, which were included in the study. The finalized questions aimed to comprehensively explore students' emotional, cognitive, and behavioral responses to the earthquake. The questions included in the semi-structured interview form are as follows:

1) What comes to your mind when you hear the word "earthquake"? What does it remind you of? Please explain.
2) In your opinion, what are the causes of earthquakes? Please explain.
3) What precautions should be taken before an earthquake? Please explain.
4) How can people be helped after an earthquake? What can be done? Please explain
5) What difficulties did you experience after the earthquake? Please explain.
6) What are your thoughts on the earthquake resistance of the house you live in?
7) What feelings did you experience after the earthquake? Please explain.

The interview form contained 7 main questions (e.g., "What do you think an earthquake is? What comes to mind when you hear the word earthquake?", "In your opinion, what causes earthquakes?"). The interviews with secondary school students lasted 30 minutes, during which the students were asked to answer the questions in writing.

Validity and Reliability of the Research

In qualitative research, validity and reliability differ from those in quantitative research (Yıldırım & Şimşek, 2013). In qualitative research, instead of the concepts of validity and reliability, the focus is on consistency, credibility, and detailed examination of the data, along with transparent reporting (Krefting, 1991). To ensure internal reliability in this study, collaboration was carried out between researchers during the coding process, and codes and themes were identified based on mutual agreement. For this purpose, the reliability coefficient formula used in qualitative research by Miles and Huberman (1994) was applied (reliability = agreement / (agreement + disagreement) × 100). According to this formula, the agreement between coders should be at least 80% (Miles & Huberman, 1994; Patton, 2002). Following this method, after the data were collected by the researchers and coded separately, the similarity and differences in the coding were considered, and the reliability coefficient was found to be 88.45%.

Data Analysis

As part of the data analysis, the researcher first created a roadmap for the analysis of the data. Initially, the data were carefully examined one by one. Then, the data were re-read, and an effort

was made to derive general meanings from them. Codes were created for each document, and similar codes across all documents were synthesized to identify new and common codes.

After all the data were examined, specific themes were created along with their corresponding codes. In this process, the themes and subthemes were determined. Once the themes were identified, all the data were reviewed again. Some theme names were changed, and subthemes were added to certain themes. It was observed that some codes did not fit the existing themes, and these codes were either associated with other themes or deleted.

At the initial stage of the data analysis, 13 themes were identified. However, by the time the data analysis was completed, this number was reduced to 7. The final 7 themes identified were: "Views on What Earthquake Connotes", "Views on the Causes of Earthquakes", "Precautions to Be Taken Before an Earthquake", "Views on How Help Can Be Provided After an Earthquake", "Difficulties Faced by Participants After the Earthquake", "Emotions Felt by Participants After the Earthquake", and "Participants' Views on the Earthquake Resistance of Their Homes".

Ethics Information: Research and publication ethics were followed. The study was approved by the Hatay Mustafa Kemal University Human Subjects Research Ethics Committee (Date: 07.02.2025, Number: 03/18).

RESULTS

In the study, seven main themes were identified regarding secondary school students' views on earthquakes, namely: "Views on What Earthquake Conjures Up," "Views on the Causes of Earthquakes," "Precautionary Measures to Be Taken Before an Earthquake," "Views on How to Provide Assistance After an Earthquake," "Difficulties Experienced by Participants After the Earthquake," "Emotions Felt by Participants After the Earthquake," and "Durability of the Homes Lived in by Participants".

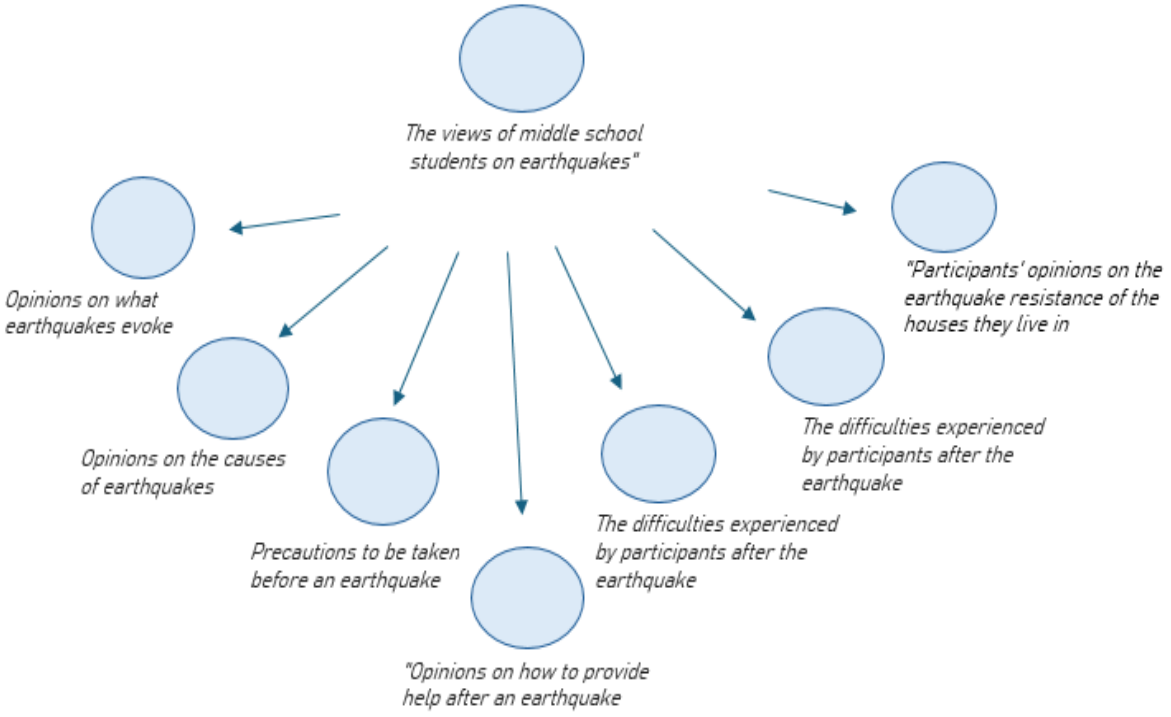

Figure 1. Themes Identified Based on Secondary School Students' Perspectives on The 2023 Kahramanmaraş Earthquakes

Opinions on What Earthquakes Evoke

These main themes are presented in detail. When examining what the earthquake evokes in secondary school students in the study, it was observed that some participants associated it with fear and hunger-thirst. For some participants, it evoked thoughts of death (See Figure 2).

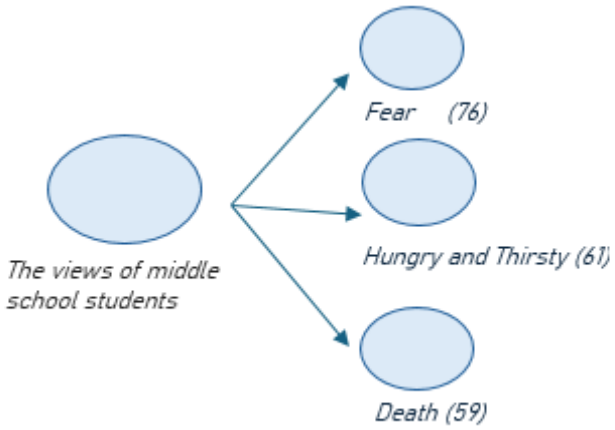

Figure 2. The Views of Secondary School Students on What Earthquakes Evoke

It was observed that participants consistently expressed negative emotions when thinking about earthquakes. For those who had experienced an earthquake, it evoked feelings of fear, hunger, thirst, and death. One participant (D12) illustrated this finding with the statement: "I think of the deaths of the people of Antakya, the babies who passed away. I think of those who lost their lives inside their homes." Similarly, another participant (D26) stated: "When we think of an earthquake, fear and sorrow come to mind. When we think of an earthquake, thirst and hunger come to mind." As seen, the participants who had experienced an earthquake associated it with their personal experiences, which influenced what came to mind when they thought about earthquakes.

Participants' Opinions on the Causes of Earthquakes

When examining secondary school students' perceptions of the causes of earthquakes, it was found that they commonly believed earthquakes result from the release of accumulated energy along fault lines. However, some participant's perceived earthquakes as disasters caused by weather conditions, bad habits, or an event created by God (See Figure 3).

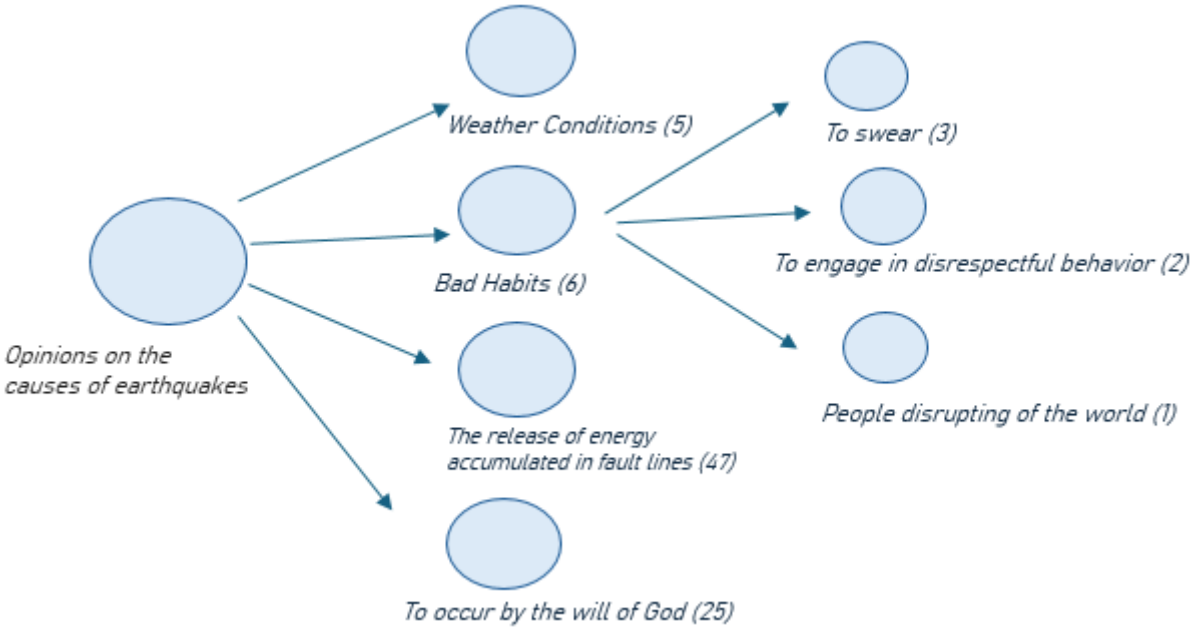

Figure 2. The Views of Secondary School Students on The Causes Of Earthquakes

Many participants believe that earthquakes occur due to the release of accumulated energy along fault lines. Additionally, some participants think that the weather conditions at the time of an earthquake play a role in triggering it. While some believe that earthquakes are caused by God, others associate them with bad habits such as swearing, disrespect, and rudeness.

One participant (D17) stated, "Earthquakes occur either by God's will or due to fault lines," which exemplifies these findings. Another participant (D18) expressed, "It happens because of bad swearing, disrespect, and rudeness," highlighting a different perspective. These findings reveal that participants hold diverse views regarding the causes of earthquakes.

Students' Opinions on Precautions to Take Before an Earthquake

When examining secondary school students' perceptions of earthquake preparedness, participants considered preparing an emergency earthquake kit as an effective precaution. Additionally, some believed that constructing sturdy buildings and securing furniture to walls could help minimize earthquake risks (See Figure 4).

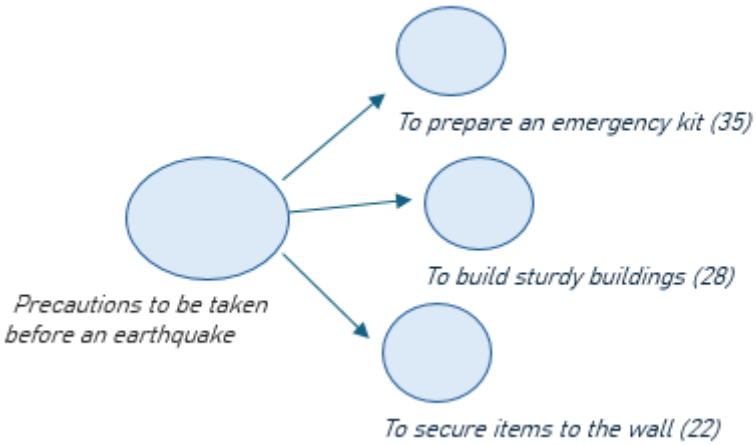

Figure 4. The Views of Secondary School Students on The Precautions to be Taken Before an Earthquake

It was observed that participants had similar views on the precautions to take before an earthquake. They generally believed that preparing an emergency earthquake kit, constructing strong buildings, and securing furniture to walls were essential measures. One participant (D1) stated, "In my opinion, before an earthquake, we should prepare an earthquake kit and ensure that our house is built very solidly before fully completing it," illustrating this finding. Another participant (D3) listed specific precautions: "1) Secure the furniture in our home. 2) Ensure our house is built solidly by architects. 3) Prepare an emergency kit." The findings suggest that participants who have experienced earthquakes share similar views on necessary precautions.

Opinions on How to Provide Help After an Earthquake

The study explored secondary school students' opinions on how to assist those affected by an earthquake. Participants emphasized the importance of empathy, meeting basic needs, and offering shelter to those in need (See Figure 5).

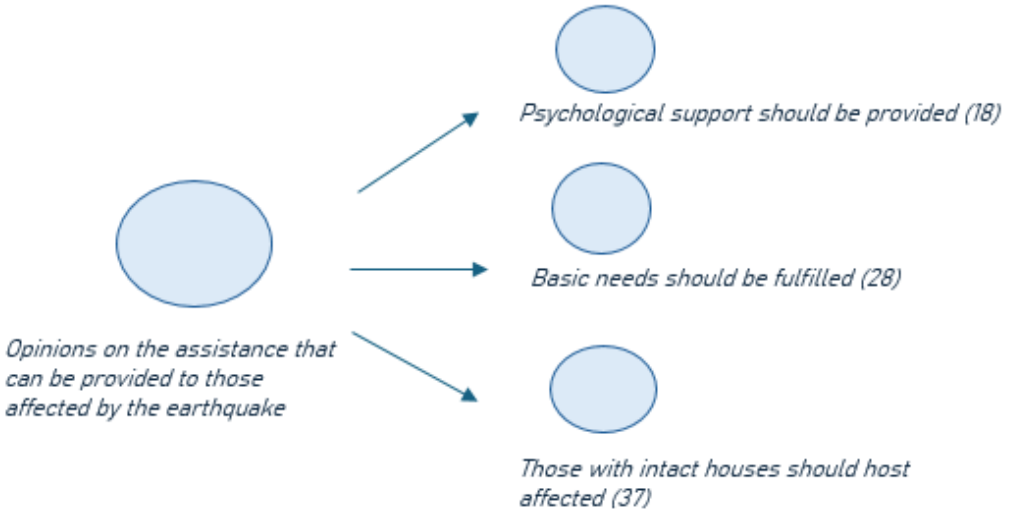

Figure 5. The Views of Secondary School Students on How to Help Those Affected by The Earthquake After It Occurs

Participants' views on assisting earthquake victims included showing empathy, meeting their basic needs such as shelter, food, and clothing, and providing accommodation for those who lost their homes. They suggested that people whose homes were not damaged should open their doors to those who lost their homes in the earthquake.

One participant (D29) stated, "We should be more understanding toward earthquake victims, provide them with food, and meet their shelter needs," illustrating this finding. Another participant (D5) expressed, "We should open our homes to those whose houses have collapsed. We should take them into our homes. We should provide them with food, clothing, and hygiene kits—one of each for every household." The findings indicate that participants gave similar responses regarding the types of assistance that should be provided to earthquake victims.

Participants' Opinions on the Difficulties They Faced After the Earthquake

The study found that participants' experiences following the February 6 Kahramanmaraş earthquakes mainly revolved around difficulties in meeting basic needs, health problems, and exposure to rain (See Figure 6).

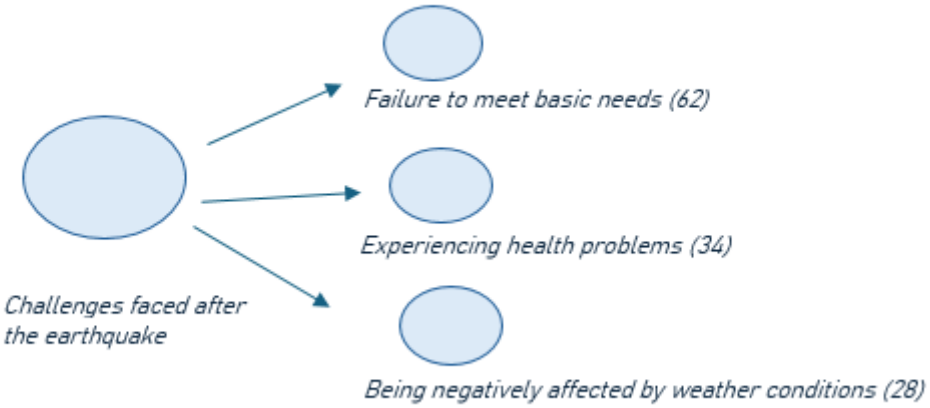

Figure 6. The Views of Secondary School Students on The Challenges Experienced After an Earthquake

Participants reported facing several challenges after the earthquake, including exposure to rain due to heavy rainfall during the event, subsequent health problems, and difficulties in meeting basic needs due to the scale of the destruction. One participant (D3) expressed, "We couldn't find food to eat. When we needed to use the bathroom or eat, we had to go back inside the house. We couldn't find food. When we got sick, we couldn't find a hospital to go to," supporting these findings.

The data indicates that due to the magnitude of the earthquake and the extent of the destruction, people struggled to access necessities such as food, water, shelter, and heating. Additionally, individuals who were forced to stay outside due to a lack of shelter later faced health issues.

Participants' Opinions on the Emotions They Felt After the Earthquake
According to the participants, fear and sadness were the most experienced emotions following the earthquake (See Figure 7).

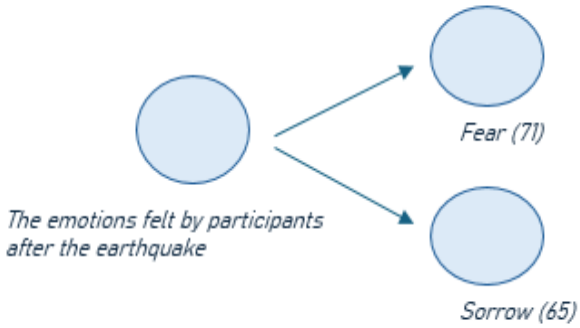

Figure 7. The Secondary School Students' Perspectives on The Emotions They Felt After the Earthquake

According to the study, a large proportion of participants experienced similar emotions after the earthquake. The findings indicate that individuals who experienced the earthquake felt fear both during and after the event, followed by a sense of sadness.

Participants' Opinions on the Durability of Their Homes

When examining participants' views on the sturdiness of their homes, most believed that their houses were structurally strong. However, some participants expressed doubts about the durability of their homes (See Figure 8).

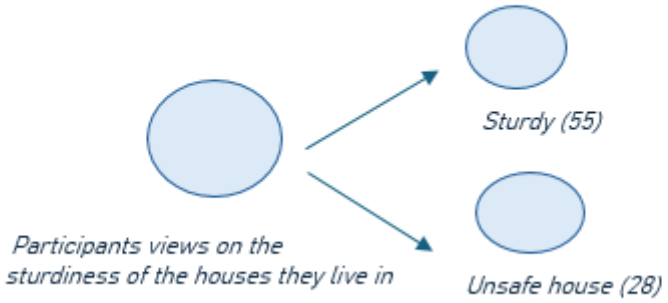

Figure 8. Secondary School Students' Perspectives on The Structural Strength of Their Homes

Findings indicate that most participants believe their current homes are structurally sound. Even in houses categorized as slightly damaged, cracks were present, but the homes were still perceived as durable. One participant (D75) stated, "After the earthquake, I believe our house is strong," supporting the finding that some participants consider their homes to be sturdy. In contrast, another participant (D67) expressed doubt, saying, "I don't think our house is strong enough to withstand a second earthquake," illustrating concerns about their home's durability.

Due to the magnitude and destruction of the earthquake, varying opinions were observed regarding the strength of participants' current homes. While some believed their slightly damaged homes were still safe, others did not feel confident in their home's structural integrity after such a devastating earthquake.

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

The data obtained from this study provide significant insights into middle school students' perceptions of the 2023 Kahramanmaraş earthquakes, focusing on their cognitive, emotional, and psychological impacts. These findings align with the existing literature on earthquake-related effects while also highlighting that perceptions of earthquakes can vary depending on individual circumstances. The findings of this study reflect the cognitive, emotional, and social experiences of secondary school students who experienced the February 6, 2023 Kahramanmaraş-centered earthquakes. Participants associated the earthquake with deeply traumatic concepts such as fear, death, hunger, and thirst. This is consistent with the literature. A study conducted at Erciyes University found that a significant proportion of children and adolescents who sought psychiatric help after the earthquake exhibited acute stress symptoms, frequently expressing feelings of fear, helplessness, and anxiety (Karakaya et al., 2024).

Another noteworthy finding of this study was that students attributed the causes of the earthquake not only to scientific explanations (fault lines, tectonic movements) but also to religious and moral interpretations (divine will, moral deterioration). Similarly, Batır and İnce (2023) emphasized that some individuals in society perceive earthquakes through religious references. This suggests that disaster education should be designed with sensitivity to both scientific knowledge and the cultural context of students.

Students frequently emphasized the importance of structural safety, securing furniture, and preparing emergency kits as precautions. This finding aligns with Selçuk and Erem (2022), who

noted that although students have a high level of awareness about earthquake preparedness, they often lack the practical implementation skills. Therefore, comprehensive disaster education programs are necessary to translate awareness into behavior.

Participants also reported significant difficulties in meeting their basic needs after the earthquake, such as shelter, food, hygiene, and access to healthcare. A qualitative study conducted in Adıyaman similarly reported that students struggled to meet their essential needs, which heightened their psychosocial stress (Demirbaş, Kurtoğlu, 2023). These findings are consistent with those of Yıldız and Aydın (2024), who found high levels of psychological distress in individuals living in Hatay after the earthquake.

Fear and sadness were the most commonly expressed emotions among students after the earthquake. Post-traumatic stress disorder (PTSD), depression, and severe anxiety are frequently reported in the literature, especially in children and young individuals. The Erciyes University study also highlighted intense acute stress symptoms among child and adolescent applicants, underlining the long-term psychiatric risks (Karakaya et al., 2024).

Students expressed varying opinions about the structural durability of their homes. While some felt safe, others were concerned about their homes' resistance to future earthquakes. Similarly, Demirkaya (2007) reported that students had limited knowledge about building safety, indicating a need for targeted educational interventions in this area.

In addition, the Turkish Ministry of National Education has developed a "Psychoeducation Program for Students After Traumatic Events" specifically for secondary school students. This program includes sessions on recognizing stress responses, developing positive coping strategies, and fostering future-oriented optimism (Ministry of National Education [MoNE], 2024). Such initiatives can support students' emotional recovery in the aftermath of disasters

Participants primarily associated the word "earthquake" with negative concepts such as fear, death, hunger, and thirst. This finding further underscores the profound psychological impact of earthquakes on individuals. It suggests that participants experienced a traumatic event following the earthquake.

A review of previous studies examining students' metaphorical perceptions of earthquakes reveals that students who had not experienced an earthquake (Aydın, 2010; Kaya, 2010) held similarly negative metaphors about earthquakes as those who had experienced one (Doğan et al., 2021; Karakuş, 2013; Karakuş, 2019).

Similarly, in the study conducted by Kılıçoğlu and Akkaya Yılmaz (2024), it was found that students associated the concept of an earthquake with terms such as shaking, destruction, fear, collapsing houses, loss of life, death, and debris. Additionally, individual and varied experiences appeared to shape participants' perspectives. This finding aligns with disaster psychology studies, which often emphasize that personal experiences shape different perceptions of an event (Özkan & Çetinkaya Kutun, 2021).

Regarding the causes of earthquakes, most participants defined them as an energy explosion. In Özdemir et al.'s (2002) study, students were observed to associate earthquake causes with faults, cracks, and ruptures. However, some participants referred to religious and moral values. This reflects the different levels of awareness about earthquakes and how perceptions are shaped by environmental and cultural values. Batır and İnce's (2023) study also found that while some attributed earthquakes to fault line ruptures, others associated them with divine power. The terminology used to describe earthquakes influences how individuals perceive them and their coping mechanisms. This suggests that participants' perceptions and views on earthquakes are based not only on scientific knowledge but also on cultural beliefs. Consequently, this finding

highlights the need to diversify earthquake education and psycho-educational programs related to earthquakes.

The study also revealed that participants' views on preventive measures before an earthquake were largely similar. During interviews, participants consistently emphasized the importance of preparing an emergency kit, constructing strong buildings, and securing furniture. Previous studies have also suggested that shelves should be firmly attached to walls and that easily accessible emergency kits should be prepared (Çoban et al., 2017; Selçuk & Erem, 2022). This finding indicates that while participants are aware of earthquake preparedness, they still require adequate education on the subject.

Regarding post-earthquake relief efforts, participants shared similar views on the importance of empathy, compassion, and meeting basic needs. This suggests that they are conscious of social solidarity. Furthermore, the challenges faced by participants after the earthquake -such as the inability to meet basic needs and health issues- illustrate the interconnectedness of the physical and psychological impacts of earthquakes. These findings emphasize the need for psychological support programs to adopt a more holistic approach in post-disaster interventions.

Fear and sadness emerged as the dominant emotions experienced by participants after the earthquake, highlighting the deep emotional toll of such disasters. Saatçi et al.'s (2024) study also found that "the metaphors created by children in the study reflected the fear they experienced during the earthquake." These negative emotions suggest that psychological support processes should begin at an early stage. Another study by Bedirli (2014) found that individuals who experienced an earthquake exhibited symptoms of depression and post-traumatic stress disorder (PTSD). It also showed that these individuals experienced fear when reminded of the earthquake. This underscores the need for post-earthquake interventions to focus on preventing psychological disorders such as depression and PTSD.

Finally, participants' perceptions of the durability of their current homes varied. This reflects the general societal concerns about the structural integrity of buildings after an earthquake. Participants' perspectives on this issue are influenced by the trauma they experienced during the disaster. Demirkaya (2007) emphasized that public awareness should be raised about structural features and earthquake resistance.

In conclusion, individuals who have experienced an earthquake develop varying perspectives influenced by their personal experiences. These views differ from person to person and are shaped by the psychological effects of the earthquake. Some individuals exhibited psychological symptoms such as anxiety and panic attacks. High levels of these symptoms were observed in children and young people in the initial stages following an earthquake. Approximately one-third of these individuals remained in a state of persistent anxiety. However, these symptoms generally diminished within one to two years (Mutch & Gawith, 2014). Given these findings, special attention should be paid to children and young people in earthquake-affected areas. Additionally, it is important to recognize that even individuals who were not directly affected by the earthquake may still experience negative psychological effects.

As seen in previous studies, individuals who have lived through an earthquake often experience traumatic effects and lack psychological preparedness. These findings emphasize the need to prioritize specific aspects of earthquake education and psychological preparedness programs (Altun Efe et al., 2023).

Researcher Contribution Rate
All authors contributed to the manuscript equally.

Ethics Information
Research and publication ethics were followed. For this research, the ethical approval was obtained from the Human Research Ethics Committee of Hatay Mustafa Kemal University (Date: 17.02.2025, Number: 03/18).

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Conflict of Interest
The authors declare that there is no conflict of interest in this study.

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