

Emergency Aid And Disaster Management Students' Experience With The February 6, 2023 Kahramanmaraş Centered Earthquake: A Qualitative Study

Acil Yardım ve Afet Yönetimi Öğrencilerinin 6 Şubat 2023 Kahramanmaraş Merkezli Depremle İlgili Deneyimleri: Nitel Bir Çalışma

Nurçin Küçük Kent¹, Yasemin Tatlı², Ayşe Çolak³, Sevil Cengiz⁴

ABSTRACT

Sharing the disaster experiences of individuals helps to better understand the psychological effects that disasters can have on people. The earthquake centered in Kahramanmaraş on February 6, 2023 caused many people to be directly or indirectly affected psychologically. In this study, the psychological effects and experiences of the process were shared by the Department of Emergency Aid and Disaster Management students between the ages of 21-26, who participated in volunteer activities in the disaster area and were directly or indirectly exposed to the February 6 earthquake. For this purpose, students were asked to draw three open-ended questions and a picture about the first topic that came to their minds about disaster experiences in order to learn about their disaster experiences by applying the qualitative method study method. The obtained data were evaluated using the MaXQDA qualitative data analysis program. From a behavioral point of view, students are directly or indirectly affected by this disaster, deaths and difficult and limited conditions physically, emotionally and behaviorally; In particular, it has been observed that the importance of staying calm without panicking and the selection of solid buildings come to the fore. In addition, it is suggested that the use of art therapy applications in further explaining the psychological impact caused by the disasters may be useful in further detailing the conditions that cannot be put into words in terms of disasters and that further studies by experts may be useful in this regard.

Keywords: Earthquake, Experiences, Impact, Stress, Student

ÖZ

Bireylerin afet deneyimlerini paylaşmak, afetlerin insanlar üzerinde yaratabileceği psikolojik etkilerin daha iyi anlaşılmasına yardımcı olur. Kahramanmaraş merkezli 6 Şubat 2023 tarihinde meydana gelen deprem, birçok kişinin psikolojik olarak doğrudan ya da dolaylı olarak etkilenmesine neden olmuştur. Bu çalışmada afet bölgesinde gönüllülük faaliyetlerine katılan ve 6 Şubat depremine doğrudan ya da dolaylı olarak maruz kalmış 21-26 yaş arası Acil Yardım ve Afet Yönetimi Bölümü öğrencileri tarafından sürecin psikolojik etkileri ve deneyimleri paylaşılmıştır. Bu amaç doğrultusunda, öğrencilerden nitel yöntem çalışma yöntemi uygulanarak afet deneyimlerini öğrenmek için afet deneyimleri ile ilgili akıllarına gelen ilk konu ile ilgili üç açık uçlu soru ve bir resim çizmeleri istenmiştir. Elde edilen veriler MaXQDA nitel veri analiz programı kullanılarak değerlendirilmiştir. Davranışsal açıdan değerlendirildiğinde; öğrencilerin bu afetten, ölümlerden, zor ve kısıtlı koşullardan fiziksel, duygusal ve davranışsal olarak doğrudan ya da dolaylı olarak etkilendikleri; özellikle paniğe kapılmadan sakin kalmanın öneminin ve sağlam bina seçiminin ön plana çıktığı gözlemlenmiştir. Ayrıca, afetlerin neden olduğu psikolojik etkinin daha iyi açıklanmasında sanat terapisi uygulamalarının kullanılmasının, afetler açısından kelimelere dökülemeyecek durumların daha da detaylandırılmasında faydalı olabileceği ve bu konuda uzmanlar tarafından yapılacak daha ileri çalışmaların faydalı olabileceği ileri sürülmektedir.

Anahtar Kelimeler: Deprem, Deneyimler, Etki, Stres, Öğrenci

Highlights

- *The psychological effects of disasters can last for years.
- *Disaster education may play a crucial role in facilitating appropriate post-earthquake responses.
- *Drawing is a useful tool for adults to cope with stress and understand the impact of disasters

Gümüşhane Üniversitesi Bilimsel Araştırma ve Yayın Etiği'nden 2024/3 toplantısında E-95674917-108.99-245418 kararıyla etik izin alınmıştır.

¹Dr. Öğr. Üyesi, Nurçin KÜÇÜK KENT, Gümüşhane Üniversitesi, Acil Yardım ve Afet Yönetimi Bölümü, nkucuk10@gmail.com, ORCID: 0000-0001-8823-2671

²Doç. Dr. Yasemin TATLI, Gümüşhane Üniversitesi, Acil Yardım ve Afet Yönetimi Bölümü, yasemintatli@gumushane.edu.tr, ORCID: 0000-0002-0143-6127

³Dr. Öğr. Üyesi Ayşe ÇOLAK, Gümüşhane Üniversitesi, Hemşirelik Bölümü, aysecolak05@gmail.com, ORCID: 0000-0002-4808-2282

⁴Dr. Öğr. Üyesi Sevil CENGİZ, Gümüşhane Üniversitesi, Acil Yardım ve Afet Yönetimi Bölümü, sevil_cengiz@yahoo.com, ORCID: 0000-0002-3562-1793

İletişim / Corresponding Author: Nurçin KÜÇÜK KENT
e-posta/e-mail: nkucuk10@gmail.com

Geliş Tarihi / Received: 28.05.2025
Kabul Tarihi/Accepted: 23.06.2025

INTRODUCTION

Earthquakes are one of the natural disasters that threaten human life by causing injuries and fatalities (1). Earthquake-induced disasters have negative physical and psychological impacts on people (2,3). Deaths, injuries, and economic losses have resulted from disasters caused by numerous earthquakes worldwide. Among these events in Türkiye, the August 17, 1999, Marmara earthquake and the February 6, 2023, earthquake centered in Kahramanmaraş particularly affected 11 provinces, leading to devastating losses and significant social impacts across the entire country (4-6).

Earthquakes with varying magnitudes occur approximately every year. These natural disasters have physical and psychological effects on individuals (2,3). Numerous earthquakes around the globe have led to deaths, injuries, and considerable economic losses. Notably, the Marmara earthquake in Türkiye on August 17, 1999, and the earthquake centered in Kahramanmaraş on February 6, 2023, caused painful losses and had a profound social impact across the country, particularly affecting 11 provinces (2,4,5).

The psychological effects of earthquakes can be observed in both the short term and the

long term (6). As traumatic events, disasters can manifest psychological reactions that vary over time, depending on multiple complex factors, such as personal characteristics, self-experience, past disasters or traumatic experiences, loss and its magnitude, lifestyle, and attitudes (7). While abnormal emotional reactions often arise from the traumatic effects of earthquakes, it is essential to return to the reconstruction stage (7,8). Trauma experiences such as earthquakes can also lead to greater personal resilience, shifts in social relationships, and changes in self-perception (9). Conversely, symptoms of post-traumatic stress disorder are often observed in survivors or rescue workers following disasters, making it essential to understand and evaluate the psychological effects of such events (7,10,11). While adults are typically thought to develop resilience against disasters, infants, children, and adults may show different emotional reactions to these events (12). This study assesses the disaster experiences of young volunteers involved in emergency aid and disaster management programs who were trained in the disaster area and were directly or indirectly exposed to the earthquake on February 6, 2023. It also explores their potential future involvement in disaster response.

MATERIALS AND METHODS

Methods

A qualitative methodological approach was adopted in this study. The data were collected between April 30 and May 7, 2024. The qualitative questions were answered in order.

Participants And Procedure

In this study, the aim was to discuss the experiences of the young student group (95 students) who participated in both disaster survivor and volunteer activities during disasters and received training in the disaster area. The participants were senior students studying emergency aid and disaster management. Approximately 39% of them

live outside the university across 11 provinces (Kahramanmaraş, Gaziantep, Hatay, Adıyaman, Diyarbakır, Şanlıurfa, Malatya, Adana, Elazığ, Osmaniye, and Kilis) that have faced disasters, and 38.9% lived directly in the earthquake zone at the time of the earthquake. Of the students, 60% were female and 40% were male. Approximately 51% of the students engaged in volunteering activities such as psychosocial support and search and rescue during the February 6 Kahramanmaraş earthquake. Around 79% of the students are part of a group that has directly experienced natural disasters, including pandemics, earthquakes, and floods. Merely 21.1% of respondents indicated that they have not

encountered any direct disaster conditions to date. (Table 1).

Table 1. The Profiles of Participant Students

Variable	Median (Min-Max)	
Age (Year)	23 (21-26)	
Frequency(%)		
Department of Emergency Aid and Disaster Management	95(100.0%)	
Gender		
Male	38(40.0%)	
Female	57(60.0%)	
Living city		
KCED city	37(38.9%)	
Other city	58(61.1%)	
Disaster Experiences	Yes	No
KCED Survivor	35(36.8%)	60(63.2%)
KCED Voluntary function	48(50.5%)	47(49.5%)
Psychosocial support	22(23.2%)	
Search and rescue	15(15.8%)	47(49.5%)
Together	11(11.6%)	
Before Disasters	75(78.9%)	20(21.1%)

KCED: Kahramanmaraş Centered Earthquake Disaster

Qualitative Study Design

In the study method, three open-ended questions (Q1-Q3) were presented to students, who were also asked to draw pictures about KCED (Q4). The questionnaire was administered to the students one year after the disaster, and feedback was collected regarding

whether the drawings had a beneficial effect. The method of applying the qualitative questionnaires is summarized in Figure 1. Students were given a total of about one hour to complete their drawings and questionnaires.



Figure 1. Summary of Methods

In preparing the open-ended questions, the content of each question was determined by examining topics derived from keywords such as "earthquake," "disaster," and "stress" using the Web of Science search engine for documents from 2023 to 2024. During the preparation of these questions, we discussed how senior students in emergency aid and disaster management, who are directly and indirectly exposed to disasters and engage in

volunteer activities, are personally affected by disasters and their experiences during the process, addressing psychological, physical, and behavioral aspects. Three qualitative questions were posed, and the effects of the process were evaluated from various perspectives. In the fourth question, aimed to explore the effects of the process more in-depth through drawing (Table 2).

Table 2. Questions (Open-Ended And Drawing)

Number	Qualitative Questions
Q1	How did the February 6 Kahramanmaraş-centered earthquake in 2023 impact to you?
Q2	Can you share your experiences about the February 6 earthquake centered in Kahramanmaraş?
Q3	Can this disaster experience(s) you have experienced cause any change in your behavior regarding the disasters you may experience in the future?
Q4	Can you describe your experience and/or awareness of the February 6 Kahramanmaraş earthquake using drawing paper and crayons materials?

Generally, the impacts of the traumatic effects of disasters indicate that art therapy is beneficial in assessing the experiences (13,14). After answering the open-ended questions, the students were asked to create drawings of the first images that came to mind when they thought of a disaster. Throughout this process, the students received verbal instructions to use crayons in 12 different colors freely. The choice of colors was left to the students, and were given about an hour to complete the survey and the drawing stages.

Ethical Approval

Before the study, ethical approval was obtained from the Scientific Research and Publication Ethics Committee at Gümüşhane University, documented as number E-95674917-108.99-245418 from meeting 2024/3. No authors have any conflict of interest concerning the study process.

RESULTS AND DISCUSSION

In our study's methodology, we evaluated the KCED experiences of participating students across four different sub-topics. The first was the psychological effects of KCED on students; the second involved the processes associated with disaster experiences and student activities; the third examined whether the disaster raised awareness of behaviors or prompted changes in lifestyle; and the fourth aimed to determine whether using images

instead of words, along with open-ended results, would be beneficial. A total of 96 students participated in the data collection, but results from only 95 students were considered due to one student's lack of data. Even after approximately 14 months since the trauma of KCED, it was noted that all students, both directly and indirectly affected, experienced negative psychological and physical effects. (Table 3).

Table 3. Frequences of Three Open-Ended Questions (Q1, Q2 and Q3)

Themes	Codes	Frequency(%)
Physical health and physiological impacts	Panic, fear, bad, sadness, guilt, anxiety, despair, trauma, vulnerable, feeling shaking, un/happy, shock, relative of death, death, injured, wish, empathy, non-sleeping, not eating, wreckage, useless, headache, cry, dizziness	80(84.2%)
Experiences and copying	Voluntary functions, communication, restricted conditions or difficulties, intervention, learn, coordination, help, discharge, safe space, control	88(92.6%)
Behavioral changing	Disaster bag, fixed items, solid house, voluntary, preparation, consciousness, awareness, opinion, precaution, calm or nonpanic behavior, changed lifestyle, psychological resilience	63(66.3%)
Total Documents		95(100%)

Outcomes of Physical Health and Physiological Effects

Regardless of whether they live in the earthquake zone or not, students (S) generally reported feeling psychologically impacted by this disaster, based on the first question. Some commonly mentioned words in the survey responses included: “bad, fear, despair, wreckage, empathy, worry, sadness, panic, sleep, death,” which reflect both direct and indirect effects.

S3: ...I heard about the loss of my relatives who lived in different provinces. We were very sad and very scared. My family and I couldn't sleep for a long time because of the aftershocks. For example, I could even feel shaking while lying in bed.

S4: This is the first time I've been so closely linked to an earthquake. I had friends, relatives and loved ones. I was also affected by previous earthquakes. I knew how bad it was, empathized with it, and tried to understand it as best I could. However, this earthquake was quite different from the others. As a result of the fact that the earthquake covered a very large area and the event affected the people around me, it affected me much more deeply.

Students who directly experienced the earthquake in the region have still been suffering from its psychological effects.

S5: I was in Kahramanmaraş during the earthquake. The corpses, the wounded, the despair people, the collapsed buildings, the wreckage, the images of fear and helplessness in people's eyes wore me out psychologically. My cousin's wife was trapped under the rubble. I took part in search and rescue activities on the second day of Earthquake. The emotions I saw and experienced there still affect me in the same way. I remember it as a period when I experienced a lot of despair...

S7: After I heard the news of the earthquake, I didn't think it was a big event at first. But when I watched the footage of the incident on TV, I felt very bad. I prayed every day. It was very sad to me higher rate of the death.

In addition to the psychological effects of the earthquake, physiological symptoms such as headaches, crying, tinnitus, loss of appetite, and insomnia were reported to have been observed.

S23:.. I had a severe stress-related headache because I couldn't go to the disaster area and I had limited things at my disposal and it didn't go away... three days had passed

and my headache was gone. I also felt a strange energy in my body and started to help with all my might...

S30: ... After waiting for the aftershocks to pass, we waited in the car in the assembly area until the morning, and we were caught in the second earthquake in the afternoon at home, then we took our belongings and went to the village house, as well as my friends and the experiences of the people living there, it affected me psychologically, and I was in the same despair...

S31: I was psychologically affected, I was bad when I saw the videos about casualties and injuries.

S43: ... I lost a lot of friends, I didn't want to cry, I felt like I was shocked, a year and a half has passed, I still feel the effect, the emotions I suppressed from that time, combined with my current stress, caused a buzzing sound in my ear...

S44: I was in Hatay when the earthquake happened. I was staying with my family. When the earthquake started, we suddenly left the house. We waited in the car until morning. Thankfully, I don't have any casualties, my first-degree house was slightly damaged, the earthquake affected me and my family the most psychologically. I couldn't sleep at night, I felt like there was going to be an earthquake for a long time and I was scared...

S52: As a result of the earthquake, I experienced psychological traumas. I had trouble sleeping for a while because I was constantly remembering as if an earthquake would happen at any moment.

S56: ... Psychologically, I was very affected. I couldn't eat, people there were hungry and thirsty, my fear of death increased from thinking, the idea of losing my family and loved ones scared me a lot.

S64: The earthquake we experienced caused me to live in a constant state of panic and fear, I expected to die at any moment, I experienced sleep disturbance after the earthquake.

S71: It was a very difficult process financially, morally and psychologically, we

could not move to our house for more than a year, our house was badly damaged... During this process, about twelve of us had to live in a tent, it was a very difficult process, I saw more corpses and debris than I had ever seen in my life. I tried to be enough for everyone, this process affected me psychologically very badly, I had difficulty in coming to my senses for a long time.

S73: I lived indirectly, I heard about the TV channel and social media and I fell into an emotional breakdown, most of my friends at home were residing in the provinces where the earthquake occurred, and at first I could not reach them, so I was left in curiosity and anxiety... Since there was shaking in my place of residence, I put myself in their place, albeit a little...

S89: I experienced a spiritual loss that I experienced directly, it caused fear and psychological problems, uneasiness started at the time of vibration, but over time, we got over it.

S93: They were very bad, my family was very scared and they didn't know what to do because of the rush, everyone around me was in a hurry, I was more calm than them.

S94: I was very impressed spiritually and psychologically. My house has not been destroyed, I have no financial loss, I have lost many friends and relatives to him. There was a constant fear of loss.

In most responses, when students discussed their psychological or physiological effects, the influence of 'family' and relatives was especially highlighted.

Outcomes of Experiences and Copying

The students' experiences with the KCED as question 2 (Q2) and the subsequent process they underwent are highlighted. The most frequently mentioned words in response to the second question included: help, learn, awareness, prepared, volunteer, coordination, rescue, safe, and need. Students shared insights on the actions to take for themselves, their families, or disaster victims, and some recounted their volunteering experiences.

S6: *I didn't have much experience because I wasn't in or near that area. But I learned a lot of things through social media and my friends there. For example, it is necessary to be prepared for anything at any time and to be coordinated in the smallest and largest communities I am in, for example, my family or the workplace I work in, and to always inform everyone around me as if anything will happen at any time.*

S9: *Since the earthquake happened at night, we went out with our lives. We waited for hours and then went back home. Since it was cold, we put the items we would need in front of the door so that it would be easy to pick them up while escaping. Then we packed bags and set up a gathering area with my family. Since my sister and her children were also in the house, we determined who would take which when we ran away.*

S10: *While collecting aid for earthquake victims, I learned how the necessary and collected investments for them are classified and placed in boxes. Also, me and my family didn't have an earthquake bag. After this incident, we prepared a disaster kit at home.*

S24: *When the earthquake happened, we went out as a family without taking anything with us, we were sad outside because the weather conditions were very bad, and when we went inside and bought warm clothes, we were caught in the earthquake again, I realized that an earthquake bag is a must and it was necessary to leave suitable clothes for the season. While we were all out in panic, there were people who fell down the stairs, I learned to get out calmly without panicking.*

S26: *My disaster awareness increased, I understood better how I should act, instead of escaping, I ensured that the precautions were increased at home because there would be chaos, I told the items that could be transferred to be fixed and we did it, we left the disaster bag ready.*

S37: *I have never experienced an earthquake before, this disaster is my first experience, I woke up suddenly with the intensity of the shaking, I did not understand what was happening at first, the house was*

shaking very violently, I understood that it was an earthquake, my family and siblings also woke up, but they did not know that they needed to leave the house urgently, I immediately warned them and took my family to a safe area. Although I experienced the earthquake for the first time, the fact that I was there in a cool head and knew what to do saved my family from other dangers and risks, and I explained what to do in the following processes and we took precautions about what to do in case it happened again.

S41: *I experienced how to behave in earthquakes and the importance of calmness.*

S47: *It was the first time I worked in a wreck and learned how to pitch a tent. I learned how to sort and distribute the aid that comes with the teams.*

S64: *I realized that if I ever faced such a disaster again, I could be calmer and I needed to be more cautious.*

S66: *I had the opportunity to participate in search and rescue activities in the wreckage and I examined the disaster closely. I think that in these studies it is necessary to work completely calmly and confidently.*

S77: *I learned that the triangle of life is very important in the event of an earthquake and how to behave in the event of an earthquake.*

S82: *In every disaster there is destruction, but I have seen the true meaning of this destruction. I saw the desperation. I think my empathy and sensitivity have improved.*

S88: *I learned that anything can happen at any time in life, that we should always be prepared for anything, and that we should cherish the time you spend with your loved ones.*

S95: *... I provided moral support to my family and provided support in coping with the disaster and the earthquake.*

Based on the description of the students' earthquake experiences and the processes they encountered, their disaster education helped them build resilience after exposure to earthquakes, both directly and indirectly.

Outcomes of Behavior Change

Regarding their disaster experiences and coping strategies related to question 3 (Q3), students emphasized that their disaster training helped them stay calmer in disaster areas compared to other victims. In addition to their involvement in volunteer activities, they also mentioned how their families evacuated to safety, their support in relief efforts, and the challenges and psychological effects they encountered in their living environment. In response to the third open-ended question, similar to the second question, the themes of remaining calm, exercising caution, preparing disaster kits, and being more resilient and prepared were prominently highlighted.

S3: I will decide more calmly, knowing what to do. Because we are not alone in the event of an earthquake, we are with my family. That's why I talked to the family before the earthquake happened to inform them and explained what to do in the event of an earthquake.

S8: Yes. This earthquake will have an impact on the way I live. I will encourage myself to act consciously in this regard so that I and my loved ones are not harmed in the next earthquake.

S9: Yes, there has been a change. We changed the places where we slept. We moved them so that the cabinet next to the door would not fall and block the way. There was a piece of land next to the house that we were not using. My father evacuated the place to provide a safe place...

S19: Yes. Its contribution to me is that I can stay calmer and think rationally in such situations. I noticed that I paid attention to the positions of things in the house and things like fixing materials.

S28: Maybe. Of course, I can make my family calmer by transferring the knowledge I have gained about the disaster to them, and we can do disaster drills.

S30: Of course, there was also an earthquake bag, the fixing of household goods, and if I am going to buy a house, the location of it, whether the building is

earthquake resistant or not, if it is an apartment, the number of floors and insurance, as well as if I were under the rubble, I would always keep it close to me and disaster applications would be installed.

S35: This disaster I experienced showed me a lot, especially as we saw in the lesson and as our lectures explained, you cannot understand that chaos environment without ever experiencing it one-on-one, how to coordinate people in a chaos environment, how and how to take the people to the tent... It has created a change in making calmer and faster decisions in the chaos situations that occur in the environment in the event of a disaster...

S53: At first, I made my family aware of disasters. And I tried to raise awareness of everyone, regardless of who they are, about disaster awareness, especially earthquake awareness.

S56: Yes. Before buying a house, I check if the house is solid. I keep water and packaged products next to my bed.

S68: I can help more coolly, knowing what to do.

S70: If I were to start from myself, which will cause us to be calmer and more prepared, I did not have a disaster response bag, now it is ready.

S78: Yes. I understood the importance of building disaster-resistant structures and choosing housing by considering the disaster, I understood that disaster bags and disaster gathering areas should be prepared and known in advance.

S83: In the experience I learned in this disaster, as soon as we are caught in an earthquake, if possible, to run out quickly, if not, to wait in a safe place, and when the shaking is over, to leave the environment immediately and go out and go to the assembly areas.

S94: Just as I tried to stay cool and gather everyone in one place during a disaster, I would try to stand in the same way in a disaster, it caused me to be stronger and more cold-blooded.

The changes in behaviors regarding earthquake preparedness processes were primarily mentioned regarding awareness of related risks in the answers. "Staying calm" was often mentioned as emphasizing the importance of "calm or non-panic behaviors."

Outcomes of Drawing

In this study, it was believed that alongside the open-ended questions, having students draw a picture of the first scene that comes to mind regarding the disaster they experienced could provide additional insights. This approach would facilitate further evaluation through written responses. For the evaluation of the drawn pictures, the following aspects were analyzed: color, time, living beings, ecosystems, needs, and object codes for students directly affected by the disaster (Table 4).

The color black (19.48%, represented by 90 drawings out of 95 drawing documents) is the most prevalent color on the scale compared to the other codes. Notably, individuals who experienced direct disasters preferred not to use colored pencils. As a result of the study, they primarily indicated that the art therapy application was beneficial for them in expressing their experiences. The post-disaster period (12.34%) emerged as the first temporal period that came to mind; living people (11.04%) were mentioned more frequently than deceased individuals (3.03%), with solid buildings (10.61%), clocks (3.03%), the country (2.38%), and weather conditions (1.95%) at the time of the earthquake being categorized under the theme of ecosystem.

Some drawing samples were displayed in Figure 2. Nine months after the survey was conducted, feedback was received from 65% of the students, and approximately 85% of them reported that drawing was beneficial, in addition to responding to open-ended questions

Table 4. Frequency of Question (Q4) with Drawing

Themes	Codes	Frequency(%)
Colour	Black	90(19.48%)
	Red	11(2.38%)
	Blue	11(2.38%)
	Brown	7(1.52%)
	Yellow	5(1.08%)
	Green	5(1.08%)
	Orange	2(0.43%)
	Purple	1(0.22%)
Moment	Post-earthquake	57(12.34%)
	Event of earthquake	10(2.16%)
	Pre-earthquake	2(0.43%)
Human	Living human	51(11.04%)
	Death human	14(3.03%)
Support	Search and Rescue Organisation	31(6.71%)
Build	Solid House	49(10.61%)
	Wreck	35(7.58%)
	Crack Of House	17(3.68%)
	Tent	5(1.08%)
Tools	Clock	14(3.03%)
	Toy	3(0.65%)
	Car	2(0.43%)
	Furniture	2(0.43%)
	Bed	1(0.22%)
	Bag	1(0.22%)
	Tv	1(0.22%)
	Food	1(0.22%)
Ecosystem	Country	11(2.38%)
	Weather Condition	9(1.95%)
	Plant	8(1.73%)
	Animal	2(0.43%)
	City	2(0.43%)
	Mountain	1(0.22%)
	Earth	1(0.22%)
Total Figures		95(100%)



Figure 2. Sample Of Students' Drawing

Disasters not only impair the quality of life but also create a psychological burden on individuals and society. The coping skills of disaster victims are crucial for adapting to life after a disaster (15). Earthquakes are among the most common types of disasters. In the earthquake that struck on February 6, residents in 11 provinces were affected, and it was referred to as the disaster of the century (16,17). Alongside the disaster victims, workers assigned to the field, volunteers, social institutions, and many individuals tracking the earthquake process on social

media were indirectly affected by the aftermath of the earthquake (17-20).

The psychological impacts of KCED include the bidirectional effect of disaster experiences. This encompasses observable symptoms arising from the traumatic psychological effects suffered, as well as an assessment of the severity of these symptoms and the potential changes in disaster experiences that influence resilience against future disasters (20,21). After a disaster, individuals may face negative consequences

related to psychological distress or health, and the role of age in these effects remains unclear (22,23). Compared to populations studied in other research, it has been observed that the training received can enhance disaster management and improve preparedness.

According to the results of the first open-ended question (Q1), it was observed that most of the students (84.2%) were affected by KCED in terms of physical health and psychology. In this study, it was tried to learn the experiences of undergraduate students who were directly and indirectly exposed to KCED, some of whom took part in volunteer activities. The difference between this research group and other disaster experience studies is that the students who participated in the survey process were trained in disasters and the range from 21 to 26 age. According to the word codes, feelings of bad, fear, and helplessness were more likely to be experienced. In their study on disaster survivors based on KCED; It was stated that depression, anxiety, and fear symptoms, as well as fear, helplessness, panic, shock and fear of death, prayer and not knowing what to do with panic, were often observed from a behavioral point of view (18). In particular, the instinct to protect the family is observed, along with uncertainty about how to respond, which underscores the importance of disaster-related training (24). Similarly, students' experiences guided them to help themselves, their families, or disaster victims and to seek safe areas, particularly by "staying calm and not panicking". Since understanding proper preparedness is a prerequisite for adopting the

correct behavior, the significance of training activities, preparation, awareness-raising, volunteer training, and exercises within the disaster risk management process was noted in this context.

It is known that art practices are useful in expressing the trauma experienced, such as disasters, more freely by disaster victims (25). Drawing techniques are frequently used to understand the process experienced after disasters more clearly (13). In managing traumatic events such as earthquakes, awareness-raising and awareness training are important to overcome the crisis process with minimal damage. In addition, drawing applications will contribute to a more independent interpretation of the conditions experienced by disaster victims in the process instead of limited questions (24). In the study, students; In parallel with the answers given to the open-ended questions they wrote, it was observed that the use of black color, which symbolizes the negative psychological effects of the process, and the post-disaster period, the post-disaster period, were more concerned with the issue of solid housing compared to other conditions. In parallel with open-ended questions, it is recommended that drawing pictures to express the complexity of important issues should be used more frequently as a supporter of all disaster victim groups (13). It is thought that the art therapy method can be even more explanatory in the understanding of the process experienced in making the experiences of people who have experienced disasters more understandable.

CONCLUSION AND RECOMMENDATIONS

The important points of this study are listed: a. Even though the students experienced the disaster directly or indirectly due to KCED, its effects continued even after a year; b. Some of the trainings at the university tried to guide their families and their environment in order to guide themselves and their families with their KCED experiences and in volunteering activities; c. The earthquake was helpful in directing students to correct behavioral changes in parallel with the trainings (such as the house is strong, the

preparation of disaster bags, orientation to gathering areas, the importance of staying calm without panic); d. it was observed that drawing pictures had beneficial effects on the understanding and expression of the disaster effects experienced by the students more clearly. As a result, the experiences of direct or indirect exposure to earthquake disasters and being educated help to exhibit the correct behaviors of process management by staying calm during the earthquake process. Disaster-related trainings may be important in

minimizing the negative effects of the earthquake experience. Training on disaster preparedness can significantly enhance disaster resilience and promote appropriate behavioral responses post-disaster. Additionally, expanding the application of drawing tools to encompass all disaster victims may prove beneficial in managing stress during such crises.

Conflict of Interest

The authors declare that there is no conflict of interest.

Limitations

The study population consisted of emergency aid and disaster management

students who volunteered in the disaster field. The fact that the experiences of other disaster field personnel were not included is a limitation of this study.

Authors' Contributions

NKK study design conducted the literature search, participated in the statistical interpretation and discussion of the data, drafted and authored. YT provided the acquisition and revision of the data. AÇ participated in the collection and interpretation of the data. SC participated in the collection of data. All authors approved the current version for publication.

REFERENCES

1. Tang B, Chen Q, Chen X, et al. Earthquake-related injuries among survivors: a systematic review and quantitative synthesis of the literature. *Int J Disaster Risk Reduct.* 2017;21:159–167. doi:10.1016/j.ijdr.2016.12.003
2. Koçer AT, Akpek A, Vural A, et al. Public health challenges after the February 6 earthquakes: a comprehensive review of immediate and long-term impacts in Türkiye. *Int J Disaster Risk Reduct.* 2024;114:104925. doi:10.1016/j.ijdr.2024.104925
3. Ramezankhani A, Sabouri M. Assessing the method of providing health services to at-risk groups during natural events (earthquake): a systematic review. *J Educ Health Promot.* 2023;12:1624. doi:10.4103/jehp.jehp_1624_22
4. Akinci A, Dindar AA, Bal IE, Ertuncay D, Smyrou E, Cheloni D. Characteristics of strong ground motions and structural damage patterns from the February 6th, 2023 Kahramanmaraş earthquakes, Türkiye. *Nat Hazards.* 2025;121(2):1209–1239. doi:10.1007/s11069-024-06856-y
5. Ozturk M, Arslan MH, Korkmaz HH. Effect on RC buildings of 6 February 2023 Turkey earthquake doublets and new doctrines for seismic design. *Eng Fail Anal.* 2023;153:107521. doi:10.1016/j.engfailanal.2023.107521
6. Huang HY, Chao TY, Huang YT, Chen BK, Shih HI. Increase in short-term and long-term stress-associated mental illness after Jiji earthquake in Taiwan: a twenty-year longitudinal population-based cohort study (1999–2019). *J Affect Disord.* 2025;368:757–769. doi:10.1016/j.jad.2024.09.099
7. Heaney EZ, Brown NR. Impact of natural disasters on mental health: evidence and implications. *Healthcare (Basel).* 2024;12(18):1812. doi:10.3390/healthcare12181812
8. DeWolfe DJ. Training manual for mental health and human service workers in major disasters. 2nd ed. Rockville (MD): US Department of Health and Human Services; 2000.
9. Jung HO, Han SW. Post-traumatic growth of people who have experienced earthquakes: qualitative research systematic literature review. *Front Psychiatry.* 2023;13:1070681. doi:10.3389/fpsy.2022.1070681
10. Mao X, Fung OWM, Hu X, Loke AY. Psychological impacts of disaster on rescue workers: a review of the literature. *Int J Disaster Risk Reduct.* 2018;27:602–617. doi:10.1016/j.ijdr.2017.10.020
11. Tang B, Deng Q, Glik D, Dong J, Zhang L. A meta-analysis of risk factors for post-traumatic stress disorder (PTSD) in adults and children after earthquakes. *Int J Environ Res Public Health.* 2017;14(12):1537. doi:10.3390/ijerph14121537
12. Lowe SR, Raker EJ, Zacher ML. Extremes in context: a life-course approach to disaster mental health. *One Earth.* 2020;2(6):497–499. doi:10.1016/j.oneear.2020.05.022
13. Dönmez İ, Koç M. The psychological effects of earthquakes on preschool children: evidence from drawings and narratives. *Int J Disaster Risk Reduct.* 2025;116:105117. doi:10.1016/j.ijdr.2024.105117
14. Song JE, McFerran K. A critical literature review: deconstructing narratives of trauma in art therapy with young people. *Int J Art Ther.* 2024;29(1):19–29. doi:10.1080/17454832.2023.2294712
15. Makwana N. Disaster and its impact on mental health: a narrative review. *J Fam Med Prim Care.* 2019;8(10):3090. doi:10.4103/jfmpc.jfmpc_893_19
16. Kocaman İ. The effect of the Kahramanmaraş earthquakes (Mw 7.7 and Mw 7.6) on historical masonry mosques and minarets. *Eng Fail Anal.* 2023;149:107225. doi:10.1016/j.engfailanal.2023.107225
17. Sarı H, Özel M, Akkoç MF, Şen A. First-week analysis after the Turkey earthquakes: demographic and clinical outcomes of victims. *Prehosp Disaster Med.* 2023;38(3):294–300. doi:10.1017/S1049023X23000493
18. Cemali M, Arslan BÇ, Öztürk D, et al. Examining the earthquake-related experiences of people who experienced the earthquake in Turkey. *Int J Soc Psychiatry.* 2025;71(4):800–811. doi:10.1177/00207640241306067
19. Chen HY, Ahmad CA, Lim Abdullah K. Disaster relief work: the experiences of volunteers in Malaysia. *Int J Disaster Risk Reduct.* 2020;43:101414. doi:10.1016/j.ijdr.2019.101414
20. Oz IT, Cona G. Impact of indirect trauma and disaster media exposure on psychological states and temporal processes: the case of 2023 Turkey earthquakes. *Clin Psychol Psychother.* 2024;31(6):e70008. doi:10.1002/cpp.70008

21. Arslanlı SE, Duru HA, Bakır E, Pulat P. Exploring the disaster experiences and psychosocial support needs of children affected by the Kahramanmaraş earthquake in Turkey through drawing narratives. *J Pediatr Nurs.* 2024;78:e260–e269. doi:10.1016/j.pedn.2024.07.014
22. Cong Z, Chen Z, Liang D. Barriers to preparing for disasters: age differences and caregiving responsibilities. *Int J Disaster Risk Reduct.* 2021;61:102338. doi:10.1016/j.ijdr.2021.102338
23. Norris FH, Friedman MJ, Watson PJ, Byrne CM, Diaz E, Kaniasty K. 60,000 disaster victims speak: part I. An empirical review of the empirical literature, 1981–2001. *Psychiatry.* 2002;65(3):207–239. doi:10.1521/psyc.65.3.207.20173
24. Arslan N, Topan A, Kurtuncu M. Earthquake experiences of nursing students residing in earthquake zone, the disaster of the century: a qualitative study. *Omega (Westport).* 2024;1–18. doi:10.1177/00302228241231013
25. Mohr E. Posttraumatic growth in youth survivors of a disaster: an arts-based research project. *Art Ther.* 2014;31(4):155–162. doi:10.1080/07421656.2015.96348