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Research Article

Mother-Child and Teacher-Child Relationships and Their Associations with School Adjustment in Pre-school

İmray Nur¹
Osmaniye Korkut Ata University

Yaşare Aktaş-Arnas²
Çukurova University

Burcu Sultan Abbak³
Çukurova University

Mustafa Kale⁴
Çağ University

Abstract

This research aims to investigate the contributions of Turkish pre-school children's levels of positive/conflicting relationships with their mothers and close/conflicting relationships with their teachers in predicting their adjustment to school. The sample of the study consists of 190 six-year-old children attending public pre-schools in Adana (a city in southern Turkey), as well as their mothers and teachers. For the data analysis, hierarchical regression analysis has been conducted. The results of the study show the positive relationship established with the mother and teacher to be related to an increase in children's school-adjustment behaviors. A positive relationship has been noted for positive mother-child relationships with children's cooperative participation, self-directedness, and total school adjustment. The results indicate a positive link for closeness in the teacher-child relationship with school liking, cooperative participation, self-directedness, and total school adjustment. Additionally, a positive relationship has been observed for the conflictive teacher-child relationship with school avoidance. An inverse relationship has also been observed for the conflictive teacher-child relationship with cooperative participation, self-directedness, and school adjustment. As conflicts with a teacher increase, the child's school adjustment decreases.

Keywords

Mother-child relationship • Teacher-child relationship • School adjustment • Early childhood

1 **Correspondence to:** İmray Nur (PhD), Department of Child Development, Osmaniye Korkut Ata University, Osmaniye Turkey. Email: imraynur@osmaniye.edu.tr

2 Department of Pre-School Education, Çukurova University, Adana Turkey. Email: yasare@cu.edu.tr

3 Department of Child Development, Çukurova University, Adana Turkey. Email: bsabbak@cu.edu.tr

4 Department of Child Development, Çağ University, Mersin Turkey. Email: mustafakale@cag.edu.tr

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The fact that children who have just started school face various difficulties has been widely accepted. Children have to struggle with many tasks under new contexts, establish good contacts with their peers and adults in this process, and participate in many activities that require cognitive and academic skills (Erkan, 2011; Gregoriadis & Tsigilis, 2008; Haines, Fowler, Schwartz, Kottwitz, & Rosenhoetter, 1989). When children encounter these difficulties, they can experience behavioral and affective problems that block their development, which complicates their adjustment to school.

The studies concentrating on school adjustment mostly concern children and families' characteristics (gender, age, personality, ethnicity, socioeconomic background, parents' attitudes, relationships with parents (Goodman, Brumley, Schwartz, & Purcell, 1993; Kaya & Akgün, 2016; Morris et al., 2002; Patrick, Murphy, & Yoon, 1995; Pettit, Bates, & Dodge, 1997; Wang, Chen, Sorrentino, & Szeto, 2008), relationships with friends (Ladd & Coleman, 1997), academic skills (Patrick et al., 1995; Rimm-Kaufman & Pianta, 2000), social skills (Howse, Lange, Farran, & Boyles, 2003), behavioral problems (Fantuzzo, Bulotsky-Shearer, Fusco, & McWayne, 2005; Ladd & Burges, 2001; Yoleri, 2015), and relationships with teachers (Birch & Ladd, 1997). The results of these studies show that children need adults' support when struggling with these problems. As mentioned in the related literature, these adults are the parents and teachers who occupy an important place in children's lives. The research findings have indicated children's relationships with their parents and teachers to be significant factors within social and behavioral aspects for determining children's school adjustment (Birch & Ladd, 1997; Chen, Liu, & Li, 2000; Ewing & Taylor, 2009; Howes, 2000; Howes, Hamilton, & Matheson, 1994; Pianta & Stulhman, 2004; Rubin, Hastings, Chen, Stewart, & McNichol, 1998) because parents and teachers have important roles in meeting children's social, affective, and academic needs as supporters who provide children with protection, trust, courage, and open communication alternatives (Denham & Burton, 1996; Pianta & Walsh, 1996; Sanchez-Fowler, Banks, Anhalt, Hinrichs Der, & Kalis, 2008; Zhang, 2011). Plenty of research in the related literature is found focusing on the effects of the parent-child (Aunola & Nurmi, 2004; Buyse, Verschueren, & Doumen, 2011; Denham et al., 2000; Morris et al., 2002; Silk, Sessa, Morris, Steinberg, & Avenevoli, 2004; Wentzel, Feldman, & Weinberger, 1991) and teacher-child relationships on children's adjustment to school in terms of various aspects (Buyse, Verschueren, Doumen, Van Damme, & Maes, 2008; Hamre & Pianta, 2001; Hughes, Cavell, & Jackson, 1999; O'Connor & McCartney, 2007). The findings have implied the quality of the adult-child relationship to be quite significant in the process of children's adjustment to school. Nearly all these studies, however, have concentrated on the European adult-child relationship. Research related to Eastern cultures is lacking (Chen, Chang, He, & Liu, 2005; Prakash & Coplan, 2007). The culture in which a child is brought up cannot be excluded from the adult-child relationship. Because culture is an important

contributor to the adult-child relationship, it must be analyzed through each culture in terms of adult-child relationships.

Some studies conducted in Turkey related to pre-school children's school adjustment have been from different point of views that concentrate on various variables likely to influence this process such as gender (Yoleri, 2015), relationships with and acceptance from peers (Gülay & Erten, 2011; Yoleri, 2015), social skills (Gülay, 2011), behavioral problems (Yoleri, 2015), and mothers' attitudes (Gülay-Ogelman, Önder, Seçer, & Erten, 2013). However, no studies are found focusing on the mother-child relationship and teacher-child relationship together. In consideration of all these, analyzing the quality of the adult-child relationship on the young child's school adjustment process becomes important for children's current and future academic achievements, as well as their social and affective adjustment. Therefore, the field is in need of more studies on relationships that can increase children's adjustment to school. Additionally, children in every society come across certain developmental difficulties in the school adjustment process. Knowing how these difficulties change from one society to another in relation to adult support will provide an important contribution to this field.

Mother-Child Relationship and School Adjustment

Healthy relationships established with the mother during the pre-school period and the mother's positive affective support and sensitivity provide experience for the child to develop adjustment skills in the process of socialization. Developmental and ecological theorists and attachment theory supporters claim the mother-child relationship provides a base for children to discover their environment and develop their relationships with others (Bronfenbrenner & Morris, 1998; Demo & Cox, 2000). According to attachment theory, parent-child attachment, particularly mother-child attachment, has an important role in developing children's inner working models (Bowlby, 2012). These models that represent cognitive expressions regarding caregivers' responsiveness and sensitivity as well as children's sense of self-worth reflect onto children's relationships with others (Buyse et al., 2011; Doyle, Markiewicz, Brendgen, Lieberman, & Voss, 2000). Close behaviors and the feeling of emotional security provided by mothers closely relate to children's independent behaviors, social responsibility, and relationships with their peers (Schermerhorn, Cummings, DeCarlo, & Davies, 2007), as well as to their academic achievement (Chen et al., 2000). On the contrary, negative or conflictive relationships with the mother negatively influence children's development and provide a risk of behavioral problems that may likely appear during the school years.

Findings show links between the quality of the mother-child relationship and a child's ability to overcome social and academic difficulties, such as the child's concentration in class, conceptual development, communication skills, regulation

of feelings, and reasoning (Campbell, 1994; Pianta, Nimetz, & Bennett, 1997). For example, one longitudinal study found a relationship between mothers' sensitivity and children's social-affective adaptation. Mother sensitivity observed in 54-month-old children's mothers has been found related to an increase in social skills, a decrease in behavioral problems, and less conflictive relationships with adults (National Institute of Child Health and Human Development [NICHD], 2003). The support a mother gives to her child in the child's relationships with peers and adults affects the child's socialization for starting and maintaining relationships and for problem solving. Studies in recent years have pointed out that the quality of the mother-child relationship determines the quality of the child's relationships with peers and teachers (Howes et al., 1994; Pianta, Smith, & Reeve, 1991).

The Teacher-Child Relationship and Adjustment to School

The relationship between teachers and children who have just started school is fundamental in children's adjustment into the social and academic environment (Birch & Ladd, 1997; Pianta et al., 1997). Research findings have shown teachers' connection with children during the pre-school period to be a determinant in children's school adjustment, particularly in social and behavioral fields (Howes, 2000; Howes et al., 1994; Pianta & Stuhlman, 2004). Children's relationships with their teachers contribute to their relationships with their peers, social capabilities, and academic skills, or in short, to their school adjustment skills (Baker, Grant, & Morlock, 2008; Birch & Ladd, 1997; Doumen, Koomen, Buyse, Wouters, & Verschueren, 2012; O'Connor & McCartney, 2007; Pianta & Stuhlman, 2004).

A child's close and balanced relationship established with a teacher helps the child overcome problems encountered during development (Baker, 2006) and provides social support and affective security (Howes & Smith, 1995). Additionally, according to Ladd, Birch, and Buhs (1999), a child who has a conflictive relationship with the teacher exhibits low class participation and low academic achievement. Similarly, Cadima, Doumen, Verschueren, and Buyse (2015) mentioned high levels of class participation to be associated with a close relationship with the teacher, while conflictive relationships relate to adaptation problems. Longitudinal studies on this topic support early relational problems predicting later school problems. For example, Hamre and Pianta (2001) pointed out conflicts in teacher-child relationships as perceived by pre-school teachers to be predictors of children's achievement scores, discipline problems, and school drop-outs up to the eighth grade. Similarly, Meehan, Hughes, and Cavel (2003) stated a positive teacher-child relationship relates to a decrease in the child's aggressive behaviors. In another study, Baker et al. (2008) added that closeness, trust, and low levels of conflict in the teacher-child relationship are associated with the child's school adjustment and achievement. Conflictive

relationships relate to a decrease in pro-social behaviors and an increase in aggressive behaviors towards peers (Birch & Ladd, 1998; Kontos & Wilcox-Herzog, 1997).

The Present Study

Conducted studies have shown the relationship built with the mother and teacher to be quite effective on the child's school adjustment. Several studies have included both mother-child and teacher-child relationships in predicting school adjustment (O'Connor & McCartney, 2007; Pianta & Stuhlman, 2004; Pianta et al., 1997). However, limited knowledge exists about many aspects of children's relationships with teachers and parents, as well as how these relationships may impact children's school achievement and attainment. Examining child temperament and early adult-child relationships is of vital importance to children's socio-emotional development, school success, and the prevention of future behavioral problems. In addition to this, a great majority of these studies have focused on the relationships with mother and teacher in Western societies. However, children from different cultures can go through different interactions and build different relationships. Therefore, cultural context affects children's social and behavioral developments, as well as their relationships with the mother and teachers. In this sense, Turkey has an important place as it is located at the juncture of Western and Eastern cultures and bears traces of both cultures. In this context, the research aims to investigate the contributions of Turkish pre-school children's levels of positive/conflicting relationships with their mothers and close/conflicting relationships with their teachers in predicting their school adjustment skills.

Method

Participants

The study sample consists of children attending public schools connected with the Ministry of National Education in Adana, a city in southern Turkey, their mothers, and their teachers. First, the schools located in the city center have been visited and the school directors and teachers informed about the study's aim; 23 teachers from seven schools agreed to participate in the research.

Some help was received from the teachers to motivate the parents to fill in the Child-Parent Relationship Scale (CPRS) and information forms. First, acknowledgement messages were sent to the parents of 436 children; they were provided some information about the research and asked if they would participate in it. Of these, 203 parents responded positively to this request and volunteered for the research. The Child-Parent Relationship Scale (CPRS) and the information form were sent to these parents and collected through the teachers. After obtaining the forms from the parents, the teachers completed the Student-Teacher Relationship Scale (STRS) for

the children who participated in the research. Data that was insufficient or extreme have been excluded, leaving the data obtained from the parents and teachers of 190 children for inclusion in the research.

The children range in age from 63 to 75 months ($M = 67.1$); 51.1% of the children are female and 48.9 % of them are male. Regarding educational level, 30% of the mothers have a primary-school, 15.3% a middle-school, 38.4% a high-school education level; 6.3% have associate degrees and 10% are university graduates. As for the fathers, 17.5% are primary-school, 22.6% are middle-school, and 37.4% are high-school graduates; 4.7% have associate degrees, 16.3% have bachelor degrees, and 1.1% has a master's diploma. In terms of the number of children in the family, 19.5% have one child, 57.9% have two, and 22.6% have more than two.

All teachers are graduates of a pre-school education department; 95.6% are female. Of all the participant teachers' teaching experience, 21.7% have 1-5 years, 39.2% have 6-10 years, 17.4% have 11-15 years, and 21.7% have 16-20 years. In the classes, 13% have 10-15 children, 34.8% have 16-20 children, and 52.2% have 21-25 children.

Data Collection Tools

Child-Parent Relationship Scale (CPRS). The CPRS was developed by [Pianta \(1992\)](#) for understanding parent-child relationships. It is composed of 30 items and uses a 5-point Likert scale. The items in the CPRS are answered from (1) completely inconvenient to (5) certainly very convenient. It has both positive and negative expressions, with negative expressions being reverse scored. The CPRS was adapted into Turkish by [Akgün and Yeşilyaprak \(2010\)](#). The original norms of the CPRS were obtained from children between 4.5-5.5 years old; the Turkish adaptation of the scale was formed for children between 5 and 6 years old. During the adaptation study, six items were excluded from the scale, leaving the Turkish version of the scale with 24 items. The Turkish version has two factors: conflictive relationships and positive relationships. The factor of conflictive relationships has 14 items and the factor of positive relationships has 10 items. As for the reliability of the scale, the internal consistency coefficient (Cronbach alpha) related to the sub-dimensions of the scale have been found as .85 for conflictive relationships, .73 for positive relationships, and .73 for the overall scale ([Akgün & Yeşilyaprak, 2010](#)). In the present study, the Cronbach alpha values for the sub-dimensions have been analyzed to determine the internal consistency of the CPRS. As a result of the analysis, the alpha values have been found as .71 for conflicting relationships and .74 for positive relationships.

Student-Teacher Relationship Scale (STRS). The STRS was developed by [Pianta \(2001\)](#) to determine a teacher's relationship with a particular student from the teacher's perceptions. The STRS, addressing 4- through 9-year-old children's relationships with

their teachers, uses a 5-point Likert scale with 28 items. Every item in the scale has a value ranging from 1 (completely fits) to 5 (completely does not fit). This teacher-completed scale has been extensively used and is regarded as a reliable and valid measurement tool (Şahin, 2014). The STRS is made up of three dimensions: conflict, closeness, and attachment. In accordance with the purpose of the research, only the closeness and conflict sub-dimensions have been used. The conflict sub-dimension is designed to determine negativity as perceived in the relationship. High scores received in this subscale indicate that the teacher manipulates the student, is perceived as nervous and intolerable, and perceives himself/herself as ineffective in this relationship (i.e., “This child and I always seem to be struggling with each other”). Meanwhile, the closeness subscale refers to closeness and warmth in the relationship and open communication. High scores received in this subscale indicate that the teacher believes themselves to be efficient and that students see the teacher as reliable and supportive (i.e., “I share an affectionate, warm relationship with this child”) (Pianta, 2001).

The STRS was adapted into Turkish by Şahin (2014). The factor structure of the scale appearing as a result of the factor analysis to investigate the structural validity of the scale is in line with the original factor structure. The Cronbach alpha internal consistency coefficients are .84 for the conflict subscale and .80 for the closeness subscale. Results from the validity and reliability studies show that the scale, which has been extensively used abroad, is a valid and reliable tool in Turkish culture (Şahin, 2014). In the present study, the Cronbach alpha values of the subscales were analyzed to determine the internal validity of the STRS. As a result of this analysis, the Alpha values have been found as .76 for the conflict subscale and .79 for the closeness subscale.

Teacher Rating Scale of School Adjustment (TRSSA). The TRSSA was developed by Ladd, Kochenfender, and Coleman (1996) to measure children’s school adjustment skills. The scale is made up of four sub-dimensions (school liking, cooperative participation, school avoidance, and self-directedness). The school-liking subscale has five items based on a teacher’s perception of how much the student likes school ($\alpha = .89$). The cooperative participation subscale has eight items measuring the degree of a child’s acceptance of the teacher’s authority, class rules, and responsibilities ($\alpha = .92$). The school avoidance subscale has five items and investigates the extent to which a child avoids class atmosphere according to the teacher’s perceptions ($\alpha = .74$). Lastly, the self-directedness subscale has nine items and evaluates a child’s independent and self-regulating in-class behaviors. Every item on the scale is responded to as “Inappropriate,” “Appropriate,” or “Completely Appropriate” (Birch & Ladd, 1997). The scale was adapted to Turkish by Önder and Gülay (2010), and its internal consistency coefficient for the scale as a whole is .70. The internal consistency coefficients for the subscales range from .67 to .84 (Önder & Gülay, 2010). In the present study, the Cronbach alpha values have been analyzed to determine the internal

consistency of the subscales. As a result of this analysis, the alpha value for the whole scale has been found as .84 and for the subscales as .68 for school liking, .84 for cooperative participation, .67 for school avoidance, and .69 for self-directedness.

Data Analysis

The binary relationships between the sub-dimensions of pre-school children's relationships with their mothers and teachers and the sub-dimensions of the children's school adjustment skills were analyzed using the Pearson correlation coefficient. Hierarchical regression analysis has been conducted to reveal the predictive effect of the mother-child and teacher-child relationships on school adjustment levels. Positive and conflictive relationships in mother-child relationships have been added to the first model of the hierarchical regression, and closeness and conflict in teacher-child relationships have been added to the second model of the hierarchical regression, which was prepared for each and every one of the sub dimensions of school adaptation. In each analysis, the effect size of the independent variables (partial correlations, r) and the effect size of the model (f^2) as a whole have been calculated. Prior to analysis, the assumptions for hierarchical regression analysis were tested. Mahalanobis distance, one of the methods used for specifying extreme values with multiple variables, was primarily examined, and values were observed to range from .08 to 9.89. When considering extreme values to be accepted as below 0.01, the research data does not include any extreme values (Büyükoztürk, Çokluk, & Köklü, 2010). The appropriateness of this research data for normal distribution was controlled in regards to the coefficients of skewness and kurtosis; these coefficients were determined to be between +2 and -2. According to the obtained data, the normality of distribution is acceptable. Another assumption of multiple regression analysis involves examining multiple connections among variables using Pearson correlation coefficients; the correlation coefficients between the variables were found to be between .02 and .37. Durbin-Watson coefficients were investigated determine the existence of autocorrelations in the regression model; these were identified between 1.91 and 1.95. The range of Durbin-Watson coefficients being between 1.5 and 2.5 shows the model to have no autocorrelations (Küçüksille, 2014).

Findings

Descriptive Statistics and Correlation Analysis Findings

Table 1 gives the descriptive statistics related to the study's variables and the results of the Pearson product-moment correlation analysis conducted to determine the relationships among variables.

Table 1
Descriptive Statistics and Pearson Correlations among Variables

	1	2	3	4	5	6	7	8	9
1. CPRS Positive Relationship	-								
2. CPRS Conflict	-.05	-							
3. STRS Closeness	.08	-.02	-						
4. STRS Conflict	-.20**	.13	-.37**	-					
5. TRSSA School Liking	.15*	-.07	.34**	-.31**	-				
6. TRSSA Cooperative Participation	.26**	-.13	.40**	-.61**	.44**	-			
7. TRSSA School Avoidance	.14	-.09	-.17*	.42**	-.25**	-.29**	-		
8. TRSSA Self-Directedness	.19**	-.05	.35**	-.28**	.37**	.56**	.28**	-	
9. TRSSA Total	.27**	-.12	.44**	-.58**	.62**	.89**	-.54**	.76**	-
<i>M</i>	43.4	35.03	40.3	18.8	7.04	15.6	9.00	7.36	39.07
<i>SD</i>	5.2	10.4	6.8	7.7	1.35	3.5	1.5	2.2	6.5

* $p < .05$; ** $p < .01$

As seen in Table 1, significant relationships were found for the CPRS subscale of *positive relationships* with the TRSSA subscales of school liking ($r = .15, p < .05$), cooperative participation ($r = .26, p < .01$), and self-directedness ($r = .19, p < .01$), as well as with the TRSSA total score ($r = .27, p < .01$). No significant relationship was found for the CPRS subscale of positive relationship with the TRSSA subscale of school avoidance.

A positive relationship was found for the STRS subscale of closeness with the TRSSA subscales of school liking ($r = .34, p < .01$), cooperative participation ($r = .40, p < .01$), and self-directedness ($r = .35, p < .01$), in addition to a negative relationship with the TRSSA subscale of school avoidance ($r = -.17, p < .05$). A negative relationship was also found for the STRS subscale of conflict with the TRSSA subscales of school liking ($r = -.31, p < .01$), cooperative participation ($r = -.61, p < .01$), and self-directedness ($r = -.28, p < .01$), in addition to a positive relationship with the TRSSA subscale of school avoidance ($r = .42, p < .01$). These findings show a positive relationship established with the mother parallels an increase in school-adjustment behaviors. Moreover, a close relationship with teachers relates to an increase in school-adjustment behaviors, and conflictive relationships to a decrease in school-adjustment behaviors.

Mother-Child Relationship, Teacher-Child Relationship and School Adjustment

Table 2 shows the hierarchical regression analysis results, conducted to see to what extent positive and conflictive relationships in the mother-child relationship and closeness and conflict in the teacher-child relationship predict children's school adjustment sub-dimensions and school adjustment total scores.

Table 2
Hierarchical Regression Results Based on the Predictive Extent of Mother-Child and Teacher-Child Relationships on School Adjustment

		Model 1			Model 2		
TRSSA		<i>B</i>	<i>SEB</i>	β	<i>B</i>	<i>SEB</i>	B
School Liking	Step 1						
	CPRS Positive Rel.	.037	.018	.147	.022	.018	.088
	CPRS Conflict	-.008	.009	-.062	-.004	.009	-.034
	Step 2						
	STRS Closeness				.051	.014	.260***
	STRS Conflict				-.034	.013	-.196**
	Model <i>R</i> ²	.026, <i>F</i> _(2, 189) = 2.528			.165, <i>F</i> _(4, 189) = 9.147***		
Change in <i>R</i> ²	.026			.139			
Cooperative Participation	Step 1						
	CPRS Positive Rel.	.176	.047	.261***	.099	.038	.147**
	CPRS Conflict	-.042	.024	-.121	-.019	.019	-.056
	Step 2						
	STRS Closeness				.106	.031	.204**
	STRS Conflict				-.229	.028	-.497***
	Model <i>R</i> ²	.087, <i>F</i> _(2, 189) = 8.856***			.432, <i>F</i> _(4, 189) = 35.174***		
Change in <i>R</i> ²	.087			.345			
School Avoidance	Step 1						
	CPRS Positive Rel.	.039	.021	.135	.016	.020	.054
	CPRS Conflict	-.012	.011	-.084	-.005	.010	-.034
	Step 2						
	STRS Closeness				.005	.016	.022
	STRS Conflict				-.080	.015	-.400***
	Model <i>R</i> ²	.027, <i>F</i> _(2, 189) = 2.546			.184, <i>F</i> _(4, 189) = 10.427***		
Change in <i>R</i> ²	.027			.157			
Self-Direct- edness	Step 1						
	CPRS Positive Rel.	.080	.030	.191**	.058	.029	.139*
	CPRS Conflict	-.009	.015	-.044	-.005	.014	-.022
	Step 2						
	STRS Closeness				.093	.023	.289***
	STRS Conflict				-.042	.021	-.145
	Model <i>R</i> ²	.039, <i>F</i> _(2, 189) = 3.813*			.172, <i>F</i> _(4, 189) = 9.576***		
Change in <i>R</i> ²	.039			.132			
TRSSA Total	Step 1						
	CPRS Positive Rel.	.333	.087	.267***	.195	.071	.157**
	CPRS Conflict	-.071	.044	-.113	-.033	.035	-.053
	Step 2						
	STRS Closeness				.254	.057	.265***
	STRS Conflict				-.386	.052	-.451***
	Model <i>R</i> ²	.087, <i>F</i> _(2, 189) = 8.919***			.433, <i>F</i> _(4, 189) = 35.264***		
Change in <i>R</i> ²	.087			.346			

p* < .05; *p* < .01; ****p* < .001

In the first model of hierarchical regression analysis conducted to determine the effect of the mother-child relationship on the sub-dimension of school liking, positive/conflictive relationships in mother-child relationships were revealed to not significantly

predict school liking ($F_{(2, 189)} = 2.528, p = .083$). In the second model, closeness and conflict in teacher-child relationships was included in the analysis together with mother-child relationships to test whether or not they predict school liking. The results in the second model are statistically significant ($F_{(4, 189)} = 9.147, p < .001$), and is found to explain 16.5% of the total variance among all variables. When the checking the markers of the regression coefficient, a positive relationship is seen to exist between the TRSAA sub-dimension of school liking with STRSS sub-dimension of closeness in teacher-child relationships ($\beta = .260, p < .001$) and a negative relationship between school liking and conflictive teacher-child relationships ($\beta = -.196, p < .01$). The effect sizes on school liking indicate moderate to small outcome effects from teacher-child relationships. Following the review of partial correlations (r) for assessing effect sizes (McCarty & Rosenthal, 2000), closeness ($r = .25$) and conflict ($r = -.19$) in teacher-child relationships were indicated to have little effect on school liking ($r = .10$ is considered small; $r = .30$, moderate; and $r = .50$, large). In order to evaluate the effect size of the created regression model, Cohen's $f^2 = (R^2_{AB} - R^2_A) / (1 - R^2_{AB})$ formula has been used. The R^2_A in the formula refers to the variance explained in the first model, and R^2_{AB} refers to the variance created by all independent variables in the second model. According to the values that can be seen in Table 2, the f^2 was calculated as 0.16 (f^2 effect sizes of 0.02, 0.15, and 0.35 are considered small, medium and large, respectively); this shows the effect size of the relationships with mother and teacher to be of medium size.

The mother-child relationship was included in the first analysis model for determining the predictive effects of variables on school adjustment's sub-dimension of cooperative participation. Model 1 is statistically significant ($F_{(2, 189)} = 6.387, p < .001$) and accounts for 0.87% of the variance. When including teacher-child relationships in the second model, it is seen to account for 43.2% of the total variance ($F_{(4, 189)} = 35.174, p < .001$). When checking the markers for the regression coefficient of the variables, a positive relationship is seen to exist between the TRSSA subscale of cooperative participation with the positive mother-child relationship ($\beta = .147, p < .01$) and closeness in the teacher-child relationship ($\beta = .204, p < .01$), as well as a negative relationship for the TRSSA subscale of cooperative participation with the conflictive teacher-child relationship ($\beta = -.497, p < .001$). After reviewing partial correlations for assessing effect sizes, the positive mother-child relationship ($r = .19$) and closeness in the teacher-child relationship ($r = .24$) were found to have a small effect on cooperative participation, while the conflictive teacher-child relationship ($r = .51$) was seen to have a large effect. The effect size of the regression model is $f^2 = 0.60$, showing the mother-child and teacher-child relationship to have a large effect size on school adjustment's sub-dimension of cooperative participation.

In the first model of hierarchical regression analysis conducted to see the effects of the independent variables on the TRSSA sub-dimension of school avoidance,

the mother-child relationship is not statistically significant ($F_{(2, 189)} = 2.546, p = .081$). Model 2 includes the teacher-child relationship in the analysis, which shows statistical significance ($F_{(4, 189)} = 10.427, p < .001$) and accounts for 18.4% of the variance among all the variables. However, conflictive teacher-child relationships is the only variable significantly related to the model's dependent variable ($r = -.37, \beta = -.400, p < .001$). This finding shows students' levels of school avoidance to increase in parallel with the increase in conflictive teacher-child relationships. The effect size of the regression model is $f^2 = 0.19$, which can be considered medium.

The mother-child relationship has been included in the first model of the analysis for determining the predictive effect of variables on school adjustment's sub-dimension of self-directedness. Model 1 shows statistical significance ($F_{(2, 189)} = 3.813, p < .05$) and accounts for 0.39% of the variance. When including the teacher-child relationship into the second model, it accounts for 17.2% of the total variance ($F_{(4, 189)} = 9.576, p < .001$). When checking the markers of the variables' regression coefficient, a positive relationship is seen to exist between the TRSAA sub-dimension of self-directedness with the positive mother-child relationship ($\beta = .139, p < .05$) and with closeness in the teacher-child relationship ($\beta = .289, p < .001$). In terms of partial correlations reflecting effect sizes, the positive mother-child relationship ($r = .15$) and closeness in the teacher-child relationship ($r = .28$) is found to have little effect on self-directedness. The effect size of the regression model is $f^2 = 0.16$, showing the relationships to have a medium effect size on school adjustment's sub-dimension of self-directedness.

Mother-child relationships have been included in the first analysis model to determine the predictive effects of the independent variables on total school adjustment. Model 1 shows statistical significance ($F_{(2, 189)} = 8.919, p < .001$) and accounts for 0.87% of the total variance. When including the teacher-child relationship into the second model, it accounts for 43.3% of the total variance ($F_{(4, 189)} = 35.264, p < .001$). When checking the markers of the variables' regression coefficient, a positive relationships is found to exist for school adjustment with the positive mother-child relationship ($\beta = .157, p < .01$) and with closeness in the teacher-child relationship ($\beta = .265, p < .001$), as well as a negative relationships ($\beta = -.451, p < .001$) with the conflictive teacher-child relationship. In considering the partial correlations for assessing effect sizes, the positive mother-child relationship ($r = .20$), closeness ($r = .31$), and the conflictive teacher-child relationship ($r = -.48$) are found to have a medium effect on cooperative participation. The effect size of the regression model is $f^2 = 0.61$, which shows a large effect size for the child-mother and child-teacher relationships on total school adjustment.

Discussion

This study has aimed to answer the research question: "To what extent are the mother-child and teacher-child relationships effective on children's school adjustment process?"

This study has first analyzed how positive and conflictive relationships affect children's school adjustment process. Significant interactions have been found between the mother-child relationship and school adjustment. A positive relationship has been noted for the positive mother-child relationship with children's cooperative participation and self-directedness. A high correlation has particularly been observable between cooperative participation and the positive mother-child relationship. Previous studies have shown the quality of the mother-child relationship to have a strong effect on children's school adjustment during the pre-school period. A positive correlation has been seen in the school adjustment behaviors (such as social skills with peers, study skills, and allowance in case of rejection) of children who have close contact with their mothers. Additionally, a negative correlation has been observed with all problem behaviors that are effective in the teacher-child relationship (Pianta et al., 1997). Researchers working with participants from different age groups have mentioned the quality of the mother-child relationship in early childhood to be an indicator of children's social and academic achievement in early adolescence (Morrison, Rimm-Kauffman, & Pianta, 2003). In a similar study by Li et al. (2015), a positive relationship was notable for closeness in the mother-child relationship with children's social skills in the preschool period. In addition, a conflictive mother-child relationship is a positive indicator of children with behavior problems.

In the current study, however, no relationship is seen for the conflictive mother-child relationship with children's school adaption. There may be several reasons for this result. Firstly, when regarding the closeness and quality of the mother-child relationship, even though mothers and fathers are involved parties, the main character is the mother. Fathers have been reported to show supportive and sensitive behaviors in their children's transition to formal schooling and elementary school (NICHD, 2004). The conducted studies emphasized paternal support to be able to function in harmony with maternal support. In this process, paternal support regarding children has been revealed to be mostly associated with social competence in the school environment. On the other hand, maternal support has been observed to be associated more with academic competence (Martin, Ryan, & Brooks-Gunn, 2010). Moreover, paternal support has been expressed as being most critical in the areas with lower levels of maternal support (Wilson & Prior, 2011). Children's relationships with the father and mother may also have varying impacts on different children due to different parenting styles. Mothers have also been added as being mainly interested in their children's physical needs and care, whereas, fathers spend more time with their children for entertainment and participation activities (Bronstein, 1984; Russell & Russell, 1987). Regarding this background, a child's school adjustment may be the result of the father encouraging the child toward school adjustment as well as the quality of the father-child relationship in that study. This study, on the other hand, has not taken into consideration the father-child relationship in terms of school adjustment, which is a limitation of the study.

Secondly, this study only collected data during the second half of the school year in the month of May. By that time, the positive relationships the children had established with their classmates and teachers may have made their school adjustment process easier. In related studies, the quality of the mother-child relationship in the beginning of the academic year (for example, the first three months) has been found to be effective on the child-teacher relationship and school adjustment, but not effective at the end of the academic year (Zhang, 2011).

Lastly, this study has addressed the mother-child relationship in terms of mother's perceptions. However, some performed studies have shown parents' and children's perceptions regarding intra-familial relationships to not match up (Stadelmann, Perren, Wyl, & Klitzing, 2007). For example, Özgün, Erden, and Aydılek Çiftçi (2014) found in their relatively investigation on how parents and children perceive the parents' parenting styles, the children's perceptions of their parents' parenting styles distinctly differed from the parents' self-perceptions. Significant differences were seen in that research between parents' and children's perceptions. These conducted studies show intra-familial relationships and the kind of meaning children assign to these relationships to affect children's communication and interactions within their environment (Evirgen, 2010). In this sense, how children perceive intra-familial relationships can be an effective factor in their school adjustment.

This study has secondarily addressed how close and conflictive child-teacher relationships affect children's school adjustment process. The results indicate a positive link for closeness in the teacher-child relationship with school liking, cooperative participation, self-directedness, and overall adaption. A positive relationship has also been observed for the conflictive teacher-child relationship with school avoidance. An inverse relationship was observed for the conflictive child-teacher relationship with cooperative participation, self-directedness, and school adaptation. As conflict with a teacher increases, the child's school adaption decreases.

These results are compatible with findings in the literature related to teacher-child relationships and school adjustment. The relevant literature presents findings that show the close child-teacher relationship to help the child develop a positive attitude towards school (Birch & Ladd, 1997) and to participate in class activities more (Cadima et al., 2015). On the other hand, problematic relationships with teachers have been emphasized to result in increased aggressive behaviors towards peers (Kontos & Wilcox-Herzog, 1997), academic failure (Ladd et al., 1999), lack of motivation, school avoidance (Baker et al., 2008), and adaption problems (Cadima et al., 2015). Li et al. (2015) confirmed the conflictive teacher-child relationship to be the most powerful negative indicator of the social skills of the children. Additionally, longitudinal studies that have been carried out show close and conflictive teacher-

child relationships in the early period to be interrelated with future academic and social results (Blacher, Baker, & Eisenhower, 2009; Boye, 2011; Hamre & Pianta, 2001; Stipek & Miles, 2008; O'Connor & McCartney, 2006).

According to attachment theory, which emphasizes the emotional link between the child and caregiver, teachers are seen as attachment figures (Bowlby, 2012; Pianta et al., 1997). Faith that the children will develop with their teachers affects their social and emotional rapport (Ladd & Burgess, 2001). Similar to the attachment between parents and child, the teacher, being the individual who will meet the social, emotional, and academic needs of the child and provide protection, trust, courage, and open communication support, has important roles in children's development and adjustment to school (Sanchez-Fowler et al., 2008; Zhang, 2011). A warm and supportive relationship between a teacher and child has the potential to prevent the negative effects that result from insecure parental attachments (Howes & Ritchie, 1998; Van Ijzendoorn, Sagi, & Lambermon, 1992).

Conclusion

The results of this study are compatible with previous findings related to this field. The results show positive relationships that have been established with mothers and teachers to be in line with increases in school adjustment behaviors, whereas conflictive behaviors with teacher are related to decreases in school adjustment behaviors. These findings considerably contribute to the related literature. No relationship, however, was found for the conflictive mother-child relationship with children's school adjustment.

This may derive from some of the limitations in the study. In future studies, the following limitations need a closer look and analysis. First, this study only considered the mother's half of the parent-child relationship in children's school adjustment process. The father-child relationship, however, was not taken into account. Therefore, young children's relationships with their fathers should be investigated in terms of school adjustment in future studies. Secondly, this study evaluated the mother-child relationship from mothers' perspectives. How children perceive their relationships with their mothers was not investigated. Further studies should concentrate on how children view the mother-child relationship and how this relationship affects children's school adjustment process. Thirdly, the data of this study were collected towards the end of the academic year. Follow-up studies in relation to children's school adjustment process should be conducted at the beginning of the academic year and during the academic year using test-retest measures. In addition, qualitative as well as quantitative studies are needed to understand the occurrences, situations, and people that affect children's adjustment to school. Despite these limitations, the results of this study present important suggestions for child psychologists, educators, and parents.

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