Clinical Social Work Journal
https://doi.org/10.1007/s10615-025-00993-y

ORIGINAL PAPER

Examination of Individual and Collective Trauma After the Kahramanmaraş Earthquake

Ayten Kaya Kılıç[1] · **Kerime Bademli**[2] · **Mehmet Kayakuş**[3]

Accepted: 17 February 2025
© The Author(s) 2025

Abstract

Kahramanmaraş earthquake devastated city centers, districts and villages in a total of 11 provinces located on the Eastern Anatolia Fault Line in Türkiye over 50,000 people lost their lives in the earthquake. The aim of this study is to examine the effects of individual and collective trauma in posts about earthquakes on social media after the earthquake. The study was designed with a qualitative research method. Tweets containing the keywords "earthquake", "psychology", "psychological support", "trauma", "post-trauma stress" were collected on Twitter between February 6 and April 13, 2023. As a result of the analyzes, three main themes were determined as “call for help”, “post-traumatic stress” and “collective trauma”. Accordingly, under the main theme of "call for help", the sub-themes of "call to reach relatives", "call for basic needs" and "call for psychological support" were identified. The 2nd main theme, post-traumatic stress, includes "flashbacks", "insomnia, nightmares", "fear and helplessness" and "anger". Under the 3rd main theme of collective trauma, the sub-themes of "sadness", "fear" and "anger" were identified. In our study, it was determined that the earthquake had traumatic effects at the individual and collective level. Findings of the study highlight the importance of comprehensive disaster response strategies that address survivors' psychological well-being, promote recovery, and build resilience in the face of adversity.

Keywords Kahramanmaraş earthquake · Post-traumatic stress · Individual trauma · Collective trauma · Twitter

Introduction

Two earthquakes with magnitudes of 7.7 and 7.6 on the Richter scale occurred in Kahramanmaraş province of Türkiye on February 6, 2023. The earthquake devastated city centers, districts and villages in a total of 11 provinces located on the Eastern Anatolia Fault Line in Türkiye. According to official records, over 50,000 people lost their lives in the earthquake (https://www.sbb.gov.tr). According to the Presidency of the Republic of Türkiye Strategy and Budget Presidency Kahramanmaraş and Hatay Earthquakes Report (2023), more than half a million (518,009) buildings in the earthquake zone were destroyed or severely damaged. The 2,273,551 people living in these buildings faced housing problems. Thousands of people who lost their homes have migrated from their cities. Individuals and families who did not want to leave the earthquake zone had to live in tent cities.

Considered one of the most destructive natural disasters earthquakes (Cavallo et al., 2013; Hannah, 2018) negatively affect a large number of people as a result of the countless destruction and losses they cause (Dai et al., 2016). After an earthquake, survivors may experience a variety of stress reactions (Sakuma et al., 2015). Post Traumatic Stress Disorder (PTSD) is considered the most common negative psychological reaction following a traumatic event (Dai et al., 2016; Dell'Osso et al., 2013; Galea et al., 2005). American Psychiatric Association (APA) the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) specifies some criteria for PTSD. The first of these is the feeling of fear, helplessness and terror as a result of being exposed to or witnessing a traumatic event that threatens one's own life

✉ Ayten Kaya Kılıç
aytenkayakilic@akdeniz.edu.tr
https://avesis.akdeniz.edu.tr/aytenkayakilic

[1] Department of Social Work, Manavgat Faculty of Social Sciences and Humanities, Akdeniz University, Antalya, Türkiye

[2] Department of Psychiatric Nursing, Faculty of Nursing, Akdeniz University, Antalya, Türkiye

[3] Department of Management Information Systems, Manavgat Faculty of Social Sciences and Humanities, Akdeniz University, Antalya, Türkiye

Published online: 12 March 2025

or the lives of others. Another is the feeling that the event is constantly reoccurring through flashbacks or nightmares, which leads to psychological distress and physiological reactions. Another is persistent avoidance of feelings, thoughts or conversations related to the event, avoidance of places and people reminiscent of the event, social withdrawal, emotional limitation and feelings of pessimism. Finally, sleep disturbances, anger and restlessness, and problems with concentration. When these symptoms persist for more than 1 month and cause significant impairment in social functioning, it indicates PTSD (APA, 2013). In a meta-analysis study on risk factors for PTSD in adults and children after the earthquake disaster, it was determined that the prevalence of PTSD after the earthquake ranged between 10% and 67.07% in adults and between 2.50% and 60.00% in children (Tang et al., 2017).

Large-scale natural disasters affect large geographic areas (Lee et al., 2020). Unexpected and uncontrollable earthquakes have an impact on the lives of the general population as well as direct victims (Kyutoku et al., 2012; Sakuma et al., 2015; Williams et al., 2021). People who are not directly exposed to trauma may experience indirect trauma due to the effects of the disaster on people (Lee et al., 2020). The psychological reactions caused by the traumatic event in a large part of society are referred to as collective trauma (Cypress, 2021; Veerman et al., 2001). Situations such as the severity of the disaster, the extent of the destruction it causes, the high loss of life and property, and the possibility of the disaster recurring contribute to the expansion of collective trauma (Ursano et al., 2008). Today, the widespread use of social media allows people living in various parts of the world to see the destruction, loss of life and property after the disaster. Through social media (Twitter, Facebook, Instagram); live media images of the traumatic event reach the general public within seconds (Holman et al., 2020). Disasters cause people to share their suffering with others (Zaki, 2020). People who witness this may feel emotionally pressured when they perceive someone else's trauma experiences. Post-disaster stress is a result of people's psychological, physical and behavioral responses (Williams et al., 2021). In a study conducted by Galea et al. (2005), it is stated that the prevalence of PTSD among direct victims of disasters is 30–40% and its prevalence in the general population is approximately 5–10%.

Earthquakes that cause loss of life and property and great destruction; It has serious effects on those who are exposed in the region where it is effective and people who witness destruction outside the region. To examine these effects, we selected Twitter data, which is the social media platform that gives the opportunity to instantly reach the thoughts of large masses in our study. The aim of our study is to examine the effects of individual and collective trauma in tweets about earthquakes sent on Twitter after the earthquake.

Methods

Study Design

This research is a qualitative research type study. In the study, a content analysis of social media posts on individual and collective trauma after the Kahramanmaraş earthquake was conducted. Using the content analysis method, the study analyzes data collected from public social media platforms such as Twitter. It aims to examine how individual and collective trauma are expressed through the social media platform Twitter after the Kahramanmaraş Earthquake. Content analysis is the process of systematically analyzing, classifying and making sense of texts. Content analysis was used in this study to determine how a major social event such as an earthquake was perceived and expressed through social media. The research aims to use the data provided by social media to understand the traces and psychological effects of trauma in society. Analyzing tweets containing people's fears, sadness, hopes and solidarity after the earthquake is an important method to trace the traces of social trauma.

Data Collection

In the study, the Twitter social networking platform was preferred to examine the effects of individual and collective trauma from the messages sent about the earthquake on social media after the earthquake. Twitter is a social media platform that people can access at any time via the web or mobile device and express themselves with text, pictures, and videos. One of the main reasons why Twitter is preferred is that people can easily express their thoughts and emotions in textual form and interact with other people. Another important reason is the number of users, and the amount of interaction Twitter has. According to a report by We Are Social (2023), Twitter ranks 14th among the most used social media platforms with 556 million users worldwide, but 7th among the most spent social media platforms. It has 229 million active users worldwide. Türkiye has 18.5 million Twitter users (21.7% of the population), making it the 7th country with the most active participants. In Türkiye, Twitter ranks 3rd among the most visited websites and 4th as the most used social media platform. According to a 2019 study, on average, 500 million tweets are shared on Twitter daily globally, and 7 million tweets are shared in Türkiye.

Another important reason for preferring Twitter is that this social network platform provides access to tweets for academics. Twitter offers the tweets of the last seven days free of charge to the academics whose projects it

supports. In this study, the Twitter Application Programming Interface (API) was used to retrieve the tweets of the last seven days based on the determined keywords. Information such as the tweet, location, time, user profile, etc. of tweets containing the keywords determined in the study was obtained. In the study, the Knime application, a free open-source program, was used to access the tweets.

Between February 6 and 13 April 2023, tweets using the keywords "earthquake", "psychology", "psychological support", "trauma", "post-traumatic stress" in Turkish were collected from Twitter. The tweets collected weekly on Twitter were transferred to an exel file and then first cleaned from duplicate data. The number of tweets remaining for the keywords is 74,034. In the study, due to the large size of the data set, a sampling method was used to select a part that could represent it. Sampling in data analysis is the practice of analyzing a subset of all data to reveal meaningful information in the larger data set. In this study, purposeful sampling methods, one of the non-random (non-probability) sampling methods, was used to determine the sample. In the purposive sampling method, the researcher determines the units to be included in the sample with his or her own judgment based on his or her previous knowledge, experience, and observations in accordance with the purpose of the research. Since the researcher acts with his or her own judgments and evaluations, he or she should have an idea about the population (Ural & Kılıç, 2011). In the study, 10% of the total number of tweets were analyzed by the purposive sampling method. Due to the high number of tweets, the first 500 tweets of the weekly tweets were randomly re-read by the researchers, and themes were determined based on the meanings they contained. Analyses were conducted on 7508 randomly determined tweets. After removing the meaningless data, the remaining number of tweets was 1747 (Fig. 1).

The Exclusion Criteria of the Study

Lack of Context: The tweet lacks sufficient background information, making it difficult for the reader to comprehend, or the tweet contains no clear meaning.

Retweet: A tweet that has been originally posted by someone else and then shared or forwarded by another user.

Data Analysis

In the analysis of the data, a content analysis was made that allows the content to be examined based on the meanings, intentions and contexts (Prasad, 2008) of the earthquake-related posts on Twitter. Content analysis was specifically used to systematically process qualitative data and to extract

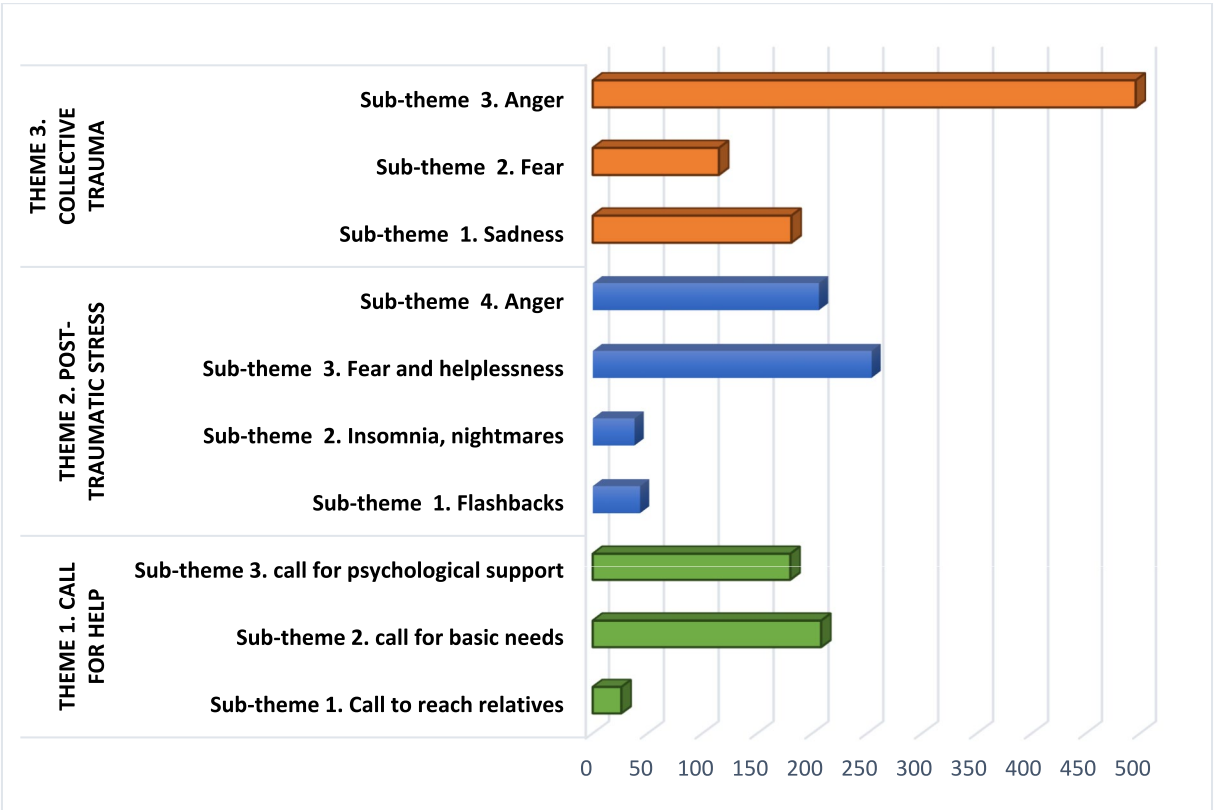


Fig. 1 Number of tweets by theme and sub-theme

specific themes, meanings and trends from these data. Twitter data is considered qualitative data in this study because it is text-based and meaning was tried to be inferred from the content. In content analysis, tweets were analyzed thematically and sentimentally, and the data were classified under certain categories and subcategories. Categories and subcategories were formed around the most meaningful and salient themes to understand the effects of the earthquake in accordance with the purpose of the study. In this study, categories and subcategories were determined based on the content of the data, literature review and theoretical framework in order to analyze how individual and social traumas were expressed through social media after the Kahramanmaraş Earthquake. The main categories were formed around the main themes reflecting the effects of the earthquake, and the subcategories addressed narrower topics that reveal more specific reflections of these themes. This categorization allows for a more meaningful analysis of the data and an in-depth examination of emotional, psychological and social traces.

Determination of Categories

In determining the categories, the themes that best reflect the social and individual effects of the earthquake were taken into consideration based on the content of the data and the purpose of the study. These categories were created based on factors such as the researcher's literature review, content analysis of social media posts, and previously determined theoretical frameworks. Two main components of content analysis, sentiment analysis and thematic analysis, were used in this study.

Emotion Analysis: Content analysis was conducted on the emotional tones (positive, negative, neutral) of the posts on Twitter. This was used to understand the emotional reflections of tweets on social media. The analysis with positive, negative and neutral labeling revealed how the earthquake was received at the individual and social level.

Thematic Analysis: The main themes related to the social effects of the earthquake were identified as "call for help", "post-traumatic stress" and "collective trauma". Under the main theme of "call for help", the sub-themes of "call to reach relatives", "call for basic needs" and "call for psychological support" were identified. Under the main theme of post traumatic stress, the sub-themes of "flashbacks", "insomnia, nightmares", "fear and helplessness" and "anger" were identified. Under the main theme of collective trauma, the sub-themes of "sadness", "fear" and "anger" were identified. How the identified themes were expressed in the tweets was analyzed. Thematic analysis is a qualitative aspect of content analysis, where we analyze the meaning of social media content and analyze the psychology of the public after the earthquake (Fig. 1).

The following steps were followed to determine the categories in the study:

Data Review: The contents of 1747 tweets collected from Twitter were carefully examined and the emotional tones, contents, and contexts of the messages shared after the earthquake were analyzed.

Determination of Main Themes: Previous studies on the traces of social traumas after the earthquake on social media were utilized. Studies in the literature on the social effects of natural disasters, disaster psychology, and social media provided important guidance in shaping the categories of this study. General categories were determined in line with the individual and social effects of the earthquake.

Determination of Sub-themes: Subcategories were determined based on more specific themes and emotional reflections under the main categories. The following methods were used to determine the subcategories:

Extracting Data Themes: Themes were determined based on common expressions and emotional tones in social media posts.

Validity and Reliability of Categories

Categories and subcategories were determined based on the researchers' field of expertise and theoretical frameworks in the literature. In addition, the reviews made during the data analysis and 2 expert opinions played an important role in ensuring the validity and reliability of the categories.

Ethical Consideration

Social media platforms such as Twitter often make users' posts publicly available. In this study, the researchers used only publicly available data. The tweets shared by users can be seen by everyone from the moment they are posted on the platform. Since publicly available data was analyzed in the study, there was no need to inform the participants because this type of data is not private but publicly accessible. In the data collected from the social media platform, personal data was protected and anonymized.

Results

Theme I: Call for Help

Kahramanmaraş earthquakes affected a large geographical area of 30.000 km^2 The large area covered by the earthquakes and the high number of destroyed buildings prevented the timely and adequate delivery of national and international aid to the disaster zone. Some of the tweets analyzed in the study reflected the search for help by people who lived in the earthquake zone themselves or their

relatives. The first one of these requests for help was the messages sent to reach the relatives who lived in the earthquake zone and did not receive any news after the disaster. The other is the calls for help to meet the basic humanitarian needs such as shelter and nutrition of people who were left homeless in the earthquake. Lastly, there are appeal messages to provide psychological support to the survivors of the earthquake.

Sub-theme 1: Call to Reach Relatives

In the analyzed tweets, it was determined that some of the users could not get news from their relatives living in the earthquake zone and used social media as a solution method to get information about their situation (26 tweets).

> "Our friend O.K. and his sister İ.K. cannot be reached since the earthquake. If anyone sees or knows, we ask them to contact the number in the photo."
> "Hatay Antakya Odabaşı neighborhood, rende site, K.A., B. A. and their children are not heard from. Can anyone reach them?"
> "Please help me I couldn't find my mom and dad's body for 1 month, I can't forget how many corpse faces I saw to recognize their corpse, it enters my dreams."
> "My sister has been missing for 30 days. We still haven't heard anything from the authorities. We need your help to find her, dead or alive!

Sub-theme 2: Call for Basic Needs (Tent, Clothes, Water, Food)

Individuals and families living in the earthquake region were unable to meet their basic needs after the destruction left by the disaster. It was determined that the earthquake victims themselves or the people who went to the region to help them tried to make their voices heard on social media to meet the needs of those left homeless such as shelter, nutrition and clothing (208 tweets).

> **"**They are already experiencing the pain of losing their loved ones, they have no home, no place to go, and they should not have to worry about accommodation. For earthquake zones; Tent Emergency"
> "Kahramanmaraş is right in the middle of two earthquake epicenters, Pazarcık and Elbistan! Many bodies are coming out from under the rubble. All over this region,
> 1- Container (with heater)
> 2- Thermal clothing, underwear and
> 3- Communication tools necessary. Food, standard clothing, tents, water, etc. are plentiful."
> "Does anyone hear about the need for water in earthquake zones?"
> "No food, no water, no containers, no medicine, no life in the earthquake zone."

Sub-theme 3: Call for Psychological Support

Disasters leave a trail of devastation in their wake. Deaths, collapsed buildings, destroyed streets and cities. The people and families who survived the earthquake but had to continue living in the earthquake zone are the ones who experienced this devastation deeply. In some of the tweets analyzed, people who were exposed to the disaster or who went to the region for support expressed that the mental health of the people in the region was seriously deteriorating and called for psychological support for all individuals, especially children (180 tweets).

> "People are not in a healthy state of mind. psychological support should be given to everyone in the region one by one. :("
> "Urgent psychological support for children. Children of earthquake victims do not want to stay in class"
> "The effects of post-traumatic stress disorder are very painful. The state urgently needs to provide free psychological support for people who experienced the earthquake."
> "People going through this process need to be seriously supported. Under normal circumstances, the decision to receive psychological support is difficult in our country, but now it should be done regularly, at least a preliminary examination should be done, and it should be continued after the recommendation of the physician/psychologist.."

Theme II: Post Traumatic Stress

Of all-natural disasters, earthquakes have the most devastating impact, causing psychological stress on people. Surviving children, youth and adults may experience varying degrees of stress reactions. After the disaster, traumatic experiences such as loss of relatives, physical injuries, loss of home and valuables, loss of support, hunger, insomnia may cause mental health problems in people. One of these mental health problems is post-traumatic stress disorder, which starts after a disaster and can last for months. In the tweets analyzed in the study, expressions corresponding to the symptoms of post-traumatic stress disorder were found.

Sub-theme 1: Flashback

One of the symptoms of post-traumatic stress disorder is that people "act or feel as if the traumatic event is happening again" after the event. (Wang & Wang, 2021). Some users

who were exposed to the earthquake disaster reflected this feeling in their tweets (43 tweets).

"The feeling of an earthquake at any moment"
"I still feel like I am shaking when I sit somewhere or when I drive somewhere, or I feel like I am going to shake or sway at any time at night.."
"We now have a new fear of whether the chair we are sitting on is shaking or an earthquake is happening. Eyes on the chandelier. I think we're going crazy like this."
"Constant feeling of being shaken 😔 #earthquake #kayseri"
"I thought it was an earthquake, I jumped out of my seat, damn such psychology"
"I'm shaking 24/7, whether there's an earthquake or not. psychology 0 😔"

Sub-theme 2: Insomnia, Nightmares

"Difficulty falling asleep or maintaining sleep" and "frequently dreaming about the event in a distressing way" are other mental problems experienced by trauma survivors. Sleep problems are among the most important expressions reflected in some of the tweets analyzed in the study (38 tweets).

"I keep having nightmares and waking up saying 'earthquake is happening'. I wake up the people around me. That psychology is something else...
Those who haven't experienced it don't understand, they can only guess. I am very sad."
"Now, even if there is no earthquake, we are suddenly awakened from our sleep. Like right now. We have panic attacks, there is no psychology left, there is no sleep without a hole, we are tired. In a word, we are tired.."
"When will this psychology improve, we can't sleep before 04.30 😔❤□□ #Kahramanmaraş"

Sub-theme 3: Fear and Helplessness

Another post-traumatic stress reaction is "excessive fear, helplessness or terror". In the analyzed tweets, some users associated many events (dog barking, thunder, car noises shaking the house, etc.) that occurred around them after the disaster with the earthquake and stated that this situation increased their fear. In addition, it was reflected in the tweets that the high number of losses and the mental collapse they experienced after the disaster pushed them to despair (254 tweets).

"Was it a sign of an earthquake when the dogs barked a lot?"
"Every time there's thunder, I look at the lamp. There's no psychology left."
"Since my aunt's house is on the street, buses, cars etc. pass by every minute. Just now the sofa shook and I thought it was an earthquake. I had a 3-second heart attack. How will this psychology recover"
"We were happy, I had gone to Istanbul for 3 days, my return flight was canceled and the earthquake happened on the night of the earthquake, how did I know that it would be the last time I would see them all, that I would never kiss or love them again."
"As a person living in the earthquake zone, I lost all hope"
"I live in Hatay, 47 of my relatives passed away in Iskenderun Kırıkhan Hassa and Antakya and many of them are still missing. 4 families are staying in a car garage. There is no psychology left, please give some good news..."

Subtheme 4: Anger

"Irritability—restlessness—or outbursts of anger" is another mental distress seen in people exposed to trauma. Loss of home, job and relatives after the disaster are situations that can increase anger in people. In addition, lack of disaster preparedness or late aid may cause anger against community leaders. In the analyzed tweets, it was determined that some users were angry about the disaster experience they experienced, the fear left by the ongoing aftershocks, their losses, and the lack of timely arrival and inadequacy of aid (256 tweets).

"Every day we experience a new earthquake and psychology has disappeared. Twenty of us are staying in tents. Many students left their books in the rubble. The tents got water in the rain. How do you expect us to work, is it fair? We are not on equal terms. Hear our voices.."
"Those who have not experienced the earthquake come here and comment here, you do not know what it is like to sleep shaking every night and wake up shaking."
"I would like to remind my humorist friends that these shrouds are still being distributed in the earthquake zone. The fire in our hearts has not been extinguished yet."

Theme III: Collective Trauma

Destructive traumatic events such as earthquakes leave psychological effects on people who are not directly exposed to the disaster. The severity of the earthquake, the level of destruction it caused, and the high number of people who lost their lives are factors that increase this effect. Live

media images of the Maraş earthquake reached every segment of the society very quickly through print, visual and social media. The sadness, fear and stress reactions of people who witnessed these images were reflected in the tweets sent.

Sub-theme 1: Sadness (Sharing Pain)

In the tweets analyzed in the study, it was determined that the devastation following the earthquake caused deep sorrow in the society (181 tweets).

> " If a compassionate and warm hand caresses the map of Türkiye, we are so full that the whole country would be in tears....
> "What happened in the earthquake zones and the screams of the people, everything they tell is not a movie but reality.Thousands of people died, hundreds of thousands of people are trying to start life from scratch.Millions of people are traumatized.#hatay #adana #maras #adıyaman #malatya"
> "This earthquake took 10 years off our lives.!"
> "We have become a nation without owners.!"
> "Everything we had was buried under the cave-in. This earthquake ripped out our hearts while we were still alive."

Sub-theme 2: Fear

One of the effects of an earthquake on people who are not directly exposed to the disaster is a sense of fear. Some tweets reflected that people living in other provinces in Türkiye (Istanbul, Bolu, etc.) on the earthquake line have a sense of fear of experiencing a similar disaster (115 tweets).

> "Even I make plans every night about what I would do if there is an earthquake in Istanbul. It is a very difficult psychology.."
> "Everyone left Bolu and went to the villages. Normally, a Bolulu would not panic this much in a 4.8 earthquake, but after Kahramanmaraş, people have no psychology left"
> "No, I swear I'm going to throw myself off the bridge, there is no psychology left, my whole family is sleeping at home, I've only been sleeping for 2 or 3 hours for 1 and a half months and I'm thinking about how to save my family if there is an earthquake."

Sub-theme 3: Anger

The failure to send aid to the disaster area in a timely and adequate manner, the losses and helplessness experienced by the disaster victims caused other people who witnessed the disaster to react. Some of the tweets analyzed reflected angry messages directed at the people and institutions responsible for this situation (496 tweets).

> "- Bodies of people removed along with rubble
> - The fate of tens of thousands of missing people remains unknown
> - Hundreds of children disappeared
> - Still no clean drinking water in earthquake zones
> - People were left alone with hunger and trauma
> Who will account for all this?"
> "As a society we are suffering from post-traumatic stress disorder. Everyone is unhappy and sleepless. I meet a lot of nervous and agitated people in my daily life. I am one of them. We have been offended so much! What we have witnessed!"

Discussion

The results obtained from the study are discussed under main themes.

Theme I: Call for Help

The Kahramanmaraş earthquakes in February 2023 significantly affected a large geographical area covering approximately 30,000 km^2. The earthquakes caused many buildings to collapse and prevented the timely delivery of national and international aid to the affected areas (Yilmaz et al., 2023). As a result, people affected by the earthquake turned to social media platforms such as Twitter to seek help and support (Koç et al., 2023). One of the main requests for help observed in the analyzed tweets was the search for information on the health status of relatives living in the earthquake zone who have not been heard from since the disaster. This emphasizes the importance of communication and the need for timely updates during such crises. Lack of information can cause anxiety and distress in individuals who are concerned about the safety of their loved ones (Yilmaz et al., 2023). Another common request for assistance seen in tweets related to meeting the basic humanitarian needs of those left homeless by the earthquake, such as shelter and nutrition. The destruction of buildings and displacement of people has created an urgent need for assistance in providing basic resources to those affected. This highlights the importance of rapid response and coordination in disaster relief efforts. The devastation caused by earthquakes often leaves individuals homeless, without shelter or access to basic needs such as food and water. This underscores the urgency of rapid response efforts in disaster relief. Coordination between various relief organizations and government agencies is crucial to ensure that the affected population receives the assistance they need immediately. The literature emphasizes

the importance of a well-coordinated and effective response to meet the immediate needs of survivors (Tierney, 2007).

There were also calls for psychological support to help survivors cope with the emotional and psychological impact of the earthquake. Natural disasters can have long-lasting effects on mental health and it is crucial to provide psychological support to support survivors' resilience and recovery (Terzi and Dundar, 2023). The psychological toll of natural disasters should not be underestimated. Survivors often experience anxiety, distress and trauma following such events. The emotional impact can be profound and this aspect of recovery is as important as providing physical assistance. The calls for psychological support highlighted in the analyzed tweets point to the need for immediate and long-term mental health resources for survivors. Research has shown that the emotional repercussions of disasters can go far beyond the initial event, affecting individuals' mental health for months or even years (Norris et al., 2002).

Theme II: Post Traumatic Stress

Of all natural disasters, earthquakes take a uniquely devastating toll that extends far beyond physical destruction. The profound psychological stress on survivors, spanning different age groups, is a serious concern. In addition, mental health problems, particularly post-traumatic stress disorder (PTSD), are likely to occur in the aftermath of an earthquake. The study's identification of phrases indicative of PTSD symptoms in the analyzed tweets provides empirical evidence of the urgent need for mental health support.

Numerous studies have shown a significant association between earthquake exposure and the subsequent development of PTSD. For example, a study conducted in China after the 2008 Wenchuan earthquake found that nearly 40% of survivors met criteria for PTSD within six months of the disaster (Pan et al., 2016). Similar findings have been reported in other earthquake-prone regions such as Japan and Nepal. Children and adolescents are particularly vulnerable to developing post-earthquake PTSD due to their limited coping skills and increased sensitivity to traumatic experiences (Thienkrua et al., 2006). Norris et al. (2002) examined the psychological effects of the 1994 Northridge earthquake in California and found a significant prevalence of PTSD symptoms among survivors. In addition, there are studies showing the negative effects of witnessing a disaster through the media. Similarly, Neria et al. (2008) investigated the impact of earthquakes on mental health and highlighted the significant risk of developing PTSD, particularly in the context of extensive loss and disruption. Holman et al. (2014) investigated the psychological reactions of individuals exposed to media coverage of the September 11 terrorist attacks. The findings showed that high levels of media exposure were associated with increased symptoms of post-traumatic stress disorder (PTSD) and other psychological distress.

Theme III: Collective Trauma

Social media platforms provide a space for individuals to express their emotional reactions to earthquakes and other disasters. Platforms such as Twitter allow people to share their thoughts, fears and concerns in real time. In the context of the Maraş earthquake, tweets became a means for individuals to convey their reactions of sadness, fear and stress triggered by media images. Social media acts as a collective outlet for emotional expression, allowing individuals to connect with others who share similar emotions. The media, including print, broadcast and social media, play an important role in disseminating information about earthquakes and their impacts. The Maraş earthquake is an illustrative example of how live media coverage quickly reaches all segments of society. The urgency and pervasiveness of media coverage intensifies the emotional impact on those watching or reading about the disaster. This exposure can lead to a phenomenon known as "collective trauma", where individuals indirectly experience the trauma of others through media content. Hirschberger (2018) describes collective trauma as: “The term collective trauma refers to the psychological reactions to a traumatic event that affect an entire society”. Collective trauma, unlike the individual trauma experienced by direct victims, leads to a different experience in terms of space and time in people and can have devastating effects on a large part of society (Hirschberger, 2018). The media plays a critical role in shaping social perception and emotional responses to traumatic events. Immediate and widespread coverage of the Maraş earthquake on various media channels exposed a wide range of people to images of destruction, pain and loss. The literature suggests that vivid and harrowing media images can evoke strong emotional reactions that lead to feelings of sadness, fear and distress even among those who are not directly affected by the disaster (Mawson, 2005). Media exposure to disaster-related images has been shown to increase fear and stress responses. This effect often depends on the emotional intensity of the images, their graphic nature and the frequency of exposure. For example, individuals who repeatedly view disturbing images may experience an increased sense of threat and vulnerability, which may contribute to increased stress levels. The rapid and widespread media coverage after the Maraş earthquake likely contributed to the emotional impact observed in social media reactions.

Conclusion

As a result, the Kahramanmaraş earthquake resulted in a wide range of requests for assistance, from the search for information about missing relatives, to the need for basic humanitarian

aid, to calls for psychological support. These requests emphasize the immediate and long-term needs of individuals affected by natural disasters. The findings from this study can inform disaster management strategies and emphasize the importance of effective communication, rapid response and coordination in providing assistance to those in need. Psychological stress triggered by earthquakes is a complex and widespread phenomenon affecting survivors of all age groups. Traumatic experiences following earthquakes can contribute to the development of mental health problems, including post-traumatic stress disorder. Findings from both the study's analysis and the existing literature highlight the importance of comprehensive disaster response strategies that address survivors' psychological well-being, promote recovery, and build resilience in the face of adversity.

Implications for Social Work Practice

Earthquake disasters are natural events that are not known when and where they will occur. The losses, physical and psychosocial problems caused by disasters necessitate social work practices and interventions. The results of this study draw attention to the basic needs of the local people (lifesaving, tents, food, clothing and psychological support, etc.) and the mental health problems that emerged at individual and collective levels after the earthquake disaster. Services such as assessments of needs for survivors after the disaster, ensuring the development of public and voluntary services, organizing the distribution of services, helping people access resources, providing psychosocial support are vital interventions by social workers who are members of the disaster team (Javadian, 2007). Clinical social work is an important area of social work that provides psychosocial support to individuals, families and groups experiencing emotional, mental and behavioral problems (González & Gelman, 2015; NASW, 2005). This study provides a basis for clinical social workers to implement psychosocial interventions and their timing from micro to macro levels in future disaster management plans.

Funding Open access funding provided by the Scientific and Technological Research Council of Türkiye (TÜBİTAK).

Declarations

Conflicts of interest No conflict of interest was declared by the authors.

Participation Consent There is no necessity for informed consent due to the research data is collected from public social media posts.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit http://creativecommons.org/licenses/by/4.0/.

References

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. American Psychiatric Publishing.

Cavallo, E., Galiani, S., Noy, I., & Pantano, J. (2013). Catastrophic natural disasters and economic growth. *Review of Economics and Statistics, 95*(5), 1549–1561.

Cypress, B. S. (2021). Collective trauma: An evolutionary concept analysis. *In Nursing Forum., 56*(2), 396–403.

Dai, W., Chen, L., Lai, Z., Li, Y., Wang, J., & Liu, A. (2016). The incidence of post-traumatic stress disorder among survivors after earthquakes: A systematic review and meta-analysis. *BMC Psychiatry, 16*(1), 1–11.

Dell'Osso, L., Carmassi, C., Massimetti, G., Stratta, P., Riccardi, I., Capanna, C., et al. (2013). Age, gender and epicenter proximity effects on post-traumatic stress symptoms in L'Aquila 2009 earthquake survivors. *Journal of Affective Disorders, 146*(2), 174–180. https://doi.org/10.1016/j.jad.2012.08.048

Galea, S., Nandi, A., & Vlahov, D. (2005). The epidemiology of post-traumatic stress disorder after disasters. *Epidemiologic Reviews, 27*(1), 78–91. https://doi.org/10.1093/epirev/mxi003

González, M. J., & Gelman, C. R. (2015). Clinical social work practice in the twenty-first century: A changing landscape. *Clinical Social Work Journal, 43*, 257–262.

Hannah R. (2018). What were the world's deadliest earthquakes? Retrieved November 21, 2024, from https://ourworldindata.org/the-worlds-deadliest-earthquakes

Hirschberger, G. (2018). Collective trauma and the social construction of meaning. *Frontiers in Psychology, 9*, 351992.

Holman, E. A., Garfin, D. R., Lubens, P., & Silver, R. C. (2020). Media exposure to collective trauma, mental health, and functioning: Does it matter what you see? *Clinical Psychological Science, 8*(1), 111–124.

Holman, E. A., Garfin, D. R., & Silver, R. C. (2014). Media's role in broadcasting acute stress following the Boston Marathon bombings. *Proceedings of the National Academy of Sciences, 111*(1), 93–98. https://doi.org/10.1073/pnas.1316265110

Javadian, R. (2007). Social work responses to earthquake disasters: A social work intervention in Bam, Iran. *International Social Work, 50*(3), 334–346.

Koç, Z., Meterelliyoz, K. Y., Etlik, A. A., Sürücü, M., Vardal, T. O., Çetinavcı, D., & Akın, S. (2023). Relationship between fear of earthquakes and sleep quality in patients with hypertension living in Istanbul. https://doi.org/10.21203/rs.3.rs-3132686/v1

Kyutoku, Y., Tada, R., Umeyama, T., Harada, K., Kikuchi, S., Watanabe, E., et al. (2012). Cognitive and psychological reactions of the general population three months after the 2011 Tohoku earthquake and tsunami. *PLoS ONE, 7*(2), e31014. https://doi.org/10.1371/journal.pone.0031014

Lee, J. Y., Kim, S. W., & Kim, J. M. (2020). The impact of community disaster trauma: A focus on emerging research of PTSD and other mental health outcomes. *Chonnam Medical Journal, 56*(2), 99. https://doi.org/10.4068/cmj.2020.56.2.99

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

National Association of Social Workers. NASW standards for clinical social work in social work practice. Retrieved November 22, 2024, from https://www.socialworkers.org/Practice/NASW-Practice-Standards-Guidelines/NASW-Standards-for-Clinical-Social-Work-in-Social-Work-Practice

Neria, Y., Nandi, A., & Galea, S. (2008). Post-traumatic stress disorder following disasters: A systematic review. *Psychological Medicine, 38*(4), 467–480.

Norris, F. H., Friedman, M. J., Watson, P. J., Byrne, C. M., Diaz, E., & Kaniasty, K. (2002). 60,000 disaster victims speak: Part I. An empirical review of the empirical literature, 1981–2001. *Psychiatry, 65*(3), 207–239.

Pan, X., Liu, J., Wen, S., Li, L., & Li, G. (2016). Posttraumatic stress disorder and its risk factors among adolescent survivors three years after an 8.0 magnitude earthquake in China. *BMC Psychiatry, 16*(1), 194.

Prasad, B. D. (2008). Content analysis. *Research Methods for Social Work, 5*, 1–20.

Sakuma, A., Takahashi, Y., Ueda, I., Sato, H., Katsura, M., Abe, M., et al. (2015). Post-traumatic stress disorder and depression prevalence and associated risk factors among local disaster relief and reconstruction workers fourteen months after the Great East Japan Earthquake: a cross-sectional study. *BMC Psychiatry, 15*(1), 1–13.

Tang, B., Deng, Q., Glik, D., Dong, J., & Zhang, L. (2017). A meta-analysis of risk factors for post-traumatic stress disorder (PTSD) in adults and children after earthquakes. *International Journal of Environmental Research and Public Health, 14*(12), 1537.

Terzi, O., & Dundar, C. (2023). Problem of unaccompanied children in the earthquake: insufficient enrollment. *Disaster Medicine and Public Health Preparedness*. https://doi.org/10.1017/dmp.2023.34

Thienkrua, W., Cardozo, B. L., Chakkraband, M. L., Guadamuz, T. E., Pengjuntr, W., Tantipiwatanaskul, P., et al. (2006). Symptoms of posttraumatic stress disorder and depression among children in tsunami-affected areas in southern Thailand. *JAMA, 296*(5), 549–559. https://doi.org/10.1001/jama.296.5.549

Tierney, K. (2007). From the margins to the mainstream? Disaster research at the crossroads. *Annual Review of Sociology, 33*, 503–525.

Presidency of the Republic of Türkiye Strategy and Budget Presidency Kahramanmaraş and Hatay Earthquakes Report (2023). Available at https://www.sbb.gov.tr/wp-content/uploads/2023/03/2023-Kahramanmaras-ve-Hatay-Depremleri-Raporu.pdf Date of access: 15.04.2023.

Ural A, Kılıç İ. (2011). Bilimsel Araştırma Süreci ve SPSS ile Veri Analizi. Detay Yayıncılık, Ankara. In Turkish.

Ursano, R. J., Fullerton, C. S., & Terhakopian, A. (2008). Distress, disorders, and disaster behaviors in communities, neighborhoods, and nations. *Social Research, 75*(3), 1015–1028.

Veerman, A. L., & Ganzevoort, R. R. (2001). Communities coping with collective trauma. *Psychiatry, 101*, 141–148.

Wang, R. R., & Wang, Y. H. (2021). Using the Kübler-Ross model of grief with post-traumatic stress disorder (PTSD): An analysis of Manchester by the sea. *Metathesis: Journal of English Language, Literature, and Teaching, 5*(1), 79–92.

We Are Social (2023). Digital 2023. https://wearesocial.com/uk/blog/2023/01/digital2023/. Date of access: 10.03.2023.

Williams, R., Ntontis, E., Alfadhli, K., Drury, J., & Amlôt, R. (2021). A social model of secondary stressors in relation to disasters, major incidents and conflict: Implications for practice. *International Journal of Disaster Risk Reduction*. https://doi.org/10.1016/j.ijdrr.2021.102436

Yıldız, B. (2019). Twitter İstatistikleri. Retrieved from https://www.brandingturkiye.com/twitter-istatistikleri-guncel/. Date of access: 04.09.2023 In Turkish.

Yilmaz, S., Karakayali, O., Yılmaz, S., Çetin, M., Eroğlu, S., Özhasenekler, A., et al. (2023). Emergency medicine association of Turkey disaster committee summary of field observations of february 6th Kahramanmaraş earthquakes. *Prehospital and Disaster Medicine, 38*(3), 415–418. https://doi.org/10.1017/s1049023x23000523

Zaki, J. (2020). Catastrophe compassion: Understanding and extending prosociality under crisis. *Trends in Cognitive Sciences, 24*(8), 587–589.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Ayten Kaya Kılıç is Associate Professor in the Social Work Department at Manavgat Faculty of Social Sciences and Humanities s at Akdeniz University. Ayten completed her Ph.D. in the Social Work Department at Selçuk University in Türkiye. Her doctoral research investigates people with mental disorders. Her research interests are mental disorders, caregivers, child neglect and abuse, institutional care, social work education, https://avesis.akdeniz.edu.tr/researcher. Publons/ResearcherID: AAG-9310-2019. Google ScholarID: HOoUJA4AAAAJ.