
Family–School Connectedness and Children’s Early Social Development

ZewelANJI N. Serpell, *Virginia State University* and
Andrew J. Mashburn, *University of Virginia*

Abstract

This study examined the extent to which teacher ratings of the frequency of parent–teacher contacts and quality of parent–teacher relationships in prekindergarten were associated with teachers’ perceptions of the quality of their relationship with children and children’s social development. Participants were a diverse sample of 2966 four-year-olds who attended publicly funded prekindergarten programs in the USA. Results indicated that after controlling for child and family characteristics, the perceived quality of the parent–teacher relationship during prekindergarten was associated with prekindergarten teachers’ ratings of children’s social development during prekindergarten and kindergarten teachers’ ratings at the beginning of kindergarten. Furthermore, the association between quality of the parent–teacher relationship and reductions in problem behavior was stronger among children who experienced social/economic risks.

Keywords: social competence; parent–teacher relations; preschool; at-risk youth

Introduction

The promotion of children’s social and behavioral competence is arguably one of the most important outcomes of early childhood education. Social and behavioral competencies in preschool are strong predictors of school readiness and adjustment (Rimm-Kaufman, Pianta, & Cox, 2000), and the quality of the relationships children form with their preschool teachers has significant concurrent (Garner & Waajid, 2008; Mashburn et al., 2008) and long-term consequences for children’s outcomes (Hamre & Pianta, 2003; O’Connor & McCartney, 2007; Peisner-Feinberg et al., 2001).

Young children’s development of social and behavioral competencies is contingent upon multiple ecological inputs. Particularly important are the inputs emanating from the social interactions that children experience at home and at school (Mashburn &

The research reported herein was supported by the Institute of Education Sciences, U.S. Department of Education, through the National Center for Research on Early Childhood Education, Grant R305A060021 to the University of Virginia. The opinions expressed are those of the authors and do not represent views of the U.S. Department of Education.

Correspondence should be addressed to ZewelANJI Serpell, Department of Psychology, Virginia State University, 1 Hayden Drive, P.O. Box 9079, Petersburg, VA 23806, USA. Email: zserpell@vsu.edu

Pianta, 2010; O'Connor & McCartney, 2007). It is also widely accepted that the acquisition of school-related skills is uniquely influenced by the point of intersection between these two ecologies (Bronfenbrenner, 1994; Epstein, 2001). Frequently defined as family–school connectedness, this intersection between the family and the school can facilitate valuable communication and socialization practices that promote children's school success (Downer & Myers, 2009; Epstein, 2001).

Recently in the USA, the federal government and most states have invested in publicly funded prekindergarten (pre-k) programs that are designed to provide opportunities for four-year-olds to develop school readiness skills prior to entry into kindergarten. The growth and expansion of pre-k continue to be spurred by developmental research, particularly new discoveries about cognition and brain development suggesting greater brain plasticity before the age of five, and a strong base of evidence showing that pre-k programs produce demonstrable gains in the social, emotional, behavioral, and cognitive attributes that characterize school readiness (e.g., Barnett & Masse, 2007; Reynolds, Temple, Robertson, & Mann, 2001). The value of pre-k is well established; however, an important caveat is that the quality of children's experiences in pre-k is critical to ensure positive child outcomes (e.g., Mashburn & Pianta, 2010). Strong family–school connections are a hallmark of quality pre-k programs in the USA (NAEYC, 2002).

Although family–school connections are posited to play a central role in children's early development, the body of empirical studies examining this association in pre-k is limited. Furthermore, much of the research has focused on the degree to which parents are involved with school (i.e., quantity or frequency of contacts or events attended) rather than on the quality of parents' relationships with teachers (Adams & Christenson, 2000). The current study contributes to the existing literature by examining two facets of family–school connections in pre-k—the frequency of parent–teacher contacts and the quality of parent–teacher relationships—and their associations with children's development of social competencies in pre-k and in kindergarten. In addition, the study examines the extent to which the quality of the parent–teacher relationship has stronger associations with the development of social outcomes for children who experience greater levels of social and economic risk.

Why Family–School Connections Should Matter

The case for family–school connections playing a significant role in children's early social development is theoretically strong. A number of theorists (e.g., Bronfenbrenner, 1994; Harkness & Super, 1996; Sameroff, 1975) suggest that child development is best conceived in terms of a set of interdependent systems that simultaneously exert their influence on children. Particularly relevant in the current study are *mesosystem* processes or the interrelations between a child's most proximal socializing contexts—family and school. These interrelations are defined by two dimensions; the first involves establishing a system of communication that links families and schools (amount or frequency of family–school contacts), and the second concerns the negotiation or interpersonal interactions (parent–teacher relationship) required to create a shared understanding of how each party contributes to a child's development (Downer & Myers, 2009). Although there are bidirectional influences between the frequency of contact between parents and teachers and the quality of the relationship they share (Nzinga-Johnson, Baker, & Aupperlee, 2009), the relationship is not simply the sum of these contacts (Downer & Myers, 2009).

The frequency dimension of family–school connections is often mandated at the macrosystem level through educational policies requiring that schools create opportunities for parents and teachers to interact (Serpell, 1997). Whereas the quality dimension, is negotiated at the mesosystemic level within a parent–teacher relationship that encompasses affective qualities such as interpersonal trust, feelings of support, and mutual respect (Adams & Christenson, 2000; Vickers & Minke, 1995). Frequent and high-quality family–school connections can facilitate children’s development by providing opportunities for a bidirectional exchange of information about a child that helps align parents’ and teachers’ goals (Epstein, 2001). Within family–school connections, the parent–teacher relationship-quality dimension appears to be particularly important for facilitating meaningful information exchanges and parental involvement in school. While a quality of parent–teacher relationship likely facilitates more parent involvement, it can also influence children’s perception of the importance of school and can enhance their engagement with school (Grolnick & Slowiaczek, 1994; Hughes & Kwok, 2007). Conversely, children’s perception that the parent–teacher relationship is weak or that parents and teachers have differing expectations and goals may exacerbate any existing school-adjustment problems or may create new ones (Hoover-Dempsey & Sandler, 1995).

Family–School Connections and Children’s Social Outcomes

The association between family–school connections and children’s outcomes in pre-k is largely extrapolated from a number of studies examining these connections at the elementary-school level. This literature generally shows that more parent–teacher contacts and parent participation in school activities yield improved social and academic outcomes (see Seginer, 2006 for a review). However, this literature is replete with definitional ambiguities, methodological inconsistencies, and selection issues that may compromise these conclusions (Fan & Chen, 2001). An additional issue is that many studies rely on teacher ratings for both parental involvement and children’s outcomes. As such, measures of involvement represent teachers’ perceptions, and these are not necessarily congruent with more objective indices of involvement (Waanders, Mendez, & Downer, 2007).

Teachers’ perceptions about children and parents—in and of themselves—can affect children’s development and well-being. The influence of teachers’ perceptions on children’s outcomes has a long history in educational research, and more positive perceptions may influence the amount of time the teacher spends with the child in the classroom, the quality of interactions between the teacher and the child, and the likelihood that the teacher labels the child as having behavioral problems. Further, there is an emerging literature demonstrating that teachers’ perceptions about parents are associated with their attitudes about and behaviors toward parents. For example, teachers’ perceptions of a high-quality of parent–teacher relationship predict parents’ school-based involvement (Nzinga-Johnson, Baker, & Aupperlee, 2009), and teacher perceptions of parents’ attitudes toward school are strong predictors of children’s early school outcomes (Rimm-Kaufman, Pianta, Cox, & Bradley, 2003).

Although few in number, studies of family–school connections in pre-k show positive associations with young children’s acquisition of academic and social skills (Arnold, Zeljo, Doctoroff, & Ortiz, 2008; McWayne, Hampton, Fantuzzo, Cohen & Sekino, 2004; Fantuzzo, McWayne, Perry, & Childs, 2004; Waanders et al., 2007). For example, Reynolds (1992) reported that frequent family–school contacts were associated with

better classroom behavior, and that high levels of parents' school-based involvement were associated with significantly increased adaptive-learning behaviors and lower levels of classroom-behavior problems. There is also some indication that these benefits may extend beyond pre-k (Taylor & Machida, 1994). It is important to note that more frequent parent-teacher contacts may also be negatively related to children's social outcomes because the frequency of these interactions may be motivated by students' problem behavior (Deslandes & Bertrand, 2005).

Empirical studies examining a potential association between the *quality* of parent-teacher relationships and children's social/behavioral outcomes are scant. Existing studies at the elementary-school level suggest that the parent-teacher relationship is a stronger predictor of children's social adjustment and achievement than is the frequency of family-school contacts (Rimm-Kaufman, Pianta, Cox, & Bradley, 2003). To our knowledge, only two studies have examined a facet of parent-teacher relationship quality in pre-k: Waanders et al. (2007) and Arnold et al. (2008). However, both studies examine quality as the connection and ease of parent-teacher communication and not as encompassing affective qualities such as trust or emotional tone. Further, neither study examined the association between parent-teacher relationship quality and children's development of social skills and positive relationships with their teachers.

Family Factors Related to Family-School Connections

Families with social risks frequently have fewer financial and social resources as well as reduced time to invest in their children's education (Garcia-Coll et al., 1996), which may constrain the number of contacts between parents and teachers. Indeed, researchers have documented low levels of family-school connections among families of low income and/or racial/ethnic minority status (Nzinga-Johnson et al., 2009; Waanders et al., 2007). Other proxies for socioeconomic status, such as low levels of parental education and single parenthood, have also shown to affect adversely the number of family-school contacts (Arnold et al., 2008; Kohl, Lengua, & McMahan, 2000). One study surprisingly indicates that family factors do not appear to predict the frequency of family-school contacts in preschool and kindergarten (Rimm-Kaufman & Pianta, 2005). However, other studies show that the relationships between family factors and homeschool communications may be more nuanced. For example, mothers who work part-time have higher levels of involvement than those who work full-time. However, unemployed mothers not currently looking for work have the lowest levels of involvement (Weiss et al., 2003).

In addition to having fewer contacts with teachers, parents who are culturally or socioeconomically different from their children's teachers may also experience sub-optimal and strained relationships with teachers (Waanders et al., 2007), marked by low levels of cooperation and trust (see Boethel, 2003 for a review). In early childhood, poor parent-teacher relationships in families with social risks may be attributable to differences in child-rearing beliefs, communication styles, and expectations regarding children's behavior (Churchill, 2003; Harkness & Super, 1996). English language proficiency is also an important determinant of school-based involvement among language minority and immigrant populations (Wong & Hughes, 2006).

Quality parent-teacher relationships may be an important mechanism through which to promote inter-setting consistency and thereby improve developmental outcomes for at-risk children (Downer & Myers, 2009; Hill, 2001). Young children who enter preschool with social risks may also benefit disproportionately from positive

experiences in pre-k. This notion is supported by evidence showing that race moderates the association between quality teacher–child relationships and children’s outcomes. For example, Meehan, Hughes, and Cavell (2003) found that positive teacher–child relationships had a greater impact on the outcomes of aggressive African-American and Hispanic children than they did for White children. It is therefore conceivable that high-quality of parent–teacher relationships may have stronger positive associations with the development of social outcomes among at-risk preschoolers than among those without social and economic risks.

The Current Study

The current study asks two primary research questions. The first question asks: To what extent are family–school connections during pre-k (quality of parent–teacher relationships and parent–teacher contacts) associated with children’s social development? This question is examined using four sets of outcomes: pre-k teachers’ perceptions of children’s social competence and problem behaviors; pre-k teachers’ perceptions of the degree of closeness and conflict in their relationships with children; kindergarten teachers’ perceptions of children’s social competence and problem behaviors; and kindergarten teachers’ perceptions of the degree of closeness and conflict in their relationships with children. The second research question asks: To what extent are the associations between family–school connections and children’s development of social outcomes moderated by child and family characteristics (sex, primary home language, race/ethnicity, family income, and maternal education)?

Methods

Participants

Participants come from two large-scale studies of state-funded pre-k programs: the National Center for Early Development and Learning’s (NCEDL) Multi-State Study of Pre-Kindergarten (Multi-State Study), and the NCEDL–National Institute for Early Education Research State-Wide Early Education Programs Study (SWEEP Study). The Multi-State Study included a stratified random sample of 40 state-funded pre-k programs within each of the six states (GA, IL, KY, OH, and two large regions in CA and NY) during 2001–2002, and from each program, one pre-k classroom was randomly selected to participate for a total of 240 classrooms. The SWEEP Study involved a stratified random sample of 100 state-funded pre-k programs within each of the five states (MA, NJ, TX, WA, and WI) during 2003–2004, and from each program, one pre-k classroom was randomly selected to participate for a total of 500 classrooms. The 11 states in these two studies served approximately 80 percent of children in the USA who attended state pre-k programs at the time the studies were conducted.

In each participating classroom, the teacher was told that the researchers were interested in learning more about what was happening in pre-k programs. The teacher was encouraged to send out a study information packet home with each child at the beginning of the year that contained a cover letter (stating that the researchers were interested in learning about pre-k programs), a family contact sheet, a demographic questionnaire, and a parental consent form. The average rate of parental consent for children in the Multi-State Study and SWEEP Study was 61 percent and 55 percent, respectively. Children were identified as eligible to participate if they (1) had parental

Table 1. Child Characteristics, Family Characteristics, Parent–Teacher Relationship and Teacher Ratings of Child Competencies

	N	%	Missing	Mean	SD	Range
Child characteristics						
Gender			0			
Boy	1459	49				
Girl	1507	51				
English is the first language			43			
No	664	23				
Yes	2259	77				
Race			68			
African-American	533	18				
Latino	764	26				
White	1200	41				
Other race	401	14				
Family characteristics						
Family income			216			
Poor	1605	58				
Not poor	1145	42				
Mother's education (years)			81	12.6	2.41	8–20
Teacher–parent relationship						
Quality			322	3.55	.51	1–4
Phone contact			343	2.42	.88	1–5
Voluntary contact			337	1.94	.67	1–5
Parent–teacher conference			355	2.07	.45	1–5
PK teacher ratings						
Social competence—fall			397	3.47	.77	1–5
Social competence—spring			322	3.64	.77	1–5
Problem behavior—fall			395	1.51	.53	1–5
Problem behavior—spring			328	1.50	.54	1–5
Teacher–child closeness—spring			318	4.38	.63	1–5
Teacher–child conflict—spring			318	1.61	.73	1–5
KG teacher ratings (N = 1939)						
Social competence—fall				3.54	.77	1–5
Problem behavior—fall				1.58	.62	1–5
Teacher–child closeness—fall				4.33	.61	1–5
Teacher–child conflict—fall				1.57	.70	1–5

Notes: KG = kindergarten; PK = prekindergarten.

consent, (2) met the age criteria for kindergarten eligibility during the following year, (3) according to the teacher, did not have an individualized education plan, and (4) according to the teacher, spoke English or Spanish well enough to understand simple instructions. The group of eligible children was stratified by gender, and in each class, whenever possible, two boys and two girls were randomly selected. The resulting sample included 2966 children from 704 pre-k classrooms within 11 states. Table 1

provides the demographic composition of children in this study. The sample represented both genders nearly equally (49 percent boys and 51 percent girls), and approximately one quarter (23 percent) of the children did not speak English as their primary language. The sample was ethnically and racially diverse: 41 percent of children were White, 18 percent were African-American, 26 percent were Latino, and 14 percent were other race. Over half of the children (58 percent) were from families that were categorized as poor, designated as such if their family's total income fell below 150 percent of the federal poverty threshold based on family size. The average number of years of maternal education was 12.6 years ($SD = 2.4$ years).

In the analysis examining associations between parent–teacher relationships and children's social outcomes during pre-k, we used the entire sample of 2966 children. In the analysis examining these outcomes at kindergarten entry, the subsample of 1939 children for whom kindergarten teachers completed assessments for the outcomes of interest was included. Attrition bias analyses were conducted to compare the demographic characteristics, the social outcomes at the beginning of pre-k, and the family–school connectedness of 1939 children included in the kindergarten analysis, with the 1027 children who were excluded due to missing teachers' reports of these outcomes. There were no statistically significant differences between the children who were excluded and retained from the kindergarten analysis with regard to gender ($\chi^2 = 2.84$, $p = .09$), frequency of parent phone contacts ($t = -1.36$, $p = .18$), parent voluntary contacts ($t = -1.82$, $p = .07$), or parent–teacher conferences ($t = 1.39$, $p = .17$). However, children excluded from the analysis were less likely to speak English as a first language ($\chi^2 = 27.3$, $p = .00$), more likely to identify as Latino and other ($\chi^2 = 36.5$, $p = .00$), more likely to come from families categorized as poor ($\chi^2 = 87.7$, $p = .00$), had mothers with, on average, fewer years of education ($t = -5.83$, $p = .00$), had lower social competence ($t = -2.68$, $p = .00$) and greater problem behaviors at pre-k entry ($t = 2.57$, $p = .00$), and had higher quality of parent–teacher relationships ($t = 2.81$, $p = .00$).

Measures

Child and Family Characteristics. These data were provided by parents/primary caregivers on the demographic questionnaire completed at the start of the pre-k year. Demographic characteristics included in this study were *gender* (boy is the reference group), *English is the child's first language* ('no' is the reference group), *race/ethnicity* (White is the reference group), whether the family is *poor* ('not poor' is the reference group), and years of *maternal education*.

Family–School Connectedness. Two dimensions of family–school connections were assessed: the quality of the relationship between parents and teachers, and the frequency of different types of contact between parents and teachers. Relationship quality was assessed in the spring of the pre-k year using teacher ratings on the home–school relationships questionnaire (Barbarin, 2000), a 7-item scale that assesses the *quality of the relationship* that the teacher has with each study child's parent related to satisfaction, emotional tone, level of trust, clarity of communication, agreement, parent appreciation, and parent support and cooperation. Teachers responded to each item along a 4-point Likert scale with anchors that are relevant for the question. For example, the level of trust item was worded as follows: 'How would you describe the degree of trust between you and this child's parents?' (1 = a great deal of trust between us; 2 = a little trust—it is okay; 3 = a little suspicion and mistrust; and 4 = much suspicion and no

trust between us). For each item, higher scores represented a lower quality relationship; however, to aid in the interpretation, scores were reverse coded such that higher scores indicate a better quality relationship. The mean of the seven items was computed and used to represent teachers' reports of the overall quality of the parent–teacher relationship. Internal consistency (Cronbach's alpha) for the scale was .92, and on average, teachers reported positive relationships with parents ($M = 3.55$, $SD = .51$, range = 1–4).

The frequency of different types of contact that teachers' had with parents was assessed in the spring via teacher ratings on six items. Using a 4-point Likert scale with anchors (1 = never, 2 = once or twice a year, 3 = almost every month, 4 = almost every week, and 5 = more than once per week), teachers' reported the frequency of the following types of contacts: parent called teacher, teacher called parent, parent attended group function, parent attended a special event, parent attended parent–teacher conference, and parent volunteered. These items were subjected to an exploratory factor analysis, and three dimensions of the frequency of parent–teacher contacts were identified. The first subscale assessed the *frequency of phone contacts*, and it included the frequency of the parent calling the teacher and the teacher calling the parent; the internal consistency (Cronbach's alpha) was .73, and the mean for the subscale was 2.42 ($SD = .88$). The second subscale assessed the *frequency of voluntary contacts*, and it included the frequency that the parent attended a non-mandatory event including a group function, a special event, and volunteered; the internal consistency (Cronbach's alpha) was .75, and the mean for the subscale was 1.94 ($SD = .67$). The third subscale assessed the *frequency of parent–teacher conferences*. This subscale comprises a single item with a mean of 2.07 ($SD = .45$).

Social Skills. In the fall and spring of pre-k and the fall of kindergarten, the child's teacher completed the teacher–child rating scale (Hightower et al., 1986), a behavioral rating scale designed to assess two dimensions of children's social–emotional adjustment in preschool through third grade: social competence and problem behaviors. An evaluation of its normative and psychometric characteristics is reported by Weissberg et al. (1987). Examples of items that assess social competence include 'participation in class discussions' and 'well liked by classmates', and teachers used a 5-point scale (1 = not at all, 3 = moderately well, and 5 = very well) to indicate how well each statement described the child. The social competence scale was computed as the mean of 20 items and achieved a Cronbach's alpha of .95, and in general, teachers reported high levels of social competence. Examples of items that assess behavior problems include 'disruptive in class' and 'difficulty in following directions'. Teachers used a 5-point scale (1 = not a problem, 3 = moderate, and 5 = very serious problem) to indicate how well each statement described the child. The problem behaviors scale was computed as the mean of 18 items and achieved a Cronbach's alpha of .92, and in general, teachers reported low levels of problem behaviors (see Table 1 for descriptive statistics).

Teacher–Child Relationships. In the spring of pre-k and fall of kindergarten, teachers reported the quality of their relationship with each study child using the student–teacher relationship scale (STRS; Pianta, 2001). The STRS is a widely used measure of teachers' perceptions of their relationships with students and has shown validity with regard to predicting academic and social functioning in pre-k (Hamre & Pianta, 2003). This scale yields scores that assess the degree of closeness and conflict in the relationship between the teacher and the child. Examples of closeness items are: 'I share an affectionate, warm relationship with this child', and 'The child values his/her

relationship with me’. Examples of conflict items are: ‘The child and I always seem to be struggling with each other’, and ‘The child easily becomes angry at me’. Scores range from 1 to 5, and responses have the following anchors: 1 = definitely does not apply, 2 = not really, 3 = neutral, not sure, 4 = applies somewhat, and 5 = definitely applies. The closeness scale was computed as the mean of seven items and achieved a Cronbach’s alpha of .86. The conflict scale was computed as the mean of eight items and achieved a Cronbach’s alpha of .89. Teachers, on average, rated their relationships with study children as close and with relatively low levels of conflict (see Table 1 for descriptive statistics).

Table 2 presents bivariate correlations among child characteristics, family characteristics, and teachers’ reports of parent–teacher relationships; and Table 3 presents bivariate correlations between teachers’ reports of parent–teacher relationships and children’s social outcomes at the beginning of pre-k, end of pre-k, and beginning of kindergarten.

Analyses

This study involves a nested design in which four children were included within each participating pre-k classroom. Given the multilevel nature of the data in which multiple children (level 1) are nested within classrooms (level 2), hierarchical linear modeling (Raudenbush & Bryk, 2002) was used to examine (1) the extent to which family–school connections in pre-k were associated with children’s social outcomes during pre-k and at kindergarten entry, and (2) the extent to which these associations were moderated by child and family characteristics (skills at pre-k entry, gender, race, whether English was the child’s first language, poverty status, and maternal education).

Equation 1 specifies the models that examine the associations between the measures of family–school connections (relationship quality, frequency of phone contacts, frequency of parents attending voluntary functions, and frequency of parents attending parent–teacher conferences) and children’s social outcomes (social competence, problem behaviors, teacher–child closeness, and teacher–child conflict) during pre-k and at the beginning of kindergarten. The equation specifies that each outcome (Y) for a child (i) who is in pre-k classroom (j) is a function of the intercept [the estimated mean score for children in that classroom (B_{00})] after adjusting for the following level 1 characteristics: teachers’ ratings in the fall of pre-k (B_{01}), child and family demographic characteristics (B_{02} – B_{08}), quality of the parent–teacher relationship (B_{09}), each of the three measures of the frequency of contacts between the parent and the teacher—phone contacts (B_{10}), voluntary contacts (B_{11}), parent–teacher conferences (B_{12})—and the error terms associated with within-class variability (r_{ij}) and between-class variability (u_{0j}) in the outcomes. Given that assessments of teacher–child closeness and conflict were not conducted during fall of pre-k, we computed a fall pretest measure for these outcomes that combined teachers’ reports of the child’s social competence and problem behaviors at the beginning of the pre-k year. Prior to computing this pretest measure, we reverse scored problem behaviors so that higher scores on the resulting measure reflected more positive social skills in fall.

Each of these four indicators of family–school connectedness was group-mean centered, such that children’s score was computed as the deviation from the average rating that the teachers assigned to other students in their classroom for whom they completed this measure (approximately four students per classroom). This method of centering these variables represents a teachers’ perceptions of family–school

Table 2. Bivariate Correlations between Child Characteristics, Family Characteristics, and Parent-Teacher Relationships

	1	2	3	4	5	6	7	8	9	10	11	12
1-Boy	—	—	—	—	—	—	—	—	—	—	—	—
2-English is the first language	-.00	—	—	—	—	—	—	—	—	—	—	—
3-African-American	-.03	.23**	—	—	—	—	—	—	—	—	—	—
4-Latino	.02	-.67**	—	—	—	—	—	—	—	—	—	—
5-White	.01	-.42**	—	—	—	—	—	—	—	—	—	—
6-Other race	-.00	.00	—	—	—	—	—	—	—	—	—	—
7-Poor	-.01	-.23**	.07**	.27**	-.31**	.02	—	—	—	—	—	—
8-Maternal education	.01	.22**	-.02	-.32**	.25**	.07**	-.44**	—	—	—	—	—
9-Quality of parent-teacher relationship	-.07**	-.00	-.07**	.01	.07**	-.03	-.14**	.15**	—	—	—	—
10-Frequency of phone contacts	.01	.09**	-.06**	-.09**	.13**	-.02	.05**	.05**	.12**	—	—	—
11-Frequency of voluntary contacts	-.04*	-.03	-.11**	.06**	.06**	-.04*	-.06	.09**	.38**	.25**	—	—
12-Frequency of conferences	.01	-.10**	-.04*	.12**	-.05*	-.04	.03	-.01	.17**	.12**	.39**	—

Notes: * $p \leq .05$, ** $p \leq .01$.

Table 3. Bivariate Correlations between Parent–Teacher Relationships, Children’s Social Skills and Teacher–Child Relationships

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1-Quality of parent–teacher relationship	—													
2-Frequency of phone contacts	.12**	—												
3-Frequency of voluntary contacts	.38**	.25**	—											
4-Frequency of conferences	.17**	.12**	.39**	—										
5-Social competence fall PK	.29**	.02	.10**	.01	—									
6-Social competence spring PK	.39**	.04*	.15**	.03	.68**	—								
7-Social competence fall KG	.19**	.00	.09**	.01	.40**	.42**	—							
8-Problem behavior fall PK	-.26**	.01	-.09**	-.02	-.69**	-.54**	-.40**	—						
9-Problem behavior spring PK	-.36**	.00	-.14**	-.02	-.49**	-.70**	-.44**	.67**	—					
10-Problem behavior fall KG	-.17**	.01	-.09**	-.03	-.35**	-.37**	-.77**	.42**	.47**	—				
11-Teacher–child closeness spring PK	.41**	.12**	.15**	.04*	.37**	.51**	.21**	-.29**	-.38**	-.17**	—			
12-Teacher–child closeness fall KG	.11**	.06*	.09**	.07**	.19**	.20**	.39**	-.14**	-.18**	-.30**	.24**	—		
13-Teacher–child conflict spring PK	-.32**	.01	-.09**	-.03	-.31**	-.46**	-.29**	.47**	.61**	.34**	-.30**	-.13**	—	
14-Teacher–child conflict fall KG	-.13**	-.02	-.10**	-.03	-.21**	-.24**	-.45**	.30**	.35**	.56**	-.10**	-.29**	.41**	—

Notes: * $p \leq .05$. ** $p \leq .01$.

connectedness for an individual child relative to the other participating students in their classroom. This within-classroom measure of family–school connectedness is entered into the level 1 equation to address the extent to which children with relatively high levels of family–school connectedness, compared with their classmates, achieve greater rates of teacher-reported development in the social outcomes.

The average ratings of family–school connectedness vary between teachers, and it may be the case that greater mean levels of family–school connectedness as reported by teachers may be associated with greater rates of social development for children in the classroom. Thus, the four measures of family–school connectedness were also included as classroom-level variables and entered into the level 2 model: relationship quality (B_{13}), phone contacts (B_{14}), voluntary contacts (B_{15}), and parent–teacher conferences (B_{16}). These coefficients determine the extent to which teachers, who on average, report higher quality relationships and more contacts, have students who on average, develop positive social outcomes at a greater rate.

$$\begin{aligned}
 Y_{ij} = & B_{00} + B_{01} (\text{fall pretest}) + B_{02-08} (\text{child and family characteristics}) \\
 & + B_{09} (\text{relationship quality}) + B_{10} (\text{phone contacts}) + B_{11} (\text{voluntary contacts}) \\
 & + B_{12} (\text{parent–teacher conferences}) + B_{13} (\text{mean relationship quality}) \\
 & + B_{14} (\text{mean phone contacts}) + B_{15} (\text{mean voluntary contacts}) \\
 & + B_{16} (\text{mean parent–teacher conferences}) + r_{ij} + u_{0j}.
 \end{aligned} \tag{1}$$

To address the second research question that examines the extent to which the associations between quality of the parent–teacher relationship and children’s social outcomes were moderated by the child and family characteristics, interaction terms were added to Equation 1. Specifically, an interaction term was computed for the within-class measure of relationship quality and for each of the child and family characteristics (fall pretest, gender, English is the first language, race, poverty status, and years of maternal education). Each interaction term was entered separately in the models to examine the extent to which relationship quality had a differential association with children’s development for different subgroups of children.

Missing data were estimated using multiple imputation procedures, which created 20 data files with complete data. The multilevel analyses were conducted for each of the 20 imputed data files using Proc Mixed in SAS (SAS Institute Inc., Cary, NC; Singer, 1998). Coefficients and SE resulting from each analysis were pooled to provide estimates of the associations between each predictor and outcome.

Results

Family–School Connectedness and Children’s Social Outcomes during Pre-k

Preliminary analyses were conducted to estimate intra-class correlations (ICCs) to determine the proportion of the total variance (within- and between-classroom sources) in each outcome that is attributed to differences between pre-k classrooms. Because the outcome of interest in this study is children’s development from the beginning of pre-k to either the end of pre-k or the beginning of kindergarten, these unconditional models included one predictor—the associated fall pre-k assessment. By including this predictor, the ICCs represent the proportion of between-classroom variance in children’s *development* of these outcomes over time. The ICCs for development of social competence, problem behaviors, teacher–child closeness, and teacher–child conflict during pre-k were .19, .18, .24, and .16, respectively; each of these is significantly different

than zero. The ICCs for development of social competence, problem behaviors, teacher–child closeness, and teacher–child conflict from the beginning of pre-k until the beginning of kindergarten were .18, .15, .08, and .06, respectively; each of these is significantly different than zero.

Table 4 presents results from hierarchical linear models that examined associations between each child outcome reported by teachers in spring of pre-k and the following predictors: child and family characteristics (fall pretest scores, gender, English is the child’s first language, race/ethnicity, poverty status, and maternal education), quality of the parent–teacher relationship, and frequency of contacts between the teacher and each child’s parent in three contexts (phone contacts, parent attended voluntary functions, and parent–teacher conferences). Unstandardized regression coefficients (B) and standard errors (SE) are provided that indicate the direction and magnitude of these associations.

For each of the four outcomes, fall ratings were significantly associated with spring ratings, and there was a significant gender effect, such that compared with girls, boys were rated as having significantly lower social competence ($B = -.11$) and closeness with teachers ($B = -.08$), and greater problem behaviors ($B = .09$) and conflict in their relationships with teachers ($B = .12$). There were also differences in problem behaviors and teacher–child conflict related to children’s race/ethnicity. Specifically, African-American children were rated as having more problem behaviors ($B = .05$) and more conflict in their relationships with teachers ($B = .11$) compared with White children. Further, children whose mothers had fewer years of education were rated by teachers as having greater levels of problem behavior than children with mothers with more years of education ($B = -.01$).

There were significant associations between the group-mean-centered teachers’ reports of the quality of their relationships with parents and with each of the four outcomes. Specifically, relative to other children in the classroom, children whose teachers reported having a higher quality relationship with their parents were rated by the teacher to be more socially competent ($B = .28$), to have fewer problem behaviors ($B = -.21$), and to have formed closer relationships with teachers ($B = .35$) and have less conflict in their relationships ($B = -.38$) with teachers. These associations were also evident at the classroom level in which teachers’ average ratings of family–school connectedness for children in their classes were entered in the level 2 model. Specifically, teachers, who reported on average higher quality relationships with parents, also judged these children to develop greater levels of social competence ($B = .36$), lower levels of problem behaviors ($B = -.20$), and relationships with the teacher marked by high levels of closeness ($B = .51$) and low levels of conflict ($B = -.29$).

There were also significant associations between the frequency of phone contacts and the children’s social outcomes during pre-k. Specifically, teachers, who reported a greater number of phone contacts with a child’s parents relative to the number of phone contacts the teacher had with the other children in the classroom, also reported that the child developed less social competence ($B = -.07$), more problem behaviors ($B = .07$), and greater levels of teacher–child conflict ($B = .13$). Following the inclusion of this block of child-level predictors, the proportion of the within-classroom variance that was explained for children’s development (above and beyond the fall pretest assessment) of social competence, problem behaviors, teacher–child closeness, and teacher–child conflict was 11 percent, 12 percent, 10 percent, and 9 percent, respectively.

At the classroom level, a significant association was found between mean levels of phone contact and teacher–child closeness, such that teachers, who reported on average

Table 4. Associations between Family–School Connections and Children’s Development of Social Outcomes during Pre-k

	Social competence		Problem behaviors		Teacher–child closeness		Teacher–child conflict	
	B	SE	B	SE	B	SE	B	SE
Level 1								
Child and family characteristics								
Pretest	.61***	.02	.60***	.01	.25***	.02	-.40***	.02
Boy	-.11***	.02	.09***	.01	-.08***	.02	.12***	.02
English is the first language	-.07	.04	.04	.03	.11**	.04	.07	.05
African-American (1)/White (0)	-.04	.04	.05*	.02	.03	.03	.11**	.04
Latino (1)/White (0)	-.05	.04	-.01	.03	.00	.04	-.06	.05
Other race (1)/White (0)	-.00	.04	.01	.03	-.01	.03	.04	.04
Poor (1)/not poor (0)	-.01	.03	-.00	.02	.02	.03	-.04	.03
Mother’s education (years)	.01	.01	-.01**	.00	-.00	.01	.01	.01
Teacher–parent relationship								
Quality of relationship	.28***	.02	-.21***	.02	.35***	.03	-.38***	.03
Phone contact	-.07**	.02	.07***	.01	-.01	.02	.13***	.02
Parent attended voluntary function	.03	.02	-.02	.02	-.03	.02	.04	.03
Parent attended conference	-.01	.04	.05	.03	.00	.04	.03	.03

Level 2									
Teacher-parent relationship									
Quality of relationship		.36***	.05	-.20***	.03	.51***	.05	-.29***	.05
Phone contact		.04	.02	-.02	.01	.08***	.02	-.02	.02
Parent attended voluntary function		-.01	.03	-.01	.02	.01	.03	.03	.04
Parent attended conference		-.01	.04	.03	.03	-.03	.04	.01	.05
Interactions									
T-P quality × pretest		.03	.03	-.07*	.03	.03	.04	.03	.05
T-P quality × boy		.00	.01	-.09*	.04	.03	.05	-.14*	.06
T-P quality × English language		.10	.06	-.02	.05	.06	.07	-.13	.07
T-P quality × African-American		.12	.07	.13**	.05	.01	.06	-.02	.08
T-P quality × Latino		-.03	.07	-.05	.05	-.09	.06	.13	.08
T-P quality × other		.13	.08	-.07	.06	.02	.08	.00	.10
T-P quality × poor		.06	.05	-.11**	.04	.03	.05	.02	.07
T-P quality × mother's education		-.00	.01	.01	.01	.01	.01	-.03	.02

Notes: T-P = teacher-parent relationship. * $p < .05$. ** $p < .01$, *** $p < .001$.

more phone contacts with parents, also reported greater closeness with children during the pre-k year ($B = .08$). Following the inclusion of the block of classroom-level predictors, the proportion of the between-classroom variance that was explained for children's development of social competence, problem behaviors, teacher-child closeness and teacher-child conflict was 15 percent, 7 percent, 29 percent, and 14 percent, respectively.

Moderating Effects of Child Characteristics on the Association between Family-School Connections and Children's Social Outcomes during Pre-k

Table 4 also presents results of tests that examine the extent to which characteristics of the child and family moderated the associations between teachers' reports of the quality of their relationship with a child's parents and their reports about the child's development of social outcomes. There were significant interactions between quality of the parent-teacher relationship and the child's pretest ratings, gender, race/ethnicity, and poverty status for teachers' ratings of problem behaviors. Specifically, the negative association between the quality of parent-teacher relationships and the children's development of problem behaviors during pre-k was stronger for children who were rated as having more problem behaviors at the beginning of pre-k, boys compared with girls, children classified as poor compared with non-poor, and Black children compared with White children. Figure 1 depicts this parent-teacher relationship by gender interaction for problem behaviors by plotting estimated means for boys and girls in each of the three groups that represent different levels of quality of the parent-teacher relationship—high-quality parent-teacher relationship defined as a mean of 4 on the rating scale (37 percent of the sample achieved this score); an average quality parent-

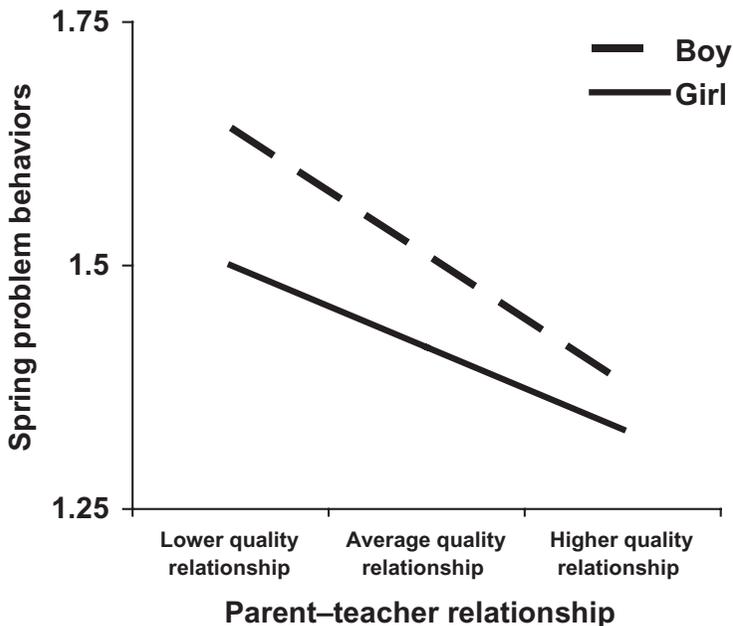


Figure 1. Moderating Effect of Gender on the Association between Parent-Teacher Relationship Quality and Problem Behavior at the End of Pre-k.

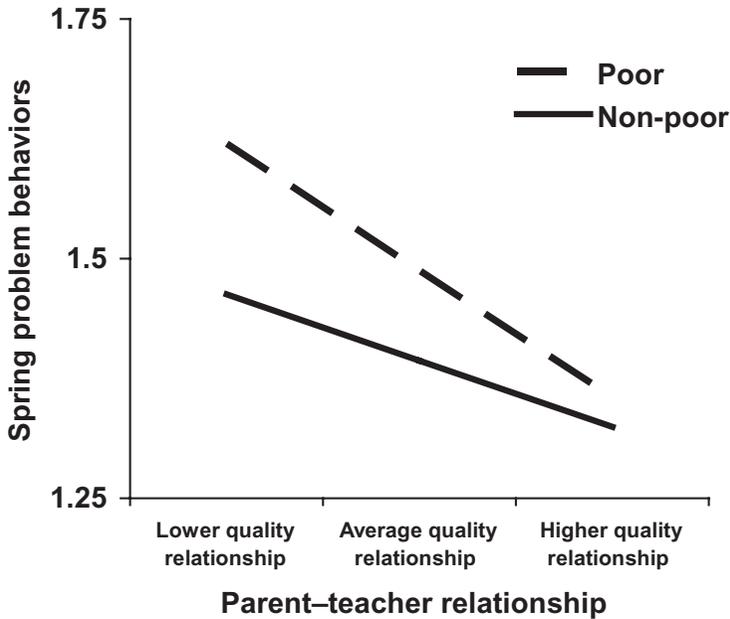


Figure 2. Moderating Effect of Family Income on the Association between Parent–Teacher Relationship Quality and Problem Behavior at the End of Pre-k.

teacher relationship defined as a mean of 3.5 on the rating scale; and a low-quality relationship defined as a mean of 3 on the rating scale (21 percent of the sample achieved this score or lower).

Teachers' report of a lower quality parent–teacher relationship had a stronger negative association with their teachers' perceptions of problem behaviors in spring of pre-k for poor compared with non-poor children and Black children compared with White children. Figure 2 depicts the differences between poor and non-poor children for the association between teachers' reports of their relationships with a child's parents and child's level of problem behaviors. Figure 3 presents a similar pattern for the differences between Black and White children.

Family–School Connections and Children's Social Outcomes at Kindergarten Entry

Table 5 replicates the analyses presented in Table 4 using kindergarten teachers' reports of children's social competence, problem behaviors, teacher–child closeness, and teacher–child conflict as the outcome variables. Children for whom pre-k teachers reported having higher quality relationships with parents relative to the other children in the classroom were judged by their kindergarten teacher to be more socially competent ($B = .13$) and have less conflict in their relationship with the teacher ($B = -.09$) at kindergarten entry. Additionally, kindergarten teachers' reported fewer problem behaviors for children whose pre-k teachers reported that a child's parents attended more voluntary functions during the pre-k year relative to the other children in the pre-k class ($B = -.06$).

There were also significant associations for the frequency of phone contacts between parents and pre-k teachers and kindergarten teachers' reports of children's social

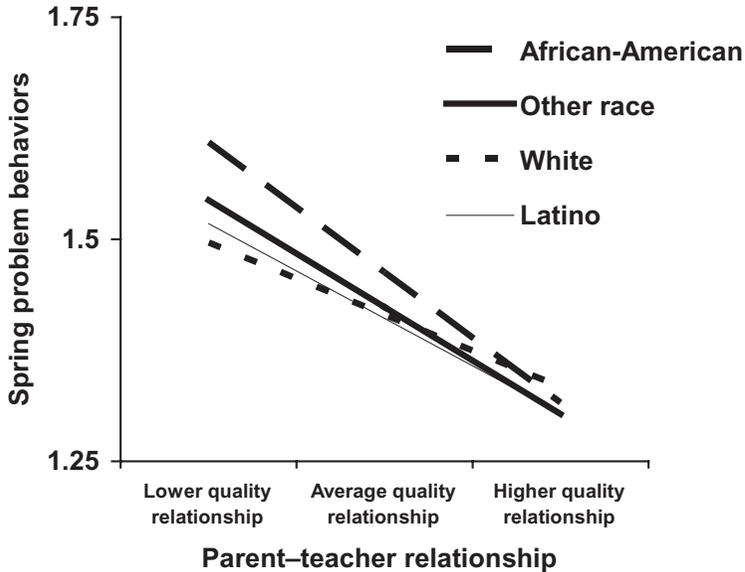


Figure 3. Moderating Effect of Race/Ethnicity on the Association between quality of Parent-Teacher Relationship and Problem Behavior at the End of Pre-k.

competence, problem behaviors, and conflict with the teacher at kindergarten entry. Specifically, kindergarten teachers reported lower social competence ($B = -.08$), more problem behaviors ($B = .06$), and greater levels of conflict with teachers ($B = .08$) at kindergarten entry for children whose pre-k teachers reported a greater number of phone contacts relative to the number of phone contacts the teacher had with the parents of other children in the classroom. Following the inclusion of this block of child-level predictors, the proportion of the within-classroom variance that was explained for children's development (above and beyond the fall pretest assessment) of social competence, problem behaviors, teacher-child closeness, and teacher-child conflict at kindergarten entry was 3 percent, 6 percent, 3 percent, and 5 percent, respectively.

At the classroom level, a significant association was found between pre-k teachers' reports of mean levels of phone contacts with parents and kindergarten teachers' reports of teacher-child conflict at kindergarten entry. Specifically, kindergarten teachers judged children to have lower levels of teacher-child conflict if their pre-k teacher reported having on average more phone contacts with parents during the pre-k year ($B = -.05$). Following the inclusion of the block of classroom-level predictors, the proportion of the between-classroom variance that was explained for children's development of social competence, problem behaviors, teacher-child closeness, and teacher-child conflict at kindergarten entry was less than 2 percent.

Discussion

Ecological theories of development posit that family-school connections can facilitate valuable communication and socialization practices that promote children's success in school. Previous studies—mostly involving school-aged children—find evidence to

Table 5. Associations between Family-School Connections and Children's Development of Social Outcomes at Kindergarten Entry

	Social competence		Problem behaviors		Teacher-child closeness		Teacher-child conflict	
	B	SE	B	SE	B	SE	B	SE
Level 1								
Child and family characteristics								
Pretest	.37***	.02	.45***	.03	.13***	.03	-.27***	.03
Boy	-.20***	.03	.21***	.02	-.18***	.03	.18***	.03
English is the first language	-.12*	.06	.15***	.04	.09	.05	.06	.05
African-American (1)/White (0)	.01	.05	.00	.04	.02	.04	.10*	.05
Latino (1)/White (0)	.01	.06	-.02	.05	.07	.05	-.11*	.06
Other race (1)/White (0)	.08	.05	-.03	.04	-.02	.05	-.02	.05
Poor (1)/not poor (0)	-.12**	.04	.10**	.03	-.04	.03	.06	.04
Mother's education (years)	.02*	.01	-.02**	.01	.02***	.01	.00	.01
Teacher-parent relationship								
Quality of relationship	.13**	.04	-.06	.03	.01	.04	-.09*	.04
Phone contact	-.08*	.03	.06*	.02	.01	.03	.08***	.03
Parent attended voluntary function	.04	.04	-.06*	.03	.06	.04	-.07	.06
Parent attended conference	.05	.06	-.09	.05	.09	.05	-.08	.06

Table 5. Continued

	Social competence		Problem behaviors		Teacher-child closeness		Teacher-child conflict	
	B	SE	B	SE	B	SE	B	SE
Level 2								
Teacher-parent relationship								
Quality of relationship	-.03	.07	.04	.05	.02	.05	.05	.06
Phone contact	.03	.02	-.01	.02	.04	.02	-.05*	.02
Parent attended voluntary function	.04	.05	-.02	.04	-.02	.04	-.05	.04
Parent attended conference	-.07	.06	.05	.04	.08	.04	.05	.05
Interactions								
T-P quality × pretest	.02	.05	.04	.06	.02	.06	.05	.06
T-P quality × boy	.01	.08	-.11	.06	.06	.07	-.05	.08
T-P quality × English language	-.10	.09	.09	.11	.18	.10	.01	.11
T-P quality × African-American	.06	.10	.04	.08	.09	.09	-.09	.10
T-P quality × Latino	-.05	.11	.04	.08	-.10	.09	.10	.11
T-P quality × other	-.07	.14	.05	.11	.06	.12	.05	.14
T-P quality × poor	-.01	.09	-.03	.07	-.11	.07	.02	.08
T-P quality × mother's education	.01	.02	.01	.01	.02	.02	-.02	.02

Notes: T-P = teacher-parent relationship. * $p < .05$. ** $p < .01$. *** $p < .001$.

support these positive associations. This study builds upon this research to examine the contributions of family–school connections to children’s early social development. This study is strengthened by its large sample size of children and teachers, inclusion of multiple measures of family–school connections (the frequency of contacts and the quality of the relationship) and children’s social outcomes (teacher–child relationships and development of social skills), use of multiple reporters of children’s social outcomes (pre-k teachers and kindergarten teachers), and investigation of whether school–family connections had differential associations with social outcomes related to children’s social and economic backgrounds.

Quality of Relationships, Not Quantity of Contacts

Consistent with previous work that illustrates the importance of family–school connections for child outcomes in preschool (Arnold et al., 2008; Fantuzzo et al., 2004; Waanders et al., 2007), results of the current study show that after controlling for children’s entry-level skills, pre-k teachers’ perceptions of a positive relationship with parents are strongly associated with their ratings of children’s social competence, problem behavior, and the degree of closeness and conflict in their relationship with the child. In contrast, the frequency of different types of contact between parents and teachers did not appear to be related to children’s social outcomes in pre-k, with one exception; teachers who reported more frequent phone contact with parents reported that these parents’ children were less socially competent, had more problem behaviors, and that there was more conflict in their relationship with the teacher. This finding makes intuitive sense and suggests that the frequency of phone contacts may be prompted by the child’s negative behaviors. Teachers, who on average, have frequent phone contacts with parents, were also found to report closer relationships with children in their classroom.

The findings about the associations between relationship quality and teachers’ perceptions of children’s social skills point to a key limitation in previous studies that have not disentangled different types of contact and also the interpersonal and more affective facets of family–school connections. Based on the current findings, these dimensions cannot be assumed to be uniformly related to social outcomes, and the quality of the parent–teacher relationship appears to be the more critical. This is consistent with literature at the elementary-school level that shows that affective qualities, such as trust, exert a stronger influence on children’s outcomes than do the frequency of voluntary and parent–teacher conference contacts (Hughes & Kwok, 2007; Rimm-Kaufman et al., 2003).

Parent–Teacher Relationships and Kindergarten Teachers’ Perceptions

Positive associations between pre-k teachers’ reports of their relationships with parents and their reports of their relationships with children and children’s social outcomes should be interpreted with caution. Because the same reporter (the pre-k teacher) provided concurrent reports about parent–teacher relationships and child outcomes, associations are likely attributed to the shared method of collecting the data. Thus, these findings may reflect an overall perception that teachers have about the child, which impacts their ratings about the child and the parent, and it may not reflect any actual differences in the child’s social behavior or the relationship the child has with the teacher. However, even with this limitation, the associations between teachers’

reports of their relationships with children's parents and their ratings of children's development of social outcomes from the beginning to the end of pre-k are meaningfully different in magnitude. For example, on the relationship quality-rating scale that ranges from 1 to 4, a one-point increase in an individual teacher's rating of the quality of the relationship with a child's parent corresponds with the child being rated as .28 points higher on social competence and .21 points lower on problem behaviors in spring, controlling for fall scores, on rating scales that range from 1 to 5 and have a standard deviation of .77 and .54, respectively. Similarly, a one-point increase in the quality of the teacher's perception of their relationship with a child's parent corresponds with a .35 increase in developing closeness and a .38 decrease in developing conflict with the child. These rating scales range from 1 to 5 and have a standard deviation of .63 and .73, respectively, indicating a relatively large and meaningful difference in the teacher's perceptions of development of social outcomes associated with more positive relationships with the child's parents.

In an effort to remove the potential bias in the estimate of relation between the quality of the parent-teacher relationship and the child outcomes, additional analyses were conducted using independent ratings of children's social outcomes provided by children's kindergarten teachers at kindergarten entry. Although the effects were smaller, kindergarten teachers reported greater levels of social competence and lower levels of teacher-child conflict among children whose parents had more positive relationships with their pre-k teachers. These positive associations using reports by kindergarten teachers more likely reflect true differences in children's social functioning related to the quality of the relationships parents form with their child's pre-k teacher. It should also be noted that even if these associations between parent-teacher relationships and pre-k and kindergarten teachers' reports of children only capture differences in teachers' perceptions and not actual differences in how the child functions in the classroom, improving teachers' perceptions about children and parents is an important outcome. Teacher perceptions about parents are associated with their attitudes about and behaviors toward parents, including the degree to which teachers reach out to parents (Dauber & Epstein, 1993). Teacher perceptions of parents' attitudes toward school are also strong predictors of children's early school outcomes (Rimm-Kaufman et al., 2003), and their perceptions of their relationships with children in pre-k predict short- and long-term academic and behavioral outcomes (Hamre & Pianta, 2003).

High-quality of Parent-Teacher Relationships Matter More for Certain Children

Given that previous work provides ample evidence that family-school connections are weaker for children who enter schools with social and economic risks, we also examined whether the relational dimension of family-school connectedness matters more for children who enter pre-k with such risks as being a boy, having language or racial/ethnic minority status, or being poor. Results indicated that lower teacher ratings of quality in the parent-teacher relationship exerted a stronger negative influence on teachers' perceptions of problem behaviors for children with a history of problem behavior, male children, African-American children, and children categorized as poor.

Overall, our moderation effects provide evidence that the social resources afforded by quality parent-teacher relationships can help ameliorate disadvantages associated with social and economic risk; however, this statement is made cautiously as the magnitude of both the moderation and longitudinal effects is relatively small. Positive

parent–teacher relationships may make parents more receptive to teacher-initiated interactions and can increase their understanding about school instruction, thereby facilitating parents’ efforts to assist with their children’s school-related work at home. Similarly, teachers can gain knowledge of parental practices and expectations regarding child behavior and development, which may be especially useful for teachers who are socioeconomically or culturally different from the parents of their students. Quality parent–teacher relationships may also exert a more direct influence on children’s developmental outcomes, as the student sits at the center of this relationship and, to some degree, influences how that relationship evolves (Downer & Myers, 2009). Interpreted this way, our findings are consistent with findings from studies that show the association between the quality of the teacher–child relationship and the outcomes to be stronger for African-American children (Meehan et al., 2003; Peisner-Feinberg et al., 2001).

Limitations and Future Directions

The study is not without limitations. The aforementioned issue with measurement is one such limitation. Relying on teachers’ reports is a constraint of some significance, especially when attempting to index something as co-constructed and transactional (Sameroff, 1975) as family–school connectedness. Furthermore, teacher and parent perceptions of parental involvement may not be congruent (Dauber & Epstein, 1993; Reynolds, 1992; Wong & Hughes, 2006). An important area of future research must include the use of multiple measures of both family–school connections and children’s outcomes.

A more complete understanding of the association between quality of parent–teacher relationship and children’s development of social outcomes in pre-k will also be enhanced by work that helps determine the mechanisms through which quality of parent–teacher relationships may be fostered. To effectively accomplish this goal, future research must move beyond the child-level moderators examined in this study and consider those tied to characteristics of parents and teachers as well as schools and classrooms. Lastly, it is important to consider issues related to selection. That is, more advantaged families tend to be more involved, have better relationships with teachers, and have children with better outcomes. Efforts to ensure that the effects observed in this study are not due to such selection issues are therefore warranted. On a related point, our attrition analyses suggest that children with kindergarten ratings were more socially skilled, had fewer behavioral problems, and had lower quality of parent–teacher relationships than children without kindergarten ratings. As such, the significant associations between parent–teacher relationships and kindergarten teachers’ ratings of positive social competence and reduced conflict are applicable to the subsample of children who we were able to follow into kindergarten; these associations may not generalize to the children excluded from the analysis.

Implications for Policy and Practice

Results of this study underscore the importance of quality parent–teacher relationships for children’s early social development and have important implications for policy and practice. Family–school connections in pre-k warrant particular attention as

they are the first point of intersection between the socializing ecologies of home and school and offer a critical point of intervention. For at-risk children, pre-k may mark the beginning of a continuing disjunction between their socialization experiences at home and at school (Garcia-Coll et al., 1996). Hence, quality parent–teacher relationships may be a significant source of support and help ensure successful adaptation to school for the most vulnerable children (Hill, 2001). Although the nature of involvement may necessarily shift as teachers and parents adjust their expectations to fit children’s developmental changes (e.g., less-direct supervision of homework), the importance of an established positive relationship between parents and teachers will unlikely lose its significance over time. Pre-k, as children’s first exposure to formal schooling, provides an important window of opportunity to set the stage for ongoing positive parent–teacher relationships as parents can theoretically make a strong and meaningful contribution to the work of teachers and vice versa. Parents function in many ways as the child’s first teachers, and they can help ensure that their children enter classrooms ready to learn and can promote a positive attitude toward school. An early and shared agenda between parents and teachers, facilitated by a relationship defined by warmth and trust, can be used as the basis for reconciling differences in the culture of school and home and for developing strategies to support children that will likely be reinforced in both settings. This is particularly important for families for whom school has been a hostile environment or who lack not the will but the knowledge, confidence, or social and economic resources to support their children’s development of school-readiness skills.

Policies and programs that shift the focus from mandating a certain number of contacts—often termed ‘parental involvement at school’—to building quality relationships and associated support systems are essential. Program development efforts toward this end illustrate that aspects of pre-k can be manipulated to support better parent–teacher relationships, and that targeting parent and teacher self-efficacy as well as interpersonal trust are important avenues to explore further (Adams & Christenson, 2000). Another important consideration is that whereas school strategies to increase homeschool connections frequently target parents as a group, interventions with parents are likely to be more effective if they are driven by the specifics of an individual child, parent, and teacher in a particular classroom context (Churchill, 2003; Downer & Myers, 2009).

References

- Adams, K. S., & Christenson, S. L. (2000). Trust and the family–school relationship: Examination of parent–teacher differences in elementary and secondary grades. *Journal of School Psychology, 38*, 477–497.
- Arnold, D. H., Zeljo, A., Doctoroff, G. L., & Ortiz, C. (2008). Parent involvement in preschool: Predictors and the relation of involvement to preliteracy development. *School Psychology Review, 37*, 74–90.
- Barbarin, O. (2000). Home-school relationships questionnaire. Unpublished measure. University of North-Carolina-Chapel Hill: National Center for Early Development and Learning.
- Barnett, W. S., & Masse, L. N. (2007). Comparative benefit–cost analysis of the Abecedarian program and its policy implications. *Economics of Education Review, 26*, 113–125.
- Boethel, M. (2003). *Diversity: School, family, and community connections. Annual synthesis 2003*. Austin, TX: Southwest Educational Development Laboratory, National Center for Family and Community Schools. Retrieved August 18, 2010, from <http://www.sedl.org/connections/resources/diversity-synthesis.pdf>

- Bronfenbrenner, U. (1994). Ecological models of human development. In T. Husen, & T. N. Postlethwaite (Eds.), *The international encyclopedia of education* (2nd ed., pp. 1643–1647). New York: Elsevier Science.
- Churchill, S. L. (2003). Goodness-of-fit in early childhood settings. *Early Childhood Education Journal*, *31*, 113–118.
- Dauber, S. L., & Epstein, J. L. (1993). Parents' attitudes and practices of involvement in inner city elementary and middle schools. In N. F. Chavkin (Ed.), *Families and schools in a pluralistic society* (pp. 53–71). Albany, NY: SUNY Press.
- Deslandes, R., & Bertrand, R. (2005). Motivation of parent involvement in secondary-level schooling. *The Journal of Educational Research*, *98*, 164–175.
- Downer, J., & Myers, S. (2009). Application of a developmental/ecological model to family–school partnerships. In S. L. Christenson, & A. L. Reschly (Eds.), *Handbook of school–family partnerships* (pp. 3–29). New York: Routledge and Taylor & Francis.
- Epstein, J. (2001). *School, family, and community partnerships: Preparing educators and improving schools*. Boulder, CO: Corwin Press.
- Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review*, *13*, 1–22.
- Fantuzzo, J., McWayne, C., Perry, M. A., & Childs, S. (2004). Multiple dimensions of family involvement and their relations to behavioral and learning competencies for urban low-income children. *School Psychology Review*, *33*, 467–480.
- Garcia-Coll, C., Lamberty, G., Jenkins, R., McAdoo, H., Crnic, K., Wasik, B., et al. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development*, *67*, 1891–1914.
- Garner, P., & Waajid, B. (2008). The associations of emotion knowledge and teacher–child relationships to preschool children's school-related developmental competence. *Journal of Applied Developmental Psychology*, *29*, 89–100.
- Grolnick, W. S., & Slowiaczek, M. L. (1994). Parents' involvement in children's schooling: A multidimensional conceptualization and motivational model. *Child Development*, *64*, 237–252.
- Hamre, B. K., & Pianta, R. C. (2003). Early teacher–child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development*, *72*, 625–638.
- Harkness, S., & Super, C. M. (1996). Introduction. In S. Harkness, & C. M. Super (Eds.), *Parents' cultural belief systems: Their origins, expressions, and consequences* (pp. 1–23). New York: Guilford.
- Hightower, A. D., Work, W. C., Cowen, E. L., Lotczewski, B. S., Spinnell, A. P., Guare, J. C., et al. (1986). The teacher-rating scale: A brief objective measure of elementary children's school problem behaviors and competencies. *School Psychology Review*, *15*, 393–409.
- Hill, N. E. (2001). Parenting and academic socialization as they relate to school readiness: The roles of ethnicity and family income. *Journal of Educational Psychology*, *93*, 686–697.
- Hoover-Dempsey, K. V., & Sandler, H. (1995). Parental involvement in children's education: Why does it make a difference? *Teachers College Record*, *97*, 310–331.
- Hughes, J., & Kwok, O. (2007). Influence of student–teacher and parent–teacher relationships on lower achieving readers' engagement and achievement in the primary grades. *Journal of Educational Psychology*, *99*, 39–51.
- Kohl, G., Lengua, L. J., & McMahon, R. J. (2000). Parent involvement in school: Conceptualizing multiple dimensions and their relations with family and demographic risk factors. *Journal of School Psychology*, *38*, 501–523.
- Mashburn, A. J., & Pianta, R. (2010). Opportunity in early education: Improving teacher–child interactions and child outcomes. In A. Reynolds, A. Rolnick, M. Englund, & J. Temple (Eds.), *Childhood programs and practices in the first decade of life: A human capital integration* (pp. 243–265). New York: Cambridge University Press.
- Mashburn, A. J., Pianta, R. C., Hamre, B. K., Downer, J. T., Barbarin, O. A., Bryant, D., et al. (2008). Measures of classroom quality in prekindergarten and children's development of academic, language, and social skills. *Child Development*, *79*, 732–749.
- McWayne, C., Hampton, V., Fantuzzo, J., Cohen, H., & Sekino, Y. (2004). A multivariate examination of parent involvement and the social and academic competencies of urban kindergarten children. *Psychology in the Schools*, *41*, 1–14.

- Meehan, B., Hughes, J., & Cavell, T. (2003). Teacher–student relationships as compensatory resources for aggressive children. *Child Development, 74*, 1145–1157.
- National Association for the Education of Young Children (NAEYC) (2002). *Position statement: Early learning standards*. Retrieved June 12, 2011, from www.naeyc/files/naeyc/file/positions/position_statement.pdf
- Nzinga-Johnson, S., Baker, J. A., & Aupperlee, J. (2009). Teacher–parent relationships and school involvement among racially and educationally diverse parents of kindergarteners. *The Elementary School Journal, 100*, 81–91.
- O'Connor, E., & McCartney, K. (2007). Examining teacher–child relationships and achievement as part of an ecological model of development. *American Educational Research Journal, 44*, 340–369.
- Peisner-Feinberg, E. S., Burchinal, M. R., Clifford, R. M., Culkin, M. L., Howes, C., Kagan, S. L., et al. (2001). The relation of preschool child-care quality to children's cognitive and social development trajectories through second grade. *Child Development, 72*, 1534–1553.
- Pianta, R. C. (2001). *Student teacher relationship scale*. Lutz, FL: Psychological Assessment Resources.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods*. Newbury Park, CA: Sage Publications.
- Reynolds, A. J. (1992). Comparing measures of parental involvement and their effects on academic achievement. *Early Childhood Research Quarterly, 7*, 441–462.
- Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2001). Long-term effects of an early childhood intervention on educational achievement. *Journal of the American Medical Association, 285*, 2339–2346.
- Rimm-Kaufman, S. E., & Pianta, R. C. (2005). Family–school communication in preschool and kindergarten in the context of a relationship-enhancing intervention. *Early Education and Development, 16*, 287–316.
- Rimm-Kaufman, S. E., Pianta, R. C., & Cox, M. J. (2000). Teachers' judgments of problems in the transition to kindergarten. *Early Childhood Research Quarterly, 15*, 147–166.
- Rimm-Kaufman, S. E., Pianta, R. C., Cox, M., & Bradley, R. (2003). Teacher-rated family involvement and children's social and academic outcomes in kindergarten. *Early Education and Development, 14*, 179–198.
- Sameroff, A. J. (1975). Transactional models in early social relations. *Human Development, 18*, 65–79.
- Seginer, R. (2006). Parents' educational involvement: A developmental ecology perspective. *Parenting, Science and Practice, 6*, 1–48.
- Serpell, R. N. (1997). Literacy connections between school and home: How should we evaluate them? *Journal of Literacy Research, 29*, 587–616.
- Singer, J. D. (1998). Using SAS PROC MIXED to fit multilevel models, hierarchical models, and individual growth models. *Journal of Educational and Behavioral Statistics, 24*, 323–355.
- Taylor, A. R., & Machida, S. (1994). The contribution of parent and peer support to head start children's early school adjustment. *Early Childhood Research Quarterly, 9*, 387–405.
- Vickers, H. S., & Minke, K. M. (1995). Exploring parent–teacher relationships: Joining and communication to others. *School Psychology Quarterly, 10*, 133–150.
- Waanders, C., Mendez, J. L., & Downer, J. (2007). Parent characteristics, economic stress and neighborhood context as predictors of parent involvement in preschool children's education. *Journal of School Psychology, 45*, 619–636.
- Weiss, H., Mayer, E., Kreider, H., Vaughan, M., Dearing, E., Hencke, R., et al. (2003). Making it work: Low income mothers' involvement in their children's education. *American Educational Research Journal, 40*, 879–901.
- Weissberg, R. P., Cowen, E. L., Loyyczewski, B. S., Boike, M. F., Orara, N. A., Stalonas, P., et al. (1987). Teacher ratings of children's problem and competence behaviors: Normative and parametric characteristics. *American Journal of Community Psychology, 15*, 387–401.
- Wong, S. W., & Hughes, J. N. (2006). Ethnicity and language contributions to dimensions of parent involvement. *School Psychology Review, 35*, 645–662.

This document is a scanned copy of a printed document. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material.