

Received: 24/12/2023

Accepted: 23/06/2024

Published: 30/06/2024

Investigation of the Relationship between Prosocial and Play Behaviors of 60-72 Months-Old Children Attending Preschool Education*

Rabia Gencer¹, Murat Bartan²

Gencer, R., & Bartan, M. (2024). Investigation of the relationship between prosocial and play behaviors of 60-72 months-old children attending preschool education. *Asian Journal of Instruction*, 12(1), 17-32. Doi: 10.47215/aji.1409043

Abstract

This study was conducted to examine the prosocial behaviours and play behaviours of 60-72-month-old children attending preschool education and the relationship between these behaviours. For this purpose, the research was designed by adopting the correlational survey model. The sample of the study consisted of 300 children aged 60-72 months attending kindergartens in Turkey in the 2021-2022 academic year. "Penn Interactive Peer Play Scale-Teacher Form" and "Preschool Prosocial Behaviour Scale" were used in the study. It was determined that peer play behaviours differed statistically according to the variables of gender, age, parental education level, parental occupation, number of siblings, family income status and previous preschool education. Upon analyzing the prosocial skills of the children participating in the study, it was found that prosocial skills showed a statistically significant difference according to the variables of gender and previous pre-school education, but did not show a statistically significant difference according to the variables of age, parents' education level, parents' occupation, number of siblings and family income status. Another result of the study was that there was a positive relationship between children's prosocial behaviours and play interaction behaviours and a negative relationship between children's play disruptive behaviours.

Keywords: Play behavior, preschool education, prosocial behavior

1. Introduction

The first step to increase an individual's adaptation to society is to establish harmonious relationships with other people and to follow the rules of society. Positive social behaviours are considered a central indicator of social competence in early childhood and include behaviours such as helping, cooperating and caring for others' distress (Ladd & Profilet, 1996). Research on prosocial behavior from infancy to childhood has provided empirical findings on the origins and development of prosocial behavior, including when young children begin to exhibit prosocial behaviors, how these behaviors change over development, and why children may or may not engage in prosocial behavior (Malti & Dys, 2018).

* This article is produced by first author's master thesis, under supervision of second author.

¹ Teacher, MEB, 0000-0002-9054-3994, rabiagencer@gmail.com

² Assoc. Prof. Dr, Kutahya Dumlupinar University, 0000-0003-2947-5643, murat.bartan@dpu.edu.tr

Prosocial behavior is considered an important dimension of positive development (Ferreira, Cadima, Matias, Vieira, Leal & Matos, 2016). It has been defined as voluntary behavior intended to benefit another (Eisenberg, Spinrad & Morris, 2013). The topics how prosocial behaviors develop and during which age periods they are observed have maintained their importance from past to present (Zahn Waxler, Radke Yarrow, Wagner & Chapman, 1992). Recent research shows that the onset of positive social behaviours, such as simple helping and cooperation, can be observed as early as the second year of life. However, these behaviours are only the beginning of a wide range of positive social behaviours. Researchers suggest that social bias increases in the early years with the development of social-cognitive understanding, emotional maturation and other factors (Hay, Payne & Chadwick, 2004; Köster, Ohmer, Nguyen & Kärtner, 2016). This is early years when children are eager to play with their peers. Children share their toys, try to understand why they seem sad, and comfort their friends (Bee & Denise, 2003).

Children acquire many skills related to social development such as making friends, sharing, helping, being respectful, being aware of their rights and protecting them through plays (Durualp & Aral, 2011). Play is one of the most widely used ways of learning about children and understanding their world (Kadim, 2012). Children who learn the behaviors, knowledge and skills necessary for life through plays also learn to establish relationships with others, adapt to social life, defend their rights to the end, respect the rights of others, cooperate and share. Through plays, the children assume social roles and tests those roles. They express their concerns. They reveal their emotions. For example, playing the role of helper in a play provides an opportunity to practice “helping”. Therefore, play is an important factor in learning prosocial behaviors (Durualp & Aral, 2011; Yavuzer, 2007).

The aim of this study is to examine the relationship between prosocial and play behaviors of 60-72-month-old preschool children. Upon examining the field studies, no research was found that investigates the prosocial and play behaviors of 60-72-month-old children and the relationship between them. Investigating the relationship between prosocial behaviours and play behaviour in preschool children will help us understand children's social and emotional development. This research may help educators and parents to develop more effective strategies to support children's social skills. In addition, it is thought that it will help children to establish healthy relationships and social adaptation in later life. Consequently, answers to the following sub-problems were sought:

1. Do the scores of 60-72-month-old children attending preschool education institutions from the Penn Interactive Peer Play Scale-Teacher Form and Prosocial Behavior Scale differ according to the variables of gender, age, number of siblings and previous preschool education?
2. What is the relationship between Preschool Prosocial Behavior Scale and Penn Interactive Peer Play Scale-Teacher Form scores of 60-72-month-old children attending preschool education institutions?

2. Method

2.1. Research Model

This study, which aims to determine the prosocial and play behaviors of 60-72-month-old children and the relationship between these behaviors, was conducted by adopting the correlational survey model. Correlational survey model is a research model that aims to

determine the existence and/or degree of change between two or more variables (Karasar, 2012).

2.2. Population-Sampling

The study group consists of children aged 60-72 months attending official kindergartens affiliated to the Ministry of National Education in Kütahya, Turkey. The sample consisted of 300 children between the ages of 60-72 months and 15 teachers attending three official kindergartens selected among eight official kindergartens affiliated with the Ministry of National Education. The sample was selected by simple random sampling. In simple random sampling, every possible combination of items in the population has an equal probability of being included in the sample (Kerlinger & Lee, 1999). While conducting the research, all units are listed and random units are selected from the list (Kılıç, 2013). The “Preschool Prosocial Behavior Scale” was applied to 300 children in the selected kindergartens who voluntarily participated in the study. Then, “Penn Interactive Peer Play Scale” was applied to the teachers of the children participating in the study to determine the play behaviors of the children. Demographic characteristics of the sample are given below in Table 1.

Table 1

Distribution of the Study Group According to Demographic Characteristics

Variable	n	%	n	%
Gender			Number of Siblings	
Girls	151	50,33	Singleton	95 31,67
Boys	149	49,67	1 sibling	162 54,00
Age			2 siblings	36 12,00
5	187	62,3	3 siblings	6 2,00
6	113	37,7	4 siblings	1 0,33
Previous Pre-school Education Status				
Yes	213	71,00	No	87 29,00

Table 1 shows that 151 (50.33%) of the children were girls and 149 (49.67%) were boys. In terms of the number of siblings, 95 (31.67%) were singleton, 162 (54%) had one sibling, 36 (12%) had two siblings, 6 (2%) had three siblings and 1 (0.33%) had four siblings. According to the variable of pre-school education status of the children, 213 (71%) had received education and 87 (29%) had not received pre-school education.

2.3. Research Instruments

A “Personal Information Form” was used to gather personal information about the participants. The “Preschool Prosocial Behavior Scale” was utilized to measure the prosocial behaviors of 60-72-month-old children. Additionally, the “Penn Interactive Peer Play Scale Teacher Form” was employed to assess the children's play behaviors.

2.3.1. Personal Information Form

The Personal Information Form, prepared by the researchers, included information about the gender, age, parental education level, parental occupation, number of siblings, family income level and previous preschool education of the children in the study group.

2.3.2. Preschool Prosocial Behavior Scale

The scale developed by Çelik Kahraman (2019) includes scenarios consisting of 14 items of hypothetical problem situations. The scale consists of 5 sub-dimensions. These are empathy (2 items), helping (4 items), sharing (4 items), communication skills (2 items) and cooperation (2 items). The problem situation is explained by showing the pictures of the scenarios in the test to the children and the children are asked “What do you think happened afterwards?” and “What do you think the child in the picture felt?”. If the answers given by the children are prosocial, they are given 1 point, and if they are non-prosocial, they are given 0 point and the scale checklist form is filled out. The skewness kurtosis value of the scale shows a distribution between -1 and +1 and is close to a normal distribution is observed. After the scenarios included in the scale were evaluated The calculated reliability value of 0.80 for 61-72 month old children (KR-20) is acceptable.

2.3.3. Penn Interactive Peer Play Scale Teacher Form (PIPS-T)

Penn Interactive Peer Play Scale was developed by Fantuzza, Mendez & Tighe (1998) and adapted to Turkish language and culture by Ahmetoğlu, Acar, and Aral (2017). The scale, developed for teachers to understand peer play behaviors in early childhood, consists of 32 items divided into three sub-dimensions: Play Interaction, Play Disruption, and Disengagement from Play. The items are completed by teachers. The internal consistency values of the scale, calculated using Cronbach's alpha method, were found to be $\alpha = .85$ for Play Interaction, $\alpha = .89$ for Play Disruption, and $\alpha = .81$ for Disengagement from Play.

2.4. Data Collection

Permissions were obtained for the implementation. Information regarding children aged 60-72 months and their parents was obtained using a Personal Information Form. Data were collected through scales administered to the children by the researcher and filled out by teachers. To avoid any confusion in the scales administered to the children, the scales were numbered sequentially as C1, C2, etc., and matched with the scales filled out by the teachers.

2.5. Data Analysis

Before analyzing the data, it was checked whether they met the necessary assumptions for parametric tests. Skewness coefficients were examined in each sub-dimension for normality of the data. Independent Samples T Test or Mann Whitney U Test was used to examine the differentiation of mean scores in independent variables with two categories for making comparisons; One-Way Analysis of Variance or Kruskal Wallis H Test was used to examine the differentiation of mean scores in variables with more than two categories. Pearson Product Moment Correlation was used for the correlation between prosocial behaviors and play interaction, and Spearman Rank Difference Correlation was used for the correlation between prosocial behaviors and play disruption/disengagement sub-dimensions.

2.6. Ethics Committee Permission

The necessary permissions were obtained from Kütahya Dumlupınar University, Social and Human Sciences Scientific Research and Publication Ethics Board of Social Sciences and Humanities with the letter numbered E.38765 and from Kutahya Provincial Directorate of Ministry of National Education.

3. Findings

In this section, findings and interpretations related to the sub-problems of the study are presented.

3.1. Findings Related to the First Sub-Problem

3.1.1. Findings and Comments Regarding Penn Interactive Peer Play Scale Teacher Form Subscale Scores

Table 2

T Test Results of Play Interaction Sub-dimension Scores According to Gender, Age and Receiving Previous Pre-school Education Status Variables

Variable	N	X	S	Sd	T	p	Effect Size	
Gender	Girls	151	31.27	6.08	298	4.035	0.00	0.05
	Boys	149	28.41	6.20				
Age	5	187	29.57	6.35	298	-1.002	0.317	-
	6	113	30.32	6.20				
Previous Education	Yes	213	30.59	6.19	298	3.242	0.001	0.034
	No	87	28.03	6.28				

Table 2 shows that there is a significant difference between the mean scores of children in the Play Interaction sub-dimension according to their gender ($t(298) = 4.035$; $p < 0.05$). The arithmetic mean of girls is 31.27 and the arithmetic mean of boys is 28.41. As a result of the analysis, it can be claimed that girls engage in more play interactions than boys. As seen in the table, there is no significant difference between the mean scores of play interaction according to the age of the child ($t(298) = 1.002$, $p > 0.05$). Table 2 shows significant difference according to the status of receiving preschool education ($t(298) = 3.242$; $p < 0.05$). The arithmetic mean of the children who received preschool education is 30.59, and the arithmetic mean of the children who did not receive preschool education is 28.03. As a result of the analysis, it can be asserted that children with previous pre-school education engage in more play interactions than children without previous pre-school education.

Table 3

Mann-Whitney U Test Results of Play Disruption Sub-dimension Scores According to Gender, Age and Receiving Previous Pre-school Education Status Variables

Variable	N	Mean Rank	Sum of Ranks	z	p	Effect Size	
Gender	Girls	151	128.56	19412.50	-4.442	0.00	0.26
	Boys	149	172.73	25737.50			
Age	5	187	156.57	29278.00	-1.569	0.117	
	6	113	140.46	15872.00			
Previous Education	Yes	213	142.68	30390.00	-2.462	0.014	0.14
	No	87	169.66	14760.00			

Table 3 shows that there is a significant difference between the mean scores of children's Play Disruption according to gender ($z = 4.442$, $p < 0.05$). The mean ranks and sum of ranks analysis shows that boys (172.73) experience more disruption during play than girls (128.56). As seen in the table, there is no significant difference between the mean scores of play disruption according to the age of the child ($z = 1.569$, $p > 0.05$). The table also shows that there is a significant

difference between the mean scores of play disruption according to the previous pre-school education ($z = 2.462$, $p < 0.05$). Considering the rank averages and rank sums, it can be stated that children who did not receive previous pre-school education (169.66) experienced disruption during play more than children who pre-school received education (142.68).

Table 4

Mann-Whitney U Test Results of Detachment from Play Sub-dimension Scores According to Gender, Age and Receiving Previous Pre-school Education Status Variables

Variable	N	Mean Rank	Sum of Ranks	z	p	Effect Size	
Gender	Girls	151	139.19	21018.00	-2.280	0.023	0.13
	Boys	149	161.96	24132.00			
Age	5	187	158.95	29723.00	-2.177	0.030	0.13
	6	113	136.52	15427.00			
Previous Education	Yes	213	139.73	29763.00	-3.375	0.001	0.19
	No	87	176.86	15387.00			

Table 4 shows that there is a significant difference between the mean scores of children's disengagement from play according to gender ($z = 2.280$, $p < 0.05$). Considering the rank averages and rank sums analysis, it can be said that boys (161.96) experienced more disengagement during play than girls (139.19). It is found that there is a significant difference between the mean scores of children's disengagement from play according to age ($z = 2.177$, $p < 0.05$). The rank means and rank sums analysis demonstrates that 5-year-old children (158.95) experienced more disconnection during play than 6-year-old children (136.52). The table also makes it clear that there is a significant difference between the mean scores of children's disengagement from play according to the status of receiving previous pre-school education ($z = 3.375$, $p < 0.05$). Considering the rank averages and rank sums analysis, it can be claimed that children who did not receive previous pre-school education (176.86) experienced disconnection during play more than children who received pre-school education (139.73).

Table 5

Anova Results of the Comparison of Play Interaction Sub-dimension Scores According to the Number of Siblings

Source of Variance	Sum of Squares	Sd	Mean Squares	F	p	Significant Difference	Effect Size
Intergroup	277.422	2	138.711	3.552	0.030	Singleton-2 siblings	0.024
Intragroup	11324.298	290	39.049				
Total	11601.720	292					

Table 5 shows that, as a result of ANOVA, children's mean play interaction scores differs significantly according to the number of siblings ($F(2,290) = 3.552$, $p < 0.05$). For the source of the difference, Tukey pairwise comparison method was used to compare group mean scores and a significant difference is observed between being an only child and having two siblings in favor of two siblings. The mean play interaction score of children with two siblings is 31.69, while the mean score of children with singleton is 28.66.

Table 6

Kruskal Wallis H Test Results for the Comparison of Play Disruption and Disengagement Sub-dimension Scores by Number of Siblings

Variable	Number of Siblings	N	Mean Rank	sd	χ^2	p	Significant Difference	Effect Size
Play Disruption	Singleton	95	155.75					
	1 siblings	162	134.46	2	10.283	0.006	1 siblings -2 siblings	0.60
	2 siblings	36	180.36					
Play Disengagement	Singleton	95	153.18					
	1 siblings	162	145.63	2	1.072	0.585		
	2 siblings	36	136.85					

Table 6 shows that there is significant difference between the mean scores of children on the play disruption sub-dimension according to the number of siblings ($\chi^2(2) = 10.283, p < 0.05$). As a result of the pairwise comparisons made to investigate which groups caused the observed difference between the groups, as seen in the Table 6, the play disruption scores of children with singleton (134.46) are lower than the scores of children with two siblings (180.36). The number of siblings has a great effect on play disruption. There is no significant difference between the mean scores of the children in the play disengagement sub-dimension according to the number of siblings ($\chi^2(2) = 1.072, p > 0.05$).

3.1.2. Findings on Prosocial Behavior Scale Scores

Table 7

T Test Results of Prosocial Behavior Scale Scores According to Gender, Age and Receiving Previous Pre-school Education Status

Variable		N	X	S	SD	T	p	Effect Size
Gender	Girls	151	9.69	2.51	298	2.292	0.023	0.017
	Boys	149	8.99	2.74				
Age	5	187	9.57	2.56	298	1.890	0.060	
	6	113	8.97	2.60				
Previous Education	Yes	213	9.60	2.63	298	2.715	0.007	0,024
	No	87	8.70	8.70				

Table 7 shows a significant difference is found between the prosocial behavior levels of children according to their gender ($t(298) = 2.292; p < 0.05$). As seen in the table, the arithmetic mean of girls is 9.69 and the arithmetic mean of boys is 8.99. As a result of the analysis, it can be said that girls tend to show more prosocial behavior than boys. There was no significant difference between the prosocial behavior levels of children according to their ages ($t(298) = 1.890; p > 0.05$). There is a significant difference between the mean scores of the children's prosocial behavior level according to the status receiving previous pre-school education ($t(298) = 2.715; p < 0.05$). The arithmetic mean of the children who received pre-school education is 9.60 and the arithmetic mean of the children who did not receive pre-school education is 8.70. As a result of the analysis, it can be said that the children who received pre-school education tend to show more prosocial behavior than the children who did not receive pre-school education.

Table 8

Anova Results of Comparison of Prosocial Behavior Scale Scores According to Number of Siblings

Source of Variance	Sum of Squares	Sd	Mean Squares	F	p	Significant Difference
Intergroup	15.216	2	7.608			
Intragroup	2037.487	290	7.026	1.083	0.340	-
Total	2052.703	292				

Table 8 shows that, as a result of ANOVA, there is no significant difference between the mean scores of children's prosocial behavior levels according to the number of siblings ($F(2,290) = 1.083, p > 0.05$).

3.2. Findings Related to the Second Sub-Problem

Is there a relationship between prosocial behaviors and peer play behaviors of 5-6 year old children attending preschool education institutions? Considering the findings related to the sub-problem, a significant positive low correlation is found between children's prosocial behaviors and play interaction behaviors ($r = 0.194, p = 0.001$). There is a significant low negative correlation between children's prosocial behaviors and play disruption behaviors ($r = -0.127, p = 0.028$). There is a significant low negative correlation between children's prosocial behaviors and play disengagement behaviors ($r = -0.140, p = 0.016$).

4. Discussion and Conclusion

Upon examining the results of the study were examined, a significant difference was found between the mean scores of the children in the play interaction sub-dimensions of the Penn Interactive Peer Play Scale Teacher Form according to their gender. The arithmetic mean of girls was found to be higher than the arithmetic mean of boys. As a result of the analysis, it can be said that girls engage in more play interaction than boys. A significant difference was found between the mean scores of children in the sub-dimensions of play disruption according to gender. The mean ranks and sum of ranks analysis shows that boys experience more disruption during play than girls. A significant difference was found between the mean scores of children on the sub-dimensions of detachment from play according to gender. Considering the rank means and sum of ranks, it can be said that boys experience more detachment during play than girls. The findings of the study are similar to the results of previous studies.

McDermott (2008) found that boys reveal their problems more than girls and have more difficulties in adaptation. It can be said that girls are more successful in maintaining interactive plays than boys because girls exhibit a more cooperative approach to reach a solution to problems, while boys exhibit more aggressive reactions. Leung (2013) concluded that girls play interactive plays more than boys and exhibit play disruption and disengagement behaviors less than boys. Aşık Öztürk (2018) conducted a study to evaluate play in group environments in preschool education institutions and play behaviors differed in favor of Girls and that play behaviors in group environments were at a higher level than boys. Sönmez (2019) examined the relationship between the temperaments of preschool children and peer relations and the scores of girls are higher than boys in the sub-dimension of play interaction, and the scores of boys are higher than girls in the sub-dimensions of play disruption and disconnection from the play. Bahadır (2020) examined the peer play behaviors and social skills of 60-72-month-old children and concluded that the scores of girls in play interaction are significantly higher than the scores

of boys, while the scores of girls in play disruption and disconnection from play are significantly lower than the scores of boys. Üzel (2020) examined the effect of aggression orientations of 48-72-month-old children on play interaction and found that there is no significant difference between boys and girls in the sub-dimension of play interaction, while significant differences are found in favor of girls in the sub-dimensions of play disruption and disconnection from play. Boys and girls go through the same developmental stages of play. However, it is thought that the difference in play behaviors is that they choose play styles according to their gender. The previous studies about plays show that boys prefer plays that involve more pushing and shoving and movement, while girls prefer calmer, symbolic and group plays (Aslan Metin, 2013; Aşık Öztürk, 2018; Değirmenci, 2016; Kılınç, 2016; Köycekaş, 2019).

It is found that there is a significant difference between the mean scores of children's detachment from the play according to their ages. It can be said that 5-year-old children experience disengagement during play compared to 6-year-old children and that age has a small effect on disengagement. The findings of this study are similar to the results of some previous studies. Bayrak (2019) conducted a study with 48-72-month-old children and concluded that there is no significant relationship in the sub-dimensions of "play interaction" and "play disruption" according to age variable, but there is a significant relationship in the sub-dimension of "disconnection from play". As children get older, they tend to play plays that they think are better and attract their attention more. With advancing age, attention span increases and children focus on a certain area for a longer period of time and thus become less bored. The duration of a particular play or activity increases with age, and they spend more time on subjects that interest them and that they are willing to do (Önder & Çiftçi, 2020). For this reason, it is thought that the 5-year-olds show disengagement behavior compared to the 6-year-olds.

There are also studies in the literature that reach different results between play behavior and age variable. Aşık Öztürk (2018) concluded that play behaviors vary according to the age of children in the study conducted to evaluate play in group settings in preschool education institutions. It was found that 73 months and older children's scores on the "Observation Form for the Evaluation of Play in Group Environments" are higher than the scores of 36-48 months and 49-60 months children. Acer (2018) examined the value levels and peer play behaviors of 48-72-month-old children attending a preschool education institution and concluded that there is no significant difference between the mean scores on the "Penn Interactive Peer Play Scale" in the sub-dimensions of play disruption and disconnection from play, but there is a significant difference between the sub-dimensions of play interaction. It is thought that the results of the current study differ from the other studies because the age group is close.

Children's mean play interaction scores differs significantly according to the number of siblings. There is a significant difference between being a singleton and having two siblings in favor of two siblings. The number of siblings has a small effect on play interaction.

Taylı (2007) found that singletons play alone more than the children with siblings, while children with siblings play together and cooperative plays more than singletons. Since it is thought that there will be more interaction in cooperative plays, it is similar to the findings of this study. It can be said that siblings are friends and play games with each other at home. Yokuş & Yavuz Konokman (2019), on the contrary to the findings of this research, in their research in which they examined the play behavior levels of preschool children in terms of various variables, revealed that those who do not have siblings play less playful fights compared to those with one or two siblings. However, there are also studies that concluded that the number of siblings do not make a significant difference on the play behaviors of preschool children (Acer, 2018; Aşık Öztürk, 2018; Budak, 2016; Günal, 2019; Kocabaş, 2018;

Kozikoğlu, 2019; Macun & Güvendi, 2019). This is thought to be due to the availability of environments where children can play with their peers or other friends outside the home.

There is a significant difference between the mean scores of children in the play interaction sub-dimension according to the status of receiving preschool education. It can be said that children with preschool education have more play interaction than children without preschool education. Research findings are similar to previous studies. Acer (2018) concluded that children who attended preschool education institutions for a longer period of time have better play interaction levels and lower levels of play disengagement. Günal (2019) concluded that the play tendencies of children who previously attended preschool education institutions are higher than those who did not. Değirmenci (2016) found a significant difference between the duration of education in preschool institutions. Özkılıç Kabul (2019) reached similar results in her research. In her study, which examined the effects of the use of technology on social skills, play skills and language development in three-year-old children, it was concluded that children who attended school had higher levels of play interaction and lower levels of play disruption and disengagement than children who did not attend school. Preschool education institutions are thought to be institutions that allow children to play with their peers. It can be said that children learn to live, play and have fun together by interacting with their peers in these institutions. In these institutions, children have chance to find the best environment for play (Yavuzer, 1999).

A significant difference is found between the prosocial behavior levels of children according to their gender. As a result of the analysis, it can be said that girls tend to show more prosocial behavior than boys. Some research findings are similar to the findings of this study (Aktaş & Güvenç, 2006; Altay & Güre, 2012; Bağcı, 2015; Önal, 2018; Öztürker, 2014; Uzmen & Mağden, 2002; Yazıcı & Salıktutluk, 2017). In the study conducted by Altay and Güre (2012), it was concluded that girls exhibited the behaviors of cooperating with their peers, sharing things and consoling in difficult moments more frequently than boys, and also boys exhibit more physical and verbal aggression behaviors against their peers than girls. Bağcı (2015) found a significant difference in favor of girls in terms of child prosociality teacher form scores. This difference is thought to arise due to the stereotypes attributed to gender roles of the society. While aggression, not acting emotionally, being dominant, and leadership are considered typical Boys behaviors by the society, girls' behaviors are supposed to include being kind, being overly emotional, and being empathetic. These judgments on gender may lead to different upbringing styles and disciplinary attitudes of boys and girls. While girls are rewarded more when they display prosocial behaviors, boys are rewarded when they show their anger. Eisenberg and Fabes (1998) stated that gender differences in prosocial behaviors are not evident in most of the studies, but in cases where this difference is observed, the results are in favor of girls.

No significant difference is found between the prosocial behavior levels of children according to their ages. Children are expected to develop cognitively and linguistically with increasing age. Thus, children can solve their problems by talking, understand the feelings and thoughts of others and give appropriate reactions. It can be said that both the frequency and variety of positive social skills increase with increasing age. In some of the studies on prosocial behaviors (Çubukçu, 2019; Şen, 2009), the age variable creates a significant difference, while in others (Çelik Kahraman, 2019; McGinley & Carlo, 2007; Önal, 2018; Uluyurt, 2012) it does not create a significant difference. It is thought that the lack of a significant difference between prosocial behaviors and age in the study group of the research is due to the fact that the age group is close to each other, the teacher establishes affective relationships with the children and the social skills he/she has.

No significant difference is found between the mean scores of children's prosocial behavior levels according to the number of siblings. The findings of this study are similar to the findings of the study conducted by Uluyurt (2012). In Uluyurt's (2012) study, it was revealed that there is no significant difference in peer relations according to the number of siblings. Gültekin (2008) examined the sibling variable and found that there is no significant difference between those who are only children and those who are not in terms of "Social Skills Total Score" and "Problem Behavior Total Score". Alisinanoğlu and Kesicioğlu (2010) concluded that the number of siblings do not make a significant difference on children's behavioral problems in their study in which they examined the behavioral problems of preschool children. Sarı (2007) reached similar findings, and no significant difference is found between the numbers of siblings in terms of the answers given to the "social adjustment scale". Uzmen (2001) concluded that the number of siblings have no effect on helping and sharing actions. There are also studies in the literature that differ from the findings of this study. Yenidede (2018) found that children with siblings exhibit more prosocial behaviors than those who are singletons. Bağcı Çetin & Öztürk Samur (2018) concluded that the scores of singletons from the mother form of the child prosociality scale are lower than those with one or more siblings. Bağcı (2015) found that the scores of singletons from the child prosociality mother form are lower than those with one sibling and those with two or more siblings. It is thought that children can gain positive social skills such as empathy, cooperation, and sharing through sibling relationships. However, it can be said that families give more importance to the development of their singletons and allocate more time to their children in order for them to acquire social behaviors.

There is a significant difference between the mean scores of children's prosocial behavior level according to the status of receiving preschool education. As a result of the analysis, it can be said that children who receive education tend to show more prosocial behavior than children who have not received education. Yazıcı and Salıktuluk (2017) concluded in their study that the tendency to show prosocial behaviors is directly proportional to the duration of receiving preschool education, and the tendency to show prosocial behaviors increases as the duration of receiving education increases. Günindi (2008) concluded that children who attend preschool education institutions for two years or more have more positive social adaptation behaviors than those who just start school. In a study conducted by Dinç (2002), it was concluded that the social development level of those who attended preschool for two years is higher than those who attended preschool for one year. According to these findings, it can be said that as the duration of preschool education increases, children's tendency to show prosocial behavior also increases.

According to finding of this study, there is a low positive correlation between children's prosocial behaviors and play interaction behaviors ($r = 0.194$, $p = 0.001$). Ogelman and Erten Sarıkaya (2014) examined the predictive effect of preschool children's play behaviors on peer relationships and concluded that increasing the level of social play increases the level of prosocial behavior and decreases the level of antisocial behavior. The finding of the study is parallel in terms of the positive effect of play interaction on prosocial behaviors. Prosocial behaviors are seen around 2-3 years of age, when children are interested in playing with other children. At this age, children need to cooperate and interact socially. Today, with the increase the number of working mothers, children are introduced to the educational environment before the age of three. In this environment, positive behaviors can be thought to be acquired through play (Yazıcı & Salıktuluk, 2017). It can be said that social interaction with peers or adults through play supports the development of prosocial behaviors in children.

There is a significant low negative correlation between children's prosocial behaviors and play disruption behaviors ($r = -0.127$, $p = 0.028$). In the study conducted by Salı (2014) in which peer relations and exposure to peer violence in preschool children were examined in terms of various

variables, it was concluded that the score of showing social behaviors to help peers decreased as exposure to peer violence. In the study conducted by Gülay (2009), it was concluded that as the level of exposure to peer violence increased, hyperactivity, aggression, fearful-anxiousness and non-social behaviors increased in children, while social behaviors aimed at helping others decreased. The findings of this study are in parallel with the findings of Ogelman and Erten Sarıkaya (2014). Ogelman and Erten Sarıkaya (2014) concluded that increasing the level of playful fight increased the level of hyperactivity, aggression, fearful-anxiousness and exposure to peer violence, while decreasing the level of positive social behavior.

There is a significant low negative correlation between children's prosocial behaviors and play disengagement behaviors ($r = -0.140$, $p = 0.016$). In the study conducted by Aşık Öztürk (2018) to evaluate play in group environments in preschool education institutions, it was concluded that play skills in group environments negatively affect children's anxious/introverted behaviors. Coolahan, Fantuzzo, Mendez & McDermott (2000) stated in their study that the behavior of disconnecting from play often causes children not to be accepted by their peers.

The results achieved in this study suggest the following recommendations: The data for the conducted research were collected from both teachers and children. Including parents' perspectives in future studies could lead to obtaining more comprehensive data on play and prosocial behaviors. More comprehensive research can be conducted with additional variables related to play and prosocial behaviors for children. The research could be expanded by selecting a broader population and sample group, and utilizing different scales. Observation-based studies could also be conducted to further examine the relationship between children's peer play behaviors and prosocial behaviors.

References

- Acer, S. (2018). *Investigation of the relationship between value levels and peer play behaviors of 48-72-month-old children attending preschool education institution* (Unpublished master thesis). Okan University, Istanbul.
- Aktaş, V., & Güvenç, G. B. (2006). Relationships between aggressive and positive social behaviors and age, relational context and interpersonal sensitivity in boys and girls adolescents. *Hacettepe University Faculty of Literature Journal*, 23(2), 233-264.
- Alisinanoğlu, F., & Kesicioğlu, O. S. (2010). Investigation of preschool children's behavior problems in terms of various variables (Giresun province example). *Theoretical Education Science*, 3(1), 93-110.
- Altay, F. B., & Güre, A. (2012). The relationships between social competence and positive social behaviors of children attending preschool institutions (public-private) and their mothers' parenting styles. *Educational Sciences in Theory and Practice*, 12(4), 2699-2718. <https://doi.org/10.12984/egeefd.526276>
- Aşık-Öztürk, M. (2018). *Evaluation of play in group environments in preschool education institutions* (Unpublished master thesis). Trakya University, Edirne.
- Bağcı Çetin, B., & Öztürk Samur, A. (2018). Examining the relationship between prosocial behaviors of 60-72-month-old children and their parents' prosocial behaviors. *Erzincan University Journal of Faculty of Education*, 20(1), 1-17. <https://doi.org/10.17556/erziefd.286651>

- Bağcı, B. (2015). *Validity and reliability study of child and adult prosociality scales and examination of the relationship between child and parental prosocial behaviors* (Unpublished master thesis). Adnan Menderes University, Aydın.
- Bahadır, G. (2020). *Investigation of 60-72-month-old children's peer play behaviors and social skills* (Unpublished master thesis). Gazi University, Ankara.
- Bayrak, Ş. (2019). *Investigation of the relationship between 48-72-month-old children's interactive peer play behaviors and moral judgment levels* (Unpublished master thesis). Istanbul Aydın University, Istanbul.
- Coolahan, K., Fantuzzo, J., Mendez, J., & McDermott, P. (2000). Preschool peer interactions and readiness to learn: Relationships between classroom peer play and learning behaviors and conduct. *Journal of Educational Psychology*, 92(3), 458-465. <https://doi.org/10.1037/0022-0663.92.3.458>
- Çelik Kahraman, S. (2019). *Development of pre-school prosocial behavior scale and examination of prosocial behaviors in 48-72-month-old children according to some variables* (Unpublished master thesis). Gazi University, Ankara.
- Çubukçu, A. (2019). *Investigation of the relationship between prosocial behaviors of 48-72-month-old children and their mothers' prosocial behaviors and parental attitudes* (Unpublished master thesis). Uludağ University, Bursa.
- Değirmenci, Ş. (2016). *Adaptation of "renewed knox pre-school play scale" for 48-72 months old children into Turkish and examination of its psychometric properties* (Unpublished master thesis). Marmara University, Istanbul.
- Dinç, B. (2002). *Teachers' opinions on the effects of pre-school education on the social development of 4-5 year old children* (Unpublished master thesis). Anadolu University, Eskişehir.
- Durualp, E., & Aral, N. (2011). *Play-based social skills education* (1st ed.). Ankara: Vize Publishing.
- Eisenberg, N., Spinrad, T. L., & Morris, A. S. (2013). *Prosocial Development* 13. The Oxford Handbook of Developmental Psychology.
- Eisenberg, N., & Fabes, R. (1998). Prosocial development. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Social, emotional, and personality development* (pp. 701-778), New York, NY: Wiley.
- Erten Sarıkaya, H. (2021). *The effect of preschool teachers' communication skills psycho-education program on teacher's communication skills and 5-year-old children's social-emotional adjustment levels and prosocial behaviors* (Unpublished doctoral dissertation). Pamukkale University, Denizli.
- Ferreira, T., Cadima, J., Matias, M., Vieira, J. M., Leal, T., & Matos, P. M. (2016). Preschool children's prosocial behavior: The role of mother-child, father-child and teacher-child relationships. *Journal of Child and Family Studies*, 25, 1829-1839. <https://doi.org/10.1007/s10826-016-0369-x>
- Gülşay Ogelman, H., & Sarıkaya, H. E. (2014). The predictive effect of preschool children's play behaviors on peer relationships. *Abant İzzet Baysal University Journal of Institute of Social Sciences*, 14(3), 301- 321.
- Günel, N. (2019). *Examination of preschool children's playing tendencies and learning styles in terms of various variables* (Unpublished master thesis). Gazi University, Ankara.

- Günindi, N. (2008). *Investigation of the relationship between social adjustment skills of six-year-old children attending preschool education institutions and empathic skills of their parents* (Unpublished master thesis). Gazi University, Ankara.
- Hay, D. F., Payne, A., & Chadwick, A. (2004). Peer relations in childhood. *The Journal of Child Psychology and Psychiatry*, 45, 84-108. <https://doi.org/10.1046/j.0021-9630.2003.00308.x>
- Kadim, M. (2012). *Examination of preschool teachers' self-efficacy towards play teaching* (Unpublished master thesis). Abant İzzet Baysal University, Bolu.
- Karasar, N. (2012). *Scientific research method: Concepts, principles, techniques*. Ankara: Nobel Publication.
- Kerlinger, F. N., & Lee, H. B. (1999). *Foundations of behavioral research*. New York: Harcourt College Publishers.
- Kılınç, N. (2016). *Investigation of the relationship between 5-6 years old children's social skills and problem behaviors and play behaviors* (Unpublished master thesis). Karabuk University, Karabuk.
- Kozikoğlu, İ. (2019). Investigation of play behaviors of children attending preschool education institutions. *AJESI - Anadolu Journal of Educational Sciences International*, 9(2), 787-817. <https://doi.org/10.18039/ajesi.582075>
- Köster, M., Ohmer, X., Nguyen, T. D., & Kärtner, J. (2016). Infants understand others' needs. *Psychological science*, 27(4), 542-548. <https://doi.org/10.1177/0956797615627426>
- Köycekaş, A. (2019). *Investigation of children's temperament characteristics and play behaviors* (Unpublished master thesis). Gazi University, Ankara.
- Ladd, G. W., & Profilet, S. M. (1996). The Child Behavior Scale: A teacher-report measure of young children's aggressive, withdrawn, and prosocial behaviors. *Developmental Psychology*, 32(6), 1008–1024. <https://doi.org/10.1037/001>
- Leung, C. (2013). Validation of the penn interactive peer play scale with preschool children in low-income families in Hong Kong. *Early Child Development and Care*, 184(1), 118-137. <https://doi.org/10.1080/03004430.2013.773990>
- Malti, T., & Dys, S. P. (2018). From being nice to being kind: Development of prosocial behaviors. *Current Opinion in Psychology*, 20, 45-49. <https://doi.org/10.1016/j.copsyc.2017.07.036>
- McDermott, P. A., Fantuzzo, J., & Bulotsky-Shearer R. J. (2008). An investigation of classroom situational dimensions of emotional and behavioral adjustment and cognitive and social outcomes for head start children. *Developmental Psychology*, 44(1), 139-154. <https://doi.org/10.1037/0012-1649.44.1.139>
- McGinley, M., & Carlo, G. (2007). Two sides of the same coin? The relations between prosocial and physically aggressive behaviors. *Journal of Youth and Adolescence*, 36(3), 337-349. <https://doi.org/10.1007/s10964-006-9095-9>
- Metin Aslan, Ö. (2013). *Investigation of the play behaviors of children attending kindergarten and the bullying behaviors that occur in their plays* (Unpublished doctoral dissertation). Hacettepe University, Ankara.

- Ogelman, H. G., & Erten Sarıkaya, H. (2014). The predictive effect of preschool children's play behaviors on peer relationships. *Journal of AİBÜ Institute of Social Sciences*, 14(3), 301-321.
- Önal, F. (2018). *Investigation of prosocial behaviors of children with and without mainstreaming students in preschool education* (Unpublished master thesis). Istanbul University, Istanbul.
- Önder, A., & Arslan Çiftçi, H. (2020). *Play in early childhood and learning through play*. Ankara: Nobel.
- Özcan, A. (2016). Examination of master's and doctoral theses and articles about prosocial behaviors in preschool period in Turkey. *International Journal of Social Science*, 51, 489-504.
- Özcan, A. (2017). *Investigation of the relationships between 60-72-month-old children's perceptions of moral and social rules, prosocial behaviors and emotion regulation skills* (Unpublished master thesis). Gazi University, Ankara.
- Özkılıç Kabul, N. D. (2019). *Examination of the effects of technological device use on social skills, play skills and language development in three-year-old children* (Unpublished doctoral dissertation). Maltepe University, Istanbul.
- Öztürk, F. D. (2019). *Investigation of the relationship between attachment styles of preschool children aged 4-6 years and social skill level and play behavior* (Unpublished master thesis). Istanbul Aydın University, Istanbul.
- Sönmez, K. (2019). *Examination of the relationship between the temperaments of preschool children and their peer relationships* (Unpublished master thesis). Trakya University, Edirne.
- Şen, M. (2009). *Investigation of 3-6 age group children's social behaviors in terms of some variables* (Unpublished doctoral dissertation). Hacettepe University, Ankara.
- Taylı, A. (2007). *The effect of having or not having siblings on social play in preschool period* (Unpublished master thesis). Ankara University, Ankara.
- Uluhurt, F. (2012). *Peer relationships of 5-6 year old children attending pre-school education institutions according to some variables* (Unpublished master thesis). Selçuk University, Konya.
- Uzmen, S., & Mağden, D. (2002). Supporting prosocial behaviors of six-year-old children attending preschool education institutions with illustrated children's books. *Marmara University Atatürk Faculty of Education Journal of Educational Sciences*, 15, 193-212.
- Üzel, I. (2020). *Investigation of the effect of 48-72 months old children's aggression orientation on play interaction* (Unpublished master thesis). Istanbul Okan University, Istanbul.
- Yavuzer, H. (1999). *Parent and child*. Istanbul: Remzi.
- Yavuzer, H. (2007). *The first 6 years of your child's physical, mental and social development*. Istanbul: Remzi.
- Yazıcı, Z., & Salıktutluk Y.Z. (2018). The relationship between parents' prosocial behaviors and children's prosocial behaviors. In A. Kodaman & E. İ. Işıklı (Eds.), *Academic research in social, humanities and administrative sciences* (pp. 411-430). Ankara: Gece.
- Yenidede, E. E. (2018). *Investigation of the effect of social, emotional and cognitive development on the prosocial behaviors of 60-72-month-old children* (Unpublished master thesis). Maltepe University, Istanbul.

Yokuş, G., & Yavuz Konokman, G. (2019). Examining the levels of play behaviors of preschool children in terms of various variables. *Kastamonu Journal of Education*, 27(3), 1141-1148. <https://doi.org/10.24106/kefdergi.2722>

Zahn-Waxler, C., Radke-Yarrow, M., Wagner, E., & Chapman, M. (1992). Development of concern for others. *Developmental Psychology*, 28, 126-136. <https://doi.org/10.1037/0012-1649.28.1.126>

Ethics Committee Permission:

The necessary permissions were obtained from Kütahya Dumlupınar University, Social and Human Sciences Scientific Research and Publication Ethics Board of Social Sciences and Humanities with the letter numbered E.38765 and from Kutahya Provincial Directorate of Ministry of National Education.