

Awaiting on the Rubble: Phenomenological Perspectives on Ambiguous Loss by Earthquake Survivors

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Abstract

On February 6th, 2023, a series of powerful earthquakes struck more than ten cities in Turkiye, resulting in the deaths of approximately 55K people and leaving many missing. Family members who were unable to locate the bodies of their loved ones experienced ambiguous loss, a grief characterized by uncertainty about the fate or whereabouts of the person. Such losses disrupt regular grieving processes and result in a prolonged state of emotional uncertainty. This phenomenological study examined fourteen family members who experienced ambiguous loss following the disaster. We conducted in-depth interviews to investigate how participants experienced the loss, reconstructed their identities, and related to their environment and future. Through content analysis of the transcribed interviews, we generated four themes: Process; Others; Effects; Self, Family, and Life Roles; and Responsibilities. Although most participants eventually received confirmation of the death of their loved ones, the period of uncertainty immediately after the earthquake caused emotional distress and complicated the grieving process. Many described intense emotional distress and also reflected ways of coping through meaning-making and emotional adaptation over time.

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Original Manuscript

Original Paper

Awaiting on the Rubble: Phenomenological Perspectives on Ambiguous Loss by Earthquake Survivors

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Abstract

On February 6th, 2023, a series of powerful earthquakes struck more than ten cities in Türkiye, resulting in the deaths of approximately 55K people and leaving many missing. Family members who were unable to locate the bodies of their loved ones experienced ambiguous loss, a grief characterized by uncertainty about the fate or whereabouts of the person. Such losses disrupt regular grieving processes and result in a prolonged state of emotional uncertainty. This phenomenological study examined fourteen family members who experienced ambiguous loss following the disaster. We conducted in-depth interviews to investigate how participants experienced the loss, reconstructed their identities, and related to their environment and future. Through content analysis of the transcribed interviews, we generated four themes: Process; Others; Effects; Self, Family, and Life Roles; and Responsibilities. Although most participants eventually received confirmation of the death of their loved ones, the period of uncertainty immediately after the earthquake caused emotional distress and complicated the grieving process. Many described intense emotional distress and also reflected ways of coping through meaning-making and emotional adaptation over time. Keywords: ambiguous loss, earthquake, mourning

Introduction

Regardless of its nature, any loss in human relationships triggers the grieving process (1). To complicate the matter further, the stages of grief diverge across cultures throughout the grieving process (2). Although there is no specific pattern or single way to grieve (3), researchers have identified common reactions to loss (1). For example, funeral rituals help facilitate saying goodbye to loved ones in many cultures (4), and burying the body is the most direct way to initiate the mourning process (5). Such rituals are not direct individual responses but cultural practices that support the process. Although the loss of a loved one is painful, the announcement of the death, funeral rituals, the reading of the will, and the belief that the deceased is at peace help individuals ease the death and mourning (2). Whereas traditional theories explain the grieving process in terms of sequential stages and the importance of rituals, contemporary perspectives emphasize that grief is not a uniform or linear process. Instead, cultural norms, personal meanings, and the nature of the loss shape the process (6, 7).

Beyond the individual grieving process, ambiguous loss also undermines the functioning of family systems because it creates ongoing uncertainty about roles, responsibilities, and family membership. According to Boss (7), when a family member is perceived as both present and absent, this is referred to as boundary ambiguity. This ambiguity makes it difficult for family members to redefine their roles, make decisions, and take steps toward the future. Thus, the systemic adaptation processes necessary for healthy family functioning are disrupted by ambiguous loss (5, 8). Because the loss cannot be resolved, people often respond in unpredictable and fluctuating ways (9).

In contrast to the availability of the body and funeral rituals, when there is no clear

information about whether the lost one is dead or alive triggers feelings of uncertainty or ambiguous loss (9, 10). The 9/11 attacks, the 2011 tsunami in Japan (3), mothers who lost their babies and did not receive a satisfactory explanation (11), or COVID-19 cases have triggered ambiguous loss (3). The ambiguity of the loss prevents the rituals expected to take place afterward (2, 12) and the initiation of the mourning process (13, 14). Because the grieving process cannot be initiated or settled in ambiguous loss, individuals feel and behave in unpredictable ways (9). The absence of a body defines it as one of the most challenging losses (2, 9).

Boss (15) developed a qualitative and phenomenological approach to ambiguous loss and introduced the concept of family boundary ambiguity, which is the uncertainty about who is in the family system (8, 16) and what their roles are (8, 9, 10). Boundaries are both physical and psychological lines that separate individuals within a family from other individuals and groups (9) and are individuals' perceptions of loss (5). Higher levels of uncertainty are a risk factor and hinder the family's stress management (5). Moreover, boundary ambiguity triggers depression, somatic symptoms, and family conflicts (7).

The Types of Ambiguous Loss

There are two types of ambiguous loss (10). In the first type, although the body is missing, the person is psychologically present in the family. Losses from earthquakes, wars, and abductions are of this type (16). Most recently, in the COVID-19 period, many cases of death are the first type of ambiguous loss (3). On the contrary, the second type of loss is when the individual is physically present but psychologically absent. Examples of such losses include Alzheimer's patients, alcoholics, workaholics, and disowned individuals (2). This type of loss is more likely to become chronic (7). Studies with the families left behind by military pilots missing in Laos and Vietnam discovered that even though they were physically missing, they continued to be psychologically present in their families (17, 18). Later, studies with families of missing children (19), parents of adolescents who have abandoned home (20), displaced migrants (21), and the families of individuals with mental health problems (21, 22, 23) have shown that the theory is valid in different circumstances such as

natural disasters, terrorism, war, etc. (24).

The Effects of Ambiguous Loss

Research suggests that the presence of the body in losses may be culturally bonded (5); however, ambiguous loss generally violates societal expectations (25), in which the mourning period offered to the remaining relatives is usually shorter (26); remaining family members may be isolated starting from the first weeks of loss (27); and they may withdraw from society (1). Additionally, when grieving individuals are emotionally or physically isolated, they may become doubtful of their feelings (28). Such a state of exclusion may prevent individuals from making sense of their loss and asking for help (29). Society puts pressure on those left behind to cope with grief rather than to experience it (10), leading to more stress (30). Because of such experiences, Doka (31) defines ambiguous loss as “disenfranchised grief.” Bowlby (32) states that it is impossible to lose a loved one without active participation in the rituals of honor and farewell that initiate the process of attachment separation. Moreover, the pressure of closure may lead to more resistance (33).

Accepting individuals who are not physically present as if they were can trigger depression, anxiety, and conflict (7,9). These emotional tensions often manifest as systemic dysfunctions in the family. When family members lack clarity about the whereabouts of the missing person or whether their role in the family continues, family cohesion, communication, and adaptability are weakened (34). Such uncertainty can lead to parental overresponsibility, role reversals among siblings, or unresolved relationship tensions. When stress accumulates, families can be plunged into a state of chronic crisis, severely disrupting their daily functioning (7). Therefore, ambiguous loss is not only a psychological burden but also a structural problem that destabilizes the family system. Depending on how family members perceive ambiguous loss, it is possible to observe boundary ambiguity in a continuously increasing and decreasing variability (34). A higher level of uncertainty may hinder stress management within the family and weaken the flexibility of individuals (5). As a result of inhibited cognitive functions (13), individuals' decision-making abilities may be delayed. Due to a lack of information, coping processes may be stalled (9, 10).

It is difficult to predict the impact of ambiguous loss on those left behind (10). Nonetheless, such experiences often cause stress, anxiety, depression (35, 36), helplessness, confusion (10), headaches, fatigue, stomach disorders (37), hopelessness, immobilization (38), attention problems, excessive crying (39), indecision, increased anxiety (40), guilt, substance abuse, violence, identity problems (41), and other physiological, cognitive, behavioral, and emotional symptoms (42). Moreover, the ambiguous nature of the loss can suspend the mourning process for as long as a lifetime; in some cases, such as slavery and the Holocaust, it can even last for generations (16, 43).

In sum, a series of earthquakes in February 2023 killed approximately 55K people and left thousands missing (excluding those recovered from the rubble or found in hospitals) in the southern and southeastern regions of Türkiye. For some time, people were unable to determine whether their loved ones were dead or alive or, in case of their death, perform the necessary rituals to honor them. This period of waiting trapped families in a state of 'frozen time' (14), where the inability to mourn or to hope realistically complicated their grief. Furthermore, the critical role of hope—both as a necessary resource and a potential source of distress—has been highlighted in similar contexts of ambiguous loss (30). Consequently, we aimed to understand the perspectives of earthquake survivors who have experienced such ambiguous loss

Method

Research Design

We used phenomenology to describe survivors' experiences, perspectives, feelings, and thoughts about ambiguous loss. Open-ended questions in the interviews provided detailed narratives. To ensure variation in perspectives, we employed a maximum variation sampling strategy (44). We purposely sampled survivors who lacked definitive information about the fate of their loved ones for three to fifteen days following the earthquake. For example, two participants knew that their relatives were under the rubble but could not confirm their status until heavy machinery removed the debris. Psychologists and counselors working in the affected regions were contact points to identify prospective participants. As a result, the study included 14 survivors (six women and eight men) who

experienced ambiguous loss during the earthquake. The age range of the participants varied from 23 to 58 years. All participants are at least high school graduates. The sample included diverse participants in terms of age, gender, occupation, and city of residence. Participants from different provinces (i.e., Hatay, Adıyaman, Malatya, and Kahramanmaraş) ensured a heterogeneous sample.

Table 1 presents the descriptive characteristics of the participants.

Table 1
Demographic Characteristics of the Participants

Participant	Gender	Age	Missing Relative	Missing Period (Days)	City	Occupation
P1	Man	34	Wife Daughter	12	Adıyaman	Unskilled Worker
P2	Woman	42	Husband	14	Hatay	Housewife
P3	Man	50	Cousin	10	Hatay	Engineer
P4	Woman	30	Husband	15	Adıyaman	Teacher
P5	Woman	23	Uncle	14	Malatya	College Student
P6	Woman	55	Mother Son	9	Kahramanmaraş	Housewife
P7	Woman	62	Son	15	Malatya	Housewife
P8	Man	49	Father	13	Kahramanmaraş	Physician
P9	Woman	60	Daughter Grandchild	10	Malatya	Housewife
P10	Man	43	Sibling	3	Hatay	Engineer
P11	Woman	47	Cousin	11	Hatay	Housewife
P12	Man	58	Wife	13	Kahramanmaraş	Retired
P13	Woman	25	Mother Father Sibling	8	Kahramanmaraş	Unskilled Worker
P14	Man	41	Brother	13	Adıyaman	Teacher

Data Collection

Before collecting the data, we informed the participants about the purpose of the study. We debriefed them at the end of the interviews. Written informed consent was obtained from all participants prior to data collection. All participants were informed prior to the interviews that the study findings, including identifying details, might be published in academic articles. Written consent to publish these details was obtained from all participants before data collection. Data collection consisted of three parts: Completing a consent form and demographic data sheet and semi-

structured interviews. We asked five open-ended questions during the interviews. Openended questions were developed jointly by the researchers and independently evaluated and finalized by five professionals working in the field of mental health.

We structured the interview in Turkish and in an open-ended format to allow the participants to convey their experiences of ambiguity after the earthquake. The questions posed are as follows: ‘What did you think when you could not get any information about the status of your missing relative after the earthquake? How did you feel?’ ‘What were your feelings and thoughts about the people around you at that time?’ ‘How did this uncertainty affect your life and your thoughts about the future?’ ‘In what ways did your perspective on yourself, your family, and your roles change during the earthquake?’ and ‘Who do you think is responsible for what happened?’ All responses were documented verbatim and used at the word level in the analysis process. Interviews were conducted face-to-face and lasted 60 to 90 minutes. The participants responded to the questions and the interviews were audio-recorded and transcribed immediately after the interview. Interviews took place in Turkish, the native language of the participants.

Procedure/Ethical Issues

The study was conducted with the approval of the Ethics Committee of Necmettin Erbakan University (Approval No: 2024/237) and in accordance with the ethical principles outlined in the Declaration of Helsinki. The researchers identified and contacted individuals who had a missing relative but did not have any information about him/her. We assumed that these individuals were experiencing ambiguous loss. Researchers made appointments with the prospective individuals. The first author conducted the interviews and all researchers in the team took part jointly in the other stages of the research process. We conducted the interviews in the regions affected by the earthquake. The thematic analysis process was carried out jointly through regular meetings. Rigor, consistency, and multiple perspectives ensured the interpretation of the data. We coded the names of the participants to ensure anonymity.

Three of the researchers lived in areas that were not exposed to the earthquake, whereas one

researcher was living in the region but did not experience any destruction of property or loss of life. Nonetheless, we used a multi-researcher perspective to avoid potential researcher biases in the data collection and analysis processes. We aimed to strengthen the consistency and validity through shared decision-making and regular team meetings in the analysis of the interviews.

Data Analysis and Interpretation

After data collection, we employed Colaizzi's seven stages of content analysis (45) to reveal the relationships and concepts, classify similar data into themes and categories, and present the data in a discernible format. Data analysis started with the researchers reading the transcriptions (in Turkish), which provided an in-depth understanding of the content. During the readings, we identified significant statements from the participants. The researchers discussed and reinforced these meanings, repeating the process until achieving a common understanding.

We used descriptive analysis to generate themes related to ambiguous loss. Content analysis revealed the categories belonging to the themes. We divided the data into groups to obtain themes and categories. We also included verbatim participant statements in the findings section to ensure the accuracy of the analysis and provided readers with access to the raw data. This approach strengthens the depth and richness of phenomenological research, increasing the transparency and accuracy of participant perspectives (46). We coded the data obtained through the interviews with participant numbers (P1, P2, P3...Pn).

We followed the standardized procedures (COREQ) to ensure transparency, reliability, quality enhancement, and comparability of the qualitative study (47). In line with the COREQ standards, we stated the relevant sections of the text (information about the researchers, number of participants, and rationale for selection). We included verbatim sample statements related to the categories in the findings section. Original verbatim transcriptions in Turkish were translated into English by two independent translators using forward and backward translation to maintain the integrity of meaning in the reporting phase of the study.

Colaizzi's method enabled the systematic elicitation of subjective meanings through a gradual

process of content development to analyze participants' experiences in-depth. On the other hand, we used the COREQ checklist (47) to increase the methodological transparency and reporting rigor of the qualitative study. The combination of these two approaches ensured both the depth of phenomenological interpretations and the scientific credibility of the research process.

Findings

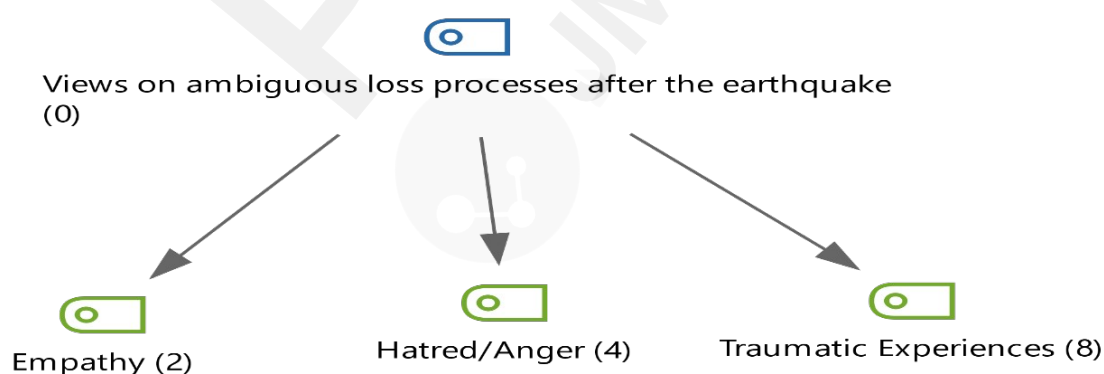
Through content analysis of the transcribed interviews, we generated four themes: Process; Others; Effects; Self, Family, and Life Roles; and Responsibles. Each theme included three categories with the exception of the Responsibles theme, which had only two categories.

The Process Theme

The Process Theme included three categories: Empathy, Hatred/Anger, and Traumatic Experiences. Figure 1 shows the categories under this theme and the total number of statements by the participants in parentheses, respectively. In this theme, participants' views mostly gathered around traumatic experiences. Even though fewer participants mentioned empathy and anger/hatred, they were still significant in understanding the emotional intensity of the process. The following are sample verbatim participant statements under their respected categories.

Figure 1

The Process Theme



Empathy: P2 said: *'I was crying thinking why such a thing happened to us. My husband was not there, is he dead or is he alive, where is he in the building, what is he doing.'*

P12 expressed his state as *'I am sad like everyone else.'*

These statements show that the participants were not only confined to their own loss but also empathized with other victims. In particular, the complex emotions experienced by P2 reveal both personal anxiety and a general level of empathy.

Hatred/Anger: P1 said: *'I felt so helpless, I cried, I shouted but it was like I was in an infinite absence and no one could hear me. Even now I am filled with feelings of anger and hatred.'*

P7 uttered: *'I am sad, I am very angry, I am offended at people and I feel helpless about it.'*

P4 said: *'I was angry with life at first. It was as if I was growing an anger inside me that I didn't know exactly what and whom to direct it at...'*

These participants stated that the feeling of lack of control and helplessness caused by uncertainty, which turned into anger over time. Although the target of anger was often unclear, internal accumulation and external feelings of unresponsiveness fed this feeling.

Traumatic Experiences: P3 expressed: *"The feeling of fear was predominant in me, what will happen now, what will we do, earthquakes were happening all the time and if we don't die now, everything will collapse in the next earthquake and somehow we all will die."*

P14 said: *"Even if you know that you will die, even if there is a tiny hope, you hope that it will come true, but you know that it will not happen. As time goes on, your soul withdraws from your body and you taste death while you are alive. You cannot recover from that uncertainty even after it becomes certain. This time the question of whether it should have continued to be uncertain haunts your mind. If there is already the beginning of a life in limbo, it is that day."*

P6 said: *"Even in the smallest aftershocks, I found myself running outside even though my back was broken."*

P5: *"I couldn't breathe when I thought about my relatives in the rubble, whose whereabouts were even uncertain, and I felt that all my flesh and bones were frozen, no matter when and where I was. I have never felt so helpless in my life. I have never felt so tired in my life. Uncertainty was one of the most exhausting situations. Uncertainties made me feel very worthless."*

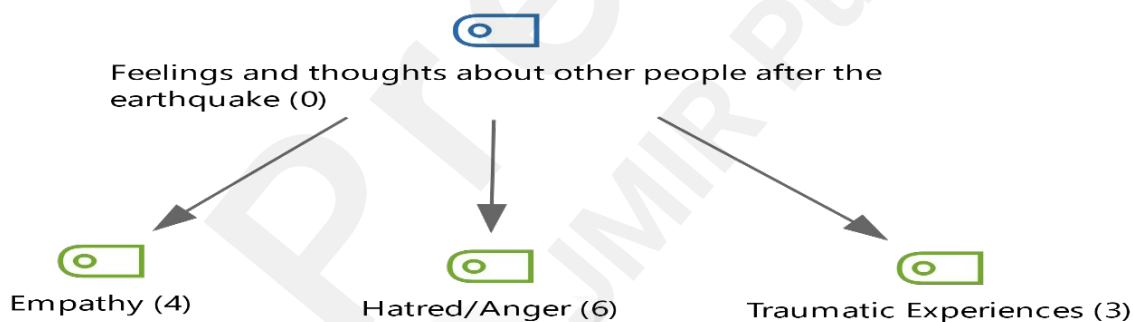
Participant statements in this category reveal that ambiguity is not only a mental process but also causes physical exhaustion and long-term psychological damage. Some participants expressed a lingering sense of death, whereas others emphasized that the ambiguity was more debilitating than death. These statements clearly illustrate the long-term traumatic effects of ambiguous loss.

The Others Theme

The three categories under the Others Theme are Empathy, Hatred/Anger, and Traumatic Experiences. Figure 2 shows the categories under this theme and the total number of statements in parentheses, respectively. The most frequently reported category under this theme was Hatred/Anger. In the interviews, participants expressed both feelings of empathy and solidarity as well as anger, frustration, and isolation. Whereas some individuals received emotional support from other survivors during the process, others felt excluded or isolated. These experiences reveal accumulated emotional burdens related to social reactions, lack of support, and neglect.

Figure 2

The Others Theme



Empathy: P4 said: *"I felt everyone's pain because so many people were affected. I saw people I didn't even know... waiting to find their bodies. They were lamenting and crying. They were strangers to me but what they felt and the fires in their hearts were so familiar that it was as if I had known them for years... But I thought that people living in areas where the destruction was not intense or in areas that were not affected by the earthquake could never understand us, could never feel what we felt. Because empathy is really difficult in such times..."*

P9: *"Other people wanted to support us, but I felt like I was the most painful. Our whole building*

collapsed. No one could reach their loved ones for days. But we always tried to say positive things to each other.”

P13: *“No matter how empathetic they are, I don't think anyone who hasn't experienced it can understand what happened. The people who tried to help left after a while. I think they were bored, they wanted to change their agenda, but I am still living in this reality.”*

Hatred/Anger: P1 said: *“There is a saying that only someone who has fallen off a donkey can understand my situation. For this reason, the people around us tried to be with us, God bless them, but after a certain period of time, they left us as if to say come on, you can solve this yourself. I am not angry with them, no one can mourn for something they don't know. I just have a different kind of resentment.”*

P7: *“You actually get angry and hurt at other people anyway, it feels like everyone didn't do their best enough.”*

P8: *“I am angry with everyone, whether they are related to the subject or not.”*

Traumatic Experiences: P5: *“Everywhere I looked, I saw something much worse, that is, the upper limit of my terror and sadness changed with each maneuver. I didn't know who and what situation to feel sorry for...The dismembered, the missing, the unidentified... I honestly thought that no one could be strong enough.”*

P10: *“I found my brother myself three days later. I went home and brought materials and took him out myself. I called for an ambulance, it can't come, the roads were closed, how could I blame anyone? I took him to the hospital... There is no such thing as a hospital left... Then I realized that my brother was conscious and I took him to Kayseri [another nearby city].”*

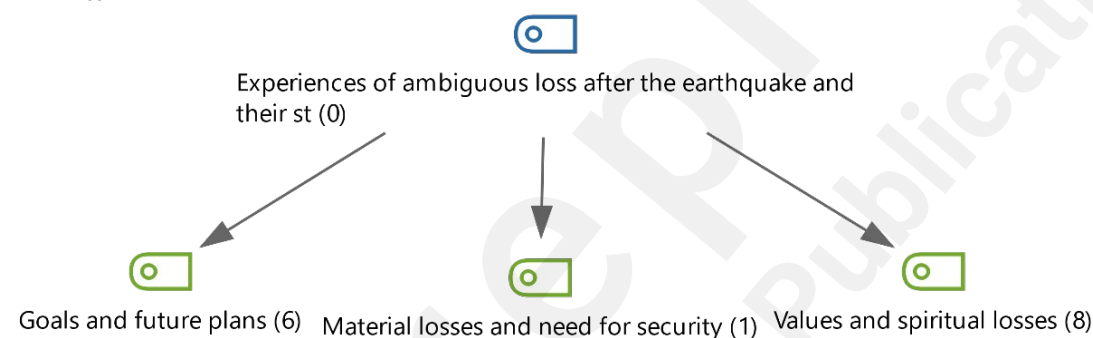
This theme reveals feelings of empathy and anger intertwined with social insensitivity. Although some participants received support from their communities during and after the disaster, the majority felt isolated, not understood, and excluded over time. In particular, the lack of support or early sense of abandonment triggered resentment and anger reactions. On the other hand, some

participants found the empathy of others insufficient in the face of the magnitude of their own tragedy, leading to social disengagement. Narratives of traumatic experiences reveal that this rupture is intertwined with not only emotional but also tangible and physical challenges.

The Effects Theme

The Effects Theme included three categories: Goals and Future Plans, Material Losses and Need for Security, and Values and Spiritual Losses. Figure 3 shows the categories under this theme and the total number of statements in parentheses, respectively. Participants predominantly concentrated on Values and Spiritual Losses, which shows that the loss is not only physical but also has a profound impact on the meaning of life, values, and human relationships.

Figure 3
The Effects Theme



Goals and Future Plans: P1 said: *"We were going to buy a new house, my husband and I were both working... I decided not to make long-term plans for the future."*
 P4 reported: *"As such, none of your dreams and expectations for the future matter. You just spend the day."*

P5 briefly said: *"Thousands of dreams were built and destroyed and I was buried under them. We couldn't escape, of course..."*

P6 expressed: *"I may have started to look at the future more pessimistically."*

Material Losses and Need for Security: P3 said: *"Actually, the house where my brother lived collapsed and they died, but two children survived. If the house had not collapsed, nothing would have happened to anyone. My father bought the house on the land at the time. It got old over time..."*

P10 said: *"I mean, I came to the conclusion that one should stress too much about life, as material*

possessions are fleeting. “

Values and Spiritual Losses: P3 said: *“One cannot be so sad even for the death of one's brother. After all, we believe in death, but my nephew is nowhere in sight, is he dead or alive? His parents passed away. There is the thought that she is entrusted to us now, but there is no girl. It's like time froze during that time.”*

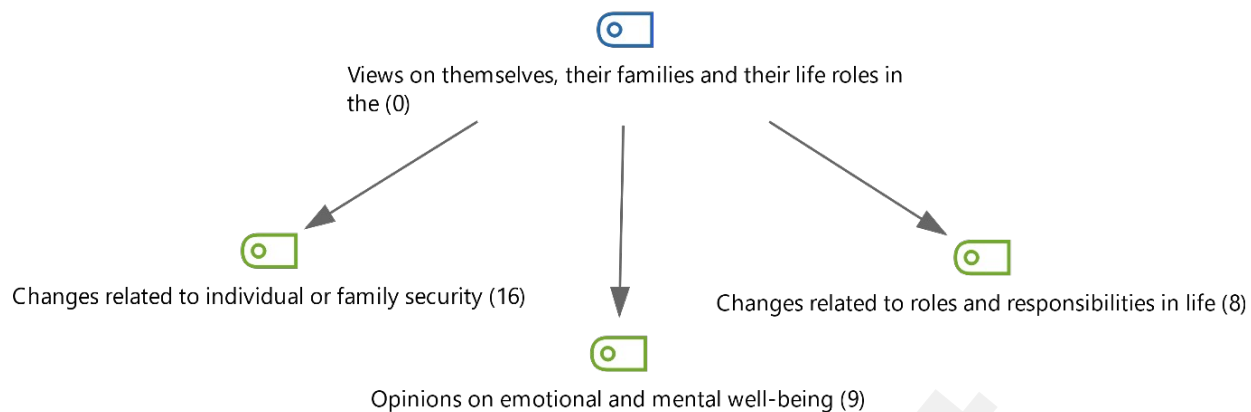
P5 said: *“But the emptiness of my friend, the emptiness of those I lost was never filled.”*

The statements in this theme show that the ambiguous loss triggers reassessment processes both materially and spiritually. Hopes and plans for the future are disrupted and long-term goals are replaced by ambiguity and a focus on daily life. Material losses increase the need for security; especially losing the house creates both physical and symbolic trauma. Most participants focused on spiritual and value-based losses, expressing loneliness, emptiness, and loss of meaning. These statements reveal that ambiguity is not only a condition but also a holistic experience that leads to fractures in identity and value systems.

The Self, Family, and Life Roles Theme

Two categories under this theme are Changes Related to Individual or Family Security, Changes Related to Roles and Responsibilities in Life, and Opinions on Emotional and Mental Well-Being. Figure 4 shows the categories under this theme and the total number of statements in parentheses, respectively. The opinions expressed by the participants were mostly gathered in the category of Individual or Family Safety, followed by Emotional and Mental Well-Being and Changes Related to Roles and Responsibilities in Life, respectively.

Figure 4
The Self, Family, and Life Roles Theme



Changes Related to Individual or Family Security: P9: *"Worrying about myself and my family was one of my biggest sources of anxiety during the earthquake."*

P11: *"My concerns about the safety and well-being of my family and loved ones increased."*

P13: *"I started to put myself more in the foreground."*

P8: *"...I started to try to spend quality time with my family as much as I could."*

Opinions on Emotional and Mental Well-Being: P5: *"In the later period, I saw aggression and a state of war in people and in my own family, for example."*

P6: *"Although the presence of my grandchildren gave me some hope, nothing would ever be the same."*

P11: *"I reinterpreted life and reevaluated it."*

Changes Related to Roles and Responsibilities in Life: P1: *"It didn't happen... Now I am trying to play my role as a father for my son."*

P2: *"Apart from my role as a mother, I had to take on the roles that my husband did."*

P2: *"But now I feel like the father of the family. I was given a pension because my husband passed away."*

P3: *"I can say that I started to be more flexible towards myself and my environment, even though there were no such 100% changes."*

P4: *"We had a routine life and suddenly everything turned upside down."*

P7: *"It hasn't changed in my house. I am already both the mother and father of my house."*

P7: *"...I think he does the outside work of the house and I am the authority."*

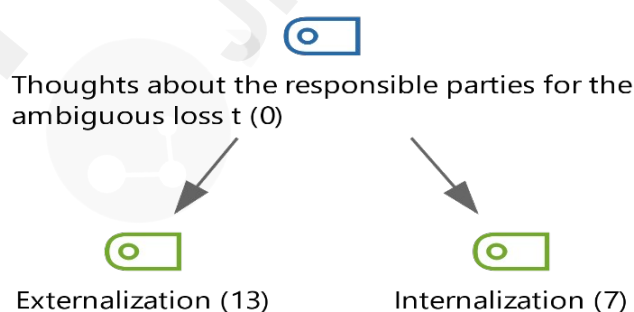
P14: *"How much responsibility you have answers your question."*

Participants' feelings of individual responsibility and search for emotional balance come to the fore. For some participants, ambiguous loss caused them to assume new roles within the family, with the responsibilities of parenting and caregiving being particularly emphasized for women. The need for safety and protection increased the anxiety level of many participants, causing them to develop a more cautious and withdrawn stance towards the future. In addition, participants tried to make sense of life and their own roles after the loss and sometimes resorted to defense mechanisms such as denial and non-acceptance. This theme provides an important framework for understanding the dynamic between individual vulnerability and resilience.

The Responsibles Theme

This theme addresses to whom or what the participants attribute responsibility during the process of experiencing the ambiguous loss. Participants' thoughts about the responsible parties for the ambiguous loss they experienced after the earthquake were categorized by internalization (seeing oneself as responsible) and externalization (shifting responsibility to other individuals, organizations, or structural factors). Figure 5 shows the categories under this theme and the total number of statements in parentheses, respectively. Participants used more externalization than internalization.

Figure 5
The Responsibles Theme



Internalization: P4: *"I directed my first anger towards fate. I blamed fate for this."*

P6: *"...But our non-existent budget did not give us much chance when choosing a house."*

P12: *"We are all guilty for living in it."*

Externalization: P3: *"Yes, even though the earthquake is a natural disaster, everyone who built the*

apartments and signed the permits to live in those buildings is guilty. And I don't forgive them. One should ask oneself how the building that didn't collapse didn't collapse."

P5: *"I think the buildings that stood up until that day are murder tools and everyone who caused this is guilty, the manager or the homeowners who didn't want to lose their house... Measures, precautions, help that didn't come on time..."*

P7: *"Actually, the building wasn't bad either, but the ground structure is also important."*

P11: *"There are so many factors such as the materials used, static calculations, unsupervised constructions."*

P14: *"Since the idea of looking for a responsible person made the situation insurmountable, I emotionally accepted it and decided to continue our lives as much as it was happening."*

Most participants blame structural problems and systemic negligence rather than individual responsibility for the ambiguous loss. Participants who tend to externalize blame many factors ranging from unplanned urbanization to the negligence of local governments. On the other hand, some participants did not ignore the impact of their own decisions and assumed individual responsibility for issues such as the choice of house, lack of financial means, or inability to take precautions. In this theme, the way responsibility is directed may be considered not only as an explanatory strategy but also as a coping mechanism.

Discussion and Conclusion

Interviews with individuals who experienced ambiguous loss after the earthquake revealed that they were in a state of mind that created unique difficulties and confusion as indicated in previous studies (e.g., 9,48). Most individuals actively participated in the process of searching for their loved ones. We determined that men took a more active role in search and rescue processes. This may have enabled men to be more socially organized or connect more easily with people who understood them during the process. In this context, Solheim et al. (26) argue that family support serves as a buffer during difficult times. Indeed, during the times of ambiguity, earthquake survivors

tried to overcome the situation by acting together. These shared coping mechanisms are shaped not only by immediate social networks, but also by broader cultural norms about loss and mourning.

Death and mourning processes in different cultures vary considerably. For example, the presence of a funeral ceremony is considered an important element for openly grieving in Mexican culture (49), whereas mourning is often considered a period that should be overcome quickly in the United States (2). In Turkish culture, social expectations of a mourning period range from three to ten days (50); however, as we found missing period ranged from three to 15 days for the participants. Therefore, they were not able to mourn due to ambiguous loss.

Individuals who experienced ambiguous loss after the earthquake first expressed their feelings and thoughts about the traumatic experiences. While describing their ambiguous loss, participants expressed how helpless and worthless they felt and how tired they were from the uncertainty of the process. People are able to maintain a certain degree of self-esteem; but at the same time, they directed the feelings of hatred and worthlessness towards themselves or their environments (51). These individuals had more intensive feelings of indecision and anxiety compared to others (41).

Although death is one of the most stress inducing events, ambiguous loss is even a greater stress source (52). Ambiguous loss often leads to depression, anxiety disorders, helplessness, identity problems, substance abuse, violence against self or others, anger, and shame reactions (7, 53). In addition to these internal difficulties, the social relationships of individuals who experienced ambiguous loss were also significantly affected by this process. Participants felt that people who experienced similar pain understood them much better than individuals who did not live through such an experience. Boss (24) stated that families whose members were not lost in the earthquake or who did not look for them distanced themselves from people who were experiencing ambiguous loss. In this context, participants of the current study expressed that people who did not have similar experiences could not really understand them.

Following any loss, certain rituals and funeral ceremonies which are culturally bonded support individuals' grief process (2). However, in ambiguous loss societies usually isolate families who resist closure (1), which may lead to even higher levels of stress (25, 30). Individuals who report more disputes within the family during the ambiguous loss support this research. Such behaviors suggest that if corpses are not found, individuals' mourning processes will become more complex and they withdraw themselves from the environment.

We found that focusing on material damage is less common in the process of ambiguous loss. However, in a recent study that investigated the effects of ambiguous loss during the February 6th earthquake, Güllümac Güler and Albayrak (54) found that individuals had statements on both material and moral losses. In this study, the participants mostly talked about the loss of their loved ones. In other words, spiritual and relational losses were emphasized the most. This may be because the relational nature of ambiguous loss (24), unlike material losses, complicates the process and mourning within the family (2).

One of the reasons why ambiguous loss is so challenging is boundary ambiguity (9). Participants in the present study expressed that their responsibilities toward themselves and their families increased greatly. For example, mothers loaded up the role of a father at home in cases of ambiguous loss. These roles were not voluntarily chosen but rather people were stuck with them in the process (2). In other words, families were undergoing a restructuring within this paradox of presence and absence (16). Another possibility is that rituals are canceled for more prolonged indefinite losses and roles are not fulfilled as the missing person continues to exist indefinitely (16). Due to contradictory situations, individuals continue their lives in a psychologically and physiologically frozen state (7, 9, 10). Although no direct information was obtained from the interviewees in the present study about the intensity of boundary ambiguity, we observed that in families with severe boundary ambiguity, stress management weakened and individual and relational well-being were negatively affected. The pressure and unresolved situation brought about by these

roles have carried about various emotional reactions in individuals.

During the process of ambiguous loss, insecurity, shame towards society, and anger mixed with resentment may be observed (1). Individuals are expected to stop blaming themselves and externalize in order to dispose of their guilt (7, 55). This process can provide individuals with relief and increase the likelihood of receiving professional support (30). That is, individuals are more likely to perceive themselves as powerless if they internalize (2). More than half of the individuals who participated in the current study were able to externalize. We believe that the reason for this is culturally bonded.

The balance between hope and despair, between mourning and living will be established in families (28). Families can also begin to build a new family identity as soon as they begin to find meaning (24). It is known that giving up on a happy or unhappy ending and focusing on life will provide resilience against uncertainty and support the development of resilience (3). For example, after the September 11th attacks, the concept of hope was emphasized as a way for people to continue their lives (56). After the Sichuan earthquake, hope was effective for individuals who experienced ambiguous losses in the region (30). Bilge et al., (57) emphasized that individuals affected by the February 6th earthquake in Türkiye not only showed post-traumatic stress symptoms but also showed signs of resilience. Therefore, hope-oriented interventions—which acknowledge the dual nature of hope as both a vital resource and a potential paradox (30) might be valuable for individuals who have experienced ambiguous loss in February 6th earthquake. However, the point to be considered here is how hope is reflected (58). Unrealistic hope may harm individuals' recovery processes (59).

Result of the current study show similarities with the results of previous literature on ambiguous loss put forward by Pauline Boss. This allows us to generalize that despite cultural or regional differences, attitudes toward ambiguous loss show certain common characteristics, which support the conclusion of Boss (10) who asserted that nations and groups may be affected by

ambiguous loss similarly. Nonetheless, certain differences may manifest themselves in the ways of expressing grief when ambiguous loss is experienced; therefore, comparative and more comprehensive studies should be conducted in different cultures, regions, and nations (38).

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Author Contributions

Conception and design of the study: FBK (supporting), ŞK (lead)

Analysis and/or interpretation of data: FBK (equal), MB (equal), ŞK (equal)

Drafting the manuscript: FBK (equal), MB (equal), MA (equal)

Revising the manuscript critically for important intellectual content: FBK (equal), MB (equal), ŞK (equal), MA (equal)

Final approval of the version to be published: FBK (equal), MB (equal), MA (equal)

Agreement to be accountable for all aspects of the work: All authors accept joint responsibility for all aspects of the work.

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No potential competing interest was reported by the author(s)

Data Availability Statement

The data supporting the findings of this study are subject to ethical restrictions to protect the privacy and confidentiality of the participants. Written consent for public sharing of identifying or detailed data was not obtained from the participants. Therefore, the dataset is not publicly available. However, anonymized data may be made available from the corresponding author upon request, provided that ethical approval and necessary data sharing agreements are in place to ensure participant confidentiality.

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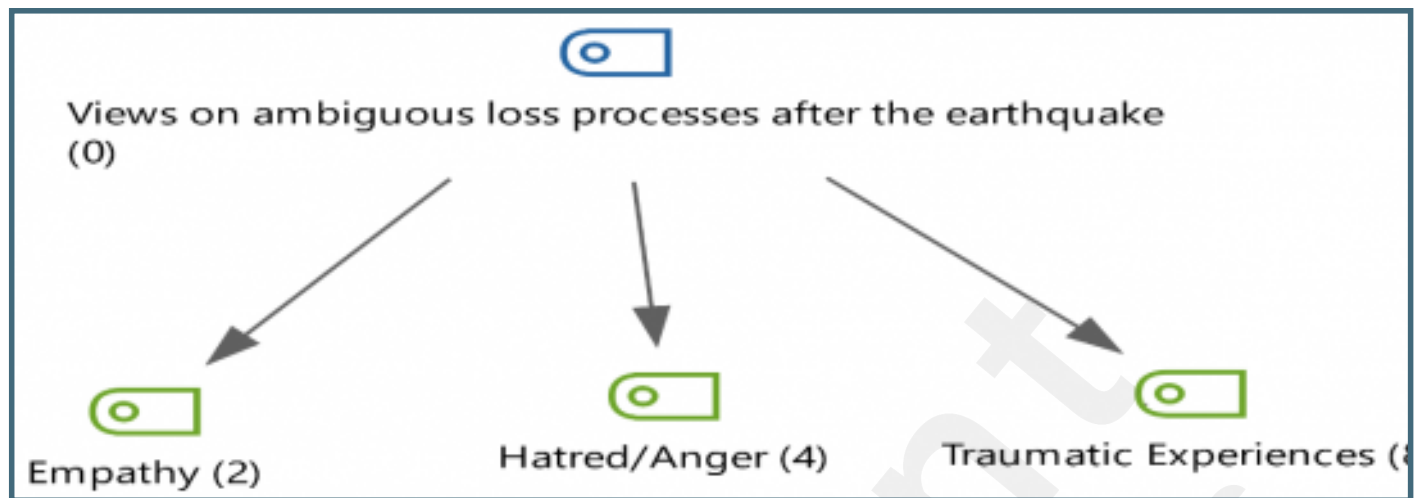
Supplementary Files

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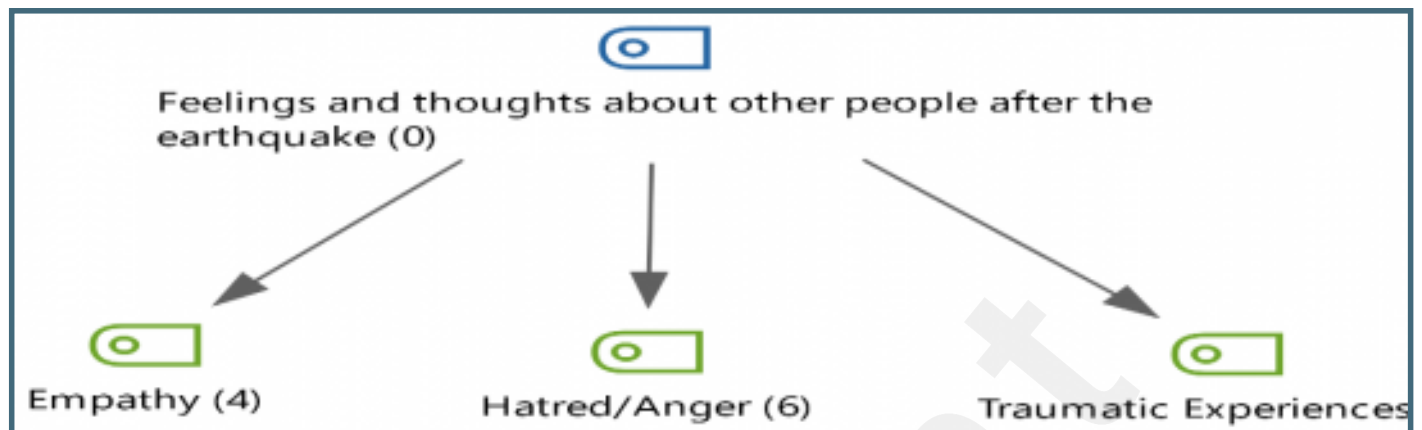
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Figures

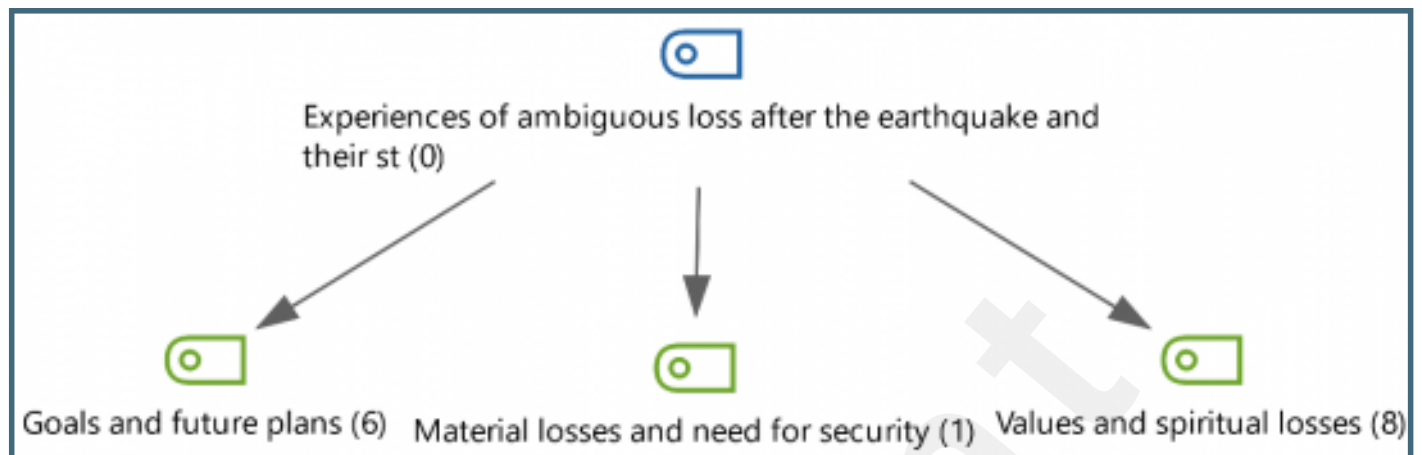
This figure presents participant views pertaining to the 'Process' themes.



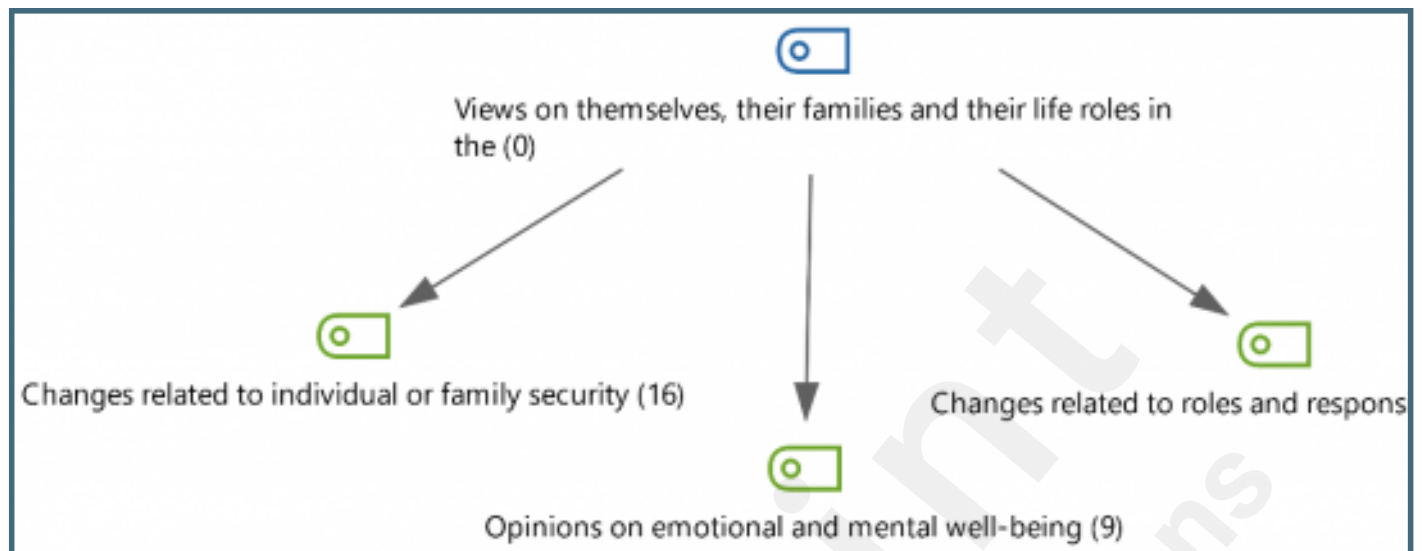
This figure presents participant views pertaining to the 'Others' theme.



This figure presents participant views pertaining to the 'Effects' theme.



This figure presents the frequency of participant responses pertaining to the 'Self, Family, and Life Roles' theme.



This figure illustrates the participant views regarding the themes of the responsables.

