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COMPARISON OF SOCIAL-EMOTIONAL COMPETENCE AND PLAY BEHAVIORS OF PRESCHOOL CHILDREN WHO HAVE AND HAVE NOT EXPERIENCED AN EARTHQUAKE

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Abstract

It was aimed to compare the social-emotional competence and play behaviors of preschool children who did and did not experience the 6 February 2023 Kahramanmaraş Earthquakes in this study. There are two study groups in the research. The first study group consists of 114 children aged 5-6 years who witnessed the 6 February Kahramanmaraş earthquake, who reside in Adıyaman province, who attend preschool education, and who lack any special education diagnosis. The second study group consists of 87 children aged 5-6 years who have never witnessed an earthquake, who reside in Sinop province, attend preschool education, and who lack any special education diagnosis. According to the research findings, empathy, emotion recognition/emotion expression, self-regulation, social competence, and social play score averages of five- and six-year-old children who have and don't have an earthquake experience show a significant difference in favor of children who don't have an earthquake experience. On the other hand, concerning the earthquake experience of children, while there is a difference between groups in one of the five play types (social play), there is no difference in the remaining four play types (solitary passive play, reticent play, solitary active play, and rough play).

Key words: Earthquake, preschool period, social-emotional competence, play behaviors

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DEPREM YAŞAYAN VE YAŞAMAYAN OKUL ÖNCESİ ÇOCUKLARIN SOSYAL-DUYGUSAL YETERLİLİKLERİNİN VE OYUN DAVRANIŞLARININ KARŞILAŞTIRILMASI

Özet

Bu çalışmada, 6 Şubat 2023 Kahramanmaraş Depremi'ni yaşayan ve yaşamayan okul öncesi çocuklarının sosyal-duygusal yeterlilik ve oyun davranışlarının karşılaştırılması amaçlanmıştır. Araştırmada iki çalışma grubu bulunmaktadır. Birinci çalışma grubunu, 6 Şubat Kahramanmaraş depremine tanıklık eden, Adıyaman ilinde ikamet eden, okul öncesi eğitime devam eden ve herhangi bir özel eğitim tanısı almayan 5-6 yaş grubu 114 çocuk oluşturmaktadır. İkinci çalışma grubunu ise hiç depreme tanıklık etmemiş, Sinop ilinde ikamet eden, okul öncesi eğitime devam eden ve herhangi bir özel eğitim tanısı almayan 5-6 yaş grubu 87 çocuk oluşturmaktadır. Araştırma bulgularına göre, deprem deneyimi olan ve olmayan beş ve altı yaş çocuklarının empati, duygu tanıma/duygu ifade etme, öz düzenleme, sosyal yeterlilik ve sosyal oyun puan ortalamaları, deprem deneyimi olmayan çocuklar lehine anlamlı bir farklılık göstermektedir. Öte yandan çocukların deprem deneyimleri ile ilgili olarak, beş oyun türünden birinde (sosyal oyun) gruplar arasında fark varken, kalan dört oyun türünde (yalnız pasif oyun, sessiz oyun, yalnız aktif oyun ve itiş kakış oyun) gruplar arasında fark bulunmamaktadır.

Anahtar Kelimeler: Deprem, okul öncesi dönem, sosyal duygusal yeterlilik, oyun davranışları

INTRODUCTION

The social-emotional competence, psychological resilience, and play behaviors of preschool children who witnessed the 6 February 2023 Kahramanmaraş earthquake and those who did not experience an earthquake were compared. The first earthquake during the 6 February 2023 Kahramanmaraş earthquakes occurred at 04:17. The magnitude of the earthquake, the epicentre of which was determined as Pazarcık district, was announced as 7.7 kilometers and the focal depth was 8.6 kilometers. The largest earthquake that occurred in Turkey after the 17 August 1999 earthquake caused destruction not only in Kahramanmaraş but also in at least 10 provinces along the fault line, including Syria. Among these provinces Diyarbakır, Kilis, Osmaniye, Hatay, Gaziantep, Şanlıurfa, Adıyaman, Malatya and Adana faced severe damage. While the earthquake victims were in fear and panic, a 7.5 magnitude earthquake occurred in the region 9 hours after the first earthquake. Dozens of buildings damaged in the first earthquake collapsed together with the second earthquake (TR Euro News, 2023). It was stated in the official statement that 53 thousand 537 people died and 107 thousand 213 people were injured as a result of the earthquakes (Abatay, 2024). The 6 February Kahramanmaraş earthquakes were recorded as the world's biggest disaster in 2023. The 7.7 magnitude earthquake that occurred in Kahramanmaraş Pazarcık at night on 6 February was recorded as the second largest earthquake of the last century, and the 7.6 magnitude earthquake that occurred in Kahramanmaraş Elbistan at noon on the same day was recorded as the third largest earthquake of the last century (Dünya Gazetesi, 2023). The number of citizens of the Republic of Turkey registered in the provinces affected by the 6 February, 2023 Kahramanmaraş earthquakes is 14,013,196. In proportional terms, this number corresponds to 16.43% of Turkey's population concerning that period. With respect to this amount, it is stated that one out of every six Turkish citizens is directly affected by the earthquake (Sağıroğlu, Ünsal & Özenci, 2023). It is evident that the Kahramanmaraş earthquakes are a major natural disaster that will have long-term effects. Natural disasters such as earthquakes have various direct and indirect effects on people. The effects of the earthquake on young children were discussed comparatively in the context of this research. Earthquakes can cause various direct and indirect effects on children (Shrestha & Gopal, 2021). Various negative effects on the mental health of children and adolescents can be listed among the direct effects of the earthquake (Yılancıoğlu & Özbaran, 2023). Similarly, Şalcıoğlu and Başoğlu (2008) underlined in their study that earthquakes can cause high levels of post-traumatic stress disorder (PTSD), depression and earthquake-related fears in children and adolescents. Separation anxiety may become common among children and adolescents after an

earthquake. Depression may occur as a result of post-traumatic stress reactions and deterioration in living conditions, which are common after major earthquakes. Ongoing behavioral changes and physical health problems may occur, which may affect student functionality and school performance. Children and adolescents may no longer feel confident about the safety of the world and adults' capability to protect them (NCTSN, n.d.). It is crucial to discuss the effects of the trauma on children and adolescents. Many individuals experiencing post-traumatic stress disorder (PTSD) symptoms following the earthquake may have been previously exposed to traumatic events. Such events may include displacement, domestic violence, or other types of personal trauma. Acknowledging the possibility of pre-existing traumatic experiences may provide a more comprehensive understanding of children's vulnerability and resilience following an earthquake (Khan, Khan & Alabdulla, 2023). The indirect effects of an earthquake on children can be via their parents and teachers. When an earthquake affects parents and other adults (e.g., teachers), children's care, protection, and support systems may be damaged, which are examples of indirect effects on children (Kousky, 2016). Earthquake is an important factor that can negatively affect the social and emotional development of children aged 0-6. This traumatic experience can lead to problems among children, such as social isolation, fear of separation, a decline in social skills, an increase in aggressive behavior, Post-Traumatic Stress Disorder, intense fear and anxiety, and difficulty in emotional regulation. Therefore, it should not be forgotten that immediate and long-term psychosocial interventions are vital to support the emotional and social development of children affected by the earthquake (Doostgharin, 2009; Norris, & Wind, 2009).

Social-emotional competence and play behaviors, along with earthquake experience, have been discussed in this research. Social and emotional competence is a concept that includes the necessity of advancing successfully in society and being successful in the coming years. Social competence involves the combination of skills that support effective social interaction between a person and others (Lillvist, Sandberg, Bjorck-Akesson & Granlund, 2009). Social-emotional skills are substantial resources children utilize in their everyday interactions and activities, particularly in the socially rich environments of preschool educational institutions. Social-emotional skills allow children to interact and engage with others and build social-emotional competence (McLaughlin, Aspden & Clarke, 2017). Social-emotional skills (and therefore social-emotional competence) begin to develop in the first years of life and are associated with cognitive, social, and health outcomes in later years (Zins, Bloodworth, Weissberg & Walberg, 2007). It is widely recognized that

self-awareness, social awareness, relationship skills, responsible decision-making, and self-management are the fundamental personal and interpersonal skills that come together under the umbrella of social-emotional competence (Martinsone et al., 2022). High levels of social-emotional competence are associated with reduced behavioral and emotional problems. Children with social-emotional competence are described by teachers as having better behavior management skills and better self-regulation, as well as being more engaged in activities. Similarly, low social-emotional competence is considered to be associated with the presence of problematic behavior and emotional difficulties, as well as relationship problems (Sklad, Diekstra, De Ritter, Ben & Gravesteijn, 2012). Therefore, it can be said that diversifying studies on social-emotional competence during a preschool period can provide important information to examine children's emotional and social development in detail.

One other variable in this research is play behaviours. Play can generally be defined as an activity that starts and continues on the child/children's own initiative, where the process is more important than the result, flexibility (objects are put in new combinations or roles are played in new ways) and positive mood (children often smile, laugh and say they enjoy it) (Smith & Pellegrini, 2023). Play is a concept that has defining characteristics of child behaviour. Classifications related to play vary. Specific subtypes of play exist from infancy to childhood, including sensory-motor or exploratory play, functional play, constructive play, pretend play and rough play. Play can also be categorized according to the social aspects of interaction. Thus, with this respect, it varies between solitary play and cooperative play with friends (Fehr, Boog & Leraas, 2020). In addition to improving children's critical thinking skills, play also supports the development of social and emotional skills. While children play, their imagination and creativity develop, their social development and general skill acquisition are supported. Play is an important concept in that it supports all developmental areas of children simultaneously. Children both have fun and learn through games. With this respect, as a learning tool, play has a crucial role in children’s lives (Frost, 2010; Hartwell-Walker, 2016). It is evident that during the preschool period, the concepts of social-emotional competence and play can affect development in multiple dimensions through their short and long-term effects. In this study, it was aimed to compare the social-emotional competence and play behaviors of preschool children who have and have not experienced the 6 February 2023 Kahramanmaraş Earthquakes. The sub-purposes of the research are:

1. Is there a significant difference between the emotional knowledge levels of preschool children who have and those who have not witnessed the earthquake?
2. Is there a significant difference between the empathy levels of preschool children who have and those who have not witnessed the earthquake?
3. Is there a significant difference between the self-regulation levels of preschool children who have and those who have not witnessed the earthquake?
4. Is there a significant difference between the social competence levels of preschool children who have and those who have not witnessed the earthquake?
5. Is there a significant difference between the social play levels of preschool children who have and those who have not witnessed the earthquake?
6. Is there a significant difference between the rough play levels of preschool children who have and those who have not witnessed the earthquake?
7. Is there a significant difference between the solitary active play levels of preschool children who have and those who have not witnessed the earthquake?
8. Is there a significant difference between the solitary passive play levels of preschool children who have and those who have not witnessed the earthquake?
9. Is there a significant difference between the reticent play levels of preschool children who have and those who have not witnessed the earthquake?

METHOD

The relational screening method was used in this study, which aims to compare social-emotional competence and play behaviors of preschool children who have and have not experienced an earthquake.

Participants

There are two study groups in the research. The first study group consists of 114 children aged 5-6 years, who have witnessed the 6 February Kahramanmaraş earthquake, who reside in Adıyaman province, attend preschool education and who lack any special education diagnosis. 58 (50.9%) of the children are female and 56 (49.1%) are male. 69 (60.5%) of the children who witnessed the Kahramanmaraş earthquake attend a kindergarten affiliated with a primary/secondary school, and 45 (39.5%) attend an independent

kindergarten. Children who experienced the Kahramanmaraş earthquake did not encounter any loss of organs or loss of family members such as parents or siblings. All of the children's homes suffered various damages, but there was no child whose home was destroyed. However, as a result of the damages, all of the children live in the same district but continue their lives in a different house. Also, 87 of these children were children who did not attend preschool during the earthquake but started preschool for the first time during the 2023-2024 academic year; 27 of these children were children who started preschool for the first time during the earthquake and who also continued preschool during the 2023-2024 academic year.

The second study group consists of 87 children aged 5-6 years, who have never witnessed an earthquake who resides in Sinop province, attend preschool education and who lack any special education diagnosis. 41 (47.1%) of the children are female and 46 (52.9%) are male. 29 (33.3%) of the children who haven't witnessed an earthquake attend a kindergarten affiliated with a primary/secondary school, and 58 (66.7%) attend an independent kindergarten. All of the children in the second study group live with their parents.

In the sample selection, study groups from Adıyaman and Sinop provinces were determined based on the convenience sampling method. Secondly, according to measurement control methods, children who met the criteria of having experienced the Kahramanmaraş earthquake and having no earthquake experience were selected.

Data Collection Methods

The three measurement tools, Personal Information Form, Preschool Social Emotional Skills and Psychological Resilience Scale, and Preschool Play Behaviour Scale, were used in the research.

Personal Information Form: The form developed for the research includes various questions concerning demographic information such as the children's gender, age, and the type of school they attend.

Preschool Social Emotional Skills and Psychological Resilience Scale: It was developed by Ravitch (2013) to evaluate the positive social-emotional characteristics of preschool period children. The Turkish adaptation study of the scale was conducted by Gülay Ogelman, Saraç, Önder, Abanoz, and Akay (2021). There are twenty-two items on the scale. For every item, teachers evaluate the child in question on a 4-point Likert scale. The scale has 4 sub-dimensions: Empathy, Emotion Recognition/Emotion Expression, Self-

Regulation, and Social Competence. The internal consistency coefficients of the scale adapted into Turkish were calculated as .90, .91, .84, and .85, respectively (Gülay Ogelman et al., 2021). According to the study, the internal consistency coefficient of the total scale was calculated as .93, .93 for the Emotion Recognition/Emotion Expression sub-scale, .94 for the Empathy sub-scale, .87 for the Self-Regulation sub-scale and .93 for the social competence sub-scale.

Preschool Play Behaviours Scale: The scale was developed by Coplan and Rubin (1998) so as to evaluate individual behaviors displayed by preschool children during games with respect to teacher opinions. The validity and reliability of the scale for the Turkish sample were conducted by Gülay Ogelman (2012). The scale consists of 18 items. It has 5 sub-scales. The reticent-behavior subscale (4 items) consists of items based on aimlessly watching the surroundings. The solitary-active behavior scale (2 items) includes items about games where the child runs alone, plays a role, plays a musical instrument, etc. The solitary-passive behavior sub-scale (4 items) includes games where the child plays alone and which are based on exploring and building things. The social play scale (6 items) consists of items about group games and social-dramatic games. The rough scale (2 items) includes items about games based on scuffling, pretending to fight etc. For each item, the child is given a frequency assessment on a 5-point Likert scale (never, rarely, sometimes, often, always). The child gets a score for each sub-scale. There is no total score. The Cronbach's Alpha coefficients regarding the scales were; .88 for Social play, .90 for Solitary-passive play, .86 for Rough play, .86 for Reticent play and .72 for Solitary-active play (Gülay Ogelman, 2012). The internal consistency coefficients regarding the scales were; .86 for Social play, .79 for Solitary-passive play, .83 for Rough play, .61 for Reticent play and .82 for Solitary-active play.

Data Collection Process

Necessary permissions were obtained for the research. Ethics approval of the study was obtained from the Science Research and Publication Ethic Committee of Near East University, dated 04.07.2023 and numbered YDÜ/EB/2023/1013. The data collection process took place during the fall term of the 2023-2024 academic year. After about 5 months of observation, the preschool teachers completed the measurement tools regarding the children. For children who experienced the Kahramanmaraş earthquake, 13 teachers, 10 females and 3 males, in 13 preschool education classes, filled out the forms for each child. For children who didn't experience the Kahramanmaraş earthquake, 11 teachers, 10 female, and 1 male, in 11 preschool education classes, filled out the forms for each child.

Data Analysis

Research findings were analyzed through the SPSS 21.0 statistical program. Normal distributions of the data were examined in terms of kurtosis and skewness levels. George and Malley (2019, pp.114-115) state that while kurtosis and skewness values falling between ±1.0 are accepted as "excellent" for most psychometric applications, in many instances, values falling between ±2.0 are also considered "acceptable" for normal distribution. In this study, George and Malley (2019) were taken as a basis when examining kurtosis and skewness values. The data meet the normal distribution criteria since values acquired in all sub-scales of the two scales varied in the reference range. The kurtosis and skewness values regarding the sub-scales are as follows: it was examined that, with respect to the Preschool Social Emotional Skills and Psychological Resilience Scale, the values are (-.805, -.536) for the Emotion Recognition/Emotion Expression sub-scale, (-1.114, -.217) for the Empathy sub-scale, (-.713, -.290) for the Self-Regulation sub-scale, (-.950, -.357) for the Social Competence sub-scale; with respect to the Preschool Play Behaviours Scale, (-.246, -.470) for the Social play sub-scale, (-.657, .044) for the Solitary-Passive play sub-scale, (-.409, .915) for the Rough play sub-scale, (1.156, 1.001) for the Reticent behavior sub-scale and (-.657, -.229) for the Solitary-active sub-scale. Because of the normal distribution of the data, parametric techniques were executed in the data analysis. Tabachnick and Fidell (2007) state that analysis of variance (ANOVA) is used to compare two or more means to determine if there are statistically significant differences among them. The One-Way ANOVA technique was used to compare social-emotional competence and play behaviors of children who have and have not experienced an earthquake.

RESULTS

Table 1. Descriptive statistics concerning the study groups

Variables	N	Min.	Max.	Mean	Std. Dev.
Emotion recognition/emotion expression					
Children who witnessed an earthquake	114	10.00	24.00	19.23	3.83
Children who haven't witnessed an earthquake	87	12.00	24.00	20.76	3.79
Empathy					
Children who witnessed an earthquake	114	6.00	20.00	14.23	3.51
Children who haven't witnessed an earthquake	87	6.00	20.00	16.36	4.02
Self-regulation					

Children who witnessed an earthquake	114	9.00	24.00	18.14	3.15
Children who haven't witnessed an earthquake	87	11.00	24.00	20.50	3.98
Social competence					
Children who witnessed an earthquake	114	9.00	20.00	15.77	2.87
Children who haven't witnessed an earthquake	87	10.00	20.00	17.56	3.29
Social play					
Children who witnessed an earthquake	114	12.00	30.00	23.54	3.80
Children who haven't witnessed an earthquake	87	12.00	30.00	25.46	4.28
Solitary passive play					
Children who witnessed an earthquake	114	8.00	20.00	13.61	2.82
Children who haven't witnessed an earthquake	87	5.00	20.00	12.58	4.57
Rough play					
Children who witnessed an earthquake	114	2.00	9.00	4.20	2.25
Children who haven't witnessed an earthquake	87	2.00	10.00	3.60	2.19
Reticent play					
Children who witnessed an earthquake	114	4.00	16.00	9.09	2.57
Children who haven't witnessed an earthquake	87	4.00	20.00	8.55	3.28
Solitary active play					
Children who witnessed an earthquake	114	3.00	10.00	6.68	1.53
Children who haven't witnessed an earthquake	87	2.00	10.00	6.74	2.74

Table 1 reveals descriptive statistics regarding play types and particular social-emotional competencies of children who have and haven't experienced the earthquake.

Table 2. ANOVA results concerning whether the variables have witnessed an earthquake or not

Variables		**Sum of squares**	**Sd.**	**Mean of squares**	***F***	**p**	**η^2**
Emotion recognition/emotion expression	Intergroup	115.126	1	115.126	7.885	.005*	.038
	Intra-group	2905.472	199	14.600			
	Total	3020.598	200				
Empathy	Intergroup	225.319	1	225.319	16.048	.000*	.075
	Intra-group	2794.075	199	14.041			

	Total	3019.394	200				
Self-regulation	Intergroup	275.617	1	275.617	22.015	.000*	.100
	Intra-group	2491.354	199	12.519			
	Total	2766.972	200				
Social competence	Intergroup	157.750	1	157.750	16.814	.000*	.078
	Intra-group	1867.034	199	9.382			
	Total	2024.785	200				
Social play	Intergroup	180.933	1	180.933	11.192	.001*	.053
	Intra-group	3217.100	199	16.166			
	Total	3398.033	200				
Solitary-passive play	Intergroup	52.300	1	52.300	3.858	.051	.019
	Intra-group	2697.861	199	13.557			
	Total	2750.161	200				
Rough play	Intergroup	17.760	1	17.760	3.578	.060	.018
	Intra-group	987.659	199	4.963			
	Total	1005.419	200				
Reticent play	Intergroup	14.414	1	14.414	1.716	.192	.009
	Intra-group	1671.937	199	8.402			
	Total	1686.351	200				
Solitary-active play	Intergroup	.212	1	.212	.046	.830	.000
	Intra-group	916.778	199	4.607			
	Total	916.990	200				

According to Table 2, the children's score averages of social-emotional competence (empathy, emotion recognition/emotion expression, self-regulation, social competence) and social play variables regarding experiencing an earthquake and not experiencing an earthquake criteria have a statistically significant difference. The emotion recognition/emotion expression ($F(1\text{-}199) = 7.885$, $p<.05$, $\eta^2=.038$), empathy ($F(1\text{-}199) = 16.048$, $p<.05$, $\eta^2=.075$), self-regulation ($F(1\text{-}199) = 22.015$, $p<.05$, $\eta^2=.100$), social competence ($F(1\text{-}199) = 16.814$, $p<.05$, $\eta^2=.078$), social play ($F(1\text{-}199) = 11.192$, $p<.05$, $\eta^2=.053$) levels show a significant difference in favor of children who have not experienced an earthquake. Table 1 indicates the average mean scores of children for each variable. Emotion recognition/emotion expression score averages ($\overline{X}= 20.76$) of children who haven't witnessed an earthquake are higher than those of children who have witnessed an earthquake ($\overline{X}= 19.23$). Empathy score averages ($\overline{X}= 16.36$) of children who haven't witnessed an earthquake are higher than the score averages of children who have witnessed an earthquake ($\overline{X}= 14.23$). Self-regulation score averages ($\overline{X}= 20.50$) of children who haven't witnessed an earthquake are higher than those of children who have witnessed an earthquake ($\overline{X}= 18.14$). Social competence score averages ($\overline{X}$=17,56) of children who haven't witnessed an earthquake are higher than those of children who have witnessed an earthquake ($\overline{X}$= 15,77). Social play score averages ($\overline{X}= 25.46$) of children who haven't witnessed an earthquake are higher than those of

children who have witnessed an earthquake ($\overline{X}$= 23,54). For the reticent play, solitary passive play, rough play, and solitary active play variables, there isn't a significant difference regarding the criterion of experiencing or not experiencing an earthquake (p>.05).

DISCUSSION AND CONCLUSION

According to the research findings, self-regulation, emotion recognition/emotion expression, empathy, social competence, and social play score averages of five- and six-year-old children who have and don't have an earthquake experience show a significant difference in favor of children who don't have an earthquake experience. Based on the results, it is evident that emotion recognition/emotion expression, empathy, self-regulation, social competence, and social play score averages of children who don't have an earthquake experience are higher than children who have an earthquake experience. At this point, it can be considered that the earthquake experience may have an impact on children's social and emotional development and their play experience with their peers. It is observed in the study that while there is a difference in one of the five play variables (social play), there is no difference in the remaining four (solitary passive play, reticent play, solitary active play, and rough play) variables. Findings suggest that earthquake experience may have a negative impact on preschool children's social competence and social play. However, it can be stated that the earthquake experience has no effect on various play types (solitary passive play, rough play, reticent play, and solitary active play). Therefore, regarding this study, it is evident that while the earthquake experience affects some developmental processes of children, it does not affect others. Traumatic events such as earthquakes can lead to negative outcomes for especially children aged between 0-6. Young children are one of the most vulnerable groups in society to disasters. Earthquakes can have long-lasting and permanent effects on the social and emotional development of young children who are in a critical developmental period. The effects of the most serious disasters and shocks to health and education on children's development can last for years, even into adulthood (Kousky, 2016). When similar studies in the literature are examined, it is evident that earthquake experience can have short and long-term effects on preschool children. For example, in their longitudinal study with children in preschool and primary school during the 2015 Kathmandu (Nepal) earthquake, Shrestha and Gopal (2021) underline that emotional problems such as behavioral problems, hyperactivity-carelessness, and friendship problems can be seen in children affected by the earthquake. Gomez and Yoshikawa (2017) emphasize that preschool children who experienced the 2010 Chile earthquake received lower

scores in some early language and pre-literacy assessments than those who did not experience the 2010 Chile earthquake. In the study conducted by Erkan (2014) on the comparison of preschool period children who experienced the Afyon Sultandağı (Turkey) earthquake and who didn't experience an earthquake, it is underlined that children in the earthquake region can display more problematic behaviors. Morales, Girard, Sawrikar, and MacBeth (2023) conducted a study on the children and their families who were affected by the 2010 Chile earthquake and stated that problems such as anxiety, emotional reactivity, sleep disorder, attention problems, and aggression may be at higher levels in children who experienced the earthquake than in children who did not experience the earthquake. According to the study conducted by Raccanello, Burro, and Hall (2017), it was determined that the earthquake experience did not have an effect on the skills of understanding and expressing emotions, and gender and class variables could affect skills related to emotions. For this reason, this finding contradicts with the finding in the study that the empathy variable differs according to earthquake experience. It is evident that some of the studies on the effects of an earthquake on the social and emotional development of preschool children contain findings that support the findings of this research. A study investigating the experiences of children who witnessed Kahramanmaraş Earthquakes on 6 February 2023 and the emotional reactions they encountered in their parents revealed the behavioral and emotional transformation and shift in children (Darga, 2023). The findings of the study revealed that children developed and displayed various emotional and behavioral reactions in the aftermath of the earthquake, including fear of death and earthquakes, questioning the earthquakes, intolerance, sleep disorders, bursts of rage, unwillingness to go home, and resistance to stay away from mother (Darga, 2023). Characteristics of destructive natural disasters like earthquakes make them not one-time- events that are over and passed; on the contrary, their impact continues to be felt tangibly in individuals' and particularly children's lives. Therefore, the aftermath of such trauma-eliciting incidents may push children to be in a state of emergency and alertness psychologically that may be accompanied by somatic symptoms, emotional overload, emotional dysregulation, hyperarousal or numbness, etc. When children subtly or visibly under the effect of extraordinary situations, it may be challenging for them to exhibit their emotions, self-regulation, and social competence skills compared to their peers who are not exposed to such destructive and traumatizing life events. Since preschool is the period in which skills including emotion recognition, empathy, social competence, and self-regulation were not fully developed yet, in the face of such devastating life events, young children, as the most vulnerable group, may be less likely to manage and practice those skills and deal with the challenges of such life

events. It may be one of the possible explanations for the difference in children's self-regulation, emotional understanding, empathy, and social competence skills between children who experienced and did not experience the Kahramanmaraş Earthquake in the current study.

It was observed in this study that four of the play behavior variables did not differ according to the variable of whether or not having an earthquake experience. This indicates that an earthquake experience may not affect every skill and behavior. Thus, Nagae and Nagano (2023) state that the post-earthquake behavioral problems and hyperactivity/attention levels of young children who were at home during the Kumamoto (Japan) earthquake remained below clinical limits and that the behavioral problems of children who were away from their families during the earthquake were at a higher level and underlined that the effects of the earthquake on children may continue in the long run. In the same research, it is asserted that the variable of whether children were with their families during the earthquake or not could be a variable that could determine the effect of the earthquake. In this research, it can be considered that different variables related to play behaviors (passive play alone, rough play, reticent play and active play alone), which do not differ depending on the earthquake variable, may determine the effect of the earthquake and/or there may be different variables that can affect these play behaviors. In some studies on the subject (Peek 2008; Peek & Stough, 2010), it is stated that the effects of natural disasters on children include the child's physical proximity to the disaster, how the disaster affects their home, minority status, family and the environment, disability, their socio-economic status, family functionality due to the disaster, psychopathological symptoms in the general population and post-earthquake stress in parents. Masten and Motti-Stefanidi (2020) state that various individual, domestic, school-related and social factors in children's lives can protect them against difficult situations such as natural disasters. For example, it has been stated that many factors, such as sensitive parents, close relationships, trust, commitment, positive habits, and routines, can be protective.

Many factors shape the various effects that natural disasters, such as earthquakes, can have on children. Therefore, it is important to define these factors in terms of their effects before, during, and after the disaster. While the severity of the disaster, the level of exposure to the disaster, and the current level of social support (especially from families and teachers) are among the protective factors, many factors, such as the child's age and individual developmental differences, can affect the consequences of the disaster (Wang et al., 2021). Korkmaz and Altınsoy (2023) underline that early intervention is

crucial in terms of the problems experienced by preschool children after the earthquake and emphasize the importance of children's psychological resilience. In addition, although there are studies in the literature on resilience and coping interventions after earthquakes, it is stated that these skills need to be developed before the earthquake (Korkmaz & Altınsoy, 2023). The preschool children in this study who experienced an earthquake were not included in any intervention program after the earthquake. Natural disasters (including earthquakes) can cause traumatic effects on children's psychological health and development. The literature demonstrates the effectiveness of interventions aimed at supporting children's social-emotional development. At the same time, these interventions are also important to ensure preparedness for possible future disasters by increasing children's knowledge about their social-emotional competencies (Raccanello, Vicentini, Rocca, Hall & Burro, 2024). Activities prepared for children aged 5-6 in 10 kindergartens in Tehran were implemented and it was emphasized that disaster education given to young children could be an important protective factor against disasters (Izadkhah & Heshmati, 2007).

To conclude, the current study may provide insight into the potential effects of earthquakes on young children's social-emotional skills and play behaviors regarding the Kahramanmaraş Earthquakes that took part on 6 February 2023 and struck southern and central Turkey. On the other hand, while evaluating the findings of the study, it is possible to address numerous constraints and limitations associated with this investigation. The data collection procedure constitutes one of the important constraints of the current study. The data collection tools used in the study require teachers to evaluate children in their classrooms based on the items listed in the measurement tools. At this point, while teachers who evaluated children in Adıyaman (earthquake zone) also experienced earthquakes, teachers who evaluated children's behavior in Sinop province of Turkey (outside of the earthquake zone) were not exposed to the earthquake. When this is the case, accounting for the potential effects of earthquakes on teachers' psychological well-being and judgment with regard to their reflections on their evaluation of children is necessary. In other words, those teachers' evaluations may be misleading and blurred by either their own experiences or possible biased opinions they formed for children in the shadow of the experienced earthquake. In this regard, additional and alternative forms of data collection, like direct observation of children in their classrooms or using measurement tools collecting the data directly from children, would provide a more objective evaluation of children's social-emotional skills and play behaviors and would verify the data collected by teachers. The study was conducted with children in two cities located in different regions of Turkey. In this regard, children's demographic background, characteristics of the area they

live (population, development level, social and environmental opportunities), family backgrounds, living conditions, SES, and their developmental and educational trajectories may be seen as important variables that may have interfered with the existing difference in their social-emotional skills including emotion recognition, empathy, self-regulation, and social competence. In this regard, paradoxically, one of the limitations of the study stems from the unpredictable nature of the disasters since it was impossible to measure and compare the pre-test scores of children before the earthquake to depict the actual short-term impact of the earthquake children experienced. Additionally, it is not that possible to standardize the experiences of children witnessing earthquakes and the magnitude of the Kahramanmaraş earthquake's impact on the children. In the current study, the group of children experiencing the Kahramanmaraş earthquake does not represent all the children, especially those who got moderate or severe damage from the earthquake during and aftermath of the incident since they did not take serious physical damage and did not encounter loss of family members or demolition of their building. In this regard, although the impact of a traumatic situation may vary from person to person, in the current study, the observable and tangible impact of the earthquake on children witnessing the Kahramanmaraş earthquake can be defined as mild compared to those who experienced worse conditions during and after the earthquake. Therefore, the study group is not representative of highly impacted children. Numerous factors define an incident's impact on individuals, including the nature and type of incident(s), individual personal attributes, developmental processes, sociocultural variables, and the interpretation of the trauma (Substance Abuse and Mental Health Services Administration, 2014). When this is the case, to unveil the impact of such natural disasters on young children, it would be essential to reflect on the experiences of children affected by such disasters in varying degrees and reflected on them.

RECOMMENDATIONS

In line with the findings of the research, it is crucial to draw attention to the importance of early psychological first aid for all children affected by the earthquake. Actions should be taken to ensure that children and adults who have experienced natural disasters such as earthquakes receive regular psychological support. Education policies should be developed and implemented to meet children's needs in earthquake zones. Due to the earthquake, many families migrate to different places outside the earthquake zone. Therefore, in the same way, all intervention processes, especially psychosocial support practices, should be carried out meticulously in schools

outside the earthquake zone for the children being exposed to the earthquake. In addition, preventive mental health services should be provided to reduce the impact of earthquakes on children's mental health. Also, educational programs should be prepared and disseminated to increase the awareness of society and young children about earthquakes. All individuals, especially children, need to be informed about the subject within the scope of preventive efforts against natural disasters, such as early warning systems, evacuation drills, and community preparedness programs. Since the preschool period is essential for both rapid development and its permanent effects, studies on educating young children, their teachers, and parents about natural disasters should be expanded.

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Genişletilmiş Özet

Giriş

6 Şubat Kahramanmaraş depremleri, 2023 yılında dünyadaki en büyük felaket olarak kayıtlara geçti. 17 Ağustos 1999 depreminden sonra Türkiye'de meydana gelen en büyük deprem, sadece Kahramanmaraş'ta değil, aynı zamanda fay hattı boyunca en az 10 ilde de yıkıma neden oldu. Depremler çocuklar üzerinde çeşitli doğrudan ve dolaylı etkilere neden olabilmektedir (Shrestha & Gopal, 2021). Okul öncesi dönemde sosyal-duygusal yeterliliklerin kazanımı ve oyun davranışları çocuğun gelişimini çok boyutlu etkileyebilmektedir. Bu kapsamda insan hayatında kısa ve uzun vadeli derin etkiler bırakma potansiyeli olan doğal afetlerin çocukların ilgili becerileri ve aktiviteleri üzerindeki yansımalarının tespiti önem arz etmektedir. Bu çalışmada, 6 Şubat 2023 Kahramanmaraş Depremini yaşayan ve yaşamayan okul öncesi çocukların sosyal-duygusal yeterlilik ve oyun davranışlarının karşılaştırılması amaçlanmıştır.

Yöntem

Deprem yaşayan ve yaşamayan okul öncesi çocukların sosyal-duygusal yeterliliklerini ve oyun davranışlarını karşılaştırmayı amaçlayan bu çalışmada ilişkisel tarama yöntemi kullanılmıştır. Araştırmada iki çalışma grubu bulunmaktadır. Birinci çalışma grubu, 6 Şubat Kahramanmaraş depremine tanıklık etmiş, Adıyaman ilinde ikamet eden, okul öncesi eğitime devam eden ve herhangi bir özel eğitim tanısı olmayan 5-6 yaş aralığındaki 114 çocuktan oluşmaktadır. İkinci çalışma grubu ise daha önce hiç depreme tanık olmamış, Sinop ilinde ikamet eden, okul öncesi eğitime devam eden ve herhangi bir özel eğitim tanısı olmayan 5-6 yaş aralığındaki 87 çocuktan oluşmaktadır. Araştırmada Kişisel Bilgi Formu, Okul Öncesi Sosyal Duygusal Beceriler ve Psikolojik Dayanıklılık Ölçeği ve Okul Öncesi Oyun Davranışı Ölçeği olmak üzere üç ölçme aracı kullanılmıştır. Verilerin normal dağılıma sahip olması nedeniyle veri analizinde parametrik teknikler kullanılmıştır. Araştırma bulguları SPSS 21.0 istatistik programı ile analiz edilmiştir. Analizler sonucunda verilerin normal dağılıma sahip olduğu tespit edilmiş ve bu nedenle veri analizinde parametrik tekniklere başvurulmuştur. Depreme maruz kalan ve kalmayan çocukların sosyal-duygusal yeterliliklerini ve oyun davranışlarını karşılaştırmak için Tek Yönlü Varyans Analizi (ANOVA) analiz tekniği kullanılmıştır.

Bulgular

Çocukların deprem yaşama ve deprem yaşamama kriterlerine göre sosyal-duygusal yeterlilik (empati, duygu tanıma/duygu ifadesi, öz düzenleme, sosyal

yeterlilik) ve sosyal oyun değişkenlerine ait puan ortalamaları istatistiksel olarak anlamlı düzeyde farklılaşmıştır. Duygu tanıma/duygu ifadesi ($F(1\text{-}199) = 7{,}885$, $p<.05$), empati ($F(1\text{-}199) = 16{,}048$, $p<.01$), öz düzenleme ($F(1\text{-}199) = 22{,}015$, $p<.01$), sosyal yeterlilik $F(1\text{-}199) = 16{,}814$, $p<.01$), sosyal oyun ($F(1\text{-}199) = 11{,}192$, $p<.01$) düzeyleri deprem yaşamamış çocuklar lehine anlamlı düzeyde farklılaşmıştır. Sessiz oyun, yalnız pasif oyun, itiş-kakış ve yalnız aktif oyun değişkenleri için deprem yaşama ve yaşamama ölçütü açısından anlamlı bir fark bulunmamıştır ($p>.05$).

Tartışma ve Sonuç

Çalışmada deprem deneyiminin çocukların bazı gelişim süreçleri üzerinde etkisi varken, bazıları üzerinde etkisi olmadığı ortaya çıkmaktadır. Sonuçlara göre deprem deneyimi yaşamayan çocukların duygu tanıma/duygu ifade etme, empati, öz düzenleme, sosyal yeterlilik ve sosyal oyun puan ortalamalarının deprem deneyimine sahip çocuklara göre daha yüksek olduğu görülmektedir. Bulgular, deprem deneyiminin söz konusu beceriler üzerinde olumsuz etkisi olabileceğini düşündürmektedir. Çalışmada beş oyun değişkeninden birinde (sosyal oyun) gruplar arasında fark varken, kalan dört değişkende (yalnız pasif oyun, sessiz oyun, yalnız aktif oyun ve itiş kakış oyun) gruplar arasında fark olmadığı görülmektedir. Bu noktada deprem deneyiminin çeşitli oyun türleri (yalnız pasif oyun, sessiz oyun, yalnız aktif oyun ve itiş kakış oyun) üzerinde etkisi olmadığı söylenebilir.

Alanyazındaki benzer çalışmalar incelendiğinde, deprem deneyiminin okul öncesi çocuklar üzerinde kısa ve uzun süreli etkileri olabileceği görülmektedir. Örneğin, Shrestha ve Gopal (2021), 2015 yılındaki Katmandu, Nepal depreminden etkilenen okul öncesi ve ilkokul çağındaki çocuklarla yaptıkları boylamsal çalışmada, depremden etkilenen çocuklarda davranış sorunları, hiperaktivite-dikkatsizlik ve arkadaşlık sorunları gibi duygusal sorunların görülebileceğini vurgulamaktadır. Morales ve diğerleri (2023), 2010 Şili depreminden etkilenen çocuklar ve aileleri üzerinde yaptıkları çalışmada, depremi yaşayan çocuklarda kaygı, duygusal tepki, uyku bozukluğu, dikkat sorunları ve saldırganlık gibi sorunların depremi yaşamayan çocuklara göre daha yüksek seviyelerde olabileceğini belirtmişlerdir. Okul öncesi dönem, duygu tanıma, empati, sosyal yeterlilik ve öz düzenleme gibi becerilerin henüz tam olarak gelişmediği dönem olduğundan, bu tür yıkıcı yaşam olayları karşısında en savunmasız grup olan küçük çocukların bu becerileri yönetme ve uygulama ve bu tür yaşam olaylarının zorluklarıyla başa çıkma olasılıkları daha düşük olabilir. Bu, mevcut çalışmada Kahramanmaraş Depremi'ni yaşayan ve yaşamayan çocuklar arasında sosyal oyun, öz düzenleme, duygu tanıma/ifade

etme, empati ve sosyal yeterlilik becerilerindeki farklılığın olası açıklamalarından biri olabilir.

Bu çalışmada oyun davranışı değişkenlerinden dördünün (yalnız pasif oyun, sessiz oyun, yalnız aktif oyun ve itiş kakış oyun) deprem deneyimi olup olmama değişkenine göre farklılık göstermediği gözlemlenmiştir. Bu, deprem deneyiminin her beceri ve davranışı etkilemeyebileceğini göstermektedir. Konuyla ilgili bazı çalışmalarda (Peek 2008; Peek & Stough, 2010), doğal afetlerin çocuklar üzerindeki etkilerinin; çocuğun afete fiziksel yakınlığı, afetin evini nasıl etkilediği, aile ve çevre, engellilik, sosyoekonomik durum, afet nedeniyle aile işlevselliği, genel nüfusta psikopatolojik semptomlar ve ebeveynlerde deprem sonrası stres gibi faktörlere bağlı olduğu belirtilmektedir. Bu araştırmada deprem değişkenine bağlı olarak farklılık göstermeyen oyun davranışlarıyla ilişkili farklı değişkenlerin depremin etkisini belirleyebileceği ve/veya bu oyun davranışlarını etkileyebilecek farklı değişkenlerin olabileceği düşünülebilir.

Öneriler

Deprem gibi doğal afetlerin çocuklar üzerinde yaratabileceği çeşitli etkileri şekillendiren birçok faktör vardır. Bu nedenle, bu faktörleri afet öncesi, sırası ve sonrası etkileri açısından tanımlamak önemlidir. Afetin şiddeti, afete maruz kalma düzeyi ve mevcut sosyal destek düzeyi (özellikle ailelerden ve öğretmenlerden) koruyucu faktörler arasında yer alırken, çocuğun yaşı ve bireysel gelişimsel farklılıkları gibi birçok faktör afetin sonuçlarını etkileyebilmektedir (Wang vd., 2021). Doğal afetler (depremler dahil) çocukların psikolojik sağlığı ve gelişimi üzerinde travmatik etkilere neden olabilir. Alanyazın, çocukların sosyal-duygusal gelişimini desteklemeyi amaçlayan müdahalelerin etkililiğini göstermektedir. Aynı zamanda, bu müdahaleler çocukların sosyal-duygusal yeterlilikleri hakkındaki bilgilerini artırarak gelecekteki olası afetlere karşı hazırlıklı olmayı sağlamak için de önemlidir (Raccanello vd., 2024). Okul öncesi dönem hem hızlı gelişim hem de kalıcı etkileri açısından elzem olduğundan, küçük çocukları, öğretmenlerini ve velilerini doğal afetler konusunda eğitmeye yönelik çalışmalar genişletilmelidir.