

# **Examining the effectiveness of education based on social learning theory in fostering self-care and social skills in school children: A randomized controlled trial**

## **Methods**

### **Design and Sample**

A randomized controlled intervention design was used in this study. The population of the study consisted of official kindergartens affiliated with the Ministry of National Education in a province. The selected province had 25 districts, one of which was selected using simple random sampling. This district had 18 official kindergartens affiliated with the Ministry of National Education, and one was selected using simple random sampling.

### **Hypotheses**

**H0<sub>1</sub>**- Self-care training based on social learning theory is not effective in fostering children's self-care skills.

**H1<sub>1</sub>** - Self-care training based on social learning theory is effective in fostering children's self-care skills.

**H0<sub>2</sub>**- Training on social competency skills based on social learning theory is not effective in fostering children's social competency skills.

**H1<sub>2</sub>**- Training on social competency skills based on social learning theory is effective in fostering children's social competency skills.

### **Participants and randomization**

The power analysis conducted using the software G\*Power 3.0.10 showed that in a study design with 5 repetitions and 2 groups (intervention and control), a sample size of 82 was required for an effect size of 0.7362, power of 95% power, and 5% margin of error. In the sampling, two schools selected by lottery from the list were assigned as intervention and control groups. The first school chosen in the draw forms the intervention group, and the second school forms the control group. The two kindergartens included in the study had a total of 180 children five and six years of age. A list of these children was created, each child was given a number, and lots were drawn from a box containing pieces of paper with these numbers on them. The first number drawn was assigned to the intervention group, the second number to the control group, and so on, until the intervention and control group had 43 participants each. Thus, given the risk of attrition, a total of 86 children were included in the study, all of whom were five or six years of age, agreed to participate in the study, and had parents who gave their written consent for the study. Since the children assigned to the intervention and control groups were from two different schools, they did not interact with each other (Figure 1 CONSORT).

To test the comprehensibility of the cartoons prepared and the data collection forms, a pilot study was conducted with 10 children attending one of the schools sampled. G\*Power

analysis was based on data from this pilot study. Children who participated in the pilot study were excluded from the main study.

### **Blinding**

It was not possible to blind the researchers to the intervention and control groups for randomization. However, the data collection process was blinded by using classroom teachers who work in the kindergarten included in the study. Self-care and social competence scales were administered by the teachers who were unaware of the intervention and control groups of the children. The teachers in the classes where the research was conducted do not have information about the training to be provided. While the children in the intervention group were receiving training and during the control group visits, the teachers were not in the classroom and the training was carried out by the researcher. Only the purpose of the research was explained to the teachers and they took part in collecting data in the study. In addition, the teachers in the intervention group and the teachers in the control group do not have any interaction because they work in different schools. In this way, they do not have information about the number of measurements. Thus, bias was prevented by blinding the data collection. On the other hand, the statistician who analyzed the data carried out the analysis without knowing which group the data belonged to (groups were coded as G1, G2).

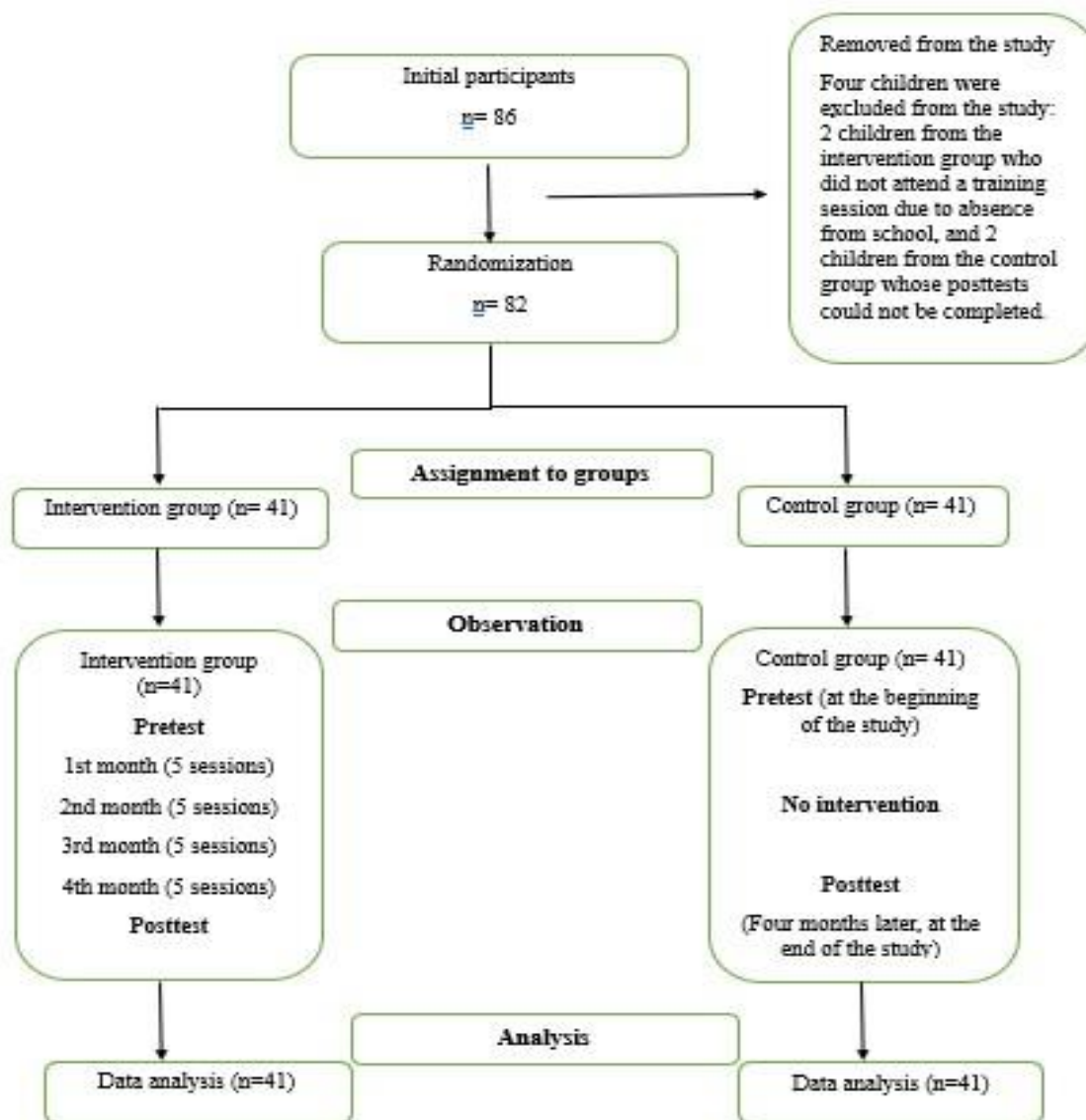
### **Inclusion and Exclusion Criteria**

Children who were five or six years of age and did not have any cognitive or sensory issues were included in the study.

Children with cognitive or sensory issues requiring special education were not included in the study.

### **Variables**

Mean scores of the intervention and control groups on the self-care, social competence and behavior evaluation scales were the dependent variables. Independent variables were the training program –which involved animated films on self-care and social competence skills– and sociodemographic variables.



**Figure 1 : Consort Flow Diagram**

### **Data Collection Tools**

Data for the study were collected using the Demographic Assessment Form, the Self-Care Skills Assessment Scale for 3- to 6-Year-Old Children and the Social Competence and Behavior Evaluation–30 Scale.

**Demographic Assessment Form:** This form contained items on age, hand washing habits, tooth brushing frequency, number of meals a day, peer activities, number of screen hours (TV,

computers, tablets, smartphones), whether they watched advertisements, and if so, which attracted their attention, and the ages and incomes of parents, among others. This form was filled out by the parents.

**Self-Care Skills Assessment Scale for 3- to 6-Year-Old Children:** The Self-Care Skills Assessment Scale was developed by Bayer et al. (2020) for the evaluation of the self-care skills of three- to six-year-old children. The test consists of 50 items scored on a 5-point Likert-type scale with the options: strongly agree, agree, neutral, disagree and strongly disagree. The test items are grouped into six categories (hygiene and personal care, eating, resting, accident avoidance and organizing one's environment). The tests were filled out by class teachers for each student, and the total scores from the test were calculated by summing up the scores given for the individual items. The total scores ranged between a minimum of  $50 \times 1 = 50$  and a maximum of  $50 \times 5 = 250$ . The content and construct validities of the Self-Care Skills Assessment Scale were examined, and the test was found to have a Cronbach's alpha value of .85. (Bayer et al., 2020). The Self-Care Skills Assessment Scale has been reported to have a reliability coefficient of .88 for 6-year-old children. For our study, the Cronbach Alpha reliability coefficient of the scale was calculated as .98 for the total self-care scale. Permission was obtained from Bayer et al. (2020) for the use of the Self-Care Skills Assessment Scale.

**Social Competence and Behavior Evaluation-30 Scale (SCBE-30):** The Social Competence and Behavior Evaluation-30 Scale (SCBE-30) was developed by LaFrenier and Dumas (1996), and the scale was adapted for Turkish by Çorapçı et al. (2010), who also assessed its validity and reliability. The scale evaluates the cognitive and social behaviors of preschool children and comprises 30 items grouped under three subscales: Social Competence (10 items), Anger-Aggression (10 items), and Anxiety-Withdrawal (10 items). The "Social Competence" subscale measures positive traits such as cooperating with peers and looking for solutions to problems; the "Anger-Aggression" subscale evaluates problem indicators such as arguing with adults, problems in getting along with peers, and aggressive behaviors; and the "Anxiety-Withdrawal" subscale measures problem indicators related to internalization such as depressive mood and being timid in group settings. There are no reverse scored items in the scale. The scale is reported to have a Cronbach's alpha internal consistency coefficient of .88 for the "Social Competence" subscale, .87 for the "Anger-Aggression" subscale, and .84 for the "Anxiety-Withdrawal" subscale (Çorapçı et al., 2010). The Cronbach Alpha reliability coefficients of the scale for our study are .64 for the total scale, .73 for the "Social Competence" subscale, .69 for the "Anger-Aggression" subscale and .72 for the "Anxiety- Withdrawal" subscale. The scale comprises 4-point Likert-type items. The total score of the scale is obtained by summing the scores of the subscales. The scale also allows the calculation of an overall score for social competence and behavior.

For the use of the Turkish version of the Social Competence and Behavior Evaluation-30 Scale (SCBE-30), permission was obtained from Çorapçı et al. (2010), who examined its validity and reliability.

## **Data Collection**

The data of the research was collected between January 20 and June 16, 2023. At the end of the monthly training sessions for the intervention group, evaluations were made with scales every month. The first evaluations and pre-tests were made to the intervention group before the training started and simultaneously to the control group on January 20, 2023. After the training sessions were completed, end-of-month evaluations were made to the intervention group on 24 February 2023, 24 March 2023, 21 April 2023, 22 May 2023. Post-test evaluations were applied to the intervention and control groups simultaneously on June 16, 2023. Children's own classroom environments were used for training sessions. Each classroom has a computer and a 82-inch LCD TV. Children were shown cartoons using this computer and TV.

## **Self-Care and Social Competence Training Program Implementation Stages**

A group training approach was preferred to encourage interactive interaction among the children and thus increase the effectiveness of the training program. What is more, skills that are acquired in a group setting, such as listening carefully when others speak, and displaying love and respect toward one another help children develop interpersonal relationships. These training programs are important in helping children develop their social competence skills, to improve their psycho-social health and to reduce problem behaviors. Group-based training programs for children tend to be more effective than individual training. Previous studies have reported that such programs focus on supporting important skills, and help children develop social interaction, cooperation, empathy and problem-solving skills, among others (Jones et al., 2019; NIEER, 2020).

While preparing the animated films on self-care and social competence-related issues for the training program, care was taken to avoid the use of scientific terminology and a simple and easy-to-understand language was used to help the participants better understand the issues. Goals were set for each of the self-care and social competence behaviors the children were expected to acquire, and tables of specifications were prepared to support the creation of animated film scripts containing the target behaviors.

Before creating the scenarios for the cartoons, the researcher scanned the literature, and read the most popular children's books, examining them in terms of language, expression and content. Most popular children's cartoons were also watched and examined in terms of the messages given and the understandability of the language, and to get an idea of what type of content to create (Küçükkaragöz, 2023; Korkmaz, 2023; Elif Temizlik Oyunu Oynuyor, Mö Anne Temizlik Yapıyor, Temizlik Sağlıktır, and etc. Children reading books, Susam Sokağı, Rafadan Tayfa, Aslan'ın Deney Odası, Pırıl, Maysa ve Bulut. and etc. cartoons). Five cartoon scenarios were then created in line with the targets set regarding desired behaviors. When determining these target behaviors, the behaviors in the scales used were taken as basis. Expert opinion was obtained for the scenarios from two nurse academicians in the field of pediatric nursing, a clinical child psychologist and an academician in the field of educational sciences regarding the targets, the table of specifications and the suitability of the content / scenario. The scenarios were finalized by making necessary adjustments in line with expert opinions.

In the end, a total of five cartoons were prepared: two cartoons for self-care behaviors, two cartoons for social competence behaviors, and one cartoon to summarize the importance of

both self-care and social competence behaviors for children. Cartoons were prepared by a professional team of experts in their field using the 2D Animation Studio. Expert opinion was obtained for the cartoons as well. The average duration of the cartoons was 6 to 7 minutes.

## **Procedures for Intervention and Control Groups**

### **Intervention Group Procedure**

**Pretest:** In this session, children in the intervention group, who met the inclusion criteria for the study and agreed to participate, were informed about the training they were to receive. Teachers were also informed about the self-care and social competence scales they were to administer to the children.

To have pretest measurements prior to the training program, the Self-Care Skills Assessment Scale and the Social Competence and Behavior Evaluation-30 Scale were distributed to the teachers to be filled out, while the parents were asked to fill out the Demographic Assessment Form.

### **The monthly training program was as follows:**

The application of self-care and social competence training program according to the stages of Social Learning Theory is illustrated in Figure 2.

After the children watched the cartoons, a discussion was held on correct and incorrect behaviors for approximately 15 minutes. Before starting to watch the cartoons in the next session, topics discussed in the previous session were briefly discussed for 10 minutes and the events in the cartoon were recounted. Thus, the average session lasted approximately 30 minutes.

- 1. Session on Self-Care Training I:** In this session, before watching the cartoon, an approximately 10-minute discussion was held on what children knew about hand, face, toilet and general body hygiene and healthy self-care behaviors. Then, the first cartoon on children exhibiting positive and negative self-care behaviors, lasting 4 minutes and 21 seconds, was shown. At the end of the cartoon, a discussion was held for approximately 15 minutes about the right and wrong behaviors displayed by the characters. This training session lasted approximately 30 minutes.
- 2. Session on Self-Care Training II:** Before starting this session, topics discussed in the previous training session were recounted for approximately 10 minutes, focusing on right and wrong behaviors in the cartoon. Then, participants watched a 5-minute and 33-second-long animated film, the second cartoon, showing children who exhibited positive and negative behaviors such as being able to put on and take off their clothes unaided and correctly, choosing clothes suitable for weather conditions and paying attention to clothing cleanliness, nutritional hygiene, washing hands before and after meals, and brushing teeth. At the end of the cartoon, a discussion was held for approximately 15 minutes about the right and wrong behaviors displayed by the characters. The session lasted approximately 30 minutes.

Since the duration of the cartoons used in the first and second training sessions on self-care was short, the first two sessions were held 4 days apart in the same week. Other training sessions were administered one week apart. Thus, a total of 5 training sessions were completed within one month.

- 3. Session on Social Competence Training I:** Before this session started, a discussion was held with the children about positive social competence behaviors for approximately 10 minutes and their attention was drawn to the subject. Then, the third cartoon on social competence behaviors, lasting 6 minutes and 19 seconds, was shown. Social competence skills discussed in this cartoon included being outgoing in group settings, being able to control one's emotions, being active in a group, participating in activities, being able to use one's own belongings and shared items carefully, being respectful to one's teacher and friends in the classroom, and being able to accept the consequences when one misbehaves. At the end of the cartoon, a discussion was held with the children about the right and wrong behaviors in the cartoon for approximately 15 minutes. The training session lasted approximately 31 minutes.
- 4. Session on Social Competence Training II:** Social competence behaviors discussed in this session included being able to help and cooperate within the group, not taking out one's anger on physical objects, being able to seek solutions when in conflict, and knowing what to do in case of anxiety, fear and panic. Before watching the cartoon, a brief discussion was held on the topics discussed in the previous training session for approximately 10 minutes, and the right and wrong behaviors in the cartoon were recounted so that the children could remember them. The fourth cartoon shown to the children in this session lasted 6 minutes and 04 seconds. At the end of the cartoon, a discussion was held with the children about the right and wrong behaviors in the cartoon for approximately 15 minutes. The training session lasted approximately 31 minutes.
- 5. Session on Reinforcing Self-Care and Social Competence Training:** The cartoon shown in this session covered both self-care and social competence behaviors. Behaviors discussed in this session included being able to follow hygiene rules when coming home from outside (washing hands with soap, washing face, etc.), changing into clean clothes at home, being able to wash hands before eating when it's meal time, taking on necessary responsibilities (helping to set and remove the table, etc.), cover covering one's mouth and nose with a tissue when sneezing or coughing and cleaning up afterwards, and putting on pajamas and brushing teeth before going to bed. Before watching the cartoon, a brief discussion was held on the topics covered in the previous training session for approximately 10 minutes, and the right and wrong behaviors in the cartoon were recounted so that the children could remember them. The fourth cartoon shown to the children in this session lasted 9 minutes and 04 seconds. At the end of the cartoon, a discussion was held with the children about the right and wrong behaviors in the cartoon for approximately 15 minutes. The session lasted approximately 34 minutes. During the discussions, children were asked to practice the desired behaviors shown in the cartoons, and appropriate feedback was given.

**Assessment of Self-Care and Social Competence:** During the four months of the intervention, after a total of five training sessions on self-care and social competence were completed at the end of each month, classroom teachers administered the Self-Care Skills Assessment Scale for

3- to 6-Year-Old Children, and Social Competence and Behavior Evaluation Scale-30 to evaluate children's behaviors in the areas of self-care and social competence. Thus, children in the intervention group were evaluated five times in total, including the first evaluation before the start of the study and the evaluations at the end of each month.

### **Control Group Procedure**

**Pretest:** The self-care and social competence skills of the children in the control group were assessed at the beginning of the study together with the intervention group. To this end, pretests of the Self-Care Skills Assessment Scale for 3- to 6-Year-Old Children, and the Social Competence and Behavior Evaluation – 30 Scale were filled out by the teachers, while the parents were asked to fill out the Demographic Assessment Form.

**Posttest:** The children in the control group received no extra self-care or social competence training besides that provided by the teachers for one week as part of the regular curriculum. For the posttest of this group, the Self-Care Skills Assessment Scale for 3- to 6-Year-Old Children was used, as well as the Social Competence and Behavior Evaluation–30 Scale, both of which were filled out by the teachers at the end of the fourth month.

At the same time that the intervention group was receiving training, visits were made to the control group and the children were chatted with, and activities unrelated to the subject desired by the children were carried out, apart from the cartoons used in the research. No other assessments were carried out after these visits.

### **Ethical Considerations**

Ethics board approval for the study was obtained from a university's Directorate of Ethics Boards for Human Studies, with decision no. 192831, dated July 25, 2022, and protocol no. 283. Permission for the study was obtained from the Ankara Provincial Directorate of Education dated August 24, 2022, no. 605.99-55821342. The families of the children included in the study were informed about the study design and gave written consent for the inclusion of their children, while verbal consent was obtained from the children themselves.

### **Data Analysis**

Prior to conducting further statistical analysis, the Shapiro-Wilk test was used to see if the sample had a normal distribution and the data was found to have a normal distribution. Thus, parametric tests were used in the study. Levene's test was used to test for homogeneity of variance (heteroscedasticity) in intervention and control groups.

The mean scores from the Self-Care Assessment Scale and the Social Competence and Behavior Scale administered to the participants were calculated. As the numbers of participants in the intervention (n=41) and control (n=41) groups were larger than 30, parametric tests were used for the comparison of group means (Ghasemi & Zahediasl, 2012; Kwak & Kim, 2017; Koh & Ahad, 2020). A reliability analysis was carried out and Cronbach's alpha coefficient was calculated for each of the scales, including the subscales.

The applied parametric tests included a paired samples t-test and a repeated measures ANOVA for the comparisons within the intervention and control groups, and an independent samples t-test for the comparisons of the intervention and control groups.



An analysis of the correlation between the intervention and control groups was carried out using Fisher's and Pearson's Chi-square tests. Descriptive statistics for the categorical variables (demographic traits) were presented as frequencies and percentages, while descriptive statistics for numerical variables were reported as means (M) and standard deviations (SD). In all calculations and interpretations, a  $p < 0.05$  level of significance was used. All statistical analyses were conducted using IBM SPSS Statistics (Version 28.0. Armonk, NY: IBM Corp.).

## **INFORMED VOLUNTARY CONSENT FORM**

Researcher's statement;

Dear Participant,

This doctoral thesis titled 'The Effect of Teaching Activities Based on Social Learning Theory in Providing Self-Care and Social Competence to Kindergarten Level Children' was planned to examine the effectiveness of education to be provided through cartoons prepared based on social learning theory in providing self-care (hand hygiene, general body hygiene, nose, ear cleaning, dental health) and social competence behaviors to 6-year-old children in the preschool period. It is thought that educational films containing cartoon characters that children adopt can be effective in providing health-related behaviors in the preschool period, when role models are important in social learning. Therefore, it is thought that the data regarding self-care and social competence education to be obtained from the study will make significant contributions to laying the foundation of a healthy society. With the results to be obtained from your responses, information regarding both sociodemographic data and information regarding your child's self-care and social competence status in their daily lives will be obtained. As a result of the study, your child's pre- and post-education data will be compared. Therefore, it is very important that you answer all questions correctly and sincerely. Our study will continue from the first day your child is included in the study until the last day of the education and evaluations. You will be informed about the situation if there is no targeted benefit regarding the reasonably expected benefits from the study. Your participation in the study and allowing your child to participate in the study is voluntary. In addition, your child will be informed about this study in a way they understand and their consent will be obtained for participation in the study. You may refuse to participate in this study. If you refuse to participate in this study or do not allow your child to participate, there will be no change in the education your child receives at school.

The information obtained through the forms to be applied will remain confidential and will be used only for research purposes (or “scientific purposes”). Apart from this, the audience, the people conducting the survey, the ethics committee and the institution and other relevant health authorities have the right to direct access to your original records. You will not be asked for or given any fee for participating in this study. Considering other studies conducted, it is thought that this study will not pose any harm/risk to your health or that of your child.

The methods to be applied during the research are; self-care and social competence trainings to be given with cartoons prepared in accordance with scenarios that are appropriate for your child's age and development and do not contain any negative content. There is no training or alternative method to be applied to you parents in this study. There is only a questionnaire that you need to fill out. The participants in the study will be divided into two groups. One group in the study will be given trainings on self-care and social competence behaviors through cartoons, while the other group will continue their routine training in kindergarten. During this process, children in both groups will continue their routine training in kindergarten.

Before starting the training to be given to the children in the study group, self-care and social competence behavior assessment scales will be applied and then cartoons will be shown. Animated cartoons will be shown to the children in small groups of five to six people, once a week for 4 months. Each cartoon will be created in a way that will not exceed 10 minutes. At the end of each month, in the fourth week, the Self-Care Skills Assessment Test for Children

Aged 3-6 and the Social Competence and Behavior Assessment Scale will be applied by the classroom teachers to evaluate the children's behaviors in the two areas examined. Thus, the children in the study group will be evaluated a total of five times in the 0th, 1st, 2nd, 3rd and 4th months.

The self-care and social competence skills of the children in the control group will be evaluated in parallel with the study group. The first assessment will be made by the classroom teachers using the Self-Care Skills Assessment Test for Children Aged 3-6 and the Social Competence and Behavior Assessment Scale-30.

No training program will be applied to the children in the control group. The next evaluation will be made at the end of the 4th month by the class teachers by filling out the Self-Care Skills Assessment Test for 3-6 Year Old Children and the Social Competence and Behavior Assessment Scale-30. After the evaluation at the end of the fourth month, the cartoons will be watched by the children in the control group in order to avoid any gaps between them and the other group. The forms we will apply to all our participants (study and control groups);

- Before the training, the Survey Form, the Self-Care Skills Assessment Test for 3-6 Year-Old Children and the Social Competence and Behavior Assessment Scale-30 will be applied to the study group and the control group by the classroom teachers.

- After the study group watches cartoons at the end of each month, the Self-Care Skills Assessment Test for 3-6 Year-Old Children and the Social Competence and Behavior Assessment Scale-30 will be applied by the classroom teachers in the 4th week.

The first form is the Case Report Form. This form includes general information about you and a total of 26 questions regarding your child's self-care skills and social competence behaviors. This form, which will be applied to you within the scope of the research, will take approximately 10 minutes. The second form is the Self-Care Skills Assessment Test for 3-6 Year-Old Children, which includes 50 items and is used to evaluate children's self-care skills. This form, which will be applied to your child within the scope of the research, will take approximately 20-25 minutes and will be filled out by your child's classroom teacher. The third form; Social Competence and Behavior Assessment-30 Scale” (SYDD-30). This form is used to assess your child’s social competence behaviors and consists of 30 items. This form will also be filled out by your child’s classroom teacher. The time to fill out this form is approximately 10-15 minutes.

The group that your children, our valued parents, will be in will be determined by a randomization table created on the computer. According to the random assignment; your child will be assigned to the study group, which is the self-care and social competence education group through cartoons, or the control group. The estimated number of volunteers expected to participate in the study will be determined according to the 30-person study to be conducted, and the number of children to be included in the study will be determined according to the power analysis.

Research Team