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Parent Involvement and Student Teacher Relationships in Predicting Student Outcomes

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ABSTRACT

PARENT INVOLVEMENT AND STUDENT TEACHER RELATIONSHIPS IN PREDICTING STUDENT OUTCOMES

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As key players in what Bronfenbrenner describes as the mesosystem, parents and teachers interact to play an important and immediate role in child development. While the role of parent involvement and the impact of student teacher relationships are well established in the literature on student outcomes, less is known about how the two function together to impact the student. To expand the literature on this topic, the current study sought to examine how levels of different types of parent involvement (home-based, home-school conferencing, and trust) predict student teacher relationship quality, how parent involvement and student teacher relationships predict student outcomes when examined together, as well as the moderating role parent involvement may play in the association between student teacher relationships and outcomes. Academic and social-emotional outcomes were examined in a sample of kindergarten students. Although the results did not support the moderating role of parent involvement, other important associations impacting both student teacher relationships and student outcomes were supported, further solidifying the important role of parents and teachers in a student's life.

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PARENT INVOLVEMENT AND STUDENT TEACHER RELATIONSHIPS IN
PREDICTING STUDENT OUTCOMES

BY

RILEY LAFFOON
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Julia A. Ogg

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CHAPTER I

INTRODUCTION

Relationships serve an important role in one's life and development. Starting from a young age, relationships with our parents and other important figures provide a foundation for navigating life and are key pieces in having a supportive environment. For young children, most of their relationships begin forming in the home and school environments. Research on attachment has shown the importance of these early relationships, especially with primary caregivers, and the effects these relationships can have on our later relationships and outcomes (Bowlby, 1982). If we are looking through the lens of a social ecological framework, these immediate environments like home and school have the closest and most direct impact on the developing child, and also interact together in their effect on children (Bronfenbrenner, 1979). Positive relationships early in life, particularly within these two most directly impactful environments, are crucial in supporting the developing child and promoting the best outcomes for their well-being. Thus, it is important to study all aspects of these relationships, including how they interact together, to promote the best outcomes for the child.

Most individuals can all remember a particularly impactful teacher from our earlier school years, or, on the other hand, a teacher who had a more negative impact. Years of research on student teacher relationships indicate the vast effects these positive relationships can have on

students, leading not only to improved academic outcomes, but also to improved peer relationships, social emotional outcomes, and an increased intrinsic motivation to learn and stay in school (Birch & Ladd, 1997; Chen, et al., 2020; Hamre & Pianta, 2001). Particularly for young children, these relationships set up some of their first experiences in the school setting and provide a basis for their first impressions of school. Young children first entering school are very reliant on teachers for guidance and direction, and look to teachers to provide support and understanding as they navigate the educational world. As the association between student teacher relationships to outcomes has been well established, it is important to examine what variables or other relationships in a child's life may impact that association.

Parent involvement in education plays another crucial role in child development. Parent involvement can be classified in several ways, including things parents do to support their child's education at home, their interaction with the child's teacher, and their involvement in the school itself (Fantuzzo et al., 2000). Parents are often whom the child builds their first relationship or connection with, establishing a base for which the child learns to explore the world (Bowlby, 1982) and how they may connect with teachers in the school setting. Parent's feelings and actions toward their child's education plays a big role in the child's perception of education, and impacts outcomes such as achievement, social skills, and motivation (Barger et al., 2019). Research suggests that these early instances of parent involvement in elementary school can have lasting impacts for student success, showing an association with lower rates of high school dropout and on time high school completion (Barnard, 2004).

Building on attachment theory, specifically the idea that parent's serve as our basis for navigating other relationships in life, examining the impact parental involvement has on student

teacher relationships is important in understanding how to best promote positive child outcomes. In taking a closer look at the relationships and their associations, we can attempt to understand parenting variables that may contribute to a more positive student teacher relationship, and how parenting variables may strengthen or change the association between student teacher relationships and student outcomes. In doing so, we can advocate for ways to strengthen relationships for children and in turn lead to better outcomes academically, socially, and emotionally. The purpose of the current study was to investigate how the two relationships are associated, including how they predicted student outcomes together, as well as whether parent involvement moderated the association between the student teacher relationship and outcomes.

CHAPTER II

REVIEW OF THE LITERATURE

Home and school are two environments in which children spend the majority of their time, and the foundation on which many important relationships are formed. Two of these relationships include the student teacher relationship and the family school relationship. Research has shown relationships at home and school to be important predictors of several positive outcomes including school liking and adjustment (Birch & Ladd, 1997), social competence with peers (Hamre & Pianta, 2001; Howes et al., 1994), and classroom engagement (Herald-Brown et al., 2008; Quin, 2017). Student teacher relationships in particular have also been associated with reduced negative outcomes such as disruptive behaviors, suspension, and dropping out (Quin, 2017), while family school relationships possibly protect against future internalizing problems (Barger et al., 2019).

Student Teacher Relationships

The student teacher relationship is understood from several theoretical perspectives, particularly attachment theory (Bowlby, 1969; 1982) and social ecological theory

(Bronfenbrenner, 1979). Attachment theory can be described as an integral part of human nature that can be observed throughout one's life cycle, but especially in childhood (Bowlby, 1982). Forming a secure attachment with someone creates a sense of security and encourages the child or the person to value and continue that relationship (Bowlby, 1982). Attachment theorists suggest that a secure relationship with one's teacher promotes the child's active exploration of the environment, positive affect, and socially competent interactions with others (Hughes, et al., 1999). For children with an insecure relationship with their primary caregivers, relationships beyond the primary care-giving relationship, such as the student teacher-relationship, can serve as an opportunity to establish a secure alternative base (Pianta, 1999). From the standpoint of attachment theory, these early relationships form a template for later relationships.

Another theory that can be used to understand the student teacher relationship is Bronfenbrenner's (1979) social ecological theory. While this theory is referred to by several different names representing revisions that Bronfenbrenner has made to the theory, such as bioecological theory and ecological systems theory, for the purpose of this paper it will be referred to as social ecological theory. This theory explains that both family and school are crucial pieces in an individual's microsystem, which is made up of the relationships and settings that have direct contact with the child in their immediate environment. The interactions between these microsystems, such as the interaction between a child's family and their school, make up the mesosystem, which is the second most center level impacting the developing child (Bronfenbrenner, 1979). This model also contains the exosystem, which are systems indirectly influencing the child, such as their neighborhood or parents' workplace. The fourth level is the macrosystem, focusing on cultural elements which may influence the child, and lastly is the

chronosystem, consisting of environmental changes that happen over a child's lifetime (Bronfenbrenner, 1979). Social ecological theorists suggest that teacher interactions with students may shape classmates' perceptions of the student, influencing peer interactions and affecting the child's adjustment to school (Hughes et al., 1991). One study documenting the impact of student teacher relationships on peer relations found that student teacher closeness was associated with the growth of student-perceived peer social support across time in preschool through third grade aged students (Chen et al., 2020). These findings highlight the larger impact of positive student teacher relationships, which appear to broadcast students' likability and positive attributes to their classmates (Chen et al., 2020).

Through the lens of both attachment and social ecological theory, the teacher plays a critical role in the child's immediate environment and can act as an attachment figure with whom students can establish a secure relationship. Additionally, there is evidence that the impact of a positive student teacher relationship extends into other relationships as well, such as peers. Considering the importance of the role the teacher has in a student's life, it is important to look at outcomes associated with that relationship.

Outcomes Associated with Student Teacher Relationships

Several positive outcomes, relating to both academics and social emotional development, have been linked to the student teacher relationship. A common measure used to assess the student teacher relationship is the Student-Teacher Relationship Scale, developed by Pianta to

assess the teacher-child relationship from the perspective of the teacher (Pianta, 2001). The scale is derived from attachment theory, and contains items falling under three subscales, Conflict, Closeness, and Dependency (Pianta, 2001). Studies utilizing this scale have found that teacher-child relationships rated higher in conflict were positively correlated with school avoidance and negatively with school liking and other positive classroom behaviors in kindergarten students (Birch & Ladd, 1997). When the relationship is rated higher in closeness, students showed higher levels of school adjustment, while high levels of dependency in the relationship, meaning that the student is highly dependent on the teacher, is correlated with school adjustment difficulties and a negative attitude toward school (Hamre & Pianta, 2001). Closeness and dependency are also associated with the visual and language skills of kindergarten students (Hamre & Pianta, 2001). These academic outcomes extend to older students as well, with studies such as one conducted by Roeser and colleagues (1996) showing the positive academic association specifically with middle school students who tended to have a higher GPA and a higher feeling of competence in reaching their academic goals when they reported having a supportive relationship with their teacher.

Regarding a student's social-emotional development, the student teacher relationship has been found to be associated with positive outcomes as well. Birch and Ladd (1998) explore the link between the student teacher relationship and the student's relationship with their peers. Using constructs from the Student-Teacher Relationship Scale, conflict, closeness, and dependency, this study found that kindergarten antisocial behavior with peers was related to all three aspects of the student's relationships with their teacher, meaning that students who showed antisocial characteristics toward their peers were more likely to be rated higher in conflict and

dependency, while lower on closeness with their teacher (Birch & Ladd, 1998). Another study looked at the importance of the student teacher relationship in behaviorally at-risk African American students (Decker et al., 2006). It was found that with an increase in teacher-reported positive student teacher relationships, there was also an increase in self-reported student social competence (social skills) and engagement. Another important finding was that as students reported an increase in the positive emotional quality of their relationship with their teacher, the amount of behavior referrals they received decreased (Decker et al., 2006). In a meta-analysis examining the correlation between student teacher relationships and student externalizing behavior, a significant negative correlation ($r = -0.263$) was found between positive aspects of the student teacher relationship such as closeness, and student externalizing behavior problems (Lei et al., 2016). Further, an even stronger correlation was found between negative aspects of the student teacher relationship (conflict, negativity etc.) and student externalizing behavior ($r = 0.554$) (Lei et al., 2016). These results highlight the importance of the student teacher relationship as a predictor of student behavioral problems.

In line with several key developmental theories discussed earlier, the student teacher relationship is well documented in the literature as being associated with student outcomes, both academic and social emotional. To further the research on the student teacher relationship, the current study will examine specific dimensions of the relationship, conflict and closeness, and specifically how these constructs in combination with another important relationship, the family school relationship, are associated with student outcomes.

Family School Relationships

In addition to relationships at school, relationships between home and school are also important and represent a key mesosystem for students. In the social ecological framework, the child or individual's microsystems, or the systems immediately impacting them, such as home and school, influence one another. When considering the family school relationship, it is important to discuss the different terms and definitions that may be used in the literature. Garbacz et al. (2017) lists some common terms such as family (parent) involvement, family-centered services, family-school partnerships, and family engagement. The current study will focus on family or parent involvement and family-school partnerships. Family involvement, used interchangeably with parent involvement, can be described as the parent's support and commitment of resources (time, energy, money) to their child's education (Barger, 2019; Grolnick & Slowiaczek, 1994). This can include things like helping with homework, communicating with teachers, and attending school events (Garbacz, 2017). Family-school partnerships emphasize the connection across home and school, where the family and the school are co-equal partners engaging in joint planning that focuses on promoting positive child outcomes (Garbacz, 2017).

A common framework used in the literature on family involvement is Epstein's (2002) framework consisting of six major types of involvement: Parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community. The framework includes different practices, challenges, and results for each involvement type,

making it a great resource for educators in developing comprehensive programs of family school partnerships, as well as researchers looking to inform and improve the practice (Epstein et al., 2002). To briefly describe each of these types, parenting can be described as helping families establish home environments to support children as students, while communication involves designing effective forms of school-to-home or home-to-school communication (Epstein et al., 2002). Volunteering is recruiting and organizing parent support, and learning at home involves informing families about how to help students at home with homework and other activities (Epstein et al., 2002). Lastly, decision making is including the parents in school decisions, and collaborating with the community involves integrating community resources to strengthen school programs and family practices (Epstein et al., 2002). Understanding this framework can help in identifying what is being looked at in the family school relationship, and how schools can be better partners with families.

Some authors have simplified Epstein's framework to focus on home-based involvement, school-based involvement, and home-school conferencing (Fantuzzo et al., 2000). Home based involvement involves the active promotion of a learning environment for children at home, for instance creating a space for learning activities to take place within the home, having books available, etc. (Fantuzzo et al., 2000). School based involvement can be described as behaviors that parents engage in at their child's school, such as volunteering in the classroom, while home-school conferencing is the communication between parents and school regarding the child's education (Fantuzzo et al., 2000). For the purpose of the current study, home-based involvement and home-school conferencing were examined as home-based involvement has been found to be the most significant predictor of positive academic and behavioral outcomes in a study of

preschoolers (Fantuzzo et al., 2004), and home-school conferencing is the most applicable to our research questions in that it involves the direct communication between a parent and teacher.

Another aspect of the family school relationship involves the parent's trust in their child's teacher. Trust is a crucial step in building and maintaining the family- school relationship.

Adams and Christenson (2000) define trust in the family-school relationship as the confidence that another person will act in a way to benefit the relationship and achieve positive outcomes for the student. In the case of parental trust of teachers, the parent is confident that their child's teacher is doing a good job teaching the child academic subjects, helping to resolve conflict with peers, trust that they care about the child, and so on (Adams & Christenson, 2000). Trust is generally measured through self-report surveys which measure how confident the parent is in their child's teacher (Adams & Christenson, 2000).

Outcomes Associated with Parent Involvement

Several positive outcomes have been found to be associated with parent involvement in their child's education. Parent involvement has been associated with positive academic outcomes, such as achievement, engagement, and motivation (Barger et al., 2019). Barger et al. (2019) conducted a meta-analysis on the topic in which the role of parent involvement in children's academics is explained in terms of the social networks that parents or families can build by becoming involved in their child's school. When families attend school events or volunteer in the classroom, they can build connections with teachers and school personnel,

allowing them to use these connections later on in order to better support their child's learning (Barger et al., 2019). This meta-analysis found small positive associations ($r_s = .13$ to $.23$) between naturally occurring home and school based parent involvement and children's academic adjustment (achievement, engagement, and motivation). Rimm-Kaufman and colleagues (2003) conducted a study looking specifically at academic outcomes associated with parent involvement, and found that children whose parents show more involvement in their schooling, as measured by their frequency of contact with teachers, attitudes toward school, and participation in school activities, show higher school competency, higher achievement in language and math, and higher ratings on peer interactions than children of families who are reported as less involved.

In addition to academics, the family school relationship has also been associated with positive social emotional outcomes in children (Barger et al., 2019; Smith et al., 2019). In a meta-analysis exploring the effects of the family school partnership on academic and social-emotional functioning, family school partnership interventions were found to have a significant positive impact on not only academic behaviors and achievement, but also social-behavioral competence and mental health (Smith et al., 2019). This article explains family-school partnership interventions as multi-dimensional, consisting of intervention elements such as activities and strategies aimed at increasing family engagement in their child's schooling, as well as relational elements such as home-school notes, that aim to strengthen the relationship between school and home. These family-school partnership interventions were found to significantly improve social-behavioral elements such as children's social skills, peer relations, and behavior regulation (Smith et al., 2019). This meta-analysis demonstrates that a stronger family-school

partnership, or family-school relationship, leads to several positive student outcomes. Likewise, Barger and colleagues discuss how parent or family involvement is associated with a child's emotional health, explaining that the involvement may convey to children that they are cared for, therefore validating and supporting their feelings of worth and possibly protecting from future internalizing problems (Barger et al., 2019). Barger's meta-analysis on this topic revealed positive associations between parents' involvement in children's schooling and children's social ($r = .12$) and emotional ($r = .17$) adjustment, as well as a negative relationship to child delinquency ($r = -.15$).

Researchers have also examined outcomes associated with parent-teacher trust. Adams and Christenson found that parental trust in their child's teacher was a positive indicator of GPA, attendance, and credits earned per year for high school students (2000). Another study examining the family school relationship in elementary school students looked at trust in relation to several aspects of student behavior (Santiago et al., 2016). Parent trust in teachers was found to be significantly related to child prosocial behavior ($r = .18, p < .01$), child peer problems ($r = -.16, p < .05$), and total child difficulties ($r = -.19, p < .01$; Santiago et al., 2016). Higher levels of trust were also found to predict greater parent involvement, indicating trust can be a stepping stone in bettering the family-school relationship all around (Santiago et al., 2016). These findings highlight that both parent involvement and parent trust of their child's teacher are important predictors and aspects of a successful family school relationship.

Student Teacher and Family School Relationships

Bronfenbrenner (1977) proposed that family and school are two of the immediate environments which make up an individual's microsystem, that is, the system that most directly affects the child and has direct influence on development. The mesosystem, the next innermost layer comprising the social ecological model, encompasses the interactions between the immediate environments, such as family and school (Bronfenbrenner, 1977). Being that these two environments are crucial to the development of the child, it is important to examine the association between student teacher relationships and family-school relationships, or family involvement, and how these two relationships interact together in predicting outcomes.

While previous literature on this topic is limited, Wyrick and Rudasill (2009) conducted a study examining the extent to which parent involvement impacted student teacher relationship quality, additionally examining parent involvement as a moderator in the association between gender and income and student teacher relationship quality. This study utilized data from the National Institute of Child Health and Human Development Study of Early Child Care, including a total of 824 students, their parents, and third-grade teachers. To measure student teacher relationships, the Student-Teacher Relationship Scale was used, while the Parent-Teacher Involvement Questionnaire (parent report) was used to assess parent involvement. Results from the study indicate that parent involvement was significantly related to teacher-child closeness, with higher levels of parent involvement predicting more closeness in the teacher-child relationship for a sample of third grade children (Wyrick & Rudasill, 2009). Additionally, parent involvement was

significantly related to teacher-child conflict, as lower levels of parental involvement predicted higher levels of conflict within the teacher-child relationship, but only for low income children. Another, similar study on this topic reported that preschool children were more likely to report higher levels of conflict with their teacher when the teacher reported less positive parent relationships within the school (Mantzicopoulos, 2005).

The moderating role of parental involvement has also been examined in the relation between the student teacher relationship and academic outcomes. In a sample of 332 fourth graders and 321 eleventh graders from China, Ma and colleagues (2021) measured the effects of the student teacher relationship on academic outcomes in the two samples, also looking at how parent involvement affects that association. Student teacher relationships were measured through student reports of questions adapted from PISA (Program for International Student Assessment) 2012, which collected information on various student outcomes including student teacher relationships. Questions inquire student perceptions on various aspects of their relationship with their teacher, such as the extent to which they get along with their teacher, if the teacher is a source of support when the student is needing help, etc. (OECD, 2013). Parent involvement was also measured by student self-report of questions adapted from another PISA survey, asking students how often their parents engage in various behaviors such as helping with homework, taking them to a bookstore or library, etc. (Ma et al., 2021). Results indicate that parent involvement plays a moderating role in the relationship between the student teacher relationship and academic outcomes, as home-based parent involvement was found to be a buffer for the effects of a poor student teacher relationship in a sample of fourth grade students. More specifically, it was found that home-based parent involvement can make up for the effect of a

low-rated student teacher relationship for students in primary school. For secondary school students (11th grade), while parent involvement did not have a compensating effect against negative student teacher relationships as seen in younger students, results suggest that for students with a more positive student teacher relationship, parent involvement was shown to further improve students' academic performance (Ma, et al., 2021).

Findings from previous literature looking at the association between parent involvement and student teacher relationships suggest that both relationships are important in predicting outcomes, and one relationship can influence the other (Ma, et al., 2021; Mantzicopoulos, 2005; Wyrick & Rudasill, 2009). These studies also provide promising evidence for the moderating role of parent involvement in the association between both student teacher relationships and outcomes (Ma, et al., 2021) as well as between gender and income and student teacher relationships (Wyrick & Rudasill, 2009). Wyrick & Rudasill (2009) suggest that the influence between the two relationships may occur through two ways: through the child and through the teacher. Parent involvement in their child's education may influence the child's attitude toward school and how they interact with their teacher. On the other hand, parent involvement may also influence the teacher's perception of that child. A parent who is more involved in their child's schooling will likely have a more positive relationship with the teacher, which could form the basis for a more positive student teacher relationship (Wyrick & Rudasill, 2009). These findings demonstrate the importance of connections between microsystems in order to strengthen positive experiences and outcomes for the child. The current study investigated the relationship between student-teacher and family-school relationships to provide more insight on the association and how the two relationships predict outcomes together.

The Current Study

The current study expanded the literature on the association between student teacher relationships and family school relationships, as well as how these two relationships predict outcomes together. The current study also clarified the association between multiple aspects of parent involvement (i.e., home-based involvement, home-school conferencing, and parent teacher trust) and both close and conflictual student teacher relationships. While the association between each relationship to student outcomes separately have been well established in the literature, less is known about the connection between the two, as well as the moderating role that parent involvement may serve in the relation between student teacher relationships and outcomes. These ideas are important to assess in considering student outcomes and promoting the best environment for the students.

Age and gender were examined as covariates, as younger aged children tend to have more challenges than older aged children within the same grade (Bernardi, 2014), and gender is known to have an effect not only on outcomes but also relationship quality in that girls generally have closer relationships with their teachers, while boys generally have more conflictual relationships (Birch & Ladd, 1998; Wyrick & Rudasill, 2009). However, looking at past research which examined the interaction between gender and student teacher relationship quality in the effects on outcomes (academic and behavioral), this interaction was found not to be significant (Baker, 2006; Birch & Ladd, 1998). Similar results have been found for the interaction between

age or grade level and student teacher relationship quality in the effects on outcomes, finding no significant interaction (Baker, 2006). Therefore, while these gender and age differences have been established in the literature, the current study sought to look at the relationships between parent involvement, student teacher relationships, and outcomes beyond the effects of gender and age.

Research Questions and Predictions

1. What is the association between student teacher relationships (i.e., conflict and closeness) and family school relationships (i.e., home-based involvement, home-school conferencing, parent-teacher trust)?

Given that prior research has found parental involvement to be a significant predictor of student teacher relationships (Wyrick & Rudasill, 2009), we expected to find that a higher quality relationship between family and school as indexed by frequency of parent teacher contact, home based parent involvement, and level of trust in teachers would significantly predict a greater degree of closeness and a lesser degree of conflict between the teacher and the student.

2. How do student teacher relationships and parent involvement predict academic and social emotional outcomes together?

Based on research that these relationships separately predict higher academic and social emotional outcomes (Barger et al., 2019; Decker et al., 2006; Hamre & Pianta, 2001; Rimm-Kaufman et al., 2003), it was hypothesized that a high quality family school relationship combined with a positive student teacher relationship would predict greater academic performance as indexed by higher scores on both a literacy curriculum based measure and teacher report of academic competence, as well as higher social emotional competency as measured by levels of self regulation, social competence, and empathy. Further, based on findings from Fantuzzo and colleagues, it was hypothesized that home-based involvement specifically would be the strongest predictor of outcomes when combined with a positive student teacher relationship (Fantuzzo et al., 2004).

3. Is the association between student teacher relationships (i.e., conflict and closeness) and child outcomes (academic and social emotional) moderated by parent involvement (i.e., home based involvement, home-school conferencing, and trust)?

Prior research has examined the moderating effect of parent involvement on the association between student teacher relationships and outcomes (Ma et al., 2021), demonstrating that parent involvement moderated the relationship between student teacher relationships and student

learning, mitigating the effects of a negative student teacher relationship on student outcomes. More specifically, it was found that overall increased parent involvement was associated with better outcomes, but that parent involvement also mitigated the effect of a lower quality student teacher relationship. To examine student teacher relationships, the study used a measure adapted from a Programme for International Student Assessment (PISA) survey which asked students to self report on various aspects of their relationship with their teacher (OECD, 2013). This measure mainly focused on the overall quality of the relationship rather than closeness and conflict, with questions such as “I get along well with my English teacher” (Ma et al., 2021). To measure parent involvement, items were again adapted from a PISA survey, asking student perceptions of their parents’ overall level of involvement. Items included questions such as “How often do your parents help you with your reading and writing homework?” (Ma et al., 2021). The current study sought to extend these findings in a sample from the U.S., while also extending to look at how different aspects of parent involvement (home based, home-school conferencing, trust) may differ as moderators, as well as examining social emotional outcomes in addition to academics. The current study also extended to examine teacher reports of the student teacher relationship, looking specifically at two dimensions of the relationship—closeness and conflict.

Based on previous findings such as these, it was hypothesized that parent involvement would moderate the relationship between student teacher relationships and outcomes, with greater involvement having a boosting effect in the association between closer student teacher relationships and outcomes, and a buffering effect in the association between conflictual or less close student teacher relationships and outcomes. Specifically, in cases of low closeness and high

conflict in the student teacher relationship, it was hypothesized that parent involvement would buffer against these negative relationships. For students with closer and less conflictual relationships with their teachers, higher parent involvement was hypothesized to further boost the positive outcomes seen from that association. Because the moderating role of the different aspects of parent involvement have not been examined, it was hypothesized that each would function in the same way. Figures 1 and 2 depict examples of results that would support these hypotheses of parent involvement as a buffer against less close and more conflictual student teacher relationships.

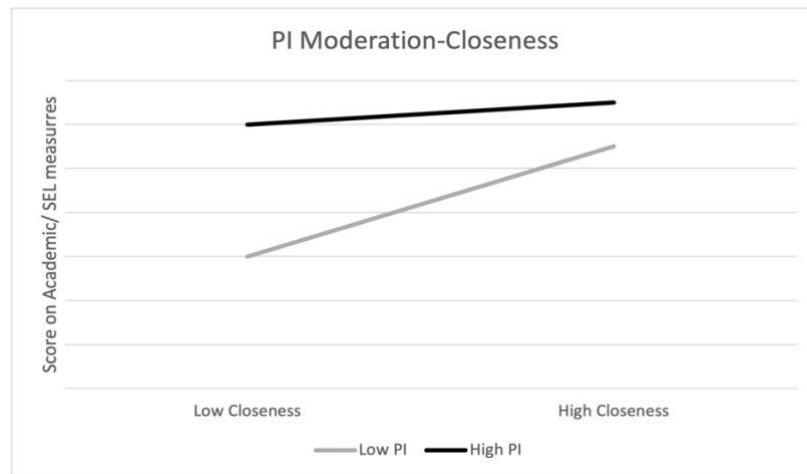


Figure 1: Proposed moderation results for student teacher closeness.

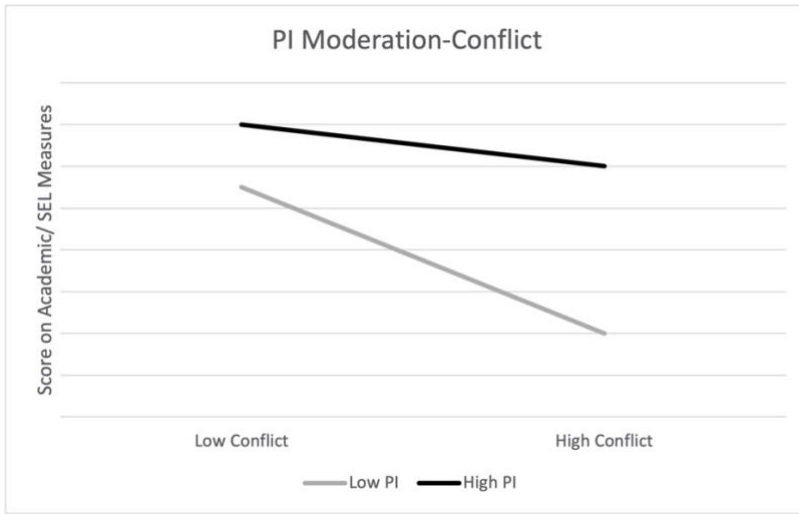


Figure 2: Proposed moderation results for student teacher conflict.

CHAPTER III

METHODOLOGY

Participants

This study utilized extant data collected in 2011-2012 from a sample of 178 kindergarten students as well as their parents and teachers ($n = 33$) who were located in the Southeastern United States and Canada. Participants attended a total of 14 schools, with seven schools from the U.S. and seven from Canada. The participating schools were located in a mix of rural, urban, and suburban areas. Teachers were recruited through an administrator or psychologist at their school, and consent forms were sent home to all students in each participating teacher's class. Mean age of the student sample was 69.22 months, or approximately 5 to 6 years of age. Race of the sample was largely White (62%), followed by Hispanic/Latino (13.3%), Multiracial (11.4%), Black or African American/ Canadian (6.6%), Other (3.6%), Asian (2.4%), and American Indian/ Alaskan Native (.6%). Mothers made up the large majority of parents completing the questionnaire at 90.5%.

Procedure

Study procedures were approved by the institutional review boards of participating universities, and data were collected during fall, winter, and spring of the 2011-2012 school year. Academic assessments (letter naming fluency and letter sound fluency) were administered by trained graduate students, in which beforehand students were read a verbal assent script. In the fall and spring, parent questionnaires were sent home with each participating student, and parents were sent a ten dollar gift card upon returning the packet. Teachers were also given a packet to complete in the spring, each completing between 2 and 11 packets, depending on the number of students in their room with parental consent. Teachers were given a ten dollar gift card for each student's packet they completed. For the purpose of the current study, only measures collected in the spring were examined because teacher data was only collected during this time.

Measures

Demographics

Parents reported on children's gender, date of birth, age in months, race/ethnicity, if the child was receiving any mental health treatment, as well as if the child was taking medication for

ADHD, OCD, or any other behavioral or mental health disorder. Parents also reported on their own demographics, including race/ ethnicity, relationship to child, level of education, family income, and marital status.

Student Teacher Relationship

To measure student teacher relationships, the Student-Teacher Relationship Scale- Short Form (Pianta, 2001) was completed by teachers in the Spring. This is a 15-item measure assessing the degree of closeness (e.g., “I share an affectionate, warm relationship with this child”) and conflict (e.g., “This child and I always seem to be struggling with each other”) within the student teacher relationship. Participants rate each item on a Likert scale from 1 (“Definitely does not apply”) to 5 (“Definitely applies”). Support for a three-factor model including Closeness, Conflict, and Dependency has been established for the full Student-Teacher Relationship Scale in samples of elementary school students from Virginia, Illinois, and a multi-state study of children in child-care (Pianta, 2001). This three-factor model was found to account for 48.8% of variance in the 28 items (Pianta, 2001). The Student-Teacher Relationship Scale- Short Form has been validated in a sample of 56 Kindergarten teachers from Greece, finding support for a two factor model with correlated latent factors, with marginal fit to the data (comparative fit index [CFI] = .902, root mean square error of approximation [RMSEA] = .066) (Tsigilis & Gregoriadis, 2008). The measure also demonstrated adequate internal consistency for Closeness ($\alpha = .72$) and Conflict ($\alpha = .82$).

Parent Involvement Measures

Home-School Conferencing

To assess home-school conferencing, the Fast Track Project Parent-Teacher Involvement Questionnaire (Parent Version) was utilized (Conduct Problems Prevention Research Group, 2011). While the full scale of this measure has 26 items, the current study utilized one subscale consisting of four items. These items assess frequency of parent-teacher contact, with questions such as “In the past year, you have called your child’s teacher”, and “In the past year, your child’s teacher has written you” (CPPRG, 2011). Parents were asked to respond to each item using a scale ranging from 1(Never) to 5(More than once per week). This scale has shown adequate internal consistency ($\alpha = .77$) in a sample of second grade students (Walters, 2001).

Home-Based Involvement

The Parental Support for Parent Learning Scale was used to assess the level and quality of home-based involvement given by parents (PSLS; Rogers et al., 2013). The measure includes 38 items, assessing instrumental involvement in learning (e.g. “I read to my child before he/she

goes to sleep”), supportive parental involvement (e.g. “I support my child in the things he/she does in school”), and management of the home learning environment (e.g. “I often bring home educational activities for our family”). Parents are instructed to respond to items on a Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The total score of the Parental Support for Learning Scale was used for this study. Factor analysis showed adequate reliability for each factor in the model (Rogers, et al., 2013).

Parent Teacher Trust

Parent trust of their child’s teacher was assessed using the 20 item Trust Scale from the Family School Relationship Survey (Adams & Christenson, 2000). Parents were instructed to respond to the following statement for each option “I am confident that my child’s teachers” with response options including “Will do a good job teaching my child academic subjects” , “Will do a good job teaching my child to follow rules and directions”, “Will do a good job helping my child to resolve conflicts with peers”, and “Will do a good job encouraging my child’s sense of self-esteem”. These items were rated on a scale from 0 (Strongly Disagree) to 3 (Strongly Agree), and all 20 items was used in this study for a total score. Prior research using this measure has shown strong internal consistency ($\alpha = .96$; Adams & Christenson, 2000).

Academic Measures

Test of Early Literacy

AIMSweb Test of Early Literacy was used to assess student abilities in Letter Sound Fluency (Shinn & Shinn, 2012). To test Letter Sound Fluency (LSF), students are presented with letters and asked to say the sounds of the letters for one minute. The number of sounds said correctly are then totaled. LSF has shown adequate retest reliability (.85), interscorer agreement (.87), and alternate form reliability (.84); Elliott et al., 2001).

Academic Competency

Each participating child's teacher completed an Academic Competence Evaluation Scale form in the spring, assessing the teacher's perspective of the student's academic skills, in the areas of reading, mathematics, and critical thinking (ACES; DiPerna & Elliott, 2000). The current study used the total score of the Academic Skills subscale. Teachers responded to items based on the frequency they occur, ranging from Never to Almost Always. Teachers were also instructed to rate the importance of these behaviors or skills in their classroom, on a scale from 1

(Not Important) to 3 (Critical). Items from the ACES yielded a four factor solution with all items having a factor loading of greater than .30. In terms of reliability, the alpha for the total scale was strong ($\alpha = .98$; Diperna & Elliot, 1999) Item total scale correlations in the standardization sample were strong for the Academic Skills scale, ranging from .74 to .92, while the Academic Skills scale also exhibiting the highest correlations to each of the ITBS test scores (Iowa Test of Basic Skills, a standardized test and popular measure of academic achievement; Diperna & Elliot, 1999).

Social Emotional Measures

Social Emotional Skills- Parent Rated

Parents rated their child's social emotional skills using Social Emotional Assets and Resilience Scales- Parent version, a 39-item measure assessing social emotional strengths (Merrell, et al., 2010). The measure includes three scales: Self-Regulation/ Responsibility (e.g., "Stays calm when there is a problem or argument."), Social Competence (e.g., "Other people like to be with her/him."), and Empathy (e.g., "Feels sorry for other people when bad things happen to them."). Parents rated the frequency for each behavior, ranging on a scale from 0 (Never) to 3 (Always). Prior research with this measure has shown strong internal consistency (.96; Merrell, 2010). The overall score, which includes items from all three subscales was used in the analyses.

Social Emotional Skills- Teacher Rated

Teachers also reported on student's social emotional skills, using the Social Emotional Assets and Resilience Scales: Teacher Form: Short Form (SEARS-T-SF; Nese, et al., 2012). The SEARS-T-SF includes 12 items in which teachers rate the frequency the child engages in the behaviors, thoughts, or feelings being asked. Items include "Is comfortable talking to many different people" and "Makes friends easily". These items are rated on a scale ranging from 0 (Never) to 3 (Always). The measure was created by selecting items from the long form with the highest reliability (Nese et al., 2012). Internal consistency (.93) and correlation between the total scores from the short form and the long form (.98) were also seen to be high in prior research (Merrell et al., 2010; Nese et al., 2012).

Analyses

Question 1: What is the association between student teacher relationships (i.e., conflict and closeness) and family school relationships (i.e., home-based involvement, home-school conferencing, parent-teacher trust)?

To examine the association between student teacher relationships and family school relationships, the three aspects of the family school relationship (Home-Based Involvement (HBI) indexed by the Parental Support for Learning Scale, Home-School Conferencing (HSC) indexed by the Fast Track Project Parent-Teacher Involvement Questionnaire, and Trust indexed by the Family School Relationship-Trust Scale) were regressed onto both closeness and conflict variables of the student teacher relationship. All variables were taken from the spring data collection point. The first model included a multiple regression of HBI, HSC, and trust predicting closeness. A second model again grouped HBI, HSC, and trust predicting conflict. Age and gender were included as covariates in each model. Depictions of these models can be found in Figures 3 and 4 below.

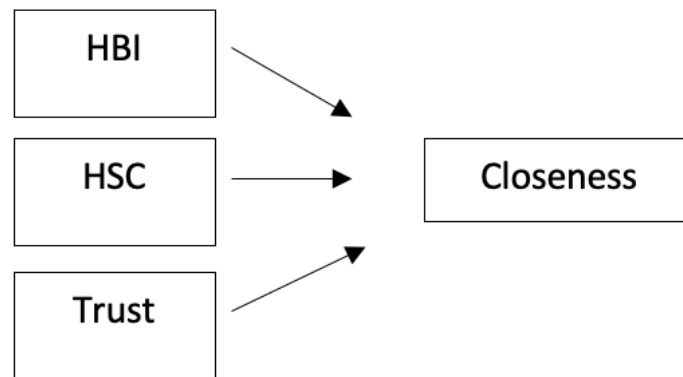


Figure 3: Research Question 1, Model 1

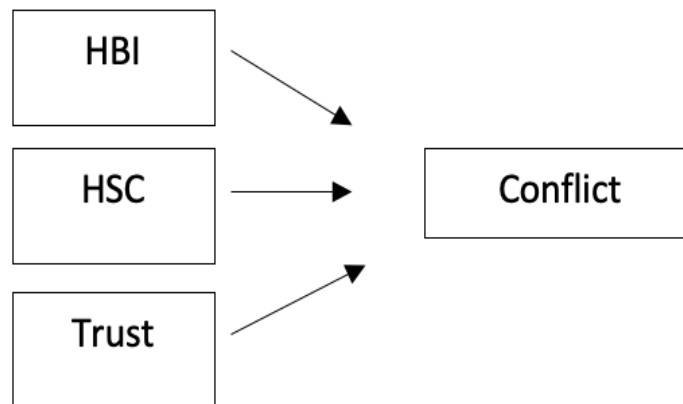


Figure 4: Research Question 1, Model 2

Question 2: How do student teacher relationships and parent involvement predict outcomes together?

To determine how both relationships predict outcomes when combined, a multiple linear regression was conducted. Aspects of parent involvement, including home-based involvement, home-school conferencing, and trust were entered as independent variables, as well as conflict and closeness for aspects of the student teacher relationship. Academic outcomes, including scores on AIMSweb test of early literacy and Academic Competence Evaluation Scales, as well as Social Emotional outcomes, including the Social Emotional Assets and Resilience Scale Parent and Teacher versions, were entered as dependent variables. Age and gender were included as covariates. A visual of these models can be found in Table 1 below.

Table 1

Research Question Two Regression Models

Predictors	Outcome
HBI, HSC, Trust, Closeness, Conflict	AIMSweb Test of Early Literacy
HBI, HSC, Trust, Closeness, Conflict	Academic Competency Evaluation Scales
HBI, HSC, Trust, Closeness, Conflict	SEARS-P
HBI, HSC, Trust, Closeness, Conflict	SEARS-T

Question 3: Is the association between student teacher relationships (i.e., conflict and closeness) and child outcomes (academic and social emotional) moderated by parent involvement (i.e., home based involvement, home-school conferencing, and trust)?

To examine the moderating effect of the family school relationship, or parent involvement, on the association between student teacher relationships and student outcomes, several moderation analyses were ran in R. For the construct of home based involvement (HBI), HBI was examined as a moderating variable in eight separate models: Closeness predicting academic outcomes indexed by the AIMSweb Test of Early Literacy, closeness predicting academic outcomes indexed by scores on the ACES measure, closeness predicting parent rated social emotional outcomes, closeness predicting teacher rated social emotional outcomes, conflict predicting academic outcomes through AIMSweb, conflict predicting academic outcomes through ACES, conflict predicting parent rated social emotional outcomes, and conflict predicting teacher rated social emotional outcomes. For the construct of home school conferencing (HSC), HSC was examined as a moderating variable in eight separate models as described above: Closeness predicting academic outcomes on both academic measures, closeness predicting parent and teacher rated social emotional outcomes, conflict predicting academic outcomes on both academic measures, and conflict predicting parent and teacher social emotional outcomes. Lastly, the concept of Trust was examined as a moderator in these same eight models. The purpose of these analyses were to examine how each aspect of parent involvement may moderate the association between two aspects of the student teacher relationship and two different student outcomes. Age and gender were included as covariates in

each model. An overall causal model for this research question can be seen in Figure 5, while a table outlining each model can be found below in Table 2.

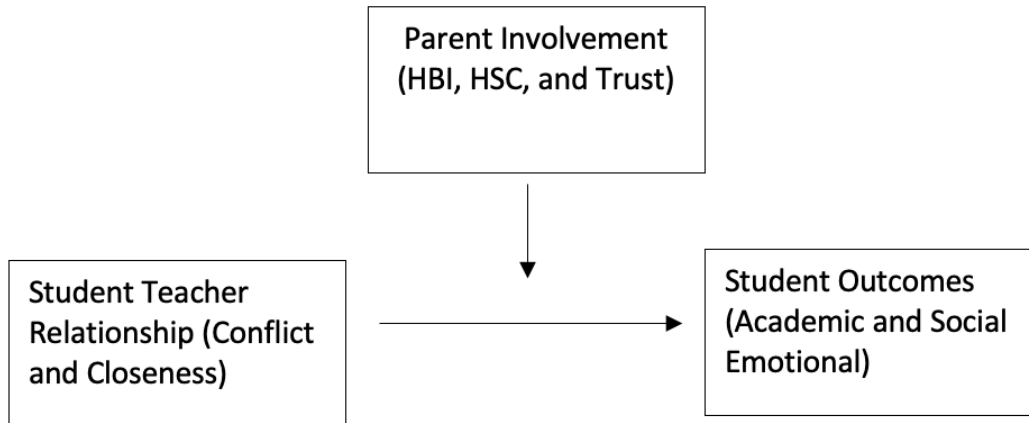


Figure 5: Research Question 3 Overall Model

Table 2

Moderation Analysis Models

Moderator	Predictor	Outcome
HSC	ST Closeness	AIMSweb Early Literacy
HSC	ST Closeness	ACES
HSC	ST Closeness	SEARS-P
HSC	ST Closeness	SEARS-T

(Continued on following page)

Table 2 (continued)

HSC	ST Conflict	AIMSweb Early Literacy
HSC	ST Conflict	ACES
HSC	ST Conflict	SEARS-P
HSC	ST Conflict	SEARS-T
HBI	ST Closeness	AIMSweb Early Literacy
HBI	ST Closeness	ACES
HBI	ST Closeness	SEARS-P
HBI	ST Closeness	SEARS-T
HBI	ST Conflict	AIMSweb Early Literacy
HBI	ST Conflict	ACES
HBI	ST Conflict	SEARS-P
HBI	ST Conflict	SEARS-T
Trust	ST Closeness	AIMSweb Early Literacy
Trust	ST Closeness	ACES
Trust	ST Closeness	SEARS-P
Trust	ST Closeness	SEARS-T
Trust	ST Conflict	AIMSweb Early Literacy
Trust	ST Conflict	ACES
Trust	ST Conflict	SEARS-P
Trust	ST Conflict	SEARS-T

CHAPTER IV

RESULTS

Preliminary Analyses

Refer to Table 3 for means and standard deviations for all variables in the study, and to Table 4 for a full correlation matrix for all variables. Note that in each table, acronyms are used to represent parent involvement and outcome variables (HSC = Home School Conferencing; HBI = Home Based Involvement; LSF = AIMSweb Letter Sound Fluency; ACES = Academic Competence Evaluation Scale; SEARSP = Social Emotional Assets and Resilience Scale, Parent; SEARST = Social Emotional Assets and Resilience Scale, Teacher).

Table 3
Descriptive Statistics

Variable	Mean	SD	Min	Max	Skew
Child Age (in months)	68.8	4.2	62.3	89.0	1.1
HSC	2.2	0.6	1.0	4.0	0.4
HBI	4.0	0.3	3.2	4.5	-0.4
Trust	2.5	0.5	1.1	3.0	-0.6
Closeness	4.2	0.7	1.4	5.0	-1.1
Conflict	1.5	0.6	1.0	4.1	1.7
LSF	38.2	16.9	0	83	0.3
ACES	3.0	0.5	1.5	5.0	0.5
SEARSP	1.8	0.5	0.6	3.0	0.2
SEARST	1.9	0.6	0.6	3.0	-0.2

Note. HSC = Home School Conferencing; HBI = Home Based Involvement; LSF = AIMSweb Letter Sound Fluency; ACES = Academic Competence Evaluation Scale; SEARSP = Social Emotional Assets and Resilience Scale, Parent; SEARST = Social Emotional Assets and Resilience Scale, Teacher

Table 4
Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Child Gender	.45	.50										
2. Child Age	68.8	4.2	.10 [-.05, .24]									
3. HSC	2.2	0.6	-.08 [-.22, .07]	-.04 [-.18, .11]								
4. HBI	4.0	0.3	.20** [.05, .33]	.16* [.01, .30]	.14 [-.01, .28]							
5. Trust	2.5	0.5	.09 [-.06, .23]	.23** [.09, .36]	.13 [-.02, .27]	.35** [.21, .47]						
6. Closeness	4.2	0.7	.23** [.08, .36]	.04 [-.11, .19]	.11 [-.04, .25]	.16* [.01, .30]	.26** [.11, .39]					
7. Conflict	1.5	0.6	-.18* [-.32, -.04]	.00 [-.15, .15]	.23** [.09, .37]	-.12 [-.27, .02]	-.03 [-.17, .12]	-.30** [-.43, -.16]				
8. LSF	38.2	16.9	.13 [-.02, .27]	.23** [.09, .37]	.19* [.04, .33]	.07 [-.08, .21]	.30** [.16, .43]	.06 [.09, .21]	-.05 [-.19, .10]			
9. ACES	3.0	0.5	-.01 [-.16, .14]	.23** [.09, .37]	.29** [.15, .42]	.18* [.04, .32]	.33** [.19, .46]	.07 [-.07, .22]	.02 [-.12, .17]	.46** [.34, .57]		
10. SEARS-P	1.8	0.5	.31** [.17, .44]	.11 [-.03, .26]	-.03 [-.18, .12]	.54** [.42, .63]	.24** [.10, .37]	.23** [.08, .36]	-.34** [-.47, -.21]	.16* [.01, .30]	.11 [-.04, .25]	
11. SEARS-T	1.9	0.6	.26** [.12, .39]	.24** [.10, .38]	.07 [-.08, .22]	.32** [.18, .45]	.35** [.22, .47]	.54** [.43, .64]	-.49** [-.59, -.37]	.30** [.16, .43]	.39** [.26, .51]	.51** [.39, .61]

Note. M and SD are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates $p < .05$. ** indicates $p < .01$.

The final participants in this sample included 178 Kindergarten students, their parents, and teachers ($n = 33$) from the Southeastern United States and Canada. The original sample consisted of 181 students, but three participants with no data available were removed in the data cleaning process. The final sample included 54% boys ($n = 97$) and 46% girls ($n = 81$). The mean age of the sample was 68.8 months, which is between 5 to 6 years. This age in months variable, in addition to the gender variable, were used as covariates in the main analyses. Also of note in the means table is the average score endorsed for student teacher conflict. Teachers rated their level of conflict in relationships with students as generally low, as the mean conflict score was 1.5 on a Likert scale of 1 to 5, while closeness was generally rated highly with a 4.2 average.

When examining missing data within the sample, several variables were missing 10% of cases or more. Specifically, HBI was missing 58 participant responses (33% of total cases), while HSC, Trust, and SEARS-P were missing 55 responses (31% of total cases). Teacher reported measures were missing less data, although Closeness, Conflict, and SEARS-T were each missing 11 responses (6% of total cases), and the ACES measure was missing 23 responses (13% of total cases). The AIMSweb Letter Sound Fluency variable was missing 12 responses (7% of total cases), while Child Gender was missing 11 (6%), and Child Age was missing 73 (41%).

To further investigate missing data, Little's MCAR was run in R Studio to test if missing data were missing completely at random. This test indicated that missing data were not missing completely at random ($X^2(130, N = 178) = 163.54, p = .02$), indicating the need for multiple imputation of missing data. Predictive mean matching using the MICE package in R was completed to impute missing data values. A total of five imputed data sets were created. To run

preliminary and main analyses, the imputed data sets were then pooled in order to obtain an overall best estimate that utilized all imputed sets (Heymans & Eekhout, 2019). In the results detailed below, reported Beta's, F statistics, and R-squared statistics are taken from results of regressions run on one imputed data set rather than the pooled dataset. This is because the pooled dataset does not provide these statistics. However, all p values reported come from the pooled dataset, and when it was necessary to use a single imputed dataset to calculate statistics, the dataset chosen was one that most closely reflected the results of the pooled imputed data sets.

Main Analyses

Question 1: What is the association between student teacher relationships (i.e., conflict and closeness) and family school relationships (i.e., home-based involvement, home-school conferencing, parent-teacher trust)?

To analyze the association between student teacher relationships and family school relationships, two multiple regression analyses were conducted in R. The first model used teacher-rated Student Teacher Closeness as the dependent variable, while aspects of parent involvement (Home Based Involvement, Home-School Conferencing, and Trust; each rated by parents) were entered as independent variables (see Table 5). Child age and gender were also entered as independent variables, as they served as covariates in the model. The overall model

was significant and predicted 9.3% of the variance in student teacher closeness ($F(5,172) = 4.645, R^2 = .093, p = .001$). When examining individual predictors, parent's trust of their child's teacher was the only variable to have a significant positive association with student teacher closeness ($\beta = .22, p = .03$). Child gender was also significantly associated with how close the teacher rates the student teacher relationship, specifically, being a female significantly predicted a closer student teacher relationship ($\beta = .21, p = .02$).

Table 5
Multiple Regression Analysis: Effect of Parent Involvement on Student Teacher Closeness

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
HBI	.16	.20	-.23	.54	.42
HSC	.05	.12	-.18	.28	.66
Trust	.31	.14	.46	.58	.03
Gender (Female)	.27	.11	.05	.48	.02
Age	.00	.02	-.03	.03	.80

Note. The overall model was significant and predicted 9.3% of the variance in student teacher closeness ($F(5,172) = 4.645, R^2 = .093, p = .001$)

The second regression analysis used Student Teacher Conflict (teacher rated) as the dependent variable, with the same aspects of parent involvement and covariates used above as the independent variables (see Table 6). The overall model was significant and predicted 7.3% of the variance in student teacher conflict ($F(5,172) = 3.769, R^2 = .073, p = .003$). Further, the analysis indicated that Home-School Conferencing had a significant positive relationship with student teacher conflict ($\beta = .24, p = .001$), indicating that higher home-school conferencing was

associated with more conflict in the student teacher relationship. Children identified as females showed a significant negative relationship with student teacher conflict ($\beta = -.14, p = .03$).

Table 6
Multiple Regression Analysis: Effect of Parent Involvement on Student Teacher Conflict

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
HBI	-.27	.19	-.65	.10	.16
HSC	.22	.09	.03	.40	.03
Trust	-.03	.11	-.25	.19	.77
Gender (Female)	-.22	.10	-.41	-.02	.03
Age	-.00	.02	-.03	.03	.93

Note. The overall model was significant and predicted 7.3% of the variance in student teacher conflict ($F(5,172) = 3.769, R^2 = .073, p = .003$).

Question 2: How do student teacher relationships and parent involvement predict outcomes together?

Multiple linear regression was used to assess the relationship between student teacher relationships and parent involvement on student outcomes. Specifically, four models were run to look at each outcome measure, including two academic measures (AIMSweb and ACES), and two social emotional measures (SEARS-P and SEARS-T). The first model included scores on the AIMSweb Letter Sound Fluency subtest as the dependent variable, with home-based involvement, home school conferencing, trust, closeness, and conflict as independent variables (see Table 7). Child gender and age were included in the model as covariates. The overall model

was significant and predicted 10% of the variance in AIMSweb scores ($F(7,170) = 3.704$, $R^2 = .097$, $p = .001$). When examining individual predictors, parent's trust of their child's teacher was the only variable to significantly predict AIMSweb scores, indicating higher trust was associated with higher AIMSweb scores ($\beta = .19$, $p = .01$). Child age was also a significant predictor, in that older students tended to score higher on the AIMSweb Letter Sound Fluency test ($\beta = .29$, $p = .02$).

Table 7
Multiple Regression Analysis: Effect of Parent Involvement and Student Teacher Relationship on AIMSweb Scores

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
HBI	-5.2	5.0	-15	4.6	.30
HSC	3.2	2.8	-2.3	8.7	.27
Trust	8.5	3.2	2.2	14.8	.01
Closeness	-1.5	2.1	-5.6	2.6	.46
Conflict	-1.2	2.7	-6.5	4.1	.65
Gender (Female)	4.5	2.6	-0.6	9.6	.08
Age	.93	.36	.22	1.64	.02

Note. The overall model was significant and predicted 10% of the variance in AIMSweb scores ($F(7,170) = 3.704$, $R^2 = .097$, $p = .001$).

The next model examined scores on the teacher rated ACES measure, specifically the Academic Skills subscale, as the dependent variable, with the same independent variables and covariates as the previous model (see Table 8). The overall model was significant and predicted 12% of the variance in ACES scores ($F(7,170) = 4.53$, $R^2 = .122$, $p = .00$). When examining individual predictors, parent rated home school conferencing was the only variable to

significantly positively predict ACES scores ($\beta = .22, p = .04$). Child age was also a significant predictor, in that older students tended to receive higher scores on the ACES ($\beta = .27, p = .008$).

Table 8

Multiple Regression Analysis: Effect of Parent Involvement and Student Teacher Relationship on Teacher Rated Academic Skills

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
HBI	.01	.15	-.27	.30	.93
HSC	.16	.08	.02	.31	.04
Trust	.17	.11	-.04	.38	.12
Closeness	.01	.06	-.11	.13	.89
Conflict	-.04	.06	-.16	.09	.58
Gender (Female)	-.01	.08	-.16	.14	.92
Age	.03	.01	.01	.05	.01

Note. The overall model was significant and predicted 12% of the variance in ACES scores ($F(7,170) = 4.53, R^2 = .122, p = .00$).

The third model examined overall score on the SEARS-P (parent rated social emotional measure) as the dependent variable, with the same independent variables and covariates as before mentioned (see Table 9). The overall model was significant and predicted 32% of the variance in SEARS-P scores ($F(7,170) = 13, R^2 = .322, p < .001$). On an individual level, parents' rating of their level of home-based involvement significantly predicted SEARS-P scores ($\beta = .36, p = .002$), suggesting that higher home based involvement may be associated with higher ratings of social emotional competence. Student teacher conflict significantly negatively predicted SEARS-P scores ($\beta = -.23, p = .007$), showing that higher conflict may be associated with lower social

emotional competency scores. Identifying as a female positively predicted SEARS-P scores ($\beta = .21, p = .005$).

Table 9
Multiple Regression Analysis: Effect of Parent Involvement and Student Teacher Relationship on Parent Rated Social Emotional Skills

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
HBI	.64	.16	.34	.95	.00
HSC	-.03	.05	.03	.40	.56
Trust	.04	.09	-.07	.14	.67
Closeness	.02	.07	-.11	.14	.80
Conflict	-.15	.06	-.26	-.04	.01
Gender (Female)	.19	.07	.06	.32	.00
Age	.01	.01	-.01	.02	.48

Note. The overall model was significant and predicted 32% of the variance in SEARS-P scores ($F(7,170) = 13, R^2 = .322, p < .001$).

The fourth and final regression model examined scores on the SEARS-T (teacher rated social emotional measure) as the dependent variable, with the same independent variables and covariates as mentioned in the first model (see Table 10). The overall model was significant and predicted 51% of the variance in SEARS-T scores ($F(7,170) = 27.09, R^2 = .508, p < .001$). When examining individual predictors, parent rated trust ($\beta = .16, p = .01$) and teacher rated student teacher closeness ($\beta = .34, p < .001$) positively predicted SEARS-T scores. Student teacher conflict, however, negatively predicted scores on the SEARS-T ($\beta = -.38, p < .001$). Child age was an additional positive predictor of SEARS-T scores ($\beta = .17, p = .002$), as older children tended to receive higher scores.

Table 10

Multiple Regression Analysis: Effect of Parent Involvement and Student Teacher Relationship on Teacher Rated Social Emotional Skills

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
HBI	.24	.12	.00	.48	.05
HSC	.11	.06	-.01	.23	.07
Trust	.21	.08	.05	.37	.00
Closeness	.31	.05	.21	.41	<.00
Conflict	-.38	.06	-.50	-.26	<.00
Gender (Female)	.09	.07	-.05	.23	.22
Age	.03	.01	.01	.05	.00

Note. The overall model was significant and predicted 51% of the variance in SEARS-T scores ($F(7,170) = 27.09$, $R^2 = .508$, $p < .001$).

Table 11

Multiple Regression Analysis: Effect of Parent Involvement and Student Teacher Relationship on Student Outcomes: Summary of Significant Findings

Predictor	AIMSweb Scores	ACES	SEARS-P	SEARS-T
HBI			X	X
HSC		X		
Trust	X			X
Closeness				X
Conflict			X	X
Gender (Female)			X	
Age	X	X		X

Note. "X" indicates the presence of a significant effect of the predictor on various student outcomes.

Question 3: Is the association between student teacher relationships (i.e., conflict and closeness) and child outcomes (academic and social emotional) moderated by parent involvement (i.e., home based involvement, home-school conferencing, and trust)?

To examine parent involvement as a moderator in the relationship between student teacher relationships and child outcomes, several multiple regression models with interaction terms were conducted using R. Specifically, twenty-four separate models were conducted to examine the relationship between each aspect of the student teacher relationship (closeness and conflict) and each student outcome (AIMSweb, ACES, SEARS-P, and SEARS-T) using the different aspects of parent involvement (home based involvement, home school conferencing, and trust) as interaction terms (see Table 12). Examination of the 24 models indicated no significant interaction terms, suggesting no significant moderating effects of parent involvement on the association between student teacher relationships and student outcomes.

Table 12

Moderating Effect of Parent Involvement in Association between Student Teacher Relationships and Student Outcomes

<i>Moderation Analyses: Closeness Predicting AIMSweb Moderated by HSC</i>					
Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	4.6	2.6	-.5	9.7	.08
Age	1.0	.33	.35	1.7	.00
Closeness	-1.8	8.7	-18.9	15.3	.84
HSC	-.12	17.6	-34.6	34.4	.99
Closeness x HSC Interaction	.77	4.0	-7.0	8.6	.85

(Continued on following page)

Table 12 (continued)

Moderation Analyses: Closeness Predicting ACES Moderated by HSC

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	4.6	2.6	-.5	9.7	.08
Age	1.0	.33	.35	1.7	.00
Closeness	-1.8	8.7	-18.9	15.3	.84
HSC	-.12	17.6	-34.6	34.4	.99
Closeness x HSC Interaction	.77	4.0	-7.0	8.6	.85

Moderation Analyses: Closeness Predicting SEARSP Moderated by HSC

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.26	.08	.10	.42	.00
Age	.01	.01	-.01	.03	.31
Closeness	-.20	.29	-.77	.37	.52
HSC	-.63	.49	-1.6	.33	.22
Closeness x HSC Interaction	.14	.12	-.10	.38	.25

Moderation Analyses: Closeness Predicting SEARST Moderated by HSC

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.24	.10	.04	.44	.02
Age	.03	.01	.01	.05	.00
Closeness	.37	.27	-.02	.90	.19
HSC	-.16	.55	-1.2	.92	.78
Closeness x HSC Interaction	.04	.12	-.20	.28	.74

Moderation Analyses: Conflict Predicting AIMSweb Moderated by HSC

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	4.2	2.6	-.9	9.3	.10
Age	1.0	.33	.35	1.65	.00
Conflict	-8.0	7.3	-22.3	6.3	.29
HSC	-1.2	5.7	-12.4	10.0	.84
Conflict x HSC Interaction	2.9	2.9	-2.8	8.6	.32

Moderation Analyses: Conflict Predicting ACES Moderated by HSC

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.01	.08	-.15	.17	.94
Age	.03	.01	.01	.05	.00
Conflict	-.18	.21	-.59	.23	.40
HSC	.09	.15	-.20	.28	.53
Conflict x HSC Interaction	.05	.08	-.11	.21	.51

(Continued on following page)

Table 12 (continued)

Moderation Analyses: Conflict Predicting SEARSP Moderated by HSC

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.24	.07	.10	.38	.00
Age	.01	.01	-.01	.03	.28
Conflict	-.18	.21	-.59	.23	.40
HSC	.04	.15	-.25	.33	.79
Conflict x HSC Interaction	-.01	.08	-.17	.15	.89

Moderation Analyses: Conflict Predicting SEARST Moderated by HSC

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.26	.09	.08	.44	.00
Age	.04	.01	.02	.06	.00
Conflict	-.70	.24	-1.2	-.23	.00
HSC	.03	.16	-.28	.34	.84
Conflict x HSC Interaction	.08	.09	-.10	.26	.37

Moderation Analyses: Closeness Predicting AIMSweb Moderated by HBI

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	3.9	2.7	-1.4	9.2	.14
Age	1.0	.34	.33	1.7	.00
Closeness	23.3	26.1	-27.9	74.5	.38
HBI	23.5	26.5	-28.4	75.4	.38
Closeness x HBI Interaction	-5.7	6.4	-18.2	6.8	.38

Moderation Analyses: Closeness Predicting SEARSP Moderated by HBI

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.23	.07	.09	.37	.00
Age	.01	.01	.01	.03	.45
Closeness	-1.0	.89	-2.7	.74	.28
HBI	-.44	.98	-2.3	1.5	.67
Closeness x HBI Interaction	.27	.21	-.14	.68	.24

Moderation Analyses: Closeness Predicting SEARST Moderated by HBI

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.22	.10	.02	.42	.05
Age	.03	.01	.01	.05	.00
Closeness	.35	.78	-1.2	1.9	.65
HBI	.28	.82	-1.3	1.9	.73
Closeness x HBI Interaction	.02	.19	-.35	.39	.92

(Continued on following page)

Table 12 (continued)

Moderation Analyses: Conflict Predicting AIMSweb Moderated by HBI

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	4.2	2.7	-1.1	9.5	.11
Age	1.0	.35	.31	1.7	.01
Conflict	-11.1	25.8	-61.7	39.5	.67
HBI	-4.5	11.9	-27.8	18.8	.71
Conflict x HBI Interaction	2.8	6.4	-9.7	15.3	.67

Moderation Analyses: Conflict Predicting ACES Moderated by HBI

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	-.02	.08	-.18	.14	.83
Age	.03	.01	.01	.05	.01
Conflict	.93	.78	-.57	2.5	.24
HBI	.54	.38	-.20	1.3	.17
Conflict x HBI Interaction	-.24	.20	-.63	.15	.23

Moderation Analyses: Conflict Predicting SEARSP Moderated by HBI

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.20	.06	.08	.32	.00
Age	.01	.01	-.01	.03	.44
Conflict	.65	.56	-.45	1.7	.25
HBI	.99	.30	.39	1.6	.00
Conflict x HBI Interaction	-.20	.14	-.47	.07	.15

Moderation Analyses: Conflict Predicting SEARST Moderated by HBI

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.22	.09	.04	.40	.02
Age	.03	.01	.01	.05	.00
Conflict	-.04	.75	-1.5	1.4	.96
HBI	.57	.33	-.08	1.2	.08
Conflict x HBI Interaction	-.10	.19	-.47	.27	.59

Moderation Analyses: Closeness Predicting AIMSweb Moderated by Trust

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	4.1	2.6	-1.0	9.2	.11
Age	.86	.37	.13	1.6	.03
Closeness	-9.2	9.5	-27.8	9.4	.33
Trust	-6.2	16.2	-38	25.6	.70
Closeness x Trust Interaction	3.4	3.8	-4.0	4.0	.38

(Continued on following page)

Table 12 (continued)

Moderation Analyses: Closeness Predicting ACES Moderated by Trust

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	-.02	.08	-.18	.14	.80
Age	.03	.01	.01	.05	.01
Closeness	-.08	.27	-.61	.45	.77
Trust	.01	.46	-.89	.91	.99
Closeness x Trust Interaction	.04	.11	-.18	.26	.68

Moderation Analyses: Closeness Predicting SEARSP Moderated by Trust

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.26	.07	.12	.40	.00
Age	.01	.01	-.01	.03	.34
Closeness	-.08	.34	-.75	.59	.81
Trust	-.11	.53	-1.2	.93	.84
Closeness x Trust Interaction	.07	.13	-.18	.32	.61

Moderation Analyses: Closeness Predicting SEARST Moderated by Trust

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.23	.09	.05	.41	.02
Age	.03	.01	.01	.05	.01
Closeness	.09	.34	.58	.76	.79
Trust	-.43	.59	-.77	.73	.48
Closeness x Trust Interaction	.14	.14	.37	.65	.32

Moderation Analyses: Conflict Predicting AIMSweb Moderated by Trust

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	3.7	2.6	-1.4	8.8	.16
Age	.86	.38	.12	1.6	.04
Conflict	8.3	9.8	-10.9	27.5	.40
Trust	12.7	7.8	-2.6	28.0	.11
Closeness x Trust Interaction	-3.2	3.9	-10.8	4.4	.40

Moderation Analyses: Conflict Predicting ACES Moderated by Trust

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	-.02	.08	-.18	.14	.84
Age	.03	.01	.01	.05	.01
Conflict	.35	.26	-.16	.86	.18
Trust	.44	.20	.05	.83	.03
Closeness x Trust Interaction	-.14	.10	-.34	.06	.15

(Continued on following page)

Table 12 (continued)

Moderation Analyses: Conflict Predicting SEARSP Moderated by Trust

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.23	.07	.09	.37	.00
Age	.01	.01	-.01	.03	.36
Conflict	-.16	.24	-.63	.31	.51
Trust	.20	.17	-.13	.53	.24
Conflict x Trust Interaction	-.01	.09	-.19	.17	.88

Moderation Analyses: Conflict Predicting SEARST Moderated by Trust

Effect	Estimate	SE	95% CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Gender (Female)	.23	.09	.05	.41	.02
Age	.03	.01	.01	.05	.00
Conflict	-.52	.29	-1.1	.05	.08
Trust	.24	.23	-.21	.69	.30
Conflict x Trust Interaction	.02	.11	-.20	.24	.83

CHAPTER V

DISCUSSION

The role of parent involvement and student teacher relationships on student academic and social emotional outcomes has been well established in the literature (Barger et al., 2019; Barnard, 2004; Hamre & Pianta, 2001). Given that less is known about the association between parent involvement and student teacher relationships, the current study sought to explore the relationship between the two, as well as examine how the two are associated with student outcomes when examined together, and if parent involvement acted as a moderator between student teacher relationships and student outcomes.

Parent Involvement and Student Teacher Relationship Association

Question one examined the association between student teacher relationships (i.e., conflict and closeness) and family school relationships (i.e., home-based involvement, home-school conferencing, parent-teacher trust). Limited research available on this topic has suggested that parent involvement is a significant predictor of student teacher relationships (Wyrick & Rudasill, 2009). Specifically, higher levels of parent involvement were related to student teacher

closeness. While the Wyrick and Rudasill (2009) study examined parent involvement as a broader construct, the current study sought to further examine how specific aspects of parent involvement are related to student teacher relationships. Results from the current study suggest that parent's trust of their child's teacher was significantly related to teacher rated student teacher closeness. This implies that a student whose parent trusts their teacher more, may have a closer relationship with that teacher. However, it is not clear based on these results which direction this relationship may go. For example, it may be that if a parent has a positive relationship and view of the teacher, this positive perception may influence the child's perception and attitude toward their teacher. Another explanation could be that if a student and teacher already have a close relationship, the parent may trust that teacher more because they know their child has positive feelings toward them. The literature on parent teacher trust posits that trust is associated with many other positive outcomes that may also play a role here. For instance, trust has been found to be positively associated with child prosocial behavior, and negatively associated with child peer problems, and total child difficulties (Santiago et al., 2016). It could be that students with more trusting parents are more likely to have these above qualities, which also influence a closer student teacher relationship. Additionally, the trust variable could also be viewed as a sort of proxy for good teaching strategies or for teacher competence. It is possible that if a parent is rating the teacher more highly on these constructs measured in the variable ("Will do a good job teaching my child academic subjects", "Will do a good job teaching my child to follow rules and directions", etc.), that the teacher may generally be a more competent teacher which could explain associations to academic and social emotional outcomes measures.

When examining the relationship between parent involvement and conflict, a slightly different result was found. It was hypothesized that parent involvement would be negatively associated with conflict, however, one aspect of parent involvement appeared to be positively related to student teacher conflict. Home-school conferencing, which is the communication between parent and teacher as rated by the parent, was associated with a more conflictual relationship between student and teacher, as rated by the teacher. It may be that, since the quality of those conversations were not measured here, increased communication between home and school may be regarding negative instances with the student. Teachers who are having more conflict with a student, may be having to reach out to that child's parent more often to report behavior incidences. This idea is often examined in the literature on students with ADHD, as family-school relationships are often strained due to difficulties working with the child in the classroom (Mautone et al., 2014). In a study on the quality of parent teacher relationships for students with ADHD, it was found that parent ratings of the quality of their relationship with their child's teacher demonstrated only a low correlation with factors measured on the FIQ (Family Involvement Questionnaire), which measures quantity of parent involvement over quality (Mautone et al., 2014). This may support the idea that increased communication between home and school does not always equate to positive communication and positive outcomes.

Parent Involvement and Student Teacher Relationships Predicting Student Outcomes

Research question two assessed how student teacher relationships and parent involvement predict outcomes together. Because of the well-known association between student teacher relationships and parent involvement (Barger et al., 2019; Barnard, 2004; Hamre & Pianta, 2001), it was hypothesized here that when examined together, both student teacher relationships and parent involvement would predict higher scores on various academic and social emotional outcomes. Additionally, based on prior research (Fantuzzo et al., 2004), it was also hypothesized that home-based involvement would be the strongest predictor of outcomes. When examining each outcome individually, there was variation in which variables were significantly related to each outcome. Parent rated trust and home school conferencing were each significantly positively related to scores on AIMSweb Letter Sound Fluency and the ACES measure, respectively. It may be that as parents communicate more and develop a trust for their child's teacher, they send the message to their children about the importance of education and performing well in school. It may also be that parents who are able to more frequently contact their child's teacher and develop a sense of trust, have other characteristics or outside factors affecting the student's academic performance. For instance, they may have more time to devote to helping their child outside of school, and more financial and other resources to benefit their child's education. Previous research on the Family Involvement Questionnaire supports this idea, finding that parents with more than a high school education, as well as families living in a two-parent household, reported more home school communication (Fantuzzo et al., 2000).

Social emotional outcomes were also examined in the current study. Home based involvement (parent rated) and student teacher closeness (teacher rated) were both positively related to parent rated social emotional outcomes, while student teacher conflict was negatively related. Home based involvement has been thought to influence children's social emotional well-being in that parent involvement at home may convey to children that they are cared for, and validate feelings of worthwhile protecting against internalizing problems (Barger et al., 2019). It may also be that parent's involvement at home, in addition to academic involvement, could include teaching on social emotional skills and lead to higher ratings by parents. Both aspects of the student teacher relationship were also related to parent ratings of their child's social emotional skills. It may be that students who have closer relationships with their teachers, are able to build these strong relationships because they have strengths in their social emotional and relational skills. On the other hand, students with more conflictual relationships may struggle with relationship building and therefore be rated less highly on this rating scale.

On a teacher rated social emotional scale, parent's trust of their child's teacher, home based involvement, and student teacher closeness were all positively related to teacher perceptions of students' social emotional skills, while student teacher conflict had a negative relationship. Results outlined in above research question one suggest that parents' trust of their child's teacher is related to a closer student teacher relationship. This may be one mechanism through which trust was significantly related to teacher rated social emotional skills. Additionally, both student teacher closeness and conflict were related to teacher rated social emotional skills. Similar to results found with parent rated social emotional skills, it is likely that the constructs are related due to the overlap of social emotional skills and relationship building.

Parent and teacher ratings of social emotional skills differed slightly in their associations with aspects of parent involvement and student teacher relationships. Specifically, teacher ratings had a greater number of significant findings with the addition of trust and closeness. These factors may be more salient to what teachers are seeing at school in regard to students' social emotional well-being.

Based on prior studies, it was hypothesized that parent rated home-based involvement would be the strongest predictor of student outcomes, however, this finding was not supported. This may be due to the different nature of each outcome examined. For instance, there was a mix of parent rated versus teacher rated variables, as well as a measure of academic performance administered to the student directly. Therefore, it would make sense that a range of variables would emerge as significantly related due to differing perspectives. It may also be that home-based involvement is less relevant in younger age groups. The current sample utilized Kindergarten students, who may not yet have homework or school-based activities that parents can help with at home. Home based involvement for kindergarten aged students may look more like reading to them or taking them to educational activities. Additionally, because many of the student outcomes were teacher rated, home based involvement may not have had as salient of an impact as it would have if all variables were parent rated or taken directly from assessments of the students.

It is also important to note that there appeared to be a stronger association between parent involvement and student teacher relationships with social emotional outcomes than with academic outcomes. This may suggest that, at least for younger students, parents and teachers have more of an influence on their social emotional well-being. It could be that parents and

teachers place more emphasis on behavior and interacting appropriately with others in kindergarten since this is likely many children's first school experience. Additionally, this finding is in line with some mixed results in the literature on parent involvement and academic achievement. For example, one study demonstrated that, for a sample of elementary school students, parent involvement was positively associated with better social skills and fewer problem behaviors, but not with academic achievement (El Nokali et al., 2010).

One possible explanation given for this lack of association was that parent involvement may be more globally beneficial for children's academic performance in school, but does not specifically promote achievement in any particular domain (El Nokali et al., 2010).

Parent Involvement as a Moderator

Lastly, the current study explored if the association between teacher rated student teacher relationships (i.e., conflict and closeness) and child outcomes (academic and social emotional) was moderated by parent involvement (i.e., home based involvement, home-school conferencing, and trust). There is some evidence that parent involvement may moderate the association between student teacher relationships and child outcomes (Ma et al., 2021). In the current study, several regression analyses examining relationships between each aspect of student teacher relationships (conflict and closeness) and student outcomes (academic and social emotional) with aspects of parent involvement as moderators were conducted. Results from each model suggest that parent involvement did not have a significant interaction effect in relationships between

student teacher relationships and outcomes, indicating parent involvement was not a moderator in the relationship.

In a previous study examining parent involvement as a moderator between student teacher relationships and student academic outcomes, parent involvement was found to be a buffer for the effects of a poor student teacher relationship in a sample of fourth grade students (Ma et al., 2021). It may be that this same moderating effect was not replicated here because there was not a high enough level of conflictual student teacher relationships in this sample for parent involvement to show a significant buffering effect. Additionally, the relationship between student teacher relationships and student outcomes could be strong enough on its own that the added parent involvement variables did not significantly change the relationship between the two, even at high levels of parent involvement. It is also important to point out that the student teacher relationship variables (conflict and closeness) only significantly predicted social emotional outcomes, not academics. It could be that parent involvement plays more of a role in affecting academics, and therefore had no significant impact in the association between student teacher relationships and outcomes. Also of note, moderation effects found in the Ma et al. study were found in a sample of students from China, which may indicate a cultural difference in that parents are more involved in their children's education, allowing for parent involvement to make up for lower rated student teacher relationships.

Implications

Results here have important implications for parents and teachers. This study outlines the importance of both parent involvement and student teacher relationships in outcomes of students, as well as possible associations between parent involvement and student teacher relationships. For parents specifically, the results suggest several ways in which parents could potentially improve outcomes for their children through their relationship with the school and through involvement in their child's education. Parent trust of their child's teacher was shown to be significantly related to student teacher closeness. Parents should seek to build a trusting relationship with their child's teacher by increasing communication and involvement within the classroom, which could affect their child's relationship with the teacher. Additionally, trust and home school conferencing were significantly related to both academic measures as well as teacher rated social emotional skills which demonstrate important implications again for parents to prioritize a positive relationships and communication with their child's teacher. Home based involvement was related to higher ratings of social emotional skills by parents. This would imply that the involvement parents have at home could impact their child's behavior and relationship skills. Parents should seek out ways to be involved in their child's learning at home by helping with homework, providing books or other materials for learning, and communicating with their child about what they are learning at school.

Several important implications for teachers also exist here. First, because home school conferencing was positively related to student teacher conflict, teachers should be aware of the type of communication they are having with home and seek to include more positive

communication with families, particularly for students who may have more challenges at school that are often being communicated to home. One way to do this would be to share positive behaviors occurring in the school day with parents. Additionally, research suggests that Learning Management Systems such as Schoology, Google Classroom, Canvas, and Moodle present opportunities for communication and collaboration for teachers and parents and allows parents to keep informed on their child's progress (Laho, 2019). Links between student teacher relationships and social emotional outcomes were also seen. Specifically, student teacher closeness was related to both parent and teacher rated social emotional skills, while student teacher conflict was negatively related to both. While this is to be expected considering the social emotional measures examine relationship skills, these findings still represent the importance of teaching social emotional skills in school in order to promote closer relationships with teachers.

School psychologists could also utilize this research in their consultation with teachers and parents. Findings implicate the importance of advocating for positive student teacher relationships and increased, positive parent involvement and communication. School psychologists could provide building wide resources for improving relationships for teachers, both with their students and their students' parents. Additionally, as classroom observations are frequently in the role of a school psychologist, they may be able to notice when there are issues with relationship building or high conflict within a classroom and could suggest ways to improve.

Limitations and Future Directions

While there are many strengths to the current study, limitations do exist. First, this is a cross sectional study which does not allow for findings to be interpreted as causal. Longitudinal data should be utilized in future studies to examine how parent involvement and student teacher relationships may be related to each other and to student outcomes across time. Further, the sample size used was relatively small and non-representative. A large majority of the participants were White, affluent individuals, which limits the generalizability to other, more diverse groups. The size as well as the demographic makeup of the sample could have limited the number of significant findings. For example, it is possible that parent involvement could have moderating effects in a sample of students who have more conflictual relationships with their teachers. In the current study, the level of conflict in student teacher relationships was relatively low. Future studies on the topic should utilize a larger and more representative sample to determine if different effects would be seen based demographic factors. The sample used here was also slightly outdated as data were collected in 2013, which could also limit its generalizability in today's culture. In light of the recent COVID-19 pandemic and school closures becoming more of a common place, it would be interesting to examine these results in a sample of students engaged in home learning. Stronger associations may be found between home school conferencing and home-based involvement with student outcomes, and parent involvement may have buffering effects against a more negative student teacher relationship that could occur due to difficulty in building a close student teacher relationship online. Another sample limitation could be said for the amount of missing data within the original sample. Although multiple

imputation was used which provides more statistical power and utilizes available data to make the best estimates, there was a large amount of participants missing data for a number of variables, and the imputed data cannot be a perfect estimate of what these participants would have endorsed if they had completed all of the measures. Finally, future studies could include more qualitative data (such as parent, teacher, and student interviews and observations) rather than utilizing all rating scales. A limitation to the ratings utilized here is that we only see constructs from the perspective of one person. Specifically, we do not gain parent or student perspective on the student teacher relationship, and do not see teacher perspective on the level of parent involvement. Results may look different depending on the rater and their own personal experiences. For instance, it could be possible that teachers view themselves as having more communication with parents than the parents view, etc.

Conclusion

Parents and teachers play a large role in the developing worlds of young students, comprising what Bronfenbrenner describes as a child's microsystem (Bronfenbrenner, 1979). Both parties are known to have many positive effects on the academic and social emotional outcomes of students (Barger et al., 2019; Barnard, 2004; Hamre & Pianta, 2001), and some studies have shown the two to influence one another (Ma et al., 2021; Wyrick & Rudasill, 2009). The current study sought to examine how parent involvement and student teacher relationships were related not only to student outcomes, but also to each other, investigating the possible

moderating effects of parent involvement in the relation between student teacher relationships and student outcomes. Results here suggest that parental trust of teachers is linked to a closer student teacher relationship, while home school conferencing was related to a more conflictual student teacher relationship. In examining several outcomes for students, trust and home school conferencing were positively associated with both academic measures, while student teacher closeness and conflict, as well as trust and home-based involvement, were linked to social emotional outcomes. While no significant moderating effects were seen, this could speak to the strong influence of student teacher relationships on outcomes, which, in this sample, were not affected by parent involvement.

Additional research should be done to further parse out how the two constructs, parent involvement and student teacher relationships, may be related or how results may differ across time and with different samples. However, this study reiterates the importance that social capital, particularly parents and teachers, can play in the lives of students.

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