

Family Involvement and Preschoolers' Social Functioning: The Mediating Role of the Teacher–Child Relationship

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Abstract

The teacher–child relationship may be a critical proximal process or mediating mechanism through which family involvement influences the development of young children's social functioning in preschool. This study examined the extent to which varying degrees and forms of family involvement in early schooling are associated with the social development of children from low-income homes ($N = 391$). Further, we tested the mediating role of the teacher–child relationship as a mechanism underlying these relations. Preschool teachers reported their perceptions of aspects of family involvement in autumn of the school year, including the frequency of contact, the quality of family–teacher relationships, and family values in children's education. In the following spring, teachers reported on the quality of their relationships with children and these children's social functioning (behavior control, peer social skills). Results from multilevel path analysis showed that the family–teacher relationship and teachers' perceptions of family values were associated with children's behavioral control and peer social skills directly and indirectly through teacher–child relationships, especially through conflict in these relationships. Findings suggest that family involvement in early childhood education and teacher–child relationships influence one another, and both provide valuable resources supporting children's social development.

Key Words: teacher perceptions, family involvement, teacher–child relationships, social functioning, preschoolers, mediating roles, parents

Introduction

A substantial body of literature indicates that family involvement in early childhood education enhances children’s social skills and decreases behavior problems in the classroom (e.g., Cohen & Anders, 2020; El Nokali et al., 2010; Fantuzzo et al., 2004; Izzo et al., 1999; Rimm-Kaufman et al. 2003; Schock & Jeon, 2023). Family involvement is a multidimensional construct reflecting the dynamic, bidirectional interactions between the family and teacher or school (Epstein, 1995). These may include a variety of actions spanning the school and home context, such as teacher–parent communications, parent volunteerism, and provision of at-home learning activities, as well as families’ beliefs and attitudes toward education (Fantuzzo et al., 2004; Hoover-Dempsey et al., 2005; Liang et al., 2020). Family involvement tends to be highest during preschool and the transition into kindergarten but then declines as children progress through elementary school (Izzo et al., 1999; McIntyre et al., 2007; Murray et al., 2015). For this reason, it is important to enhance our understanding of family involvement during the preschool to kindergarten transition period, as it represents a particularly important time for family involvement.

The current research focuses attention on the family involvement of marginalized low-income families with preschool-aged children. We sought to understand the extent to which varying degrees and forms of family involvement in early schooling are associated with the social development of children from low-income homes, and whether the quality of the teacher–child relationship may serve as a mediating mechanism underlying the relations. There remains a need to better understand family involvement among marginalized low-income families, for whom barriers may inhibit engagement with their children’s schooling (Ishimaru, 2019; Kocyigit, 2015). Preschool expansion activities at the local, state, and national level have historically targeted enrollment of children from low-income families in preschool programs to enhance their academic trajectories. At the time of the study, approximately one in six children in the United States faced economic adversity and its associated hardships (Semega et al., 2019). Such adversity negatively impacts children’s social and emotional development (Eamon, 2001; Guhn et al., 2020), often leading to increased behavior problems (Shaw & Shelleby, 2014).

Accordingly, the present study involved children and families from low-income households, with nearly one-third of the sample reporting an annual household income of less than \$10,000 (approximately 40% of the federal poverty level for a family of four in 2018; U.S. HHS, 2018). These marginalized families often face practical challenges navigating the educational milieu, including language barriers, conflicting work schedules, and transportation issues, to name a few; these can compromise families' abilities to be involved in their children's preschool education (Hornby & Lafaele, 2011; Kocyigit, 2015; Lamb-Parker et al., 2001). Not surprisingly, socially and economically advantaged families are more likely to be involved in their children's early schooling compared to marginalized families (McIntyre et al., 2007; Rispoli et al., 2018; Suarez-Orozco & Suarez-Orozco, 2013). Limited family involvement observed for lower-income families is largely explained by lower quality family–teacher relationships (Li et al., 2023; Nzinga-Johnson et al., 2009), which may spillover into lower quality teacher–child relationships (Chen & Phillips, 2018; Dearing et al., 2008; Schock & Jeon, 2023; Wyrick & Rudasill, 2009). The present study seeks to extend understandings of family involvement among low-income families and its associated mechanisms that shape preschoolers' outcomes, namely their social functioning. We conceptualize preschoolers' social functioning in terms of their peer social skills and behavior control demonstrated in the classroom.

Theoretical Framework

The bioecological model of development (Bronfenbrenner & Morris, 1998) provides a framework for understanding how socioeconomic status (SES), family involvement, and teacher–child relationships interact to shape children's development, including their social functioning. This model positions the child within nested, interactive systems, with proximal microsystems—such as the home and school—directly influencing development through interpersonal interactions (i.e., proximal processes) with family, peers, and teachers (Bronfenbrenner & Morris, 2006; Merçon-Vargas et al., 2020). Family involvement in children's schooling acts as a mesosystem connecting the home and school contexts, while broader macrosystem factors such as SES influence child development *indirectly* via proximal processes (Ashiabi & O'Neal, 2015).

Research reveals the mediating role of proximal processes that comprise children's early relationships in predicting social outcomes related to school performance (Ferreira et al., 2016; Kluczniok & Roßbach, 2014; Murray & Greenberg, 2001). Within the preschool classroom, the influence of family

involvement on children's social functioning may, in part, occur through children's cumulative proximal processes within the teacher-child relationship (Merçon-Vargas et al., 2020). Understanding these associations is especially important for children from marginalized backgrounds who may be vulnerable to developing social-functioning challenges (Eamon, 2001; Shaw & Shelleby, 2014).

The Importance of Preschool Family Involvement

We conceptualize family involvement as the frequency of contact between families and teachers, the quality of family-teacher relationships, and teacher perceptions of family values (i.e., how much the family is invested in the child's education; Kohl et al., 2000). When considering the extent to which family involvement may influence children's social outcomes, findings are mixed, possibly due to the way family involvement is conceptualized across studies (Grolnick & Pomerantz, 2022). For instance, the *quality* of family-teacher interactions, as rated by teachers, predicts improvements in children's classroom behavior, while the *quantity* of these interactions is often linked to higher rates of behavioral problems (Izzo et al., 1999; Rimm-Kaufman et al., 2003). Children's behavior problems likely stimulate the need for family-teacher contact. High-quality interactions within family-teacher relationships may be an important antecedent of the family's level of involvement through increased engagement (Knopf & Swick, 2007; Li et al., 2023; Nzinga-Johnson et al., 2009) and trust building (Hummel et al., 2022).

A family's level of involvement reflects both their role construction regarding education and the characteristics of the school environment (Hill, 2022; Hoover-Dempsey et al., 2005; Williams-Johnson & Gonzalez-De-Hass, 2022). Cultural and sociodemographic factors influence families' beliefs about their role in their children's education (Suarez-Orozco & Suarez-Orozco, 2013). Some families, including families from Japan, may believe that school-related decisions are the responsibility of expert educators (Yamamoto et al., 2022). Others may hold fewer role boundaries, actively participating and viewing such involvement as essential for fostering strong family-school partnerships. The latter example typically exemplifies a more compatible circumstance between a family and school. Compatibility in schools' and families' beliefs and values toward family involvement, as perceived by kindergarten teachers, has been identified as a stronger predictor of children's social outcomes than the frequency of family involvement in schooling (Rimm-Kaufman et al., 2003). A misalignment in beliefs or values between families and teachers can hinder involvement

efforts but can improve through culturally responsive practices (Baker et al., 2016; Hornby & Lafaale, 2011).

Family involvement serves a stage-setting role which supports academic success by setting expectations that convey the importance of education and fostering an ideal learning environment (Harris & Robinson, 2016). Effective stage-setting is especially crucial during times of transition and for children from culturally distinct families (Williams-Johnson & Gonzalez-DeHass, 2022) but is more accessible for families with greater resources and cultural capital. However, previous studies report robust and enduring social benefits of early family involvement in education (Ansari & Gershoff, 2016; Cohen & Anders, 2020; El Nokali et al., 2010), regardless of SES (Rimm-Kaufman et al., 2003). School-based family involvement, such as volunteering, is associated with decreased problem behaviors in the classroom, and home-based family involvement, such as reading at home, is strongly related to preschoolers' social functioning overall (Fantuzzo et al., 2004). U.S. educational policies and programs such as Head Start accordingly emphasize the importance of early and ongoing family involvement.

The Role of Teacher–Child Relationships

Family involvement must also be considered within the classroom context and teachers' practices (Kluczniok & Roßbach, 2014; Mantzicopoulos, 2005). Teacher emotional support, including responsiveness and regard for student perspectives, may enhance or hinder the efficacy of family involvement in reducing behavior problems (McCormick et al., 2013; Merçon-Vargas et al., 2020). A sense of safety and connection to supportive teachers is key for children's adjustment and social functioning (Li & Lau, 2019; Murray & Greenberg, 2001). Teacher–child relationship quality is frequently operationalized in terms of two contrasting dimensions: closeness (i.e., warmth, openness) and conflict (i.e., hostility, intensity; Pianta, 2001). Classrooms lacking emotional support are generally associated with more conflictual relationships between teachers and children (Hamre & Pianta, 2005; Hamre et al., 2008; Walker & Graham, 2021). Close and harmonious teacher–child relationships are characterized as a protective and compensatory proximal process, promoting social functioning and buffering negative effects for children at-risk of school failure (Baker, 2006; Marks et al., 2023; O'Connor & McCartney, 2007; Rhoad-Drogalis et al., 2018; Westerberg et al., 2020).

The teacher–child relationship is a critical context for the development of young children's social functioning. Preschoolers often rely on teachers to gain a sense of emotional security within the novel school context, thus

providing opportunity for the cultivation of close attachments (Koomen & Hoeksma, 2003; Schuengel, 2012; Verschueren & Koomen, 2012). Positive teacher–child relationships serve a functional role in children’s socioemotional development and adjustment to school (Hamre & Pianta, 2001; Hughes, 2011; Li et al., 2021; Myers & Pianta, 2008; Sabol & Pianta, 2012). Children apply internal working models of attachments from these initial relationships to subsequent relationships (O’Connor & McCartney, 2006; Veríssimo et al., 2017); thus, the preschool teacher–child relationship is foundational (Howes et al., 2000). The quality of this relationship in kindergarten is uniquely associated with children’s behavioral outcomes later assessed in eighth grade, especially for boys and children who struggled with behavior problems in kindergarten (Hamre & Pianta, 2001).

Given that the teacher–child relationship constitutes an ongoing proximal process which confers cumulative effects on children’s development (Bronfenbrenner & Morris, 2006), its association with children’s social and behavioral outcomes is dynamic and complex (Ansari et al., 2020; Pianta et al., 2012). High closeness and low conflict in the teacher–child relationship at the beginning of preschool can support the development of children’s social functioning throughout the school year, both in the classroom and at home (Zhang & Nurmi, 2012). Preschoolers’ social behavior within the classroom yields immediate consequences in terms of their teacher and peer relations (Breeman et al., 2015; Dobbs & Arnold, 2009; Hughes et al., 2001; Sette et al., 2020). Longitudinal research shows reciprocal associations between preschoolers’ social skills and teacher–child relationships, with socially skilled children being more likely to form high-quality relationships with teachers (Wu et al., 2018). Lippard and colleagues (2018) also found a significant association between the quality of children’s relationships with preschool teachers and classroom behavior both in preschool and at kindergarten entry.

The Mediating Role of Teacher–Child Relationships

Children from marginalized groups, including immigrant, low-income, and minoritized races/ethnicities, are especially vulnerable to poor teacher–child relationships (Hamre & Pianta, 2005; Hughes & Kwok, 2007; Pianta et al., 2005; Rudasill et al., 2023), potentially induced by low quality or ineffectual family involvement (Dearing et al., 2008; Mantzicopoulos, 2005; Schock & Jeon, 2023; Wyrick & Rudasill, 2009). Limited studies to date reveal evidence of spillover effects between the quality of family–teacher relationships, teacher–child relationships, and children’s outcomes. Teachers may be more likely to feel and react negatively toward a child

after conflict with his or her family (Chen & Phillips, 2018). Wyrick and Rudasill (2009) found children with more involved families had closer and less conflictual relationships with their third grade teachers. Socioeconomic characteristics played a role, with children from low-income families experiencing more conflict and less closeness with their teachers compared to their higher income peers. However, higher levels of family involvement uniquely benefited low-income children by significantly reducing teacher-child conflict. The researchers characterized family involvement as a positive family-teacher relationship which may foster improvements in the teacher-child relationship (Wyrick & Rudasill, 2009).

Changes in family involvement have indeed been associated with changes in the quality of the teacher-child relationship over time, indirectly impacting children's outcomes (Dearing et al., 2008). More recently using cross-sectional data, Schock and Jeon (2023) established the teacher-child relationship as a mechanism underlying associations between teachers' perceptions of families and preschoolers' socioemotional and behavioral functioning. Teacher-perceived support from families was indirectly associated with children's anxiety, social competence, and behavioral regulation through closeness in the teacher-child relationship. The present study extends this previous research by reexamining these associations using data collected across the academic year, testing the teacher-child relationship as a mechanism.

The Present Study

In sum, evidence suggests that a variety of forms of family involvement interact in a dynamic and reciprocal way, influencing children's relationships and social functioning within classroom contexts. We tested this premise in a unique sample of primarily low-income families with preschoolers preparing to transition to kindergarten the following year. The present study examined closeness and conflict within the teacher-child relationship as potential mechanisms through which family involvement impacts children's peer social skills and behavior control in the classroom. Specifically, we addressed the following research questions: (1) To what extent do teachers' perceptions of family involvement predict children's social functioning in the classroom? and, (2) To what extent is the association between teachers' perceptions of family involvement and children's social functioning mediated by the quality of the teacher-child relationship?

Method

Study Design and Sample

This study represents a secondary analysis of data from the first cohort of a two-cohort randomized controlled trial (RCT) designed to evaluate the effectiveness of a kindergarten transition intervention. The original RCT aimed to assess the impacts of a connection-focused intervention on children's readiness for kindergarten and their early school experiences. In the trial, classrooms were randomly assigned to either a treatment condition or a business-as-usual control condition. Treatment classrooms received multiple interventions, including family-school events, newsletters, exchange visits, and kindergarten ritual lessons. See Purtell et al. (2022) for a complete description of intervention procedures. Participating classrooms were recruited based on district interest, and 29 programs from the Midwest were enrolled, including Head Start programs, two urban public school programs, and a private childcare center. The study sample for the secondary analysis included 52 teachers (26 treatment, 26 control) and 391 caregivers and their children (191 treatment, 200 control). Teachers were predominately female (98%), held bachelor's degrees (87%), and identified as Caucasian/White (84%). Reported teaching experience ranged from 1 to 37 years ($M = 16$ years), and the average class size was 13.

A total of 391 preschool students (55% males, $M_{age} = 54.99$ months, $SD = 3.85$) and their families were also enrolled. Based on family reports of race/ethnicity, 44% of children were African American/Black, 30% were Caucasian/White, 11% Hispanic, and 15% Other or Multiracial. Additionally, 71.9% of mothers reported having a high school diploma/GED or less, and 26.1% reported holding a higher education degree. Reported household income for 31% of families was less than \$10,000, and only 21% had annual household incomes exceeding \$40,000 ($Mdn = \$20,000$ –\$30,000).

For the present purpose, all participants across the two conditions were included to maximize the size of the participant sample and ensure robust statistical power. While the study was conducted within the context of an RCT, the current research questions were not focused on evaluating the effects of the intervention. Instead, we sought to examine patterns across the full sample. Prior to combining groups, we tested for significant group differences in the main study variables. The seven study variables central to the present aims included three measures of family involvement, two measures of the teacher-child relationship, and two measures of children's social functioning. Only the three family involvement measures, measured in the fall of the school year (i.e., prior to the implementation of intervention

procedures), significantly differed between groups. Teachers in the control condition reported more frequent family–teacher contact ($t(353) = 2.427$, $p = .016$, $d = .258$), higher quality family–teacher relationships ($t(353) = 2.392$, $p = .017$, $d = .254$), and more positive perceptions of family values toward education ($t(350) = 2.347$, $p = .019$, $d = .250$) relative to teachers in the treatment condition. Given these preintervention group differences and the lack of group differences on all seven variables measured in the spring—approximately 6 months into a 15-month intervention—we elected to include classroom condition as a covariate in all models rather than conduct separate group comparison analyses. This approach allowed us to address the study aims while appropriately accounting for initial group assignment.

Procedures

Noted previously, data were collected as part of an RCT involving 4- to 5-year-old children in 52 classrooms participating in a 15-month kindergarten transition intervention during the 2018–19 academic year. All procedures were approved by the institutional review board (IRB). Informed consent packets were sent to all families in participating classrooms in their children's backpacks in the fall of the academic year. Upon consent and enrollment, families completed a questionnaire reporting background information. As part of teachers' participation in the kindergarten transition intervention, preschool teachers responded to online questionnaires emailed via Qualtrics in the fall (time point 1) and spring (time point 2) of the academic year. Time point 1 data collection occurred between mid-October to the end of November, allowing teachers to report on their initial perceptions based on their first two to three months of the school year. Time point 2 data collection occurred between mid-April and the end of May, before summer break commenced. For each questionnaire completed, teachers received gift cards as an incentive.

Measures

Measures captured from teacher- and parent-report questionnaires captured the three measures of interest for the present study: (1) family involvement, (2) teacher–child relationship, and (3) child social functioning. Whereas measures of family involvement were collected in the fall of the academic year, the teacher–child relationship and child social functioning were measured in the spring.

Family Involvement

The Parent–Teacher Involvement Questionnaire (PTIQ; Kohl et al., 2000) was used to measure the frequency of contact and the quality of involvement in terms of teachers’ perceptions of the family–teacher relationship and family educational values. Preschool teachers responded to 19 Likert-type items in the fall of the preschool year (time point 1) for each participating child. Two items pertaining to PTA meetings were removed from the original 21-item questionnaire because PTA meetings were not available at the participating preschool sites. Items were combined into average scores for each subscale. We also confirmed the three subscales of the PTIQ for our specific sample using confirmatory factor analysis (CFA) and extracted factor scores for subsequent path analysis.

These items broadly captured teachers’ perceptions of family involvement, a factor shown to significantly impact the outcomes of students from low-income backgrounds and those from culturally and linguistically diverse communities (Foster et al., 2017). Teacher-reports of family involvement have historically shown stronger correlations with children’s achievement compared to caregiver-reports (Reynolds, 1992) and mediate intervention effects on children’s behavior (Sheridan et al., 2012). Past work demonstrates that while agreement between teacher-reported and family-reported measures of family involvement is often observed (El Nokali et al., 2010; Ogg et al., 2021), other research highlights instances where perceptions diverge (Hilgendorf, 2012). We hone in on teachers’ perceptions of family involvement in the present study in order to better understand how their perceptions may shape teacher–child relationships.

Frequency of Contact. Ten items ($\alpha = .83$) assessed teachers’ perceptions of the frequency of involvement activities, initiated by the teacher or family. Example items include “How often has [child name]’s caregiver attended parent–teacher conferences in the past year?” and “How often have you written a note (text message, email, handwritten, etc.) to [child’s name]’s caregiver in the past year?” The Likert scale ranged from 0 (*never*) to 4 (*more than once a week*).

Family–Teacher Relationship. Four items ($\alpha = .87$) assessed teachers’ perceptions of the quality of their relationship with specific families, such as their comfortability talking to families about potential problems. An item example is “How well do you feel you can talk to and be heard by [child’s name]’s caregiver?” The Likert scale ranged from 0 (*not at all*) to 4 (*very well*).

Teachers’ Perceptions of Family Values. Five items ($\alpha = .88$) assessed teachers’ perceptions of families’ values about education, such as “How

much do you feel this caregiver has the same goals for [child name] that the school does?” and “To the best of your knowledge, how much does this caregiver do things to encourage [child name]’s positive attitude towards education (e.g., take them to the library, play games to teach them new things, read to them, help them make up work after being absent)?” The Likert scale ranged from 0 (*not at all*) to 4 (*a whole lot*).

Teacher–Child Relationship

A modified version of the Student–Teacher Relationship Scale–Short Form (STRS; Pianta, 2001), a 15-item scale, was used as a measure of teachers’ perceptions of their relationships with individual students. Although the present study relied on teacher-reported measures of the teacher–child relationship, teacher and classroom observer reports of these relationships converge (Doumen et al., 2012; Howes & Ritchie, 1999). For each participating child, preschool teachers responded to the STRS items in the spring of the academic year (time point 2), based on a scale ranging from 0 (*definitely does not apply*) to 4 (*definitely applies*). Items were combined into average scores for both subscales. In line with past work (Jerome et al., 2009), two latent variables were identified with a CFA and extracted for analysis: conflict (7-items, $\alpha = .93$), and closeness (8-items, $\alpha = .82$). The conflict subscale captured negative aspects of the teacher–child relationship (e.g., “This child and I always seem to be struggling with each other”). The closeness subscale captured warm and affectionate aspects of teachers’ relationships with students (e.g., “If upset, [child name] seeks comfort from me”).

Child Social Functioning

The Teacher-Child Rating Scale (T-CRS) was used as a teacher-report measure of children’s social functioning within the classroom (Hightower et al., 1986). Preschool teachers responded to 16 Likert-type items from the T-CRS for each child in the spring (time point 2), which ranged from 0 (*strongly disagree*) to 4 (*strongly agree*). Items reflect two subscales of behavioral control and peer social skills (e.g., “this child disturbs others while they are working” and “this child makes friends easily,” respectively). Per the scale suggestions, sum scores were used for each subscale for descriptive statistics. We then used CFA to extract two latent factor scores for children’s behavior control and peer social skills. The reliability coefficients in the sample were .90 and .93 for behavior control and peer social skills, respectively, consistent with excellent internal consistency.

Analysis Plan

Measurement models were first tested using CFA to verify the factor structure of the primary variables. Factor scores were then extracted for multilevel path analysis (Mplus 8.0 software; Muthén & Muthén, 1998–2012). With the current sample size, the complexity of the hypothesized model containing seven distinct constructs, testing 12 indirect effects and five covariates, and having a nested data structure, this did not allow for reliable and robust estimation of all necessary parameters in a full structural equation model (Curran et al., 2018). Extracting the latent factors for use in the multilevel path analysis reduces measurement error compared to using observed scores (Kline, 2005). Model fits were evaluated using Hu and Bentler's (1999) model fit cutoff recommendations (SRMR \leq 0.08, RMSEA \leq 0.06, CFI \geq 0.95, and TLI \geq 0.95). However, RMSEA values slightly above 0.06 are also acceptable for measurement models (McNeish & Hancock, 2018).

This method permitted the examination of the relations among teachers' perceptions of aspects of family involvement (family contact, family–teacher relationship, and teachers' perceptions of family values), closeness and conflict in the teacher–child relationship, and children's social functioning outcome variables (behavior control, peer social skills). Multilevel multiple mediation path analysis permitted the testing of the direct and indirect effects of family involvement perceptions on children's social functioning outcomes. That is, both research questions were examined within the same model concurrently. The child's gender, intervention status, SES (maternal education and family income), and racial/ethnic identity were included as covariates.

We conducted robustness testing using bootstrapping procedures which indicated that maximum likelihood with robust standard errors (MLR) estimates converged with bootstrapping results. MLR was also used to handle missing data in the multilevel path model, which is robust to missing data under the assumption that data are missing at random (MAR). The child-level attrition rate by the end of the preschool year was 22%, with most families ($n = 58$) withdrawing because their teachers dropped out of the study or moving to a non-participating school ($n = 22$). Compared to the analytical sample ($n = 278$), these families did not significantly differ from retained families in terms of sociodemographic characteristic (i.e., gender, age, race, ethnicity, home language, family income, maternal education, and Individualized Education Plan status). Missing data percentages were 13% for the fall teacher surveys, 15% for the spring teacher surveys,

0% for the initial enrollment family surveys. We first report descriptive statistical information, followed by the results from the CFAs, and lastly, the standardized results of the inferential path analysis.

Results

Descriptives

Table 1 presents the correlations among the main study variables, and Table 2 presents additional descriptive statistics. In general, all three subscales of family involvement were positively associated with both children's behavioral regulation ($r_s = .12\sim.26, p_s < .038$) and peer social skills ($r_s = .18\sim.27, p_s < .003$). Teacher-child closeness was positively associated with the family involvement subscales ($r_s = .18\sim.22, p_s < .002$) as well as the social functioning of children ($r_s = .38\sim.46, p_s < .001$). Similarly, teacher-child conflict was significantly and negatively associated with the family involvement subscales ($r_s = -.13\sim-.18, p_s < .031$), except for the frequency of contact ($r = -.08, p = .152$), and was negatively associated with children's social functioning ($r_s = -.66\sim-.82, p_s < .001$). None of the covariates were associated with the variables examined in the analysis except gender, with teachers reporting girls as having higher levels of behavioral control ($r = .29, p < .001$) and peer social skills ($r = .25, p < .001$) compared to boys.

Confirmatory Factor Analyses

Three CFAs were conducted to verify the reliability of the measures used with the current sample of low-income children and families: family involvement, teacher-child relationship, and child social functioning.

Table 1. Correlations Among Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Teacher–Child Conflict	-											
2. Teacher–Child Closeness	-.41***	-										
3. Frequency of Contact	-.08	.18**	-									
4. Family–Teacher Relationship	-.13*	.21***	.76***	-								
5. Teachers’ Perception of Family Values	-.18**	.22***	.79***	.94***	-							
6. Behavior Control	-.82***	.38***	.12*	.19**	.26***	-						
7. Peer Social Skills	-.66***	.46***	.18**	.21***	.27***	.78***	-					
8. Gender	-.22***	.18**	.04	.07	.07	.29***	.25***	-				
9. Race/Ethnicity	.07	.05	.13*	.10	.10	-.02	.02	.02	-			
10. Maternal Education	-.09	.08	.22***	.23***	.27***	.10	.07	-.01	.14**	-		
11. Intervention Status	-.09	-.08	-.13*	-.12*	-.12*	.02	.01	-.03	-.02	-.02	-	
12. Family Income	-.04	.07	.21***	.20***	.26***	.06	.04	.05	.26***	.59***	.01	-

Notes. * $p < .05$. ** $p < .01$. *** $p < .001$, two-tailed. $N_s = 289$ – 391 . Gender is coded as 1 = female and 0 = male, race/ethnicity is coded as 1 = White and 0 = not White, and intervention condition was coded as 1 = intervention and 0 = control. Anchors for maternal education includes 0 = less than a high-school diploma, 1 = high school education with a diploma, 2 = AA/AS 2-year degree, 3 = bachelor’s degree, 4 = master or doctoral degree. Anchors for family income include: 0 = 10,000 or less, 1 = 10,001–20k, 2 = 20,001–30K, 3 = 30,001–40K, 4 = 40,001–50K, 5 = 50,001–60K, 6 = 60,001–70K, 7 = 70,001–80K, 8 = 80,001–90K, 9 = 90,001–100K, 10 = 100,001–110K, 11 = 110,001–120K, 12 = 120,001–130K, 13 = 130,001–140K, 14 = 140,001–150K, 15 = 150,001–160K, 16 = 160,001–170K, 17 = 170,001–180K, 18 = 180,001–190K, 19 = 190,001–200K, 20 = 200K or more (all in USD).

Table 2. Means and Standard Deviations for the Main Variables

	<i>M</i>	<i>SD</i>	Range
Teacher–Child Conflict	1.11	1.10	0–3.86
Teacher–Child Closeness	3.26	0.60	1.63–4.00
Frequency of Contact	1.41	0.68	0–4
Family–Teacher Relationship	2.76	0.90	0–4
Teachers' Perception of Family Values	2.36	0.89	0–4
Behavior Control	18.35	7.53	0–32
Peer Social Skills	22.05	7.21	0–32

Family Involvement

CFA with maximum likelihood estimation was used to confirm the factor structures for the PTIQ scale (Kohl et al., 2000). The CFA for this measure included 10, 4, and 5 items for the frequency of contact, family–teacher relationship, and teachers' perceptions of family values subscales, respectively. Three items for frequency of contact and one item from teachers' perceptions of family values were dropped due to factor loadings lower than 0.4. The initial model fit was not adequate for the remaining items. Modification indices suggested that a few items needed to be correlated. Two highly similar items were correlated for the family–teacher relationship, and five items for frequency of contact were correlated. Given that the content of these item pairs was comparable, with three items being more closely related to involvement from the families' perspectives, we consider adding the correlations to be appropriate. The modified CFA for PTIQ contains 7, 4, and 4 items for the frequency of contact, family–teacher relationship, and teachers' perceptions of family values subscales, respectively. The final fit indices indicated a good to adequate fit of the data, $\chi^2(82) = 243.52$, $p < .001$, $SRMR = 0.06$, $RMSEA = 0.07$, $CFI = 0.95$, and $TLI = 0.94$. Standardized factor loading for the modified model averaged 0.74, ranging from 0.46 to 0.91.

Teacher–Child Relationship

The expected 2-factor model from the STRS (Pianta, 2001) was confirmed using CFA. The CFA for this measure included 7 and 8 items for the conflict and closeness subscales, respectively. One item from the closeness subscale was dropped due to low factor loadings (< 0.40). This question

asked the teacher about the child's comfort in personal conversations. The initial model fit was not adequate for the remaining items. The modification indices suggested that a few items needed to be correlated for the closeness subscale. Given that the content of these item pairs was reasonably associated with the last two items related to children's self-expression, we consider adding the correlations to be appropriate. After the above modifications, the CFA for STRS contains 7 and 7 items for the conflict and closeness subscales, respectively. The final fit indices indicated a good to adequate fit of the data, $\chi^2(73) = 114.14$, $p = .002$, $SRMR = 0.04$, $RMSEA = 0.04$, $CFI = 0.98$, and $TLI = 0.97$. Standardized factor loading for the modified model averaged 0.74, ranging from 0.53 to 0.87.

Child Social Functioning

The CFA confirmed the two-factor model for behavioral control and peer social skills from the T-CRS (Hightower et al., 1986). The CFA for this measure included 8 and 8 items for each subscale and all items were retained; however, the initial model fit was not adequate. The modification indices suggested that several items needed to be correlated for the behavior control and peer social skills subscales. For behavior control, three items pertaining to the child's behavioral reactions to difficulty were correlated with one another, and two items about classroom disruption were correlated. For peer social skills, we included four correlations among items that pertained to the child's ease of making and maintaining friendships. Given that the content of these item pairs seems reasonably associated, we consider adding the correlations to be appropriate. After the above modifications, the final fit indices indicated a good to adequate fit of the data, $\chi^2(94) = 250.75$, $p < .001$, $SRMR = 0.05$, $RMSEA = 0.08$, $CFI = 0.93$, and $TLI = 0.91$. Standardized factor loading for the modified model averaged 0.75, ranging from 0.54 to 0.84.

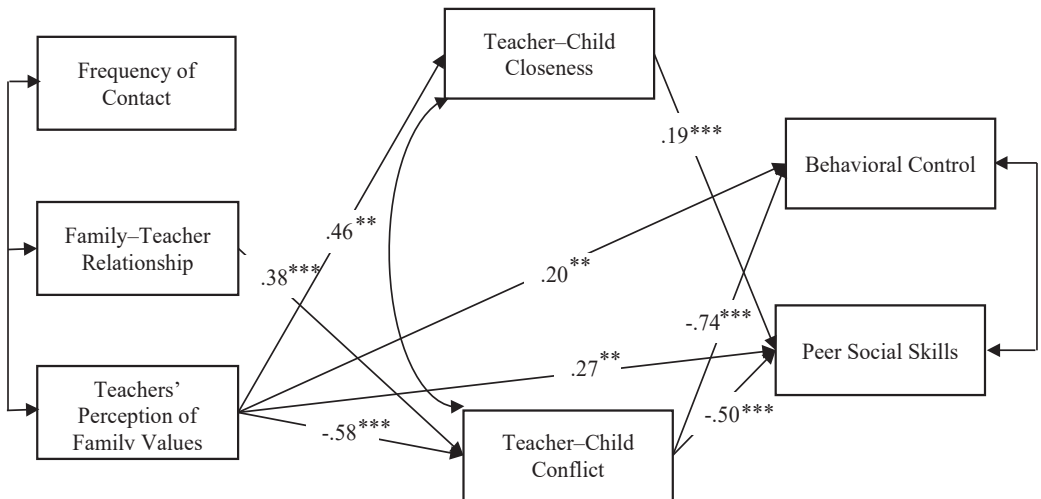
Path Analysis

Given the complexity of the hypothesized model, we extracted latent factor scores in each of the CFAs for each construct for use in the multilevel multivariate mediation path analysis (Logan et al., 2021). The detailed mediation results are presented in Table 3, and the results of the full model with significant direct paths are shown in Figure 1. After accounting for the mediating role of teacher-child relationships, the results showed that only teachers' perceptions of family values directly predicted children's behavioral control ($B = .31$, $p = .001$) and peer social skills ($B = .41$, $p = .019$), whereas the direct effects of frequency of contact and family-teacher relationships were insignificant ($ps = .137-.673$). Through teacher-child

conflict, family–teacher relationships had significant negative indirect effects on both behavioral control ($B = -.35, p = .001$) and peer social skills ($B = -.24, p = .003$). Teachers’ perceptions of family values had significant positive indirect effects on both behavioral control ($B = .65, p < .001$) and peer social skills ($B = .45, p < .001$). Through teacher–child closeness, teachers’ perceptions of family values had another significant positive indirect effect on peer social skills ($B = .13, p = .007$). The mediation model explained 84% and 72% of the variance in behavioral control and peer social skills, respectively, as indicated by *R-squared*. Moreover, the model explained 29% and 51% of the variance in teacher–child closeness and conflict, respectively. Intraclass correlation coefficients for the primary study variables ranged from .096 to .16, suggesting that approximately 10–12% of the variance in these factors is attributable to between-teacher variation.

In summary, results suggest that two of the subscales of family involvement, namely the family–teacher relationship and teachers’ perceptions of family values, were associated with children’s behavioral control and peer social skills indirectly through teacher–child relationships, especially teacher–child conflict. Teachers’ perceptions of family values also had direct effects on the social functioning outcomes beyond its indirect effect.

Figure 1. Mediation Path Analysis



Note. The figure displays the significant direct effects only, ** $p < .01$, *** $p < .001$.

Table 3. Indirect, Direct, and Total Effects of Family Involvement on Children’s Social Functioning

Paths	Coef.	SE	Stand.	SE
<i>Family and Teacher Relationships</i> → <i>Behavioral Control</i>				
<i>Indirect Through</i>				
Teacher–Child Closeness	-0.01	0.57	0.00	0.01
Teacher–Child Conflict	-0.35***	0.00	-0.28***	0.07
<i>Direct</i>	-0.11	0.15	-0.09	0.06
<i>Total</i>	-0.47***	0.00	-0.37***	0.07
<i>Family and Teacher Relationships</i> → <i>Social Skills</i>				
<i>Indirect Through</i>				
Teacher–Child Closeness	-0.06	0.17	-0.05	0.03
Teacher–Child Conflict	-0.24**	0.00	-0.19**	0.06
<i>Direct</i>	-0.20	0.14	-0.15	0.09
<i>Total</i>	-0.5***	0.00	-0.39***	0.07
<i>Teachers’ Perception of Family Values</i> → <i>Behavioral Control</i>				
<i>Indirect Through</i>				
Teacher–Child Closeness	0.01	0.55	0.01	0.01
Teacher–Child Conflict	0.65***	0.00	0.43***	0.06
<i>Direct</i>	0.31**	0.00	0.20**	0.06
<i>Total</i>	0.97***	0.00	0.64***	0.04
<i>Teachers’ Perception of Family Values</i> → <i>Social Skills</i>				
<i>Indirect Through</i>				
Teacher–Child Closeness	0.13**	0.01	0.09**	0.03
Teacher–Child Conflict	0.45***	0.00	0.29***	0.06
<i>Direct</i>	0.41**	0.02	0.27**	0.10
<i>Total</i>	0.99***	0.00	0.64***	0.05

Discussion

Family involvement in early childhood education is a key contributor to children’s social and behavioral adjustment to formal schooling and their subsequent academic success. Initiatives encouraging family involvement, such as the federal Head Start program, often target economically disadvantaged and marginalized families in efforts to enhance school readiness (Shaw & Shelleby, 2014). Such programs often prioritize children’s socioemotional development by cultivating supportive family–school

relationships, setting children up for classroom experiences in which they cultivate positive teacher and peer relationships (Bierman et al., 2023). With a sample of marginalized, low-income families, we expanded knowledge of these interactive relations by addressing two key aims.

First, we examined associations between various degrees and forms of preschool family involvement and children's social functioning in the classroom. Second, we examined the teacher-child relationship as a proximal process or mediating mechanism through which family involvement influences the development of social functioning in preschool. A bioecological theoretical perspective of development proposes that contextual influences, such as SES and family involvement, are mediated by children's proximal processes, such as the teacher-child relationship (Bronfenbrenner & Evans, 2000). It is understood that quality involvement in early schooling indeed supports children's development and a successful kindergarten transition (Kang et al., 2017); however, family involvement is often limited by the systemic barriers that exist for marginalized low-income families (Baker et al., 2016). Moreover, children from higher income families disproportionately benefit from strong family-teacher relationships in terms of their social competence (Iruka et al., 2011). Countering common deficit narratives which target marginalized populations and aiming to increase family involvement, the present study identified the teacher-child relationship as a mechanism partially underlying the influence of family involvement on children's social functioning, elucidating an additional point of intervention.

Several significant main findings that contribute to the existing body of literature emerged from the path analyses: (1) teachers' perceptions of families' value of education were directly associated with children's social functioning, (2) teacher's perceptions of families' value of education were indirectly associated with children's social functioning through a decrease in conflict and increase in closeness in the teacher-child relationship, (3) the quality of the family-teacher relationship was positively associated with conflict in the teacher-child relationship, and (4) the quality of the family-teacher relationship was indirectly associated with children's social functioning through conflict in the teacher-child relationship. In line with past findings, the frequency of family involvement was not associated with children's social functioning directly or indirectly (Rimm-Kaufman et al., 2003). These findings corroborate previous research showing family involvement and harmonious teacher-child relationships foster young children's behavioral adjustment within the social context of classrooms, supporting future school readiness (Hamre & Pianta, 2001; McCormick et al., 2013). This study helps bridge two typically distinct lines of research

by demonstrating how children's relationships with teachers are one mechanism by which family involvement supports low-income children's social functioning. We first discuss each of the family involvement constructs of interest and then review the teacher-child relationship as the proximal process that mediated the observed effects.

By measuring teachers' perceptions of families' educational values or their endorsement of school, we essentially assessed whether teachers' perceptions were congruent with their expectations of families' involvement (Kohl et al., 2000). These culturally bound perceptions were highly predictive, being associated both directly with children's social functioning in the classroom and indirectly through teachers' ratings of their relationships with children. When teachers perceived that the family valued the child's education, they were more likely to rate the child's behavioral control and peer social skills highly while also reporting closer and less conflictual relationships. These results are concordant with research suggesting that teachers' perceptions of family attitudes are a better predictor of children's school success compared to family-school activities (Rimm-Kaufman et al., 2003). Additionally, teachers' perceptions of students' families may in part dictate how likely they are to connect with families when a child is struggling, which may then impact the child's developmental outcomes (Iruka et al., 2011; Schock & Jeon, 2023). To prevent this negative potential, teachers need support in recognizing the rich and diverse funds of knowledge that all families possess and the many ways families inconspicuously contribute to children's development at home and in the community (González et al., 2005).

Building on Hoover-Dempsey and Sandler's seminal model (1995) which identified parental role construction as a key personal motivator for family involvement, recent literature has renewed focus on how families' involvement in their children's schooling largely depends on how they conceive their role (Hill, 2022; McWayne et al., 2022; Williams-Johnson & Gonzalez-DeHass, 2022). This acknowledgement promotes cultural inclusivity, accounting for the fact that schools reflect the dominant culture which is laden with unspoken expectations that marginalized families may be unaware of, leading to a disconnect between the family and school. Families' definitions and understandings of involvement vary and may not be aligned with teachers' conceptions and perceptions (Liang et al., 2020), and some families believe their involvement is neither necessary nor part of their responsibility (Anderson & Minke, 2007; Yamamoto et al., 2022). By meeting families wherever they are with a sense of cultural humility and respect, teachers are then positioned to establish stronger relationships with

families and shared beliefs and expectations for the child's education (Parr & Vander Dussen, 2017).

The quality of the family–teacher relationship, as reported by the teacher, was unexpectedly positively associated with conflict in the teacher–child relationship, but conflict was then negatively associated with children's social functioning as expected. Given that children's social interactions and their development is a dynamic process, the pathways considered are more reciprocal than causal. It is possible that when teachers experience a high degree of conflict in a relationship with a child who exhibits problems with his or her social functioning, they compensate by developing a stronger relationship with the child's family. According to work by Cohen and Anders (2020), “door talks” are the most common family involvement activity, consisting of informal and brief communications throughout the week that are often instigated by concerns about the child's classroom functioning and developmental progress. Although this claim was not supported by a significant negative effect between frequency of contact between the family and teacher and conflict in the teacher–child relationship, it is possible that our measure did not capture these brief but meaningful interactions. However, as our other findings and past research suggest, teachers may still make negative assumptions about families' educational values even as they are developing more positive relationships with families (Arce, 2019).

Being that family educational values and the quality of the family–teacher relationship, both as perceived by preschool teachers, were strongly related, it is likely that these measures captured the overall quality of family–school collaboration, and potentially, teachers' implicit biases (Kurucz et al., 2020). In alignment with previous work (Dearing et al., 2008; Schock & Jeon, 2023; Wyrick & Rudasill, 2009), there appears to be a complex spillover effect between the relational component of family involvement and the quality of relationships teachers develop in the classroom with students. From a bioecological perspective (Bronfenbrenner & Morris, 2006), the interactions occurring in the teacher–child relationship are the proximal processes mediating the influence of contextual effects on children's outcomes. Work by Ashiabi and O'Neal (2015) demonstrated that proximal processes exert a more powerful effect on children's social development compared to contextual factors, such as SES and family involvement in schooling. Thus, while family involvement is an important mesosystem supporting children's social development within the school microsystem, especially for children experiencing macro-level economic adversity, teacher–child relationships are also impactful. Family involvement appears to improve children's social functioning via fostering quality teacher–child

relationships, the proximal processes. Interactions with teachers then set behavioral expectations that promote children's positive social functioning in the classroom, and the present findings suggest these interactions are partly influenced by teachers' perceptions of the child's family involvement.

The present study is not the first to identify the teacher-child relationship as an important mediator between family involvement and children's educational outcomes (e.g., Dearing et al., 2008; Ferreria et al., 2016; Jeon et al., 2020; Schock & Jeon, 2023; Topor et al., 2010). Findings from Jeon et al. (2020) and Schock and Jeon (2023) both found teachers' perceptions of families to be indirectly related to teachers' perceptions of children's socioemotional functioning through the influence of the teacher-child relationship. However, Jeon et al. (2020) conflated closeness and conflict in the teacher-child relationship, and Schock and Jeon (2023) did not find any significant associations between teachers' perceptions of families and conflict in the teacher-child relationship. The findings reported herein build upon this past work, offering a more nuanced understanding of the mediating role of teacher-child conflict.

Teachers may find it easier to cultivate close and harmonious relationships with children from families they also connect with, which is more likely to occur when there is shared socioeconomic and racial/ethnic background (Downer et al., 2016; Markowitz et al., 2020; Wyrick & Rudasill, 2009). However, harmonious teacher-child relationships, often being conceptualized as a protective factor buffering the negative effects of adversities experienced by children, can be most beneficial for children from marginalized families (Buyse et al., 2011; Marks et al., 2023; Nguyen et al., 2020; Westerberg et al., 2020). It is the case that children with higher stress, such as children from low-income households, are more likely to demonstrate low social competence (Brophy-Herb, 2007). We indeed found that close teacher-child relationships were positively related to peer social skills. Additionally, the research reported here and in other recent work demonstrates that higher reported conflict within the teacher-child relationship predicts lower social functioning. Paes et al. (2023) found that caregiver education moderates this relation, demonstrating the influence of the family context.

The positive effects of high quality teacher-child relationships in terms of children's social skills appear to strongly sustain themselves through elementary school (Berry & O'Connor, 2010). Further, these relationships have been found to directly influence the social ecology of the classroom. Children with more positive teacher-child relationships tend to have more peer connections (Endedijk et al., 2022). The quality of the relationship

between teachers and children can serve as a key pathway for children from disadvantaged backgrounds to reach the competencies needed for academic success (Brophy-Herb et al., 2007; Burchinal et al., 2002; Westerberg et al., 2020). The social and emotional processes that take place in these relationships within the classroom context support the development of children's peer social skills and behavior control, even if family involvement is not substantive.

Researchers continue to seek to identify mechanisms that explain “how” or “why” family involvement is so influential during children's early educational experiences. Dearing and colleagues (2008) established longitudinally, with a sample of low-income families, that increases in family involvement over time predicted improvements in children's attitudes toward school through improvements in teacher-child relationships. Here, with a comparable sample of families, we report converging evidence demonstrating that family involvement measured during the fall of the school year predicts children's social functioning through the teacher-child relationship—both measured in the spring. Simply put, the child is part of the family. By being involved with teachers and the school, families better socialize their children to the novel school environment, positively influencing the development of close teacher-child relationships, which then supports children's social development.

Limitations and Future Directions

A notable limitation of this study was the use of single indicators for family involvement, teacher-child relationship quality, and children's social functioning. Doing so restricts the ability to interpret these findings directionally; however, given the dynamic nature of how the constructs of interest manifest as complex and interactive social systems (Pianta et al., 2012), making directional and causal claims was not ultimately our goal. We straightforwardly sought to elucidate how the family-teacher mesosystem and children's proximal processes with their teachers relate to their social functioning with peers in the school microsystem. It is likely that, in addition to various forms of family involvement influencing the quality of the teacher-child relationship and thus children's social functioning in the classroom, children's social functioning largely shapes children's relationships with teachers which then has an impact on teacher's perceptions of children's families' involvement. The approximate five-month time lapse in the measurement of the family involvement constructs in the fall versus the teacher-child relationship mediators and social functioning outcomes measured in spring may permit causal inference, but the directionality of

these findings should be interpreted with caution and explored in future work. Schock and Jeon (2023) recently explored the directionality of these associations by testing competing multilevel path models, also finding that teacher perceptions are likely to “flow” from families to children.

Extremely low response rates for family surveys resulted in unusable data, and so we relied on the head teacher’s data exclusively in the analyses. Fortunately, teacher perceptions, compared to caregiver perceptions, tend to be more predictive of child behavioral outcomes (Sheridan et al., 2012). We partially addressed measurement error of teacher reports through conducting CFAs to extract latent factor scores (Logan et al., 2021), but teachers’ subjective perceptions may not accurately reflect reality (Foster et al., 2017). While teachers are more likely to report higher quality relationships with families from high income levels and rate children from these families as more socially competent, this pattern of income differences is not consistent in parent reports (Iruka et al., 2011). It is likely that teachers would also be similarly biased in their ratings of their relationships with children. Future research including convergent family and teacher report measures of family involvement and observational measures of teacher–child relationships and children’s social functioning is needed.

Practical Implications

Quality family involvement in preschool as indicated by the families’ positive endorsement of school and strong family–teacher relationships is imperative for children’s social adjustment to preschool. Understanding the underlying mediating factors is key for designing effective family involvement intervention, as these factors offer an additional avenue for supporting preschoolers’ social functioning. The findings in this study and others demonstrate that children’s social adjustment is further supported by the protective nature of close and harmonious teacher–child relationships. Teacher professional development programs and interventions involving relationship-building techniques appear promising (e.g., Knoche et al., 2010, Purtell et al., 2022; Rivas et al., 2023, Sheridan et al., 2012; Spilt et al., 2012). Additionally, implementing strength and needs assessments at the start of the school year is a proactive and responsive practice that can help educators better understand and respond to the unique strengths, circumstances, recourses, and challenges of each family (Garbacz et al., 2019; Purtell et al., 2022).

By supporting teachers in cultivating strong connections with children and children’s families at the administrative level (see Cohen & Anders, 2020) and by fostering teachers’ development of cultural humility (see

Ladson-Billings, 2006; Vesely et al., 2017), teachers are better equipped to navigate the dozens of relationships they manage daily. In turn, children's social experiences in education and subsequent academic trajectories are supported by teachers who see and value the child and the family's unique contributions, regardless of how visibly involved the family can be.

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