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# An Experimental Study of the Development of Empathy and Prosocial Behavior among Preschool Children *

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## Abstract

This study examined the development of empathy and prosocial behaviors (helping and sharing) among preschool children who had attended an empathy training program. A semi-experimental design with pre-test-post-test control groups was employed. The sample comprised 39 children aged 5 years, of whom 20 and 19 were in the experimental and control groups, respectively. Appropriate sampling methods were used for sample selection. The groups comprised children from two different kindergartens in two different primary schools affiliated with the Ministry of National Education (MONE). The training program was prepared by the researcher and 100 integrated activities were created to ensure the empathic and prosocial development of the children. The activities included helping and sharing, as well as other prosocial skills such as cooperation and waiting in line, along with empathy skills. The program was conducted by the researcher for children in the experimental group, four days a week, for nine weeks. Two methods of evaluation were used to assess the empathy and prosocial behaviors of the experimental and control groups. To measure the children's empathy skills, “the Empathy Scale for Children” was used in the pre- and post-tests. If the children identified the feelings of the main character correctly, they scored 1 point. If they identified it incorrectly or left the question unanswered, they scored 0. A high score indicated a high level of empathy. In the evaluation of prosocial behaviors, observation, a method of evaluation in the literature, was preferred. In this method, the researcher demonstrated certain behaviors, and the children's reactions were noted and analyzed. Eventually their helping and sharing behaviors were analyzed. It was found that the training program improved the empathic and prosocial behaviors of the children in the experimental group. However, the control group, which was not trained in terms of empathic and prosocial behavior, fell short of expectations around helping skills and an

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improvement around sharing skills. Recommendations were proposed for teachers to organize systematic and planned trainings in order to improve the empathic and prosocial behaviors of preschool children, implement activities that help develop empathic and prosocial behaviors, and analyze the development of helping and sharing behaviors in the natural development processes of children.

## Introduction

Empathy is the ability to understand the feelings of others, and prosocial behaviors are purposeful acts of kindness toward living creatures in distress, through the use of_empathy skills (Eisenberg & Mussen, 1989; Eisenberg & Strayer, 1987; Feshbach, 1975; Hoffman, 1987). Studies have found that empathy in children can be seen from a very young age, even from infancy, and the first examples are seen in babies reacting to the crying of other babies (Martin & Clark, 1982; Sagi & Hoffman, 1976; Simner, 1971). Supporting empathetic and prosocial behaviors in children from an early age can contribute toward the positive development of their personalities. When combined with prosocial behaviors, which are voluntary acts of kindness, children's ability to understand another person's feelings and give an appropriate emotional response will lead to better social and emotional development. Children can exhibit more altruistic and less selfish behaviors from an early age onwards. Thus, it is important to develop empathic skills and prosocial behaviors in children.

Some researchers (Martin & Clark, 1982; Sagi & Hoffman, 1976; Simner, 1971) have stated that empathy is an instinctive and innate feature and can be developed. Others (Rogers, 1975) have emphasized that even if empathy is not innate, it can be developed and learned in an empathetic environment. Either way, the researchers emphasized that empathy is a developable feature and it is significant to develop it. Some researchers (Ahammer & Murray, 1979; Deutsch & Madle, 1975; Dymond, 1949; Ridley, Vaughn, & Wittman, 1982; Staub, 1987) have emphasized the cognitive aspect in the development of empathy, and considered empathy as a cerebral function. Others (Eisenberg & Strayer, 1987; Hoffman, 1984, 1987; Martin & Clark, 1982; Simner, 1971) have emphasized the affective characteristics and that emotions and internal motivation are important. Researchers who focused on the cognitive aspect have stated that empathy cannot develop in a real sense before the concrete activities phase, where the egocentric perspective loses ground. They stated that behaviors that may serve as an incident evoking empathy can be observed in children before the concrete activities phase. After the 1970s, the trend was to combine cognitive and affective elements (Dökmen, 1995) when both were handled together. Studies (Martin & Clark, 1982; Sagi & Hoffman, 1976; Simner, 1971) showed that empathy had cognitive and affective features, and that the development of empathy started from infancy.

Hoffman's developmental stages (1984, 1987, 2008) have been commonly referenced in the literature on the development of empathy in children. The model identifies four developmental stages of empathy starting from infancy: "Global (Universal) Empathy" for ages 0 to 1 years, "Egocentric Empathy" for ages 1 to 2 years, "Empathy for Other's Emotions" for ages 2 to 6 years, and "Empathy for Other's Living Conditions" for ages 7 years and above. For example, a baby shows the first signs of unconscious empathy in the global empathy stage. Newborn babies respond to the crying of other babies in the same environment by crying. This response is neither an impulsive cry of imitation nor a cry expressing a sense of discomfort; the same babies displayed less crying response to cries they heard from a tape or to the crying sounds of chimpanzees, than to the cries of a baby (Hoffman, 2008; Martin & Clark, 1982; Sagi & Hoffman, 1976; Simner, 1971). By the age of 6 months, babies gradually give up on this first cry, and instead watch their crying peers for a while, put on a sad facial expression, pucker

their lips, and then cry (Hay, Nash, & Pedersen, 1981). In the egocentric empathy stage, children begin to realize that the person experiencing sadness/distress is not them, but someone else. However, because the child does not fully know the inner state of the other person, it may offer inappropriate/egocentric empathetic responses; for example, the child may try to comfort a crying adult by bringing his own toy (Hoffman, 2008). Empathetic tendencies lead to prosocial behavior toward the age of two years. During this period, the child may kiss, hug, pat the back, or bring his toy to console someone who is crying. At the empathy for other's emotions stage, children aged 2 to 6 years, whose role-playing skills are beginning to develop, begin to understand that the feelings and needs of others may differ from their own. They become capable of empathizing with more complex emotions and gradually learn to respond more appropriately prosocially (e.g., trying to comfort a crying friend by bringing his friend's toy, not his own).

Empathy is an appropriate emotional response to the emotional situation of another person, regardless of one's own situation (Hoffman, 1987). It constitutes the origin of prosocial behaviors, which are called "voluntary kindness behaviors". Feshbach (1975), considered empathy the ability to recognize the point of view of another individual and an activity that involves the process of sharing the emotional reaction that the other person is experiencing. Definitions also include sharing of emotions with a person facing the individual and reacting with the appropriate emotion to that person's situation (Eisenberg & Strayer, 1987; Roberts & Strayer, 1996).

Rogers (1975) used one of the oldest and most common definitions of empathy in the literature in the field of psychotherapy: the process of entering and understanding someone else's private perceptual, individual world, and understanding it along with its emotional components, while including the condition "if I were that person" (Rogers, 1957, 1975). Empathy was first used as a concept in the field of fine arts in the 19th century, to express a person's reflection by including the object in front of him. It was used by personality theorists in the 1930s and psychotherapists in the 1950s under Rogers' leadership. It was used by social and developmental psychologists in the 1960s to explain altruistic behavior (Wispe, 1987). Experts who borrowed the definition of empathy from the field of fine arts and used it in psychology interpreted the state of reflection by including the object in fine arts in such a way that individuals can understand other people in a similar manner, and that the origin of empathy is internal, namely motor imitation.

Prosocial behavior is exhibited voluntarily for the sake of another or a group, and involves helping (Eisenberg & Mussen, 1989). It encourages harmonious relationships with others (Hay, 1994). Actions such as donating, sharing, helping, and cooperating can be considered prosocial behavior (Eisenberg, Spinrad, & Knafo-Noam, 2015). They manifest in various ways, such as caring for others or groups in need, helping and sharing behaviors, and conducting pioneering and active studies on these issues (Eisenberg & Mussen, 1989). Helping, sharing, consoling, and cooperating are examples of prosocial behaviors (Beaty, 1998). Beaty (1999) diversified the range of prosocial behaviors for preschool children and included acts such as allowing other children to participate in a game, collecting toys when requested, waiting in line, following rules, expressing feelings verbally, and being respectful and understanding.

Prosocial behaviors are observed more clearly in children near the age of two years. Radke-Yarrow, Zahn-Waxler, and Chapman (1983) found that children aged between one and two years make behavioral attempts to comfort an individual experiencing sadness and distress, and that at the age of two years and above, they try to console this person by bringing various objects, making conversation with expressions of sympathy, and offering suggestions.

Empathic interest and emotions are critical factors that intercede prosocial behavior (Eisenberg & Mussen, 1989; Hoffman, 2008). Empathy and prosocial skills are closely related to each other. Roberts and Strayer (1996) found that children with high empathic skills demonstrated greater cooperation and helping behaviors (prosocial behaviors) than did children with low empathic skills. Weston and Main

(1980) found that children aged one year had sad expressions on their faces when they saw a sad adult, and exhibited prosocial behaviors (hugging, caressing, and so on) to comfort a crying individual. Eisenberg, McCreath, and Ahn (1988) found that the empathetic reaction of preschool children to an individual's situation of distress with a sad facial expression is associated with their display of prosocial behavior such as sharing helpfulness with their peers. Studies have also found that children's empathetic reactions to individuals experiencing distress are linked to their prosocial behavior to comfort the other person (Radke-Yarrow, et al., 1983; Radke-Yarrow & Zahn-Waxler, 1984).

Children who demonstrate higher empathy and perspective-taking skills on cognitive scales also demonstrate more helping behaviors toward others (Chalmers & Townsend, 1990). These studies support that empathy and prosocial behaviors interact with each other and the development of one supports the other. They enhance children's social emotional development skills and personalities.

Empathy training programs led to an increase in children's empathic and prosocial behaviors and peer acceptance, and a decrease in aggression and bullying behaviors and other behavior problems (Ahammer & Murray, 1979; Feshbach, 1979; Feshbach & Feshbach, 1982; Gordon, 2003; Kahraman, 2007; Kalliopuska & Ruokonen, 1993; Kalliopuska & Tiitinen, 1991; Otfinowski, 2000; Ridley et al., 1982; Şahin, 2012; Yüksel, 2003). Music, role-playing, storytelling, TV programs, and family participation have been used in training programs (Ahammer & Murray, 1979; Kalliopuska & Ruokonen, 1993; Kalliopuska & Tiitinen, 1991; Wee, Kim, Chung, & Kim, 2022). Wu, Kim, and Markauskaite (2020) obtained positive results on the development of empathy among preschool children who played video games that included empathy training. Gordon (2003) found that an educational program titled "The Origins of Empathy," which included children aged between 3 and 14 years and their families, resulted in an increase in the children's prosocial behaviors such as showing courtesy and being fair. The development of empathy and prosocial behaviors go together.

Prosocial behaviors such as helping, sharing, and cooperation among children improved after they underwent trainings that included several techniques like role-playing, drama, plain narration, stories, picture books, praises, rewards, and cartoons (Aisha & Kaloeti, 2020; Alvord-Karapetian & O'Leary, 1985; Black, Seeman, & Trobaugh, 1999; Brown, 1988; Forge & Phemister, 1987; Irving, 1988; Kolb & Weede, 2001; Lawton & Burk, 1990; Ramaswamy & Bergin, 2009; Schenk & Grusec, 1987; Solomon, Watson, Delucchi, Schaps, & Battistich, 1988; Staub, 1971; Trepanier & Romatowski, 1981; Uzmen & Mağden, 2002; Winer, 1990). These skills among children with autism in special education classes also improved after they underwent prosocial trainings (Crozier & Tincani, 2007; Kroeger, Schultz, & Newsom, 2007). Younger children (aged 18, 20, and 24 months) that were developing normally demonstrated an increase in prosocial skills overall, especially in the form of waiting in line and showing compassion, after undergoing training (Zanolli, Paden, & Cox, 1997). Preschool children who received only preschool education also demonstrated enhanced prosocial development (Öngören, 2022).

Research that has examined social emotional development among children has emphasized on the value of empathy (Wispe, 1987). Research on prosocial behaviors that are closely related to empathy is also intensifying. Studies have recently begun to examine the relationship between empathy and different variables. For example, Gallant, Lavis, and Mahy (2020) examined the relationship between the theory of the mind and empathy and found a positive relationship between children's empathy and theoretical skills that increased with age as a result of the empathy form applied only to families. A positive relationship between prosocial behaviors and the theory of the mind was also confirmed in Longobardi, Spataro, and Rossi-Arnaud (2019). The effects of empathy on younger age groups have been frequently examined (Jambon, Madigan, Plamondon, Daniel, & Jenkins, 2019; Nergaard, 2019; Noten, Heijden, Huijbregts, Van Goozen, and Swaab, 2019). In recent research conducted in Turkey, it was stated that the democratic attitudes of mothers had a positive effect on empathy among children

(Derman, Türen, & Buntürk, 2020). Positive correlations were discovered between the prosocial behaviors of mothers and their preschool children (Çubukcu, 2019). Positive parental attitudes have positive effects on children's empathy skills (Parsak & Kuzucu, 2020). Expression problems such as aggression, defiance, and non-compliance have negative relationships with prosocial behavior in early childhood, and children who exhibit high prosocial behavior at the age of 4 years have low expression problems at the age of 6 years (Gülseven, Carlo, Kumru, Sayıl, & Selçuk, 2021). In current studies, it is seen that positive results have been obtained vis-à-vis the significance of empathic and prosocial behaviors among children. Studies involving preschool educators have shown that according to the opinions of the educators, even teaching children minimum positive prosocial behaviors will help obtain positive results (Carter & Ellis, 2016).

Positive developments in mental health and self-esteem in people with high levels of empathy have a positive relationship with empathy; as empathy grows, mental health improves (Kalliopuska, 1992). High self-esteem, social emotional adjustment, and tendency toward prosocial behavior among, and acceptance of children by peers are associated with positive characteristics such as high empathy, and aggression is low in children with high empathy (Eisenberg & Fabes, 1990; Feshbach, 1982; Grossman et al., 1997; Kalliopuska & Ruokonen, 1993; Roberts & Strayer, 1996). Findlay, Girardi, and Coplan (2006) discovered that preschool children who were more empathetic demonstrated more prosocial behavior, and lesser aggression and social withdrawal toward their friends. Deficiencies in cognitive empathy increase non-emotional behavioral characteristics in children and limit their behavior management skills (Georgiou, Kimonis, & Fanti, 2019). Wang, Wang, Deng, and Chen (2019) confirmed that children's prosocial behavior has a positive and negative correlation with peer acceptance and aggression, respectively, that is, children who exhibit high empathy and prosocial characteristics have low aggressive behaviors and are more accepted by their peers. Considering the results of these studies, examining and developing children's empathy and prosocial behavior can reduce their aggressive behavior. This study thus sought to improve the empathic and prosocial behavior of preschool children through an empathy education program.

Research in the literature displays that the development of empathic and prosocial behaviors among children reduces negative behaviors such as aggression, and enhances peer acceptance, self-confidence, social emotional adjustment, and enables positive progress in this direction. It can be interpreted that a situation that lacks empathetic skills and prosocial behaviors such as helping and sharing among people in daily life is increasing day by day in a negative way. By developing empathic and prosocial behaviors, which we can describe as the opposite of selfish behaviors, from an early age in children, negative behaviors can be reduced and positive contributions can be made toward their personality development. This may help them exhibit less selfish and more positive social behaviors in adulthood. In Turkey, there is a fairly limited number of studies on empathy and prosocial behavior education, individually and in combination. It is thus essential to study the development of these skills and to analyze these skills in early childhood.

***Purpose of the Study***

This study analyzed the effect of an empathy training program on the empathic and prosocial behaviors of preschool children. The research question was: "Does an empathy training program conducted for preschool children have an effect on their empathic and prosocial behaviors?" It was hypothesized that the empathy training program conducted for the children in the experimental group would positively affect their empathic and prosocial behaviors. The sub-issues were as follows:

1. Is there a significant difference between the empathic skills of children in the experimental and control groups before training?
2. Is there a significant difference between the empathic skills of children in the experimental and control groups after training?
3. Is there a significant difference in the empathic skills among children within the experimental group before and after training?
4. Is there a significant difference in the empathic skills among children within the control group before and after training?
5. Is there a significant difference in the post-test and pre-test scores (empathetic skill gains) of the children in the experimental and control groups?
6. Is there a significant difference between the prosocial behaviors of children in the experimental and control groups before training?
7. Is there a significant difference between the prosocial behaviors of children in the experimental and control groups after training?
8. Is there a significant difference in the prosocial behaviors of children within the experimental group before and after training?
9. Is there a significant difference in the prosocial behaviors of children within the control group before and after training?

***Assumption and Limitations***

This study made a few assumptions and has a few limitations. First, it is assumed that children in the sample would respond or react to the measurement tool. Second, the evaluation method was used in in a manner that was presumed to reflect their views in the right direction. This study focused on children aged 5 years. The research is limited to using one scale evaluation method for empathic skills, and using an evaluation method with two dimensions for helping and sharing behaviors from prosocial behaviors. The non-use of other measurement tools and methods is a limitation of this study as well.

## Method

***Research Design and Application***

A quantitative research method comprising a quasi-experimental, pre-test-post-test control group design was used. Preliminary tests were conducted for the experimental and control groups. The training program was conducted for the experimental group. The control group continued its normal education and training. Following the training program, final tests were conducted for the experimental and control groups. Data from both groups were compared. The training program was designed and conducted for the experimental group by the researcher. A developmental, integrated, spiral, play-centered training program was conducted based on the program development approaches established by the Ministry of National Education (2013). The program had 36 full-day plans of activities that were delivered over 4 days a week for 9 weeks. The entire procedure, together with the pre- and post-tests, was initiated in March 2015, and finalized in June 2015 for the experimental group. The training

program conducted for the experimental group contained 100 integrated activities. In the six-month period before the program was finalized, the researcher prepared the activities and took the opinions of three faculty members who are experts in the field of preschool and child development, and gave the program its final form in line with the suggestions and corrections received.

As it pertained to empathy as a gain in the activities prepared (the gains were decided by taking expert opinions), gain 4 (Explains the feelings of others about an event or situation. Indicators: Tells the feelings of others. Tells the reasons for the feelings of others. Tells the consequences of the feelings of others.) and gain 5 (Displays positive / negative feelings about an event or situation in appropriate ways. Indicators: Verbal expressions of positive / negative feelings. Explains his/her negative feelings with positive behaviors.) of the gains in the field of social emotional development of the MoNE (2013) program were selected and used in all activities. Furthermore, other gains of the different development areas of the MoNE (2013) program also took part in activities to support these gains. Except for field trips and science activities, all types of activities were included in an integrated manner. Careful attention was paid to distribute the activities in a balanced way in the daily flow and in the entire training program. The experimental group received the training, whereas the control group continued with its own program. No gains were highlighted in the latter and they persisted their normal training processes. The program focused on the development of empathy (Eisenberg & Mussen, 1989; Hoffman, 2008; as empathy is the upper roof of prosocial behavior). Prosocial behaviors were not limited to helping and sharing, but involved other behaviors such as cooperation and waiting in line. The prosocial behaviors included were helping, sharing, asking permission, being respectful, standing and waiting in line, comforting others, showing tolerance, giving gifts, apologizing, cooperating, forgiving, and showing compassion, interest, generosity, and kindness. Relevant literature (Beaty, 1998, 1999; Eisenberg & Mussen, 1989; Radke-Yarrow et al., 1983; Wittmer & Honig, 1994) and expert opinions have been benefited to determine and select these prosocial behaviors

The activities are usually arranged in such a way as to include a large group, in addition to small groups and individual studies. In the first few weeks, activities aimed at establishing the children's ability to distinguish among, and express and mimic emotions. In the following weeks, activities aimed at helping predict what the other person (friend, brother, mother, father, or someone else, an animal, etc.) may feel in certain situations (for example, how the character feels when he is not taken into the game by other peers) were included. Activities related to ideal prosocial behaviors were included. For example, in an activity called “Creating a Story with Characters,” children were asked about the facial expressions of people in pictures from newspapers and magazines and were told about the emotions they felt. They were asked to cut out pictures from these newspapers and magazines and paste them on blank sheets of paper, to draw pictures on these sheets of paper, and to make additions and create a story containing various emotions with these pictures. In another activity called “Ants,” after explaining how ants carry their food to their nests and their cooperative behavior, they were asked to imagine they were ants and to carry pillows with images of heavy or light food on the ground through team work, while taking weight of food into account. The activities aimed at developing empathic and prosocial behaviors (e.g., covering higher skills, such as sending toys to children in the village kindergarten in the weeks that followed) at a slightly more advanced level. On some days, there were spiral reversals to simpler level skills (e.g., identifying emotions, facial expressions).

In the activities, it was tried to improve prosocial behaviors for children to predict what the other person might be feeling, to express what they feel in this situation, in short, to develop empathy skills for emotions, as well as how to behave and how to help that person in such a situation. Techniques such as question and answer, discussion, drama, and problem-solving were included. The stories used in the Turkish activities (except one) were written by the researcher and evaluated by experts. Six picture books on empathy and prosocial behavior were selected with the help of expert opinion, and were used in the activities. While developing the program, the researcher examined about 120 picture books from different publishers to study empathy and prosocial behavior in them. Many books were eliminated as they were not suitable.

***Research Group***

The sample comprised kindergarten students from two different primary schools in Karadeniz Ereğli district. Two separate schools were selected to constitute the experimental and control groups. The schools were similar in terms of socioeconomic level, and were selected in consultation with the District Directorate of National Education. The experimental group comprised children from one school, and the control group comprised children from the other school. Convenience sampling was used. The experimental and control groups had 20 (11 boys, 9 girls), and 19 (9 boys, 10 girls) children, respectively. The average month interval of the children in the experimental and control groups was 60 to 66 months. The average age was 5 years. The children in the experimental and control groups did not have any identified developmental problems. The ages of the children's mothers and fathers were distributed between 30 and 47 years, and 31 and 49 years, respectively. The educational status of parents varied from primary school to university level. Most were high school secondary education graduates.

***Data Collection Tools and Process***

The empathy scale developed for children and an observation evaluation method were used to evaluate helping and sharing as prosocial behaviors.

***Empathy Scale for Children***

The "Empathy Scale for Children" developed by Akyol and Aslan (2012) was used. It measures 4 emotions (happiness, sadness, anger, and fear) and comprises 12 pictures illustrating different situations related to these emotions. There were 3 pictures for each emotion. Happiness was depicted with pictures comprising a girl celebrating her birthday with her friends, a boy who received a gift from a friend, and a boy sitting on his mother's lap with her reading a book to him. The facial expressions of the main character who felt the emotions in each picture was not drawn. The child was asked what main character felt. Those who indicated the accurate emotion scored 1 point, and those who indicated the wrong emotion or did not respond scored 0. An identical procedure was used for all 12 pictures. Akyol and Aslan (2012) verified the validity and reliability of the scale. The internal consistency coefficient was calculated for reliability. The Cronbach's alpha was 0.70, which implies that it was reliable. To ensure reliability, the test-retest correlation coefficient was calculated and was found to be 0.89, confirming that both measurements between the tests were significant. Expert opinion was sought to ensure the validity of the content in terms of scope and structural validity. The scale was applied to different age groups (4, 5, and 6 years). Its validity amplified with age. The scale functioned better at age 5 years compared to age 4 years, and at age 6 years when compared to age 5 years. This study focused on children aged 5 years.

***Prosocial Behavior Assessment Method***

An observation evaluation method was used to observe the prosocial behavior of the children. It surveyed the helping and sharing behaviors of children. Similar methods have been practiced in various studies (Roberts & Strayer, 1996; Schenk & Grusec, 1987). This study used the method in Uzmen (2001), where the researcher portrays successive behaviors by role-playing, and takes note of the child's reactions. To analyze the helping behavior of children, a box with various objects (pens, paper clips, erasers, papers, and so on) in it is dropped to the floor and the children's reactions are analyzed. During the procedure, the child and researcher are in a separate room outside the class, the researcher asks the child to draw a picture, takes the box in hand, pretends to look for something in it, and then drops it on the ground near the child. Later, the researcher bends over and collects the scattered objects, and sees whether the child comes to help. The researcher counts up to 10 seconds while picking up the fallen objects, and if the child does not come to help, he asks, "Will you help me pick up what I dropped? " and observes the child's behavior in response. The behavior is recorded as “spontaneously helped,” “helped when asked,” or “did not help.” Tags were utilized to assess the children's sharing behavior. The researcher informed the child who completed the drawing, that he/she can choose 5 of the 8 tags he/she wants, and that the remaining 3, which he/she does not receive, will be sent to a child who is hospitalized. Next, the researcher asks the child if he/she would like to give the 5 tags he/she received to the child in the hospital and noted whether or not the child shared the tags, and if so, how many of them he shared. These procedures were carried out for all the children in the experimental and control groups in the pre- and post-tests.

***Data Analysis***

Non-parametric tests are used where there is a significant relationship among categorical variables and the expected frequencies in the analysis are under 20 (Büyüköztürk, 2006). Non-parametric tests were used in this study.

In the analysis of the data related to empathy, the non-parametric Mann Whitney U and Wilcoxon tests were used. The former was used to examine whether there was a significant difference between the empathy skills in the experimental and control groups before and after training, and the latter was used to survey differences within the groups (the significant differences within the experimental and control groups before and after training). The significance value was designated as 0.05 ($p<0.05$).

In the analysis of prosocial behaviors, the chi-square test was conducted to analyze whether the helping behaviors of the children in the experimental and control groups diverged before and after the training. The chi-square test was conducted for sharing behavior. In addition to sharing behavior, the Mann Whitney U test was carried out to analyze whether the children displayed significant differences in tag sharing. To check whether the groups displayed significant differences among themselves (the behaviors of the experimental and control groups vis-à-vis helping and sharing before and after training), the chi-square test was conducted for helping and sharing behaviors and the Wilcoxon test was conducting for the number of tags shared.

***Validity and Reliability Procedures***

Reliability demonstrates the consistency of measurements and indicates that it will always produce an identical result (Balcı, 2006). Akyol and Aslan (2012) conducted a test-retest reliability analysis of the "Empathy Scale for Children" and obtained a significant difference between both measurements at the $p<0.001$ level. The correlation coefficient obtained as a result of the test-retest analyses was 0.89. Item statistics and Cronbach's alpha coefficient were calculated for internal consistency reliability analyses and the internal consistency coefficient was 0.70 (Akyol & Aslan, 2012).

The items specified in the literature regarding internal validity and external validity were used to analyze the validity of this study (Balcı, 2006; Creswell, 2016; Çepni, 2005). To examine the internal validity of these studies, two questions were asked (Balcı, 2006; Çepni, 2005). The first centered on whether the findings obtained were relevant to the research and interpreted properly. A positive answer can be given to this question as the findings obtained are related to research questions and are interpreted properly. In this research, it is aimed to examine the empathetic and prosocial behaviors of preschool children. For this reason, a special scale and evaluation method that measures these skills from the point of view of children has been used.

At the planning stage, the relevant literature was reviewed. It was originally thought that Bryant's (1982) empathy scale would be used. However, expert opinion suggested otherwise and the scale was abandoned as it was more appropriate for elementary school children. Akyol and Aslan's (2012) scale was used. The method in Uzmen (2001) was used based on expert opinion given its suitability for this study. The findings obtained were associated with the research objectives.

Regarding whether the findings obtained are interpreted accurately, the researcher may point out that they are interpreted by discussing the data in the light of researcher's detailed literature review, and that the opinions of a faculty member specialized in the field of measurement and evaluation are obtained in the accurate implementation of the data analysis operations.

The second question for internal validity is to discuss whether the difference obtained as a result of the research is originated from the experimental procedure performed. The researcher practiced a comprehensive program covering four days of each week for nine weeks to the experimental group. The process of the experimental application was kept long by taking expert opinion. Other activities that would hamper the process were avoided, and planning was made jointly with the kindergarten teacher to make applications such as celebrations, events, field trips on other days other than the experiment days. It is thought that the significant differences obtained from the experimental group are the result of the experimental application.

In assessing external validity, the first question was to ensure accuracy in the documents and records. The researcher worked prepared thoroughly and used the scales with expert opinion. No intervention that had the capacity to affect the children's views in the course data collection was conducted. The data were recorded objectively. The second question in the assessment of external validity concerned the generalizability of the findings. Studies have obtained positive results vis-à-vis empathy and prosocial behaviors, much like this study (Ahammer & Murray, 1979; Alvord-Karapetian & O'Leary, 1985; Black et al., 1999; Brown, 1988; Chalmers & Townsend, 1990; Crozier & Tincani, 2007; Dubow, Huesmann, & Eran, 1987; Feshbach, 1979, 1982; Grossman et al., 1997; Kahraman, 2007; Kalliopuska, 1992; Kalliopuska & Ruokonen, 1993; Kalliopuska & Titinen, 1991; Kolb & Weede, 2001; Kroeger et al., 2007; Lawton & Burk, 1990; Ramaswamy & Bergin, 2009; Ridley et al., 1982; Solomon et al., 1988; Staub, 1971; Trepanier & Romatowski, 1981; Uzmen, 2001; Vandenplas-Holper et al., 1988; Winer, 1990; Zanolli et al., 1997). The results can be generalized to children aged five years vis-à-vis empathic and prosocial behaviors. Aside from the criteria that Creswell (2016) specified for internal and external validity, there were no interactions between the experimental and control groups that caused

the "experimental process to become prevalent." Both groups were from separate schools. The time interval between the preliminary and final tests was as wide as possible in order to prevent children from memorizing what they had learned.

Balcı (2006) stated that expert opinions on the validity of the scope of content will also contribute to overall validity. In this context, the expert opinions of three professors, of which two worked in the field of preschool education, and one worked in the field of child development was sought while preparing for the educational program and selecting the scale and evaluation methods, and in the overall conduct of the proceedings. Before the training was conducted, frequent alterations and updates were made to the program. After approximately six months, the training program and experimental process were made ready for implementation.

***Ethics Committee Approval***

The research proposal was reviewed and approved by the Hacettepe University Ethics Commission. The relevant permission is provided as an annex.

## Findings

***Was There a Significant Difference in the Empathic Skills between the Experimental and Control Groups before Training?***

Table 1 presents the results of the Mann Whitney U test for the first sub-problem. There was no significant difference between the empathic skills measured before training in the experimental and control groups (p>0.05).

**Table 1.** Empathic Skills among Children in the Experimental and Control Groups before Training

| | Group | n | Average | Min. | Max. | Std. Deviation | Mann Whitney U | p |
|---|---|---|---|---|---|---|---|---|
| Pre-Training Empathy Skill Level | Experiment | 20 | 62.50 | 50.00 | 83.33 | 10.982 | 173.000 | .623 |
| | Control | 19 | 60.09 | 33.33 | 91.67 | 12.291 | | |

p>0.05

Thus, both groups were similar in terms of empathic skills before training and were suitable for the experiment.

***Was There a Significant Difference in the Empathic Skills between the Experimental and Control Groups after Training?***

Table 2 presents the results of the Mann Whitney U test for the second sub-problem.

**Table 2.** Empathic Skills among Children in the Experimental and Control Groups after Training

| | Group | n | Average | Min. | Max. | Std. Deviation | Mann Whitney U | p |
|---|---|---|---|---|---|---|---|---|
| Pre-Training Empathy Skill Level | Experiment | 20 | 82.92 | 58.33 | 100.00 | 10.636 | 26.500 | .000* |
| | Control | 19 | 56.58 | 16.67 | 91.67 | 15.361 | | |

*p<0.05

A significant difference was found between the empathic skills of children in the experimental and control groups after training, in favor of the experimental group (p<0.05). Thus, it is clear that the training resulted in a positive development in the experimental group and supported the development of empathic skills positively.

***Was There a Significant Difference in the Empathic Skills within the Experimental Group before and after Training?***

The Wilcoxon test was used to investigate the third sub-problem. Table 3 presents the results. A significant difference was determined between the empathic skills of children in the experimental group measured before and after the training ($p<0.05$). Thus, it can be inferred that training contributed to the development of empathic skills among children in the experimental group.

**Table 3.** Empathic Skills among Children in the Experimental Group before and after Training

| Group | | Average | Min. | Max. | Std. Deviation | Wilcoxon Test | p |
|---|---|---|---|---|---|---|---|
| Experiment | Pre-training Empathy skill level | 62.50 | 50.00 | 83.33 | 10.98 | -3.860 | .000* |
| | Post-training empathy skill level | 82.92 | 58.33 | 100.00 | 10.64 | | |

*p<0.05

***Was There a Significant Difference in the Empathic Skills within the Control Group before and after Training?***

The Wilcoxon test was used to survey the fourth sub-problem. Table 4 presents the results. No significant difference was found between the empathic skills of the children in the control group measured before and after training ($p>0.05$).

**Table 4.** Empathic Skills among Children in the Control Group before and after Training

| Group | | Average | Min. | Max. | Std. Deviation | Wilcoxon Test | p |
|---|---|---|---|---|---|---|---|
| Control | Pre- training empathy skill level | 60.09 | 33.33 | 91.67 | 12.29 | -.794 | .427 |
| | Post- training empathy skill level | 56.58 | 16.67 | 91.67 | 15.36 | | |

p>0.05

A significant difference was obtained in the pre- and post-test analyses within the experimental group. This difference was not obtained in the analyses of the control group, which supports the fact that the significant difference was because of the training.

***Was There a Significant Difference between the Empathic Skill Gains between the Experimental and Control Groups (Post-test-Pre-test Scores)?***

Table 5 presents the results of the Mann Whitney U test to examine the fifth sub-problem.

**Table 5.** Empathic Skill Gains among Children in the Experimental and Control Groups (Post-test-Pre-test Difference Scores)

| | Group | n | Average | Std. Deviation | Mann Whitney U | p |
|---|---|---|---|---|---|---|
| Gains (Post-test-Pre-test Difference Score) | Experiment | 20 | 20.42 | 9.92 | 17.500 | .000* |
| | Control | 19 | -3.51 | 14.25 | | |

*p<0.05

A significant difference was found between the measured empathic skill gains of the children in the experimental and control groups (Post-test-Pre-test Difference Scores), which was in favor of the former. Thus, it can be inferred that the empathy skills of children in the experimental group displayed greater improvement.

***Was There a Significant Difference in the Prosocial Behavior between the Experimental and Control Groups before Training?***

*Helping Behavior*

A chi-square test was conducted to analyze whether there was a significant difference between the helping behaviors of children in the experimental and control groups measured before the training. Table 6 presents the results.

**Table 6.** Helping Behaviors in the Experimental and Control Groups before Training

| | | | Group | | Total |
|---|---|---|---|---|---|
| | | | Experiment | Control | |
| Helping Before Training | Spontaneously helped | n | 4 | 0 | 4 |
| | | % | 100.0 | .0 | 100.0 |
| | Helped when asked | n | 16 | 17 | 33 |
| | | % | 48.5 | 51.5 | 100.0 |
| | Did not help | n | 0 | 2 | 2 |
| | | % | .0 | 100.0 | 100.0 |
| Total | | n | 20 | 19 | 39 |
| | | % | 51.3 | 48.7 | 100.0 |

$\chi^2 = 6.009$, p=0.050

No significant difference was found between the helping behaviors among children in the experimental and control groups before training. It can be stated that the two groups show similarity to each other in terms of helping behaviors, which is one of the prosocial skills before the training. The groups were thus considered suitable for the experiment.

*Sharing Behavior*

The chi-square test was conducted to check whether there was a significant difference between the sharing behaviors among children in the experimental and control groups before training. Table 7 presents the results.

**Table 7.** Sharing Behaviors in the Experimental and Control Groups before Training

| | | | Group | | Total |
|---|---|---|---|---|---|
| | | | Experiment | Control | |
| Sharing Before Training | Shared | n | 10 | 4 | 14 |
| | | % | 71.4 | 28.6 | 100.0 |
| | Did not share | n | 10 | 15 | 25 |
| | | % | 40.0 | 60.0 | 100.0 |
| Total | | n | 20 | 19 | 39 |
| | | % | 51.3 | 48.7 | 100.0 |

$\chi^2 = 3.548$, p=0.060

No significant differences were found in the sharing behaviors among children in the experimental and control groups before training (p>0.05). The Mann Whitney U test was conducted to check whether there was a significant difference between the number of tags shared among children in the experimental and control groups before training. Table 8 presents the results. No significant difference was found between the number of tags shared among the children in the experimental and control groups before training (p>0.05). Both groups were considered suitable for the experiment.

**Table 8.** Number of Tags Shared among Children in the Experimental and Control Groups before Training

| | Group | n | Average | Std. Deviation | Mann Whitney U | p |
|---|---|---|---|---|---|---|
| Number of Tags Shared Before Training | Experiment | 10 | 1.20 | .42 | 16.000 | .352 |
| | Control | 4 | 1.00 | .00 | | |

p>0.05

***Was There a Significant Difference in the Prosocial Behaviors between the Experimental and Control Groups after Training?***

*Helping Behavior*

A chi-square test was conducted to determine whether there was a significant difference in the post-test measurements between the experimental and control groups vis-à-vis helping behavior. Table 9 presents the results.

**Table 9.** Helping Behaviors in the Experimental and Control Groups after Training

| | | | Group | | Total |
|---|---|---|---|---|---|
| | | | Experiment | Control | |
| Help After Training | Spontaneously helped | n | 13 | 1 | 14 |
| | | % | 92.9 | 7.1 | 100.0 |
| | Helped when asked | n | 7 | 14 | 21 |
| | | % | 33.3 | 66.7 | 100.0 |
| | Did not help | n | 0 | 4 | 4 |
| | | % | .0 | 100.0 | 100.0 |
| Total | | n | 20 | 19 | 39 |
| | | % | 51.3 | 48.7 | 100.0 |

$\chi^2 = 16.604$, p=0.000

A significant difference was found in the helping behaviors between the experimental and control groups after training (p<0.05). When the distributions are analyzed to interpret this significant difference; while there were 13 children in the experimental group, 1 child in the control group who helped themselves, 7 children in the experimental group, 14 children in the control group who helped when requested and 4 children in the control group who did not help, it was observed that all of the children in the experimental group helped.

The number of children who spontaneously helped in the experimental group after training increased by 9 more children when compared to before training. Spontaneous helping behavior is more prosocial than helping or not helping when requested. As many as 4 and 13 children in the experimental group exhibited spontaneous helping behavior before and after the training, respectively. In the control group, spontaneous helping behavior increased by 1 child after the training. The number of children who helped when requested decreased from 17 to 14, and "non-helping behavior," which is undesirable prosocial behavior, was observed in 2 more children. In the control group, spontaneous helping behavior increased by 1 child and non-helping behavior increased by 2 children. Thus, a positive

development was seen in the experimental group, whereas slow progress and regression was found in the control group.

*Sharing Behavior*

The chi-square test was conducted to check whether there was a significant difference between the post-test measurements of the experimental and control groups vis-à-vis sharing behavior. Table 10 presents the results.

**Table 10.** Sharing Behaviors in the Experimental and Control Groups after Training

| | | | Group | | Total |
|---|---|---|---|---|---|
| | | | Experiment | Control | |
| Sharing After Training | Shared | n | 18 | 10 | 28 |
| | | % | 64.3 | 35.7 | 100.0 |
| | Did not share | n | 2 | 9 | 11 |
| | | % | 18.2 | 81.8 | 100.0 |
| Total | | n | 20 | 19 | 39 |
| | | % | 51.3 | 48.7 | 100.0 |

$\chi^2 = 6.719$, p=0.010

A significant difference was found in the sharing behaviors between the experimental and control groups, measured after training (p<0.05). In the former, 18 children shared and 2 did not, whereas in the latter, 10 children shared, and 9 did not. The Mann Whitney U test was conducted to check whether there was a significant difference between the number of tags shared in the experimental and control groups after the training. Table 11 presents the results.

**Table 11.** Number of Tags Shared in the Experimental and Control Groups after Training

| | Group | n | Average | Std. Deviation | Mann Whitney U | p |
|---|---|---|---|---|---|---|
| Number of Tags Shared After Training | Experiment | 18 | 2.00 | .77 | 25.000 | .001 |
| | Control | 10 | 1.00 | .00 | | |

*p<0.05

A significant difference was found in the number of tags shared between the experimental and control groups after the training (p<0.05). While 10 and 10 children in the experimental group shared and did not share before the training, respectively, 18 and 2 children shared and did not share after the training. Though the improvement was more significant in the experimental group, there was an improvement in the control group as well. As many as 4 and 10 children in the control group shared tags before and after the training, respectively. The number of children who did not share decreased from 15 to 9. This positive development emerged even though training was not conducted for the control group.

***Was There a Significant Difference in the Prosocial Behaviors within the Experimental Group before and after Training?***

*Helping Behavior*

The chi-square test was conducted to determine whether there was a significant difference in the helping behaviors within the experimental group before and after the training. Table 12 presents the results.

**Table 12.** Helping Behaviors before and after the Training within the Experimental Group

| Group | | | | Help After Training | | | Total |
|---|---|---|---|---|---|---|---|
| | | | | Helped Spontaneously | Helped when asked | Did not help | |
| Experiment | Helped before the training | Helped Spontaneously | n | 4 | 0 | | **4** |
| | | | % | 100.0 | .0 | | **100.0** |
| | | Helped when asked | n | 9 | 7 | | **16** |
| | | | % | 56.3 | 43.8 | | **100.0** |
| | Total | | n | **13** | **7** | | **20** |
| | | | % | **65.0** | **35.0** | | **100.0** |

$\chi^2 = 2.692$, p=0.101

There was no significant difference in the helping behaviors within the experimental group before and after the training (p>0.05). A total of 4 children in the experimental group helped spontaneously before the training, whereas 13 children helped spontaneously after it. As many as 16 and 7 children demonstrated helping behavior when asked before and after the training, respectively. Spontaneous helping behavior increased in the experimental group after the training, but this was not a significant difference.

*Sharing Behavior*

The chi-square test was conducted to check whether there was a significant difference in the sharing behaviors within the experimental group before and after the training. Table 13 presents the results.

**Table 13.** Sharing Behaviors within the Experimental Group before and after the Training

| Grup | | | | Sharing after training | | Total |
|---|---|---|---|---|---|---|
| | | | | Shared | Did not share | |
| Experiment | Sharing after training | Shared | n | 9 | 1 | **10** |
| | | | % | 90.0 | 10.0 | **100.0** |
| | | Did not share | n | 9 | 1 | **10** |
| | | | % | 90.0 | 10.0 | **100.0** |
| | Total | | n | **18** | **2** | **20** |
| | | | % | **90.0** | **10.0** | **100.0** |

$\chi^2 = 0.000$, p=1.000

No significant difference was found in the sharing behaviors within the experimental group before and after the training (p>0.05). While the number of sharing and non-sharing children in the experimental group before training was equal to 10 children each, after the training 18 children shared and 2 children did not share. More children shared after the training.

The Wilcoxon test was conducted to check whether there was a significant difference in the number of tags shared among children within the experimental group before and after the training. Table 14 presents the results.

**Table 14.** Number of Tags Shared among Children in the Experimental Group before and after the Training

| Group | | Average | Std. Deviation | Wilcoxon Test | p |
|---|---|---|---|---|---|
| Experiment | Number of tags shared before the training | 1.22 | 0.441 | -2.251 | .024* |
| | Number of tags shared after the training | 2.22 | 0.667 | | |

*p<0.05

There was a significant difference in the number of tags shared within the experimental group, before and after the training. Whereas 10 children each shared and did not share before the training, respectively, 18 and 2 children shared and did not share, respectively, after the training. This represents positive progress. To illustrate this; the child who shared 1 tag before the training began to share more tags, such as 2 or 3, after the training. Thus, the experimental group presented a positive development in terms of sharing behavior. There was no significant difference in the sharing behavior, like in the case of helping behavior (excluding the number of tags shared). It can be interpreted that there is an increase in children's helping and sharing behaviors.

***Was There a Significant Difference in the Prosocial Behaviors within the Control Group before and after the Training?***

*Helping Behavior*

The chi-square test was conducted to check whether there was a significant difference in the helping behaviors within the control group before and after the training. Table 15 presents the results.

**Table 15.** Helping Behaviors within the Control Group before and after the Training

| Group | | | | Helping after the training | | | Total |
|---|---|---|---|---|---|---|---|
| | | | | Helped Spontaneously | Helped when asked | Did not help | |
| Control | Help before the training | Helped when asked | n | 1 | 14 | 2 | **17** |
| | | | % | 5.9 | 82.4 | 11.8 | **100.0** |
| | | Did not help | n | 0 | 0 | 2 | **2** |
| | | | % | .0 | .0 | 100.0 | **100.0** |
| | Total | | n | **1** | **14** | **4** | **19** |
| | | | % | **5.3** | **73.7** | **21.1** | **100.0** |

$\chi^2 = 8.382$, p=0.015

There was a significant difference in the helping behaviors within the control group before and after the training ($p<0.05$). Whereas 2 children in the control group did not help in the pre-test, 4 did not help in the post-test. No child in the control group helped spontaneously before the training. After the training, one child helped spontaneously. Whereas 17 children helped when asked before the training, only 14 helped when asked in the post-test.

*Sharing Behavior*

The chi-square test was conducted to check whether there was a significant difference between the sharing behaviors within the control group before and after the training. Table 16 presents the results.

**Table 16.** Sharing Behaviors within the Control Group before and after the Training

| **Group** | | | | **Sharing after the training** | | **Total** |
|---|---|---|---|---|---|---|
| | | | | **Shared** | **Did not share** | |
| Control | Sharing before training | Shared | n | 3 | 1 | **4** |
| | | | % | 75.0 | 25.0 | **100.0** |
| | | Did not share | n | 7 | 8 | **15** |
| | | | % | 46.7 | 53.3 | **100.0** |
| | Total | | n | **10** | **9** | **19** |
| | | | % | **52.6** | **47.4** | **100.0** |

$\chi^2 = 1.017$, $p=0.313$

There was no significant difference in the sharing behaviors within the control group before and after the training ($p>0.05$). Whereas 4 children shared tags in the control group before the training, 10 shared tags in the post-test stage. Whereas 15 children in the control group did not share tags before the training, 9 shared tags in the post-test stage. No significant difference was found. However, there was an increase in the sharing behaviors within the control group. The Wilcoxon test was conducted to check whether there was a significant difference in the number of children sharing tags within the control group before and after the training. Table 17 presents the results.

**Table 17.** Number of Children who shared tags within the Control Group before and after Training

| **Group** | | **Average** | **Std. Deviation** | **Wilcoxon Test** | **p** |
|---|---|---|---|---|---|
| Control | Number of tags shared before the training | 1.00 | .00 | .000 | 1.000 |
| | Number of tags shared after the training | 1.00 | .00 | | |

$p>0.05$

There was no significant difference in the number of tags shared by the children within the control group before and after the training ($p>0.05$).

## Discussion

This study found significant differences between both groups, in favor of the experimental group in the post-test stage. A significant difference was found in the pre- and post-test results for the experimental group. However, no such difference was found for the control group. A significant difference was found in the empathic skills among the children (post-test-pre-test difference score) in the experimental and control groups in favor of the former. These differences show that the experimental training program improved the empathy skills of the children in the experimental group.

These results align with other studies in the literature. The training program facilitated the positive development of the children's empathy skills (Faver & Alanis, 2012; Feshbach, 1979, 1982; Gordon, 2003; Kahraman, 2007; Kalliopuska & Ruokonen, 1993; Kalliopuska & Tiitinen, 1991; Otfinowski, 2000; Seçer & Alabay, 2011; Şahin, 2012; Wee et al., 2022; Yüksel, 2003). Some studies achieved positive results after conducting training programs for children older than preschoolers, for example, those aged between 8 and 10 years (Feshbach, 1979, 1982; Garandeau, Laninga-Wijnen, & Salmivalli, 2022; Grossman et al, 1997; Yüksel, 2003). Others achieved positive results vis-à-vis the development of empathy by working with preschool children. Kalliopuska and Tiitinen (1991) obtained positive outcomes by conducting two different empathy training programs for preschool children. One program used music and psychomotor and picture drawing activities and the other involved storytelling and role-playing activities. Both programs were effective, but the second was more effective. In the current study, all types of activities were used in an integrated manner, except for a fieldtrip in the MoNE (2013) program. However, it can be said that the activities integrated with Turkish language activities are predominant. From this point of view, it can be specified that it is similar to the research of Kalliopuska and Tiitinen (1991). As a remarkable feature in the literature, it has been seen that more positive results have been attained in terms of empathy as a result of training programs that focus on storytelling and role-playing activities (Cress & Holm, 2000; Faver & Alanis, 2012; Kalliopuska & Tiitinen, 1991; Wee et al., 2022). Cress and Holm (2000) noted that children's empathy skills would develop effectively if they are invited them to put themselves in the place of the heroes in their picture books and stories and to identify with them. Asking children, especially those whose mothers do shared reading, about the feelings of characters in books, how they will behave and what they will think, can impact their empathy skills positively (Kucirkova, 2019).

Seçer and Alabay (2011) found that the empathy training program conducted for children aged 5 to 6 years who lived in social services and child protection institutions affected their social skills positively and reduced problem behaviors among them. Ridley et al. (1982) obtained a significant difference in the affective empathy and a non-significant numerical improvement in cognitive empathy among children aged 3 to 5 years, following an empathy training program. This is partially similar to our findings and confirms that children's empathy skills can improve with training. In our study, although the empathy development of children was not distinguished emotionally or cognitively, it was observed that there was a positive development in the general empathy skills of the children in the findings obtained. In Kahraman (2007), positive development in children's empathic skills was achieved as a result of empathy training. These and the current studies prove that empathic skills in children can be developed through training. However, our study is limited in that it does not examine whether other variables such as children's aggressive behaviors decrease in addition to the development of empathy owing to the training provided.

The post-test analysis of prosocial behaviors showed a significant difference between the experimental and control groups, in favor of the former. The spontaneous helping behavior of children in the experimental group increased after the training. This was a desired result as prosocial behaviors are voluntary. It can be stated that the training provided contributes to the children's behavior of helping from a prosocial point of view. Similar results were found in various studies (Alvord-Karapetian & O'Leary, 1985; Brown, 1988; Black et al., 1999; Crozier & Tincani, 2007; Demir, 2021; Dubow et al., 1987; Feshbach, 1982; Forge & Phemister, 1987; Friedrich & Stein, 1973; Gordon, 2003; Grossman et al., 1997; Irving, 1988; Kalliopuska & Tiitinen, 1991; Kolb & Weede, 2001; Kroeger et al., 2007; Lawton & Burk, 1990; Ramaswamy & Bergin, 2009; Schenk & Grusec, 1987; Schonert-Reichl, Smith, Zaidman-Zait, & Hertzman, 2012; Solomon et al., 1988; Staub, 1971; Trepanier & Romatowski, 1981; Uzmen, 2001; Vandenplas-Holper et al., 1988; Zanolli et al., 1997).

The post-test results for the control group vis-à-vis helping behavior showed that 1 more child demonstrated spontaneous behavior, and 2 more children did not. There was a significant difference in the helping behavior within the control group after the training. This may have been the result of the regression in the helping behavior within the control group. The fact that the number of helping children in the control group who did not have any training increased by 1 child may have been due to the fact that the child who provided the increase perceived and learned skills about helping out in family and surrounding during this time. Schenk and Grusec (1987) found that children who grew up at home without any training exhibited more helping behavior toward an adult than did children who attended a day-care facility. The fact that helping behaviors are exhibited at home can support children's learning as they treat such behavior as an ideal standard. The increase in "spontaneous helping behavior" in the control group in a child may appear as a possibility in such a development. However, this was not confirmed as family interaction was not a variable in this study.

The number of children who "did not help" in the control group increased by 2 and reached 4 in all. This is expected, as numerous studies have shown that children's helping skills decreased or developed more slowly with age, in contrast to sharing behavior. Caplan and Hay (1989) observed the reactions of children aged 3 to 5 years to their peers' difficult situations and conducted interviews with them. They found that most children were able to recognize difficult situations and knew how to help their peers. The children said that they did not feel responsible enough if there was an adult (e.g., teacher) in their surroundings, as they expected the adult to have the sense of duty and responsibility to help their peers, for example, if their friend was hurt or crying. A similar situation may have been experienced in this study as well. The control group children, who did not receive any training, may not have helped the researcher when they dropped the pencil box, thinking that the researcher, being an adult, would have picked it up. Midlarsky and Hannah (1985) found that younger children in their full sample, which comprised children from the first, fourth, seventh, and tenth grades, showed less helping behavior toward a person with an injury (especially adults) when compared to the older children. They stated that this was because they felt inadequate about helping and thought that they did not have enough information on how to help (Midlarsky & Hannah, 1985). Other studies showed that helping behavior did not increase with age (Bar-Tal, Raviv, & Goldberg, 1982; Staub, 1970b).

Beaty (1998) stated that children help more easily when there is no adult nearby in a situation in which help is necessary. This may be the cause for the increase in non-helping behavior in the control group. Children may focus on the picture that the researcher may have asked them to draw and want to complete it as soon as possible, and may therefore not have helped the researcher. A similar result was found in Thornberg (2007), as the children did not help when they focused on their own work. The current study included this condition as a reason for the children's non-responsiveness to the problem experienced. Compared to sharing behavior, lesser progress is seen in helping behavior with age (Radke-Yarrow et al., 1983; Underwood & Moore, 1982). Thus, it can be assumed that when children do not receive training, there may be greater regression in helping behaviors with age, as seen in the control group.

A significant difference was found between the two groups in the post-tests vis-à-vis sharing behavior. When the means of the experimental and control groups were compared, a significant difference was found, given the progress made in the experimental group. The training resulted in positive improvement in the sharing behavior of the experimental group compared to the control group. However, a positive progress was also attained in the sharing behavior of control group. This situation can be interpreted, contrary to the regression of helping behavior in natural development as in this study, there will be a natural development in children's sharing behavior during their general development, and they can exhibit sharing behavior even if they do not receive training. Sharing behavior generally improves with age (Radke-Yarrow et al., 1983; Underwood & Moore, 1982), especially with one's close peers (Radke-Yarrow et al., 1983).

In Alvord, Karapetian and O'Leary (1985), a training conducted for preschool children with stories resulted in an increase and significant difference in children's sharing behaviors. Study of Uzmen (2001) which examined the helping and sharing behaviors of children, found that the sharing behaviors of both experimental and control groups increased numerically. Thus, it can be inferred that the increase in sharing behaviors among the children in the control group is a natural developmental process that happens with age. Although no direct training was provided on sharing, children may be known to acquire this behavior by looking at their role models, family, peers, and teachers. Liu et al. (2016) found that sharing behaviors increase with age, regardless of whether the individual in question demonstrates altruistic, thoughtful, caring behaviors.

Only 4 children exhibited spontaneous helping behavior before the training in the experimental group, whereas 13 did so after it. Although there was an increase in helping behavior, no significant difference was found within the experimental group. This may have been the result of the duration of the training. The 36-week training process may have produced a significant difference between the experimental and control groups, but may not have been enough to make a significant difference beyond the positive progress within the experimental group. A significant difference could also be obtained in the experimental group by extending the training period. Aisha and Kaloeti (2020) also arrived at the same findings; although sharing and cooperation, donation and honesty which are prosocial behaviors increased as a result of the training, no significant difference was achieved, the researchers interpreted this situation in connection with the "need for time for the permanence of newly learned behaviors by children".

A significant difference was found in the number of tags shared in the pre- and post-test analyses for the experimental group. Children in the experimental group shared more tags in the post-tests. There was no significant difference within the group in the sharing behavior as a result of the training, but a significant difference was found in terms of the number of tags shared, which increased in the experimental group from 10 (before training) to 18 (after training). The number of children who did not share decreased from 10 to 2. Briefly, it can be stated that even if a significant difference cannot be obtained in terms of sharing behavior within the experimental group itself, from a prosocial point of view desired behavior (sharing) increases numerically in children. The fact that the sharing behavior in the experimental group did not differ significantly in itself may have been due to the fact that the group already had a high number of sharing behavior before the training, and the sharing behavior was high even before the training launched, even if it was not statistically significant before the training. The fact that the number is statistically high before the training may be due to the fact that the sharing behavior progresses in a positive direction over time, as stated in the literature.

The pre- and post-test analyses conducted in the control group showed an increase in the children's sharing behaviors. There were no significant differences in sharing behaviors. This can be interpreted as the tendency and skills of children to share behaviors along with their natural development processes are increasing. It may also be that children's taking people who exhibit sharing in family environments as models may have had a positive effect on sharing behaviors. Even if no prosocial training is provided, it can be interpreted that children's sharing skills will increase in their overall development, and their helping skills may decrease depending on the presence of an adult in the environment or may increase with the positive effect of environmental factors. Regarding children remain recessive in helping behavior, the effects of several factors on, such as children's belief that their attempt may be disapproved (Staub, 1970a) and their feelings of inadequacy in helping (Caplan & Hay, 1989) have been emphasized in the literature. The fact that significant differences were obtained between the experimental and control groups in terms of empathy and prosocial behavior can be interpreted to mean that these skills can be improved with training.

This is one of the few studies to have been set in Turkey. There are few studies conducted by preparing a training program for the development of empathy and prosocial behaviors.

That the children in the experimental group showed significant positive development in terms of empathic and prosocial behavior is a strength of the study. This study had a few limitations. Owing to the structure of the evaluation tools used, the correlational relationship between empathy and prosocial behavior could not be statistically assessed. Given the limited duration of the training program, there was no significant difference in the prosocial behavior (helping and sharing) within the experimental group (except for the number of tags shared), although there was a numerical increase in the former.

## Conclusion

This study sought to improve empathy and prosocial behavior among preschool children through training. The results showed that positive developments were achieved following the training, in that the empathetic and prosocial behaviors of the children showed improvement. The fact that a significant difference was obtained in the empathic skills within the experimental group shows that children's empathic skills have developed positively with the training provided. However, in terms of prosocial behaviors, it can be stated that there is also a significant difference in the results obtained within the experimental group itself. While the number of tag sharing increased significantly, it was observed that there was a non-significant positive development in helping and sharing behavior. In post-tests, the "spontaneous helping behavior" and sharing behavior of the experimental group displayed an increase. This situation attests that the training conducted for the experimental group made a positive contribution to their prosocial behavior.

No significant difference was obtained in terms of empathy skills of the control group both when compared with the experimental group and in internal analysis conducted within group. It can be stated that there was no improvement in empathy skills in the control group during the process. This reveals that the training given to the "experimental group" is beneficial and improves the empathy skills of the group in a positive way.

On the other hand, from the point of the prosocial behaviors of the control group, a regression (non-helping behavior increased) in helping behavior and positive progress in terms sharing behavior were observed. This increase in sharing behavior in the control group is limited when compared to the experimental group. As a result of the research, it has been discovered that empathy and prosocial behavior in preschool children can be improved with training provided for this purpose. When no training was provided to the children in the control group in this study, it was observed that there was a decline in their helping skills in normal developmental processes and a positive improvement in their sharing skills.

## Recommendations

- The development of empathic and prosocial behaviors among children can be analyzed with or without conducting trainings with numerous variables.
- Longitudinal studies should be conducted to determine whether the positive effect of improvements in empathy progresses with age.
- The effectiveness of providing empathy and prosocial skills to younger children (for instance aged 2, 3, and 4 years) can be investigated by developing and implementing age-appropriate training programs.
- Training programs can be prepared by focusing on particular techniques (e.g., question and answer, brainstorming, role-playing) or activities (e.g., music activities, Turkish language activities), and the development of empathy and prosocial behaviors can be monitored within this framework.

- The period of training can be increased to analyze whether or not empathic and prosocial behaviors will increase.
- Different scales can be developed and used to evaluate empathy and prosocial behaviors in children.
- Prosocial behaviors can be evaluated by applying standard measurement tools.
- Significant difference was determined between the experimental and control groups in terms of prosocial behavior of children. The training ensured positive progress in the experimental group compared to the control group. However, the progress of the experimental group within itself was not determined to be significant, except that the number of tag sharing was significant. With a more detailed examination of this result, comments can be made on what caused this condition.
- Prosocial behaviors can be given more importance in the training programs. The number of activities and duration of training can be increased.
- By preparing training programs that specifically focus on developing helping and sharing behavior, children's progress can be analyzed empirically.
- The significant differences obtained in the prosocial behavior of the control group can be examined in more detail. There was an increase in the non-helping behavior of the control group. The reason of this unhelpfulness can be studied in depth. In the event that preschool children are not given any training, whether their ability to help will decline negatively can be examined in the research to be conducted.
- Research can be conducted to analyze whether both helping and sharing behaviors will increase or decrease over time in preschool children.
- Research can be conducted to examine prosocial behaviors other than helping and sharing, such as cooperating, being kind, caring, and comforting others.
- As a practical recommendation, preschool teachers and prospective teachers related to the field of teaching preschool education can be ensured to plan activities by preferring the social emotional achievements included in the MoNE 2013 program, especially achievements that address empathy skills, to focus on empathy and prosocial behavior in supporting children's personality development. Compulsory or elective courses that support the development of empathetic and prosocial behaviors in children can be added to preschool education programs at universities.

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