



# The Effect of a Social Skills Program on Violent Behaviors in Children Aged 60~72 Months

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**Purpose:** To determine the effects of a child and parent program on developing social skills for preventing violent behaviors in children aged 60~72 months through a specially developed pre and posttest, control group, quasi-experimental study. **Methods:** A social skills development program based on Gardner's Multiple Intelligence Theory was used. The data were collected using the Social Skills Assessment Scale (SSAS), a Chart to Monitor Verbal and Behavioral Violence in Children, the Parental Attitude Scale and the Parent Interview Form. This quasi-experimental study that included a pretest, posttest, and control group had a sample comprising 67 children and parents, with 36 in the experimental group, and 31 in the control group. **Results:** Over a six-month period, while the social skill scores of the children in the experimental and control groups increased, their violent behaviors decreased ( $p < .050$ ). Increase in social skill scores and decrease in violent behaviors were higher in the experimental than in the control group children ( $p < .050$ ). The parents in the experimental group stated that they had started to empathize with their children, using "I" language, and applied rules more consistently after the program. **Conclusion:** This program was successful in preventing violent behaviors in children through the development of social skills. Hence, it can be effectively implemented through a teacher/nurse collaboration.

**Key words:** Social Skills; Violence; Behavior; Nursing; Parent-Child Relations

## INTRODUCTION

Social violence has steadily increased in the world and has also emerged in children and youth. It is estimated that around the world every day, 227 children and adolescents (aged 0~19 years) die due to violence, and many more are injured [1]. Violence has an adverse effect on both the perpetrators and victims, impacting children's physical, mental and psychosocial development [2]. Violence in schools threatens students' need for security [3], draws them away and diminishes their desire to attend school [4], while bullying in school can create a setting for substance abuse and

other emotional and behavioral problems [5].

Bullying, defined as an individual's use of repeated physical and mental violence against another defenseless individual [6], is widely witnessed even in four year-olds and is accompanied by behavioral problems related to the state of either being a bully or a bully-victim, and leads to somatic and peer issues [7].

Violence and bullying experienced in childhood continue to have an effect in adulthood. A review of articles published during 1960~2015, which examine the effects of childhood bullying in adulthood, revealed that victims were at risk of developing internalizing disorders; bullies were at a risk of developing external-

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izing disorders, engaging in violent crimes, and illicit drug misuse; and bully–victims were at risk of experiencing all these problems [8].

Some studies indicate that bullying leads to criminal acts in adulthood, psychiatric problems [9–11], substance abuse [5,12], and a continuation of bullying habits at the workplace [13]. Furthermore, victims of bullying have been known to experience loneliness, low self–esteem, psychosomatic symptoms, depression, suicidal thoughts, suicide attempts as well as to suffer from borderline personality disorders. Owing to these reasons, it is important to identify and resolve issues of violence in early childhood to ensure lifelong good health of children and everyone they come into contact with.

Studies have shown that children who engage in violent behavior exhibit inadequacy in social skills [14,15], have poor interpersonal relations; are unable to empathize with others [16,17] or control their negative emotions [18]. Inadequacy in social skills increases children’s risk of being exposed to bullying [19,20] and exhibiting aggression or emotional reactions [21], while developing favorable social relations and effective problem–solving skills help them to avoid becoming peer victims [21–23]. A meta–analysis of 153 studies has indicated that a child’s lack of competence in problem–solving and a negative attitude towards self or others, are primary factors in becoming a bully, a victim or a bully–victim [24]. Social development programs have been found to reduce violent behavior in children [25–27].

The initial six years of life constitute a critical period in which the child’s first experiences of cognitive, behavioral, and emotional integration, as well as social development gain momentum. Positive communication, empathy, problem–solving and emotional control skills gained in early childhood are elements that shape a child’s later years [28–30]. Besides learning the skills of agreement, compromise, loyalty, and cooperation, the child also learns to develop negative attitudes of disagreeableness, conflict, and confrontation in the family and school settings [31]. Inconsistent, oppressive, authoritarian, punitive, and indifferent parental attitudes set the scene for family violence and support a tendency toward violence among children in such families [32]. The negative attitudes of teachers can also have similar effects [33]. Hence, efforts to develop a child’s social skills need the combined cooperation of families, teachers, and school nurses.

School nurses can conduct effective training programs that consider children’s individual, familial, and environmental risk factors [34], and thereby contribute to developing children’s skills in empathy, problem–solving, and emotional control. These skills not only improve children’s self–esteem and reduce their aggressive reactions but also make use of effective communication methods to lower the chances of them becoming the targets of their aggressive peers. Educational programs for pre–school children should make use of techniques that provide children the opportunity to learn while doing and experiencing, and support children in all areas of development, while providing them with an environment to learn through repetition and active use of all their senses [35]. In this context, Gardner’s Theory of Multiple Intelligences has the potential of providing a strong foundation for social skill development programs [36].

At 60–72 months, children are at the end of the pre–school period; and at the start of the schooling period that is one of the most critical stages in a child’s development. At the age of six, children begin to display signs of the negative attitudes they had displayed at the age of two and a half, and once again face the difficulties of making decisions as when they were two and a half years, and waver between the positive and negative sides of an issue. In this period, children are unstable, defy rules, and display rebellious attitudes and behaviors [25,31]. It was in this context that this study, addressing both children and parents, aimed at determining the effect of a social skills development program based on Gardner’s theory of multiple intelligences on violent behavior in children.

## METHODS

### 1. Design

Based on a quasi–experimental design, this study included pretest, posttest, and control groups [37].

### 2. Hypotheses of the study

Hypothesis 1: The Social Skills Program’s overall Social Skills Assessment Scale (SSAS) scores of children in the experimental group and their subscale scores at the second and third measurements will be higher than at the first measurement.

Hypothesis 2: The Social Skills Program’s overall SSAS scores

of children in the experimental group and their subscale scores in the second and third measurements will be higher than the scores of the control group.

Hypothesis 3: The children in the experimental group attending the Social Skills Program will have less incidences of violent behavior over time.

Hypothesis 4: The children in the experimental group attending the Social Skills Program will have fewer incidences of violent behavior compared to the control group.

### 3. The study's population and sample

The study was conducted in Zonguldak, Turkey, at a pre-school for children aged 48~72 months. The school had eight classes of 12~20 students with a teacher assigned to each class. Some of the classes were full-day while others were half-day. The school's teachers coached the children in developing preparatory reading and writing skills; they also conducted various games and activities in the areas of art, music, gymnastics, and folk dancing. Children who demonstrated aggression or violent behaviors were not directed to a special program, but the teachers alerted, guided, and urged them to apologize to their classmates.

The children's inclusion criteria comprised:

- Age between 60~72 months,
- No mental retardation,
- Necessity to complete all phases of the with their parents,
- Ability of their parents to participate in the program.

The sample of the study consisted of 120 children and their parents. We excluded 36 children who were too young, 2 children with autism or mental health issues, 3 children whose parents did not attend the sessions, and 4 parents who did not attend the sessions.

The sample size calculation using the G power 3.1 package program revealed that the minimum number of participants in a group were 32 at an effect size of 0.80 and a power of 0.80. Initially, the sample included 75 children and parents who matched the selection criteria (40 in the experimental group and 35 in the control group) but over the course of the study, 4 children withdrew due to health reasons and another 4 were excluded because they had moved residence. The sample was thus made up of 67 children aged 60~72 months (and their parents; 36 in the ex-

perimental group and 31 in the control group).

Over the course of the research, 4 classes with teachers willing and volunteering to observe the children's violent behavior and record this into a data form were included the study sample. Since two classes were full-day and two half-day, children were recruited in turns from each group into the experimental and control groups using a lottery system.

### 4. Ethical considerations

Written consent was obtained from the author's university ethics committee (28.05.2010~2010/3), the Provincial Education Directorate (20.09.2010~24288), as well as parents who had agreed to participate after being informed about the study. Permission for using the tool was obtained from its developers.

### 5. Instruments

#### 1) Descriptive information form

Based on relevant literature, the form comprised 17 questions on the children's gender, age, number of siblings, order of birth, whether or not they had attended pre-school, their parents' educational status, ages, and professions.

#### 2) Parental attitude scale (PAS)

PAS was developed by Demir Karabulut and Sendil for measuring parental behavior towards children aged 2~6. It contained 46 items that were subdivided into subscales covering domains of the following parental attitude types: democratic (13 items), authoritarian (11 items), overprotective (9 items), and permissive (13 items); responses were recorded on a Likert-type scale (5=Is always like this; 1=Is never like this). The scale developers' permission was obtained for its use. Its Cronbach's  $\alpha$  was in the range of .64~.68 [38].

#### 3) Social skills assessment scale (SSAS)

It was developed by Avcioglu for assessing the social interaction skills of children aged 4~6 years. This 62-item Likert-type scale (1=never~5=always) comprised the following subscales: interpersonal skills (IPS), anger control and adaptation to change skills (ACACS), coping with peer pressure skills (CWPPS), self-control skills (SCS), verbal communication skills (VCS), outcome acceptance skills (OAS), listening skills (LS), goal forma-

tion skills (GFS), and task completion skills (TCS) [39].

Since the entire scale was not required to be used, its developer's permission was obtained only for the subscales that were significant in preventing violent behavior, namely, IPS (13 items), ACACS (8 items), CWPPS (9 items), SCS (10 items, and LS (5 items). The items corresponding to the skills that were not observed in the children were left blank. The scale's lowest possible score was 45, while the highest was 225. It was found that its reliability coefficients, overall as well as for the subscales of the original scale, were .41~.87 [39], while its Cronbach's  $\alpha$  was .76~.93.

#### 4) Chart for monitoring verbal and behavioral violence in children

This chart compiled by the researchers contained the children's names along with violent reactions observed in their behavior (e.g., hitting, biting, pinching, kicking, pushing, damaging toys and belongings, throwing toys and objects, doing unpleasant things to spite a friend); or their verbal interaction (e.g., threatening to beat someone up, making fun of someone), that were recorded daily in the column provided on the chart's right side.

#### 5) Parent interview form

The form was constructed with open-ended questions that analyzed the children's communication, forms of expression, characteristics of sharing, approach to problem-solving and violent behavior, as well as whether or not their parents had made any changes in their own behavior and attitudes toward them.

#### 6) Developing social skills program (for children)

Studies have revealed that children engaging in violent behavior exhibit inadequacy in social skills [14,15], have poor interpersonal relations, are unable to empathize with others [16,17] as well as control their negative emotions [18]. It had been observed that previous studies exploring how children could develop social and emotional skills and be kept from exhibiting violent behavior had addressed social skills such as empathizing, emotion management, and problem-solving [18,21,26,28], hence this program consisting of 30 activities focused on the elements of empathy, problem-solving, and anger control.

Gardner, who defines intelligence as the ability to effectively

solve problems encountered in everyday life, asserts that each one of the multiple intelligences that human beings possess is an effective tool that can be used to experience and learn. His theory draws attention to individual differences, and emphasizes that each child can learn the same subject through different means. Hence, it is important to provide children with an educational environment that will enable them to utilize all their talents, interests, and desires, by teaching them significant subjects, not by means of a single method, but through varied techniques like story-telling, artworks, diagrams, animations, and so on [36]. The program based on Gardner's Theory of Multiple Intelligences, suggests that children can learn more if their activities center around the modalities that he defines as verbal, logical, visual, musical, bodily, social, intrinsic, and naturalistic intelligences [35,40]. The theory recommends creating enriched training programs that will provide children with the opportunity to use different modalities of intelligence every day. Based on this concept, the program uses methods and tools of learning such as slide-accompanied narration, questions-answers, role-playing, cartoon films, stories, songs, dances, exercises, games, plays, coloring exercises, puppet shows, emotions cards, posters, and relevant homework.

The program units and activities are listed in Table 1.

To cover the topics in the program, the following were prepared: 120 slides containing images and figures, 4 cartoon films, 6 wall posters, 10 short stage plays, 8 puppet shows, 3 songs, and 10 coloring exercises.

Additionally, an 80-page booklet was created to explain headings, purposes, goals, duration, methods, tools/instruments to be used, along with the activities for each that would be conducted at various stages in the program [28,41,42].

Since it was reported that 60~72 month-old children had an attention span of 20~30 minutes, repeating activities twice or thrice a week were recommended to reinforce learning and retention in this age group. It was observed that programs designed for the 60~72-month age group were conducted for an average of 8~12 weeks, with 2~3 activities each week of 20~30 minutes duration [41-45]. Therefore, the children in the experimental group underwent a "Program on Developing Social Skills and Preventing Violence" for a 10-week period, involving 30-minute sessions thrice every week.

**Table 1.** Developing Social Skills Program for Children Activities

Unit 1: Identifying Emotions and Empathy	Unit 2: Problem-solving	Unit 3: Anger Control
The emotions of happiness, sadness, anger and the situations that cause these (activities 1, 2, 3, 4)	Examples of problematic interpersonal relations	Situations creating anger (activities 19, 20)
Facial expressions and other reactions (activity 5)	Effects of verbal and behavioral violence (activities 11, 12, 13)	Possible results of mutual anger reactions
Expressing emotions (activities 6, 7)	Examples of positive behavior that can be used in place of violence (activities 14, 15, 16)	Anger management (running, drawing, talking to oneself, playing pretend, deep breathing exercises, etc.) (activity 21)
Identifying others' emotions (activities 8, 9, 10)	Wanting things not belonging to oneself, using polite words (activities 11, 12, 13)	Keep calm (activities 22, 23)
Listening to others and recognizing their emotions	Sharing (activity 17, 18)	Stay out of a fight (activity 24)
		Good time friend (activity 25)
		A world at peace (activity 26)
		Peace puppets (activity 27)
		My arms are to hug with (activity 28)
		My hands are not for violence but for friendship (activity 29)
		Respecting differences (activity 30)

The program booklet’s content validity was verified by seeking the opinions of 15 experts in the pediatric nursing, psychiatric nursing, and educational sciences fields, who had completed their doctorates and had 10 years of experience in their respective fields. The content validity index (CVI) value, calculated based on the experts’ opinions on the booklet’s contents and effective methods was 99.6%; and the minimum CVI was 87.0%. The CVI critical value stated for 15 experts was reported as 49.0% [46], and it was observed that they were in agreement regarding the sessions to be conducted with the children (Kendall W=.80,  $p=.209$ ).

7) Program for developing social skills in parents of children aged 60~72 months

A booklet was prepared for parents on the characteristics of 60~72-month-old children with examples of positive and negative communication, violent behavior, its impacting factors, and preventative approaches [16,47,48]. It also contained sample cases, expressed in simple, comprehensible language, and supported by photographs and stories.

The booklet’s content validity was ensured by seeking the opinions of 15 experts in the fields of pediatric and psychiatric nursing and education. CVI values were found to be in the range of 87%~100% (Kendall W=.08,  $p=.300$ ).

**6. Intervention and data collection**

Data collection and the interventions took place in the 6-month

period of November 2010 to April 2011. The classroom teachers filled out the scales. Before the start of the study, a 7-week period was provided so that the teachers could get to know their students.

1) Interventions conducted with the children and data collection

First, the teachers of the children in the experimental and control groups were briefed about the program’s purpose, duration of the procedures, and the filling out of the data collection instruments. The teachers filled out each child’s SSAS at the start of the study.

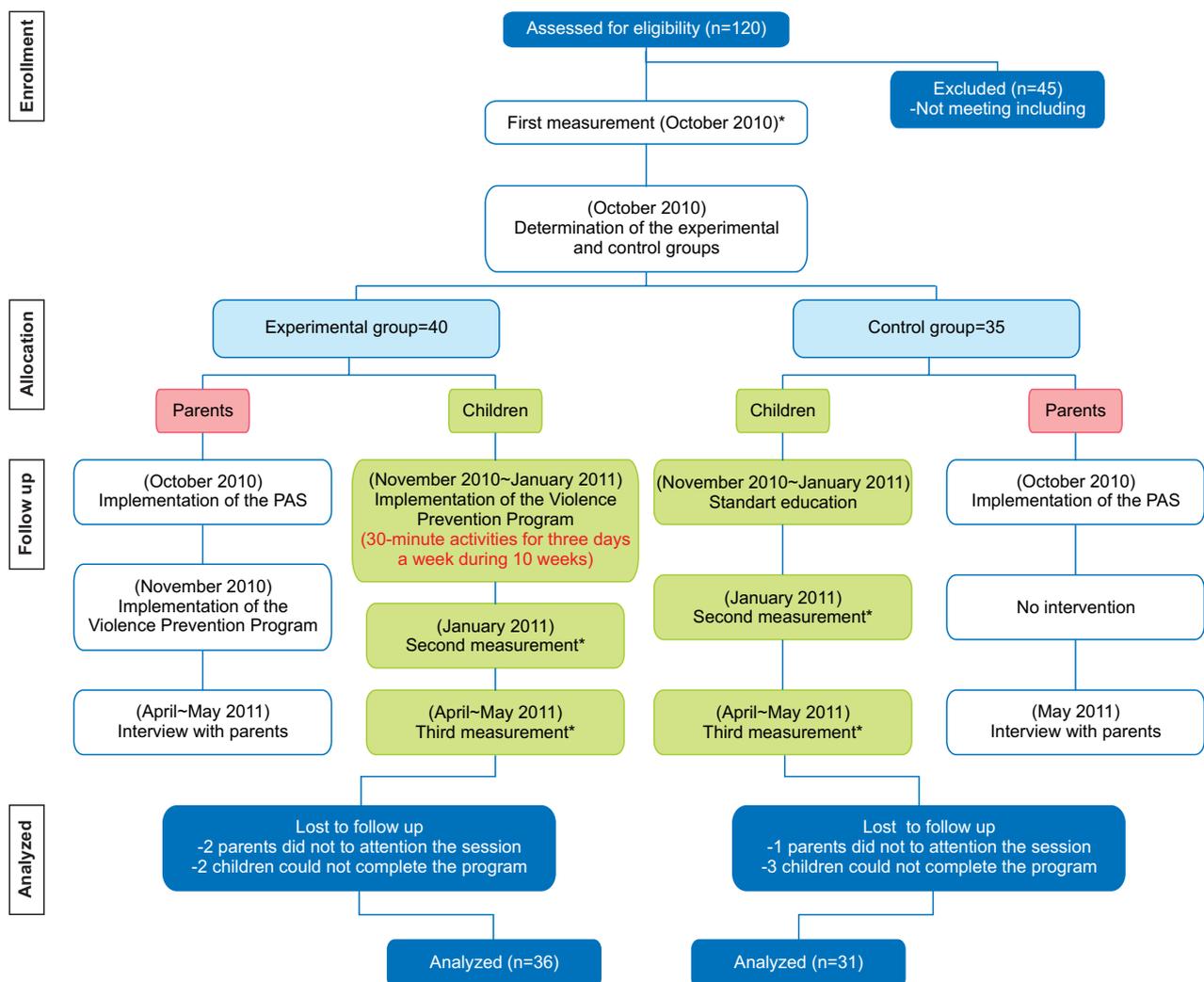
The same researcher implemented the Social Skills Program activities in two experimental group classes for a period of 10 weeks on the basis of 30-minute sessions three days a week. When children could not participate in the activity, it was repeated for them or the absent children would be included in the activity of another class.

The setting for each activity was appropriately arranged with posters and pictures displayed on the walls and video or slide projectors ready at hand. Depending upon the activity’s content, the hand puppets, pictures, emotions cards, coloring tools, and other materials were distributed to the children, who were informed about what would be happening and what was expected of them. Each child was included in the activity. The children were asked questions during and after the stories, plays, puppet shows, and cartoon films. The emotions the children experienced

were explored along with understanding if their behavior was right or wrong. The children also engaged in some role-playing related to the stories and films. They learned poems and songs that emphasized positive behaviors, and these were recited or sung at intervals. Children who were shy were encouraged to participate in the activities.

Immediately after the program was completed (February 2010) and three months later (April 2011), the teachers filled out the SSAS for each child in the experimental and control groups. At the same time, they filled out the “Chart for Monitoring Verbal and Behavioral Violence in Children” based on their daily observations of the children’s behavior in class, in the playroom,

schoolyard, and during lunch, from the start of the study, right through the November 2010 to April 2011 period. They were also informed that they would be having weekly meetings to follow up on the monitoring charts that were drawn for each student and distributed to the teachers each week. The chart contained the student’s name and a list of violent behaviors. Over the course of the six months, whenever the children displayed violent behavior, the teachers marked these charts and submitted them at the end of the day. The number of violent behaviors displayed by each child over the six months was calculated monthly. After collection of all the data, the children in the control group underwent the social skills development program for five weeks.



\*The teachers filled out the “Chart for Monitoring Verbal and Behavioral Violence in Children” every day from the start of the study over the period. But 1st month or 6 months measurements were analyzed.

Figure 1. Summary of study workflow.

## 2) Interventions conducted with the parents and data collection

First, all the parents filled out the Descriptive Information Form and PAS. The parents constituting the experimental group were then split into three groups, each of which included 10–14 participants. Since it was mostly the mothers who cared for the children and were willing to participate in the training, the sample consisted only of mothers. Four 50–60-minute sessions were held with each group for a period of two weeks. The sessions were held at school and were organized such that working mothers could also participate. Subjects in the booklet were explained complemented by 157 slides, sample cases, and eight stories, and the positive and negative aspects of the photographs shown were discussed, after which the parents' questions were answered.

In May, 15–20-minute semi-structured interviews were conducted with experimental and control group parents. The individual interviews took place in a quiet room and the basic questions asked in the Parent Interview Form as well as the more explanatory questions were directed at the parents, after which the information obtained was recorded in the form.

A flow diagram of the study procedure is shown in Figure 1.

## 7. Data analysis

PASW 18.0 program was used for statistical analysis. The numerical variables were analyzed in terms of normal distribution with the Shapiro–Wilk test. Descriptive statistics and numerical data were analyzed using the mean  $\pm$  standard deviation (minimum–maximum) values and categorical data were expressed in numbers and percentages. Intergroup differences between categorical variables were explored with the Chi-squared and Fisher's Exact Tests. For comparison of groups in terms of numerical variables, the Mann–Whitney U and The Kruskal–Wallis tests were used since parametric test assumptions were not met. The Bonferroni correction applied to the Mann–Whitney U test was used in the paired comparisons of the subgroups in the Kruskal–Wallis test of variance. Changes in repeated measurements showing normal distribution over time were analyzed with the one-way analysis of variance while repeated measurements that did not show normal distribution over time were explored with the Friedman test. The Wilcoxon test was applied to paired comparisons of the subgroups in the Friedman test, and the Tukey

test was used in the paired comparisons of the subgroups in the one-way analysis of variance in repeated measurements. The McNemar nonparametric test was employed in the assessment of the difference between the children's violent behaviors before and after the program.

## 8. Limitations of the study

The fact that another experimental group composed only of children and not their parents may be considered a limitation in terms of studying the program's effect on the children. Moreover, assuming that a 4-session program will not be effective in changing the attitudes of parents, the absence of a posttest of the PAS may also be considered a limitation.

## RESULTS

No differences were found between the experimental and control groups in terms of the children's ages, gender, full-day or half-day school attendance, previous attendance in pre-school, their parents' ages, educational levels, employment status, the number of children in the family, and the parents' attitudes toward their children ( $p > .050$ ) (Table 2).

While there was no significant difference between the SSAS subscale and overall scores of the experimental and control group children in the first measurement, there were significant differences between all the scores in the subscales other than in the SCS subscale in the second measurement, and between all the subscale and overall scores in favor of the experimental group in the third measurement ( $p < .050$ ) (Table 3).

The scores of both the experimental and control group children showed a rise in the SSAS subscales and total scores at the second and third measurements, and this difference was supported in the statistical analysis. The advanced analysis revealed that the difference stemmed from the fact that the first measurement score of the experimental group was lower than the others and that the third measurement score of the control group was higher than the others ( $p < .050$ ) (Table 3).

While there was no difference in mean scores of the experimental and control groups for violent behavior in the first month of observation ( $p = .992$ ), the mean score of the experimental group in the sixth month was significantly lower than that of the

control group ( $p=.030$ ). It was found that the mean scores for violent behavior in the sixth month of both the experimental and control groups were significantly lower than the first month mean scores ( $p=.001$  and  $p=.002$  for the experimental and control groups, respectively) (Table 4).

All the experimental group children's parents stated that they had observed examples of positive behavior in their children, while 58.3% of them said that their child had learned anger control. The parents expressed the change in their children as, "He used to get angry for no reason, yell, be stubborn, but now he counts to himself (9 children), draws (6 children), takes a deep breath to relax, and even teaches us how we can relax when we

get angry (5 children)."

In addition to describing the changes in their children, the mothers of the experimental group explained the change in themselves as being able to listen more effectively, empathizing with their child, acting consistently when applying rules, giving explanations before dealing out punishment, applying a time-out instead of immediately reprimanding the child, and engaging in more activities with their child. It was interesting to note that the parents of the control group children largely provided examples of their children's behavior in terms of the child's communications, sharing abilities, manual skills, and self-care skills, but did not mention anything about behavior related to anger and vio-

**Table 2.** Characteristics of Children and Parents

Characteristics	Exp.		Cont.		U/ $\chi^2$	$p$
	M $\pm$ SD (Min~max)		M $\pm$ SD (Min~max)			
Child's age (month)	66.60 $\pm$ 5.73 (60~72)		67.12 $\pm$ 5.79 (60~72)		0.78	.554 <sup>†</sup>
Mother's age (year)	32.88 $\pm$ 5.64 (24~46)		32.16 $\pm$ 4.09 (25~42)		3.36	.672 <sup>†</sup>
Father's age (year)	37.42 $\pm$ 5.22 (23~52)		35.16 $\pm$ 3.97 (26~45)		4.82	.083 <sup>†</sup>
Number of children	1.70 $\pm$ 0.69 (1~4)		42 $\pm$ 0.62 (1~3)		2.59	.074 <sup>†</sup>
	n	%	n	%		
Gender						
Girl	17	47.2	18	58.1	0.94	.521 <sup>**</sup>
Boy	19	52.8	13	41.9		
School attendance						
Full-day	17	47.2	19	61.3	1.32	.360 <sup>**</sup>
Half-day	19	52.8	12	38.7		
Previous attendance in pre-school						
Yes	28	77.8	21	67.7	0.85	.514 <sup>**</sup>
No	8	22.2	10	32.3		
Mother's educational levels						
Elementary school	6	16.7	8	25.8	2.36	.495 <sup>**</sup>
High school	18	50.0	10	32.3		
University	12	33.3	13	41.9		
Employment status of the mother						
Working	24	66.7	16	51.6	1.56	.311 <sup>**</sup>
Not working	12	33.3	15	48.4		
Father's educational levels						
Elementary school	7	19.4	9	29.0	0.88	.641 <sup>**</sup>
High school	14	38.9	10	32.3		
University	15	41.7	12	38.7		
Employment status of the father						
Working	35	97.2	30	96.8	0.12	<.999 <sup>§</sup>
Not working	1	2.8	1	3.2		
Total	36	100.0	31	100.0		

Cont.=Control group; Exp.=Experimental group; M=Mean; SD=Standard deviation.

<sup>†</sup>Mann Whitney U Test; <sup>\*\*</sup>Chi-square test; <sup>§</sup>Fisher exact chi-square test.

**Table 3.** Comparison of Children’s SSAS Measurements by Time

SSAS Subscales and Minimum~Maximum Ratings	First Measurement (1) ̄x±SS (Min~Max)	Second Measurement (2) ̄x±SS (Min~Max)	Third Measurement (3) ̄x±SS (Min~Max)	F	ρ	Difference
<b>IPS (13~65)</b>						
Exp.	39.51+7.02 (23~54)	46.42+7.53 (30~63)	51.82+8.32 (32~65)	<b>116.63</b>	<b>.001<sup>§</sup></b>	1<2<3
Cont.	40.73+5.54 (26~50)	40.66+6.41 (24~52)	44.10+6.10 (30~56)			
t ρ	-0.74 .461 <sup>††</sup>	<b>3.23 .002<sup>††</sup></b>	<b>4.33 &lt;.001<sup>††</sup></b>			
<b>ACACS (8~40)</b>						
Exp.	22.93+4.64 (14~31)	30.32+4.53 (19~39)	30.93+3.67 (24~39)	<b>69.22</b>	<b>.001<sup>§</sup></b>	1<2, 3
Cont.	24.14+3.04 (18~29)	24.73+3.24(17~30)	25.43+3.23 (17~30)			
t ρ	-1.26 .212 <sup>††</sup>	<b>5.87 &lt;.001<sup>††</sup></b>	<b>6.34 &lt;.001<sup>††</sup></b>			
<b>CWPPS (9~45)</b>						
Exp.	25.73+4.66 (18~33)	29.23+5.13 (15~42)	31.94+5.82 (19~42)	<b>54.50</b>	<b>.001<sup>  </sup></b>	1<2<3
Cont.	24.93+3.68 (18~31)	25.12+3.73 (18~31)	26.21+3.52 (18~31)			
t ρ	509.04 .536 <sup>††</sup>	<b>3.70 &lt;.001<sup>††</sup></b>	<b>5.03 &lt;.001<sup>††</sup></b>			
<b>SCS (10~50)</b>						
Exp.	31.53+4.78 (20~40)	36.56+4.38 (26~43)	39.03+4.52 (30~48)	<b>92.80</b>	<b>.001<sup>§</sup></b>	1<2<3
Cont.	33.04+7.44 (18~46)	35.78+5.67 (18~43)	36.53+5.21 (19~46)			
t ρ	439.54 .135 <sup>†</sup>	523.54 .663 <sup>†</sup>	<b>403.54 .050<sup>†</sup></b>			
<b>LS (5~25)</b>						
Exp.	174.5+3.43 (7~22)	20.7+3.44 (11~25)	22.67+2.56 (15~25)	<b>66.15</b>	<b>.001<sup>  </sup></b>	1<2<3
Cont.	18.89+2.78 (12~22)	19.4+2.24 (12~25)	20.33+2.13 (13~25)			
t ρ	409.03 .059 <sup>†</sup>	<b>349.51 .008<sup>†</sup></b>	<b>225.51 &lt;.001<sup>†</sup></b>			
<b>TOTAL (62~310)</b>						
Exp.	137.32+19.02 (97~175)	163.21+22.03 (103~210)	176.42+22.02 (124~213)	<b>139.04</b>	<b>.001<sup>§</sup></b>	1<2<3
Cont.	141.74+16.34 (98~167)	145.89+15.74 (95~168)	152.54+14.23 (106~174)			
t ρ	-1.04 .302 <sup>††</sup>	<b>3.65 &lt;.001<sup>††</sup></b>	<b>206.02 &lt;.001<sup>†</sup></b>			

ACACS=Anger control and adaptation to change skills; Cont.=Control group; CWPPS=Coping With Peer Pressure Skills; Exp.=Experimental group; IPS=Interpersonal skills; LS=Listening Skills; SCS=Self-Control Skills.

<sup>†</sup>MannWhitney U Test; <sup>††</sup>Student’s t test; <sup>§</sup>Repeated Measures Anova F test; <sup>||</sup>Friedman Test.

**Table 4.** Comparison of the Mean Number of Children in the Experimental and Control Groups Exhibiting Violent Behavior in 1<sup>st</sup> Month and 6<sup>th</sup> Month

	Exp. ̄x±SD	Cont. ̄x±SD	t	ρ
Total violent behaviors in 1st month	5.67±8.98	5.65±9.39	0.01	.992 <sup>†</sup>
Total violent behaviors in April 6th month	0.78±1.96	3.39±6.168	-2.25	<b>.030<sup>†</sup></b>
ρ	<b>.001<sup>††</sup></b>	<b>.002<sup>††</sup></b>		

Cont.=Control group; Exp.=Experimental group; SD=Standard deviation.

<sup>†</sup>Student’s t test; <sup>††</sup>Wilcoxon test.

lence. The control group parents did not mention any change of behavior in themselves after their children had started school.

## DISCUSSION

The significantly higher SSAS total and subscale scores of the experimental group children compared to the control group in the second and third measurements (Table 3) showed that the program implemented had a positive effect on the children in terms of social skill development (i.e., interpersonal relations, anger control and adapting to change, coping with peer pressure, listening skills). This finding confirmed the first and second hypotheses. It is believed that the fact that the program’s topics were based on Gardner’s theory of multiple intelligences and were conducted with activities directed at eight domains of intelligence increased the program’s effectiveness. Various other studies on the subject have also shown that social skills programs planned for pre-school children have concentrated on themes

such as social skills [29], interpersonal problem-solving [46], empathy [47], communication [48], through which the children's skills have been enhanced [28]. The study's results were similar to that of other previous studies.

An examination of the SSAS scores of the experimental and control group children over time revealed that the experimental group children showed significant increases at the second and third measurements, while the control group children at the third measurement, and the increases were greater in the experimental group (Table 3). The development of social skills in the experimental group children started earlier and was at a higher level, which indicated that the program that had been implemented was more effective. Also, these findings suggested that the effect of the program continued even after three months in the children's behavior. The SSAS scores of the control group children showing a significant rise at the third measurement, indicates that the pre-school education programs implemented by the teachers did in fact support the development of the children's social skills. Other studies on the subject have also reported that pre-school education contributes to a child's social skills development [49], and to the development of reading and writing skills, self-care, problem-solving, motor, social, emotional, and language skills [50].

While there was no difference in mean scores of the experimental and control groups for violent behavior in the first month of observation ( $p=.992$ ), the experimental group's mean score in the sixth month was significantly lower than that of the control group ( $p=.030$ ). It was found that the mean scores for violent behavior in the sixth month of both the experimental and control groups were significantly lower than the first month's mean scores ( $p=.001$  for experimental group,  $p=.002$  for control group) (Table 4). The finding showed the effectiveness of the program and confirmed the third and fourth hypotheses. Similarly, previous studies also reported that social skill development plays an important role in preventing and reducing aggression in children [15,25-27,29]. The findings of these studies indicated that rather than developing general social skills, developing skills in specific areas such as interpersonal communications, communicative problem-solving, and anger control is more effective in preventing aggression.

The examples of positive behavior that the mothers of the ex-

perimental group observed in their children relating to anger management, problem-solving, sharing, polite communication, etc., supported the scores on the scale. It was seen that even after the conclusion of the program of education, the experimental group parents listened to their children more effectively, took care to use the "I message" when speaking with their children, tried to empathize, said they had learned to be more patient and consistent when applying rules, and had stopped comparing their children with others. These findings were supported by the statements that parents made about the changes they observed in their children and in themselves. The group discussions held with the parents and the case histories presented during the training had been effective in eliciting a positive change, thus showing that parents' participation in education as a means of contributing to the development of a child's social skills is of vital importance.

Being aggressive/bullying, being a victim, or a bully-victim affects children not only in the present moment but also has an impact on their future bio-psycho-social health and leaves an imprint on their entire life. Since childhood aggression is likely to continue into adulthood, this has the potential of increasing the number of aggressive individuals in society. Aggression leads to various psychological issues both in the aggressor/bully and in their victims, and this paves the way for more serious issues such as substance abuse and stealing, which in turn increase the severity of related problems. Hence, it is vitally important to reduce children's tendencies toward aggression by encouraging them to develop social skills starting from an early age.

## CONCLUSION

The developing social skills program implemented in this study was found to reduce violent behavior, which proves that this model can be used in early childhood to prevent aggression from becoming a permanent behavior. The program's simplicity and its entertaining, goal-oriented, and easily implemented activities will not only help children to learn while having fun but will also require minimum effort on the part of teachers and school nurses.

## CONFLICTS OF INTEREST

The authors declared no conflict of interest.

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