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From the editors,

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Dear INT-JECSE readers and contributors,

We are excited to be with you with the first issue of the tenth volume of the INT-JECSE. We would like to extend our appreciations to all who contributes by submitting or reviewing manuscripts or have been readers of the INT-JECSE. In our first issue of the tenth year, you will find five articles on various topics of young children with special needs and their families or professionals.

The first article was written by Aksoy, entitled "Severity Levels of Autism, Social Interaction Behaviors and School Adjustment of Pre-School Children with Autism Spectrum Disorder", on the relationship between the severity levels of autism in preschool children and their social interaction behaviors and their school adjustment. For this purpose, data gathered from a total of 40 students. Findings reveal that severity levels of disability and social interaction behaviors that are characteristic to ASD predict the school adjustment of preschool children with ASD by 54% in the category of Classroom Participation and by 44% negatively and significantly in the category of Positive Orientation.

Rakap, Balikci, Kalkan and Aydin in the second article investigated preschool teachers' use of strategies to support young children's social-emotional competence. A total of 103 teachers and classrooms participated in the study. Some of findings from the article are as following. Descriptive findings of the study indicated that preschool teachers implemented a few practices to promote social-emotional competence in young children in the absence of training and professional development support. Preschool teachers' overall use of strategies to enhance the social-emotional competence of young children did not differ significantly across classroom types and levels and based on whether teachers received training on promoting social-emotional development and addressing challenging behaviors. For more findings and discussions please read the full-text.

In the third article, Lohmann, Hatchote and Boothe reviewed the literature and provided recommendations for practice by addressing the barriers to family-school collaboration. They pay attention to that a child's education, both academic and social, is significantly improved through effective collaborations between families and

schools. Despite the benefits of family-school collaboration, the literature has identified a variety of beliefs and behaviors that act as barriers preventing families from being actively involved in the special education process. The barriers can be divided into four major categories: (a) parental knowledge and attitudes, (b) disparity between families and schools, (c) current family situations, and (d) logistical issues. This article provides a brief overview of the barriers, as well as solutions for reducing these challenges.

The fourth article written by Yucesoy-Ozkan, Gulboy and Kaya aimed to determine whether video prompting differs when provided on smartphone compared with tablet in terms of effectiveness and efficiency in teaching leisure skills to children with intellectual disabilities, which types of errors exhibited by participants and the opinions of the mothers on the social validity of the study. Four children with intellectual disabilities, aged 66-81 months participated in the study. An adapted alternating treatments design show that video prompting was effective on both video prompting provided via smartphone and tablet on teaching leisure skills, however video prompting presented through the smartphone was more effective than video prompting presented through tablet. Implications for future research are discussed.

With the title of "The Relationship of the Type of Preschools with Child Development and Parent Involvement", Gol-Guven investigated the relationship among the types of preschools, parents' views of quality, and children's development. The data were collected from parents and teachers of twenty-eight ECEC settings. 295 parents filled out "From a parent's point of view: Measuring the quality of child care" and 336 teachers filled out "Early Development Indicators". In findings, types of schools seemed to continue affecting socio-emotional development even though family income was controlled. On the contrary to the other studies, not the family factors but the types of schools and numbers of children in classroom have affected children's development.

Yours Sincerely,

Ibrahim H. Diken, Ph.D.
Editor-In-Chief

CONTENTS

Funda Aksoy [1]

Severity Levels of Autism, Social Interaction Behaviours and School Adjustment of Pre-School Children with Autism Spectrum Disorder

Abstract

School adjustment throughout the early years of formal schooling has been examined on scientific studies for various reasons. Because it predicts certain parts of school success in later years, school adjustment has been suggested to become a focus of research. Although there are numerous factors affecting school adjustment, these factors appear to be categorised as being related to child, family and school or programme. This study examines the relationship between the severity levels of autism in preschool children and their social interaction behaviours characteristic to autism, and their school adjustment. For this purpose, data gathered from a total of 40 students, 6 girls and 34 boys. The age range of the children was 44 to 78 months. Findings reveal that severity levels of disability and social interaction behaviours that are characteristic to ASD predict the school adjustment of preschool children with ASD by 54% in the category of Classroom Participation and by 44% negatively and significantly in the category of Positive Orientation. The findings were discussed based on the literature findings.

Keywords: School Adjustment, Preschool Period, Autism Spectrum Disorder, Social Interaction.

Introduction

Transition from home to formal schooling for pre-school children is often challenging, as it is considered as one of the most important changes in a child's life (Bart, Hajami, & Bar-Haim, 2007; Yoleri, 2013). The fact that scientific studies on children's adjustment to pre-schooling and the first year of primary school have increased in the last 20 years can demonstrate the significance of it. When children begin school, they must cope with many new demands imposed by the learning context, such as academic challenges, engagement in the new learning environment including school buildings and classrooms, ability to meet expectations of teachers and school, and gain acceptance into a peer group (Ladd, 1990). They also must learn to interact with the teacher as a new authority figure, and engage and participate in a new peer group (Yoleri, 2013). According to Perry and Weinstein (1998, p.198), school adjustment could be conceptualised as a multiple task including cognitive, social-emotional and behavioural domains along with various abilities among these domains. It has been suggested that the cognitive domain included in this conceptualisation feature academic achievement and motivation,

[1] Ph.D., Anadolu University, Faculty of Education, Department of Special Education, Eskişehir, TURKEY.
   e-mail: aksoy.fnd@gmail.com

social-emotional domain demonstrates interaction with others and behavioural domain consists of the ability for emotional self-regulation (McGowern, Lowe, & Hill, 2016). According to Spencer (1999, p. 43), school adjustment may be defined as the level of school acculturation and adaptations needed in order to maximise educational fit between students' qualities and multidimensional characters and requirements of learning environments. In accordance with this definition and conceptualisation attempts, it can be suggested that school adjustment is both a multidimensional structure influenced by multiple variables and student's response to the changes that the formal schooling aims to create in students within various domains of development. School adjustment will be achieved when the child's responses are appropriate, and the child will benefit socially and academically from the school environment (Kaya, & Akgün, 2016).

Children's adjustment to the first year of schooling has been subject to scientific studies for various reasons. It is indicated that school adjustment has become the focus of research because it predicts certain parts of school success in later years for typically developing children (Betts, & Rottenberg, 2007, p.150). A range of risks from interpersonal relationships to emotional and occupational challenges faced later in life are suggested to be linked with lower levels of academic achievement (Ladd, 1990). Although there are many factors that affect school adjustment, they are categorised as children, family and school or programme. (Perry & Weinstein, 1998; Hausken & Ratbun, 2002; Bart et al., 2007; UNICEF, 2012; Kaya & Akgün, 2016). A report on school readiness published by the UNICEF (2012) presents the factors related to family as parenting practices, attitudes and knowledge. According to this report, poverty is a strong co-factor of parenting practices in terms of socio-economic status, and has an indirect impact on school readiness. And parents' beliefs, attitudes and practices regarding the school and education provided for their children are strong factors for the child's school readiness. In the report, schools' readiness for children is defined in terms of the aspects of the school environment that provide smooth transition from home to school and advanced learning opportunities for all children. The factors affecting children's readiness for school as a new social envi-

ronment are defined as children's personality traits (Patrick, Yoon, & Murphy, 1995; Reed-Victor, 2004; Yoleri, 2014; Kaya, & Akgün, 2016), social skills (Patrick, Yoon, & Murphy, 1995; Ladd, & Price, 1987; McInrtye, Blacher, & Baker; 2006; Betts, & Rottenberg, 2007; Gülay, 2011), emotional and behavioural characteristics (Perry, & Weinstein, 1998; Yoleri; 2013; McGowern, Lowe, & Hill, 2016), and if they have a disability (Haymes, Fowler, & Cooper, 1994; Hausken, & Ratbun, 2002; Reed-Victor, 2004; McInrtye, Blacher, & Baker, 2006; Hsiao, Tseng, Huan, & Gau, 2013; McGowern, Lowe, & Hill, 2016). While positive personality traits and social behaviours contribute to school adjustment through interactions with peers and teachers, limitations caused by problem behaviours and disabilities exert adverse impacts on the adjustment.

Autism Spectrum Disorder (ASD) is considered as a neurodevelopmental disorder characterised by impairments in social communication and social interaction. And the presence of restricted and repetitive behaviours, interests and activities and typically appears during the first three years of life (APA-*American Psychiatric Association*-, 2013). The diagnosis of autism is mainly based on the presence of social-communication and social interaction deficits. In the DSM 5, these limitations are defined as the difficulties with forming, maintaining and understanding social relationships. The conceptual and empirical studies of Developmental Psychopathology emphasise that social competence is based on the ability to combine the social, emotional and cognitive processes for a successful social adaptation, and an indication of proper developmental inputs (Hsiao et al., 2013, p.254). Social skills, which are the key concept regarding social competence, are defined as the learned behaviours enabling the child to achieve positive results in social settings or situations, preventing or reducing negative responses, and providing peer acceptance specific to an individual environment and situation (Akgün Giray, 2015, p.3). Demir (2012) suggests that children with ASD display social skill deficits, which occur in nonverbal communication, imitation, joint attention and social reciprocity, and there are two basic dimensions affecting the social interaction skill deficits to start, maintain and end interaction using plays. In her study, Demir (2014, p.224) indicates that

social skill deficiency is one of the core features of autism, and the level and use of these skills in children with ASD are related to their language skills, intelligence levels and whether or not they can receive education along with their gender, age, problem behaviours, school starting age, level of severity of autism, learning environment and whether or not they have a sibling. It can then be maintained that significant limitations in social interaction skills occur running parallel to the increase in the severity levels of ASD. And thus, the DSM 5 specifies the severity levels of Autism as follows: Level 1 – "Requiring support". Level 2 – "Requiring substantial support". Level 3 – "Requiring very substantial support". The more the support is needed, the higher the severity in deficiency gets (APA, 2013).

According to the above theoretical explanations, it could be expected that the severity levels of autism and the limitations occurring in the social interaction behaviours connected to these levels are variables affecting school adjustment adversely. Therefore, this study examined the relationship between the school adjustment and the severity levels of autism in preschool-aged children with ASD and their social interaction behaviours. And for this purpose, answers were sought for following research questions:

1. Is there a significant relationship between the school adjustment and the severity levels of autism in preschool-aged children with ASD and their social interaction behaviours?

2. Do the severity levels of autism in preschool-aged children with ASD and their social interaction behaviours significantly predict these children's school adjustment?

Method

Research Design
This study, aiming to examine the relationship between school adjustment and severity levels of autism in preschool-aged children with ASD and their social interaction behaviours, was designed in a correlational survey model. Gay, Mills and Airasian (2006, p.191) indicate that correlational researches can sometimes be classified within the group of descriptive researches because they define a currently available situation. However, they point out that correlational researches can be used

to display the degree of relationship between two or more measurable variables and determine the correlation between two variables or predict it based on this correlation unlike the description carried out in the survey and observational researches.

Study Group
The participants of this research consisted of the students diagnosed with ASD attending the Developmental Support Unit (DSU) that operates within a university and provides educational intervention services to prepare preschool-aged (the age range of the students were between 0-7 since the children were with special needs) students with special educational needs for inclusive education programs, and their teachers. Data related to 40 students obtained from 14 teachers were used within this study. A total of 40 students participated in this research, 6 girls (15%) and 34 boys (85%). The students were in the age range of 44 to 78 months with an average age of 63.53 months, standard deviation of 10.42 months and a range of 34 months. Girls were in the age range of 44 to 78 months with an average age of 68.33 months, standard deviation of 13.43 and a range of 34, while boys were in the age range of 44 to 78 months with an average age of 66.21 months, standard deviation of 10.75 and a range of 34. On this research, Turkish Version of Gilliam Autism Rating Scale-2/TV-GARS-2 was used to determine the severity levels of autism for the participant students whose points ranged between 64 to 127 with an average point of 92.25, standard deviation of 16.85 and a range of 63. A total of 14 teachers contributed to the research, 7 female and 7 male by scoring the scales. The teachers were in the age range of 27 to 45 with an average age of 34.71, standard deviation of 6.21 and a range of 18. The occupational experience of teachers ranged between 3 to 20 years with an average of 11 years, standard deviation of 6.46 and range of 17.

Data Gathering Tools
On this research, four data gathering tools were used to collect the data included in this research. A personal information tool was used for demographic information regarding the students and teachers. Turkish Version of Gilliam Autism Rating Scale-2/TV-GARS-2 (Diken, Ardıç, Diken, & Gilliam, 2012) was used to determine the severity levels of autism in the participant students. Interaction Assessment Record

Form-Turkish Version-IARF-TV (Aksoy, & Diken, 2016) was used to determine the levels of social interaction of the students for this research. And finally, the data related to the level of students' school adjustment were obtained with the use of a Short Form of Teacher Rating Scale of School Adjustment-SF-TRSSA (Bakkaloğlu, & Sucuoğlu, 2018). The following parts include the information regarding the use of these tools and findings on the validity-reliability.

Personal Information Form.
Personal Information Form developed by researcher included questions regarding the gender, age and occupational experience of the teachers. As for the part of the students with ASD, it included questions regarding the age and gender of the students.

Turkish Version of Gilliam Autism Rating Scale-2/TV-GARS-2.
James E. Gilliam developed this tool, whose original name is Gilliam Autism Rating Scale-2, in 2005. It was adapted to Turkish by Diken, Ardıç, Diken and Gilliam in 2012. TV-GARS-2 is a screening tool developed for screening/diagnosing individuals with ASD, and for scientific researches. This tool is individually applied to individuals suspected of having ASD between the ages of 2 and 23. There are 3 subscales, which include 42 items in total. TV-GARS-2 is scored through a Likert type scale. Parents or a teacher, who know the child closely, can fill the scale. In this research, the teachers scored the scale. According to the findings on the validity and reliability reported for the Turkish Version of the Scale, the total score of the scale was Cronbach's Alpha Coefficients .99 and test-retest reliability was .99.

Interaction Assessment Record Form-Turkish Version/IARF-TV.
IARF-TV is used in order to generate social interaction behaviours of individuals with ASD or suspected of having ASD within semi-structured play environments in which systematically developed stimuli are presented. This record form is used for both assessing spontaneously occurring social interaction behaviours and responses demanded by the examiner. A behaviour sample, which can represent the behaviour exhibited by the child during a certain time length, is obtained at the end of this practice. This practice consists of

three stages each of which lasts 4 minutes, and the total length of monitoring is 12 minutes in a semi-structured play environment. During this procedure, the adult in the environment has three behaviour types defined for each stage. These are *Active Modelling, Passive No Initiation and Direct Cues.*

During this stage, the child's behaviours are recorded with the use of a time sampling record method. The child's behaviours, after being classified within any of the Interaction, Constructive Independent Play, No Response and Aggressive-Negative categories, are coded in the relevant boxes in the matrix of adult behaviour-child responses. 48 monitoring are conducted in total, 16 in each section. At the end of the test, an Autistic Interaction Score (AIS) is obtained that is formed with the *Interaction Score* of the child and Constructive Independent Play, No Response and Aggressive-Negative scores. AIS is obtained by scoring non-functional behaviours during the phase of social interaction of autism that include but not limited to problem behaviours. The AIS obtained from this tool was used got the data analysis of this research. IARF-TV is a screening tool that is included in the *Autism Screening Instrument for Educational Planning-3 (ASIEP-3)* tool set, which was developed by Krug, Arick and Almond (2008). Aksoy and Diken (2016) conducted the validity and reliability of the Turkish version of the tool. The KR-21 value reported for the interrater reliability coefficient was calculated .83. On the level of Construct-Identification Validity of IARF-TV, the degree of distinguishing children with ASD from non-ASD according to the defined behavioural categories was examined through independent samples t-test analysis. The t-test findings reported for the sub scores of the tool were *Interaction* ($t = 4.76_{(88)}$, $p < .01,$), *Constructive Independent Play* ($t = 1.65_{(88)}$, $p > .01,$), *No Response* ($t = 4.05_{(88)}$, $p > .01,$) and *Aggressive-Negative* ($t = 1.80_{(88)}$, $p < .01,$).

Short Form of Teacher Rating Scale of School Adjustment SF-TRSSA.
SF-TRSSA is the Turkish adaptation of the Teacher Rating Scale of School Adjustment that has 52 items and was developed by Birch and Ladd (1997), and reviewed and shortened by Betts and Rotenberg in 1997. The scale included two sub-factors and 15 items after its adaptation to Turkish by Bakkaloğlu and Sucuoğlu (2018). The scale includes the subscales of *Classroom*

Participation and *Positive Orientation.* Filled by the teacher, this tool, which is a 3-point Likert type of scale, assesses whether or not the students achieve school adjustment. The levels of school adjustment increase as the scores obtained from the scale increases. Cronbach's Alpha Coefficients for the scale on the level of internal consistency are .94 for *Classroom Participation*, .84 for *Positive Orientation* and .94 for the total of the scale.

The Process and Data Analysis
The data of this research were gathered from the students diagnosed with ASD and attended to the DSU that operates within a university and provides special education services for preschool-aged students with developmental disabilities. The data were obtained through which the teachers filled the scales with the students' TV-GARS-2 and SF-TRSSA. And the IARF-TV data were gathered by scoring the videos of the students recorded in the semi-structured play environment by the two responsible research assistants of the DSU created along with the instructions of the IARF-TV. The raters scored the videos using consensus. The data that was obtained were analysed with the use of the SPSS package program. Correlation and regression analyses were used through testing normality and linearity assumptions.

Findings

Examination of Normality
Before the correlational and predictive analyses of the data were conducted, it had been tested if the distribution of the data was normal or not. Examination of normality was conducted by examining the coefficient of skewness and coefficient of kurtosis. Can (2013, p. 84) indicates that the distribution can be considered as normal when the values obtained with the coefficient of skewness and coefficient of kurtosis are being divided by respectively the standard error of skewness and kurtosis range between -1.96 and +1.96. As a result of this examination, the values obtained by dividing skewness and kurtosis by the standard error calculated for the TV-GARS-2 were respectively 0.52 and -1.57; for the AIS obtained from the IARF-TV were respectively 0.38 and -1.50; for the subscale of Classroom Participation of the SF-TRSSA were respectively 1.53 and -1.29; for the subscale of Positive Orientation of the SF-TRSSA were respectively

0.62 and -1.73, and for the total scores of the SF-TRSSA were respectively 1.60 and -1.33.

Demographic Variables
Since the gender distributions of the participants were not close to each other, the analyse to compare this variable was not conducted. Pearson correlation coefficient was calculated in order to determine a relationship between the participants' ages related to the age variable and the scores they obtain from the three tools. The findings reveal that there is not a significant relationship between the ages of the participants and the TV-GARS-2 scores ($r = -045$, $p > .05$), IARF-TV scores ($r = -191$, $p > .05$), SF-TRSSA Classroom Participation scores ($r = 116$, $p > .05$), SF-TRSSA Positive Orientation scores ($r = 158$, $p > .05$), and total scores of SF-TRSSA.

Correlations Between Variables
The degree of the relationship between the variables, whose relationships were examined in this study, was examined through a correlation analysis. The findings revealed medium level of significant positive and negative relationship among all the variables. The correlation coefficients, calculated between the sub-scales and total scores of the TV-GARS-2, IARF-TV and SF-TRSSA, are displayed on Table 1. Table 1 reveals a medium level of positive and significant relationship between TV-GARS-2 and IARF-TV. However, there is a negative, medium level of relationship between both TV-GARS-2 and IARF-TV with the sub-scores and total scores of the SF-TRSSA.

Predicting Among Variables
Because a negative, significant and medium level of relationship was obtained between the participants' school adjustment and severity levels of autism, and autistic interaction scores in the findings of correlation analysis, a multiple linear regression analysis was conducted in order to determine if these two variables predict the participants' school adjustment. For the multiple linear regression analysis regarding the school adjustment, two sub-scales of SF-TRSSA and the analyses between TV-GARS-2 and IARF-TV were conducted as a dependent variable. Since the analysis was conducted based on two subscales, and subscales show a strong relationship with the total score by nature, it was not needed to conduct an extra analysis with

the total score. It is suggested that there should be normality and linearity between the data, and not be a problem of multi-collinearity among variables in order to conduct multiple linear regression analysis (Büyüköztürk, 2010, p.99).

The data set appears to meet the assumptions of normality and linearity. And in terms of multi-collinearity, that the correlation coefficient between the data was lower than .90 proves evidence that there is not a problem.

Table 1.
TV-GARS-2, IARF-TV, TRSSA-SF Sub-Scales and Total Scores, Correlation Coefficients

	TV-GARS-2	IARF-TV	SF-TRSSA Classroom Participation	SF-TRSSA Positive Orientation	SF-TRSSA Total
TV-GARS-2	1.00				
IARF-TV	.458*	1.00			
SF-TRSSA Classroom Participation	-.694*	-.554*	1.00		
SF-TRSSA Positive Orientation	-.600*	-.536*	.852*	1.00	
SF-TRSSA Total	-.683*	-.568*	.980*	.939*	1.00

* $p < .01$

Predicting Among Variables
Because a negative, significant and medium level of relationship was obtained between the participants' school adjustment and severity levels of autism, and autistic interaction scores in the findings of correlation analysis, a multiple linear regression analysis was conducted in order to determine if these two variables predict the participants' school adjustment. For the multiple linear regression analysis regarding the school adjustment, two sub-scales of SF-TRSSA and the analyses between TV-GARS-2 and IARF-TV were conducted as a dependent variable. Since the analysis was conducted based on two subscales, and subscales show a strong relationship with the total score by nature, it was not needed to conduct an extra analysis with the total score. It is suggested that there should be normality and linearity between the data, and not be a problem of multi-collinearity among variables in order to conduct multiple linear regression analysis (Büyüköztürk, 2010, p.99). The data set appears to meet the assumptions of normality and linearity. And in terms of multi-collinearity, that the correlation coefficient between the data was lower than .90 proves evidence that there is not a problem.

Multiple Linear Regression Analysis Related to Predicting Classroom Participation
The results of the regression analysis related to predicting the *Classroom Participation*, which is the first sub-dimension of school adjustment according to the scores of TV-GARS-2 and IARF-TV, are displayed on Table 2. When zero-order and partial correlations between predictive variables and dependent (predicted) variable are examined, a negative and medium level of relationship (-.686) between TV-GARS-2 and Classroom Participation is obtained, but considering other variables, the correlation between two variables is calculated as -.586. There is a negative and medium level of relationship (-.554) between the IARF-TV and Classroom Participation, however, when the other variables are controlled, the correlation between the two variables is calculated as -.370. Along with the variables of severity levels of autism and autistic interaction variables present a negative, medium level and significant relationship with the scores of classroom participation (R= .737, R^2= .543, p < .001). The two variables explain the 54% of the total variance in the classroom participation.

Table 2.
The Results of the Multiple Linear Regression Analysis Related to Classroom Participation

Variable	B	Standard Error $_B$	β	T	p	Zero-order r	Partial r
Constant	29.301	3.633	-	8.066	.01	-	-
TV-GARS-2	-.187	.043	-.547	-4.312	.01	-.686	-.584
IARF-TV	-.073	.031	-.303	-2.392	.02	-.554	-.370

(R= .737, R^2= .543, $F_{(2, 36)}$ = 21.374, p= .001)

Multiple Linear Regression Analysis Related to The Predicting Positive Orientation

The results of the regression analysis related to predicting the *Positive Orientation*, which is the second sub-dimension of school adjustment according to the scores of TV-GARS-2 and IARF-TV, are displayed on Table 3. When zero-order and partial correlations between predictive variables and dependent (predicted) variable are examined, a negative and medium level of relationship (-.588) between TV-GARS-2 and Positive Orientation is obtained, but considering other variables, the correlation between two variables is calculated as -.456. There is a negative and medium level of relationship (-.536) between the IARF-TV and Positive Orientation, however, when the other variables are controlled, the correlation between the two variables is calculated as -.321. Along with the variables of severity levels and autistic interaction variables present a negative, significant and medium level of relationship with the scores of positive orientation (R= .660, R^2= .436, p < .001). The two variables explain the 44% of the total variance in the positive orientation.

Table 3.
The Results of the Multiple Linear Regression Analysis Related to Positive Orientation

Variable	B	Standard Error $_B$	β	T	p	Zero-order r	Partial r
Constant	15.594	2.312	-	6.746	.01	-	-
TV-GARS-2	-.085	.028	-.433	-3.078	.01	-.588	-.456
IARF-TV	-.047	.019	-.338	-2.397	.02	-.536	-.321

(R= .660, R^2= .436, $F_{(2, 36)}$ = 13.912, p= .001)

Discussion

The first finding of this study reveals that there is not a significant relationship between the ages of the participants and their school adjustment. According to an examination on literature, various findings are reported in this context. According to the findings of Hausken and Ratbun's (2002) study on the school adjustment of preschool-aged children, age does not provide a significant prediction in terms of child's complains about school, however, in terms of child's being upset or reluctant about going to school; children below the age of 5 are more upset and reluctant about going to school by 31% to 35% than children below the age of 5,5. Gülay Ogelman and Erten Sarıkaya (2013) reported that older preschool children's school adjustment and average scores in all the sub-dimensions of school adjustment are significantly higher than the average of the younger children. However, since related assessment was done for the same children who had received preschool education for a year in this study, whether or not the influence was caused by age or the duration of the preschool education was not explained. Kaya and Akgün (2016) indicate older children in the preschool period have a higher average of adjustment score in terms of cooperative participation and total score than younger children. However, they point out that there is not a significant

difference on the dimensions of self-directiveness, school avoidance and school liking in terms of age. The findings of this study show that a significant difference occurs in only one sub-dimension of school adjustment, and this influence is shifted to the total score. Therefore, the effect size caused by the age factor needs to be calculated. Yoleri (2014) reports that there is a medium level, positive and significant relationship between age and school adjustment, and age predicts school adjustment by 19%. However, different findings were reported on the limited number of studies conducted on children with special educational needs. According to a study by Haymes et al., (1994) examining the school adjustment of 5 preschool-aged children with special educational needs based on cooperative behaviours (CB), problems of school adjustment or unoccupied time (UT), significant increase was observed on CB and significant decrease on UT for 3 children older than the age of 42 months. While UT significantly decreased and CB increased for one of the 3 children younger than the age of 42 months, UT significantly did not decrease but CB partially increased for the second child, and there was not a significant difference on both dimensions for the third child. Although the findings did not provide empirical evidence for the age variable in terms of statistical significance, graphics indicate that older children displayed higher number of adjustment behaviours throughout the year. Reed-Victor (2004) reports that age was not a significant variable in predicting school adjustment in her study conducted through the data obtained from 176 students with special educational needs in the age range of 3-9. Similarly, McGovern et al., (2016) reported that age was not a significant variable in predicting school adjustment in their study conducted through the data obtained from 177 children with learning disability. In their study, in which the relationship between the autistic-like behaviours and school adjustment was examined, conducted with 1321 primary and secondary school students, Hsiao et al., (2013) reported that the school adjustment for the children having autistic-like behaviours was strong during the primary school and reduced in the secondary school.

There is not sufficient empirical evidence that age makes a significant effect on the school adjustment of children with special educational needs. Whether the difference shown related to age in typically developing children is caused by the fact that they mature with age or they remain in educational environments for long periods of time remains as a question that needs an explanation.

The second and third findings of this study that are related to one another revealed that the school adjustment of preschool-aged children with ASD is related to severity levels of autism and autistic interaction characteristics, and these two variables together significantly predict two sub-dimensions of school adjustment. Haymes et al., (1994) reported that 3 children participating their study had separation anxiety, such as crying or asking their mothers in the first days of school. Children also displayed aggression, self-stimulation and loud vocal behaviours. It was reported that disability and the behaviours related to disability affected the children's school adjustment adversely and the instructions towards improving the social interaction behaviours of children contributed to school adjustment. Cillesen, Haselager and Lieshout (1997) revealed that children's social interaction with their peers in early childhood predict their social adaptation in later years. Hausken and Rathbun's (2002) study reveal that preschool-aged children with disability have higher rates of complaining about school and being upset or reluctant compared to their typically developing peers. In her study, in which having special educational needs was analysed in the category of risk status along with poverty and other factors, Reed-Victor (2003) found that having special educational needs was not a significant predictor of school adjustment. However, considering the fact the risk group included children within homeless education, Title I and Poverty-related programmes along with children with special educational needs and this category involved only the 12,5% of children in the special educational programme, it can be suggested that the findings of this research are limited to explain the relationship of having a disability to school adjustment. McInrtye, Blacher and Baker (2006) reported that the school adjustment of preschool children with intellectual disability were lower compared to typically developing peers. The findings reveal that there is a high level of positive correlation between the IQ score and adaptive behaviour scores, and school adjustment. In their study, Hsiao and et al., (2013) revealed that autistic-like social deficits are related to school adjustment and

social adaptation, and autistic-like social impairments are significantly related to poor academic performance, adverse attitude towards school, school social problems, and adverse peer relationships. Bakkaloğlu and Sucuoğlu (2018) revealed that the levels of school adjustment of the children with special educational needs are lower compared to their typically developing peers.

The findings of this research are compatible with the study findings presented so far. These findings reveal that the school adjustment of preschool children with ASD is significantly related to severity levels of autism and social interaction behavioural patterns characteristic to autism. The findings of this study can further be detailed through studies examining the relationships between the school adjustment of children with ASD, their social skill levels, competence of language skills and behavioural characteristics. The effect of social and language skills intervention on school adjustment can be examined with empirical studies.

Findings of this study were obtained from a university-affiliated unit. For this reason, it may differ from the findings of other students trained in private institutions. This study is limited to the measurement of variables within the scope of measurement of data collection tools. More detailed information about school adjustment can be obtained from field studies, interviews, observations and case studies.

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Salih Rakap [1]

Serife Balikci [2]

Sinan Kalkan [3]

Burak Aydin [4]

Preschool Teachers' Use of Strategies to Support Social-Emotional Competence in Young Children

Abstract

Healthy development of social-emotional competence in early childhood years creates a strong foundation for future academic success and social-emotional well-being. The purpose of this descriptive study was to investigate preschool teachers' use of strategies to support young children's social-emotional competence. A total of 103 teachers and classrooms participated in the study. Descriptive findings of the study indicated that preschool teachers implemented a few practices to promote social-emotional competence in young children in the absence of training and professional development support. Preschool teachers were observed to implement universal promotion practices more often than tertiary preventions practices. Preschool teachers' overall use of strategies to enhance the social-emotional competence of young children did not differ significantly across classroom types and levels and based on whether teachers received training on promoting social-emotional development and addressing challenging behaviors. While there was a positive correlation between the level of preschool teachers' use of social-emotional teaching strategies and the number of adults in the classrooms, a negative correlation was observed between preschool teachers' use of strategies and the number of children in the classrooms. Implications of the findings for future research and practice are discussed.

Keywords: Preschool teachers, social-emotional competence, challenging behaviors, young children.

Introduction

Experiences in early years of life set the stage for later well-being, health, and learning. Associated with healthy cognitive development, healthy development of social-emotional competence (e.g., self-esteem, self-confidence, self-regulation, social interaction, and emotional awareness) in early childhood years creates a strong foundation for future academic success and social-emotional well-being (Cristóvão, Candeias, &Verdasca, 2017; Durlak, Weissberg, Schellinger, Dymnicki, &Taylor, 2011;

Waltz, 2013; Yucesoy-Ozkan, 2017). Focus of the early work aiming to support child development was on the development of pre-academic skills to ensure that children were ready for formal schooling (Kim, Murdock, & Choi, 2005; McClelland, Tominey, Schmitt, & Duncan, 2017; O'Donnell, 2008; Ravner & Knitzer, 2002; Shala, 2013; Center for the Study of Social Policy, nd). In recent years, with the findings of research showing the robust link between the development of social-emotional competence in early years and school readiness and success, development of cognitive skills, and mental health,

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[1] Ph.D., Ondokuz Mayis University, Collage of Education, Department of Special Education, Samsun, TURKEY.
    e-mail: srakaptr@gmail.com
    * Corresponding Author
[2] Teacher, Dumlupinar Primary School, Samsun, TURKEY.

[3] Doctoral Student, Lecturer, Ondokuz Mayis University, Collage of Education, Department of Special Education, Samsun, TURKEY.

[4] Ph.D., Recep Tayyip Erdogan University, Collage of Education, Department of Education Sciences, Rize, TURKEY.

the emphasis has shifted toward supporting children's social-emotional development during early childhood period (Cristóvão et al., 2017; Durlak et al., 2011; Center for the Study of Social Policy, nd).

A number of studies have demonstrated that children who have deficits in social-emotional development are more likely to demonstrate challenging behaviors (Dunlap et al., 2006; Hemmeter & Conroy, 2018; Luo, Snyder, Clark, & Hong, 2017; Webster-Stratton & Reid, 2004). Children who exhibit challenging behavior during preschool years are at risk for failure in formal schooling and their adult lives are often characterized by violence, anxiety, and abuse (Diken, Cavkaytar, Batu, Bozkurt, & Kurtyilmaz, 2010; Greenberg & Kusche, 2006; Overton, McKenzie, King, & Osbourne, 2002; Technical Assistance Center on Social Emotional Intervention for Young Children [TACSEI], 2004; Turan, Erbas, Yucesoy-Ozkan, & Ulke-Kurkcuoglu, 2010). Moreover, children who are poorly- or untreated are more likely to drop out of school, be addicted to alcohol, drugs, and other substances, live marginalized lives in adulthood, be under high risk of fatal accidents, unemployment, divorce, psychiatric illness, and die young (Clegg & Standen, 1991; Golly, Stiller, & Walker, 1998; TACSEI, 2004; Walker, et al., 2009). Research has shown that un-treated challenging behaviors during preschool period are the single best predictor of criminal behaviors during adolescence, gang membership, and imprisonment in adulthood (Mindes, 2018; Perry, Holland, Darling-Kuria, & Nadiv, 2011; Steed & Roach, 2017; TACSEI, 2004).

In the United States, the prevalence of young children exhibiting challenging behaviors and deficits in social-emotional development is estimated to be 14% to 34% for preschool children (Hemmeter, Hardy, Schnitz, Adams, & Kinder, 2015). Moreover, studies have shown that in comparison to typically developing children, young children with disabilities exhibit higher rates of challenging behaviors (Baker, Blacher, Crnic, & Edelbrock, 2002; Hemmeter, Snyder, Fox, & Algina, 2016). Prevalence of children who have delays in social-emotional development and who exhibit challenging behaviors during the preschool period in Turkey is not known. However, a recent report of Turkish Statistical Institute (2015) shows that approximately 2% of

Turkish children who are six years old or younger have behavioral and adjustment problems. Moreover, the number of students identified with emotional and behavioral disorders during the primary and secondary school periods has increased over the last two decades (Cakiroglu & Melekoglu, 2014). As the number of preschool children with identified disabilities increases, the rate of Turkish preschool children with social-emotional difficulties and challenging behaviors will likely to increase.

Social-emotional development in young children does not happen naturally by itself. Young children develop social-emotional skills by interacting with nurturing adults and competent peers. An abundant number of studies have shown that a reliable relationship with a caring, nurturing, and attuned adult who actively promotes the development of social skills and emotional competence is crucial for healthy social-emotional development in young children (Simpson et al., 2016). In this respect, preschool teachers have an important role in supporting the development of social-emotional competence in young children as the majority of children who are between the ages of 3 to 5 years spend most of their awake time at school (Denham, Bassett, & Zinsser, 2012).

National preschool curriculum in Turkey includes objectives and indicators for children who are between 3 to 6 years of age in four developmental areas, and one of these areas is the social-emotional development (Ministry of National Education, 2013). Although the emphasis of the national curriculum on the social-emotional development of young children is promising, it does not warrant teachers' intentional implementation of practices and strategies to support the development of social-emotional competence. In fact, descriptive studies in the international literature show that without training and professional development support, early childhood teachers and providers across different countries infrequently use social-emotional teaching strategies while teaching young children (Heo, Cheatham, Hemmeter, & Noh, 2014; Luo et al., 2017; Steed & Roach, 2017). Intervention studies in this area, however, show that when teachers are provided with high-quality training followed by implementation support (e.g., coaching), they are able to implement strategies frequently with fidelity to enhance social-emotional devel

opment and address challenging behaviors of young children (Conners-Burrow, Patrick, Kyzer, & McKelvey, 2017; Fettig & Artman-Meeker, 2016; Hemmeter et al., 2015, 2016).

A research-based approach to support social-emotional development of young children and address their challenging behaviors is *the Pyramid Model for Promoting Social-Emotional Competence in Young Children* (Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003; Hemmeter, Fox, & Snyder, 2013). The Pyramid Model is a comprehensive approach that consists of three tiers: primary or universal (promotion), secondary (prevention), and tertiary (intervention). The primary or universal tier includes two levels of practices, *Nurturing and Responsive Caregiving Relationships* and *High-Quality Supportive Environment* to promote the social-emotional development of young children. As mentioned previously, nurturing and responsive relationships with adults and peers is fundamental to the development of children (Shonkoff & Phillips, 2000). At this level, adults interacting with children are expected to purposefully support active engagement of children with their environments, provide instruction during ongoing routine, play, or planned activities, respond to children's communication attempts and conversations, and provide assistance and encouragement to enhance learning and development of new skills (Fox et al., 2003; Fox & Lentini, 2006; Hemmeter et al., 2015).

The second level in the universal promotion tier focuses on providing supportive early childhood environments to young children. Supportive home and community environments are those that are predictable and contain rich context for the development of social skills, emotional competencies, and peer relationships (Fox et al., 2003; Hemmeter et al., 2015; Hemmeter, Ostrosky, & Fox, 2006). At this level, teachers of young children are expected to use a curriculum to support young children in all areas of development, use intentional and systematic instruction that is effective, developmentally and culturally appropriate, design safe learning environments, guide young children on behavior expectations and rules, and design classroom activities and schedules to support child engagement

and learning (Fettig & Artman-Meeker, 2016; Hemmeter et al., 2006, 2015).

The secondary prevention tier involves explicit and systematic instruction on social skills and emotional competencies. These skills and competencies include expressing emotions, solving social problems, initiating, responding to, and maintaining interactions with adults and peers, friendship skills, and dealing with anger, sadness, and disappointment (Hemmeter et al., 2006, 2015; Strain & Joseph, 2006). The tertiary intervention tier involves development and implementation of comprehensive, intensive, and individualized intervention programs based on Positive Behavior Support for children who are not responsive to the practices and interventions offered at the first two tiers and who continue to show persistent challenging behaviors (Fox et al., 2003; Hemmeter et al., 2015).

Although the international literature includes several studies examining preschool or childcare teachers' use of social and emotional teaching strategies associated with the Pyramid Model (e.g., Heo et al., 2014; Luo et al., 2017; Steed & Roach, 2017), Turkish preschool teachers' implementation of these strategies is not known. Having information about preschool teachers' use of practices to promote social-emotional competence of young children would support the development and implementation of professional development programs in this area. The purpose of this descriptive study was to investigate Turkish preschool teachers' implementation of social and emotional teaching strategies associated with the Pyramid Model. The following questions were addressed in this study: (1) Which social-emotional teaching strategies do Turkish preschool teachers use? (2) Is there a relationship between the level of preschool teachers' use of social-emotional teaching strategies and (a) type of classrooms (i.e., general, inclusive, or segregated) in which they worked, (b) age group classrooms served (i.e., 3-year, 4-year, or 5-year classrooms), (c) training they received about addressing challenging behaviors, (d) training they received about supporting social-emotional development, (e) years of teaching experience teachers had, (f) the number of adults in their class-

rooms, and (g) the number of children in their classroom.

Methods

Participants
The present study was conducted in 103 preschool classrooms located in a relatively large, northern city in Turkey. Preschool teachers serving children 3 to 5 years old were recruited to participate in this study. To recruit teachers, a list of preschool classrooms and programs were obtained from the local education agency. Classrooms were grouped under three categories based on the population they were serving: general preschool education classrooms (all children were typically developing), inclusive preschool education classrooms (children with and without disabilities were educated together), and segregated preschool education classrooms (all children had a diagnosed disability). To recruit 40 classrooms for each classroom type, 50 classrooms were randomly selected from the list of preschools for each classroom type. Initially, we initiated communications with the principal in each program and explained the purpose of the study. Upon ap-

proval of the principals for the study participation, information with respect to study and procedures were sent to teachers in the programs along with the informed consent forms. Teachers who returned the informed consent forms within the three weeks of initial contact participated in the present study. A total of 103 lead teachers agreed to participate in the study. Participating teachers were required to have basic knowledge of English language in order to understand and respond to interview questions.

Across 103 classrooms, 33 (32%) were general preschool education classrooms, 35 (34%) were inclusive preschool classrooms, and 35 (34%) were segregated preschool classrooms. Moreover, 31 (30%) classrooms served 3 years-old children, 33 (32%) classrooms served 4 years-old children, and 39 (%38) classrooms served 5 years-old children. Classrooms served 5 to 21 children (M = 11.77, SD = 4.10) and included 1 to 3 adults (M = 2.18, SD = .69). Table 1 shows background information for all participants and by classroom type and level.

Table 1.

Background Information about Teachers and Classrooms by Classroom Type and Level

Variable	Classroom Type			Classroom Level			Overall (n=103)
	General (n=33)	Inclusive (n=35)	Segregated (n=35)	3-yrs (n=31)	4-yrs (n=33)	5-yrs (n=39)	
Teaching exp. (year)	12.52 (5.84)	10.06 (5.91)	11.43 (5.97)	11.29 (6.45)	10.85 (5.57)	11.72 (5.94)	11.31 (5.94)
Num. of children (classroom)	13.18 (3.45)	13.91 (3.40)	8.31 (2.10)	11.90 (3.97)	10.70 (3.62)	12.59 (4.48)	11.78 (4.10)
Num. of adults (classroom)	2.18 (.68)	1.91 (.61)	2.43 (.70)	2.06 (.68)	2.36 (.65)	2.10 (.72)	2.17 (.69)
Training on CB	18 (55)	24 (69)	23 (66)	20 (65)	18 (55)	27 (69)	65 (63)
Training on SED	17 (52)	15 (43)	13 (37)	12 (39)	15 (46)	18 (46)	45 (43)

Note. Mean (SD) data were presented for teaching experience, number of children, number of adults, and CLASS; frequency (%) data were presented for training on challenging behaviors and training on social-emotional development). Yrs = Years.

Across 103 lead teachers, 101 (98%) were female, and 2 (2%) were male. All teachers held a bachelor's degree in early childhood education, and 6 (6%) had a master's degree in early childhood education or a related field. Teachers had an average of 11.31 years of teaching experience (Range = 1 to 21 years; *SD* = 5.94). With respect to professional development experiences on addressing challenging behaviors and supporting social-emotional development of young children, 65 (63%) teachers reported receiving training on challenging behaviors; 45 (44%) teachers reported attending training on social-emotional development, and 29 (28%) teachers reported attending training focused on challenging behaviors and social-emotional development. Participating preschool teachers did not have any exposure to professional development programs focused on the Pyramid Model.

Measures/Instruments
Data were collected using a teacher/classroom information form and the Teaching Pyramid Observation Tool (TPOT; Fox, Hemmeter, & Snyder, 2014). Two trained data collectors implemented the TPOT. With respect to TPOT administration, data collectors were trained on the pre-published version of the measure as part of a research study conducted in the United States (Hemmeter, Fox, Snyder, & Algina, 2012).

Teacher/Classroom Information Form. Teacher/Classroom Information Form was developed by the research team to collect data about the participating teachers and their classrooms. The form included questions about teachers' gender, years of teaching experience, level of highest education obtained, and professional development experiences as well as the number of children and adults in their classrooms.

Teaching Pyramid Observation Tool. The TPOT was used to evaluate preschool teachers' implementation of social-emotional teaching practices associated with the Pyramid Model. The measure included 117 indicators under 32 items organized within three sub-scales: Key Practices (114 indicators/14 items), Red Flags (17 items), and Response to Challenging Behavior (3 indicators/1 item). The Key Practices include (1) schedules, routines, and activities (10 indicators), (2) transitions between activities (8 indicators), (3) supportive conversations with children (10 indicators), (4) promoting children's engagement (9 indicators), (5) providing directions (7 indicators), (6) collaborative teaming (9 indicators), (7) teaching behavior expectations (7 indicators), (8) teaching social skills and emotional competence (8 indicators), (9) teaching children to express emotions (8 indicators), (10) teaching problem solving (9 indicators), (11) teaching friendship skills (9 indicators), (12) interventions for children with persistent challenging behaviors (5 indicators), (13) connecting with families (8 indicators), and (14) supporting families (7 indicators). Red Flags indicators evaluate teachers' use of practices that are incompatible with the Pyramid Model practices while indicators with respect to Response to Challenging Behavior evaluate strategies preschool teachers use in Response to Challenging Behavior occurring in their classrooms. TPOT is completed during an approximately 2-hr observation, and 15-min interview in the preschool classrooms and each indicator on the measure is scored using a binary checklist of yes/no. At the end of each observation, frequency and percentage of indicators scored yes for each of the 15 items under Key Practices and Response to Challenging Behavior as well as frequency and percentages of 17 Red Flag items scored yes were calculated and used for data analyses in the present study. Internal consistency score reliability estimate for Key Practices and Red Flags reported in TPOT Manual are .94 and .71, respectively. Internal consistency score reliability estimates across Key Practice items range between .35 and .82.

Interobserver Agreement
A secondary observer collected interobserver agreement (IOA) data for TPOT by conducting observations along with the primary observer in 34 classrooms (i.e., 33% of all classrooms). The IOA was calculated by dividing the number of the agreement by the total number of agreements plus disagreements and multiplying the quotient by 100. Mean IOA for TPOT was 90.69% (*SD* = 4.13).

Data Collection and Analysis
Once preschool teachers agreed to participate in the present study, a data collection schedule was created to complete the

Teacher/Classroom Information Form and TPOT observation on the same day for each teacher. TPOT observations were scheduled to start with the first classroom activity. Data collection activities were completed within a six-month period during the Fall and Spring semesters.

Overall and item level percentage scores were calculated for TPOT by classroom type and level (i.e., age group each classroom served). Controlled for the false discovery rate (Benjamini & Hochberg, 1995), a series of one-way ANOVA analyses were performed to investigate differences in mean TPOT scores across different types and levels of preschool classrooms. A *t*-test analysis was conducted to investigate the difference between TPOT mean across teachers who received and who did not receive training on social-emotional development and challenging behaviors. Pearson product-moment correlation analyses were employed to investigate the correlation between mean TPOT scores, and the number of adult and child in classrooms. Data analyses were conducted using SPSS Version 23.0 for Mac.

Results

Descriptive analyses of data revealed that Turkish preschool teachers implemented 14% (*SD* = 10.54, range = 0-32) of practices associated with the Pyramid model, on average. Item level analyses showed that preschool teachers implemented 38% (*SD* = 13.60, range = 0-70) of practices associated with schedules, routines, and activities; 31 % (*SD* = 16.21, range = 0-63) of practices associated with transitions between activities; 41 % (*SD* = 16.65, range = 10-80) of practices associated with supportive conversations with children; 22 % (*SD* = 13.60, range = 0-55) of practices associated with promoting children's engagement; 18 % (*SD* = 13.27, range = 0-42) of practices associated with providing directions; 27 % (*SD* = 12.95, range = 0-55) of practices associated with collaborative teaming; 7 % (*SD* = 8.52, range = 0-28) of practices associated with teaching behavior expectations; 9 % (*SD* = 9.13, range = 0-25) of practices associated with teaching social skills and emotional competence; 14 % (*SD* = 12.58, range = 0-38) of practices associated with teaching children to express emotions; 11 % (*SD* = 10.15, range = 0-33) of practices associated with teaching problem

solving; 16 % (*SD* = 11.37, range = 0-44) of practices associated with teaching friendship skills; 16% (*SD* = 16.00, range = 0-60) of practices associated with interventions for children with persistent challenging behaviors; 32 % (*SD* = 16.84, range = 0-50) of practices associated with connecting with families, and 5 % (*SD* = 6.62, range = 0-14) of practices associated with supporting families. In addition, preschool teachers implemented 8 % (*SD* = 14.02, range = 0-33) of practices associated with the Response to Challenging Behavior subscale. Moreover, preschool teachers showed 35% (*SD* = 10.59, range = 18-65) of the behaviors associated with Red Flag items, on average. Table 2 presents overall and item level descriptive analyses.

As shown in Table 3, teachers' implementation of Key Practices (Subscale 1; $F_{(2,100)}$ = .143, *p* = .867) and Responses to Challenging Behaviors (Subscale 3; $F_{(2,100)}$ = .167, *p* = .867) did not differ across classroom types in which teachers worked. Mean percentage of implementation different classroom types ranged between 13.34 and 14.61 for Subscale 1 and 6.60 and 8.49 for Subscale 3. With respect to Red Flag items, mean percentages of teachers' implementation were 34.42 (*SD* = 11.02), 30.97 (*SD* = 9.71), and 38.20 (*SD* = 10.06) for general, inclusive, and segregated preschool classrooms, respectively. Teachers working in inclusive preschool classrooms showed behaviors associated with Red Flags significantly lower than teachers working in the segregated classroom ($F_{(2,100)}$ = 4.345, *p* = .045). For 5 of the 14 items under Key Practices Subscale, a statistically significant difference in teachers' implementation was observed among classroom types. Preschool teachers working in general and inclusive preschool classrooms implemented higher percentages of practices associated with supportive conversations with children ($F_{(2,100)}$ = 6.209, *p* = .026) when compared to teachers working in segregated classrooms. For practices associated with teaching friendship skills, general preschool teachers showed significantly higher levels of implementation than teachers who worked in inclusive or segregated classrooms ($F_{(2,100)}$ = 11.924, *p* =.000). Moreover, general preschool teachers showed higher level of implementation than preschool teachers employed in segregated classrooms for practices associated with teaching problem solving

Table 2.
Preschool Teachers' Implementation of Social-Emotional Teaching Strategies

Subscale	Mean	Median	SD	Minimum	Maximum
Subscale 1: Key Practices					
SR	37.96	40	13.60	0	70
TR	30.69	25	16.21	0	63
SC	40.49	40	16.65	10	80
ENG	22.21	22	13.60	0	55
PD	18.21	14	13.27	0	42
CT	27.12	22	12.95	0	55
TBE	7.07	0	8.52	0	28
TSC	8.50	12.50	9.14	0	25
FR	15.59	11	11.37	0	44
TEE	13.50	12.50	12.58	0	38
TPS	10.68	11	10.15	0	33
PCB	15.73	20	16	0	60
COM	32.18	37.50	16.83	0	50
INF	4.62	0	6.62	0	14
Overall	14.12	18	10.54	0	32
Subscale 2: Red Flags					
Overall	34.53	35	10.59	18	65
Subscale 3: Response to Challenging Behavior					
Overall	7.69	0	14.02	0	33

Note. SR = Schedules, routines, and activities, TR = Transitions between activities, SC = Supportive conversations with children, ENG = Promoting children's engagement, PD = Providing directions, CT = Collaborative teaming, TBE = Teaching behavior expectations, TSC = Teaching social skills and emotional competence, FR = Teaching friendship skills, TEE = Teaching children to express emotions, TPS = Teaching problem solving, PCB = Interventions for children with persistent challenging behaviors, COM = Connecting with families, INF = Supporting families.

($F_{(2,100)}$ = 4.580, p = .045), interventions for children with persistent challenging behaviors ($F_{(2,100)}$ = 4.328, p = .045), and connecting with families ($F_{(2,100)}$ = 4.484, p =.045). Preschool teachers working in general preschool classrooms implemented slightly higher level of practices associated with transition between activities when compared to teachers working in inclusive classrooms. However, the difference between mean scores was not statistically significant ($F_{(2,100)}$ = 3.455, p = .081). Analyses with respect to classroom level in which teachers worked showed that teachers' implementation of Key Practices (Subscale 1; $F_{(2,100)}$ = .143, p = .867), demonstration of behaviors associated with Red Flags (Subscale 2; $F_{(2,100)}$ = .354, p = .867), and Response to Challenging Behavior (Subscale 3; $F_{(2,100)}$ = 3.115, p = .760) did not differ across classroom levels (see Table 3). Mean percentage of implementation across different classroom levels ranged between 13.54 and 14.88 for Subscale 1, 33.67 and 35.81 for Subscale 2, and 4 and 11.85 for Subscale 3. Moreover, item level analyses for Subscale 1

did not result in statistically significant difference for any of the comparisons.

Results of t-test analyses comparing teachers who received (n = 29) /did not receive (n = 74) training on addressing challenging behaviors and supporting social emotional development showed no statistically significant differences on teachers' implementation of practices associated with Subscale 1 ($t_{(101)}$ = 1.005, p = .317), Subscale 2 ($t_{(101)}$ = .836, p = .405), and Subscale 3 ($t_{(101)}$ = -.639, p = .524). Pearson product-moment correlation analyses were run to determine the associations among mean subscale scores and number of adults and children in each classroom. A small, statistically significant, positive correlation was also observed between Subscale 2 and the number of adults in the classrooms (r = .268, n = 103, p = .01). Moreover, there was a small, statistically significant, negative correlation between Subscale 2 scores and the number of children in the classrooms (r = -.227, n = 103, p = .01).

Table 3.
Teachers' Use of Social-Emotional Teaching Strategies by Classroom Type and Level

Variable	Classroom Type				Classroom Level			
	General (n=33)	Inclusive (n=35)	Segregated (n=35)	Comparison	3-years (n=31)	4-years (n=33)	5-years (n=39)	Comparison
Subscale 1: Key Practices								
SR	39.09 (13.08)	39.14 (15.02)	35.71 (12.67)	$F_{(2,100)}$ = .719 p = .595	38.71 (14.99)	38.48 (10.04)	36.92 (15.24)	$F_{(2,100)}$ = .182 p = .867
TR	36.35 (17.50)	26.43 (14.47)	29.63 (15.48)	$F_{(2,100)}$ = 3.455 p = .081	32.66 (17.28)	30.68 (17.14)	29.14 (14.70)	$F_{(2,100)}$ = .403 p = .867
SC	43.64 (14.32)	45.14 (13.37)	32.86 (19.19)	$F_{(2,100)}$ = 6.209 **p = .026**	39.35 (16.32)	43.94 (17.31)	38.46 (16.31)	$F_{(2,100)}$ = 1.071 p = .759
ENG	23.33 (13.40)	21.37 (14.84)	22 (12.80)	$F_{(2,100)}$ = .180 p = .867	19.16 (14.19)	21.33 (12.58)	25.38 (13.63)	$F_{(2,100)}$ = 1.945 p = .759
PD	21.21 (12.68)	15.60 (13.49)	18 (13.40)	$F_{(2,100)}$ = 1.542 p = .326	19.87 (11.87)	17.39 (14.86)	17.59 (13.13)	$F_{(2,100)}$ = .343 p =.867
CT	29.67 (12.14)	29.23 (11.61)	22.60 (14.06)	$F_{(2,100)}$ = 3.385 p = .081	25.19 (13.68)	29 (12.85)	27.05 (12.55)	$F_{(2,100)}$ = .687 p = .780
TBE	5.09 (6.84)	9.60 (9.47)	6.40 (8.55)	$F_{(2,100)}$ = 2.625 p = .145	6.77 (7.98)	5.52 (6.95)	8.62 (9.96)	$F_{(2,100)}$ = 1.216 p = .759
TSC	10.61 (9.94)	7.87 (8.08)	7.16 (9.25)	$F_{(2,100)}$ = 1.347 p = .347	9.68 (10.06)	6.83 (7.72)	8.99 (9.49)	$F_{(2,100)}$ = .860 p = .759
FR	22.67 (11.65)	13.51 (9.65)	11 (9.62)	$F_{(2,100)}$ = 11.924 **p =.000**	13.84 (13.31)	14.67 (9.79)	17.77 (10.89)	$F_{(2,100)}$ = .1.197 p = .759
TEE	15.95 (12.98)	13.96 (11.25)	10.73 (13.27)	$F_{(2,100)}$ = 1.515 p = .326	12.94 (13.10)	11.74 (12.08)	15.44 (12.64)	$F_{(2,100)}$ = .812 p = .759
TPS	14.67 (11.56)	10.06 (9.76)	7.54 (7.90)	$F_{(2,100)}$ = 4.580 **p = .045**	11.35 (11.88)	9.67 (7.66)	11 (10.71)	$F_{(2,100)}$ = .248 p = .867
PCB	21.82 (21.43)	14.86 (11.21)	10.86 (12.22)	$F_{(2,100)}$ = 4.328 **p = .045**	18.71 (18.57)	12.12 (16.54)	16.41 (12.87)	$F_{(2,100)}$ = 1.423 p = .760
COM	38.27 (12.83)	32.17 (15.82)	26.44 (19.35)	$F_{(2,100)}$ = 4.484 **p =.045**	31.89 (16.39)	35.98 (15.55)	29.19 (17.96)	$F_{(2,100)}$ = 1.477 p = .760
INF	5.94 (7.03)	3.20 (5.97)	4.80 (6.74)	$F_{(2,100)}$ = 1.490 p =.326	4.97 (6.81)	3.39 (6.09)	5.38 (6.90)	$F_{(2,100)}$ = .868 p = .760
Overall	14.61 (10.40)	13.34 (10.32)	14.43 (11.14)	$F_{(2,100)}$ = .143 p = .867	14.03 (10.59)	14.88 (9.88)	13.54 (11.26)	$F_{(2,100)}$ = .143 p = .867
Subscale 2: Red Flags	34.42 (11.02)	30.97 (9.71)	38.20 (10.06)	$F_{(2,100)}$ = 4.345 **p = .045**	35.81 (10.88)	34.36 (9.40)	33.67 (11.45)	$F_{(2,100)}$ = .354 p = .867
Subscale 3: Response to CB	8 (14.36)	6.60 (13.39)	8.49 (14.63)	$F_{(2,100)}$ = .167 p = .867	6.39 (13.25)	4 (10.94)	11.85 (16.04)	$F_{(2,100)}$ = 3.115 p = .760

Note. *p* values were adjusted to control false discovery rate (Benjamini & Hochberg, 1995). SR = Schedules, routines, and activities, TR = Transitions between activities, SC = Supportive conversations with children, ENG = Promoting children's engagement, PD = Providing directions, CT = Collaborative teaming, TBE = Teaching behavior expectations, TSC = Teaching social skills and emotional competence, FR = Teaching friendship skills, TEE = Teaching children to express emotions, TPS = Teaching problem solving, PCB = Interventions for children with persistent challenging behaviors, COM = Connecting with families, INF = Supporting families, CB = Challenging behavior.

Discussion

The purpose of the present study was to investigate preschool teachers' use of strategies to support social-emotional competence in young children. A total of 103 preschool teachers working in public preschool classrooms participated in the study. Results of the study showed that preschool teachers were only able to implement very low levels of practices associated with Key Practices and Response to Challenging Behaviors subscales. Moreover, high levels of behaviors associated with Red Flags were observed across the classrooms. Taken together, these findings illustrate that without training and professional development support preschool teachers working in public preschool classrooms in Turkey have difficulty implementing practices to support young children's social-emotional competence. Below, findings of the present study were discussed in relation to extant literature, describe limitations of the study, and provide recommendations for future research and practice.

Key Practices to support social-emotional skills of young children were minimally implemented across 103 preschool classrooms. Participating preschool teachers were observed to use approximately 14% of the Key Practices, and the level of preschool teachers' implementation did not vary significantly across classroom types and levels. In the absence of training and professional development, low levels of teachers' implementation of practices to support social-emotional competence were observed in other studies (e.g., Heo et al., 2014; Luo et al., 2017; Steed & Roach, 2017). However, in comparison to studies conducted in South Korea, China, and the United States, the levels of Turkish preschool teachers' use of practices to support young children's social-emotional competence were considerably low. This finding is concerning as healthy social-emotional development is the foundation for later well-being and academic success (Bambara, & Kern, 2005; Barnett, 2000; Ocak, & Arda, 2014b; Sailor, Dunlap, Sugai, & Horner, 2009; Waltz, 2013).

When the Key Practice items were examined individually, it was seen that practices associated with supportive conversations with children, schedules, routines, and activities, connecting with families, transitions between activities, and collaborative teaming items (*M* range = 27% - 41%) were implemented in considerably higher rates than the practices included under other Key Practice items. In addition, preschool teachers implemented less than 9% of the practices associated with three items: supporting families, teaching behavior expectations, and teaching social and emotional competence. These findings are consistent with findings of earlier studies showing that preschool teachers use practices associated with universal promotion tier more often than the practices associated with secondary prevention or tertiary intervention tiers (Artman-Meeker, Hemmeter, & Snyder, 2014; Hemmeter et al., 2016; Luo et al., 2017; Steed & Roach, 2017). This can be explained by the fact that although social-emotional development is acknowledged as an important area of development in the national preschool program, there is no comprehensive curriculum developed in Turkey that focused on social-emotional development. Therefore, the majority of teachers underutilize systematic and explicit instruction to support young children's social-emotional competence.

In parallel with the underutilization of Key Practices, Turkish preschool teachers who participated in the present study demonstrated about 35% of the behaviors associated with Red Flags and a statistically significant difference was observed between teachers who worked in segregated and inclusive preschool classrooms. Teachers working in segregated preschool classroom demonstrated higher levels of Red Flag behaviors than teachers of inclusive preschool classrooms. Our findings with respect to Red Flag items means that participating preschool teachers not only implemented very low levels of practices to support young children's social-emotional development but also they showed high levels of behaviors that were inconsistent with the implementation of Pyramid Model practices. In comparison to the studies conducted in the United States and China where preschool teachers used 10% to 21% of behaviors associated with Red Flag items (Luo et al., 2017; Steed & Roach, 2017), preschool teachers who participated in the present study showed substantially higher levels of Red Flag behaviors.

With respect to the associations among teacher- and classroom-level variables and preschool teachers' use of practices to support young children's social-

emotional competence, we found no significant relationship between training preschool teachers received prior to the study that focused on supporting social-emotional development and addressing challenging behaviors of young children and their implementation of the practices associated with the Pyramid Model. This finding is not surprising as professional development and training programs offered to Turkish preschool teachers are often in the form of a single training session with no follow-up support. Although it may be helpful for creating awareness, this type of professional development is found to be ineffective for changing practices teachers implement in the classrooms (Cook & Odom, 2013; Metz, Blase, & Bowie, 2007; Oliver & Reschly, 2007; Sugai & Horner, 2006).

Limitations

There are at least three limitations of the present study. First, data for the present study were collected in preschool classrooms located in one city, and therefore the results may not be representative of preschool classrooms in the entire country. Second, the present study was designed to descriptively evaluate practices used by preschool teachers to support social-emotional competence in young children by conducting one classroom observation in each classroom. Although systematic procedures were employed to collect reliable data, repeated observations and measurement in the classrooms would allow gathering more comprehensive and trustworthy data about practices preschool teachers implemented. Third, data on the training preschool teachers received about social-emotional development, and challenging behavior was collected using a dichotomous question of whether or not they participated in any training focused on these topics. Therefore, we do not know the nature and content of training preschool teachers received.

Directions for Future Research and Practice

Future research in this area might investigate preschool teachers' implementation of practices to support young children's social-emotional competence across different locations in the country using multiple observations and measurement to enhance gen-eralization of the findings. In addition, experimental studies could be conducted to examine impacts of different professional development programs on preschool teachers' use of strategies to promote social-emotional competence in young children. Moreover, future research could explore Turkish preschool teachers' acceptability of practices associated with the Pyramid Model and identify the factors associated with higher levels of implementation.

The findings of the present study show that Turkish preschool teachers implement the Pyramid Model practices infrequently in the absence of focused training on social-emotional development. This main finding clearly illustrates preschool teachers' urgent need for additional training and professional development with respect to supporting social-emotional competence of young children. Professional development and training programs designed for this purpose should include high quality, interactive workshops and implementation support (i.e., coaching) with performance feedback (Steed &Smith, 2015). Based on the results of the needs assessment conducted with preschool teachers prior to professional development activities, at minimum, these trainings should focus on (a) universal classroom strategies as they lay the foundation for high quality classrooms and instruction, (b) social-emotional teaching strategies to support development of problem solving and friendship skills as well as social skills, play skills, and emotional regulation, and (c) individualized behavior support plans to address sustained challenging behaviors (Steed & Roach, 2017). Moreover, preschool teachers should be provided with focused training on how to support social-emotional competence of young children during pre-service education.

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Adressing the Barriers to Family-School Collaboration: A Brief Review of the Literature and Recommendations for Practice

 Marla J. Lohmann [1]

 Andrea R. Hathcote [2]

 Kathleen A. Boothe [3]

Abstract

A child's education, both academic and social, is significantly improved through effective collaborations between families and schools. For young children with disabilities, partnerships between families and schools are especially critical. Increased family involvement in schools can lead to more positive long-term outcomes for students. Despite the benefits of family-school collaboration, the literature has identified a variety of beliefs and behaviors that act as barriers preventing families from being actively involved in the special education process. The barriers can be divided into four major categories: (a) parental knowledge and attitudes, (b) disparity between families and schools, (c) current family situations, and (d) logistical issues. This article provides a brief overview of the barriers, as well as solutions for reducing these challenges.

Keywords: Barriers, family-school collaboration, Early Childhood Special Education.

Introduction

A child's education, both academic and social, is significantly improved through effective collaborations between families and schools. For young children with disabilities, partnerships between families and schools are especially critical. Increased family involvement in schools can lead to more positive long-term outcomes for students. Parental involvement in schools has short-term and long-term benefits for children, families, schools, and communities. These benefits include (a) increases in parent-student long-term education planning (Epstein, 2008), (b) higher student achievement (Cooper, Crosnoe, Suizzo, & Pituch, 2010; Epstein, 2008), (c) decreased behavioral challenges (Fox, Dunlap, & Cushing, 2002), (c) increased student attendance (Sheldon & Epstein, 2004), and (d) improvements in school programs and school climate.

When schools and families interact and communicate frequently, students are more likely to receive common messages emphasizing the importance of school, hard work, creative thinking, and helping each other (Epstein, 1995).

[1] Ph.D., Assistant Professor, Colorado Christian University, Department of Special Education, Lakewood, USA.
e-mail: mlohmann@ccu.edu
* Corresponding Author

[2] Professor of Learning Framwork, Tyler Junior College, USA.
e-mail: ahat2@tjc.edu

[3] Ph.D., Assistant Professor, Special Education, Southeastern Oklahoma State University, USA.
e-mail: kboothe@se.edu

Table 1.

Barriers Preventing Effective Collaboration between Schools and Families

Barrier	References
Concerns about children being segregated from peers	Boyd & Correa, 2005; Kirmani, 2007
Cultural and class differences	Campbell-Whatley & Gardner, 2002; Koch, 2007; Soutullo, Smith-Bonahue, Sanders-Smith, & Navia, 2016
Lack of understanding regarding special education process	Applequist, 2009; Boyd & Correa, 2005
Parents feel disconnected from decision making process regarding interventions	Fox, Dunlap, & Cushing, 2002
Parental denial of disability	Cartledge, Tam, Loe, Miranda, Lambert, Key et al., 2002
Previous negative experiences with school system	Boyd & Correa, 2005; Cartledge et al., 2002; Obiakor, Algozzine, Thurlow, Gwalla-Ogisi, Enwefa, Enwefa et al., 2002
Work schedules and other time restraints	Campbell-Whatley & Gardner, 2002; Hossain & Anziano, 2008; Yamauchi, Lau-Smith, & Luning, 2008
Transportation	Yamauchi, Lau-Smith, & Luning, 2008
Families in turmoil, including homelessness, unemployment spousal abuse, substance abuse	Dryfoos, 2003; Sommerville & McDonald, 2002
Poor communication from the school	Soutullo, Smith-Bonahue, Sanders-Smith, & Navia, 2016
Too much negative communication from the school	Epstein, 2008
Teachers lack collaboration skills	Epstein, 2005; Epstein & Sanders, 2006; Flanigan, 2007

When parents feel as though they are part of the school community, their expectations of their child also increase (Davies, 1996). Finally, by involving the family in planning and collaboration, the families' access to vital information relating to successful treatment outcomes and individual support systems increases (Arllen, Cheney, & Warger, 1997). Starting these partnerships early in a young child's education is crucial to their educational success in later years. Despite the benefits of collaboration between schools and families, this practice does not come without challenges. It is imperative that early childhood special educators are aware of these barriers to partnerships so that they can effectively address them using evidence-based practices.

In preparing this manuscript, the authors examined the literature from the EbscoHost database, including years 2000 to 2017, and used the search terms "family-school collaboration," "partnerships and schools," and "families and schools." Articles from the search were chosen for inclusion in this literature review based on their relevance to the topic and inclusion of specific barriers that prevent effective collaboration between families and schools. The themes presented in this article were created by the authors.

A deductive coding approach was used to organize the literature data, with initial themes chosen by the authors before beginning the review of literature and changes to the categories being made throughout the process. Some of these categories were directly noted in the literature and others were named by the authors. This article provides early childhood special educators with an overview of the existing literature regarding the barriers to effective collaboration with families, as well as practical recommendations for addressing those barriers in their classrooms.

Barriers cited in the literature

While it is clear that family-school collaboration has numerous benefits for all stakeholders, the literature has identified a variety of beliefs and behaviors that act as barriers preventing families from being actively involved in the special education process. The barriers, found in Table 1 below, can be divided into four major categories: (a) parental knowledge and attitudes, (b) disparity between families and schools, (c) current family situations, and (d) logistical issues. Within each of these categories are specific barriers that prevent effective teaming between schools and families.

Parental Knowledge and Attitudes

Parental knowledge and attitudes barriers include: (a) concerns about segregation, (b) parental denial of the disability, (c), a lack of understanding regarding the special education process, and (d) a previous negative experiences with the school system. Parents believe that an education with peers is a basic civil right and may feel that their children are the victims of discrimination when they are provided separate special education services. Boyd and Correa (2005) report that African American parents are often uncomfortable with special education, because they believe that it leads to both academic and physical segregation for their children that is reminiscent of the school system before the Civil Rights movement. In addition, the literature reports that parents want their children to feel like they belong in their school; separate classrooms and programs prevent a sense of belonging (Kirmani, 2007).

Secondly, unsuccessful home-school collaboration may result from parents' denial about their children's disabilities. Parents may experience feelings of mourning, grief, or depression that will impede their involvement in the school system (Cartledge et al., 2002).

Additionally, parents may not understand the school system or the special education process (Applequist, 2009; Boyd & Correa, 2005). Many parents report not knowing that early intervention services existed until their children were diagnosed with a delay (Applequist, 2009). Parents of children in smaller, rural communities tend to have less understanding of the education system and fewer resources that can aid in their understanding (Boyd & Correa, 2005).

In addition, many parents of special education students have had prior negative experiences with schools, either as students or as parents (Boyd & Correa, 2005; Cartledge et al., 2002; Obiakor, Algozzine, Thurlow, Gwalla-Ogisi, Enwefa, Enwefa et al., 2002). Some parents of special education students were in special education themselves as children. They may have had bad experiences with special education teachers or other professionals in the field and do not want their children to have similar experiences. If parents correlate school with negative experiences, they may not be receptive to opportunities for collaboration with special education professionals (Obiakor et al., 2002).

Fox and colleagues (2002) note that, as children transition from early intervention programs into the public school setting, parents often feel disconnected from the decision making process regarding interventions for meeting their children's unique needs. Because early intervention services are focused on the entire family, the change to services that focus on the needs of the child as a student can be a difficult transition for parents.

Disparity

The second category of barriers to home-school collaboration is centered around the disparity between families and schools. This category includes two major barriers: (a) educational and economic differences and (b) differing languages. According to Campbell-Whatley and Gardner (2002), educators tend to view families and education through their own personal experiences. However, the students that they teach often come from families that have less education and fewer financial resources than the teachers. When teachers

assume that families' experiences are similar to their own, they make it difficult to connect and have a hard time understanding students and their families. Additionally, parents who have less education than school personnel may feel uncomfortable in the school and choose to avoid interaction with teachers (Campbell-Whatley & Gardner, 2002; Koch, 2007).

Current Family Situation

The next category of barriers to effective collaboration is family life situations. Some families are in turmoil and are unable to be actively involved with the school because they are more focused on the needs of their family. Families may be facing unemployment, substance abuse, spousal abuse, or homelessness (Dryfoos, 2003; Sommerville & McDonald, 2002).

Logistical Issues

The final category to effective collaboration between schools and families is logistical issues that make it difficult for parents to get to the school or attend meetings and events. The first barrier is parental work schedules and other time issues (Campbell-Whatley & Gardner, 2002; Hossain & Anziano, 2008; Yamauchi, Lau-Smith, & Luning, 2008). When parents' work schedules interfere with their abilities to be present in their children's school, teachers often assume that the parents do not care about their children; however, this sentiment is not true (Campbell-Whatley & Gardner, 2002). Secondly, families may not have adequate transportation to get to the school (Yamauchi, Lau-Smith, & Luning, 2008). These logistical barriers serve to alienate families from the school, thus preventing involvement and collaboration.

Suggestions for Improving Collaborative Relationships
While the barriers mentioned earlier may seem discouraging, we offer a variety of evidence-based practices for addressing these barriers and improving the collaborative relationships between schools and the families of preschoolers with disabilities. These strategies include (a) person-centered planning, (b) intentional and positive communication, (c) home visits, and (d) wraparound services.

Person-Centered Planning

Our first recommendation for overcoming the barriers to family-school collaboration is the use of person-centered planning (Fox et al., 2002), which is a system of coordinated sharing of information regarding the child that allows all stakeholders to understand his/her individual needs (Wells & Sheehey, 2012) and is designed lead intervention teams in utilizing unique and individualized strategies for meeting the unique needs of children and families (Kincaid, Knab, & Clark, 2005). While person-centered planning is currently the norm for students in the process of transition to adulthood, we recommend its usage for all students with disabilities. The process of person-centered planning leads to a shared vision for the child's future and the services needed to reach those goals. As a team, the stakeholders first discuss the history of the child, his/her strengths and interests, and finally his/her needs. Based on that discussion, both short-term and long-term goals for the child are discussed and an action plan is created to help achieve those goals (Wells & Sheehey, 2012).

Intentional and Positive Communication

A second practice that helps to overcome the barriers to effective partnerships is intentional and positive communication. Fontil and Petrakos (2015) report that immigrant families appreciate communication that demonstrates the teacher genuinely cares about the student and family. Examples of this include smiling while talking to parents and asking about the needs of the family in addition to the child's needs. The quality of communication can also be improved when schools outline the expectations for communication with parents and provide them ideas regarding how the communication may occur (Fishman & Nickerson, 2014). When the communication from schools specifically invites parents to participate in school events and in their children's education, parents are more likely to do so (Fishman & Nickerson, 2014).

Schools and families should also have regularly planned times to communicate; this may include meetings scheduled on a regular basis (Fontil & Petrakos, 2015).

Home Visits

Third, collaborateon between schools and homes can be enhanced through the utilization of home visits, which involve professionals visiting the homes of children with disabilities and providing services and supports in the natural setting (Rosenberg, Robinson, & Fryer, 2002; Stanley, 2011). Home visits have been shown to increase parenting abilities (Rosenberg et al., 2002; Stanley, 2011), as well as reduce stress for parents of children with disabilities (Rosenberg et al., 2002).

Wraparound Services

Finally, schools and community agencies should work together to provide services for children and families. A vital service within the Individual Family Service Plan is the coordinated effort between school and community agencies. However, once a child transitions into public school requiring an Individualized Education Plan, coordinated efforts are no longer required at the same level and are often difficult to build and maintain.

In order to increase students' chances of success, community-based programs should support schools while assisting families. This support should include programs with essential elements like teamwork, goal-oriented plans, focus on the needs of the participants, and on-going evaluation. It should also include programs that are connected to the schools because ultimately, students must succeed in school to advance into adult life. Educators, families, and community leaders have an obligation to work together to provide support to students to help them achieve this goal. It is essential that community-based programs focus on being goal-oriented. Exchanges with community organizations should evidence collaboration with the community (Epstein & Hollifield, 1996; Ziegler, 2001).

Conclusion

Young children develop in three different contexts simultaneously and continuously: (a) home, (b) school, and (c) community (Epstein, 2001). These contexts are interconnected and students travel across these contexts for many years to learn who they are and where they are going. With this in mind, it is important to understand that families care about their children's success, but despite this, most parents will not remain involved in their children's education without more and better information. In addition, it is important to note that children learn more than academics in all three contexts; they are influenced either positively or negatively by their peers, families, and the organization of activities in their schools and classrooms.

Given the obvious need for collaboration, education professionals must ensure that building successful partnerships becomes a priority in their schools. The burden to provide all services to all children with disabilities falling solely on the school is not feasible nor necessary when partnerships with other organizations and agencies could provide equal or better services to these children. School officials must find time to step outside their school buildings and look into their communities to fully realize the potential of all their students, including those with disabilities.

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 Serife Yucesoy-Ozkan [1]

 Emrah Gulboy [2]

 Feyat Kaya [3]

Teaching Children with Intellectual Disabilities through Video Prompting: Smartphone vs. Tablet

Abstract

This study aims to determine whether video prompting differs when provided on smartphone compared with tablet in terms of effectiveness and efficiency in teaching leisure skills to children with intellectual disabilities, which types of errors exhibited by participants and the opinions of the mothers on the social validity of the study. Four children with intellectual disabilities, aged 66-81 months participated in the study. An adapted alternating treatments design was used. Results show that video prompting was effective when provided via a smartphone and tablet on teaching leisure skills; however, video prompting presented through the smartphone was more effective than video prompting presented through tablet. There was no significant difference between the efficiency of VP provided on the smartphone and tablet in terms of number of sessions and errors; however, VP provided on the tablet was slightly more efficient in terms of total training time. In addition, the most common errors in probe sessions were sequence and duration errors. Tthe opinions of the participants' mothers regarding the social validity of the study were positive. Implications for future research are discussed.

Keywords: Video Prompting, screen size, smartphone, tablet, Intellectual disabilities, leisure skills.

Introduction

As with all children, it is very important for children with intellectual disabilities to enjoy leisure time. When not engaged in curricular activities, children have various needs that need to be met, such as resting, enjoying leisure time, and taking part in activities in line with their interests, and they need to learn leisure skills to meet these needs (Westling & Fox, 2004). While leisure skills are one of the main indicators of life quality and play an important role in the lives of individuals (Jerome, Frantino, & Sturmey, 2007; Seward, Schuster, Ault, Collins, & Hall, 2014; Wall, Gast, & Royston, 1999), teaching of such skills in schools is limited to activities such as physical education and sports, reading, playing musical instruments, singing, or painting. It is assumed that children with intellectual disabilities fulfil their needs to participate in leisure time activities on their own during the time they spend outside of the school. However, it is difficult for children with intellectual disabilities to find opportunities to build social interactions with their peers, and demonstrate age appropriate leisure skills without systematic education (Fetko, Collins, Hager, & Spriggs, 2013; Westling & Fox, 2004).

[1] Ph.D., Associated Profesor, Anadolu University, Faculty of Education, Department of Special Education, Eskisehir, TURKEY.
e-mail: syucesoy@anadolu.edu.tr
* Corresponding Author

[2] M.A., Anadolu University, Research Institute for Individuals with Disabilities, Eskisehir, TURKEY.

[3] M.A., Anadolu University, Faculty of Education, Deopartment of Special Education, Eskisehir, TURKEY.

Research has shown that children with intellectual disabilities can be taught various games and free time activities such as board games (e.g. chess, bingo, and dominoes; Keogh, Faw, Whitman, & Reid, 1984; Wall & Gast, 1997).; card games (e.g. UNO and Solitaire; Collins, Hall, & Branson, 1997; Fetko et al., 2013; Seward et al., 2014; Wall & Gast, 1997).; games requiring physical activity (e.g. billiards, bowling, darts, golf, and basketball; Tekin-Iftar et al., 2001; Wall & Gast, 1997).; open air activities (e.g. camping, canoeing, and parachute jumping; McAvoy, Smith, & Rynders, 2006; Yalon-Chamovitz & Weis, 2008).; and leisure time activities (e.g. listening to music, watching television, painting, photography, using computers or tablets, and surfing the Internet; Acungil, 2014; Chan, Lambdin, van Laarhoven, & Johnson, 2013; Collins, Hall, & Branson, 1997; Dollar, Fredrick, Alberto, & Luke, 2012; Edrisinha, O'Reilly, Choi, Sigafoos, & Lancioni, 2011; Jerome, Frantino, & Sturmey, 2007; Kagohara et al., 2011; Wall & Gast, 1997). These studies report that response prompting procedures such as simultaneous prompting, constant time delay, and least-to-most prompting as well as video modeling and video prompting have been effective in teaching leisure skills (Chan et al., 2013; Edrisinha et al., 2011; Kagohara et al., 2011).

Video prompting (VP), a variation of video modeling (VM), is conducted by showing a video clip of a single step from the video of the target skill performed by a model, then allowing the participant perform the step, and re-playing the video clip, when required, or proceeding onto the next clip (Mechling, 2005; Öncül & Yücesoy-Özkan, 2010). While the entire video tape-from beginning to the end-is shown to the individual in VM a video clip of a single step is shown to the individual in VP. In VP, each step of the skill to be taught is recorded as an individual clip. The child watches the clip of the first step and then performs the step. Once the first step of the skill is completed, he/she watches the second step, and performs the second step. This process continues until all the steps of the skill are completed (Bennett, Gutierrez, & Honsberger, 2013; Cannella-Malone et al., 2011; Chan et al., 2013). Depending on the characteristics of the children and facilities of the setting, different technological devices might be selected to play the VP when using this strategy in educational set

tings. Non-portable devices such as televisions (Graves, Collins, Schuster, & Kleinert, 2005), DVD players (Mechling, Gast, & Fields, 2008), and projection devices (Cihak, Alberto, Taber-Doughty, & Gama, 2006), as well as portable devices such as laptops (Aykut, Dağseven-Emecen, Dayı, & Karasu, 2014; Mechling, Ayres, Foster, & Bryant, 2013), tablets (Bennett et al., 2013; Kaya, 2015), media players (Cannella-Malone, Brooks, & Tullis, 2013; Chan et al., 2013), and smartphones (Bereznak, Ayres, Mechling, & Alexander, 2012) may be used to provide VP. In recent years, portable devices are more commonly preferred for instruction as they can be easily transported between different environments, do not require adult assistance, and can be easily accessed in social settings (Gardner & Wolfe, 2013; Kaya, 2015). In addition to the advantages of portable technological devices, they also have disadvantages such as not being economical, training requirements for use, and usually having to work with a cord. However, it has been noted in the literature that children with intellectual disabilities might have difficulty in recognizing relevant stimulus or noticing some details of the video clips due to the small screens of portable devices, media players, and smartphones in particular, and the video clips on larger screens can be used as effective tools to promote imitation as they do not have the disadvantages of the small screens (Cannella-Malone, Wheaton, Wu, Tullis, & Park, 2012; Miltenberger & Charlop, 2015).

Research has shown that different technological devices are effective for providing VP in teaching different skills (Bereznak et al., 2012; Canella-Malone et al., 2012); however, all these devices have strengths as well as limitations (Kaya, 2015). Considering strengths and limitations of the technological devices, it is necessary to conduct studies that compare the effectiveness and efficiency of VP provided through different technological devices (Cannella-Malone et al., 2012). Although there is not any study in the literature, comparing the effects of screen sizes when using VP, there are several studies which compare the effectiveness of screen sizes when using VM. The results of these studies are mixed. In a study conducted by Mechling and Youhouse (2012), the effects of screen sizes of a personal digital assistants and laptop computer were examined when using VM to teach fine motor skills to

two group children with autism spectrum disorder and intellectual disabilities. The results showed that there are no significant differences in performing skills between the two groups in terms of the screen sizes of devices. While all children with autism spectrum disorder and a child with intellectual disability displayed equal performance using both screens, two children with intellectual disabilities displayed better performance using the device with larger screen, and a child with intellectual disability displayed better performance using the device with smaller screen. In a replication study, Mechling and Ayres (2012), compared screen sizes of personal digital assistants and a laptop computer when using VM for teaching fine motor skills to adults with autism spectrum disorder. The results showed that the performance of the adults was higher when using device with larger screen than smaller screen. In the third study (Miltenberger & Charlop, 2015), the effect of VM was compared using a tablet and television when teaching play and communication skills to children with autism spectrum disorder. The findings indicated that VM on the television (larger screen) provided somewhat faster acquisition of skills than VM on the tablet (smaller screen).

As stated above, there are several studies which compare the effectiveness of screen sizes of different devices such as personal digital assistants, tablets, laptop computers, and televisions when using VM for teaching different skills to children and adults with autism spectrum disorder and intellectual disabilities. However, the literature does not contain any study comparing the effects of screen sizes of different devices when using VP. Therefore, it is necessary to conduct studies to compare the effects of screen sizes of different devices when using VP (Cannella-Malone et al., 2012). On the basis of this need, the purpose of this study is to determine whether VP differs when provided on tablet compared with smartphone in terms of effectiveness and efficiency in teaching leisure skills to children withintellectual disabilities, which types of errors exhibited by participants in the probe sessions, and the opinions of the mothers on the social validity of the study.

Method

Participants

Children. Four children with mild to moderate intellectual disabilities, aged between 5 and 6 years old participated in the study. All children received ongoing part-time group special education in a research center (segregated) in weekdays. In addition, all children received one-to-one supportive special education services 2 hours a week. Two of the children also attended to a preschool classroom on a half-day basis. Participating children were required to have the following prerequisite behaviors: (a) participating in activities for at least 5 min, (b) following verbal instructions, (c) imitating motor behaviors, and (d) watching the video clip for 1 min. In order to determine whether the children met prerequisite behaviors, they were provided with verbal instructions such as "Paint.", "Do this.", "Imitate." or "Watch the cartoon." and observed to see whether they were able to participate in activities for at least 5 min, follow verbal instructions, imitate motor behaviors, and watch a video clip for 1 min. All four children met the prerequisite behaviors. Furthermore, the second author, classroom teacher of the children, confirmed the children's ability to meet the prerequisite behaviors. As daily class instruction is performed by the means of an interactive whiteboard, smartphone, or tablet all the children are familiar with video-based instruction. All names of the participants have been changed in order to maintain their anonymity. Table 1 presents child characteristics and assessment results.

Bulut was a 66-months-old boy diagnosed with moderate intellectual disability. His WISC-R's verbal score, performance score, and overall scores were 43, 47, and 43, respectively. He could throw and catch a ball, hop on one foot or both feet, and climb up the stairs using one foot or both feet. He was able to paint within the lines and cut out and past shapes using scissors and glue. Bulut was able to follow instructions that refer to two actions and consist of four words and express himself with sentences composed of two words. He could name the objects around him, recite the days of the week and the seasons, and count rhythmically from 1 to 20.

Table 1.
Characteristics and Assessment Results of Participants

Demographic Information					WISC-R		
Name	Age	Gender	Diagnose	Ethnicity	VS	PS	OS
Bulut	66 m	Male	Moderate intellectual disabilities	Turkish	43	47	43
Ata	67 m	Male	Down Syndrome	Turkish	52	47	46
Irmak	68 m	Female	Mild intellectual disabilities	Turkish	56	61	55
Murat	81 m	Male	Down Syndrome	Turkish	43	55	46

VS: Verbal Score; PS: Performance Score; OS: Overall Score

Ata was a 67-months-old boy with Down syndrome. His WISC-R's verbal score, performance score, and overall scores were 52, 47, and 46, respectively. He could throw and catch a ball, hop on one foot or both feet, run, play with a ball, and climb up and down the stairs using one foot or both feet. He was able to paint within the lines, cut out and past shapes using scissors and glue, and draw horizontal, vertical, and diagonal lines. Ata was able to follow instructions that refer to three actions and consist of six words, and express himself with sentences composed of four words. He could name the objects around him, recite the days of the week, and count rhythmically from 1 to 20.

Irmak was a 68-months-old girl diagnosed with mild intellectual disability. Her WISC-R's verbal score, performance score, and overall scores were 56, 61, and 55, respectively. She could throw and catch a ball, walk straight and laterally on a balance board, and tricycle. She was able to tie shoelaces, pain within the lines, and draw horizontal, vertical, and diagonal lines. Irmak was able to follow instructions that refer to three actions and consist of six words and express herself with sentences composed of four words. She could recite the days of the week, count rhythmically from 1 to 30, identify the members of the family, name vegetables and fruits, describe occupations and related tasks, and match animals with their habitats.

Murat was an 81-months-old boyt with Down syndrome. His WISC-R's verbal score, performance score, and overall scores were 43, 55, and 46, respectively. He could climb up the stairs, hop on one foot or both feet, throw and catch a ball, and grasp and lift objects with one or two hands. He could cut and paste, paint within the lines, cut out shapes using scissors, and draw diagonal and straight lines. Murat was able to follow instructions that refer to two actions and consist of three words and express himself with sentences composed of two words. He could recite the days of the week and the seasons and count rhythmically from 1 to 15.

Model. A peer model with typical development was chosen to appear in the VP. The model was a 7-year-old male in second grade. The peer model was preferred because of his similar characteristics to participants, modeling experience, competency in motor skills, and volunteering. Before the preparation of the VP, the model rehearsed the steps of bowling and golf, and then took part in the preparation of the VP by performing the steps of both skills. As the VP was prepared using third person perspective, the model was completely visible in the video clips. No narration was used to express the steps of the skill.

Mothers. Social validation data were obtained from the mothers (aged between 30 and 43; *M*=38) of the participants through subjective evaluation. One mother was a primary school graduate, two were high school graduates, and the other had an associate degree.

Instructor and observer. All sessions of the study were conducted by the second author who was the classroom teacher of participating children. The interobserver agreement (IOA) and treatment integrity (TI) data were collected by the third author a doctoral student in special education.

Setting

All sessions were conducted in the research center where the children were attending, on weekdays between 1pm-5pm, by means of one-on-one instructional design. The classroom was 4m x 5m and the floor was carpeted. The smartphone and tablet were brought to each session and held by the instructor when showing the

Table 2.
Task Analyses of Playing Bowling and Golf

Step	Bowling	Step	Golf
1.	Takes the first pin out of the box and puts it on the last line.	1.	Takes the ball out of the golf bag.
2.	Takes the second pin out of the box and puts it on the last line.	2.	Puts the ball on the start line.
3.	Takes the third pin out of the box and puts it on the last line.	3.	Takes the golf club out of the golf bag.
4.	Takes the fourth pin out of the box and puts it on the middle line.	4.	Goes behind the start line.
5.	Takes the fifth pin out of the box and puts it on the middle line.	5.	Bends till the golf club touches the floor and hits the ball with the golf club.
6.	Takes the sixth pin out of the box and puts it on the first line.	6.	Tries to complete the hole in three strokes.
7.	Takes the ball out of the box.	7.	Takes the flag out of the golf bag when the hole is completed.
8.	Goes behind the start line.	8.	Puts the flag into the flag hole.
9.	Bends forward and rolls the bowl toward the pins.	9.	Returns back to the start line.

video clips to the children. The camera was mounted on a tripod and placed in a corner of the classroom. During the training sessions, the instructor and child stood side by side and watched the video clip played by the instructor. While the children performed the steps of the skill in baseline, probe, and maintenance sessions, the instructor observed them from a distance and approached the children upon their completion of the steps to provide verbal reinforcement for their participation.

Materials

Six pins in different colors (25cm x 5cm), a bowling ball (8cm x 8cm), and colored plastic tape were used for the bowling activity, while a golf club (55cm), golf ball, flag, golf bag (45cm), golf carpet, and colored plastic tape were used for the golf activity. Colored plastic tape was applied to the carpet to indicate where to place the pins and roll the bowling ball for the bowling activity, and to show the start line for the golf activity. An iPad Air 2 (24cm x 16,9cm) and iPhone 5 (12,3cm x 5,8cm) were used for displaying VP. The following process was followed for the preparation of the VP. Task analysis of bowling and golf skills were written (Table 2), examined, and re-arranged by two specialists. The skills were described by the researcher to the peer model thoroughly, and the peer model performed the skills until he had mastered them. While the peer model performed the skills, he was recorded until the best sample of each step was obtained. Then, video clips were prepared for VP. For bowling, a video prompt

of 58 s was prepared including nine steps, ranging from 4 s to 8 s in length. For golf, a video prompt of 53 s was prepared including nine steps, ranging from 3 s to 14 s in length.

Experimental Design

An adapted alternating treatments design replicated across four children was used in the present study (Sindelar, Rosenberg, & Wilson, 1985). The dependent variables of the study were the bowling and golf playing and independent variable was VP provided with a tablet (large screen) and smartphone (small screen). For bowling, Bulut and Ata were instructed through VP shown on the smartphone, whereas Irmak and Murat were taught using VP shown on the tablet. For golf, Bulut and Ata were instructed through VP shown on the tablet, whereas Irmak and Murat were instructed through VP shown on the smartphone. Experimental control was demonstrated as the change occurring for an independent variable at the tendency or level of a related dependent variable was faster than the change occurring for another independent variable at the tendency or level of a related dependent variable (Sindelar, Rosenberg, & Wilson, 1985).

Procedures

Baseline sessions. In the baseline sessions, children were introduced to the setting once the setting and materials were been prepared. First, the child's attention was captured, and then the target

stimuli of "Play bowling/golf." was given as soon as they paid attention. Each child was allowed 10 s to start the first step of task analysis. The responses were recorded in the data collection form as a correct response (+) if the child performed the first step of task analysis correctly, and as an incorrect response (-) if the child performed the first step incorrectly or did not perform at all. Single opportunity technique was used for data collection. If the child's response is wrong, or he/she did not respond at all, the session was ended after thanking him/her for their participation. Once four stable data points were obtained from the baseline sessions, we proceeded with the training sessions.

Training sessions. In the training sessions, bowling and golf playing skills were taught by VP shown on a smartphone and tablet. Training sessions for the VP using both devices were delivered in the same way. The only difference between the two sessions was that VP was provided through a different technological device in terms of screen sizes. Training sessions were repeated until the children performed 100% correct responses for the skills in three consecutive sessions.

In the training sessions, children were introduced to the setting once the setting and materials were prepared. Once children's attention was secured, the video clip for the first step of the related skill was started on the tablet or smartphone. When the video clip was started, a target stimulus of "Watch." was given to the child, and he/she was expected to watch the video clip. If the child was distracted during this process, he/she was reinstructed to watch. Upon the completion of the video clip, the child was instructed to perform the step by the instructor's command, "Do the same." In addition, the child was expected to start the step within 10 s flowing the instruction and complete it within 30 s. Once the first step was completed, the video clip for the second step was started, and the child was expected to watch the video clip and perform the step. This process was continued until all the steps were completed. When the child performed the step incorrectly or was unable to finish within the specified time, he/she was asked to re-watch the video clip of that step. When the child performed the step incorrectly or was unable to finish within the specified time for the second time, that step was performed by the instructor out of sight of the child, and

the video for the next step was shown to the child. During the training session, no prompts, feedback or reinforcement were given to the children apart from the VP; however, their participation was positively reinforced by thanking them at the end of the session.

Probe sessions. Throughout the study, probe sessions were carried out after each training session in order to see whether the children had learned the skills that were taught. Probe sessions were conducted in the same way as the baseline sessions. In the probe sessions, the children were introduced to the setting once the setting and materials were prepared. First, the child's attention was captured, and then the target stimuli of "Play bowling/golf." was given as soon as he/she paid attention. Each child was allowed 10 s to start the first step of task analysis and the responses were recorded in the data collection form as a correct response (+) if the child performed the first step of task analysis correctly, and as an incorrect response (-) if the child performed the first step incorrectly or did not perform at all. Single opportunity technique was used for data collection. If the child gave the wrong response, or did not respond at all, the session was ended after thanking the child for his/her participation. During the probe sessions, no prompts, feedback, or reinforcement were given to the children apart from the VP; however, their participation was positively reinforced by thanking them at the end of session.

Maintenance sessions. Maintenance sessions were conducted to determine if the children maintained the skills they learned during the training. Maintenance sessions were held 2, 4, and 9 weeks after the end of the training and conducted in the same way as the baseline sessions. During the maintenance sessions, no prompts, feedback, or reinforcement was given to the children apart from the VP; however, their participation was positively reinforced by thanking them at the end of session.

Data Collection and Analysis

Effectiveness. In the current study, task analysis records were kept for collecting effectiveness data. The percentage of correct responses was calculated using

the formula "(Number of correct steps/Total number of steps) x 100" and transposed into a graph. The data processed on the graph were analyzed using visual analysis and effect size calculation. Visual analysis is based on investigation the level, trend, and stability in a phase and between successive phases (Kazdin, 1982); the effect sizes were calculated using Tau-*U* (Parker, Vannest, Davis, & Sauber, 2011, Rakap, 2015; Rakap, Yücesoy-Özkan, & Kalkan, 2018) and Nonoverlap All Pairs (NAP; Parker & Vannest, 2009; Rakap et al., 2018). The Tau-*U* and NAP estimates were calcualated using an online calculator at http://www.singlecaseresearch.org/ (Vannest, Parker, Gonen, & Adiguzel, 2016).

Efficiency. Efficiency data were collected about the number of sessions, the number of errors, training time, probe time, and total time required to meet criterion for VP provided with a smartphone and tablet. In this repsect, the number of sessions and errors, training time, probe time, and total time required to meet criterion were recorded. When the children met the criteria, the efficiency data were analyzed descriptively.

Error pattern analysis. In order to determine the error patterns of the children, data were collected in probe sessions. The number and types of errors (duration, sequence, and topographical error) made by children in probe sessions were recorded. When the children met the criteria, the error pattern was analyzed descriptively.

Social validation. To collect social validaty data, the mother's of participating children were asked about the importance of the study purposes, the acceptability of interventions, and the significance of the results (Kazdin, 1982; Schwartz & Baer, 1991). Video clips of the baseline, training, and probe sessions where the children met the criterion related to both dependent variables were shown to the mothers after all sessions were completed. The mothers were then asked to respond to questions based on these video clips. A social validaty questionnaire and two open-ended questions was used to collect the data. Data were analyzed quantitatively by the first

and the second author through descriptive analysis. The inter-rater agreement was

calculated using the following formula: "[Agreement / (Agreement + Disagreement) × 100] (Erbaş, 2012). The inter-rater agreement was 100%.

Reliability. IOA data were collected in at least 30% of all sessions during the study. IOA was calculated using the following formula: "[Agreement/(Agreement + Disagreement) × 100]" (Erbaş, 2012; Kazdin, 1982). Accordingly, IOA percentages for bowling skills were 100%, 99%, and 100% in baseline, probe, and maintenance sessions, respectively. For golf skills, the IAO were 100%, 98%, and 94% in baseline, probe, and maintenance sessions, respectively.

TI data were collected in at least 30% of all sessions during the study. TI was calculated using the following formula: "[(Observed instructor behavior/Planned instructor behavior) × 100]" (Billingsley, White, & Munson, 1980). In baseline, probe, and maintenance sessions, treatment integrity data were collected for the following instructor behaviors: (a) preparing/controlling the materials, (b) securingthe child's attention, (c) providing target stimuli, (d) waiting for the response interval, (e) waiting for the completion of the skill step in the case of a correct response or ending the session in the case of an incorrect response, and (f) positively reinforcing (by thanking) participation at the end of the session. In training sessions, treatment integrity data were collected for the following instructor behaviors: (a) preparing/controlling the materials, (b) securing the child's attention, (c) providing target stimuli, (d) starting the video clip, (e) waiting for the period of watching the video clip, (f) waiting during the response interval for starting the skill step, (g) waiting for the completion of the skill step in the case of a correct response or re-showing the video in the case of an incorrect or no response, (h) showing the next video clip once the skill step was completed or performaning the skill step out of the child's sight after the second incorrect response, (i) ending the session once all steps were completed, and (j) positively reinforcing participation at the end of the session. Treatment integrity data was found to be 100% for all behaviors across all sessions.

Results

Effectiveness

Bulut demonstrated 0% correct and stable response during baseline. There was no variability or trend (increasing or decreasing) in the baseline. After the presentation of VP provided with smartphone, level of Bulut's correct response was 0% during first two probe sessions. Starting with the third probe session, level of his correct response increased to 55, 88, 100, 100, and 100% respectively. An increasing trend was observed during this condition. It took seven training sessions to reach the criterion level (100% correct response for three consecutive sessions) for VP provided with smartphone. After the presentation of VP provided with tablet, level of Bulut's correct response was 0% during first four probe session. Starting with the fifth probe session, level of his correct response increased to 25, 50, 100, 100, and 100% respectively. An increasing trend was also observed during this condition. It took nine training sessions to reach the criterion level (100% correct response for three consecutive sessions) for VP provided with tablet. During the maintenance sessions carried out 1, 4, and 9 weeks after training completed, Bulut's correct response was 100% for both VP. The effect sizes estimated by comparing baseline and training data were 0.71 (Tau-U) and 0.85 (NAP) for VP provided with smartphone; 0.55 (Tau-U) and 0.77 (NAP) for VP provided with tablet (Table 3).

Ata demonstrated 0% correct and stable response during baseline. There was no variability or trend (increasing or decreasing) in the baseline. After the presentation of VP provided with smartphone, level of Ata's correct response was 0% during first probe session. Starting with the second probe session, level of his correct response increased to 22, 22, 11, 22, 44, 100, 100, and 100% respectively. An increasing trend was observed during this condition. It took nine training sessions to reach the criterion level (100% correct response for three consecutive sessions) for VP provided with smartphone. After the presentation of VP provided with tablet, level of Ata's correct response was 0% during first four probe sessions. Starting with the fifth probe session, level of his correct response increased to 13, 63, 88, 100, 100, and 100%, respectively. An increasing trend was also

observed during this condition. It took 10 training sessions to reach the criterion level (100% correct response for three consecutive sessions) for VP provided with tablet. During the maintenance sessions carried out 1, 4, and 9 weeks after training completed, Ata's correct response was 100% for both VP. The effect sizes estimated by comparing baseline and training data were .88 (Tau-U) and .94 (NAP) for VP provided with smartphone; .42 (Tau-U) and .71 (NAP) for VP provided with tablet.

Irmak demonstrated 0% correct and stable response during baseline. There was no variability or trend (increasing or decreasing) in the baseline. After the presentation of VP provided with smartphone, level of Irmak's correct response increased to 13, 63, 88, 88, 100, 100, and 100% respectively. An increasing trend was observed during this condition. It took seven training sessions for VP provided with smartphone to reach the criterion level (100% correct response) for VP provided with smartphone. After the presentation of VP provided with tablet, level of Irmak's correct response increased to 33, 33, 100, 100, and 100% respectively. An increasing trend was also observed during this condition. It took five training sessions to reach the criterion level (100% correct response) VP provided with tablet. During the maintenance sessions carried out 1, 4, and 9 weeks after training completed, her correct response was 100% for both VP. The effect sizes estimated by comparing baseline and training data were 1.0 (Tau-U) and 1.0 (NAP) for VP provided with smartphone; 1.0 (Tau-U) and 1.0 (NAP) for VP provided with tablet.

Murat demonstrated 0% correct and stable response during baseline. There was no variability or trend (increasing or decreasing) in the baseline. After the presentation of VP provided with smartphone, level of Murat's correct response was 0% during first five probe session. Starting with the sixth probe session, level of his correct response increased to 63, 63, 100, 100, and 100% respectively. An increasing trend was observed during this condition.

It took 10 training sessions for to reach the criterion level (100% correct response for three consecutive sessions) for VP provided with smartphone. After the presentation of VP provided with tablet, level of Murat's correct response was 0% during first six probe session. Starting with
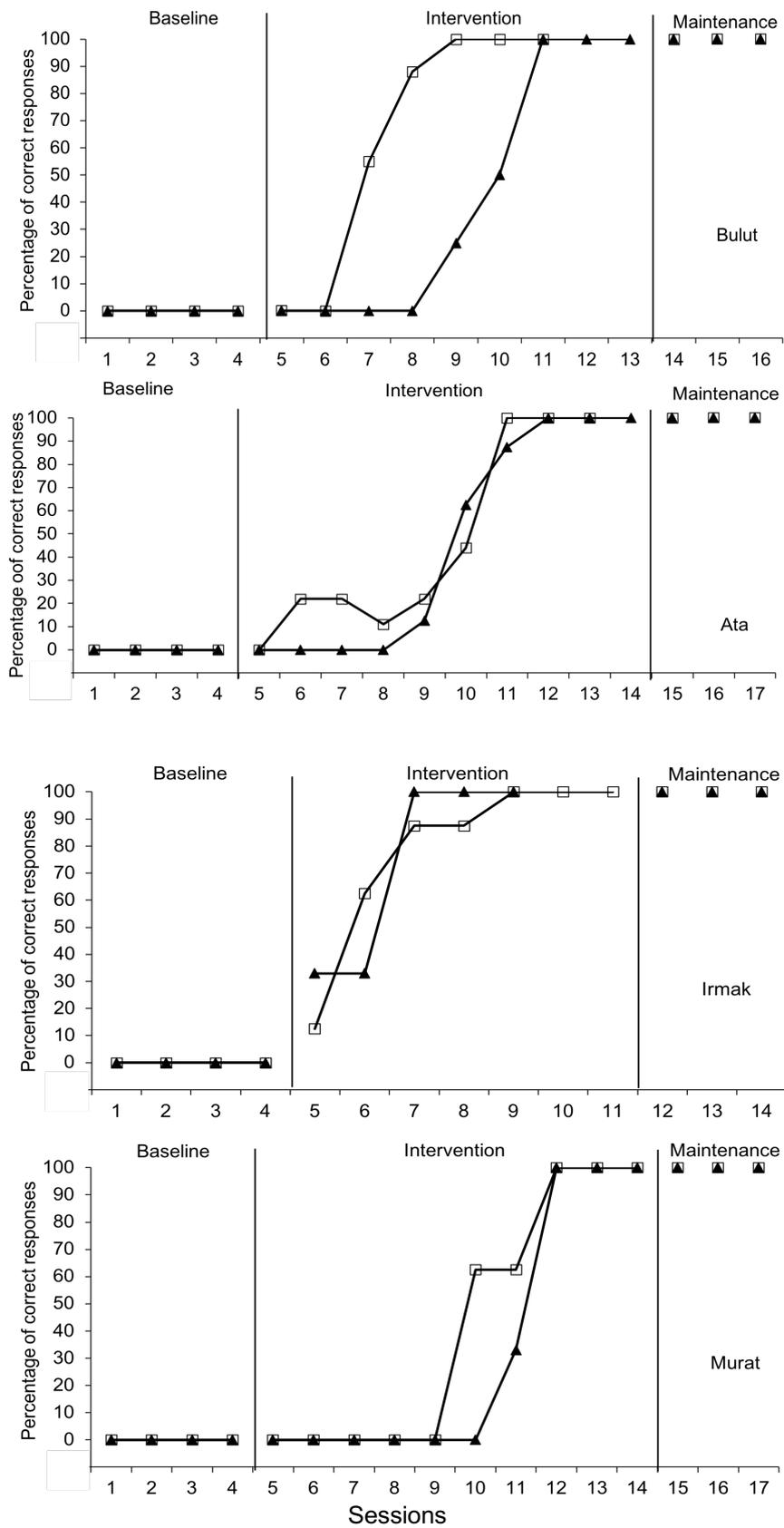
Figure 1.
Percentage of correct responses for VP provided with smartphone (unfilled square) and tablet (filled triangle) for Bulut, Ata, Irmak, and Murat across all sessions.

Table 3.
Effect Size Estimates for VP Provided with Smartphone and Tablet

Child	Tau-U				NAP			
	Smartphone		Tablet		Smartphone		Tablet	
Bulut	0.71	Effective	0.55	Questionable	0.85	Effective	0.77	Questionable
Ata	0.88	Very effective	0.42	Questionable	0.94	Effective	0.71	Questionable
Irmak	1.00	Very effective	1.00	Very effective	1.00	Effective	1.00	Effective
Murat	0.37	Questionable	0.40	Questionable	0.68	Questionable	0.70	Questionable

the seventh probe session, level of his correct response increased to 33, 100, 100, and 100% respectively. An increasing trend was also observed during this condition. It took 10 training sessions to reach the criterion level (100% correct response for three consecutive sessions) for VP provided with tablet. During the maintenance sessions carried out 1, 4, and 9 weeks after training completed, Murat's correct response was 100% for both VP. The effect sizes estimated by comparing baseline and training data were .37 (Tau-*U*) and .68 (NAP) for VP provided with smartphone; .40 (Tau-*U*) and .70 (NAP) for VP provided with tablet.

Figures 1 shows the percentages of correct response of Bulut, Ata, Irmak, and Murat, respectively, across the study sessions and phases. As shown in Figure 1, the percentages of correct response of participants were 0% in baseline sessions. Participants met the criterion by performing 100% after the use of VP by means of the tablet or the smartphone and sustained their performance in the maintenance sessions. Therefore, the results suggest that VP provided on tablet (larger screen) and smartphone (smaller screen) is effective at varying levels (from questionable to very effective) and there is not a significant difference between VP provided on smartphone and tablet.

Efficiency
Data on the number of sessions and errors, and the total training time required by the children to meet the criterion is shown in Table 4 for the VP provided on the smartphone and tablet. For all of the children, in the VP provided via the smartphone, these figures were 33 sessions in total, 21 errors, and 2 hrs., 52 min and 43 s of training time. Meanwhile, in the VP provided via the tablet, the total number of sessions was 34, the number of errors was 22, and the training time was 2 hrs., 40 min, and 20 s. Based on data, we can say that there is no significant difference between the VP provided on the

smartphone and tablet in terms of the number of sessions, and errors; however, there is small differences in terms of total time in favor of VP provided via tablet

Error Pattern Analysis
Errors occurred before children met the criterion are shown in Table 5. According to Table 5, 19 errors occurred in the bowling and 24 errors occurred in the golf. Out of the 19 errors that occurred in the bowling, 11 were sequence errors, 6 were duration errors, and 2 were topographic errors. Meanwhile, out of the 24 errors that occurred in the golf, 9 were sequence errors, 9 were duration errors, and 6 were topographic errors. The greatest number of errors (50%) occurred in the first step of both skills.

Social Validation
All mothers answered the first question affirmatively, which asked whether leisure skills are important for children with intellectual disabilities. In the second and third questions, which asked if the mothers liked the use of a smartphone and tablet for teaching their children, three mothers responded affirmatively, while one remained undecided, as she had difficulty in limiting her child's smartphone and tablet use.

For the fourth question, which asked if they would prepare teaching materials by means of a tablet or smartphone, two mothers gave affirmative responses, one responded negatively, and one remained undecided. All mothers responded affirmatively to the fifth and sixth questions, which asked if they liked and were going to use VP, and the seventh and eighth questions, which asked if VP provided via smartphone and tablet were effective. In the tenth question, which asked the mothers to give their preference for either tablet or smartphone in the use of VP, two mothers responded that they preferred tablet, while the other two preferred smartphones. Finally, for the eleventh question asking whether tablet or smartphone are more

Table 4.

Efficiency Data

Child	Independent Variables	Dependent Variables	Number of sessions*	Number of errors*	Training time* (h:min:s)	Probe time* (h:min:s)	Total time* (h:min:s)
Bulut	Smartphone	Bowling	7	4	00:19:01	00:03:37	00:22:38
	Tablet	Golf	9	6	00:30:00	00:07:33	00:37:33
Ata	Smartphone	Bowling	9	6	00:46:35	00:15:20	01:01:55
	Tablet	Golf	10	7	00:43:15	00:07:43	00:50:58
Irmak	Smartphone	Golf	7	4	00:22:25	00:07:55	00:30:20
	Tablet	Bowling	5	2	00:14:32	00:04:24	00:18:56
Murat	Smartphone	Golf	10	7	00:46:47	00:11:03	00:57:50
	Tablet	Bowling	10	7	00:43:30	00:09:23	00:52:53

* … required to meet criteria

effective for VP, three mothers preferred tablet and one opted for smartphone. The mothers found the study positive in general terms, with no negative opinions expressed. According to the results, opinions of the participants' mothers regarding the importance of the purposes, the acceptability of the intervention, and the significance of the results were positive.

Discussion

Rapid developments in technology allow the use of different portable technological devices in presenting VP. VP could be presented with technological devices such as tablets, televisions, laptop computers, and smartphone with different screen sizes. Research has shown that the screen sizes and preferred technological devices influence learning (Miltenberger & Charlop, 2015). The purpose of this study was to compare the effect of VP provided on smartphone and tablet in terms of effectiveness and efficiency on teaching leisure skills to children with intellectual disabilities.

Results of the study show that VP was effective at varying levels (from questionable to very effective) on both the smartphone and tablet on teaching leisure skills to children with intellectual disabilities. Moreover, children sustained acquired skills during the maintenance sessions conducted 1, 4, and 9 weeks after training completed. These results support the findings of previous studies in which leisure skills were taught to children with intellectual disabilities using VP (Chan et al., 2013; Edrisinha et al., 2011). Based on the visual analysis and effect size estimates, VP provided with smartphone was effective or very effective for three children and

questionable for the fourth (Murat); VP provided with tablet was effective for a child (Irmak) and questionable for remaining three children. According to these comparative results, it can be concluded that VP on the smartphone (smaller screen) was more effective for three children than the tablet (larger screen) and there was no difference in terms of effectiveness between the VP provided with a smartphone and tablet for the last child. In sum, the findings of the current study indicated that VP provided through smartphone (smaller screen) was more effective.

There are contradictory results in the literature about the effectiveness of screen sizes of technological devices. For instance, Mechling and Youhouse (2012), found that two devices with different screen sizes almost were equally effective but there were small differences for some children individually. On the other hand, the results of two other studies (Mechling & Ayres, 2012; Miltenberger & Charlop, 2015) indicate that the device with larger screen was more effective than smaller screen. Contrary to previous studies, in the current study, it is found that the smaller screen was more effective than the larger screen. These mixed results may be explained by the preferences and characteristics of participants. For instance, while some children prefer the larger screen to differentiate the details, others may prefer smaller screen.

There is no significant difference between the efficiency of VP provided on the smartphone (smaller screen) and tablet (larger screen) in terms of number of sessions and errors; however, VP provided on the tablet (larger screen) was slightly more efficient in terms of total training time. Three of the participants (Ata, Irmak, and Murat) learned the skills provided on tablet

more quickly than provided on smartphone but one of the participants (Bulut) learned more quickly the skill provided on smartphone. In both skills, out of the 43 total errors made by children, 20 were sequence errors, 15 were duration errors, and eight were topographic errors. The greatest number of errors (50%) was seen in the first step of both skills. This could be attributed to the failure to give opportunities to the children in the next steps due to the use of the single opportunity technique in the probe sessions to evaluate the performance of children (Mechling & Ayres, 2012; Mechling & Youhouse, 2012; Miltenberger & Charlop, 2015).

Opinions of the participating children's mothers regarding the importance of the study purposes, the acceptability of the intervention, and the significance of the results were positive. All mothers stated that leisure skills are important for their children and three of mothers satisfied with the use of a smartphone and tablet to teach their children but one mother remained undecided, as she had difficulty limiting her child's smartphone and tablet use. Two mothers stated that they would prepare teaching materials by means of a tablet or smartphone, one responded negatively, and one was undecided. Mother's negative and undecided responses might be resulted from the difficulties they have experienced in using technological devices. As shown in the previous studies teaching staff have more positive opinions about the use of the smaller screen (Mechling & Ayres, 2012; Mechling & Youhouse, 2012). However, in the present study, two of the mothers preferred larger screen and the others preferred smaller screen. Moreover, three mothers stated that larger screen was more effective than the smaller screen. Consequently, these results contribute to the literature by extending the findings of previous studies in which opinions of the teaching staff about the screen sizes of devices was examined.

There are some considerations of this study that should be discussed. The first of these considerations is that although VP provided via smaller screen was more effective than larger screen for three children with intellectual disabilities in this study, in the literature, it has been suggested that it may be difficult for children to notice some details in the video clips played by devices with small screens, (i.e., media players and smartphone), and that children can imitate the skills more easily

when they watch video clips on larger screens (Cannella-Malone et al., 2012). However, the results of the current study show that the smaller size of the screen, and thus the technological device with smaller screen could be more effective than technological device with larger screen. In future studies, the use of technological devices with larger screens, such as televisions and interactive whiteboards, and those with smaller screens, such as media players and smartphone, could be compared. The second consideration is that Irmak acquired both skills faster and in a shorter time compared to the other children. This can be attributed to Irmak's higher intelligence score and performance level compared to those of the other children (Mechling & Youhouse, 2012). The third consideration is that three of the children, learned playing bowling in a short time, varying between 5 to 15 min, regardless of the technological device used for playing the VP. Such differences in the performances of the childrens can be attributed to the fact that playing bowling skills consisted of repetitive steps when compared to playing golf.

The current study contributes to the literature in several ways. The first contribution is that although there are several studies comparing the effectiveness and efficiency of VM in devices with different screen sizes, the literature did not contain any studies comparing the effectiveness and efficiency of VP in devices with different screen sizes.

The second contribution is the lack of prompts, feedback, or reinforcements, in addition to VP provided via a smartphone and tablet. Previous studies have used various arrangements or adaptations in addition to VP (Chan et al., 2013; Payne, Cannella-Malone, Tullis, & Sabielny, 2012). However, this obscures the effectiveness of VP by failing to clearly reveal whether the change in dependent variables results from the VP or the other arrangement or adaptation. Therefore, it can be stated that the lack of any prompts, feedback, or reinforcement, apart from the VP in this study, increases the internal validity, strengthening its findings (Kaya, 2015). The third contribution is about the use of portable technological devices in two different types and sizes to play the VP in the study. It is believed that portable devices increase the satisfaction of both the instructor and participants as they can be carried to several

Table 5.
Error Patterns for Children During Probe Sessions

Child	Bulut		Ata		Irmak		Murat		
Step of task analysis	Number of errors	Type of error	Number of errors	Type of error	Number of errors	Type of error	Number of errors	Type of error	Total
Bowling									
1	2	Sequence	1	Topographic			6	Duration	9
2			1	Sequence					1
3			3	Sequence					3
4					2	Sequence	1	Topographic	3
5			1	Sequence					1
6	1	Sequence							1
7									
8									
9	1	Sequence							1
Total	4		6		2		7		19
Golf									
1	4	Duration	4	Sequence			5	Duration	13
2			1	Sequence	1	Topographic			2
3	1	Sequence							1
4									
5									1
6	1	Sequence							
7			1	Sequence	1	Topographic	2	Topographic	4
8									
9			1	Sequence	2	Topographic			3
Total	6		7		4		7		24

settings easily, are user-friendly, easily accessible, and preferred by the children. Portable devices can be convenient to be used in video-based instruction in community as well (Mechling & Ayres, 2012). This affected the social validity of the study positively, making a further contribution to the literature (Cannella-Malone et al., 2012; Chan et al., 2013; Gardner & Wolfe, 2013). The fourth contribution is related to social validity data collected from the mothers of participants who are the indirect consumers of intervention. In the previous studies comparing the screen sizes of technological devices (Mechling & Ayres, 2012; Mechling & Youhouse, 2012; Miltenberger & Charlop, 2015), social validity data were collected from teaching staff and therapists. Thus, this study differs from previous studies due to social validity and it contributes to the literature by expanding previous findings. The fifth contribution is the decision to teach leisure skills in the study. Given that participation in leisure activities is a fundamental human right and an important indicator of life quality, and that children with intellectual disabilities can only participate in such activities at a limited level, the study contributes to the literature in terms of improving the life quality of children with intellectual disabilities (Westling & Fox, 2004; Yalon-Chamovitz & Weiss, 2008). The last contribution is that the specified leisure skills to be taught were selected from among skills that require active participation, rather than skills that require passive participation, such as listening to music or watching television (Shivers, 2000).

Aside from its strengths, the current study has some limitations. The first limitation is that VP provided in the present study was instructor-directed rather than self-directed, as participating children are very young and the skills taught were not suitable for self-direction. As self-directed VP would increase the children's participation and contribute to the development of independence, the effectiveness of self-directed VP could be examined or self-directed VP and instructor-directed VP could be compared. The second limitation is that social validity data were not collected from the children who were the direct consumers of intervention. In the current study, we did not ask children for their preferences about the type and size of devices before and after intervention. However, in order to strengthen social validity data, it is very important to determine the preferences and

views of direct consumers about intervention. So, in the future studies, the preferences and opinions of the participants could be addressed before and after the intervention.

Conclusion

Children with intellectual disabilities fulfill their needs to participate in leisure time activities on their own however, it is hard for children with intellectual disabilities to meet these needs without systematic instruction. In the current study, leisure skills to children with intellectual disabilities were taught through VP displayed by a smartphone and tablet. According to the results, VP provided via device with smaller screen was more effective than device with larger screen. There was no significant difference between the efficiency of VP provided on the smartphone and tablet in terms of number of sessions and errors. However, VP provided on the tablet was slightly more efficient in terms of total training time. In addition, the most common errors in probe sessions were sequence and duration errors, and the opinions of the participants' mothers regarding the social validity of the study were positive. As a results, smartphones or tablets can be used to deliver VP to teach leisure time skills to children with intellectual disabilities.

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The Relationship of the Type of Preschools with Child Development and Parent Involvement

Mine Gol-Guven[1]

Abstract

Evaluating how early childhood education and care (ECEC) settings have an effect on children's development is important. In this research, the relationship among the types of preschools, parents' views of quality, and children's development were investigated. The data were collected from parents and teachers of twenty-eight ECEC settings. 295 parents filled out "From a parent's point of view: Measuring the quality of child care" and 336 teachers filled out "Early Development Indicators". In findings, types of schools seemed to continue affecting socio-emotional development even though family income was controlled. On the contrary to the other studies, not the family factors but the types of schools and numbers of children in classroom have affected children's development.

Keywords: Early childhood education and care, parents' views of quality, child development.

Introduction

The benefits of early childhood education and care (ECEC) on child development have been an important research subject for a long time (Burchinal, et al., 2014; Pianta, Barnett, Burchinal, & Thornburg, 2009). Considering a country such as Turkey that has an intensive child and young population, ECEC becomes much more important. According to the data provided by Turkish Statistical Institution (TSI), the 28,7% of population in Turkey was below 18 in 2016. Approximately, six and a half million children were between the ages of 0 and 4. Enrollment rate of children between 3 and 5 was 85% in European countries whereas the rate was 37,3% in Turkey in 2014 (OECD, 2016).

Various goals have been identified in order to increase enrollment in ECEC since 1998 with some intervals. For example, Ministry of Education (MOE) and

The World Bank prepared a joint program and targeted to reach a rate of 16% in schooling in 2000; however, the rate was able to reach just 13% in 2004 (Kaytaz, 2004). Afterwards, some cities were identified as pilot cities, and ECEC was aimed to be included in the scope of compulsory education in 2017. Similar attempts have led to some improvements in terms of implementations in the last twenty years.

As one of the attempts from this framework, preschool classes were opened at different state schools for children who were five and six to provide them ECEC. In addition, MOE put the project of independent preschools (i.e., schools that are independent from any other educational institution; having their own principals and their own independent buildings) into action. Apart from this, the number of the private ECEC schools working under the authority of MOE and Ministry of Family and Social Services (MFSS) has been increasing day by day.

[1] Ph.D., Assistant Profesor, Bogazici University, Faculty of Education, Department of Primary Education, Istanbul, TURKEY.
e-mail: mine.golguven@boun.edu.tr

In addition, government provided families who sent their children to private schools with financial supplementary contributions under the name of educational contributions to promote ECEC. However, the increase in quantity does not guarantee quality. For this reason, it is essential that the education and care provided by preschools be evaluated in order to increase the efficiency of the practices.

Studies on curriculum, classroom environment, teacher characteristics and education, teachers' practices, relationship between the teacher and children, and quality started in 1990s (Bekman, 1992; Bekman, 1997; Bredekamp, 1987; Bryant, Clifford, & Peisner,1991; Crahay, 1994; Epstein, 1999; Whitebook, Howes & Phillips, 1989). Number of such studies have been increasing in Turkey as well (Agirdag, Yazici, & Sierens, 2015; Aran, Boudet, & Aktakke, 2016; Aydogan, Farran, & Sagsoz, 2015; Gol-Guven, 2009; 2014).

Gol-Guven (2009) made qualitative study of quality assessment in nine preschools in İstanbul and found out some similarities and differences between the state and private schools. Both state and private schools revealed similarities in terms of the organization of classroom, authoritative attitudes of teacher, excessive amount of paper and pencil-based activities designed by teacher, and high amount of child-adult rate. On the other hand, private schools were found to be better in terms of managing daily routines, parent-teacher relations, and professional development of teachers. Solak (2007) reached similar results. Using Early Childhood Environmental Rating Scale-Revised (ECERS-R) (Harms, Clifford, & Cryer; 1998) she compared state and private schools and found out that private schools had higher schools in all subscales (i.e., physical environment, teacher-child interaction, activities, family participation) except for language use in the class and establishing causality in quality.

Studies on schools providing ECEC from the perspectives of parents are relatively limited. In another study, Gol-Guven (2014) compared the expectations of parents and teachers in terms of curriculum, teacher and learning environment. Among the findings of the study were, common expectations of both parents and teachers related to the development of children considering the curriculum's involving active participation of child, supporting discovery, focusing on individual needs, teachers' being well-educated, respectful to differences, patient and kind-hearted, environment's being clean, healthy, and secure, and the teacher-child rate balanced.

Studies on the effects of various variables such as characteristics of schools, quality indicators and teacher practices on child development have been continuing in international and national scales. In their study focusing on research on school types, accessibility, and quality, Anderson and Mikesell (2017) evaluated the differences between urban and rural areas. They stated that families made their preferences regarding the differences between family care and institutional care, and they also stated that there were some remarkable differences in terms of quality in these preferences. Ozguluk (2006) made quality assessment of preschool education institutions providing full-time and part-time schooling services and found out that children continuing full time schools were better in terms of socio-emotional development compared to part time going students. Canbeldek and Isikoglu Erdogan (2016) reached similar results as well. In this study they found out that full time schooling and small class size in preschool education had positive effects on child development. Micozkadioglu and Berument (2011) assessed the quality of preschools, and followed the children participated in the study in the first grade in primary school. They found out that there was a significant relationship between the quality of preschool and social competencies and academic success of students. Ozgunlu (2017) revealed the relationship between the interaction between the teacher and children and readiness to school.

Limited number of the studies make it difficult to develop standards in ECEC for educators in Turkey to follow (Bekman, 1993). Evaluation of ECEC and studying its contribution to child development; assessment of both structural factors such as school types and class sizes and process factors such as classroom

practices and families' participation to education are considered significant. The number of studies in the field should be increased in order to set standards and identify institutional needs while taking into account a variety of variables.

Aim of the Study

The relationship between the ECEC institutions (i.e., preschools attached to primary schools, preschools under vocational schools, independent preschools and private preschools) and child development was analyzed in this study. While doing this, family factors were also tried to be taken into consideration. In addition, parents were asked to evaluate early childhood education services (e.g., such as teacher's interest and approach to their children, and his/her setting appropriate class environment for better education) from various perspectives as well.

The roles of family-related factors (e.g., such as education, income, age, number of the children in the family, number of the people living in the same house and so on) on development of children were examined in the study. Moreover, participation of the parents in education and their engagement with their children at home should be taken into consideration as effecting factors of development. With the quality assessment from the perspectives of parents, it was aimed to find out whether school types had an effect on child development.

Regarding the views of families on teachers and school, various family variables (such as socio-economic indicators, family's engagement with their child, the activities done with child at home), and school and teacher variables (school types, class size, teacher's attitudes and in-class practices), relationship between these variables and the development of child were studied.

Research Questions

1. What are the activities children do when they are at home? And how do parents participate in these activities?
2. At what level is the participation of parents in the education of their children?

3. What are the opinions of parents on the school and teachers?
4. Is there any relationship between school types and child development areas?
5. Provided that family variables are taken under control, does the relationship between school types and developmental areas continue?

Method

Research Model

Quantitative model was used as research model. Data were collected through questionnaires from the parents and teachers of the participant schools. The questionnaires were given to 362 parents and teachers, and 295 parents and 336 teachers answered them. The family questionnaire included demographic information (e.g., education, age, income and so on) about the parents, parents' engagement with their child at home and activities they do together. As for the questionnaire that was filled in by the teachers, it included questions related to developmental conditions (e.g., physical, cognitive-language ad socio-emotional) for each child. In addition, it had some demographic questions (e.g., education, age, experience) about teachers as well. Information about class size was obtained from the teachers. The scales were translated into Turkish, and then they were back-translated into English.

Data Collection Procedure

Relationship between family characteristics based on the types of MOE, MFSS and ECEC institutions from various districts of Istanbul was investigated. The views of parents about teacher and the school and child development was examined in this study. Sampling of the study was preschools differing from each other in terms of the sources of grants they receive (defined as state or private). The selected schools were evaluated under four categories as preschools attached to primary education, preschools under vocational and girls' vocational schools, independent preschools, and private preschools.

Sampling group was identified in two steps in the study. At the first step of the study, 15 schools were identified and 17 were identified at the second step. Thirty-two preschool institutions were selected through convenient sampling method in the study. Necessary official permissions were taken from MOE. Then, these institutions were contacted while providing information of the content of the study and the procedures. Their participation was requested. Eleven of the 15 schools that were identified at the first step of the study accepted to participate in the study. Four of these schools were private schools under the inspection of MOE; one was independent preschool, and the rest 6 schools were preschool classes working under primary education of MOE.

One of the questions during the data collection procedure was to evaluate whether there were differences in terms of quality between state and private schools. However, although the necessary permissions were taken from MOE, only one of the 6 private schools accepted to participate in the study, and the other five did not want to take place in the study coming up with various reasons. Then, three MFSS preschools that were easily accessible were asked to participate in the study and they approved participating in the study.

As to the second step data collection, since the private preschools working under the inspection of MOE were not volunteer, the researcher headed to preschools working under some girls' vocational schools or vocational schools of MOE. During the second step, the data were collected from 6 independent preschools, 5 MOE preschools working under vocational schools, and 6 preschool classes of primary schools. The data were collected from 28 preschools 4 of which were private preschools; 7 were independent preschools; 5 preschools of vocational schools and 12 preschool classes of primary schools. The school types, the independent variable of the study, appeared as a result of this procedure.

Data Collection Tools

Quality assessment from the perspective of parents

The scale "From a parent's point of view: Measuring the quality of child care" was developed by Emlen, Koren, Schultze and Weber (2000). The questionnaire consists of four parts. First part includes demographic questions about family, parent and the child. They were about the age of the child, gender, number of siblings, number of adults at home, and income of the family. Second part included questions related to the time parents spend with their children. They were asked to provide their answers by choosing the time periods for some of the activities. For example, playing out together, playing on computer, and watching TV in last 7 days were answered by marking never (1), 1 – 5 hours (2), 6 – 10 hours (3), and more than 10 hours. Some activities were answered in terms of the frequency of their being done. Some of these activities were reading/telling stories, doing letter/number exercises and cooking/cleaning. They were asked to mark never (1), 1-2 times (2), and more than 3 (3) for these questions. Third part consisted of four questions related to the participation of parents in school. Questions referring to joining school meetings, doing volunteer activities, and so on were answered by marking one of the choices of never (1), 1-2 times (2), and more than 3 (3). The last part, part four, included questions on the views and evaluations of parents. This part included 45 Likert type questions beginning general evaluation statements (such as "I receive the education and care my child needs") and continuing with a variety of specific questions focusing on sincerity of teacher, health, security, and so on. Parents answered the questions form never (0) to always (4) through the five-point Likert scale. As in the original version of the scale, 7 subscales were formed with the reliability test of the scale. They were (a) Teacher's sincerity and engaging with the child (6 questions, α=.91), (b) Rich environment and activities for the child (5 questions, α=.82), (c) Teacher's expertise and skills (3 questions, α=.72), (d) Teacher-parent relationship (6 questions, α=.84), (e) Feelings of the child (6 questions, α=.77), (f) Health and security (10 questions, α=.83), (g) Special needs of the child (9 questions, α=.93).

Child development scale

Early Development Instrument (EDI) (Offord & Janus, 2004) was developed to

evaluate three developmental dimensions. The scale included questions on physical development, cognitive and language development, and socio-emotional development of children. This scale was filled by the teachers. There were 13 questions about physical development in the scale. The number of the questions related to language and cognitive development was 40, and there were 58 questions on socio-emotional development. Teachers were asked to mark "yes", "no" or "I don't know" for some of these questions; "very good/good", "average", "weak/very weak" for some others, and "very often/true", "sometimes/ occasionally true", "never/not true" for the rest of the questions.

The answers given to the questions in developmental scale were scored in order to find out some possible risk factors. That is, the "no" reply to positive questions such as "Can the child hold a pencil?" were scored as 1 while the "yes" reply for the same question was scored as 0. In addition, "listening and understanding competency of Turkish" was scored as 2 for "very weak/weak", 1 for "average", and 0 for "very good/good". Children getting high scores from developmental subscales are in high-risk group for these areas.

As the item of holding pencil, brush and pastel pencil increased reliability from .77 to .95, it was removed from the physical development subscale which consisted of questions related to physical development (such as competency of using objects, competency of climbing upstairs, whole-day energy at school, competencies of holding pencil, brush and pastel pencils) of child. Reliability of cognitive and language development subscale was α=.85; and it was α=.87 for socio-emotional development subscale.

Participants

Parents of the classes which participated in the study were given questionnaires by the teachers. 295 (81,5%) of the given 362 questionnaires were answered and given back, and 67 (18,5%) parents did not give the questionnaires back. The questionnaire was filled by 231 (63,8%) mothers and 32 (8,8%) fathers. Thirty-two participants did not identify themselves as mothers or fathers. The information gathered from the parents revealed that 130 of the children were female; 149 were male; and 16 of them did not state genders of their children (Table 1).

As for the age of the children, the biggest group was identified to be at 6 with 199 children. 55 children were 5 years old; 30 children were 4 and below, and 13 children were 7 and above. When it comes to the number of the children at home, 131 children were stated by parents to be the only child in the family; 127 children had one sibling; 27 had two siblings; and 9 had three siblings. Parents were also asked to state the number of adults at home, and 12 of them replied that there was only one adult at home; 223 said that there were two adults; 36 stated as three; and 21 of them stated that there were 4 and more adults in the family.

As to the education level of the parents, 76 of them were primary education graduates; 115 were high school graduates; 88 had university degrees and 11 had postgraduate degrees. Considering the age, 56 of the parents were below 29; 179 were between 30 – 39; 44 were between 40 – 49; and 4 were above 50 years of age. As for the income level of the families, 158 participants stated that they had an income of 3000TL and below; 64 had an income state between 3001 and 6000TL; 44 had between 6001 and 9000; and 23 parents stated that they had an income above 9001TL.

Demographic information about the teachers were gathered from 24 teachers. Twenty-one of them were female, and the other teachers did not state their genders. Eight of them were between 20-29 ages; 7 between 30-39; and 7 teachers were above 40. Two teachers were girls' vocational school graduate; 3 teachers were graduates of Anadolu University Open Education Faculty; 2 teachers were graduates of education faculty; 11 teachers were graduates of preschool teaching programs, and 2 were postgraduates. Their teaching experiences varied from 10 months to 29 years. Class sizes were stated to be between 9 and 25.

Table 1.

Characteristics of Participants

Participants			n	%
Child	Gender	Female	130	36
		Male	149	41
	Age	4 and below	20	5.5
		5 age	55	15.2
		6 age	199	55
		7 and above	13	3.5
	Number of siblings	Only child	131	36
		One sibling	127	35
		Two siblings	27	7.5
		Three siblings	9	2.2
	Number of adults	One adult	12	3.3
		Two	223	62
		Three	36	10
		Four-up	21	6
Parent	Education	Primary	76	21
		High school	115	32
		University	88	24
		Postgrad.	11	3
	Age	29 & below	56	15.5
		30-39	179	50
		40-49	44	12
		50 & above	4	1
	Income	Below 3000	158	43.5
		3001-6000	64	17.7
		6001-9000	44	12.2
		Above 9001	23	6.5

Findings

Parents' engagement with children at home

Within the scope of parents' engagement with their children at home, they were asked to give information about the frequency and duration of the activities they do with their children at home. The percentages of children's playing outside, using computer, watching TV and playing video games in last seven days can be seen in Table 2. The highest percentage was for watching TV alone. 47,2% of parents stated that their children watched TV between 1 and 5 hours alone. While children's watching TV alone, with friends or with an adult were the activities chosen more frequently, playing outside was the activity indicated never happened (28,7%).

Table 2.
Percentages of the types of activities of children and their durations

Percentages	Never	1-5	6-10	10
Playing outside	28,7	35,6	7,7	5,2
Using computer	28,2	40,6	6,6	3
Watching TV alone	6,9	47,2	18	7,5
Watching TV with an adult	10,5	55	10,5	1,9
Watching TV with a friend	38,4	35,4	2,8	1,4
Playing video games	53,3	19,6	2,5	1,7

Among the activities parents did with their children in last 7 days, playing with their children had the highest percent (48,3%). It was followed by going to bank/market (47,4%) and teaching them letter/numbers (42,8%) (Table 3).

Doing arts and crafts had the highest percent of "never" with 23,2%. The activity that was indicated as the one being done once or twice or various times was cleaning/cooking (71,3%).

Table 3.
Percentage of the activities and their frequencies parents do with their children

Percentages	Never	Yes once or twice	Yes many times
Reading/telling stories	9,7	34	34,5
Teaching letters/words/numbers	8,3	26,8	42,8
Music/Singing	16	29,3	32,6
Doing crafts/art	23,2	30,4	23,2
Playing games/sport/walking	2,2	27,6	48,3
Going to bank/market	7,2	23,2	47,4
Cleaning/cooking	7,7	31,2	40,1

Family's participation to education

Percentages of the answers to four questions related to the participation of families to education are given in Table 4. Fifteen percent replied "no" to the question, "Have you ever participated in any school meeting in this academic year? (for example, school guidance meetings, expert speech seminars, etc)", and 40% stated that they participated in once or twice, and 21% stated to participate more than three times.

The question, "Did you participate in parent-teacher conferences?" was replied as "no" with 31%; "once or twice" with 28%, and "more than three" with 13%. The question, "Did you join any school or class event? (such as children's festival, national holiday or kermis)" was replied as "no" by 24%; "once or twice" by 29%; and "more than three" by 23%. "Did you volunteer at school?" was the last question, and it was answered as "no" by 54%; "once or twice" 10%; and "more than three" by 9%.

Table 4.
Family's participation to education

Percentages	No/Never	Once or twice	More than 3
Participation in school meetings	15	40	21
Participation in parent-teacher conference	31	28	13
Participation in School/class events	24	29	23
Volunteering at school	54	10	9

Considering the differences among the mean scores of variables of school types and family's participation in education, engaging with child by doing activities, families of the children who went to preschools of vocational schools revealed group differences from ANOVA analyses in terms of their own participation to school activities compared to the parents of children who went to private and independent schools and preschool classes of primary schools (F=6,843, p=.0001). Parents of children who went to preschools of vocational schools were observed to score parent participation to school activities at lower levels (primary school X=.72, girls' vocational X=.47, independent X=.82, private X=.96).

Parents' views of the school and the teacher
Three questions that were asked for overall evaluation were answered as follows: The item, "I receive the care and education my child needs" was answered as "yes" by 234 parents; "I am not sure" by 39 parents, and "no" by 15 parents. The item, "If I were to choose a school, I would choose the same school," was answered as "yes" by 236 parent; "I am not sure" by 47 parents, and "no" by 5 parents. Finally, parents were asked to grade school among six choices starting form terrible (1) to perfect (6). 39 parents marked "perfect", 134 of them marked "very good", 97 "good", 23 "moderate", and 1 "weak". None of the parents marked the choice "bad".

Comparing this evaluation of parents and school types, ANOVA results were statistically significant at F(3,293)=4,32, p=.005. The average of private schools was 5.10; the average of preschools under vocational schools was 4.94; with average of independent preschools was 4.84; and the average of preschool classes in primary schools was calculated as 4.50. As for the average differences among groups, only vocational preschools and primary preschools had significant difference with .44 (p=.04).

Correlations among seven subscales was calculated regarding the evaluation made by parents about the teacher and classroom environment. The variable of teacher's sincerity and engaging with child had positive relationship with variables of providing rich environment and activities for child (r=.441, p=.0001), teacher's expertise and skills (r=.466, p=.0001), teacher-parent relations (r=.434, p=.0001), and feelings of child (r=.192, p=.0001) There was also positive relationship with variable of offering a rich environment and activities for the child and teacher's expertise and skills (r=.635, p=.0001), teacher-parent relations (r=.569, p=.0001), and feelings of child (r=.191, p=.0001). As for the relationship between teacher's expertise and skills, it revealed positive relationship with teacher-parent relations (r=.566, p=.0001), and feelings of child (r=.206, p=.0001) variables. The variable of teacher-parent relations had positive correlation with feelings of child variable (r=.119, p=.039) as well. Finally, the variable of feelings of child had positive correlation only with health and security variable (r=.299, p=.0001). The variable of child's specific needs that was reported by parents did not correlate with any of the abovementioned variables.

Regarding school types, the ANOVA test on teacher's sincerity and engaging with child, providing rich environment and activities for child, teacher's expertise and skills, teacher-parent relations, feelings of child, health and security, and child's specific needs, only the specific needs variable that was reported by parents had significant values with F(3,293)=11,660, p=.0001. Some of the comments made on this variable were "my child needs more care than the other children," "teacher finds my child's specific needs tiring," and "it can be difficult to cope with my child." The difference between the average scores of the parents of children who continued preschools of vocational schools and the parents of children who went to the preschool classes of primary schools was 3; was 2,5 with the parents of children who went to private schools; and was 1,5 compared to the parents of children going to independent preschools. Children going to independent preschools revealed an average of one point difference.

Among the abovementioned variables that referred to the evaluations of teachers by parents, three of them were found to have correlative relationships with two of the child development areas as a result of correlation analysis. The higher

the score of child's special needs sub-scale, the higher the risk score of child's socio-emotional development was (r=.159, p=.008). There was a negative correlation between teacher's sincerity and engaging with child and socio-emotional development risk score (r=-.128, p=.034). Finally, the relationship between teacher's expertise and skills score and child's physical development risk score had negative correlation although the score was not significantly meaningful (r=-.110, p=.068).

Child development in accordance with school types
Correlation analyses revealed that developmental areas had positive correlations among each other. Physical development and cognitive and language development had r=.198 (p=.0001); physical development and socioemotional development had r=.324 (p=.0001); cognitive and language development and socioemotional development had r=.367 (p=.0001) scores of positive correlation.

Correlation analysis showed that there was not any relationship between parent's contributions to child's education, parent's engagement with child and doing activities with child variables and various developmental areas of child.

No relationship was found between developmental areas of child and demographic variables of family (i.e., education, income level, age, number of adults at home). The only positive correlation was found between child's physical development risk score and the number of children at home (r=.192, p=.001). On the other hand, there was negative correlation between socio-emotional development risk score and class size (r=-.135, p=.033). This meant that the more children in class were present, the lower the socio-emotional development risk for children was. Furthermore, there was a significant relationship between socio-emotional development risk score and school type (r=.150, p=.006).

The ANOVA test conducted on school types revealed developmental differences in socio-emotional development and cognitive and language development except for physical development (Table 5). Physical development had scores of F(3,329)=1,010, p=.388; Cognitive and language development had F(3,329)=11,328, p=.0001; socioemotional development had F(3,329)=9,436, p=.0001 and class size had F(3,244)=4,383, p=.005 scores.

Table 5.
Physical, socio-emotional, cognitive and language development and class sizes considering school types

Developmental Areas	Types of pre-schools	Number	X	Standard deviation
Physical	Primary school	135	1,78	1,31
	Vocational	59	2,08	1,00
	Independent	103	1,76	1,18
	Private	36	1,86	1,45
	Total	333	1,83	1,22
Cognitive Language	Primary school	135	9,56	4,36
	Vocational	59	14,47	6,99
	Independent	103	10,05	6,62
	Private	36	12,86	7,19
	Total	333	10,94	6,22
Socio-emotional	Primary school	135	70,06	14,02
	Vocational	59	82,76	19,38
	Independent	103	73,26	18,37
	Private	36	81,33	21,70
	Total	333	74,52	18
Class size	Primary school	94	18,74	3,64
	Vocational	32	18,59	5
	Independent	92	17,84	6,11
	Private	30	15,03	4,85
	Total	248	17,94	5,10

Significance degrees of group average scores were analyzed through Bonferroni test. Cognitive and language development scores of children going to preschools of vocational schools had an average difference of five compared to the ones going to preschool classes of primary schools; and 4,5 compared to the ones going to independent preschools (p=.0001). As for the children going to private preschools, they had an average difference of 3,5 (p=.02) compared to their counterparts going to preschool classes of primary schools. High scores showed an increase in risk.

The same tendency was observed in the scores of socio-emotional development as well. Socioemotional development scores of children going to preschools of vocational schools had a difference of 12,7 (p=.0001) compared to the ones going to the preschool classes of primary schools. As for the ones going to independent preschools, there was a difference of 9,5 in their average scores (p=.005). The children going to private preschools had a difference of 11,5 (p=.004) in their average scores.

Comparing class sizes in terms of school types, it was seen that private preschools had smaller class sizes. The difference between the average scores in terms of class sizes was 3,70 for preschool classes of primary schools; 3,57 for the preschools of vocational schools, and 2,81 for independent preschools.

The relationship between the income of the family and school types, and whether this situation was the main factor affecting children's socio-emotional development was analyzed through ANOVA. As it can be seen in Figure 1, whether the differences between school type and socio-emotional development continued or not were analyzed controlling the income level of family [F(3,175)=3,145, p=.027]. The difference continued for preschool classes of primary schools and vocational schools. Socio-emotional development risks of children going to preschool classes of primary schools and vocational schools continued even if the income level of families was controlled.
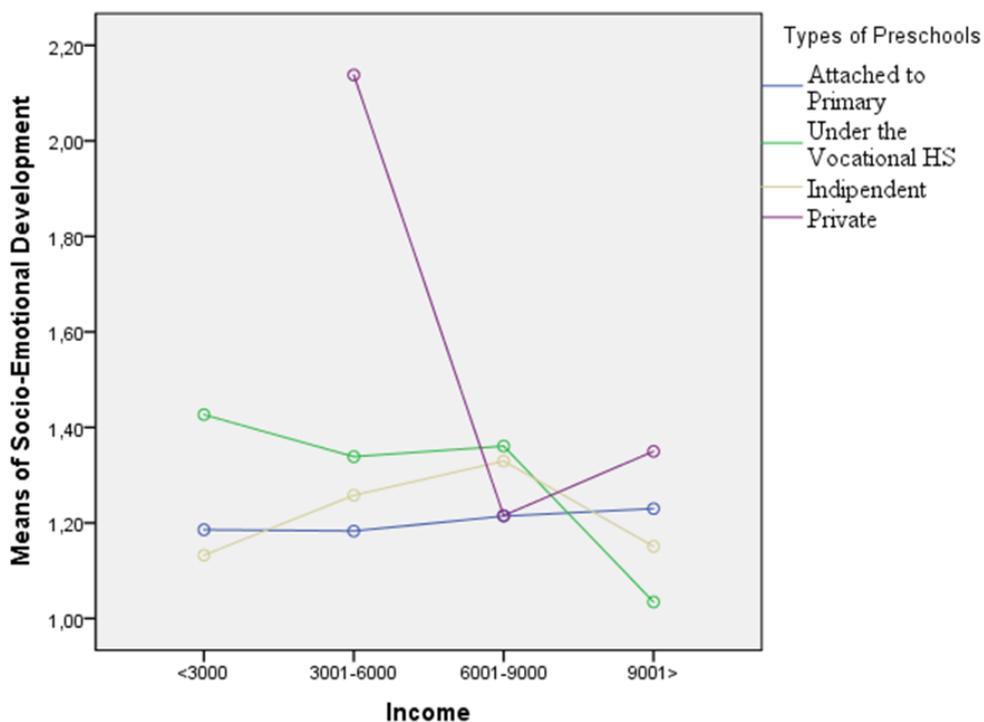

Figure 1.
Relationship between school type and socioemotional development regarding the income state of the family

Discussion and Suggestions

Main aim of the study was to examine the relationship between views of parents about schools and teachers and children's developmental areas in terms of types of ECEC institutions in Istanbul. The most remarkable one among the findings of the study was especially the preschools working under vocational schools revealed differences in many of the variables. Family participation and views of parents about the teacher and school had lower scores for these schools. Compared to the scores of other schools, these schools had higher risk scores for child development areas. The effect of school type on child development revealed significant difference even though the income state of families was controlled for these schools.

The reverse correlation between class size and socioemotional development risk scores of teachers (i.e., the higher the class size was the lower the risk scores, or vice versa) demonstrated an interesting situation. A similar situation was found in Ozgunlu's (2017) study. There was a positive relationship between crowded classes and quality in that study. One of the reasons for this for Ozgunlu was families' intensively enrolling their children to the preschools that are considered qualified, and that caused increase in class sizes. Two explanations can be made to this finding in this study: first, behavioral problems can be more remarkable for the teachers who had smaller class sizes. Second, although the problematic behaviors increase in crowded classes the teachers might internalize them as normal.

Thirdly, although no significant relationship was found between child development areas and family related factors, it was an astonishing finding that these developmental areas had meaningful correlations with class sizes and school types. The only positive relationship was between the number of children at home and physical development risk score. The reason for this might be the fact that families with more children do not allocate enough time for childcare. There are some studies in literature that showed that family related factors (such as education level or income state of family) were among the basic indicators affecting child development (NICHD, 2001). However, as the studies evaluating family and school variables together in the field in Turkey are limited, it would be difficult to imply the same conclusions. Further studies aiming at finding out why this was a special situation for schools, children and families would be utmost important.

Studies conducted so far showed that positive characteristics and quality of the school had positive contributions to cognitive, social and language developments of children who continued to those schools, and it was also seen that those children were more ready to primary school (Sylva et al., 2006). As for Turkey, although there are some district level local studies on constituting quality standards and evaluating quality, unfortunately, there are not any countrywide study (Gol-Guven, 2009; Ozguluk, 2006; Solak, 2007). Increasing the number of these studies is important. Moreover the two different ministries, MOE and MFSS, should increase cooperation and manage the operability of similar standards to increase quality (Goren Niron, 2013). As in other countries, this and other similar studies are expected to provide positive contributions to increase service quality of institutions providing early child education in Turkey.

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