

Investigation of the relationship between children's prosocial behaviour and self-regulation skills

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Suggested Citation:

Kaya, I., (2020). Investigation of the relationship between children's prosocial behaviour and self-regulation skills. *Cypriot Journal of Educational Science*. 15(5), 877 -886 <https://doi.org/10.18844/cjes.v15i5.5071>

Received from 29 July 2020; revised from 04 August 2020; accepted from August 28, 2020.

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Abstract

This study aimed to investigate the relationship between children's prosocial behavior and self-regulation skills. To collect the data of the study, demographic information form developed by the researcher was used for the demographic information of children, the prosocial behavior sub-dimension of the social behavior scale was used for the prosocial behavior, and the self-regulation skills scale was used for the self-regulation skills of the children. The collected data were analyzed by independent sample t-test, Pearson's product moment correlation analysis and simple linear regression analysis in a computer package software. As a result of the research, while the self-regulation and prosocial behaviors of children differed according to gender and age of children, the situation of the children whether they have siblings and duration of the pre-school education did not make any significant difference. According to these results, girls' self-regulation and prosocial behavior scores were higher than that of boys and 6 years of age children's scores were higher than that of 5 years of age children. While there was a moderate positive significant relationship between self-regulation skills and prosocial behavior, it was concluded that the prosocial behavior of children predicted self-regulation skills at the level of 11%.

Keywords: Prosocial behavior, self-regulation skills, early childhood, preschool

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1. Introduction

The child is an integral part of society and society shapes the child's behavior. The society expects from the child to display positive behaviors. Over time, the child perceives the expectations of the environment and behaves accordingly. In this process, in order to satisfy his/her needs, regulate his/her behaviors according to the value judgments of the society and make a habit out of positive behaviors by minimizing negative behaviors, the child have to learn establishing good relations with others (Ramazan & Dönmez, 2018).

Prosocial behavior is the action for the benefit of others (Baron, Byrne, & Branscombe, 2006). Another concept used is altruism. Prosocial behavior is a more comprehensive concept that includes altruism (Scott & Seglow, 2007). Eisenberg (2006) has defined prosocial behavior as the actions performed deliberately for the well-being of others. In another definition, it is expressed as focusing on positive emotions, values and behaviors towards others but not related to the individual's his/herself (Aydin & Karakelle, 2016; Çelik Kahraman, 2019; Hoffman, 1982).

Although prosocial behavior development in children is partly a result of factors other than socialization, prosocial behavior tendencies can be encouraged by using various socialization practices for adults (Öztürker, 2014). Although many people and factors play a role in developing prosocial behaviors, actions, motives and reasoning, schools, teachers and parents are the most important elements in the process of social development (Eisenberg, 2006). Aydin and Karakelle (2016) states that in order to the help behavior of a child is to be seen, the child must first understand what the person with which he/she interacts is doing and, by keeping this information in mind, he/she must about the activity he/she is engaged and he/she should make an effort that the other person reach his/her desire.

Recent researches showed that children's prosocial behavior varies according to various variables. The research of Kivanç Öztuğ and Amca (2016) revealed that children with two or more siblings showed more prosocial behavior and less depressive feelings than children without siblings. Bağcı and Samur Öztürk (2015) examined the relationship between the prosocial behavior of 60-72 month-old children attending pre-school education and their parents, and concluded that girls' prosocial behavior was significantly higher than boys.

Prosocial behaviors are related to emotion regulation. The ability of the individual to manage himself, to regulate his own wishes and desires and to watch over the well-being of others is related to the individual's ability to regulate his own behavior (DeHart, Sroufe and Cooper (DeHart, Sroufe, & Cooper, 2000).

Preschool period is a period in which children can understand their own behaviors and understand the reasons of their and others behavior and shape them accordingly. In this period, children who have gained self-regulation skills will also gain the ability to control, regulate and manage their behavior (Şepitci & Gültekin Akduman, 2019). In this sense, Laible, Carlo, Murphy, Augustine, and Roesch (2014) stated that children with prosocial behavior have high self-regulation skills.

Posner and Rothbart (2009) has been defined self-regulation as the ability to regulate an individual's emotions, thoughts, desires and desires by controlling them. While Zimmerman (2000) pointed out that children with improved regulation skills can improve themselves socially and emotionally, Ogelman, Seçer, Gündoğan, and Bademci (2015) stated that these children can establish more sincere, friendly and positive relationships in social environments and their relationships with their environment. Ramani, Brownell, and Campbell (2010) argues that self-regulation affects the quality of the child's social interaction and learning experiences. Self-regulation plays a critical role in the development of behaviors, reactions, thoughts, and emotions, and is important because it forms the basis for prosocial behavior (Bell & Deater-Deckard, 2007).

The researches related to preschool period focuses on children's ability to help, collaborate, wait for their turn, follow rules, academic skills, control and manage their self, emotions and anger (Sezgin

& Demiriz, 2016). Yaralı and Aytar (2017) stated that children whose self-regulation skills did not develop during this process showed more behavioral problems, did not comply with the rules, disrupt the group order, and developed more addiction-oriented behaviors. In addition, Hrbáčková and Petr Šafránková (2016) found that children with improved self-regulation skills performed better than their peers in attention and focus, and in controlling their emotions and behavior. Tanrıbuyurdu and Yıldız (2014) indicated that self-regulation skills acquired by individuals are important building blocks in the construction of social life. The early development of children's self-regulation skills will provide them with the power to deal with many problems that they will face in social environments, while making them more confident (Zimmerman & Schunk, 2001). Therefore, children with high self-regulation skills will also have a higher tendency to show prosocial behavior (Aydın & Ulutaş, 2017; Yenidede, 2018).

Literature search revealed that there is no study in which prosocial behavior and self-regulation skills are studied together. The present study aimed to examine the relationship between the prosocial behaviors and self-regulation skills of 5-6 years old (48-72 months) preschool children. For this purpose, answers to the following questions were sought.

1. Do children's self-regulation and prosocial behaviors differ according to their demographic characteristics?
2. Is there a relationship between children's self-regulation skills and prosocial behavior?
3. Is the prosocial behavior of children a significant predictor of ability to self-regulate?

2. Method

The quantitative research method is used in this research. The model of the research is the relational screening model. The studies examining the relationships and connections are relational in order to better understand the phenomenon. Correlational studies are examples of relational research (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2012).

2.1 Study group

The study group of the research consists of kindergarten students having education at Ümraniye Nurten Yıldırım Sancak Kindergarten, which is affiliated with the Istanbul National Education Directorate in the 2019-2020 academic year. The study group was selected by criterion sampling, which is one of the purposeful sampling methods. Criterion sampling is created from people, events, objects or situations with certain qualifications (Büyüköztürk et al., 2012). In the sample selection of this study, having a child between 48-72 months, having no disability for the child and voluntarily accepting to participate in the study as criteria was applied. After obtaining the research permit, the teachers at the institution were reached and the purpose of the study and how to fill the 4-6 age self-regulation skills scale (teacher form) and pre-school social behavior scale (teacher form) were explained. Through the teachers who agreed to participate in the research, along with the demographic information form, an information form was sent to the parents of the students of aged between 48-72 months that explains about the purpose of the study and where and for what purpose the information was used. 300 forms were distributed to teachers, 226 forms were filled by the teachers and feedback was provided. 3 forms which were filled missing were not included in the study.

Considering the demographic characteristics of the children participating in the study, 108 are girls (48.4%) and 115 are boys (51.6%). 57 were 5 years old (25.6%), 166 were 6 years old (74.4%); 79 had no siblings (35.4%), 100 (64.6%) had siblings, 103 received pre-school education for one year, 91 (53.8%) received pre-school education for two or more years.

2.2 Data Collection Tools

The data in the study were collected by using the demographic form developed by the researcher, the 4-6 age self-regulation skills scale (teacher form) and “preschool social behavior scale (teacher form).

2.2.1 Demographic Information Form

It is an information form developed by the researcher that aims to obtain the demographic characteristics of the children. This form was filled by the mothers of the children.

2.2.2 Preschool Social Behaviour Scale (Teacher Form)

The original version of the scale was developed by Crick, Casas and Mosher (1997) under the name of Preschool Social Behavior Scale-Teacher Form. The scale was translated into Turkish by Şen and Arı (2011) and adapted to Turkish culture and Turkish children. The scale consisting of 25 items is a 5-point Likert-type scale. The Turkish form of the scale has four factors. The variance explained by the four factors regarding the scale is 69.99%. The common variances of the four factors are between 0.506 and 0.974. Explicit/physical aggression explains 44.10% of the total variance related to the scale, prosocial behavior 12.03%, relational aggression 8.32% and depressive affect 5.51%. The prosocial behavior factor consists of 7 items and the load value of 7 items varies between .804 and .563. When the compliance statistics found in the confirmatory factor analysis of the scale are analyzed; The chi-square value was calculated as 637.76 ($p < .01$) and its ratio to degree of freedom (241) was found to be $637.76 / 241 = 2.6$. Within the reliability studies of the scale, the prosocial behavior dimension is .89, and the test-retest reliability coefficient is .81 for the prosocial behavior dimension. This scale was filled in by teachers and the prosocial behavior sub-dimension was used in the research.

2.2.3 4-6 Age Self-Regulation Skills Scale (Teacher Form)

This is a scale to determine the self-regulation skills of 4-6 year old children based on the opinions of the teachers. The scale developed by İvrendi and Erol (2018) consists of 22 items and was prepared as a 5-point Likert. The validity and reliability study of the scale was conducted with 20 preschool teachers and 438 children. Expert opinion was applied for the scope and appearance validity of the measurement tool, exploratory factor analysis and confirmatory factor analysis were applied for structure validity. A 3-factor structure was obtained as the attention, working memory and preventive control with 22 items explaining 63% of the variance. The first factor explains 46.79% of the total variance, the second factor explains 8.60% and the third factor explains 7.67%. The internal consistency coefficient of the measurement tool is .94, and the internal consistency coefficients for the sub-dimensions range from .91 to .87. The test half-life coefficient is 0.90. According to Guttman Lambda (Li) method, the scale with reliability coefficients between 0.90 and 0.96 is a valid and reliable measurement tool. The scale was filled in by teachers.

2.3 Analysis of the Data

The data obtained from the demographic information form filled by the parents, and the self-regulation skills scale and the pre-school social behavior scale for 4-6 years old children filled by the preschool teacher were analyzed with the statistical package software. Kolmogorov smirnov test was used to find out whether the data was normally distributed and parametric tests were applied since the data showed normal distribution. The differences among the groups with respect to demographic characteristics in the self-regulation and prosocial behaviors of the children were examined by independent groups t-test, the relationship between prosocial behavior and self-regulation skills was analyzed by simple linear correlation analysis and the predictive ability of prosocial behaviors to self-regulation skills was examined by regression analysis. The values obtained in the Pearson correlation

analysis are ranked as 0.00 no correlation, 0.01-0.29 low level correlation, 0.30-0.70 medium level correlation, 0.71-0.99 high correlation, and 1.00 perfect correlation [29]. Significance was accepted as $p < .05$.

3. Findings

This section presents results based on the analysis of the collected data.

Table 1: t test results regarding the difference in the demographic characteristics of children with respect to the prosocial behavior and self-regulation scores

Variables		n	\bar{x}	Sd	t	p
Self-regulation	Girl	108	4.01	.553	2.136	.036*
	Boy	115	3.86	.568		
Prosocial behaviors	Girl	108	3.98	.644	2.887	.004**
	Boy	115	3.73	.667		
Self-regulation	5 Year	57	3.74	.470	-3.075	.002**
	6 Year	166	4.00	.581		
Prosocial behaviors	5 Year	57	3.68	.640	-2.290	.023*
	6 Year	166	3.91	.667		
Self-regulation	No siblings	79	4.00	.550	1.243	.215
	Siblings exists	144	3.90	.572		
Prosocial behaviors	No siblings	79	3.90	.651	.869	.386
	Siblings exists	144	3.82	.676		
Self-regulation	Having education for 1 year	103	3.91	.596	-.654	.514
	Having education for 2 or more years	120	3.96	.540		
Prosocial behaviors	Having education for 1 year	103	3.84	.678	-.287	.774
	Having education for 2 or more years	120	3.86	.659		

* $p < .05$ ** $p < .01$

When the table regarding the difference in the demographic characteristics of children with respect to self-regulation and prosocial behaviors is examined, the mean self-regulation scores of girls ($\bar{x} = 4.01$) are higher than the mean self-regulation scores of boys ($\bar{x} = 3.86$). This difference was significant ($t(223) = 2.136$, $p < .05$). Moreover, there is a significant difference between the prosocial behavior score means of girls ($\bar{x} = 3.98$) and the prosocial behavior means of boys $t(200) = 2.887$, $p < .05$. These results can be interpreted as girls' self-regulation skills were improved more than boys and the girls showed more prosocial behavior.

Considering the self-regulation and social behavior scores for the 5 and 6 years of age, the mean self-regulation score of 6 years is ($\bar{x} = 3.74$), while the mean self-regulation score of 5 years is ($\bar{x} = 3.68$). The difference between the mean scores of the two groups is significant ($t(223) = -3.075$, $p < .05$). In addition, the difference between the prosocial behavior score of 6 years ($\bar{x} = 3.91$) and the prosocial behavior score of 5 years ($\bar{x} = 3.68$) was also significant $t(223) = -2.290$, $p < .05$. In brief, the age factor in children made a significant difference in self-regulation and prosocial behavior scores.

There was no significant difference between self-regulation scores ($t(223) = 1.243$, $p > .05$) and prosocial behavior scores ($t(223) = -.287$, $p > .05$) of children with respect to whether having siblings. Moreover, the pre-school education durations of the children did not make any significant difference in self-regulation ($t(223) = -.654$, $p > .05$) and prosocial behavior ($t(223) = -.287$, $p > .05$) scores.

Table 2: Correlation analysis results regarding the relationship between children's self-regulation abilities and their social behavior

Variables	n	r	p
Self-regulation	223	.341	.000**
Prosocial behavior			

**p<.01

As a result of the correlation analysis conducted to determine the relationship between self-regulation and prosocial behavior, a moderately significant positive correlation was found between the scores at 34.1% ($r = 0.343$; $p = 0.000 < 0.01$) level. These data revealed that as the self-regulation scores of children increase, their social behavior scores also increase.

Table 3: Simple linear regression analysis results on the predictability of self-regulation skills by social behavior

Variables	R	R ²	F	B	Sd	β	t	p
Constant				2.448	.257		9.539	.000**
Prosocial behavior	.341	.116	29.062	.348	.065	.341	5.391	.000**

**p<.01

When the simple linear regression analysis results regarding the predictability of self-regulation skills by social behaviors were analyzed, a significant positive relationship was observed between prosocial behavior and self-regulation ($R = .341$, $R^2 = .116$), and the results showed that prosocial behaviors were a significant predictor of self-regulation score ($F(1-221) = 29.062$, $p < .05$). 11% of the variance related to self-regulation can be explained by the prosocial behavior of children. The significance test of the coefficient of the predictive variable ($B = .348$) based on the regression equation also shows that prosocial behavior is a significant predictor ($p < .01$). According to the results of the regression analysis, the regression equation that predicts self-regulation is as follows. Self-Regulation Score = $(0.348 * \text{Prosocial Behavior Score} + 2.448$.

4. Discussion, Conclusion and Recommendation

Results of this study indicated a significant difference in the self-regulation and prosocial behavior scores, when the girls were compared to boys and 6 years of age children were compared to 5 years of age children. The prosocial behavior and self-regulation skills of the children differed according to the gender and age of the children. When the literature was reviewed, it was seen that findings of the other researches supports these results.

The result of the research in which Dağgöl (2016) investigated children's self-regulation skills and the parenting styles of the parents showed that the scores of girls from the attention/impulse sub-dimension and total of self-regulation were significantly higher than that of boys. In the study, where the relationship between self-regulation skills of 5-6 years old children and their school compliance was investigated, although the difference was not significant in the self-regulation scores according to the gender, scores of the girls were higher than the boys, and the self-improvement skills formed a significant difference according to the age of the child (Şepitci & Gültekin Akduman, 2019).

In the study where Sepitci and Gültekin (2019) examined the self-regulation skill levels of 36-72 month-old children who received preschool education in terms of some variables such as age and gender, it was reported that age and gender affects the development of self-regulation. The studies of

Denham, Warren-Khot, Bassett, Wyatt, and Perna (2012), Kochanska, Murray, Jacques, Koenig, and Vandegest (1996) shows that as the age of the children increases, their self-regulation skills increase.

In the study of Şen (2009) which determined the social behavior of children aged three, four, five and six who attend preschool education institutions, it was found that girls showed more prosocial behaviors than boys. In the study of Altay and Güre (2012) in which researchers investigated the relationship between the social competencies and prosocial behaviors of girls and boys and conducted with the teachers and mothers of 344 children between 35-75 months of age, it was found that girls presented more prosocial behaviors than boys. In contrast to most of the researches conducted domestically and abroad revealing that self-regulation and prosocial behaviors differ according to gender (Aksoy & Yaralı, 2017; Blair, Granger, & Peters Razza, 2005; Eisenberg, Liew, & Pidada, 2001; Seçer, Sarı, Çeliköz, & Üre, 2009; Teke, 2019), there are other group of studies as well showing that gender does not make any difference (Kara & Gönen, 2015; Li-Grining, 2007; Tanrıbuyurdu & Yıldız, 2014).

As a result of the correlation analysis conducted to determine the relationship between self-regulation skills and prosocial behavior, a moderately significant positive correlation was found. In the light of these data, as the self-regulation scores increase, the social behavior scores increase. The prosocial behaviors of the children predict their self-regulation skills at the level of 11%. In the research conducted by Pazarbaşı and Cantez (2019), a positive significant relationship was found between the prosocial behavior of the children and their behavior regulation at the level of 38.3%. As the prosocial behavior scores of the children increase, the behavior regulation scores increase. Moreover, 32.4% positive correlation was found between prosocial behavior aiming help for children 's peers and their sociality. In the study where, Hubert, Guimard, and Florin (2017) investigated the relationship between social integration, social problem solving and prosocial behaviors and self-regulation skills, predicted children's prosocial behaviors in the kindergarten predicted the cognitive self-regulation more than that of the 1st grade prosocial behaviors and peer acceptance.

Garner and Waajid (2012) investigated whether emotional knowledge and self-regulation predict preschool children's cognitive competence, social competence and classroom behavior problems. Hierarchical regression analysis was used to investigate the predictability of cognitive competence, social competence and classroom behavior problems from emotional knowledge and self-regulation in relation to age, gender and family income level. While emotional knowledge predicted both cognitive competence and social competence, it did not predict classroom behavior problems. While self-regulation is the predictor of classroom behavior problems, it is not the predictor of cognitive and social skills. The metanalysis study of Memmott-Elison, Holmgren, Padilla-Walker, and Hawkins (2020) investigating the consistency and effect of prosocial behaviors to the improvement of the symptoms in the period until adolescence, showed that more prosocial behaviors are significantly associated with lower levels of externalizing behavior. Moreover, more social behavior was found to be associated with less observed internalizing symptoms. They revealed that there are significant relationships between prosocial behavior and aggression, substance abuse, guilt, depression and emotional problems.

Additionally, in the study where the relationship between self-efficacy, self-regulation and prosocial behavior among secondary school students in Uganda was investigated, a positive relationship was found between self-regulation and prosocial behavior (Kakeeto, 2018). Trentacosta and Shaw (2009) investigated the relationship between negative social behavior and self-regulation showed that children who use less attention, which is one of the early childhood self-regulation strategies, experience negative social behaviors more in middle childhood. Also, the study of Cho and Woo (2019) investigated the preventive control as a sub-dimension of self-regulation that preschool children between the ages of 3 to 5 who has strong attention and working memory were found to have a higher social capacity to respond to their environment and peers.

As a result of the present research, while of children differed by gender and age of children, the presence or absence of sibling and the duration of continuing preschool education did not affect

significantly self-regulation and prosocial behaviors scores. According to this result, girls' self-regulation and prosocial behavior scores were higher than boys, 6 years of children's scores were higher than 5 years of age children. Moreover, a moderately significant positive relationship was found between self-regulation skills and prosocial behavior. In addition, it was concluded that prosocial behaviors of children predicted self-regulation skills at the level of 11%.

The research has some assumptions and limitations. The study assumed that teachers fill the measuring tools for determining the prosocial behaviors and self-regulation skills of the children correctly and sincerely. The limitation of the research is the limited sample size. More generalizable results can be obtained by conducting the research with large sample groups. Another limitation is the fact that students' self-regulation and prosocial behaviors are based only on teacher observation. Collection of the data regarding the prosocial behavior and self-regulation skills of the children by using different techniques such as interview and observation from different people who know the mother, father and child, will provide data richness and diversity. In the future, research can be performed using different research methods at different ages.

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