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Research Article

Effectiveness of the Preschool Version of the First Step to Success Early Intervention Program for Preventing Antisocial Behaviors*

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Abstract

Preventing antisocial behaviors appearing at an early age—before they become chronic—through effective early intervention programs, has become an important issue in recent years. In Turkey, the increase in the number of children at risk of antisocial behavior makes it necessary to get these behaviors under control at an early age through some effective and systematic programs. Nevertheless, in Turkey, the number of studies on this subject is limited. Therefore, this study aims to explore the effectiveness of the preschool version of the First Step to Success (FSS) early intervention program on antisocial behaviors and social skills of Turkish children aged 36–72 months, who are at risk of antisocial behaviors. The study comprises a pretest-posttest experimental design with a control group. At the end of the study, the total problem and externalized problem behaviors of children in the experimental group decreased significantly. However, the program implementation did not result in a significant difference between experimental and control groups in terms of social skills. Regarding social validity findings, the majority of teachers and parents were happy with the program.

Keywords

First step to success early intervention program • Prevention • Antisocial behaviors • Social skills

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Problem behaviors are defined as negative/harming/aggressive behaviors that can be consistently demonstrated in various environments such as at school, home, or in the community (Walker, Colvin, & Ramsey, 1995). A wide range of problem behaviors are discussed in the literature under the titles antisocial behaviors, difficult behaviors, unwanted behaviors, aggressive behaviors, and adjustment and behavior disorder. Physical and verbal attacks, over irritability, reacting to friends with hostility, constant objection to the directions of adults, ignoring the warnings of adults, harming public property intentionally, harming and teasing others, and hyperactivity can be stated as examples of antisocial behaviors (Giannopulu, Escolano, Cusin, Citeau, & Dellatolas, 2008; Tremblay, 2000).

Academic skills are one of the main areas where children with antisocial behaviors experience severe difficulties. Studies have shown that these children have lower rates of participation in academic activities and lower academic success compared to their peers (Coie & Jacobs, 1993; Hendawi, 2012; Lane, 1999). They are often expelled from school or drop out and encounter the risks of committing crime or becoming addicted to drugs (Tremblay, 2000; Walker et al., 1995). Children with antisocial behaviors also have some problems with social skills, and this has a strong relationship with their academic skills. Studies have revealed that these children have problems with their peers in social interactions; have difficulties in understanding social clues or behaviors of their peers; frequently prefer aggressive problem solving strategies in their relationships; and were often rejected by their peers (Parker & Asher, 1987; Pepler, Craig, & Roberts, 1998; Walker, Ramsey, & Gresham, 2004). Children with antisocial behaviors affect both the house that they live in and the school that they are educated in, and teachers and families usually spend most of their time trying to cope with those behaviors instead of focusing on academic activities (Finn & Pannozzo, 2004).

The roots of antisocial behaviors go back to the early years of life (Arseneault et al., 2003; Campbell, 2002; Fox, Dunlap, & Powell, 2002; Wakschlag & Danis, 2004; Waliski & Carslon, 2008). Studies indicate that the behaviors of arguing, disobedience, and not sharing that appear in early childhood turn into fighting, lying, and stealing in the primary school years. These then turn into more serious and complex behaviors that are difficult to overcome such as interpersonal violence, committing crimes, harming the property of others, starting gangs and racketeering during and after puberty (Loeber, 1990; Patterson, DeBaryshe, & Ramsey, 1989; Robins, 1978; Tremblay, Phil, Vitaro, & Dobkin, 1994; Walker & Cheng, 2007; Wicks-Nelson & Israel, 1997). In particular, half of the children who display externalized problem behaviors (such as hitting and swearing) during preschool continue these behaviors during and after their school years (Campbell, 1995). The amelioration of antisocial behaviors that could not be controlled with effective interventions in earlier periods costs more effort, time and money in the long term (Elliot, Prior, Merrigan,

& Ballinger, 2002). In addition to this, primary caretakers and the immediate environment (such as teachers and classmates) play a significant role in a child's social and emotional development (Dunlap et al., 2006; Robins, 1978; Walker et al., 2004). Early intervention programs that start at early ages and implemented in various mediums (individual, family, and school) have gradually become important in this context (Elliot et al., 2002; Kazdin, 1987). One such program is the First Step to Success (FSS) Early Intervention Program that was developed by Walker et al. (1997) for preschool and primary school first/second grade students at risk of displaying antisocial behaviors. The program was later applied to nursery school students by Walker et al. (2001) and was published as the First Step to Success Early Intervention Program, Preschool Version. The program is recommended by various institutions in the USA (American Psychological Association, Children's Delinquency Reduction Committee, National Institute on School and Community Violence, National Education Association, Positive Early Learning Experiences Center, Office of Juvenile Justice and Delinquency Prevention, Prevention Research Center for the Promotion of Human Development), and studies prove its effectiveness. Studies have revealed that the program was effective in terms of decreasing problem behaviors both at home and at school, and it caused positive behaviors and teacher attitudes in class. Moreover, participants were happy with the program (see Beard & Sugai, 2004; Carter & Horner, 2009; Diken & Rutherford, 2005; Diken, Cavkaytar, Batu, Bozkurt, & Kurtyılmaz, 2010; Diken, Cavkaytar, Batu, Bozkurt, & Kurtyılmaz, 2011; Diken, Bozkurt, Arıkan et al., 2011; Golly, Sprague, Walker, Beard, & Gorham, 2000; Rodriguez, Loman, & Horner, 2009; Russell, 2006; Seeley et al., 2009).

It has been observed that the number of children displaying antisocial behaviors is increasing in Turkey. In accordance with this, the number of criminal and violent incidents are also increasing. Some studies conducted in Turkey presented findings supporting this observation (e.g., Deveci, Karadağ, & Yılmaz, 2006; Genç, 2007; Kaymak-Özmen, 2006; Ögel, Tarı, & Yılmazçetin-Eke, 2005; Özcebeci, Çetik, & Üner, 2006; Sezgin & Özok, 2006; Yılmazçetin-Eke & Ögel, 2006). The studies carried out by the Ministry of National Education (MNE) in Turkey to prevent antisocial behaviors consist of primary prevention studies. However, these implementations cannot be effective for children who are at risk of displaying antisocial behaviors. Antisocial behaviors seen in recent years require the effective use of secondary early intervention programs such as the FSS. Furthermore, most of the studies conducted in Turkey focused on increasing the social skills of children with intellectual disabilities, hearing impairments, and children with other developmental disabilities, using various techniques such as drama, social stories, and so on. However, the number of the studies aiming at preventing antisocial behaviors in early childhood period remains limited in Turkey (Çifçi, 2001; Çolak, 2007; Poyraz-Tüy, 1999). In order to fulfill the need for early intervention programs in Turkey, Diken et al. (2010) adapted FSS to Turkish and

evaluated the effectiveness of the program in terms of preventing antisocial behaviors in kindergarten, and primary school first/second grade children. Findings of this study revealed that the program made positive contributions to problem behaviors and social skills (Diken et al., 2010; Diken, Cavkaytar, Batu et al., 2011). Similarly, almost all of the studies focusing on the effectiveness of the program in literature examined the original version of the FSS program developed for kindergarten and primary school first/second grade students. However, it has been stressed in the literature that problem behaviors should be prevented at as early an age as possible (Guralnick, 2005; Shonkoff & Meisels, 2000; Walker et al., 2004). For this reason, examining the effectiveness of the program on early age groups is of the utmost importance.

The purpose of this experimental study is to examine the effectiveness of the Preschool Version of First Step to Success Early Intervention Program (FSS-PSV) for the prevention of problem behaviors and answers were sought for the following questions.

(i) Is there any significant difference between students who were given the FSS-PSV program and who were not, in terms of the pretest, posttest, and follow-up total scores of problem behaviors?

(ii) Is there any significant difference between students who were given the FSS-PSV program and who were not, in terms of the pretest, posttest, and follow-up total scores of social skills?

(iii) Is there any significant difference between the pretest, posttest and follow-up total scores of problem behaviors of students who were given the PSV program?

(iv) Is there any significant difference between the pretest, posttest, and follow-up scores of students who were given the FSS-PSV program, in terms of externalized problems subscale of problem behaviors scale?

(v) Is there any significant difference between students who were given the FSS-PSV, program in terms of the pretest, posttest, and follow-up total scores of social skills?

(vi) How is the social validity of FSS-PSV program from the perspective of teachers and parents who have participated in the program?

Method

Participants

The study was conducted at 12 preschools affiliated to the Ministry of National Education in Eskişehir city center, who participated in the study voluntarily. Tepebaşı Counseling and Research Center (TCRC) in Eskişehir city center, a center affiliated with the Ministry of National Education and responsible for special education services

in each city, was part of the study in order to determine the participants. TCRC was given a list of schools where antisocial behaviors have been becoming a problem and which requested help to overcome these issues. Experimental and control groups were formed by the authors and TCRC personnel, based on their socio-economic status in the city, and each group was randomly assigned six schools; classrooms in these schools were also chosen randomly. There were 61 participants: 11 preschool students, 11 teachers, 11 parents, and 6 FSS-PSV counselors from the experimental group; and 11 preschool students and 11 teachers from the control group.

Table 1
Ages of the Students who Participated in the Study

Groups	N	Minimum (Months)	Maximum (Months)	*M*	*SD*
Experimental	11	50.00	74.00	60.73	8.14
Control	11	38.00	76.00	54.64	13.20

Note. N: Number of students, M: Mean, SD: Standard deviation.

Students. Ten out of 11 students from each group (experimental and control) were male and one was female. Descriptive information about the ages of students is given in Table 1.

Implementers. Teachers, parents, and FSS-PSV counselors took responsibility for implementing the program at preschools.

Teachers. Eleven teachers aged between 25 and 45 participated in the experimental group of the study. Their basic responsibilities were as follows: (i) implementing class modules from the sixth day of the program, considering the durations determined before; (ii) recording the daily improvements of children in class on an "FSS-PSV Class Module Monitoring Form"; (iii) reinforcing the appropriate behaviors of children with verbal reinforcers; (iv) rewarding the child together with whole class immediately on successful program days; and (v) signing the "Daily Green-Red Feedback Card Form," which records the daily performance of the child and sending it to parents.

Parents. Eleven parents (10 mothers and one grandmother) from the experimental group participated in the Home module. Their basic responsibilities were as follows: (i) starting to apply the Home module from the eleventh day of the program, (ii) signing the "Daily Green-Red Feedback Card" sent to parents to show daily performance of the child, and sending it to back to the teacher the following day; (iii) rewarding the child at home as well after a successful day at school; (iv) meeting with FSS-PSV counselor once a week and take home implementation cards for each week.

FSS-PSV counselors. FSS-PSV counselors of this study were one principal, three vice principals, and two school counselors. Their basic responsibilities were as follows: (i) identifying target students by conducting in-class and out-of-class observations with the teacher; (ii) being a role model for the teacher by implementing

the program in class for the first five days, and having the class module implemented successfully in collaboration with teachers in an ongoing process; (iii) telling families how to apply the Home module; (iv) organizing face-to-face meetings or phone calls with families once a week, or organizing home visits and delivering weekly Home Module cards to families; and (v) supporting families for correct implementation of the Home applications.

Research Model

The study was based on an experimental model with a pretest-posttest control group constituted through random assignment. There were an experimental group and a control group in this study. Data were collected before and after the implementation from both groups and at follow up.

Independent Variable

Independent variable of the study was FSS-PSV program implemented on the experimental group. The program included both the home and school environment of the children. FSS-PSV has three interrelated dynamic modules: (1) Screening module, (2) Class module, and (3) Home module. The program consists of seven small booklets. Details of the program are described in detail below (implementation process).

Data Collection Tools

Preschool and Kindergarten Behavior Scales (PKBS). As the dependent variables of the study were social skill and problem behavior levels of preschool children, PKBS were used to measure social skills and problem behaviors of students from experimental and control groups. Developed by Merrel (1994) in the USA, PKBS were adapted to Turkish by Poyraz-Tüy (1999) and validity and reliability studies were conducted. Consisting of two separate scales, the Social Skill Scale (SSS) and the Problem Behavior Scale (PBS), PKBS were used to evaluate social skills and problem behaviors of preschool children aged between 3 and 6 years. The original version of SSS consisted of 34 items from social interaction, social independence, and social collaboration dimensions. PBS included 42 items from dimensions of internalized and externalized problems. The scales were completed by either the teacher or family or by other individuals who had been in interaction with the child for at least three months. Responses to the items in the scales were ranked with four values ranked 0–4 as "never, seldom, sometimes, or often." An increase in SSS score indicated an increase in the social skill level of the child whereas an increase in PBS indicated an increase in problem behaviors. Poyraz-Tüy (1999) examined the scale in terms of content and construct validity in the scope of an adaptation study. As a result of principal components analysis and Varimax rotation techniques, the

items related to more than one factors and those below .30 were eliminated from the scale (nine items from SSS, and four items from PBS). As a result of this, the scales were finalized with 25 items in SSS and 38 items in PBS. Cronbach Alpha and Spearman-Brown internal consistency factors were calculated for sub-dimensions of SSS and PBS for the reliability of the scales. Internal consistency factors were .70. Internal consistency factors (Cronbach Alpha) of the scale were reevaluated to find out whether it could be used in this study, and they were .70 and above.

FSS-PSV Teacher and Parent Satisfaction Forms. To evaluate social validity of the program, FSS-PSV program social validity forms developed by Diken et al. (2010) as five point Likert scale (1 = Totally disagree, 5 = Totally agree) were used.

Implementation Process

Step 1: Screening/identification of target students. Teachers were given an "FSS-PSV Program Student Grading Form," from the FSS-PSV program, to identify students at risk of displaying problem behaviors. In order to detect target students more accurately, the teachers and FSS-PSV counselors shared their observations and ideas about the children during the screening step. The student with the highest score from the teacher evaluation—the student at risk of the most intensive externalized problem behaviors—was listed at number one in the list using the FSS-PSV Program Student Grading Form. Target children were identified after carrying out interviews with families and getting their approvals.

Interview with student's parents and teacher. Volunteer participation of parents and teachers was essential. Oral and written participation approvals of parents and teachers were taken. As the "FSS-PSV Class and Home Module" was to be implemented on target students from the experimental group, a one-day seminar was organized for the teachers from the experimental group. Preschool teachers were informed about FSS-PSV in detail in these seminars; program booklets were defined in detail; questions about the program were answered, and the responsibilities of the teachers in the program were described. In addition, interviews with the parents were organized to explain the aim of the program and responsibilities of parents in the program.

Interview with the students and their classmates. Target students were taken to an empty and comfortable class in their school. The program was described in collaboration with FSS-PSV counselor and their teacher in a simple language he could understand: they would be given a red-green card, and a traffic game would be played in the class; they would feature in this game (as the driver of the class). How to use the red-green card in the implementation was described. The "Class and Home Award Menu" was filled in together with the child, family and the teacher and the activities the child liked doing at school and home were identified. After this step,

the FSS-PSV counselor told all the children in the class that they were going to play a traffic game together and the driver of the game would be the identified student; if the other students helped play the game correctly in collaboration, they would all score some points.

Step 2: Implementation of the class module. The Class Module of the program was applied to the experimental group and lasted 30 school days as indicated in the program. The FSS-PSV counselor implemented the program in class for the first five days, to model for the teacher. Preschool teachers implemented the program from the sixth day onwards. The program was implemented in class on each day for a while, starting with 20 minutes at the beginning, and increasing day by day. In addition to these, the program was implemented at periods in which the target student revealed intensive problem behaviors; arranged as art activity or free time activity for target students depending on occasions as a result of in or out-of-class observations of the student by the teacher. In order to follow implementation durations of the program easily, each teacher was given an "FSS-PSV Class Module Implementation Schedule" that summarized implementation criteria of FSS-PSV and the steps to follow during the implementation. The schedule included the days of the program, implementation durations of the program on identified days, score range durations, and the information that shows the minimum and maximum scores for award in detail. In addition to this, the teachers were given the "FSS-PSV Class Module Follow-up Form" to record the daily progress of the target child. A card with green and red sides was used during the Class Module of the program. The green side of the card was shown to the student after each appropriate behavior (such as listening to the story sitting during the story activity, raising finger for asking for permission, and so on). When the student displayed inappropriate behaviors (such as not listening to the story during the story activity and beating friends), the red side of the card was shown and no other clue was given. The card stayed red throughout inappropriate behavior, and when the child started to display appropriate behavior it returned to green again. Considering the FSS-PSV Class Module Implementation Schedule, if the child was shown the green card at the end of identified periods he would score some points, and the appropriate behaviors displayed by the child on that day were reinforced by the teacher, orally. (For example, "Zeynep, you studied in collaboration with your friends during the art activity, well done.") If the target student reached the scores identified in the program after the daily implementation duration, the student had been successful on that day, and together with the whole class was rewarded from the Award Menu. Rewards were given immediately at the end of each day, and not left to the following day. The use of green-red card and the rewards were decreased gradually, and the verbal appraisal expressions uttered by the teacher were increased as the program progressed. Once the student collected enough points on a day the teacher sent a green card home to the family; otherwise, a red card was sent. When the child went home with a green card,

they could choose an activity from the Home Award Menu to do with their parents. If the child could not collect enough points for that day, he would go home with a red card, and was not rewarded at home on that day. The child's daily progress was explained (whether s/he was successful on that day or not) with positive and clear expressions by the teacher in class and the family at home.

Step 3: Implementation of the home module. The Home module of the program began on day 11 of implementation and lasted for 6 weeks. The Home module was applied to the experimental group only, and it was conducted together with the parents. The researcher and FSS-PSV counselor conducted meetings with the parents and informed them about the implementation of the Home module prior to implementation. The Home module included different sets of cards for six weeks, aiming to teach different skill areas each week: communication, collaboration, obeying the rules, problem-solving, and friendships, respectively. FSS-PSV counselors conducted face-to-face meetings with families at suitable hours, at school, once a week. In these meetings the Home module activities of each related week were explained to the families. Only the related week's material (parent aid cards, activity cards, and concept cards) was given to the families. Parents were asked to spend at least 15 minutes a day with their child doing one or two of the activities from the "activity cards" (or more, as long as they enjoyed the activities). If the families could not attend the meeting for some reason (such as their child's being ill or other health problems), they were informed either by a visit, or by phone calls and the related card set was sent home with the children.

Implementation durations of the program. As teachers or students could be absent for such reasons as illness, cold weather conditions and snow, the total number of implementation days differed for each student. Six teachers applied the FSS-PSV program for 30 weekdays: one teacher for 26 weekdays; two teachers for 25 weekdays; one teacher for 21 weekdays, and one teacher for 20 weekdays in their classes.

Data Collection Procedure

PKBS were filled by all the teachers from both experimental and control groups before, after and three weeks after the completion of the implementation. In addition to this, the teachers and parents from the experimental group completed FSS-PSV Teacher Satisfaction forms and FSS-PSV Parent Satisfaction forms after the implementation to find the social validity of the program.

The collection of implementation reliability data. Implementation reliability data should be collected in at least 20% of all probe and implementation sessions (Tekin-İftar & Kırcaali-İftar, 2006). FSS-PSV counselors, teachers, and parents were implementers in the program. Reliability data for implementations in each implementer group were collected by field experts based on observations.

FSS-PSV counselor step implementation reliability data. Implementation reliability data of the program at counselor stage was collected and analyzed from 60% of all sessions. Implementation reliability of FSS-PSV counselors varied between 93% and 100%.

FSS-PSV counselor teacher step implementation reliability data. For each counselor, one for each week; six implementation reliability data sets were collected. The data revealed that implementation reliability of FSS-PSV counselors at the teacher step varied between 93% and 100%.

FSS-PSV counselor home implementations reliability data. FSS-PSV counselors checked every Friday whether parents applied the home implementations as indicated in the program or not. The data showed that reliability of home implementations ranged between 94% and 100%.

Class teachers implementation reliability data. Class teachers implemented the program from the sixth day. The data were collected from 30% of total sessions. The data revealed that implementation reliability of the "teacher step" ranged between 80% and 100%.

Inter-coder reliability. Class and Counselor Step Implementation Reliability Forms were coded by two different observers simultaneously. Inter-coder reliability data were collected ten times for each child (two times for each child at counselor step, and eight times for each child at teacher step) at all implementation steps of the program. Inter-coder reliability data were analyzed through the formula of "[Consensus/(Consensus + Dissensus)×100]" (Tekin-İftar & Kırcaali-İftar, 2006), and found out to be 90% on average.

Data Analysis

In order to be able to use parametric tests in data analysis, data were initially tested in terms of whether they had normal distribution or not. To find out whether the data revealed normal distribution or not, kurtosis and skewness values, graphical methods (such as histogram, boxplot, stem and leaf plot, Q-Q graphics, and P-P graphics), and statistical tests (compliance tests such as Kolmogorov-Smirnov and Shapiro-Wilk tests) were used (Huck, 2008; Pallant, 2005). In consequence of analysis kurtosis and skewness values of total social skills and problem behavior pretest-posttest-follow-up scores were found between −1 and +1. Kolmogorov-Smirnov and Shapiro-Wilk's ($p > .05$) results were not found to be significant, which showed that data were distributed normally. In addition to this, examining histogram, boxplot, Q-Q and P-P graphics, the data were found to not have outlier values and have a normal distribution.

In order to test the hypotheses of the study, the following parametric tests were used:

(i) 3×2 Mixed ANOVA was used to find out whether there was a significant difference between total problem behavior pretest-posttest-follow-up scores of students from experimental and control groups.

(ii) 3×2 Mixed ANOVA was used to find out whether there was a significant difference between total social skill pretest-posttest-follow-up scores of students from experimental and control groups.

(iii) A paired samples *t*-test was applied to find out whether there was a significant difference between total problem behavior pretest-posttest-follow-up scores of students from the experimental group.

(iv) A paired samples *t*-test was applied to find out whether there was a significant difference between externalized problems subscale of PBS pretest-posttest-follow-up scores of students from the experimental group.

(v) A paired samples *t*-test was applied to find out whether there was a significant difference between total social skill pretest-posttest-follow-up scores of students from the experimental group.

(vi) Social validity of the program for parents and teachers from experimental group was analyzed through frequencies and percentages of their responses to the items in the FSS-PSV satisfaction forms. The significance level was identified as .05 for all analyses conducted. Furthermore, in order to find out effect size (ES) of independent variable on dependent variable, ($\eta 2$) ES value was used in all analyses.

Results

The Effect of FSS-PSV on Problem Behaviors of Children

Descriptive values of problem behavior scores of experimental and control group from various measurement times are shown in Table 2.

Table 2
Descriptive Values of Total Problem Behavior Scores of Experimental and Control Group

	Experimental/Control Group	*M*	*SD*	*N*
Pretest	Experimental	63.45	11.92	11
	Control	50.73	13.84	11
	Total	57.09	14.19	22
Posttest	Experimental	46.73	18.16	11
	Control	49.18	16.02	11
	Total	47.95	16.76	22
Follow-up	Experimental	49.00	13.89	11
	Control	50.09	13.20	11
	Total	49.55	13.24	22

Note. M: Mean, SD: Standard deviation, N: Number of people.

As seen in Table 2, the total problem behavior score averages of students from the experimental group revealed a decrease in posttest and follow-up scores; however, the average scores of students from control group did not show any difference. ANOVA results of total problem behavior pretest-posttest-follow-up scores of experimental and control groups are shown in Table 3.

Table 3
ANOVA Results of Total Problem Behavior Pretest-Posttest-Follow-up Scores of Experimental and Control Groups

Source of Variance	*SS*	*Df*	*MS*	*F*	*η2*
Inter-groups					
Group	154.56	1	154.56	0.33	
Error	9367.88	20	468.39		
In-group					
Measurement time	1048.21	2	524.11	5.98	0.23
Measurement*group	776.03	2	338.02	4.43	0.18
Error	3505.76	40	87.64		
Total	14.86	65			

Note. SS: Sum of squares, Df: Degree of freedom, MS: Mean of squares, η2: Effect size.

Examining the ANOVA summary table, it would be seen that measurement time and group factors affected total problem behavior scores in interaction, and the ES was large ($F = 4.43$, $p < .05$, $\eta 2 = 0.18$). The source of this interaction is shown in Figure 1.

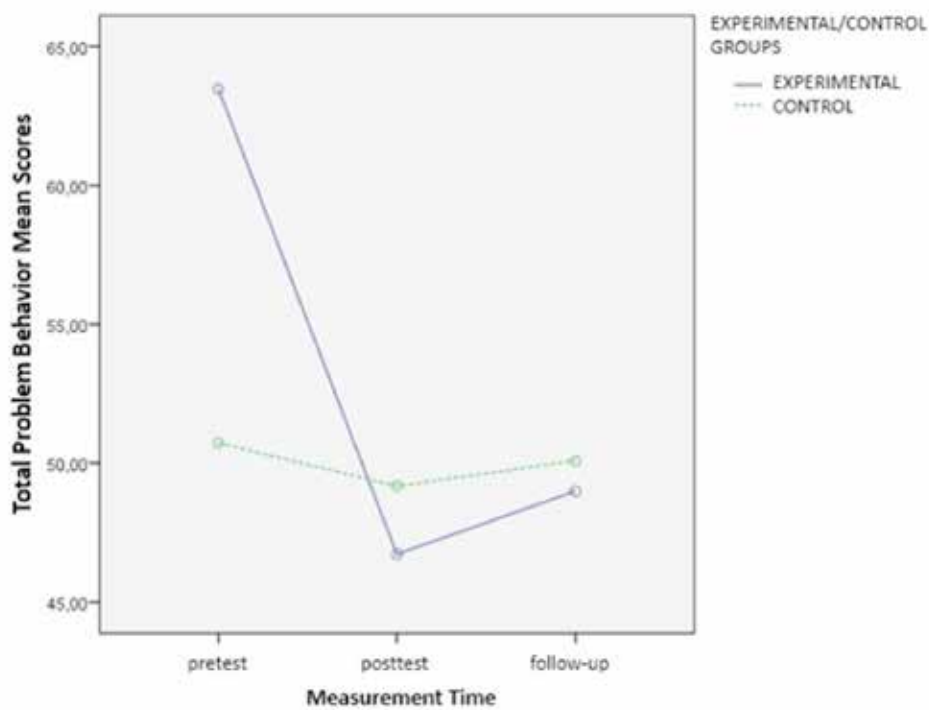

Figure 1. Effect of program on problem behavior levels of experimental and control groups.

As shown in Figure 1, the total problem behavior pretest scores of experimental and control groups were significantly different from each other ($p < .05$); in posttest and follow-up this difference was not significant. Moreover, although there was not any significant difference among three measurements of control group, total problem behavior pretest scores of experimental group were significantly higher than posttest and follow-up scores ($p < .05$). It can be inferred from these findings that the program was effective in decreasing problem behaviors in the experimental group and pursuing this decrease.

Effect of FSS-PSV on Social Skills of Students

The descriptive values of total social skill scores of experimental and control groups from pretest, posttest and follow-up measurement times are shown in Table 4.

Table 4
Descriptive Values of Total Social Skill Scores of Experimental and Control Groups

	Experimental/ Control Group	*M*	*SD*	*N*
Pretest	Experimental	46.00	9.80	11
	Control	48.00	9.53	11
	Total	47.00	9.49	22
Posttest	Experimental	56.73	13.56	11
	Control	56.36	10.03	11
	Total	56.55	11.64	22
Follow-up	Experimental	55.73	13.14	11
	Control	56.09	11.15	11
	Total	55.91	11.89	22

Note. M: Mean, SD: Standard deviation, N: Number of people.

As seen in Table 4, there was an overall increase in total social skill mean scores of posttest and follow-up tests of all students from both groups. ANOVA results of total social skills pretest-posttest-follow-up scores of experimental and control groups are shown in Table 5.

Table 5
ANOVA Results of Total Social Skills Pretest-Posttest-Follow-up Scores of Experimental and Control Groups

Source of Variance	*KT*	*Sd*	*KO*	*F*	*η2*
Inter-groups					
Group	7.33	1	7.33	0.02	0.88
Error	6278.48	20	313.92		
In-group					
Measurement time	1253.21	2	626.61	17.86	0.00
Measurement*group	16.12	2	8.06	0.23	0.79
Error	1403.33	40	35.08		
Total	8.96	65			

Examining the ANOVA summary table, it would be seen that there was not any significant interaction between experimental or control group and time factor ($F = 0.23$, $p = .23$). In this respect, experimental and control groups could be interpreted together considering Figure 2.

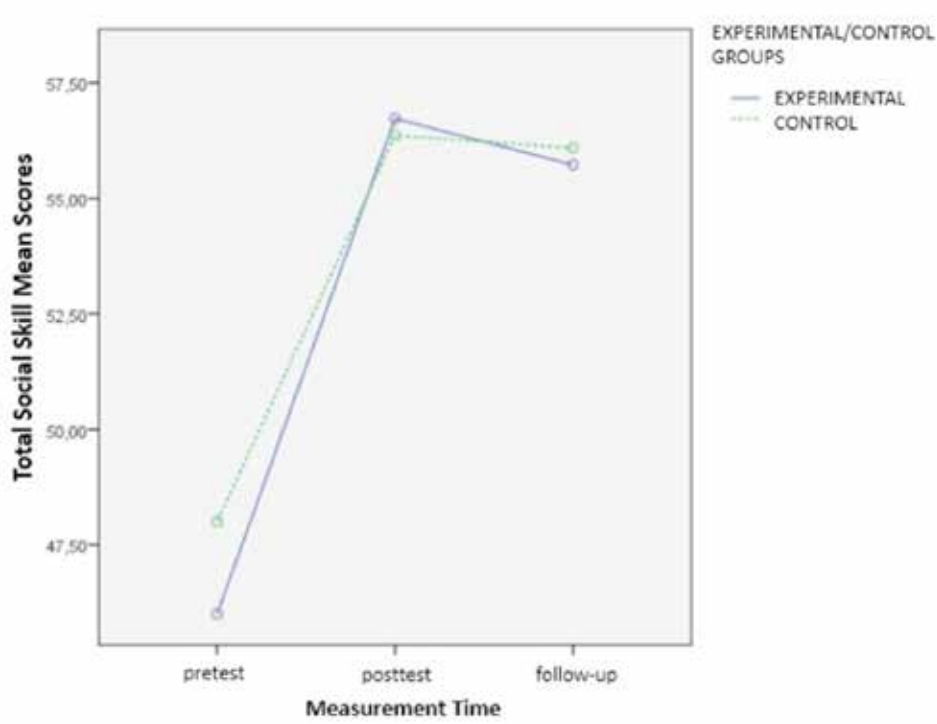

Figure 2. The effect of program on social skill levels of experimental and control groups.

Examining Figure 2, it could be seen that total social skill scores of experimental and control groups revealed a significant increase from pretest to posttest (p = .00); however, no significant change was observed from posttest to follow-up test (p = 1.00). It is possible to derive from this finding that both groups revealed significant increases in posttest scores and they kept this in follow-up tests.

The Effect of FSS-PSV on Problem Behaviors of Students from the Experimental Group

Descriptive values of total problem behavior scores of experimental group are shown in Table 6.

Table 6
Descriptive Values of Total Problem Behavior Scores of Experimental Group

Experimental Group	*M*	*SD*	*N*
Pretest	63.45	11.92	11
Posttest	46.73	18.16	11
Follow-up	49.00	13.90	11

Note. M: Mean, SD: Standard Deviation, N: Number of people.

As shown in Table 6, problem behavior mean scores of experimental group displayed a decrease from pretest to posttest and follow-up test. Table 7 shows the

t-test results used to discover whether the difference between total problem behavior pretest-posttest-follow-up scores of the experimental group were significant or not.

Table 7
t-Test Results of Total Problem Behavior Pretest-Posttest-Follow-up Scores of Experimental Group

Experimental Group	*M*	*SD*	*DF*	*t*	*η2*
Pretest-Posttest	16.72	16.55	10	3.35	0.52
Pretest-Follow-up	14.46	8.61	10	5.57	0.75

Note. M: Mean, SD: Standard deviation, DF: Degree of freedom, η2: Effect size.

Considering the findings of the study shown in Table 7, it could be seen that posttest total problem behavior scores of students from experimental group were significantly lower than those of pretest scores, and the implementation of the program had a sizeable effect size (ES) on problem behaviors ($t(10) = 3.35$, $p < .05$, $\eta 2 = 0.52$). In addition to this, it could also be seen that the follow-up test total problem behavior scores of students from the experimental group were significantly lower than those of pretest scores, and the implementation of the program had a large ES ($t(10) = 5.57$, $p < .05$, $\eta 2 = 0.75$). It can be inferred from these findings that the program had a significant effect on decreasing problem behaviors of students and pursuing this situation.

The Effect of FSS-PSV on Externalized Problem Behaviors of Students from Experimental Group

The basic aim of FSS-PSV is basically to decrease externalized problem behaviors (such as different forms of aggressiveness) of children who display problem behaviors. For this reason, whether there was a significant difference among pretest-posttest-follow-up externalized total problem behavior scores of students from the experimental group was analyzed. Descriptive values of total externalized problem behavior scores of experimental group are shown in Table 8.

Table 8
Descriptive Values of Total Externalized Problem Behavior Scores of Experimental Group

Experimental Group	*M*	*SD*	*N*
Pretest	52.27	7.93	11
Posttest	37.64	15.14	11
Follow-up	36.18	11.48	11

Note. M: Mean, SD: Standard deviation, N: Number of people.

As it could be seen in Table 8, externalized problem behavior mean scores of the experimental group displayed a decrease from pretest to posttest and follow-up test. *t*-Test results to find out whether the difference between total externalized problem behavior pretest-posttest-follow-up scores of experimental group was significant are shown in Table 9.

Table 9
t-Test Results of Total Externalized Problem Behavior Pretest-Posttest-Follow-up Scores of Experimental Group

Experimental Group	*M*	*SD*	*DF*	*t*	*η2*
Pretest-Posttest	14.64	12.48	10	3.89	0.93
Pretest-Follow-up	16.09	8.99	10	5.93	0.77

Note. M: Mean, SD: Standard deviation, DF: Degree of freedom, η2: Effect size.

When analyzing the findings shown in Table 9, it could be seen that posttest total externalized problem behavior scores of students from the experimental group were significantly lower than those of pretest scores, and the implementation of the program had a big ES on externalized problem behaviors ($t(10) = 3.89, p < .05, \eta2 = 0.93$). In addition to this, it could also be seen that follow-up test total externalized problem behavior scores of students from experimental group were significantly lower than those of pretest scores, and the implementation of the program had a big ES ($t(10) = 5.93, p < .05, \eta2 = 0.77$). It can be inferred from these findings that the program had a significant effect on decreasing externalized problem behaviors of students and pursuing this situation.

The Effect of FSS-PSV on Social Skills of Students from the Experimental Group

Descriptive values of total social skill pretest-posttest-follow-up scores of the experimental group are shown in Table 10.

Table 10
Descriptive Values of Total Social Skill Scores of the Experimental Group

Experimental Group	*M*	*SD*	*N*
Pretest	46.00	11.92	11
Posttest	56.73	18.16	11
Follow-up	55.73	13.90	11

Note. M: Mean, SD: Standard deviation, N: Number of people.

As it could be seen in Table 10, there was a decrease in total social skill scores of students from the experimental group from pretest to posttest and follow-up test. *t*-Test results of whether the difference between total social skill scores of experimental group was significant are shown in Table 11.

Table 11
t-Test Results of Total Social Skill Pretest-Posttest-Follow-up Scores of Experimental Group

Experimental Group	*M*	*SD*	*DF*	*t*	*η2*
Pretest-Posttest	16.72	16.55	10	3.35	0.52

Note. M: Mean, SD: Standard deviation, DF: Degree of freedom, η2: Effect size.

Findings of the study revealed that social skill posttest mean scores of students from experimental group were significantly higher than those of pretest scores ($t(10) = 4.65, p < .05, \eta2 = 0.75$). As for follow-up test total social skill mean scores, they were also significantly higher than pretest scores ($t(10) = 4.24, p < .05, \eta2 = 0.94$).

Social Validity of FSS-PSV for Teachers and Parents

The social validity of the program was analyzed by teachers from the experimental group completing the "FSS-PSV Teacher Satisfaction Form," and parents filling the "FSS-PSV Parent Satisfaction Form." Table 12 shows the frequencies and percentages of responses of teachers to the items in the "FSS-PSV Teacher Satisfaction Form," and Table 13 shows frequencies and percentages of responses of parents to the items in the "FSS-PSV Parent Satisfaction Form."

As shown in Table 12, the majority of teachers stated positive opinions on FSS-PSV program. For example, seven (64%) out of 11 teachers stated that the aim of the FSS-PSV program was to help students develop their behavior in their classes; and eight (73%) stated that they immediately noticed the changes in behaviors of the students who participated in the program and the program was effective in terms of teaching appropriate behaviors to the target students. Moreover, the majority of the teachers found the program user-friendly and stated that they would recommend it to other teachers. Six (54%) of them stated that the program hindered them continue

Table 12
Opinions of Teachers on FSS-PSV

ITEMS	1 Totally Disagree	2 Disagree	3 Neutral	4 Agree	5 Totally Agree
	n %	n %	n %	n %	n %
1.The aim of FSS-PSV program helped my students developed their behaviors in class.			4 (36,4)	3 (27,3)	4 (36,4)
2. FSS-PSV program met in-class needs.		1 (9,1)	4 (36,4)	3 (27,3)	3 (27,3)
3. The program was easy to use.			5 (45,5)	2 (18,2)	4 (36,4)
4. Implementation of program did not take too much time.		2 (18,2)	3 (27,3)	4 (36,4)	2 (18,2)
5. Program did not hinder me fulfill my other instructional activities or responsibilities		5 (45,5)	1 (9,1)	3 (27,3)	2 (18,2)
6. I am happy with behavioral changes of my student who participated in the program.		1 (9,1)	3 (27,3)	3 (27,3)	4 (36,4)
7. I immediately noticed behavioral changes of my student who participated in the program.		1 (9,1)	2 (18,2)	4 (36,4)	4 (36,4)
8 FSS-PSV was effective in terms of teaching appropriate behaviors to my student who participated in it.		3 (27,3)		4 (36,4)	4 (36,4)
9. FSS-PSV program had a positive effect on my student who participated in it in his relationships with his friends.		3 (27,3)	1 (9,1)	3 (27,3)	4 (36,4)
10. I didn't receive enough training to apply the program.		1 (9,1)	3 (27,3)	7 (63,6)	
11. I received a constant support and help while I was implementing the program.		2 (18,2)	2 (18,2)	6 (54,5)	1 (9,1)
12. I recommend the program to other teachers as well.		1 (9,1)	2 (18,2)	4 (36,4)	4 (36,4)
13. I would like to use FSS-PSV program for other students in my class in advance.		1 (9,1)	3 (27,3)	3 (27,3)	4 (36,4)

other instructional activities and responsibilities, and five (45.5%) stated that implementation of the program was difficult and too time-consuming.

As shown in Table 13, the opinions of parents from the experimental group on FSS-PSV were positive. For example, 10 of 11 parents (91%) stated that the program met their needs at home and it made positive contributions to their children in terms of their relationships with their friends. Parents stated that they would recommend the program to other parents as well. In addition, all of the parents were happy with behavioral changes of their children, and they stated that the program was effective in terms of teaching appropriate behaviors to the child and it was a user-friendly program. Conversely only two (10%) of parents stated that implementation of the program was time consuming.

Table 13
Opinions of Parents on FSS-PSV

TEMS	1 Totally Disagree	2 Disagree	3 Neutral	4 Agree	5 Totally Agree
	n %	n %	n %	n %	n %
1. The aim of FSS-PSV program helped me develop the behaviors of my child at home.				6 (54.5)	5 (45.5)
2. FSS-PSV program met our needs at home.			1 (9.1)	5 (45.5)	5 (45.5)
3. The program was easy to use.				2 (18.2)	9 (81.8)
4. Implementation of the program did not take too much time.	2 (18.2)			3 (27.3)	6 (54.5)
5. The program did not hinder me in fulfilling my other chores or responsibilities at home.	1 (9.1)			2 (18.2)	8 (72.7)
6. I am happy with the behavioral changes of my child.				1 (9.1)	10 (90.9)
7. I immediately noticed behavioral changes in my child.				7 (63.6)	4 (36.4)
8. FSS-PSV was effective in terms of teaching appropriate behaviors to my child.				2 (18.2)	9 (81.8)
9. FSS-PSV program had a positive effect on my child in his relationships with his friends.			1 (9.1)	4 (36.4)	6 (54.5)
10. I was given enough information about the implementation of the program.				3 (27.3)	8 (72.7)
11. I received a constant support and help while I was implementing the program.			1 (9.1)	3 (27.3)	7 (63.6)
12. I recommend the program to other parents as well.		1 (9.1)		1 (9.1)	9 (81.8)

Discussion

The findings of the study will be discussed in the framework of problem behaviors, social skills, and social validity of the program, respectively, compared with literature in this section. The program aims to decrease problem behaviors of students at risk of displaying them. Findings of the study related to problem behaviors showed

that pretest-posttest and follow-up test, scores of total problem behaviors of the experimental group were significantly high whereas the scores of the control group did not reveal any significant change in terms of problem behaviors. This situation demonstrates the effectiveness of the implemented program on decreasing problem behaviors of students. The results of other experimental studies on FSS (Diken et al., 2010; Diken, Cavkaytar, Batu et al., 2011; Diken, Bozkurt, Arıkan et al., 2011; Karaoğlu, 2011; Seeley et al., 2009; Sumi et al., 2012; Walker, Kavanogh, Stiller et al., 1998; Walker et al., 2009) support the findings of the present study. The effectiveness of the program is related to its comprising comprehensive and systematic implementations in various mediums (both in class and at home). Results of other studies on FSS showed that implementing the class and home modules of the program together had a deep impact on decreasing the problem behaviors of children and pursuing this decrease support this idea (Beard & Sugai, 2004; Rodriguez et al., 2009; Sumi et al., 2012).

Another aim of the study was to provide a decrease in externalized problem behaviors. For this reason, the effect of the program on externalized problem behaviors was also analyzed here, and the findings demonstrated that the program caused a significant decrease in the externalized problem behaviors of the experimental group. Results of qualitative research that was a part of this project revealed similar results to the present study (Tomris, 2012), and that the program decreased physical aggressive behaviors of children in particular (such as hitting, pushing, and strangling peers). In addition, findings of some studies conducted on FSS showed that the program was quite effective on externalized problems whereas it did not cause any significant difference for internalized problem behaviors (Golly, Stiller, & Walker, 1998; Walker, Kavanagh, Stiller et al., 1998). Golly et al. (1988), and Walker, Kavanagh, Stiller et al. (1998) studied introversion as internalized behavior. That program was not effective on this behavior because internalized problem behaviors were not the basis for selecting target students, and the basic aim of the program was decreasing externalized problem behaviors. Consequently, the program can be said to have achieved one of its basic aims by providing a considerable decrease in externalized problem behaviors of children.

The program consists of natural life environments of children (such as home and class). The literature indicates positive effects of the program regarding class atmosphere and social communication of the target child with their peers, referring to its characteristics such as rewarding in class and increasing collaboration among children (Walker, Kavanagh, Stiller et al., 1998; Walker, Severson, Feil, Stiller, & Golly, 1998). Similarly, the program Home module activities usually aimed to develop the social skills of children. Studies conducted on FSS revealed that the program significantly increased the children's social skill (Diken et al., 2010; Diken, Cavkaytar, Batu et al., 2011; Golly et al., 2000; Seeley et

al., 2009; Sprague & Perkins, 2009; Sumi et al., 2012; Tomris, 2012; Walker et al., 2009). Differing from to the previous studies in the literature, it was found that students from both experimental and control groups increased their posttest social skill scores and kept these improvements in follow-up measurements. These findings revealed that there was an unexpected improvement in posttest and follow-up scores of children from the control group. In this respect, it would be difficult to state that improvements in the social skills of children from experimental group stemmed from the implementation of the program because both groups demonstrated improvements in social skills as shown by posttest and follow-up. The study was conducted in the fall term of the academic year, which was the first semester of the year. This timing might have affected the evaluation of social skills of the children: the increase in basic social skills after orienting themselves to the school is considered a reason for considerable improvement in social skill levels of children from both the experimental and control groups. Moreover, the other reasons for this improvement in social skills in both groups might be the participants' small age groups, the effect of maturation, acquisition of social skills easily through peer observation, and preschool curricula that included activities supporting the development of social skills (such as social stories and dramas). Even so, implementation of the class and home modules connectedly was one of the most important factor affecting the success of the program.

As for the social validity findings of the study, both teachers and parents immediately noticed improvements in problem behaviors of children at home; the program was effective in terms of teaching appropriate behaviors to the child, and they would recommend the program to other teachers and parents. Results of the previous studies examining the social validity of FSS from the perspectives of teachers and parents supported the results of the present study (Carter & Horner, 2009; Diken & Rutherford, 2005; Diken et al., 2010; Diken, Cavkaytar, Batu et al., 2011; Golly et al., 1998; Russell, 2006; Sprague & Pekins, 2009; Tomris, 2012; Walker et al., 2009).

However, the study had some limitations. The behaviors of children could be evaluated through various methods such as in-class observations, video records, and scales. As for the present study, scales based on teacher opinions were used for the evaluation of problem behavior and social skill levels of children from both experimental and control groups. Since the researchers were not permitted to be there, in-class observations could not be conducted. In addition to this, implementation reliability data were collected through in-class observations for the class module; and whether the implementations at home were conducted as stated in the program or not were evaluated through the feedback taken from parents. For this reason, supporting the data related to problem behaviors and social skills of both experimental and control groups with in-class observations, and evaluating the implementations at home through in-house observations might provide more detailed contributions to

the effectiveness of the program (especially in terms of finding out the reasons of increase in social skills of experimental group).

The study was conducted in the first semester of the academic year and most of the children did not attend school for some reason such as illness in the winter months. This situation disrupted the implementation process of the program, which could not be conducted for 30 week days in some schools. The study was limited with 22 teachers, 11 parents, 6 FSS-PSV counselors, and 22 children (11 experimental, 11 control) who were at risk of problem behaviors, attending preschools in Eskişehir city center. In experimental studies conducted in the literature related to the program the maximum number of participants was 281. From this framework, the sample size of the study in terms of generalizing the results related to the effects of FSS-PSV on problem behaviors and social skills of Turkish children, and social validity of program to the whole population might be considered insufficient. However, the average number of participants in various previous experimental studies related to the program was 30. Thus, the present study has similarities with those studies in terms of participant numbers. The program was conducted on a voluntary basis; however, it was understood from the interviews conducted with teachers that some of them did not conduct in-class applications voluntarily, and for this reason, seven teachers who did not implement the program properly were excluded from the study. In this respect, the reasons for motivation loss of teachers, the points they felt difficulty in implementing, and the reasons for not applying the program properly should be studied in detail in further research. The reluctance of teachers in implementing the program and not implementing it properly, and some teachers' considering the program difficult to apply in social validity findings, are all thought to be related to the Turkish Education System. Main reasons for this negativity of the teachers were considered to stem from a too-intensive preschool education curriculum and crowded classes (approximately 25 students), and having a more structured curriculum in Turkey compared to other countries.

Some suggestions for further research and implementations can be made. Considering the effectiveness of the program, FSS should be supported by various institutions and extended to public primary schools and private/independent preschools. Regarding the limited number of studies on the effectiveness of the FSS-PSV program in Turkey, findings of this study should be supported by further studies conducted by other researchers. In addition to the class module of the FSS-PSV program, implementation reliability of the Home module can also be evaluated through in-house observations and the effects of implementations at home on problem behaviors and social skills of children can be studied. Problem behavior and social skill levels of experimental and control groups in further experimental studies can be supported with in-class observations besides scales, and effectiveness of the program can be reevaluated. Furthermore, in addition to the effect of intervention on in-class mediums, the effects of it on out-of-class mediums (such as school yard, corridors, and canteen) can be studied. Behavioral changes of the target children were a focus in this study but how

the program affected family, teacher and other children were not taken into consideration. The effect of the program on other groups might be examined in further research. Further studies could be designed using different methods (such as longitudinal studies to evaluate the long-term effects of the program and qualitative studies) and conducted by including various approaches such as functional behavioral evaluation to the program and comparing the effectiveness of the program with standard implementations in terms of various demographic characteristics with larger sample groups.

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