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Review Article

Social trauma and disaster psychology: The impact of earthquakes on children's mental health from the perspective of dissoanalysis theory and modern psychotraumatology

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Abstract

Earthquakes are devastating natural disasters that can have significant impacts on the psychological well-being of children. This article reviews the literature on the psychological effects of earthquakes on children's mental health from the perspective of modern psychotraumatology and dissoanalysis theory. The article discusses the short-term and long-term adaptive strategies employed by children in response to social traumas and grief, as well as the emergence of psychopathologies such as dissociative disorders and posttraumatic stress disorder when traumatic experiences are not metabolized and neutralized in a timely manner. It highlights the importance of immediate institutionally supportive and structured crisis and disaster psychology-oriented mental health support systems in nations where mass traumatizing events occur. The authors suggest that effective interventions in both social traumas and crisis situations and trauma-centered psychotherapies can enable traumatized and/or dissociated children, adolescents, and adults to return to their daily lives in an integrated manner as soon as possible. The article concludes by highlighting the need for mental health experts to be sent to the field through associations and non-governmental organizations to provide psychological first aid and disaster psychology practices immediately after earthquakes.

Keywords: Disaster psychology, social trauma, children's mental health, dissoanalysis, dissoanalytic psychohistory, earthquake

INTRODUCTION

Many newspapers with an international readership and with a high circulation brought the two earthquakes, which took place 9 hours apart and had a significant impact on Türkiye and Syria, to their headlines including The Guardian, *"Thousands of dead as earthquake hits Türkiye and Syria. The strongest tremors in 100 years have left cities in ruins."*; The Times, *"Giant earthquake kills thousands in their sleep."*, Financial Times, *"Devastating earthquakes in Türkiye and Syria leave thousands dead"* and The Daily Telegraph, *"Thousands of people lost their lives in Türkiye in the biggest earthquake of the century."* (Accessed on 27.02.2023: https://www.bbc.com/turkce/articles/c72l1ydqrl0o). After the first earthquake struck Türkiye on 06.02.2023, a level 4 alert was issued, which means the use of all national capacity response and, if deemed necessary, a call for international assistance. On 06.02.2023, two powerful earthquakes with magnitudes of Mw 7.7 and Mw 7.6 struck Türkiye, causing widespread devastation in 11 cities. The first earthquake occurred at 04:17 in Pazarcık (Kahramanmaraş Province), while the second hit Elbistan (Kahramanmaraş Province) at 13:24, both at depths of 8.6 km and 7 km, respectively. After the main tremors, nearly 11020 aftershocks were recorded on 01.03.2023. As of 01.03.2023, the death toll from the earthquakes stood at 45.089, with 384.545 buildings being heavily damaged, completely demolished or in urgent need of controlled demolition [1]. The migration of over 1 million people from the earthquake zone exceeded the population of 57 Turkish provinces. In response, 29.160 search and rescue personnel from Türkiye and abroad were deployed to the region. Additionally, mental health

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professionals, including psychiatrists, clinical psychologists, social workers, and psychological counselors, were dispatched to provide psychological first aid and disaster psychology support through various associations and non-governmental organizations [2].

The Concept of Social Trauma

Social traumas are characterized as painful events that cause physical and psychological harm, as well as loss, experienced by individuals who form a group. Social traumas, which shake the sense of belief and identity of the community and all individuals within, and have a distorting effect on the sense of belonging, cause permanent effects on individuals and societies that are transmitted or transferred between generations. The process of metabolizing mass suffering and loss can prove challenging for a society, which is akin to a living organism. Natural disasters, accidents, wars, genocides, political, ethnic, religious or gender-based torture and violence can be given as examples of social traumas and can affect all individuals belonging to the society who directly or indirectly witness this situation as well as individuals who experience the trauma. Natural disasters, over which individuals have no control, can shatter beliefs in the competence of individuals and society, leading to the deterioration of the social, psychological, and even physical structures of society. The loss of control experienced by communities and individuals exposed to social trauma enhance the levels and/or risks of social anxiety, depression, anger, frustration, and social isolation. This loss of control can also lead to alienation of individuals from themselves and their society, potentially creating a dissociative environment [3,4].

In order to restore the sense of safety after social traumas, first of all, the basic needs of the individuals must be provided and the environmental conditions must be suitable. The efforts of society members to reintegrate through the reestablishment of safe relationships can have a supportive effect on individual and social recovery. In addition, reactivating the internal and external resources of individuals belonging to the society can help them cope with the sense of social depression and emptiness, which can positively impact the acceptance of the loss and mourning process while reducing the severity of psychopathologies that may arise after trauma [4]. Protecting children, who constitute the most vulnerable segment of society, from social traumas is crucial, and including them in society can be valuable in preventing trauma-induced psychopathologies that may transmit across generations. Social traumas can be neutralized through a *"psychosocial therapy"* called the *"dissoanalysis method"* in the axis of dissoanalytic psychohistory and modern psychotraumatology theories. Without the dissoanalysis of traumatized individuals and societies, no nation can escape from its violence-focused borderline components and achieve an integrative life organization [5-7].

Silence in the Face of Social Trauma

Psychological trauma is defined as *"events affecting mental organization and integration characterized by long-term effects that exceed the subject's capacity to respond appropriately and overturn the individual's defense mechanisms"*. In other words, psychological trauma is a destructive event that exceeds the individual's tolerance and coping mechanisms and cannot be processed by existing defense mechanisms [8]. As these traumatic experiences increase in severity, frequency, and duration, individuals' coping capacity begins to decrease. While the effects of traumatic events on individuals are mostly one-dimensional -individual-, these effects are also experienced, internalized and shaped in a social dimension. The intense experience of natural disasters such as earthquakes and floods, as well as mass violence such as wars and terrorist attacks, causes mental destruction and pain that becomes increasingly evident and chronic in individuals. These situations, which have a traumatic effect on a maximal proportion of the individuals forming the society, are perceived and experienced as social trauma. It is of vital importance that the social traumas (psychic pains and wounds shared by the majority of the masses) that have a decisive and transformative role in the psychogenic structure of nations are eliminated as soon as possible by the governments and leaders who rule those nations [9]. Segal's statement *"Silence is the main crime against humanity"* highlights the importance of addressing common suffering and traumatic events that affect individuals as a whole, and emphasizes that remaining silent in the face of social traumas should be considered a crime [10].

The time perception of individuals who experience social traumas such as earthquakes, floods and landslides is divided and this is called *"dualization of time"*. Individuals who experience highly destructive events such as social traumas may have problems in their perception of the past, present and future; in other words, the perception of time of traumatized individuals is impaired. Trauma victims may live in a present that is overshadowed by their past traumatic experiences, and assumptions about their self-identity, interpersonal relationships, and the world may be significantly distorted by the aspects of traumatic incidents [11]. Recurrent natural disasters and mass traumas such as wars, terrorist incidents and genocides damage the integrative social components of nations and can cause wounds that are difficult to repair in that country. Depending on the nature, severity and mass damage caused by social traumas, either a sense of unity and solidarity may develop in that country or dissociative reactions such as depersonalization and derealization may prevail with the increase of tensions and conflicts expanding from individuals to masses. In times of social crises, frustrations and tensions, discrimination and disintegration between sub-groups in the society may increase, and the potential of these sub-groups to antagonize each other becomes stronger, which may result as a security problem that eventually needs to be solved. How different systems, organizations, structures and power within the social structure behave in the face of the traumatic event and at what level and how they make sense of this traumatic event and try to find a solution are fundamantal determinants in the solution of these security problems [12,13].

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With the development of digital communication networks, international communication has become faster and easier, making it possible for countries to globalize. Therefore, when a traumatic event occurs in one country, it not only affects the citizens of that country, but also the individuals and societies in other countries around the world. Social traumas have a significant impact on the mental health of individuals, causing emotions such as terror, helplessness, anxiety, pain, anger, dullness, alienation, and loneliness that spread to the masses in waves [14,15]. While individual and social traumas hinder the development of the psychological self, they accelerate the development of the sociological self. The developmental differences between these two selves bring about contradictory and even opposite sociological and psychological realities for individuals, which is the active agent of both clinical dissociation and subclinical dissociation associated with trauma. After a major trauma such as an earthquake, the individual's psychological self is recorded as a hidden self and remains frozen in time, while the sociological self is overdeveloped. The loss of balance or even imbalance between the psychological and sociological self affects individuals' decision-making processes, in which they use their sociological self to the maximum extent. The imbalance between these two aspects of the self does not always lead to a negative outcomes; in fact, this imbalance -the overdevelopment of the sociological self and the freezing of the psychological self in time- protects the psychological self to a certain extent from the impact of the traumatic incident. However, the reciprocity between these two selves breaks down over time and psychological self is denied as the sociological self becomes more dominant. This denial process negatively increases the psychological reflections of traumatic experiences on individuals [16].

According to Ozturk, the possibility of experiencing social traumas may decrease individuals' tolerance for uncertainty, frustration, and anxiety. The inability to accept and express social traumas can leave individuals feeling overshadowed by the *"unspeakable"*. The intensity of the emotional conflict between the tendency to deny or dissociate from traumatizing events, and the willingness to discuss traumatic situations is directly related to the psychological well-being and integration of a society [17]. The acknowledgement of social traumas by society may contribute to the psychological *"recovery"* process for dissociated individuals who have been exposed to traumatizing incidents. In this context, the effective functioning of the justice system, the existence of institutional structures to support the establishment of justice, and the existence of psychosocial mechanisms to enable psychological stability by confronting traumas as a nation is a fundamental necessity for individual and collective healing [18]. Governments that fail to protect their citizens in the face of mass traumas such as natural disasters, wars, and terrorist incidents neglect both their physical and mental health and may ignore their calls for help and demands, leading to further trauma and dissociation. What is essential in mass traumas is that countries show solidarity and togetherness, which makes it possible for psychological recovery that expands from individual to society, but this is not always the case. In mass traumas, it is crucial for countries to show solidarity and unity, which enables psychological recovery that extends from individual to society. However, this is not always the case, as social traumas are often shrouded in silence, and even suffocate in silence! In severe earthquake zones, war fields, genocide camps, and places where torture occurs, the voices of victims often go unheard, and traumatized individuals' souls become trapped. The silence surrounding these events can cause both the bereaved and the locations where these traumas occur to remain silent, almost as if these violent and destructive events never happened. Suppressing the voices of those who experience social traumas, as well as the irresponsibility and silence of those who should prevent this violence and destruction, is one of the most significant evils and crimes against these people [10].

Psychotherapy of Social Traumas from the Perspective of the Dissoanalytic School

The *"theory of dissoanalysis"* which is defined as the termination of individual and social traumas as soon as possible, construction of modern trauma-centered psychotherapy methods for psychiatric diseases related to childhood traumas, especially dissociative disorders and posttraumatic stress disorder (PTSD), and the neutralization the main dissociative components underlying the intergenerational transmission of trauma and intergenerational transfer of psychopathology with a holistic orientation, was developed by Ozturk based on a modern psychotraumatology principles [5,19]. According to the dissoanalytic school, denial is the most common way of coping with individual and social traumas. Dissociative denialism, which is one of the prominent phenomena is defined as the avoidance of traumatic reality and traumatic self for the individuals who experience interruptions in their perception of internal and external control centers associated with the psychosocial traumatic experiences. Ozturk emphasizes that as the frequency, severity and duration of social traumas increase, individuals dissociative denial transforms into a dissociative disorder. In both dissociative disorder and PTSD cases related to social traumas, traumatic memories that the case cannot express or have problems in expressing are under the self-harming behaviors and suicide attempts that require crisis intervention psychotherapy [6]. Psychotherapy processes progress in a positive direction as crises associated with social traumas are resolved. With the application of trauma-centered psychotherapy methods, the cases now continue with their healthy parts with a more active involvement in their treatment. To treat individuals with psychopathologies associated with social traumas, such as natural disasters that affect both direct and indirect witnesses, methods such as Trauma Based Alliance Model Therapy can be used as a crisis intervention psychotherapy. In conclusion, effective psychotherapy treatments should be developed and implemented for both individual and social traumas and their associated psychiatric disorders to help individuals overcome the effects of these traumatic experiences [20,21].

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Disaster Psychology

Disaster covers all natural, technological or human-induced events that disrupt the flow of actual life, cause great loss of life in society, and cannot be coped with existing resources [22]. Earthquakes, which have the most destructive impact among all natural disasters, are considered as traumatic events that cause the most damage to our society [23]. Disasters are divided into two as natural disasters (such as earthquakes, landslides, floods and avalanches) and human-caused disasters (such as terrorism, war and fires) [24]. Disasters with physical, social, behavioral and psychological effects are defined by the United Nations (UN) as *"A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources"*. Disaster psychology is a sub-field of psychology that provides special education, research and services to individuals, communities and nations exposed to disasters regarding the psychological effects of disasters, with the main goal of reducing acute psychological stress/distress after disasters and providing short and long-term psychological support. Within the scope of disaster psychology, it is emphasized that even though individuals show different reactions according to the severity and nature of the disaster there are mainly four important processes experienced after the exposure to the traumatic incident [25].

The *"first process: psychological shock"* includes physiological reactions, inability to concentrate, amnesia, hallucinations and freezing, which occur immediately after the natural disaster and may last for more than 24 hours. Immediately after the psychological shock, the *"second process: reaction process"*, in which anger, insecurity, anxiety, fear, somatic and physical symptoms (nausea, pulpitations, agitation) increase, occurs between 2 and 6 days later. One week after the traumatic event, the *"third process: the mourning process"* begins as the denial defense of the individual begins to break down, the internal conflicts and emotional intensity of individuals increase, and the process of awareness begins. After a long period of time following the disaster (the duration varies according to the individual), the "*fourth process: the recovery process*" comes, in which the individual's adaptation skills increase, and higher levels of acceptance, calmness and decreased psychological resistance are observed [26]. The mourning process, which is experienced with the acceptance of losses after the disaster, varies between two to six months and requires continuous psychological follow-up. Psychopathologies such as depressive disorders, PTSD, dissociative disorders, anxiety disorders may occur with the prolongation of the mourning process or aggravation of symptoms such as denial, helplessness, unhappiness and crying [22].

Disasters are an inevitable fact of life, and planning and preparation are extremely important in order to cope with difficulties in this process. Disaster management consists of a cyclical integrated process that requires continuity to plan, organize, coordinate and implement measures to prevent and manage disasters effectively. Transitioning from considering the exact time of a disaster to focusing on the possibility of it has also necessitated a paradigm shift. Victim-based group responses to disasters start at the earliest, targeting all high-risk groups in the affected area. Mental health professionals coordinating this process should be agile, creative and innovative in terms of psychosocial solution strategies [24]. Earthquake survivors should be included in the mental health system where professional psychological and psychiatric support is provided at the local level as soon as possible after the completion of their physical treatment. Rehabilitation activities that provide this psychological support should be both culturally appropriate and aimed at improving the skills of citizens in disaster-affected communities to cope with future disasters. In this process, it is necessary to carry out therapeutic interventions to strengthen the interpersonal relationship dynamics of earthquake victims. Involving people in the region as a community in psychosocial support activities after a disaster not only ensures that more people receive support, but also facilitates the participation of people in need of psychological aid [27].

Effects of Natural Disasters on Children's Mental Health

Children are both psychologically more vulnerable to a natural disaster than adults and have difficulty neutralizing traumatic events with their current coping mechanisms, and in this process, they rely on their parents, who are largely unprepared for the same natural disaster. Children separated from their parents and close relatives due to natural disasters cannot exist on their own because they have special needs such as care, food and shelter. In addition, the physiology of children pushes them to rely on others more than adults for their survival. For example, children breathe more air per body weight than adults and their bodies contain less fluid, making them more susceptible to dehydration. When children survive natural disasters, they can develop short- and long-term psychopathologies related to events such as earthquakes, floods and landslides that they experience as a social trauma. The rate of development of social trauma-related psychopathology increases in children who have difficulties in processing and metabolizing social trauma and cannot receive professional psychiatric/psychological support in this process [28]. In the past century, natural disasters such as earthquakes, floods, hurricanes, forest fires or tsunamis have had devastating effects on communities around the world, and especially on children [29]. Research on psychopathologies following earthquakes often focuses on anxiety disorders, depressive disorders, and PTSD [30]. World Health Organization (WHO) findings indicate that approximately 20% of any population is at risk of developing psychiatric symptoms after a natural disaster [31]. Earthquakes, which cause the most devastating effect among natural disaster traumas, cause high levels of damage to both physical and mental health of individuals and cause many casualties. Türkiye consists of a lot of fault lines that can cause life-threatening earthquakes. It is stated that among all the earthquakes that occur all over the world within a year, 23% of them occur in Türkiye [32].

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Natural disasters can affect children in many different ways. Disasters can cause disruptions in meeting many physical needs as they can damage schools, hospitals and public institutions. Income loss occurs due to the injury, death or loss of work of the working people in the family due to macroeconomic conditions. When a natural disaster such as an earthquake which has both long-term and destructive, physical and psychological effects, occurs especially in developing countries, situations such as the work of children in the family arise when the loss of income or assets and the costs such as disaster-related repairs come together [27]. After the earthquake, families may also have much less money to spare for medical care, food or school supplies, all of which have negative psychological effects on children. Natural disasters are experienced as a traumatic experience because they cannot be processed with existing coping mechanisms, and children's witnessing of parents' stress and anxiety causes them to be affected worse. Social traumas lead to long-term effects of traumatic events on children, which negatively affect both physical health and school education [28].

Although PTSD was a psychiatric disorder first described in The Diagnostic and Statistical Manual of Mental Disorders (DSM)-III, it was not inclusive of the symptoms for children and adolescents [33]. In DSM-5, a comprehensive definition of PTSD was made for adults, adolescents and children older than six years of age. The criteria for an individual to be diagnosed with PTSD include being exposed to death, serious injury or sexual violence or threat, witnessing, listening to what happened to a loved one, and working in close contact with disturbing reminders of the trauma. In addition, there are symptoms of re-experiencing parts of the traumatic event (such as intrusive memories, nightmares or flashbacks about the trauma) avoidance symptoms (avoidance of trauma-related thoughts, feelings, people or places), negative changes in cognition and mood (such as distorted and negative beliefs about oneself and the world and feelings of anger, fear or helplessness), and hyperarousal symptoms (hypervigilance, aggressive behavior, or self-injury). Often, these symptoms of the disorder *"persist for more than a month"* and *"are not fully diagnosed until at least six months after the trauma"*, causing loss of functioning in occupational, social, and other domains [34].

The most important changes in the definition of PTSD between DSM-IV and DSM-5 is that PTSD was removed from anxiety disorders and it is included in a new section on *"trauma and stress-related disorders"* and a qualitative symptom list was added for the definition of traumatic experiences. In addition, two subtypes *"PTSD in children younger than 6 years of age"* and *"PTSD with significant dissociative symptoms"* were added to the DSM-5, covering trauma experienced in children and with dissociative symptoms [33,34]. Although PTSD in children is similar to PTSD in adults, including the main symptoms described in DSM-5, it may occur in a more behavioral dimension. For example, re-experiencing symptom may occur in children in the form of nightmares, trauma-related games, behavioral patterns involving certain aspects of the trauma, psychophysiological re-stimulation or body reactions (head and stomach disturbances, skin rashes, etc.) [35]. Avoidance symptoms may be manifested in the form of not entering to places that remind children of the trauma or avoiding to stay alone and social withdrawal. Hyperarousal may manifest as internalization of symptoms, concentration and sleep problems, irritability, temper tantrums, exaggerated startle response or freezing response. In addition, PTSD may manifest itself in children as an intensification of normal fears, restricted affect, pessimism and an increase in aggressive behavior. Behavioral and emotional changes accompanying PTSD can also cause changes in the child's attitude towards life, interrupting the belief that he or she can have a normal future. In addition, when children return to a safe environment, the feelings of helplessness and fear immediately after the trauma may typically transform into anger, shame and guilt [36].

On April 25, 2015, a 7.8 magnitude earthquake in South Asia, which severely affected Nepal, caused more than 8890 deaths, 22.300 injuries and displaced 2.8 million people from their homes [37]. It was reported that 25% of the victims reached to clinical level and showed PTSD symptoms within 1 year after these earthquakes [38]. It is also known that after natural disasters, mental health problems of children in developed countries can reach severe dimensions and such disasters cause a long-term chronic effect, leaving permanent scars. PTSD has tended to be the most primary psychiatric diagnosis evaluated in children after natural disasters, along with depressive disorders and anxiety disorders. In a review of studies on natural disasters, La Greca and Printein stated that %5-10 of children and adolescents experiencing traumatic incidents may meet the diagnostic criteria for PTSD [39]. The experience of individual and social traumas can lead to isolation as a result of dissociative experiences that center around feelings of shame, somatization, regret, and denial. These experiences can even cause individuals to become estranged from all aspects of their *"humanity experiences"* leading them to distance themselves from their own sense of self [17]. During the emergence or immediate aftermath of the collective experience of individual traumas, as well as social traumas experienced through mass movements, there exists the potential for intergenerational transmission of trauma and intergenerational transfer of psychopathology and children may also be negatively affected by this process [40,41].

Psychiatric Symptoms Associated with Earthquake as a Natural Disaster Trauma in Children

Earthquakes have a potentially severe impact on people's psychological functioning, particularly on children who are more vulnerable to the traumatic consequences of disasters [42]. This vulnerability depends on their level of cognitive and emotional development. The main psychiatric diagnoses associated with earthquake trauma in children are PTSD, anxiety disorders, and depressive disorders [43]. The effects of earthquake trauma in children may have long-term or chronic consequences that may not decrease in severity [44]. The reactions given after trauma

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vary according to factors such as the duration and type of exposure to the traumatic experience, the age and gender of the exposed child, social support, and the nature of the interaction between the parent and the child. For example, in terms of trauma symptoms, preschool children exhibit antisocial and aggressive behaviors more frequently than older children [45].

Studies on gender differences in trauma reactions emphasize that boys often exhibit externalizing behaviors such as aggression, while girls exhibit internalizing behaviors such as depressive symptoms and PTSD. Loss of objects such as home, or property, and loss of circumstances such as health, employment, or other personal and social resources are considered to be strong risk factors for psychological distress and PTSD for both adults and children [46]. Social support, on the other hand, is a protective factor for trauma-related psychopathologies such as PTSD and promotes positive outcomes such as posttraumatic growth, especially for children. Moreover, parent-child interactions and parents' trauma reactions have a significant impact on children's functioning in the post-disaster periods. According to a study conducted after the 1999 Marmara earthquake, the rate of cases presenting to outpatient clinics with earthquake-related complaints and PTSD symptoms was 42% [47]. It is known that children who are vulnerable to traumatic experiences show more severe reactions after an earthquake than adults [48].

The reactions of children after the earthquake vary according to gender and age, and it is suggested that a schoolchild (of 6 to 12 years) exhibits avoidance behavior, anger, self-blame, behavioral changes, physical complaints, and behaviors that show regression in developmental level. Post-earthquake symptoms in both children and adults may not appear immediately after the event; they might be delayed approximately 6 to 18 months after the traumatic experience [49]. In a study, it was reported that children showed PTSD symptoms such as being disturbed by sudden noises, sleep problems, lack of interest in school and play activities, social withdrawal and concentration problems 13 months after the earthquake [32]. The most common psychosomatic symptoms in children after the earthquake are found to be headache and stomach disturbances, fatigue and urinary incontinence [50]. In addition, feeling insecure and pessimistic about the future after the earthquake trauma was found to be a common symptom in both adults and children. A study conducted with children between the ages of 6-12 found that during an earthquake, girls reacted by crying and boys reacted by moving out of the damaged building or walking towards a trustworthy person. Hence, both genders are inadequate in terms of showing self-protection behavior and this is one of the reasons why caretaker protection is important for children during the traumatic incident. It is stated that during an earthquake, self-protective behavior in children between 7-13 years of age occurs at a rate of approximately 30% [51].

Children, who are more vulnerable than adults, can be severely affected by traumatic experiences [29]. In the aftermath of natural disasters, elementary school-aged children may not experience visual flashbacks or amnesia like adults do after natural disasters, but they may experience *"time-lapse"* and *"prophecy formation"*. This refers to their recollection of traumatic events being in reverse order, and their belief that they have the ability to recognize warnings and avoid future traumas. Especially during the play and in the drawings of primary school children, behaviors and images that involve the re-enactment of the traumatic experience may take place. The reactions of children after an earthquake trauma may differ from each other according to the way they perceive the traumatic experience [52]. Depending on the development and psychopathology of children, the symptoms that children show after the trauma may vary from showing behavioral problems to completely avoiding the situation [45].

Children under 18 years of age are considered to be a physically and emotionally vulnerable group, particularly when exposed to natural disasters such as earthquakes, as they are more unguarded than adults [53]. Along with acute trauma symptoms, children may experience chronic physical, psychological, and educational problems. Exposure to natural disasters may result in physical health problems, including diarrhea, fever, and respiratory illness, along with an increase in somatic symptoms such as headache, nausea, and lethargy [54]. Approximately 50% of children report symptoms of PTSD after a natural disaster such as recurrent thoughts, hypervigilance, and sleep or concentration problems related to the traumatic experience. In addition, depressive symptoms such as unwillingness to participate in play activities, loss of interest, fear and anxiety related to safety may occur in children after trauma, and it is suggested that these psychological symptoms are observed at a chronic level even 4 years after the catastrophic event [55]. Educational breaks and absenteeism after natural disasters cause a decrease in social support and disruption of daily routines. Exposure to trauma can also affect learning and memory processes in some children by changing brain anatomy and functioning, resulting in a negative impact on their success and performance at school [54].

Children who are victims of natural disasters may exhibit symptoms such as night terrors, bedwetting, constipation, and speech difficulties in response to traumatic experiences. The presence and support of parents are especially necessary for children aged 1-5 years during times of stress. Parents should be able to identify which reactions to trauma deviate from normal and keep in mind that the stress reactions of children after disasters vary with age. In addition to expecting special attention from their parents to meet their needs in the face of natural disasters, children may react differently based on their personality structure and age [30]. Alteration and regression in behavior are the two most common indicators of psychological distress in children. An example of behavior change is when an extroverted child displays untypical shy and introverted behaviors while playing. Regression in behavior may be defined as going backwards in developmental stages that the child has already completed, such as thumb sucking and baby talk [43].

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In children, especially in infants, PTSD symptoms such as re-experiencing can be observed in the behavioral dimension, appearing as repetitive play behaviors that remind and represent parts of the traumatic event or loss of interest in the game. Children in early childhood may feel intense helplessness, fear, and insecurity due to their inability to protect themselves and their lack of verbal and conceptual skills to cope with events [56]. The most effective psychological assistance to children in disaster periods is providing a sense of trust, safety, and secure attachment while bonding as a parent or caretaker. Parents should receive guidance and counseling to cope with the stress reactions and PTSD symptoms of children aged 1-5 years after natural disasters. These counseling services include encouraging emotional expression through animation during play, providing verbal confidence and physical comfort, talking about loss (pets, toys) to the child, providing relaxing routines for the child (especially before bedtime), and even allowing the child to sleep in the same room with the parents for a pre-set and well-executed while [54]. Children aged between 6 to 12 years are not only impacted by the natural disaster they have encountered, but also by the subsequent traumatic experience and unfavorable environmental conditions arising from it. Dyregrov and Yule reported that following natural disasters, children within this age group are more likely to display an escalation in aggressive and destructive behaviors [57].

It is noteworthy that not all children exposed to natural disasters develop PTSD, however, some studies have indicated that children with pre-existing psychiatric symptoms are more vulnerable and at greater risk of developing PTSD compared to children who do not have pre-existing psychiatric symptoms [58]. Research conducted on children who survived earthquakes has highlighted that PTSD symptoms are commonly observed in conjunction with depressive symptoms. Anxiety disorders, separation anxiety, school avoidance, psychosomatic problems, and urinary incontinence have been identified as secondary psychopathologies and symptoms in children [59]. Moreover, it has been reported that following an earthquake trauma, more than 80% of children exhibited fears such as avoidance of re-entering buildings, fear of being alone, fear of the dark, hypersensitivity to loud sounds, and phobic avoidance [60].

The Impact of Natural Disasters on Children's Psychological Functioning

While exposure to natural disasters can lead to negative emotional reactions such as fear, distress, and anger, it can also serve as a positive *"turning point experience"* in some cases. For example, one study emphasizes that children exposed to natural disasters are resilient in the face of the traumatic event, and that recovery depends on internal or external protective factors such as self-regulation or re-establishing schools [11,17]. Studies have also examined the impact of earthquake exposure on children's cognitive and social functioning. Emotional competence in children is a crucial feature that contributes to their ability to adapt to social life and cope with traumatic events [28,30]. Natural disaster traumas can often lead to psychological problems that disrupt functionality and integrative perception processes, to a degree where they can even dissociate individuals. Although natural disaster traumas almost always cause psychological problems that can disrupt and dissociate functionality and integrative perception processes, they also enable positive psychological changes conceptualized as *"post-traumatic growth"* as a result of the process of coping with trauma. Posttraumatic growth can develop as a protective factor following a traumatic life experience, and can contribute to a positive psychological transformation in an individual's self-concept and relationships with others [17].

Children actively use their biological, cognitive and emotional internal and external resources in the process of adaptation and adjustment to adversity. In early childhood, a child's adaptation to traumatic events is often linked to their parents' emotional reactions, whereas in middle childhood, it is associated with internal resources such as social and emotional competencies. Children around the age of five understand the external aspect of their emotions, while seven-year-olds begin to comprehend their own mental processes. By nine years old, children begin to establish a relationship between their past experiences and their emotions [39,43]. However, emotional regulation, comprehension, and expression skills may be disrupted in children exposed to natural disasters such as earthquakes, leading to damage to their emotional information sources. Emotion regulation, defined as the ability to reduce, maintain, or increase emotional arousal, plays a crucial role in explaining anxiety and depressive symptoms in children after disaster trauma [57,60]. Moreover, since children have limited knowledge and experience with earthquakes and expressing their feelings about earthquake-related scenarios, parents' knowledge about earthquakes and the measures taken to minimize damage caused by earthquakes can significantly affect a child's response [50].

A study of children under the age of six who had experienced different levels of earthquake trauma revealed that they were able to articulate the causes and explanations of earthquakes, but rarely had sufficient knowledge. In addition, while children mentioned fear as the most intense emotion associated with earthquakes, they also mentioned anxiety and anger. Emotional competence, which refers to an individual's ability to use emotional words to describe their internal states, is particularly useful for making sense of traumatic events and personal experiences in which individuals are in search of meaning. As children grow older, they exhibit richer emotional expression and higher levels of introspective abilities [43,49]. A study conducted in 2012 found that children who experienced the Emilia Romagna earthquake did not show any deterioration in their emotional development, including the ability to understand and regulate emotions, two years after the earthquake trauma. However, children who were traumatized by a loved or trusted person had difficulty reframing the psychological representations of the emotional bonds they established with the people responsible for their trauma. It

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is suggested that even if there is a person responsible for the situation experienced in natural disaster traumas, PTSD reactions -especially impairment associated with emotional regulation- of traumatized children may not emerge. Studies examining post-disaster symptomatology emphasize that emotions representing fear such as anxiety are experienced intensely after trauma [43]. Moreover, post-disaster symptoms vary according to age and especially anger and aggressive behaviors are experienced intensely by younger children (preschool period, 0-6 years) compared to older children. Thus, it can be concluded that children exposed to earthquakes do not necessarily have a disruption in their emotional functioning in the face of natural disaster traumas, as in adults, but they may experience severe negative emotions in such events [35,38].

Post-Earthquake Dissociative Defenses and Dissociative Denial Phenomenon in Children

Dissociation refers to the disruption of the integrated structure of consciousness, memory, identity, emotion, perception, body representation, motor control, and behavior, and is considered a defense mechanism used for self-protection against traumatic experiences [14]. Although dissociative disorders should be evaluated in disaster survivors, most studies have focused on broadly defined dissociative phenomena instead of dissociative disorders [17,39]. Dissociative disorders in DSM-5 include symptoms such as subjective feelings of numbness or disconnection, decreased awareness of one's surroundings, unreality, depersonalization, derealization, and dissociative amnesia [34]. Dissociative symptoms usually begin to emerge after a traumatic incident and can predict later psychiatric disorders. Spiegel, Koopman, Cardeña, and Classen in their study on Oakland/Berkeley firestorm, emphasized that the dissociative symptoms may be a good predictor for PTSD [35].

A study conducted on young people after an earthquake found that 40.69% of the participants reported severe PTSD symptoms, while 53.04% were found to be at higher risk of developing an anxiety-related disorder. Additionally, 37.70% of this sample group met the criteria for a depressive disorder, while 36.73% showed pathological dissociative symptomatology, namely met the diagnostic criteria for dissociative disorder [35,59]. Dissociative depression is more severe than non-dissociative depression in terms of both clinical phenomenology and developmental history. In dissociative depression, suicidal thoughts, cognitive distortions such as feelings of guilt or worthlessness, decreased concentration, and indecision are experienced more intensely than in non-dissociative depression. These psychiatric symptoms in cases of dissociative depression are also seen in cases of PTSD [17,59]. Mourning and dissociation after traumatic events are among the most important predictors of PTSD. The study conducted on children after the 1999 earthquake in Türkiye emphasized the need for a comprehensive assessment of posttraumatic dissociative symptoms and mourning symptoms when evaluating child psychopathology after a natural disaster [32].

Studies conducted with individuals who have experienced natural disaster trauma reveal that dissociative experiences -especially peritraumatic dissociation- are experienced at a severe level. In studies in which the Dissociative Experiences Scale (DES), one of the most preferred psychometric measurement tools in the world in the evaluation of dissociative experiences, was used, the mean score was found to be 7-11 in the general population and 11-26 in the disaster survivors. It is clearly stated that survivors are significantly more dissociated than the general population [35,38]. The fact that dissociative experiences are higher in survivors compared to the general population is explained by the views that disaster trauma exacerbates dissociative psychopathology and that the severity of the traumatic event experienced is of an unpredictable and uncontrollable nature. Dissociative experiences also have an adaptive aspect in the acute period when the disaster occurs. A psychopathology may not always develop, especially when the dissociative psychopathology is not severe but is experienced on a more subclinical scale. In other words, individuals with subclinical dissociative experiences after disaster trauma can stay psychologically healthier without developing a dissociative psychopathology if they receive psychotherapy support or strong social support [27,53].

All children with PTSD symptoms were more likely to report dissociation and grief symptoms than those without PTSD symptoms. Children with low scores on psychometric scales for symptoms of PTSD also complain of emotional and dissociative symptoms. Inadequate sleep, hunger, past traumatic experiences, and exposure to serious injuries make children more susceptible to mourning and dissociative symptoms and associated psychopathologies. Therefore, a detailed evaluation of the risk factors and symptoms of dissociated and traumatized children who survived after a life-threatening natural disaster trauma such as an earthquake will provide an important contribution to the prevention and intervention studies for the development of future psychopathologies [14]. The dissociative defenses that emerge in children after an earthquake may turn into dissociative reactions, dissociative symptoms, and dissociative disorders if the earthquake trauma cannot be neutralized. Children and adolescents who seek therapy after an earthquake may express dissociation phenomena such as *"As if the earth is sliding under my feet."*, *"As if the furniture in my room is moving."*, *"I feel as if an earthquake is going to happen at any moment."*, *"I cannot realize what is going on around me."*, *"I am alienated from the life I live in."* and *"I do not feel my own body."*. The dissociative denial phenomenon, which is used as a defense mechanism in adolescents and especially in children during the earthquake, is an important factor in the adaptation of traumatized individuals to actual life [6,7].

Risk Factors for the Development of Psychopathologies Associated with Natural Disaster Traumas in Children

It was reported that children and youth who were exposed to physical violence after the earthquake in Haiti in 2010 had higher

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levels of psychological distress and suicidal ideation compared to their peers. A research has shown that exposure to social violence and life-threatening experiences such as witnessing falling trees and broken windows are associated with higher levels of trauma related stress reactions and can increase the perceived threat in children [39]. Moreover, the presence of multiple traumatic experiences such as loss of parents' jobs, moving to a new home or school, and death or illness in the family after a disaster is associated with severe posttraumatic stress reactions for children. Children with low socioeconomic status or who are members of minority groups may have difficulty in accessing social support and assistance services after a natural disaster, and may be more vulnerable in natural disasters due to their placement in temporary and inconsistent accommodation [54].

According to the research, poor interpersonal relationships and inadequate role modeling between children and parents negatively affect children's coping with traumatic experiences. Three important risk factors associated with the development of PTSD in children are being separated from the family, parental psychopathology, and dysfunctional coping strategies of the parents. For instance, children whose parents participate in rescue efforts around their homes after a disaster may experience separation anxiety. Children who were at school or in different places from their parents during the disaster may also show more anxiety, sleep problems, hyperarousal, and PTSD symptoms in the long term due to being separated from family members [29]. McFarlane observed that children of parents who sent their children to live with relatives immediately after a natural disaster were better able to cope with stress. However, children of parents who are still separated from them after 26 months have a higher risk of developing anxiety and PTSD. Identifying risk factors associated with psychopathologies in children exposed to natural disaster traumas can help with the development of interventions and policies to support children and families. Strategies that can be implemented include increasing access to social support and assistance services for vulnerable children and families, improving communication between parents and children during a disaster, and promoting positive coping strategies among parents and children [23].

Protective Factors for Children's Mental Health in Natural Disasters

In the aftermath of natural disasters, children may be highly affected physically and psychologically. However, parents who are also victims face numerous burdens and responsibilities, such as rebuilding their homes or repairing physical and psychological damages. Thus, traumatized parents may experience difficulty in coping with their own emotions and providing adequate attention, care, and support for their children. Several studies have identified two important protective factors, namely positive parental emotionality and warm and open family environment, which can effectively alleviate stress reactions that may occur in children following natural disaster trauma [43,45]. Positive emotional responses by parents towards traumatic incidents play a vital role in reducing their children's trauma-related stress reactions. Positive parental emotionality, such as staying calm and being in control after natural disasters, can help to calm children's fears and provide a perception of a safe space for them. It has been suggested that the more positive a parent's attitude in the face of a natural disaster such as an earthquake, the more likely it is that their children will have similar positive reactions one year after the disaster, leading to a reduction in symptoms of trauma-related psychopathologies such as PTSD [28,39].

Another protective factor in terms of children's stress reactions and psychopathologies after earthquake trauma is the provision of open and warm communication within the family. Specifically, children's ability to openly express the problems experienced during and after the traumatic event with their parents increases social support and contributes to the prevention of exacerbation of PTSD symptoms [39]. A study by La Greca et al. in the aftermath of Hurricane Andrew suggests that the supportive and empathetic approach of parents to their children's sharing of experiences helps children to make sense of, interpret and cope with the traumatic event, and alleviates the stress response to trauma by serving as guidance [45]. Parents who make time to listen to their children regarding trauma-related issues, show willingness, and encouragement can benefit their children's ability to comprehend and explain their emotions and thoughts. This can decrease the risk of the development of psychiatric disorders associated with trauma by addressing the issues that may arise [36,43].

Children are usually hypersensitive to their parents' reactions during and after traumatic experiences. They may retain from expressing their own feelings to avoid emotional burden and mental distress on their parents. Moreover, parents giving their children the opportunity to talk about the trauma and having a warm approach can help alleviate trauma-related stress reactions of children. Children who immediately resort to play activities to cope with the trauma of natural disasters often exhibit behaviors that reenact the traumatic experience during play [57]. Since parents may misperceive that their children who engage in play activities do not have any trauma-related symptoms, the child's own statements are crucial, in addition to the participation and observation of parents in play activities. Children may not be aware of the trauma-related stress responses and PTSD symptoms, especially the avoidance response, because they have inability to perform cognitive functions successfully. Children manifest their PTSD symptoms through regression behaviors such as thumb-sucking and bedwetting [29,36]. Therefore, it is important for parents not to be neglectful of the dysfunctional and regressive behavior they observe in their children [43].

In the acute phase after natural disasters, mental health professionals identify moderate and/or severe psychiatric cases and treat these cases. Although the role of mental health professionals as clinicians is somewhat less, trainings on how to perform community-based interventions are provided by public institution employees and volunteers in disaster areas. The trainings provided by mental health professionals include art therapy, drama, structuring of daily activities, as well as parent

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and teacher trainings [52]. Mental health professionals working in the disaster area also carry out psychosocial rehabilitation-focused studies, which are characterized by normalization, stabilization, socialization, optimal experience of emotions and feelings, healthy communication with other people, and recovery of a sense of security with earthquake survivors. With these studies carried out in disaster areas, not only the milder and sub-threshold symptoms of earthquake survivors are improved, but also long-term psychopathologies are prevented. Such psychosocial interventions and studies should start as early as possible by targeting all high-risk populations in the earthquake affected area. However, in the process of encouraging earthquake survivors to participate in these studies, labels such as *"mental health"* and *"psychiatric case"* should be avoided in order to prevent stigmatization [27].

The Impact of Family Psychopathology on Children in Natural Disaster Traumas

Children often spend most of their time in the family environment after experiencing traumatic events. Since the earthquake disaster also affects the child's caregiver and guiding authority figure such as parents or teachers, children's care, protection and support systems can also be negatively affected. Due to their lack of cognitive and emotional maturity, children are particularly vulnerable to being affected by their parents' emotion regulation, stress reactions, and coping strategies in response to natural disasters [39,54]. The family plays an important role, especially in children with PTSD symptoms, and parents have a critical role in the process of children's development of trauma-related psychopathologies. Studies conducted after disasters suggest that parental psychopathologies may play a determining role in the development of PTSD symptoms in their children [23].

The psychological response of parents to traumatic events, including stress reactions and symptoms of PTSD, can have a negative impact on their children's development of PTSD [28]. Dissociative disorders and PTSD, are psychopathologies that are strongly associated with apparently normal family dynamics. Apparently normal or dysfunctional family dynamics play an important role as an active agent in the intergenerational transmission of trauma and dissociation. Such families may traumatize their children through negative child-rearing styles, while also failing to provide effective protection against individual and social traumas. From the perspective of dissoanalysis theory, dysfunctional families, can create resistance to their children's use of adaptive defenses during abstract and concrete periods against social traumas [6,40]. Children who experience secure attachment with their parents are better equipped to respond adaptively to *"earthquake trauma"*. Specifically, those with empathic and relational reciprocity with their parents can neutralize the trauma at an optimal level [14]. Kılıç, Özgüven, and Sayıl conducted a study evaluating 35 families living in a *"tent city"* after the 1999 earthquake in Türkiye, examining PTSD, depression, and state and trait anxiety. Results indicated that PTSD symptoms were more severe in children of fathers who exhibited PTSD symptoms. In cases where both parents displayed PTSD symptoms, the risk of children developing trauma-related psychopathology increased [42]. In a study, parents diagnosed with PTSD with severe symptoms of avoidance or hyperarousal behavior may neglect their children's anxiety, fear, or stress reactions as a result of difficulty coping with their own traumatic process [57].

A study conducted after the Australian bushfires highlighted that parental stress response is a more significant and potent predictor of exacerbating PTSD symptoms than children's direct exposure to natural disasters. When both parents experience fear due to disturbing and repetitive memories associated with the natural disaster, they may communicate these negative emotions with their children, which can negatively affect the healing process and reinforce the traumatic experience in children. The impact of parents' psychological distress and PTSD symptoms on their children's stress response decreases as children age. In this context, it can be argued that young children may require more protective and supportive care from their parents after natural disasters like earthquakes [23]. Protecting children from individual and social traumas is among the fundamental parenting duties. In the face of social traumas such as natural disasters, parents should prepare themselves and their children both physically -by keeping, for example, necessary materials in an appropriate location before the occurrence of such events- and psychologically. The proactive behavior of parents towards social traumas ensures that their children suffer minimal psychological harm [6,7].

The Effect of Family's Maladaptive Coping Strategies and Negative Child-Rearing Styles on Children

Research has provided support to the notion that parents who have experienced social trauma or natural disasters can be affected in a similar manner as their children, which can lead to decreased support and assistance for their children. Studies have highlighted that parents' maladaptive coping strategies and inadequate emotional support following natural disasters can predict the severity of their children's PTSD symptoms [23,52]. Maladaptive coping strategies can include overcompensation behaviors such as aggression, passive aggression, oppression, and avoidance strategies such as ignoring the traumatic event and not talking about it. For instance, following the earthquake in Türkiye, a study found that fathers who displayed anger, constantly blamed and criticized their children, and even resorted to physical punishment such as hitting them with a belt or slapping them, increased their children's anxiety and fear about the trauma and had a negative impact on their children's development of PTSD symptoms. Moreover, children who were exposed to domestic physical and emotional violence and who were uncertain about their parents' reaction may experience a deterioration in their perceptions of trust, stability, and consistency, resulting in more severe PTSD symptoms [42]. In another study, it was found that more conflict between parents and their children after a hurricane disaster predicted more severe trauma-related stress reactions in the children [39].

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Research has shown that the overprotective and authoritarian behaviors of parents, including harsh disciplinary methods, can predict the psychopathology of children diagnosed with PTSD following natural disasters. Furthermore, when parents create an overprotective environment for their children, this can prevent children from developing their own sense of competence, harm their mental health, reinforce avoidance behaviors leading to withdrawal, and impede post-traumatic recovery processes [23]. In a study focused on submission as a coping strategy, children were observed to exhibit negative reactions to the disaster, such as sleep disturbances and an increase in frightening dreams, when their parents displayed submissive or dependent behaviors, as well as crying and complaining behaviors after the earthquake [19,57]. A study highlighting the detrimental effects of parental avoidance coping strategies on children's mental health after natural disasters was conducted, revealing that parents who use alcohol or drugs to cope with trauma and avoid reality are at an increased risk of providing insufficient emotional support to their children, thereby increasing the likelihood of PTSD. Furthermore, Pynoos posited that parents' denial of their traumatic experiences and failure to adequately respond to the traumatic event can exacerbate their children's susceptibility to PTSD [44]. Garfin and colleagues conducted a study indicating that parents who avoid discussing and explaining the traumatic reality of natural disasters to their children may negatively impact the onset and severity of PTSD symptoms in their children [25].

Crisis Intervention Approaches and Treatments for Children After the Earthquake

After a natural disaster like an earthquake, crisis intervention teams prioritize meeting basic human needs and conducting search and rescue efforts. As the immediate needs and threat perception of the affected individuals decrease, the recovery process of post-traumatic stress symptoms begins. Considering that development in children takes place at a faster and easier level at an early age, providing earthquake-related information and training to children early on is crucial, especially in earthquake-prone areas like Türkiye [32]. Cognitive behavioral therapy (CBT) has been shown to have a positive effect on trauma-related psychopathologies in both adults and children. One study showed that a 7-session group therapy program that included imagery techniques, expression of trauma experiences and emotions, breathing exercises, and distraction techniques resulted in a 60% improvement in PTSD symptoms and also a significant improvement in depressive symptoms and psychosocial functioning [58]. In a study showing that control-focused behavior therapy, which is an effective treatment method after an earthquake, produces promising results in the treatment of earthquake-induced PTSD in children, it is emphasized that this therapy process begins by encouraging survivors not to avoid feared situations. In particular, this therapy is based on the idea that self-exposure to fearful situations is an effective way to develop a sense of control over fear [9].

Maintaining daily routines, expressing feelings and thoughts through drawing and storytelling, and participating in group activities and social support trips can alleviate stress effects in children severely affected by earthquake trauma. Earthquake preparedness training should be given at an appropriate level according to children's age groups. Families should also be trained on behavioral changes and post-traumatic symptoms that children may experience [32]. Children's statements related to trauma should be taken seriously, and parental psychopathology should be addressed during treatment of children. Having emphasized that parental psychopathology has a detrimental effect on children with PTSD, we should also help to improve the mental health of parents while treating children. At the same time, it is important to help and educate parents on how to honestly answer questions asked by children. Parents should be encouraged to create an open and warm family environment, which can serve as a protective factor associated with more positive adjustment in their children's PTSD. Lastly, parents and professionals should be supported on how to use an age-appropriate attitude to explain what is happening and how to listen more effectively to children's concerns [49,60].

A Modern Psychotraumatological and Dissoanalytical Approach to Crises and Social Traumas

Psychotraumatology, which is one of the most basic fields of psychology that focuses on the reactions of individuals and societies to traumatic situations or events, and the policies of prevention of traumas and psychotherapies, deals with both the negative effects of acute and chronic traumatic experiences on the mental health of individuals and the relationship of these effects with psychopathologies. Psychotraumatology adressess *"traumatic stress"* and *"traumatic dissociation"* resulting from natural disasters; physical, emotional and sexual abuse, forced migration, wars, and terrorism, through the integrated perspective of clinical psychology, psychiatry, and psychohistory [3,8,13,56]. From the perspective of modern psychotraumatology paradigms and the dissoanalytic school, crisis and disaster psychology studies focus on social traumas caused by natural disasters, especially in recent decades [5,19]. Crisis psychology is defined as clinical psychology-based theoretical and applied psychological studies that make it possible for people to be affected by these social and/or individual traumatic events at the lowest level in the first few weeks after social traumas at the maximum rate and minimally individual traumas [13,22].

Traumatic experiences make individuals' conceptualizations of both the self and the world questionable. The trauma process, which is not only an individual but also a social effort, cannot be solved by the individual himself/herself, because the traumatized and dissociated individual cannot lead an integrated and healthy life without support. In this direction, while psychological improvement and healing can only take place in relational context, it cannot happen on its own [14]. How society reacts to an individual's unhappiness, pain, sadness and grief is very important in terms of perceived social support. The subject

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needs to express his/her ideas and feelings about his past trauma experiences, and in this process, the incomplete processing of the trauma disrupts the sensitivity of the individuals towards the world. This impairment may manifest as impaired or inadequate responsiveness as well as unresponsiveness. Psychotherapy has a basic function in this process, which can be reflected in all parts of a person's life such as work, social and family life [20]. Individuals' ability to distinguish between distressing and helpful environmental stimuli becomes difficult after a traumatic experience, such as an earthquake. The therapist should support the subject's ability to distinguish between destructive and helpful environmental stimuli, and mental health professionals have a fundamental role in the studies conducted on the axis of crisis psychology [11].

Studies on crisis psychology show that the first week following traumatic events, such as terrorism, disasters, and wars, is critical for psychological recovery. During the first few weeks, victims or relatives of victims may be highly vulnerable to external stimuli, making effective crisis intervention extremely important. After this first few weeks, it becomes more challenging to stabilize the mental states of traumatized people and to carry out treatment-oriented studies. Financial and moral support should be provided simultaneously during crisis intervention. Professional psychological support provided in the acute phase can significantly reduce the occurrence of cognitive distortions in which victims blame themselves for the event or believe that they deserve what happened to them [13,22]. When trying to make sense of the traumatic event, victims may seek answers to questions such as *"How did this happen?"*, *"Could it happen again?"*, *"What would I do if it happens again?"*. Psychotraumatologically-oriented professional support, particularly in the process of making sense of the traumatic event, plays a crucial role in minimizing the negative psychological impact of the crisis. Scientific research has proven that professional psychological support in coping with traumatic events, as well as families and perceived justice, reduces the risk of developing psychopathologies in the future. If there are culprits who caused the traumatic events, they should be exposed, and the authorities should reassure the public and families that such an event will not happen again. Commemorations organized for people who lost their lives in these events can provide positive support to the mourning process by making the victims feel that the state and the public are with them [8,13,17].

CONCLUSION

In conclusion, short, medium, and long-term psychiatric interventions are conducted after social traumas, and personalized treatment or psychotherapy approaches can be applied by paying attention to the uniqueness of each individual. Especially right after a mass traumatic experience, it is essential to activate the individuals' coping skills and enable them to benefit from these skills to the maximum level [19,20]. *"Resilience"*, which consists of personal, relational or cultural components, should be one of the main elements to be worked on in the traumatized individual, unnecessary attempts to intervene should be avoided and the person should be supported to be in a solution-oriented position that aims to continue his/her current life by overcoming difficulties rather than being a helpless victim in the process. An ideal crisis intervention approach for traumatized individuals includes allowing the expression of emotions in the acute period, breaking the cycle of negative thoughts, and revealing appropriate expressions for the desired reactions under the guidance of the psychotherapist [5,17].

The process of healing from social traumas and mourning can be prolonged and dependent on the nature and severity of the traumatic event. Rituals in the daily lives of children, adolescents, and adults can play a significant role in going through the mourning process. In this traumatic mourning process, dissociating psychologically painful events by postponing rituals serves as a short-term adaptive strategy [19,53]. However, dissociative disorders and PTSD may develop when traumatic experiences cannot be metabolized and neutralized over time. Dissociative experiences are commonly associated with psychiatric diagnoses in children, adolescents, and adults who have experienced earthquake trauma, and dissociative disorders are often comorbid [14]. Mental states of individuals who have experienced social traumas, as well as those who have witnessed them physically or been exposed to them through digital communication platforms (e.g., social media) can be severely affected. It is, thus, of crucial importance to immediately activate institutionally supportive and structured crisis and disaster psychology-oriented mental health support systems in nations where mass traumatizing events occur [6,17].

The psychosocial support process and trauma-based psychotherapies structured on the axis of crisis intervention effectively enable traumatized and/or dissociated children, adolescents, and adults to return to their daily lives in an integrated manner as soon as possible. Drawing from dissoanalysis and dissoanalytic psychohistory, it is suggested that individual and social traumas can lead to isolation, as individuals may experience dissociative episodes that revolve around feelings of shame, somatic symptoms, regret, and denial, leading to a disconnection from both human experiences and oneself [7,53]. According to Ozturk, although traumatic experiences are apparently individual, they are inherently psychosocial in nature, and the resulting dissociative responses occur within a psychosocial framework. In modern psychotraumatology and dissoanalytic theory, effective psychotherapies and interventions aim to integrate the dissociated subject by metabolizing and neutralizing traumatic experiences in a short period of time [6,21,48].

Conflict of interests
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