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# Play Therapy for Children Exposed to Natural Disasters

## *Doğal Afetlere Maruz Kalan Çocuklarda Oyun Terapisi*

Gökçen Dalkılınç[1], Selin Okumuş[2], Berna Güloğlu[2]

[1]Istanbul University Cerrahpaşa, Istanbul
[2]Bahçeşehir University, Istanbul

**ABSTRACT**

Natural disasters occur with increasing frequency every year in Türkiye and around the world. The largest forest fires, in recorded history, occurred in Türkiye in 2021, and the Kahramanmaraş earthquakes, described the disaster of the century, occurred in 2023. Between these dates, Turkey has struggled with natural disasters such as avalanches and floods, as well as earthquakes and fires. Due to their unexpected nature and devastating impact on individuals' lives, natural disasters can also have shocking effects on individuals' mental health. Undoubtedly, many people have been affected by these natural disasters. However, children are a risky group among those affected by natural disasters because their coping skills are limited and they have not yet achieved their independence. In addition, it is known that traumatic experiences in the first years of life negatively affect the individual's development. Therefore, it is thought that the psychological support provided to children after a natural disaster is important. In this sense, play therapy appears as one of the effective intervention methods in the psychological support service provided after natural disasters. The aim of this study was to enable mental health professionals working with children exposed to natural disaster to understand possible psychopathologies and to create a framework for the role of play therapy in intervention.
**Keywords:** Natural disaster, play, play therapy

**ÖZ**

Türkiye'de ve dünyada meydana gelme sıklığı her geçen yıl giderek artan doğal afetler gerçekleşmektedir. Türkiye'de 2021 yılında, kayıtlara geçen tarihin en büyük orman yangınları meydana gelmiş ve 2023 yılında, yüz yılın afeti olarak tanımlanan Kahramanmaraş depremleri yaşanmıştır. Bu tarihler arasında Türkiye'de, deprem ve yangınların yanı sıra, çığ ve sel gibi doğal afetlerle mücadele edilmiştir. Beklenmedik yapısı ve bireylerin yaşamındaki yıkıcı etkisi nedeniyle doğal afetler, bireylerin ruh sağlığı üzerinde de sarsıcı etkilere neden olabilmektedir. Şüphesiz, birçok insan yaşanılan bu doğal afetlerden etkilenmiştir. Ancak baş etme becerilerinin gelişmekte olması ve henüz kendi bağımsızlıklarını elde edememiş olmaları nedeniyle çocuklar, doğal afetlerden etkilenen kişiler arasında riskli bir gruptur. Ayrıca, yaşamın ilk yıllarında yaşanan travmatik deneyimlerin bireyi gelişimsel açıdan da olumsuz etkilediği bilinmektedir. Dolayısıyla, doğal afet sonrası çocuklara sunulacak psikolojik desteğin önemli bir yeri olduğu düşünülmektedir. Bu anlamda oyun terapisi, doğal afet sonrası sunulan psikolojik destek hizmetinde etkili müdahale yöntemlerinden biri olarak karşımıza çıkmaktadır. Bu çalışmanın amacı, doğal afete maruz kalmış çocuklarla çalışan ruh sağlığı uzmanlarının olası psikopatolojileri anlamalarını sağlamak ve müdahale etme konusunda oyun terapisinin rolüne ilişkin bir çerçeve oluşturmaktır.
**Anahtar sözcükler:** Doğal afet, oyun, oyun terapisi

## Introduction

Individuals encounter many events throughout their lives. The impact of some of these events may be stronger and more challenging to cope with. Disaster is one of these events. The concept of disaster is defined by Turkey Disaster and Emergency Management Authority (AFAD 2022a) as "a natural, technological or human-caused event that causes physical, economic and social losses for the whole or certain segments of society, stops or interrupts normal life and human activities, for which the affected community is insufficient capacity to cope." Industrial, nuclear, and biological accidents and man-made disasters; Severe colds, drought, famine, storms, tornadoes, avalanches, floods, landslides, volcanoes, fires, and earthquakes are referred to as natural disasters (AFAD 2022b).

In a study examining the disasters that occurred in the world between 1900 and 2022, it was stated that natural disasters occurred the most, followed by technological disasters, the frequency of natural disasters has increased

**Address for Correspondence:** Gökçen Dalkılınç, Istanbul University-Cerrahpaşa Institute of Graduate Studies, Istanbul, Türkiye
**E-mail:** pskdangokcen@gmail.com
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since the beginning of the 2000s, the increase is 3.3 per year on average, and climate change affects this increase (Usta 2023). The report published by the World Meteorological Organization (WMO 2021) stated that 11,072 natural disasters occurred due to weather, water, and climate between 1970 and 2019. Turkey is an open country for 31 types of natural disasters that occur in the world, except active volcanoes and tropical storms (Doğan (2022). Many countries on the European continent, including Turkey, were affected by excessive rainfall in July and August 2021. Many people were evacuated from the provinces affected by the rains in Turkey. On the same dates, temperature records were broken in Southern Europe and fires caused loss of life and property (Doğan 2022). According to the report prepared by the European Forest Fire Information System (EFFIS) in 2022, Turkey experienced one of the largest fires in its history in 2021 and a forest area of 139 thousand 793 hectares was affected by the fire. In 2023, the Kahramanmaraş earthquake occurred in Turkey and 14,013,196 people were affected by the earthquake (CSBB 2023).

Since disasters have consequences that cause great destruction in an individual's life, it is important to look at how children react to such events. In particular, disasters such as earthquakes witnessed in the first years of life cause developmental effects on the individual (Bland et al. 1996). In addition to being a critical period in terms of brain and body development being affected by environmental factors (Gaskill and Perry 2012), childhood is also a period in which a person's ability to meet his or her own needs is limited (Baggerly 2015). Therefore, children exposed to disasters are risky groups. As a matter of fact, children who survive natural disasters experience psychological problems such as stress, anxiety, and depression (Fu et al. 2013).

Montaigne emphasized the importance of play in a child's life by saying, "Children's play is not a game, it is their most serious occupation." Landreth (2012), on the other hand, stated that children who are not miniature adults convey their experiences through play. As a matter of fact, play has been deemed a universal and inalienable childhood right by the United Nations (UN). In the 1st paragraph of Article 31 of the Convention on the Rights of the Child, published in 1989, "*State Parties recognize the right of the child to rest, spend free time, play and engage in entertainment (activities) appropriate to his age, and to participate freely in cultural and artistic life*" is included (UNICEF 1989). In the therapeutic process, play is defined as a child's ability to fully express and discover himself/herself for ideal growth and development through play, with the play therapist providing selected play materials (Landreth 2012). Since the expression of emotions and thoughts is based on symbolic expressions, the play seems especially convenient for children who have had traumatic experiences such as disasters. This study aims to provide a framework for mental health professionals working with children exposed to disasters to understand the risk of potential psychopathologies in the light of current literature data and the role of play therapy in intervention.

## Disaster and Its Effects on Children

Sudden and extraordinarily traumatic events such as disasters cause children to face many frightening experiences, making it difficult for them to cope by exceeding their ability to manage their reactions (Dripchak 2007). This leaves children vulnerable to mental health problems (Baggerly 2015, Triasari et al. 2020). Terr (1991) defined four common reactions to traumatic events in children and these are: Most traumatized children experience flashbacks, exhibit repetitive behaviors during play, have trauma-specific fears, and their views on people, life, and the future change. Additionally, Terr (1991) divided childhood traumas into two categories, Type I and Type II, and stated that Type I trauma results from a single, unexpected, and sudden event; Type II trauma results from long-term and repeated exposure to a stressful external event and reported that the four common reactions she described can occur in children with both Type I and II trauma. Natural or human-caused disasters can be considered as examples of Type I trauma (Terr 1991), which results from sudden and unexpected events. Because Type I trauma involves detailed recollections, prophecies, and misperceptions (Terr 1991), children may develop a sense of guilt, blaming themselves for not taking alternative actions that they believe could have prevented the traumatic event from occurring (Ogawa 2004). As a result, children may develop alternative thoughts in which they blame themselves after extraordinary events that are beyond their control.

Children who experience emotional changes as a result of natural disasters experience great anxiety that their order will be disrupted and that they, their families and friends may be harmed (Berkem and Bildik 2011). The child's belief that the world is a good and safe place is negatively affected (İşmen 2001). The child spends a lot of time trying to make sense of these events and sudden losses that lead to the disruption of his safe world and negative changes in his life (Jordan et al. 2013). In the acute period, sadness, anxiety, aggression, negative thoughts, insecurity, regression, withdrawal from social activities, somatization, and game playing reactions related to the traumatic event can be observed in children (Cırcır and Tagay 2022). In a study conducted with parents who experienced the February 6 Kahramanmaraş earthquake, it was found that the children of families

who experienced the earthquake during and for two months after the earthquake had problems such as sudden outbursts of anger, irritability, sudden emotional changes, crying for no reason, hitting themselves, not being able to separate from their mother, not being able to sleep alone, and being afraid of dying in the earthquake (Darga 2023).

After natural disasters, children may experience reactions such as headache, abdominal pain, decreased appetite, muscle pain, and sleep disturbance (Brymer et al. 2006). In addition, disasters can disrupt children's limbic systems, emotions, mood, behavior and ability to regulate learning (Baggerly 2016). Earthquakes have a strong negative impact on children's nutrition and schooling in the short term (Bustelo et al. 2012). Jensen (2000), who used rainfall data from areas in Ivory Coast between 1986 and 1987 to examine investments in education and health of children living in areas that experienced adverse rainfall amounts, found that child malnutrition increased, and school enrollment rates decreased. Gomez and Yoshikawa (2017) found that the development of children exposed to an earthquake was negatively affected shortly after the event. Additionally, after a natural disaster, children may have difficulty focusing or making decisions, which may affect their academic success (Baggerly 2015). For this reason, while malnutrition after natural disasters threatens physical health, the decrease in schooling rates and children's concentration threatens the educational process. In addition, various psychological disorders such as stress, depression, anxiety, and post-traumatic stress disorder (PTSD) can be observed in some children and adolescents after natural disasters (Fu et al. 2013, Moss et al. 2006). It was revealed that 60% of 160 children who survived the 1999 Marmara earthquake showed symptoms of PTSD 6-20 weeks later (Ekşi et al. 2007). In a study conducted with children between the ages of 7 and 13, who were affected by the tsunami in the Aceh region of Indonesia in 2004, it was found that the children showed PTSD symptoms at a high rate (48%) (Dawson et al. 2014). Additionally, in a study conducted with adolescents who survived the earthquake in Lushan, China in 2013, it was revealed that 19.6% of the adolescents had PTSD and 29.7% had depression symptoms (Wang et al. 2020).

As time passes after a natural disaster, the prevalence of PTSD symptoms may decrease (Warsini et al. 2014). In a study conducted after the tsunami and earthquake in Japan in 2011, the rate of PTSD in primary school children decreased significantly in the 20th month compared to the 8th month (Iwadare et al. 2014). Six months after the devastating Chi Chi earthquake, it was found that 23.8% of survivors showed symptoms of PTSD, and three years after the disaster, this rate decreased to 4.4% (Tsai et al. 2007). In a follow-up study conducted with children and adolescents after the tsunami disaster in Thailand, it was observed that the prevalence of PTSD, which was 57.3% six weeks after the disaster, decreased to 7.6% at the end of two years when financial and social support was provided to the children's families (Piyasil et al. 2007). In a longitudinal study of survivors of the Ensche fireworks disaster over the age of 18, children were assessed according to PTSD criteria at three different times (2-3 weeks - 2 years - 4 years) and the prevalence rate of PTSD was reported as 21.9% 2 years after the disaster and 4 years later. It was reported as 4.5% and was found to decrease spontaneously (Meewisse et al. 2011). In a longitudinal study conducted after the earthquake in China, it was observed that there was a decrease in the level of PTSD in the 17th month after the earthquake compared to the 3rd month. In the same study, it was determined that internal locus of control and problem-solving skills were effective factors in the development and maintenance of PTSD (Zhan, Liu, Jiung, Wu, and Tian 2014). In general, most children have been able to recover from frightening experiences related to a disaster without professional intervention, and most need time to experience their world as a safe place again and to see their parents responsible for them again (Speier 2000). On the other hand, a traumatic experience such as a natural disaster can have long-lasting effects on some children's lives. Although most children's symptoms improve spontaneously in the months and years following the natural disaster, some children may continue to have psychological problems such as depression and PTSD if no intervention is made (Kronenberg et al. 2010). In a qualitative study conducted after the Great Hanshin-Awaji earthquake in Japan, people affected by the earthquake expressed emotions such as sadness, fear, and regret (attenuated and not at a clinical level) in response to the memory of the earthquake, even 20 years after the disaster (Tanaka et al. 2019). In line with these studies, another study revealing the long-term impact of a natural disaster was conducted with 482 adolescents 4.5 years after the Tsunami in Aceh, and it was found that 63.1% of the participants showed moderate to very severe PTSD symptoms (Agustini et al. 2011). It was found that 25.8% of adolescents had PTSD 3 months after Typhoon Morakot (Yang et al. 2011). In 1988, a cohort study of schoolchildren who survived the sinking of the cruise ship Jupiter in Greece and their friends not directly involved in the disaster found that 111 of 217 children who survived (51.5%) were reported to have survived the accident, compared with other children at school (3.4%, N=87). shows that people develop PTSD symptoms during the 5–8-year follow-up period (Yule et al. 2000). The findings of a study conducted with three 5th grade students six months and one year after the earthquake in the Sichuan region of Southern China in 2008 found that children had anxiety rates of 23.3% and 22.7%, depression rates of 14.5% and 16.1%, and PTSD rates of 11.2% and 13.4% (Liu et al. 2011). In this regard, since devastating earthquakes can cause long-term

psychological morbidity (Kılıç and Ulusoy 2003), it is very important to take into account the long-term cognitive and emotional needs, as well as the physical needs, of children and adolescents affected by any natural disaster.

## Factors Influencing the Impact of Natural Disasters on Children

The responses of children to traumatic events like natural disasters can vary depending on several factors. Newman (1976), one of the pioneers in studying disasters, pointed out that a child's developmental level, their perception of their parents' response to the disaster, and whether they were directly exposed to the disaster are significant factors affecting the impact of disasters on children. Research conducted after an earthquake has shown that children were afraid of the earthquake recurring, staying in enclosed spaces, and being separated from their parents (Çetin Dağlı et al. 2018). Multiple trauma experiences can impact a child's sense of control, thereby increasing their vulnerability and sense of despair. Consequently, a child with numerous trauma histories may develop more severe and acute reactions compared to a child who has never experienced trauma before (Ogawa 2004). Additionally, significant risk factors for the development of PTSD include witnessing death and parents exhibiting extreme reactions (Ekşi et al. 2007). Children, being one of the most vulnerable groups during and after natural disasters, undergo an intimidating process and thus require the assurance of their safety and/or the emotional support of adults through an empathetic approach (Speier 2000). If children see their parents succumbed to stress or panic by going through the same trauma or overwhelmed by guilt for subjecting their children to a traumatic situation, their confidence in their parents' ability to manage situations might diminish, which in turn makes children feel more exposed and vulnerable (Ogawa 2004). A study conducted after the earthquake in Van-Erciş in 2011 found that factors such as proximity to the epicenter, the level of destruction caused by the earthquake, and the loss of loved ones differentiated the impact on children. Five months after the earthquake, it was shown that children close to the epicenter were more affected compared to those farther away, and their memories of the earthquake were still fresh (Irkıçatal 2014). Results from a study on children aged 2 to 15 who were exposed to the collapse of the Buffalo Creek Dam indicate that life-threatening experiences, gender, parental psychopathology, and a tense and/or depressive family environment were associated with PTSD symptoms in children (Green et al. 1991).

After experiencing events like natural disasters, children often find themselves abruptly deprived of fundamental resilience factors, including the support from parents, friends, neighbors, and the social infrastructure typically available to guarantee their safety and offer support (Danese et al., 2020). Therefore, social support is crucial for children to help manage their distress associated with devastating disasters (La Greca et al. 2010). In a study examining PTSD symptoms among school-aged children after Hurricane Andrew, it was found that children who had access to more social support (including from parents, friends, classmates, and teachers) demonstrated fewer symptoms of PTSD (La Greca et al. 1996). Another study found that the act of relocating after an earthquake, which resulted in children finding themselves in a location unknown to them, contributed to the development of feelings such as pessimism and hopelessness among these children (Mutch 2013). A decrease in social support received from friends, relatives, and neighbors, whether due to relocation or for other reasons, negatively impacts the psychological well-being of children.

## Play Therapy Theories

Play, which has found its place in nearly every culture since the beginning of history, is considered a universal language through which children express themselves (Drewes 2006). According to Piaget, play, as a part of a child's holistic intellectual development, can be categorized into three types: practice, symbolic, and social (Koukourikos et al. 2021). Practice begins in the early months of life, symbolic starts around the age of two, and social occurs in groups of children aged 7-11. According to Piaget, due to the ongoing development of abstract thinking abilities, the majority of children lack the capacity to understand complex subjects, motivations, and emotions until around the age of 10. Play becomes more complex incorporating additional rules as their cognitive horizons expand (Koukourikos et al. 2021).

Play therapy is based on the belief that play is a universal language that enables children to express their feelings and thoughts nonverbally (Landreth 2012). Play acts as a mediator through non-verbal expressions, allowing children to form a bridge between abstract and concrete thinking (Landreth 2012). Play therapy is defined by the American Play Therapy Association as "*the systematic use of a theoretical model to establish an interpersonal process wherein trained play therapists use the therapeutic powers of play to help clients prevent or resolve psychosocial difficulties and achieve optimal growth and development*."

The use of play therapy and play-based interventions is not new (Drewens 2006), dating back to the early 1900s with foundational contributions from Sigmund Freud, Hermine Hug-Hellmuth, Anna Freud, and Melanie Klein. The initial studies related to play therapy were conducted by Freud (1909) and Hug-Hellmuth (1921). Freud's (1909) therapy with Little Hans, who was afraid of horses, is regarded as the first therapy conducted with a child. However, in this study, Freud never met with Hans in person. The therapy was conducted through correspondence between Hans' father and Freud. Following Freud, Hug-Hellmuth (1921) utilized play to observe and comprehend children with emotional and behavioral problems. Melanie Klein (1955), one of the most renowned figures among traditional psychoanalysts, has argued that what adults articulate through words, children express through play. According to Landreth (2012), toys represent the child's words, while play itself is their language. Anna Freud argued that a child's play represents experiences that reflect unconscious instincts and emotions. Through play and toys, a child becomes acquainted with their surroundings and objects, socializes, and finds the opportunity to freely express their emotions, thoughts, and ideas. Additionally, play and play therapy assist children in resolving behavioral and emotional issues (Schaefer 2013). Winnicott (1971) argued that play is inherently therapeutic because it opens up a potential space within the therapeutic relationship.

It is possible to categorize play therapy into three groups: non-directive and directive approaches, as well as family play therapies (Kiye and Yalçın 2021). The foundation of the non-directive theory is based on Carl Rogers' (1951) person-centered approach. The theory was further developed by Virginia Axline (2019), a student of Rogers. Over time, its name evolved from non-directive to Child-Centered Play Therapy (CCPT). CCPT is an approach that encompasses a belief in the child's capacity for self-healing, alongside their efforts towards growth and maturation (Lin and Bratton 2015). In this approach, the therapist aims to understand the child's perspective, value them, and accept the child unconditionally; working within the child's cultural family values rather than imposing various beliefs or solutions, to achieve better outcomes and establish collaboration (Porter et al. 2009). The relationship is the most crucial component within this approach, focusing on the child rather than the problem (Landreth 2012). Hence, it can be considered that CCPT adopts a pace set by the child and is sensitive to cultural nuances.

Axline (2019) has identified eight fundamental principles necessary for the therapeutic relationship between child and therapist. These principles:

1. The therapist should develop a warm and friendly relationship with the child to establish a connection as quickly as possible.
2. The therapist accepts the child exactly as they are.
3. The therapist exhibits a permissive attitude in the relationship, allowing the child to feel completely free to express their emotions.
4. The therapist is always attentive to recognize the emotions expressed by the child and reflects these emotions back to the child so that they can gain insights into their behavior.
5. The therapist respects the child's ability to solve their own problems when given the opportunity. The responsibility to make choices and initiate change lies with the child.
6. The therapist does not attempt to direct the child's actions or speech in any way. The child leads, and the therapist follows.
7. The therapist does not try to accelerate the therapy. They recognize that it is a slow process.
8. The therapist sets boundaries to integrate the therapy with the external world, ensuring that the child is aware of their responsibilities within this relationship.

Under these conditions, a secure environment is provided where the child feels in control. Considering that children who have experienced natural disasters often feel a lack of control over their surroundings (Jordan et al. 2013), CCPT can be considered a beneficial and effective approach when working with these children (Ogawa 2004).

Another form of non-directive play therapy is Experiential Play Therapy (EPT), developed by Byron E. Norton and Carol Crowel Norton (2002); it is based on the assumption that children perceive the world experientially rather than cognitively. The child is considered as the best authority on their own pain, problem, and coping strategies. When given the freedom and acceptance to guide their own play, the child communicates their true self to the therapist. Through experiencing these moments alongside the child, the therapist gains insight into the child's emotional landscape. EPT acknowledges the child's ability to actively engage in their healing journey and strive towards well-being.

One of the directive approaches, psychoanalytic/psychodynamic play therapy aims to facilitate the expression of a child's inner conflicts related to situations where they cannot remain silent. The games children play and the behaviors they exhibit during play provide an opportunity to understand their fantasies, inner conflicts, emotions, experiences, and defense mechanisms (Schaefer 2013). In Adlerian play therapy, the child is regarded not as an isolated individual, but as a part of society with evaluation within the context of their relationships with others (Kottman 2013). Within the framework of cognitive therapies established by Aaron Beck (1964, 1976), cognitive-behavioral play therapy has developed as another directive approach. In these approaches, the therapist determines the course of the process and sessions, as well as the games the child will play, intervening during the process (Kiye and Yalçın 2021). In this regard, throughout the sessions, psychoeducation is provided towards identifying and resolving the problem, selecting the most appropriate strategies for it, and practices aimed at identifying maladaptive thoughts and developing problem-solving skills are implemented (Razak et al. 2018). Furthermore, the therapist serves as a role model for the child in acquiring these skills, teaching relaxation techniques and exercises, and employing cognitive therapy techniques such as cognitive restructuring and systematic desensitization during the process (Razak et al. 2018). Gestalt Play Therapy (GPT), another directive approach, was formulated by Oaklander in 1982 and builds on the foundations of Gestalt therapy. In Gestalt Play Therapy (GPT), although the therapist takes an active role, sessions sometimes resemble a dance directed by either the child or the therapist. According to this approach, each child is unique, and there is no pressure or coercion in the therapist-child relationship. There is an atmosphere of respect, courtesy, and trust. Activities are planned to repair the child's suppressed, restricted, and lost aspects. The therapist frequently meets with parents (ideally once a month) and assigns homework.

The third category includes family play therapies. For this category, Theraplay and Filial Therapy (FT) can be cited as examples. In the Theraplay approach, the aim is to help the children see themselves as lovable and view their relationships positively, by creating a dynamic bond that enhances the relationship between the child and the most significant figure in their life, the parent or caregiver, thereby modifying their behaviors (Theraplay Play and Family Therapy Association 2023). Therefore, the parent or caregiver actively participates throughout the process. This approach aims to enhance the parent-child relationship through four qualities: structure, engagement, nurture, and challenge. In the component of structure, the child observes their parents engaging in activities and organizing the environment for them. Through the engagement component, the child feels recognized by the interacting parent and with the nurture component, they feel valued and reassured that their needs will be met. In the component of challenge, the child is encouraged through activities designed to bolster a sense of achievement (Lenton 2020). The approach developed by Jernberg (1979) encompasses interaction-based physical play.

The term "filial" originates from Latin, meaning 'daughter' or 'son'. However, for a more inclusive interpretation, it has been translated as 'parent-child'. According to Filial Therapy (FT), developed by Dr. Bernard and Louise Guerney in the late 1950s and early 1960s, involving parents - who play a significant role in the child's life - directly in therapy, and supporting the family enhances the effectiveness of the therapy (Guerney 2000). It is based on the notion that parents are experts in caring for their own children. Even though the relationships between them might not meet ideal standards, they are still genuine. Parents are provided with training and supervision to conduct private and non-directive play sessions with their children. After parents gain proficiency in managing private play sessions, they begin to carry out this practice at the home environment. The therapist monitors progress. The process is concluded once skills practiced during play sessions are incorporated into daily living. It is a relatively short-term intervention, lasting 10 to 20 sessions. In Filial Therapy (FT), the aim is to strengthen the parent-child relationship, but it also contributes to the collaboration among spouses and the psychosocial functionality of the entire family (VanFlett 2013). Consequently, parents are made capable of handling not just the current issue but also possible future difficulties (Guerney et al. 1971).

## The Playroom and Materials

Despite the diversity of methods and strategies in play therapy, there is not a standardized setup for a play therapy environment. Play therapy can be conducted in any suitable empty room or classroom and the therapist has the option to carry the toys in a bag to facilitate application in any appropriate space (Özdoğan 2020). However, if a particular room is being set up specifically for therapeutic use, tailoring its design to meet certain criteria would be advantageous. For instance, the key features that a play therapy room must have include: enough space to not restrict movement, a table for certain games, a carpeted section for specific activities, enough light, an appropriate temperature, and the absence of any items that could pose a risk to the child (Halmatov 2021). Also, the floors and walls should be made of easily cleanable material, and the room ought to

include a sink that provides both hot and cold water (Özdoğan 2020). Additionally, the cabinets in the room ought to be wall-mounted and placed at a height that is easily reachable by children (with the top shelf no higher than 90 cm above the ground). The reason for this is that the safety of the child in the playroom is one of the indispensable points of play therapy, and during the aggression phase of the game, the child is likely to exhibit aggressive behavior within limits. In an environment that ensures their safety, a child is likely to move more freely (Landerth 2012).

The toys available in the room should enable children to share their life experiences. Owing to these toys, play becomes a language through which children can express their experiences and daunting situations (Landreth 2012). Cars, trucks, dolls, animals, and various materials embody significant symbols in conveying the emotions and thoughts associated with traumatic experiences encountered (Jordan et al. 2013). Therefore, a play therapy room that is adequately equipped provides an environment for children with traumatic experiences, particularly those affected by natural disasters, to replay and process their traumatic experiences, aiding them in dealing with the resultant negative feelings (Jordan et al. 2013). In this regard, Landreth (2012) categorizes toys into three different categories: (1) real-life toys such as puppets, dollhouses, doll families, cars, and trucks; (2) aggressive-priming toys that can elicit anger, disappointment, hostile emotions, and aggression, such as the Bobo Doll, toy soldiers, and guns; (3) materials that foster the children's creativity and assist them in expressing emotions, such as sand, water, and paint. In addition to stuffed animals, puppets, dolls, and toys that stimulate creativity, play therapy rooms also contain toys such as medical kits and emergency supplies, allowing children with traumatic experiences to express their feelings and establish a sense of security (Jordan et al. 2013). Consequently, even without standardized criteria, the presence of a well-designed therapy room featuring a wide range of toys can serve as a crucial factor in the therapy process.

## The Impact of Play Therapy on Children

Play therapy is crucial for the psychological well-being of children. In a study conducted by Teber (2015) with 30 children aged 6-10, it was found that Child-Centered Play Therapy (CCPT) not only reduced symptoms of anxiety/depression but also proved effective in addressing issues related to anxiety disorders and mood disorders. Similarly, another study, which was conducted with 20 children aged 7-9 diagnosed with anxiety disorders and utilized a non-directive approach to play therapy, observed a decrease in anxiety levels among the participants (Hateli 2022). In another experimental study that implemented the Child-Centered Play Therapy (CCPT) approach with eight children aged 5-10, a decrease in the anger levels of the children was found (Şensoy and Melek 2023). Buharalı (2018) carried out eight individual sessions of Child-Centered Play Therapy (CCPT) with ten children aged 3-6. The findings indicate an enhancement in social competence among the children in the experimental group, alongside a decrease in the level of anger/aggression, anxiety/introversion, and variability/negativity. In another study conducted with children aged 8-12 diagnosed with PTSD, utilizing a cognitive-behavioral therapy approach, the play therapy was found to be effective in reducing the levels of PTSD in the children (Sarimin and Tololiu 2017). Another study examining the effectiveness of play therapy was conducted with seven children aged 3-10 and their mothers, who had developmental issues such as anxiety disorders, oppositional defiant disorder, sibling jealousy, attention deficit, and hyperactivity disorder. The study, which implemented the Family Therapy approach, observed a decrease in developmental issues among children and found an increase in the level of empathy and acceptance in mothers towards their children after training (Öztekin and Gülbahçe 2019).

The studies indicate that play therapy serves as a significant intervention for addressing issues such as anger management disorders, behavioral problems, speech disorders, depression, stress, and loneliness in children, regardless of the therapeutic approach applied. Play therapy serves not only as a therapeutic approach but also a preventive one (Cohen and Gadassi 2018, Öztekin and Gençdoğan 2023). Consequently, the application of play therapy to children who have been exposed to natural disasters will help minimize potential emotional, behavioral, and physiological problems they may experience, thereby preventing the emergence or progression of these issues.

## Play Therapy after Natural Disasters

When a suitable play environment is provided for children who show various psychological symptoms after a traumatic event, play takes on a therapeutic form (Jordan et al. 2013). Traumatic experiences such as natural disasters can slow down the brain functions, particularly affecting Broca and Wernicke areas, which are responsible for producing and understanding speech (Van der Kolk 2007). While Broca's area located in the cerebral cortex is involved in converting sounds into spoken language, Wernicke's area helps to understand what

is heard by converting it into sounds through coding, and with the connection between these two parts, the individual can achieve uninterrupted mutual communication (Ergenç 2008). The game, which includes pretending, performing various actions, and fantasizing (Rusmana et al. 2020) allows children to express the emotions caused by the natural disaster or disaster they witnessed by acting, instead of speaking directly (Jordan et al. 2013). Thus, thanks to play, children have the opportunity to structure their traumatic experiences in a holistic way, cognitively, emotionally and physically (Ryan and Wilson 2000).

Additionally, Baggerly and Exum (2007) state that since children between the ages of 2 and 10 are in the preliminary and concrete operational phase of cognitive development, play is the most appropriate way for children to convey their traumatic experiences from a developmental perspective. According to Van der Kolk, et al. (1996), traumatic memories are stored as visual images, auditory images, and somatic sensations. Play therapy offers a safe space for these memories to be revealed and processed (Dugan et al. 2010). Non-verbal symbols in the game allow children to express their experiences (Baggerly 2015). Mulherin (2001) stated that play removes the obstacle to children's emotions and strengthens the child by giving them the opportunity to portray stress and trauma. Play in a safe and therapeutic environment enables the child to gain a sense of relief, catharsis, and mastery regarding the traumatic event (Dugan et al. 2010). Play therapy has a therapeutic effect, especially for children who are victims of natural disasters, as it responds to the child's developmental and individual needs while also providing a safe environment for the child to express their own feelings and thoughts (Jordan et al. 2013). Therefore, play can be used as an intervention method after traumatic experiences such as natural disasters.

When the literature is examined, it is seen that there are studies showing that play therapy is effective in children who are victims of natural disasters and have PTSD symptoms (Shelby 1997, Schaefer 1999, Ogawa 2004, Gil 2006, Rusmana et al. 2020). It was observed that CCPT, which was carried out with a group of children who experienced the 1999 China-Taiwan earthquake, gave effective results, and there was a decrease in children's suicidal tendencies and anxiety levels (Shen 2002). Similarly, after Hurricane Katrina, which occurred in Louisiana and Mississippi in 2005, it was found that the feelings of confidence and control in children studied according to the CCPT approach were strengthened and their anxiety decreased (Dugan et al. 2010). In addition, play therapy sessions conducted at an elementary school in the northwest of the United States with 38 children from 15 countries in Europe, Africa, and the Middle East, who were exposed to human-made traumatic experiences (war, abuse, etc.) were found to be effective and relieved children's anxiety. It has been found to reduce the risks of depression, aggression, and suicide (Schottelkorb et al. 2012).

Park (2018) examined the themes and visuals in the sand play of 14 children aged 3-6 who were exposed to the earthquake in Gyeongju. Four individual sessions were carried out with the children, once a week. Each session lasted 40 minutes. The themes in the sand paintings made by children in the sessions are divided into categories. Seven themes were identified: aggression, confusion, protection, emptiness, mourning, valuable objects, and energy of transformation. It has been found that individual sand therapy has a positive effect on children's recovery. It has been observed that as protection needs decrease, there is a tendency to decrease in the use of soldiers, weapons, and religious figures, while buildings, construction and treasury increase. Thus, the child, who symbolically enacts his frightening or traumatic experience through play, gains the ability to better cope with and adapt to problems by progressing towards an internal solution over time (Landreth and Bratton 1999).

A 12-session cognitive-behavioral group play therapy was conducted with 19 children aged 3-6 who were directly exposed to the earthquake in Bam, Iran, in 2003 and lost at least one family member. However, there were 13 children who completed at least two-thirds of the group process and analyzes were conducted with these children. Findings indicate that PTSD symptoms of children involved in the group process decrease (Mahmoudi Gharaei et al. 2006). Based on this study, natural disasters can also have a negative impact on children by causing the death of their parents, siblings, or relatives. In this case, family-oriented play therapy approaches (FT or Theraplay) conducted with the surviving parent, family member or caregiver appear as another support method to be given to the child. In this sense, there are studies that shed light on the field. In a study involving 18 children and families diagnosed with emotional and/or behavioral disorders with the Theraplay approach, it was revealed that the quality of the child-parent relationship was improved and there was a decrease in children's internalized and externalized symptoms (Salo et al. 2020). Following the 2015 Nepal earthquake, in which more than 9,000 people died, more than 10,000 people were injured, and half of the disaster victims were under the age of 18, an FT-focused study was conducted with 31 children between the ages of 6-12 and their parents. According to this study, a decrease in the somatic symptoms exhibited by children after the traumatic event and an increase in the parent-child relationship and the parent's level of empathy towards the child were observed (Kim 2018). In a study conducted with single-parent children using the FT approach, it was concluded that there

was a decrease in parents' stress levels, an increase in their empathy levels towards their children, and parents reported fewer behavioral problems about their children (Bratton and Landreth 1995). In another experimental study conducted with 12 single parents through the child-parent relationship therapy approach, it was reported that while the acceptance and empathy levels of parents increased, children's problematic behaviors decreased (Öztekin 2023).

As a result, it appears that there are different play therapy methods that can be performed after disasters, and the effectiveness of these methods on children is supported by studies. Additionally, the literature shows that play therapy approaches can be applied both individually and in groups (Mahmoudi Gharaei et al. 2006, Schottelkorb et al. 2012, Öztekin 2023, Öztekin and Gençdoğan 2023). Considering the number of people affected by disasters such as earthquakes and their impact area, it is possible to say that group play therapy is an advantageous approach in terms of reaching more people in a short time, time, cost, and easy adaptability to different cultures.

## Recommendations for Further Applications

After traumatic events such as natural disasters, children may encounter emotional challenges. Therefore, supporting children's psychological well-being and emotional recovery following a disaster is crucial. Following the flood disaster in the West Martapura region of South Kalimantan, 35 children aged 4-6 years old exhibiting mild to moderate symptoms of post-traumatic stress disorder were provided with play therapy for three weeks. In the first week, children were asked to draw pictures of the traumatic event they experienced. Subsequently, the children shared their drawings. In the second week, children were provided with puzzle games of varying levels of complexity. This game serves as cognitive therapy, enhancing cognitive skills and assisting children to alter irrational beliefs that impact their emotions and daily routines. In the third week, children were given clay and asked to create free-form shapes based on their imagination and describe these shapes. The findings have demonstrated the effectiveness of trauma healing methods (Pertiwiwati et al. 2021).

To assist professionals working with children affected by the Niigata, Japan earthquake, they were given a training session featuring examples of following activities (Ohnogi 2009). These activities include:

1. Utilizing puppet shows as a means to address the fears of children and rectify misattributions.
2. Writing and orally presenting a story relating to an earthquake, examining typical responses, and providing valuable coping mechanisms, while performing the story.
3. Practicing yoga and breathing exercises to diminish anxiety level.
4. Designing bracelets or necklaces to represent the children’s support systems and self-strengths, as well as serving as a lucky charm.
5. Collaboratively constructing a new village to foster hope, a sense of community and a sense of control over their surroundings.
6. Making magazine collages to evaluate current coping techniques and enhance healthy alternatives.
7. Adapting lyrics from well-known songs to create new compositions focused on themes of hope and safety.
8. Blowing bubbles to symbolize the dispersion of negative feelings and thoughts.
9. Blowing up balloons of different sizes as a symbolic representation of diverse degrees of emotions and being able to control the release of emotion to attain relief.
10. Adapting a transitional object like a worry stone to touch and rub when feeling anxious or scared.
11. Establishing a color-based framework to assign unique colors to different emotions, aiding in the identification and differentiation of diverse emotional responses to trauma.
12. Recognizing commonalities and differences in emotions and viewpoints among group members on various topics, to create a community spirit as well as a sense of individuality.
13. Participating in a Tinman versus Ragdoll activity to physically feel the difference between tension and relaxation, while learning techniques to control muscle tension.
14. Joining in group activities to alleviate feelings of isolation and highlight the importance of seeking social assistance.

Hall et al. (2002) discussed 15 effective and creative play therapy techniques addressing anxiety, depression, impulsivity, attention deficit, and adjustment issues in their article. Some of these activities include:

1. Color-Your-Life (O'Connor 1983): In this game where colors are associated with emotions, the therapist encourages the child to complete the drawing in a manner that reflects their feelings, and to talk about them, thereby enabling the child to express their emotions and gain awareness. This activity can be carried out with all children aged 6-12 who recognize colors.
2. Using a Puppet to Create a Symbolic Client: Children who particularly struggle with expressing themselves or are shy can reflect their feelings and thoughts onto puppets, allowing them to engage with the therapist while maintaining a safe emotional distance. Using the puppet as a symbolic client allows the focus to be redirected away from the child, providing comfort to the child and serving as a tool for emotional experiences.
3. Party Hats on Monsters (Kaduson and Schaefer 2001): Initially, the therapist asks the child to draw something that makes them happy and safe, followed by something that scares them. Afterwards, the therapist instructs the child to modify the scary image to make it less intimidating (e.g., adding a party hat to a monster). In aiming to reduce fears and strengthen their sense of control, the therapist emphasizes: “Children remark that by modifying the picture on paper to be less frightening, they also modify the mental image, thereby resulting in a decreased sense of fear.”.
4. Broadcast News (Kaduson and Schaefer 2001): In this application, the therapist functions as the host, while the child assumes the role of the expert guest, with the therapist presenting news to convey different emotions. Following that, the questions covered in the program about the news are directed to the expert (child). The child is thus able to take an active role in seeking solutions by addressing their own problems, as well as gaining experience in expressing their emotions.

The book "101 Popular Play Therapy Techniques," prepared by Kaduson and Schaefer (2001) constitutes a valuable resource for professionals working with children who have experienced natural disasters.

## Conclusion

Since the 1900s, many natural disasters have been recorded every year due to the impact of climate change. Natural disasters affect people living in the region psychologically, socially, emotionally, and economically. Among individuals affected by natural disasters, children are a risky group because they have not yet achieved their independence and have not developed adequate coping skills. Due to their traumatic and unexpected nature, natural disasters can have shocking effects on children's mental health due to factors such as security concerns and changing conditions. When the literature was examined, it was seen that children experienced negative emotions such as difficulties in regulating emotions, worry, anxiety and insecurity after natural disasters. In addition, children may experience physical health problems such as headaches and abdominal pain, decreased appetite, and sleep disorders. Because of their dependence on their caregivers, younger children are more vulnerable to the consequences of natural disasters. Research conducted with children and adolescents after natural disasters has shown that children may experience various mental problems such as stress, depression, anxiety, and PTSD.

During this process, psychological support can be provided to children through games that allow them to express their emotions better and describe the traumatic event without speaking. In this sense, play therapy is an effective approach with its various methods and applications. It is seen that there are different approaches in play therapy, including non-directive (CCPT, EPT), directive (psychodynamic, Adlerian, cognitive behavioral, GPT) and family play therapies (Theraplay and FT). The literature shows that child-centered approaches, in particular, have been applied more frequently and found to be effective after traumatic events such as natural disasters. Similarly, cognitive, or family-based approaches also appear as appropriate interventions to address the impact of traumatic experiences. The room where play therapy takes place, which is implemented with approaches based on different theoretical foundations, is common to almost every approach in terms of its features. Although there is no standard for play therapy, it is stated that having a room designed appropriately for therapy will be beneficial during the therapy process. In this sense, it is generally mentioned that the physical properties of the room such as temperature, light, width, and cleanliness are suitable in terms of usability and safety, as well as the size of the items that will be required to be used during therapy, such as sinks, tables and chairs, and whether they are fixed or not. In addition, it is emphasized that it is important to include some basic toys such as tools, people and animals that will make it easier for the child to reveal his experiences and emotions.

However, considering that this support is offered after extraordinary situations such as natural disasters, it should be noted that play therapy can be applied in any empty space or with toys in a bag. In addition to the design of the game room, the study also discusses the differences in certain approaches in applications. However, it is thought that recommending various activities for experts in this process will be important to give ideas to practitioners. For this reason, some activities have been compiled for experts.

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