

EFFECTS OF A SOCIAL PROBLEM-SOLVING INTERVENTION ON TEACHER-
STUDENT RELATIONSHIPS FOR STUDENTS EXHIBITING EMOTIONAL AND
BEHAVIORAL DIFFICULTIES

By

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To my Mom
July 22, 1946 – May 12, 2009

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Abstract of Dissertation Presented to the Graduate School
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My purpose within this study was to determine whether a social problem-solving curriculum, based on a cognitive-behavioral approach, would improve teacher-student relationship quality as rated by teachers and students. Additionally, I examined the curricular effects on student knowledge and approaches to social problem solving. Moreover, I modified a version of an instrument used to rate relationship quality from a teacher's perspective and introduced a student instrument, based on the modified teacher instrument, for rating teacher-student relationship quality. A literature review on teacher-student relationships, details on instrument development, study design, and methods used to conduct the study are provided. Results of teacher and student ratings are presented and then discussed in light of curricular impact upon relationship quality. Overall, teachers and students primarily agreed on the quality of their relationships, the curriculum had an effect on student knowledge; however, there was no effect on relational quality or approaches to problem solving. Considerations for future research and practice are provided.

CHAPTER 1 INTRODUCTION TO THE PROBLEM

There is little doubt that our society wants its children to succeed. Generally, the public trusts that schools are among the many settings that bring opportunities for success to children. The interpersonal aspects of education are some of the key sources within a school that contribute to students' academic and social success (Greenberg et al., 2003). In part, how students perceive and interact within academic and social environments are related to how a student accesses social-emotional and academic support for future success (Graziano, Reavis, Keane, & Calkins, 2007; Greenberg et al., 2003).

Yet, for some children, environmental challenges including negative life events such as maltreatment, poor child care, and divorce inhibit social-emotional and academic success (Pianta, 2000). Additionally, learning challenges including inherent issues such as learning disabilities, physical disabilities, cognitive deficits, emotional disorders, and other health impairments such as attention deficit/hyperactivity disorder may contribute to a student's social-emotional and academic difficulties. If not addressed, these negative life events and learning challenges often result in risks for more severe social and emotional problems. For many students, such difficulties may impact their personal relationships and social networks throughout life (Erickson & Pianta, 1989; Pianta & Walsh, 1996).

Researchers have suggested that placing an early emphasis on the establishment of high quality teacher-student relationships may assuage the life-long difficulties and problems of students at high-risk for emotional or behavioral challenges (Davis, 2006; Hamre & Pianta, 2001; Hughes, Cavell, & Jackson, 1999; Meehan,

Hughes, & Cavell, 2003). Early positive relationships with teachers, defined as a low degree of conflict, an appropriate degree of dependency, and a high degree of closeness (Pianta, 2001), have been found to buffer the negative trajectories forecasted for students who experience negative life events or demonstrate challenging behaviors (Duncan & Brooks-Gunn, 1997; Hamre & Pianta, 2001). Further, because teacher-student relationships are crucial to social-emotional and academic competence (Pianta, 2000), and conflict-oriented relationships have been shown to contribute to school-related difficulties (Nelson & Roberts, 2000; Van Acker, Grant, & Henry, 1996), an emphasis upon developing quality relationships between teachers and students can be seen as a viable intervention for reinforcing positive social, emotional, and academic development (Brendtro, Brokenleg, & Van Bockern, 2002; Long, Morse, Fecser, & Newman, 2007; Pianta, 2000; Vitto, 2003). In particular, students identified as high-risk for behavioral difficulties, who also experience sustained positive relationships with their teachers, have demonstrated significantly improved social and academic outcomes (Murray & Greenberg, 2001; Pianta, 2000; Pianta, Belsky, Vandergrift, Houts, & Morrison, 2008).

Many students at high-risk for behavioral difficulties exhibit social deficits and demonstrate externalizing, and to a lesser degree, internalizing emotional and behavioral difficulties. Oftentimes, such difficulties impact how they perceive and interact with others, resulting in problematic social interactions. These students are often identified in a school-based context as having an emotional or behavioral disorder (EBD). Characteristics of students with EBD include a high degree of conflict or aggression in social situations, a low degree of closeness or trust in interpersonal

relationships, and impulsive or irrational tendencies (Kauffman & Landrum 2009; McConaughy & Skiba, 1993) that directly impact their social-emotional growth. Due to such conflict-oriented tendencies, many of these students are avoided, isolated, and rejected by peers and adults, which reduces their social networks and successful academic and behavioral outcomes (Goddard, 2003).

According to the federal definition within the Individuals with Disabilities Education Improvement Act regulations (IDEA, 2006), the category for which students with EBD are most likely to qualify is emotional disturbance (ED). Within the ED definition, students who qualify must exhibit one of five criteria in an enduring and intensive way that adversely affects his or her educational performance (IDEA, 2006). Of the five criteria, “An inability to build or maintain satisfactory relationships with peers and teachers” (IDEA, 2006, Sec. 300.8(c)(4)(i)(B)) is of primary significance, for without a high-quality teacher-student relationship, all other pedagogical techniques are less effective (Long, 2008). Such considerations highlight the important need for relational interventions that improve a student’s social-emotional and academic competencies and lead to improved educational performance.

In light of current laws, teachers who work with students who exhibit EBD or who exhibit symptoms of emotional and behavioral difficulties are faced with the tasks of (a) providing quality educational experiences, (b) providing access to grade-level curricula for passing high-stakes assessments, and (c) addressing the disability (i.e., cultivating meaningful relationships with their students) (Abrams, 2005; Lane, Wehby, & Barton-Arwood, 2005). The ability to equally address each task within a school day poses a challenge for teachers who educate students with EBD (Lane, Wehby, & Barton-

Arwood, 2005). For example, the current high-stake emphasis on students passing state assessments may lead to the view that curricula not directly related to academics are nonessential (Polsgrove & Smith, 2005), despite appropriateness for youth with EBD. Consequently, teachers and other school professionals may adhere to state or district curricula that emphasize passing state assessments, to the exclusion of addressing the disability by providing social supports and positive replacement behavior training (e.g., social problem solving) (Wehmeyer, Agran, & Hughes, 2000).

Fortunately, some researchers have stressed functional curricula for students with EBD that address their disability as well as providing a meaningful education (Carter, Lane, Pierson, & Glasser, 2006; Gagnon, Van Loan, & Barber, 2009; Rutherford, Quinn, Leone, Garfinkel, & Nelson, 2002). When considering students with EBD, functional curricula that address interpersonal difficulties should target social and emotional competencies (Payne, Marks, & Bogen, 2007). Given the nature of instruction in social and emotional competencies, the interpersonal connection or how a teacher delivers the curriculum is paramount to effective instructional delivery (Greenberg et al., 2003; Wang, Haertel, & Walberg, 1997). Researchers have observed that a high quality teacher-student relationship facilitates curricular delivery and contributes to success in life (Abrams, 2005; Pianta, 1992). However, because relationships inherently have problematic interactions and students with EBD have difficulty maintaining relationships, instruction in successful social interactions is also necessary to address their disability.

Maintaining positive relationships is based on social interactions over time (Pianta et al., 2008; Shores & Wehby, 1999). Often some social interactions are problematic and require a requisite skill set to render such problems neutral like

knowing problem solving concepts and effective solution implementation (D’Zurilla & Goldfried, 1971). Due to impulsive and irrational tendencies, students with EBD lack knowledge in social problem-solving concepts and successful solution implementation (Lansford et al., 2006). Social problem solving is among the many interventions that provide opportunities for quality interactions between students and teachers, (see Chang, D’Zurilla, & Sanna, 2004) and is one that may be investigated for the potential to improve the relational quality between teachers and students. Social problem solving, aligned with a cognitive-behavioral approach, allows students to think about their feelings and affect when encountering socially problematic situations. Such cognitions then affect their behavior (Meichenbaum, 1977; Vygotsky, 1962). If students and teachers can decrease negative interactions through thinking about social problem-solving strategies and are behaviorally reinforced by desired outcomes (Bandura, 1969, 1997), then the likelihood of positive interactions and a willingness to invest in trusting relationships increases.

Investment in trusting relationships occurs, in part, when there is shared knowledge and norms that include an agreed upon set of rules whereby each actor perceives mutual benefit. Greater academic and social outcomes occur when trust is established within teacher-student relationships (Crosnoe et al., 2004; Kortering & Braziel, 2002; Muller, 2001; Runyan et al., 1998; Teachman et al., 1996). Trusting interactions that occur over time and lead to the formation of quality relationships is an interpersonal investment that some researchers have referred to as building social capital (Coleman, 1988; Fukuyama, 1999). In many ways, the theory of social capital explains benefits derived from the promulgation of resources and actions within social

networks and personal relationships considered by Coleman (1988) as human capital. Access to social capital has been shown to improve developmental and behavioral outcomes for high-risk students (Runyan et al., 1998). Unfortunately, many researchers have demonstrated that students with EBD have limited access to social networks and human capital, thus further reducing their chances for success in life (Croninger & Lee, 2001; Crosnoe et al., 2004; Ferguson, 2006; Furstenberg & Hughes, 1995; Kortering & Braziel, 2002; Teachman, Paasch, & Carver, 1996).

Researchers have demonstrated that a teacher's provision of social capital builds relationships and assists students with EBD out of their disadvantaged circumstances (Croninger & Lee, 2001; Crosnoe et al., 2004; Ferguson, 2006; Furstenberg & Hughes, 1995; Kortering & Braziel, 2002; Teachman, Paasch, & Carver, 1996). If teachers and students in self-contained settings experience close, trusting interactions and perceive mutual benefit they will ultimately share knowledge and beliefs, thus bolstering a quality relationship (Birch & Ladd, 1998). Such experiences will reinforce a student's desire to pursue positive relationships with others, allow them to expand their social networks (Sampson, Morenoff, & Earls, 1999), and potentially transition into less restrictive settings. Unfortunately, for students placed in self-contained EBD settings, conflictive and problematic interactions prevent transition to mainstream settings and limit access to social networks yielding less access to social capital (Farmer, Pearl, & Van Acker, 1996).

Statement of the Problem

Teachers often describe students in self-contained EBD settings as the hard to reach and hard to teach (Sternberg, 2002). Frequently, students with EBD display a high degree of conflict during social interactions (i.e., aggression, anger) and show poor

academic outcomes (Cairns & Cairns, 1994). Moreover, teachers who work in self-contained environments often experience conflictive, aversive, and negative emotions while educating students with EBD (Clark, 1998; Yoon, 2002). Given these descriptions, teachers in self-contained settings would likely benefit from providing effective social-emotional strategies to their students to increase positive interactions, improve relational connections, expand their social networks, assist with behavioral management, and facilitate academic and social successes. Yet, empirically-based strategies that address such social-emotional needs of students with EBD are limited (Greenberg et al., 2003). Interventions such as social problem solving that target improved teacher-student interactions may buffer the intrapersonal tensions often associated with providing academic and social learning opportunities to students with emotional and behavioral disorders (Shores, et al., 1993) by providing a model for shared norms that increases positive, close interactions and increases access to social capital.

Students who are classified as EBD that are placed in restrictive educational settings (e.g., self-contained classrooms) have less opportunities to explore positive relationships with a broad range of adults and peers, and an even greater conflict with their teachers (Meehan, et al., 2003) when compared to regular education students. Despite current reform efforts to include students with disabilities in general education settings, providing opportunities for students with EBD placed in restrictive settings to interact socially and emotionally with their peers in regular education settings remains challenging and infrequent (Smith, Graber, & Daunic, 2009). Because restrictive settings, by their very nature, inhibit the range of relationship-building opportunities and

social networks experienced by general education students and teachers, greater emphasis on relationship-building interventions for students and teachers in self-contained settings is crucial. If children placed in self-contained classrooms are to successfully reintegrate into general education settings, or experience more positive interactions with peers and adults within their current setting, then they must be prepared with the requisite social problem-solving skills perceived by others as socially competent (Smith et al., 2009; Kauffman, 2005). Social competence occurs through successfully repeating interactions with others. Hence, students with EBD could benefit from effective instructional strategies (i.e., social problem solving skills instruction) that result in improved interactions with teachers and may contribute to more positive relational and interpersonal skills. Additionally, when considering the bi-directional nature of relationships (Sutherland & Oswald, 2005), teachers working in self-contained settings may also benefit from providing their students with strategies such as knowledge in problem-solving concepts and solution implementation that target improving the quality of teacher-student interactions. Given that knowledge and successful implementation of social problem solving skills is part of solving problematic social interactions, over time, such improved interactions may lead to meaningful relationships and greater access to social capital.

Rationale

My study investigated the impact of a social problem-solving curriculum on teacher-student relationships within self-contained classrooms for students identified or exhibiting characteristics of EBD. The curriculum, *Take CHARGE!*, based on a cognitive-behavioral approach, emphasizes problem-solving skills and helps with successful social interactions. *Take CHARGE!* is designed to address both knowledge

of problem-solving concepts and solution-implementation deficits. Thus, it was hypothesized that, *Take CHARGE!*, which contains specific teacher-driven, instructional techniques (e.g., emotional and instructional support in problematic situations) that parallel affective characteristics associated with the provision of social capital (e.g., shared knowledge on models how to problem solve) would increase the likelihood of less conflictive interactions. Additionally, it is hypothesized that improved interactions would result in improved perspectives of relationship quality. Further, researchers have suggested that teacher behaviors such as open communication, trust, involvement, and responsiveness, required for effective delivery of a social problem-solving curriculum, may aid in the formation of relationships (Murray & Greenberg, 2001). The aforementioned teacher behaviors, when included with the promulgation of social problem-solving knowledge, are reflected in the instructional techniques provided to teachers within *Take CHARGE!* (i.e., models of problem solving, self-talk inserts, teachable moments, role plays). I hypothesized that because teachers experience negative emotions about children with behavioral difficulties (Hamre & Pianta, 2001), teaching a problem-solving curriculum, such as *Take CHARGE!*, may influence the social interactions of the teacher, as well as the student, and reduce negative social interactions (i.e., conflict cycles, aggression) acting as barriers to forming more positive relationships with students (Muller, 2001). Thus, *Take CHARGE!* will serve as a vehicle to promote use of successful interpersonal skills, through shared knowledge in ways of rendering problematic situations into non-problematic, for both the teacher and the student in self-contained settings.

I investigated, through a randomized control trial, whether there is a difference in teacher-student relationships when instruction in a problem-solving curriculum occurs within self-contained classrooms for students with EBD versus the “business-as-usual” approach within self-contained classrooms as a control condition. The primary dependent variable was perceived relationship quality from teacher and student perspectives as measured by a modified, teacher-rated *Student-Teacher Relationship Scale (STRS)* (Pianta, 2001) and a student-rated version, adapted for this study from the *STRS*. Secondary dependent variables (i.e., student knowledge, approaches to problem solving) further support, via convergent evidence, improvements in relationship quality by greater access to social capital. The guiding research question was to determine whether a social problem-solving curriculum, focused on rendering problematic interactions non-problematic and implemented by school personnel in classroom settings, improves the student-teacher relationship as rated by students and teachers.

Delimitations of the Study

The design of this study restricts generalizations to self-contained, middle school classrooms containing students with EBD within North Central Florida. The population within this study includes students with EBD and students who demonstrate similar emotional and behavioral characteristics; therefore results do not generalize to students solely categorized with an emotional or behavioral disorder. Moreover, the study focuses on implementation of one type of social problem-solving curriculum, *Take CHARGE!*, and does not include comparisons between *Take CHARGE!* and other social problem-solving curricula. Finally, any effect of *Take CHARGE!* on relational quality may not extend to other types of social problem-solving curricula .

Limitations of the Study

Limitations of the study are (a) setting, (b) method for evaluation of relational quality, and (c) limited geographic region. Findings only have direct application to middle school students who are classified with EBD or exhibit EBD characteristics in self-contained settings. With respect to study measures, they are judgment-based, self-reports and this limits what inferences can be made. Although both teacher and student perspective increase the construct validity of findings, observational data was not included due to the initial stages of this type of research and logistical constraints.

Summary

Youth with emotional and behavioral disorders (EBD), according to the federal definition, demonstrate difficulties with relationships and experience serious academic and social problems compared to the majority of youth in general education settings. For students in self-contained settings, such difficulties limit positive personal and social networks that provide social capital and contribute to academic, behavioral, and social outcomes (Runyan et al., 1998). Because students with EBD generally do less well in school than their classmates with or without other disabilities (Landrum, Tankersley, & Kauffman, 2003), there appears to be a need for interventions, such as building quality teacher-student relationships and social problem solving, that improve academic, behavioral, and social outcomes (Greenberg, et al., 2003).

Moreover, schools are abundant with problematic social situations that students with emotional and behavioral difficulties have problems rendering non-problematic. Students with EBD, who have been placed in more restrictive settings, are isolated from high rates of typical school-day interactions, further limiting the ability to practice the requisite social skills needed for successful social interactions in mainstream

educational settings. If students in self-contained classrooms are not prepared with appropriate social skill knowledge to reintegrate into the socially complex, rule-laden environment of most schools, and a change of placement were to occur, they would likely be unsuccessful in the mainstream without the benefits of social capital.

In an attempt to evaluate potential interventions to ameliorate such negative academic and social outcomes, I trained self-contained teachers who work with students classified with EBD to employ a social problem-solving intervention, based on a cognitive-behavioral approach, to improve social interactions. I hypothesize that higher quality teacher-student relationships can be established through repeated, positive social interactions between teachers and students. As positive interactions increase, mutual perceptions of trust, reciprocity, and knowledge will also improve further increasing the likelihood for greater relational investment (Davis, 2006; Hamre & Pianta, 2001; Hughes, et al., 1999; Meehan, et al., 2003) and teacher provision of social capital (Croninger & Lee, 2001; Crosnoe et al., 2004; Ferguson, 2006; Furstenberg & Hughes, 1995; Kortering & Braziel, 2002; Teachman, Paasch, & Carver, 1996). Such benefits will allow students with EBD to achieve greater social networks, further enhancing access to social capital (Runyan et al., 1998).

Overview of Remaining Chapters

In the remaining chapters, I expand further a conceptual framework for understanding teacher-student relationships using a review of the literature, describe the methods used within this study, provide an analysis of the results, and a discussion on implications. In Chapter 2, I describe the relational dimensions used for rating the quality of teacher-student relationships and review the literature examining social capital and social problem solving for students and teachers in self-contained classrooms for

emotional and behavioral difficulties. Chapter 3 provides a detailed description of the setting and participants, instruments, and the research procedures I used to implement this study. Chapter 4 describes the results of the randomized control trial and instrument development. Finally, Chapter 5 provides a discussion of potential implications and future directions.

CHAPTER 2 REVIEW OF THE LITERATURE

Examination of outcomes for youth with EBD indicates that school professionals are not routinely using evidence-based practices (Kauffmann, 1999; Westling, 2010), such as implementing interventions focused on enhancing teacher-student relationships (McIntosh, Rizza, & Bliss, 2000). There is widespread recognition that the quality of a teacher-student relationship is the most powerful determinant in preventing behavior problems and improving academic, social, and emotional outcomes (Murray & Greenberg, 2001; Pianta, 2000; Pianta, Belsky, Vandergrift, Houts, & Morrison, 2008). To provide school professionals with useful interventions for improving relationships for students with EBD, the associated and influential factors and techniques must be identified by researchers (Murray & Greenberg, 2000). Several researchers have suggested that the degree of conflict, closeness, and dependency are primary dimensions within teacher-student relationships (Hamre, & Pianta, 2001; Pianta, 2001, Pianta, Steinberg, & Rollins, 1995, Saft & Pianta, 2001).

Students with EBD in self-contained settings, by definition, have poor relationships characterized by high conflict, low closeness, and imbalanced dependency (Kauffman & Landrum, 2009). This makes for high rates of problematic interactions. Generally, all classrooms are characterized by fast-paced, hectic interactions (Brophy & Good, 1974). Dreeben (1974) summarized the rapid, complex demands of typical classrooms and found that teachers had 650 interactions with individual students and 1000 interactions with the class as a whole in a single day. For students in self-contained EBD settings, who experience high frequencies of problematic and conflictive interactions and have few skills to cope with the fast pace and render interactions non-problematic, this is

troublesome. For example, if problematic teacher-student interactions within self-contained classrooms are viewed as controlling or coercive by the student, they may see the classroom environment as punishing, and without requisite skills to render the problem neutral, display escape or avoidance behaviors (Wehby, Symons, Canale, & Go, 1998). This deficit in rendering problematic social interactions into non-problematic likely further reduces the quality of relationships and prevents successful integration into academic mainstream education. An accumulation of poor relationships restricts social networks that some researchers suggest provide social capital (Croninger & Lee, 2001; Crosnoe et al., 2004; Ferguson, 2006; Furstenberg & Hughes, 1995; Kortering & Braziel, 2002; Teachman, Paasch, & Carver, 1996). Access to social capital, of which quality teacher-student relationships are a large part, help students academically and socio-emotionally (Teachman, Paasch, & Carver, 1996). Social capital is viewed as receiving knowledge and skills from others within relational networks that promote success in life (Coleman, 1988). If teachers provide students with EBD knowledge and skills to render problematic social interactions into non-problematic (e.g., social problem solving skills), then the probability for positive interactions leading to higher quality teacher-student relationships and improved academic and socio-emotional outcomes is likely. Further, if students in self-contained EBD classrooms increase rates of positive interactions and reintegrate into mainstream instructional programming, then they have greater opportunities to expand positive social networks such that they have greater access social capital. Access to social capital has also been demonstrated to improve the negative outcomes forecasted for students with EBD (Trainor, 2008).

In this review, I first examine the relational dimensions that effect teacher-student relationships through a synthesis of the literature. Next, I briefly discuss the characteristics of students with EBD and how high quality relationships can assuage the forecasted negative outcomes. Specifically, I offer a theoretical framework (social capital) identifying variables required for forming high-quality relationships and social networks. Finally, I discuss social problem solving as related to improving the quality of relationships for teachers and students with EBD.

Relational Dimensions

To date, a teacher's perception of the relational quality with a student has been predominantly researched using the factors of (a) conflict, (b) closeness, and (c) dependency (Pianta, 2001). Some researchers have suggested that these teacher-based factors are also closely related to students' perceptions of the relationship quality with their teachers (see Lynch & Cicchetti, 1992). Each factor may be useful for exploring teacher-student relationships from each actor's perspective since each of these teacher-factors has (a) been sufficiently replicated across studies with consistent score validity and reliability (Hamre, & Pianta, 2001; Pianta, Steinberg, & Rollins; 1995, Saft & Pianta, 2001) and (b) has been related to student perceptions of relationship quality (Lynch & Cicchetti, 1992). Hence, I will consider the three factors identified as conflict, closeness and dependency as the relational dimensions within teacher-student relationships for this review.

Conflict

Conflict, as a relational dimension, includes the degree to which the teacher and student perceive their relationship as problematic and conflict-oriented. A high degree of conflict in teacher-student relationships has been correlated with the extent to which a

teacher willingly provides academic and emotional support (Birch & Ladd, 1997). Because student relationships with teachers are a foundational component for academic and social outcomes (Pianta, Hamre, & Stuhlman, 2003), conflict-oriented relationships have been related to a variety of negative outcomes for many students (Birch & Ladd, 1998; Hamre & Pianta, 2001; Ladd & Burgess, 2001; Pianta, et al., 2003; Pianta & Stuhlman, 2004). Frequently, problematic behavior exhibited by a student is a strong correlate of the teacher's perceptions of a conflict-oriented relationship (Birch & Ladd, 1998; Hamre, Pianta, Downer, & Mashburn, 2007; Murray & Greenberg, 2000; Murray & Murray, 2004). Interestingly, Hamre et al. (2007) found that teachers who reported greater depression, lower teacher efficacy, and were observed to provide less emotional support were associated with more conflict-oriented relationships with their students as measured by the *Student-Teacher Relationship Scale (STRS)* (Pianta, 2001). Therefore, classrooms with high rates of problematic behavior and ill-prepared teachers are likely to have lower emotional support and high rates of conflict.

Some researchers have explored the influence of conflictive teacher-student relationships on student aggression and conduct problems. Hughes et al. (1999) examined elementary children ($n = 61$) nominated as aggressive over a three-year period to determine the influence of teacher-student relationship quality on subsequent levels of aggression. Teacher and student reports of poor relationship quality were associated with teacher-rated student aggression during succeeding years. Teacher scales included measures of student aggression and their affective support and student measures included a social network inventory. Findings suggest that the quality of the relationship has an influence on the aggression and range of social networks. Overall,

the agreement of teacher and student reports of relationship quality was low to moderate. The authors suggest that the lack of agreement between teacher and student reports of relationship quality highlights the need to align self-report data between teachers and students or include direct observations. Further, early and targeted interventions may ameliorate the negative and conflict-oriented interactions between teachers and students (Kamps & Kay, 2002; Maag, 2005) and improve social networks (Farmer, Pearl, & Van Acker, 1996).

In a related longitudinal study, kindergarten teachers' perspectives about the quality of relationship with students were shown to predict academic and social outcomes through eighth grade (Hamre & Pianta, 2001). Specifically, the authors found that with a sample of kindergarten teachers ($n = 26$), those whose scores on the *STRS* reflected conflict in relationships with their students ($n = 179$) were a predictor of students' future behavioral and academic difficulties. Relational negativity (a composite of conflict and dependency) was used in a regression analysis to predict academic and behavioral difficulties. Hamre and Pianta found a small statistically significant relationship between academics and relational negativity in lower elementary grades ($r^2 = .03, p = < .01$); however, they assert that there was no statistically significant relationship between relational negativity and academics in upper elementary or middle school. The number of discipline infractions and relational negativity revealed a statistically significant correlation in upper elementary grades ($r^2 = .03, p < .05$). Moreover, 49 of the 77 students suspended during the longitudinal study were correctly identified during kindergarten as having conflictive and problematic teacher-student relationships. An analysis of the results suggested that students in upper elementary

grades could also benefit from class-wide interventions to reduce the conflictive and problematic interactions. Related longitudinal investigations revealed that kindergarten children who were at risk for grade retention who also had more open and less conflictive relationships were more likely to be promoted to first grade than those students who were retained in kindergarten (Pianta & Steinberg, 1992; Pianta, Steinberg, & Rollins, 1995). Findings suggest that despite academic difficulties, less conflictive interactions contribute to grade progression, allowing students to expand social networks and greater access to social capital.

Closeness

Closeness, as a relational dimension, includes the degree that a teacher and student experience affection, warmth, trust, and reciprocity. Ladd and Burgess (2001) investigated whether the degree of relational stressors and supports, indicators of close relationships, influence the trajectory of childhood aggression. They found that increased levels of teacher-student closeness and larger social networks might improve aggressive children's problem-solving skills, levels of participation, and bonds to school. Similarly, Howes, Hamilton, and Matheson (1994) found that young children's security with teachers, as measured by teacher reports and observations, was negatively associated with conflict (i.e., aggression) and positively associated with companionable behaviors (i.e., trust, closeness, warmth, empathy). Moreover, particular groups of children at high-risk such as African-American and Hispanic children were found to receive greater benefit from trusting teacher-student relationships than their Caucasian peers (Crosnoe, Kirkpatrick-Johnson, & Elder, 2004; Ladd & Burgess, 2001; Meehan, et al., 2003; Murray, Waas, & Murray, 2008).

In a related study, Hamre and Pianta (2001) demonstrated that children who trust their teachers are more motivated to succeed in school than children with lower quality teacher-student relationships. Similarly, teachers and students who exhibit warm feelings toward each other are also correlated with a student's positive affect and attitude toward school (Birch & Ladd, 1998). That is to say, students who experience trust may feel safe to explore interpersonal aspects within the classroom and are more likely to exhibit desired academic and social behaviors than peers with poor teacher-student relationships.

Dependency

Dependency, as a relational dimension, describes the degree to which a teacher perceives students as overly dependent or consistently possessing age-appropriate levels of autonomy. When considering dependency from teacher and student perspectives, a certain degree of mutual dependability or trust that reciprocal actions will yield mutual benefit will likely reinforce closer relationships. Although measures of dependency reveal weaker reliability within the relational dimensions ($\alpha = .79$), likely due to being over- or under-dependent on a teacher, researchers have linked students' over-dependency on teachers to low self-concept and low social competence. For example, researchers have associated overly dependent pre-school children with low social competence and aggression (Howes, et al., 1994). Further, some researchers have measured social competence and aggression as measures of student dependency within the teacher-student relationship (Blankemeyer, Flannery, & Vazsonyi, 2002). Aggressive children who self-rated higher in social competence, or consistently demonstrating socially-dependable behaviors, were more likely to perceive the teacher-student relationship as more favorable than aggressive students who self-rated with

lower social competence ($f^2 = .15$). Blankemeyer and colleagues also pointed out that aggressive children who are skilled in social interactions are more likely to have improved academic and social outcomes, including more positive teacher-student relationships. Because social competence requires a knowledge base and successful implementation (D'Zurilla & Goldfried, 1971, Izard et al., 2001) and students with less social competence are frequently dependent towards teachers (Birch & Ladd, 1998; Blankemeyer, et al., 2002), interventions that improve social competence may improve student bonds to teachers (Murray & Greenburg, 2000).

Improved social problem-solving skills for students with EBD is particularly important in light of findings by Birch and Ladd (1998), where overly-dependent students are typically more tentative and less trusting when solving social problems within the classroom environment. Subsequently, such tentativeness and low trust does not allow students to process social and academic information. For students who experience behavior difficulties, a deficit in processing this information further reduces the chance for successful interactions that lead to expanding social networks (Izard et al., 2001). Furthermore, behaviors such as aggression and conflict may be more common in students with EBD. Future research, therefore, should focus on identifying interventions that provide appropriate levels of dependency and improve interactions between teachers and students, particularly students with EBD in self-contained settings.

Teacher Influence on the Relational Dimensions

A number of researchers have demonstrated the teacher's influence on the relational dimensions include affective characteristics (e.g. emotion, warmth, support), management style, perceptions and beliefs of students, ethnicity, gender, years of

experience, and self-efficacy (Birch & Ladd, 1998; Brophy, 1988; Klem & Connell, 2004; Mashburn, Hamre, Downer, & Pianta, 2006; Saft & Pianta, 2001; Skinner & Belmont, 1993; Stuhlman & Pianta, 2001). For example, Stuhlman and Pianta interviewed approximately 50 kindergarten and first grade teachers to explore individual perceptions of relationships with specific children. They coded interviews for six relational constructs: (a) compliance, (b) achievement, (c) secure base, (d) neutralizing of negative emotion, (e) positive affect, and (f) negative affect. Subsequent observations were conducted in the teacher's classrooms to compare teacher reports to observed characteristics of the teacher-child interaction. Teacher reports during the interview were significantly related to observed target child behavior toward the teacher and teacher behavior towards the target child. Stuhlman and Pianta found statistically significant ($r^2 = .08$, $p = .041$) associations between teachers' expressed negative emotion about a target child and number of requests for this student's compliance in the classroom. Findings from this study suggest teachers need techniques to regulate their affect and emotion when working with students exhibiting negative behaviors.

Similarly, Birch and Ladd (1998) examined longitudinal data on the relationships between the behavioral orientation of a child, the subsequent influence on teacher perspectives about relationship quality, and the link to predicting future school adjustment. Using a sample of kindergarten students ($n = 199$) and first grade teachers ($n = 17$), Birch and Ladd classified three behavioral orientations of children within the student-teacher relationship as moving away, moving toward, and moving against others. Associations between a child's behavioral orientations and level of conflict, closeness, and dependency within the teacher-student relationship were significant

predictors of children's academic performance, affect, and overall school engagement. For example, students rated as moving against others were associated with higher levels of conflict and lower levels of closeness with their teachers. Birch and Ladd suggest this leads to less instructional and emotional support. Additionally, students rated as moving away from others were uniquely associated with dependency upon their teacher. Children perceived by their teachers as moving against or away, are often considered asocial and although more guidance or supervision from teachers is required, teachers tended to perceive them as more dependent and provide less support. Lastly, students rated as moving toward others were associated with closeness, and may contribute to quality student-teacher relationships resulting in higher instructional and emotional support.

Further support for the premise that teachers' effects on student outcomes are associated with the quality of the teacher-student relationship was suggested by Hughes, Cavell, and Willson (2001), who linked the teacher as a social referent for classmates, such that peers will make judgments about a student's attributes and social desirability based on their observations of how their teacher interacts with other students. Teacher ratings of aggression were taken from a sub-sample of 71 behaviorally at-risk students from another one of their studies. From this sample, Hughes et al. conducted a multiple regression analysis to predict peer evaluations rating who they like most are based on their perceptions of teacher support and conflict with the at-risk sample. Results revealed that 21% of the variance ($r^2 = .21$, $p < .05$) on peer preference was accounted for by the quality of the student-teacher interaction. Implications of the study highlight the need for interventions focused on the quality of

teacher-student interactions, which are associated with classmates interacting more favorably with students who are at-risk for behavioral difficulties based on how the teacher acts and responds.

Teachers' perspectives about relationship quality have also been associated with child characteristics such as ethnicity and gender (Murray, et al., 2008; Saft & Pianta, 2001). Within a study conducted by Saft and Pianta, teachers ($n = 197$) rated the quality of relationships of 840 children using the *STRS* (Pianta, 2001) within general education settings. Data was analyzed for difference with respect to child and teacher characteristics (i.e., ethnicity, gender). Child age, gender, and matched teacher-child ethnicity together accounted for between 5% and 27% of the explained variance in teachers' perceptions of conflict, closeness and dependency. When the child and teacher ethnicities are the same, the teacher was more than three times as likely to rate the quality of relationship more positively. Findings from this study suggest that child and teacher "fit" or level of trust, shared knowledge, norms or beliefs are potential mechanisms by which children achieve success in the classroom.

Skinner and Belmont (1993) examined the effects of teachers' ($n = 14$) affective behavior (i.e., involvement, structure, autonomy, and support) on third through fifth grade students ($n = 144$) as measured by teacher reports. Analysis revealed that teacher involvement was paramount to a child's experience in the classroom ($r = .72$). Moreover, structure ($r = .67$) and autonomy support ($r = .79$) predicted a child's motivation throughout the school year. Student motivation also had reciprocal effects on teacher behavior. Conversely, Skinner and Belmont and other researchers (Klem & Connell, 2004) found that students who appear disengaged tended to receive teacher

responses that further undermined their motivation. These findings highlight the importance of a teacher's affect as a moderator in student motivation.

Each of the previous studies targeted teacher influence when exploring teacher-student relationships. Methodologically, the majority of authors selected a correlational design for investigation, with the exception of one mixed design (Stuhlman & Pianta, 2001). Each researcher explored teacher-student relationships within general educational settings, thus limiting inferences to students in self-contained EBD settings. Several studies, however, included behaviorally at-risk populations. Given that teacher perspectives of relationship quality correlate with future student outcomes, interventions designed to modify or enhance strained relationships are needed (Hughes, et al., 1999). Because strained or conflict-oriented relationships contain high frequencies of problematic social interactions, particular interventions like teaching students social problem-solving skills may decrease conflictive interactions. Over time, such interactions may lead to higher quality relationships.

Student Influence on the Relational Dimensions

Other researchers have investigated how a student's characteristics influence the relational dimensions within teacher-student relationships. Student characteristics such as trust in others, disability, gender, race, age, emotional, academic, and behavioral orientations, are all moderators associated with the quality of a teacher-student relationship (Baker, 2006; Crosnoe, et al., 2004; Hughes, et al., 1999; Hughes, Gleason, & Zhang, 2005; McIntosh, et al., 2000; Murray, et al., 2008; Saft & Pianta, 2001). For example, Murray and Greenberg (2000) examined children's self reports ($n = 289$) on the relationships with their teacher and school environment. Not surprisingly, the analysis shows that students who indicate low trust with relationships in school also

rate their relationship with teachers and school environment lower as compared to children who indicate positive relationships and trusting bonds.

In a follow up study, Murray and Greenberg (2001) had children ($n = 289$) rate their teacher-student relationship quality. They found children with disabilities had greater dissatisfaction with their relationship quality, low trust with school, and perceived school as a greater danger compared to students without disabilities. Comparisons among students with disabilities including emotional and behavioral disturbance (EBD), learning disabilities (LD), mild mental retardation (MMR), other health impairments (OHI), and those with no disabilities revealed that students with EBD and MMR had the lowest degree of trust in school and lower quality relationships with their teachers. Moreover, students with EBD reported poorer bonds with school than all other students. The authors suggest that future research should focus on examining specific interaction patterns between teachers and students with EBD and the role student-teacher interactions moderate relationships and academic and social progressions.

In a related investigation, Decker, Paul Dona, and Christenson (2007) investigated the outcomes of African-American students ($n = 44$) who were behaviorally at-risk in terms of teacher-student relationship quality as rated by teachers. As teacher reports ($n = 25$) of teacher-student relationship quality increased, there were small increases in student social ($r^2 = .20, p < .05$), behavioral ($r^2 = .12, p < .05$), and academic outcomes ($r^2 = .02, p < .05$). Similarly, as student self-reports of teacher-student relationship quality increased, there were also statistically significant relationships between measures of students' social ($r^2 = .12, p < .05$) and behavioral ratings ($r^2 = .16, p < .05$). Because the primary goal of this study was to examine the

quality of the student-teacher relationship from both the student and teacher perspective, results indicated important information about teacher interactions with African-American students who are behaviorally at-risk. Particularly, how the teachers' affective characteristics interact with a student influences how both the student and the teacher report their relation to each other. Although this study examines the quality of relationships, measures selected for the study did not directly measure the degree of conflict, closeness, and dependency from both teachers and students. Instead, convergent evidence such as student and teacher ratings of engagement, disaffection, and social skills was used. Authors note that the small sample size is a limitation and suggest that future research should be conducted to understand further the bi-directional influence of the teacher-student relationship on academic and social progression.

Similarly, Baker (1999) examined school satisfaction and relationship quality among 61 African-American children. An analysis of results corroborated findings from Murray and Greenburg's (2001) study in that differential patterns of behavioral interactions and relational quality occurred with students based on the level of satisfaction with teachers and school. Baker selected African-American students because they are overrepresented in poverty, crime, dropout rates, and unemployment data. Data was analyzed using qualitative methods, regression, and ANOVA. Findings showed students who experienced a greater ratio (3:1) of open communication and/or comments on appropriate behaviors during teachable moments compared to negative comments expressed more satisfaction in school. Dissatisfied students, however, experienced a ratio of 5:1 negative to positive comments on their behaviors. This finding

extends the work by Jack et al., (1996), Shores et al., (1993), and Wehby, Symons, and Shores (1995). Results suggest that altering a teacher's interactions in a positive direction would moderate students' satisfaction in a positive direction potentially improving their behavior and willingness to invest in closer relationships with their teacher.

Continuum of Relational Quality

It can be seen that the degree of conflict, closeness and dependency, as mutually agreed upon by the teacher and student, contribute to overall relational quality. Agreement among the relational dimensions falls along a continuum indicating high or low overall relational quality. Relational quality influences the classroom environment, particularly the related elements of emotional and instructional outcomes (Greenberg, et al., 2003; Hamre & Pianta, 2005). Among the student and teacher influences on the relational dimensions, the literature reviewed suggests teachers have the most ability to adjust. This is not surprising, considering that the classroom environment is in a large part, created by the teacher. A teacher's role in the environment is expressed by Kauffman (2001):

The teacher's primary task is to structure or order the environment for the pupil in such a way that work is accomplished, play is learned, love is felt, and fun is enjoyed by the student and the teacher (p. 533).

Teachers, through interactions including the appropriate degrees of the relational dimensions (e.g., low conflict, appropriate closeness, and appropriate degree of dependence), may contribute to the construction of an environment that becomes more or less conducive for quality relationships.

Equally, as demonstrated in the literature, the student may contribute to the overall classroom environment by exhibiting agreed upon social and academic behaviors. A

student may enact these norms through relational dimensions such as low levels of conflict, warm or close affect towards the teacher, and the appropriate amount of trust and independence that mutually contribute to the construction of an environment that is more or less conducive for quality relationships.

Classroom Atmosphere

The classroom atmosphere, comprised of academic, social, and emotional dimensions, is moderated by the quality of teacher-student relationships (Kern, Bambara, & Fogt, 2002; La Paro, Pianta, & Stuhlman, 2004; Mashburn, et al., 2006). Students with EBD often impact the classroom atmosphere through exhibiting undesired externalizing behavior; however, emotionally supportive teachers can ameliorate the risk for challenged relationships (Buyse, Verschueren, Doumen, Van Damme, & Maes, 2008). Classroom management is a key practice that teachers can use to influence positively or negatively the emotional and academic atmosphere and support positive quality relationships (Kounin, 1970; Pianta, 2000; Pianta, et al., 2008; Wang, Haertel, & Walberg, 1997). Frequently, within conflict-oriented relationships, teachers engage in a higher frequency of social commands that lead to student dependency or increasingly conflictive interactions. Successful behavior management systems that include strong instructional and emotional supports and reduce undesired behavior are associated with quality teacher-student relationships (Pianta, et al., 1995).

Similarly, Hamre and Pianta (2005) found first grade students at-risk for behavioral difficulties ($n = 910$) who were placed in classrooms offering strong instructional and emotional supports achieved teacher-rated academic scores and student-teacher relationship scores similar to low-risk peers. Alternatively, students who were placed in less supportive classrooms were rated lower in achievement and higher in conflictive

student-teacher relationship scores by their teacher. Although effect sizes were small to moderate (partial $\eta^2 = .01 - .47$), examination of estimated marginal means indicates a practical significance with respect to classroom environment. Overall, the Hamre and Pianta study provides evidence that for children who struggled with academics and teacher-student relationships during kindergarten, the probability of future conflict-oriented relationships might be moderated by the quality of the classroom atmosphere created by their first grade teacher.

Emotional Support

Through interactions, teachers and students contribute mutually to the emotional environment within classrooms. A teacher's warmth and sensitivity have been associated with achievement gains in first grade students as measured by the *STRS* (Hamre & Pianta, 2005) and have been shown to moderate the disruptive behavior of some children (Rimm-Kaufman, La Paro, Pianta, & Downer, 2005). Much of this research, however, has been conducted in general educational settings. When confronted with a problematic social situation, students with EBD who respond in an aggressive or hostile manner (Kauffman, 2005), may be perceived as aversive to their teacher; resulting in less instructional and emotional support (Carr, Taylor, & Robinson, 1991). Equally, teachers who are sensitive to the emotional environment, tend to be more aware of their students academic performance and social functioning (La Paro, et al., 2004). Moreover, in a meta-analysis, Wang, Haertel, and Walberg (1997) synthesized educational research to determine the most significant influences on learning, and of the top 11, eight involved social-emotional influences (e.g. student-teacher interactions, classroom climate, social-behavioral attributes). Several researchers have suggested that students who experience emotional support from their

teachers will have greater achievement gains and be more willing and motivated to comply with classroom norms and teacher expectations (Brophy, 1983; Connell & Wellborn, 1991; Klem & Connell, 2004; Pianta & Stuhlman, 2004).

Instructional Support

Stronger instructional support for students has been associated with classrooms with high quality teacher-student relationships (Cameron, Connor, & Morrison, 2005; Pianta et al., 2005). In particular, if instructional support is coupled with strategies that promote high-quality teacher-student interactions, such as the provision of feedback that stimulates conceptual thinking, considering language acquisition, and guidance during the analysis of tasks that are relevant and meaningful for students, two outcomes are to be expected. First, researchers have shown higher quality relationships are reported (Burnett, 2003; Cameron, et al., 2005) and second, a concentrated, diligent implementation of curricula by the teacher is more likely to occur (Pianta, et al., 2008).

Some researchers, for example, found that quality teacher-student relationships were associated with improved academic outcomes, and acted as a buffer against other, insecure relationships (O'Connor & McCartney, 2007). Specifically, O'Connor and McCartney explored the associations between 880 children's academic outcomes from first through third grade and the quality of their teacher-student relationships. Positive associations were found between teacher-student relationship quality and academic achievement at third grade ($r = .34, p < .001$). Additionally, quality teacher-student relationships indicated a small yet significant correlation suggesting an effect on insecure relationships (e.g., maternal) at third grade ($r = -.02, p < .001$). O'Connor and McCartney suggest the effect of teacher-student relationship quality on achievement is mediated by teacher and child behaviors ($z = 2.88, p < .01$). Findings support previous

research suggesting that high-quality teacher-student relationships promote student achievement (Connell & Wellborn, 1991; Greenberg, et al., 2003; Klem & Connell, 2004; Skinner & Belmont, 1993). Implications of the studies call for interventions focused on improving the student's relationships with their teachers that result in academic and social performance of students.

Studies discussed within this review have considered the significance of high quality relationships on students' academic and social-emotional outcomes. Many studies have included students at risk for academic and behavioral difficulties; however no studies have (a) specifically examined teacher-student relationships within self-contained EBD classrooms and (b) explored the impact of an intervention on the quality of the relationships between students and teachers. Thus, a discussion of student characteristics identified as having EBD, an explanation of the variables required for forming high quality relationships, and potentially helpful interventions to assist in improving relationships follows.

Characteristics of Students with EBD

Of all students in a school, students with EBD have the most difficulty forming and maintaining high-quality relationships with their teachers by virtue of their disability and yet have the most to gain from these relationships (Birch & Ladd, 1997; Howes, Hamilton, Matheson, 1994, Pianta, Steinberg, Rollins, 1995; Ryan, Pierce, Mooney, 2008). Youth with emotional and behavioral disorders (EBD) have a low rate of school completion. According to the Office of Special Education Program's Twenty-Eighth Annual Report (OSEP, 2009), only 38% of all students with EBD were expected to graduate. The remainder of students will fail in school and carry those failures with them into adulthood (Webb-Johnson, 2002). In comparison, reports on general education

students reveal high school completion rates around 75% (Stillwell, 2010). Because many of these students with EBD have historically achieved lower school outcomes than students with or without other disabilities (Landrum, Tankersley, & Kauffman, 2003), one may conclude that there is a need for unique interventions that effectively address the disability. Many of these students have a 50% greater chance of future societal problems including drug abuse, depression, juvenile delinquency, and dropping out of school (Hestor et al., 2004). These students are often overlooked and underserved within many of our schools (Conroy & Brown, 2004). As a society, our actions seem to fail in the prevention of emotional and behavioral disorders (Kauffmann, 1999).

Researchers and school professionals have identified a number of problematic behaviors for students identified as having EBD that negatively affect their academic, social, and emotional performance (Ryan, Pierce, & Mooney, 2008; Trout, Nordness, Pierce, & Epstein, 2003). Further, their behaviors cannot be explained by intellectual, sensory, or other health factors (IDEA, 2006). Moreover, their behaviors can include internalizing and externalizing characteristics that can prevent a student's ability to maintain the appropriate degrees of conflict, closeness and dependency required for building high-quality relationships. An inability to maintain close relationships limits the range of social networks necessary for success in life (Farmer, Pearl, & Van Acker, 1996). For example, children identified as demonstrating such characteristics are overwhelmingly male, mistrusting, behaviorally disruptive, non-compliant, verbally abusive, and aggressive (Kauffman & Landrum, 2009). Moreover, these children are impulsive when responding, unaware of their own and others' feelings and perspectives,

and are unable to identify problematic situations (Mayer & Van Acker, 2009) and lack social competence (Gresham & MacMillan, 1997). Such characteristics often arouse negative feelings in others (i.e., teachers), resulting in alienation, less close relationships, and fewer social networks that ultimately prevent the appropriate degree of dependency on the teacher for academic, social, and emotional learning opportunities (Graziano, Reavis, Keane, & Calkins, 2007; Greenberg et al., 2003; Kauffman & Landrum, 2009).

Students who exhibit EBD and are placed in restrictive educational settings (e.g., self-contained classrooms) have less opportunity to explore positive relationships with a broad range of adults and peers, and even greater conflict with their teachers (Meehan, et al., 2003). Despite current reform efforts to include students with disabilities in general education settings, providing opportunities for students with EBD placed in restrictive settings to interact socially and emotionally with their peers in regular education settings remains challenging and infrequent (Smith, Graber, & Daunic, 2009).

For students who experience alienation and poor quality relationships, they often socially withdraw reinforcing the cycle of mistrust (Erickson, 1963), thus perpetuating problematic and conflict-oriented social situations. Mistrusting relationships do not allow for any dependency or closeness towards others; a characteristic necessary, to some degree, within teacher-student relationships (Brophy & Good, 1974). Furthermore, without trust, the likelihood that students move away from teachers due to a lack of reciprocity further reinforces the cycle of conflictive and problematic interactions (Birch & Ladd, 1998). Emotionally supportive teachers, however, can improve student autonomy through instruction that reduces problematic and conflictive social

interactions, thus ameliorating the risk for challenged relationships (Buyse, Verschuern, Doumen, Van Damme, & Maes, 2008).

The characteristics of students with EBD warrant interventions that decrease conflictive and problematic social interactions, established within this review as a key requirement for fostering closer relationships. Paramount to close relationships is the appropriate degree of dependency and trust established through successful social interactions. Successful social interactions have a greater likelihood of leading to higher quality relationships (Pianta et al., 2008).

A degree of trust and reciprocity is inherent in social interactions with mutual benefit and a cornerstone for forming quality relationships (Hobbs, 1982). Given that students identified as experiencing emotional and behavioral difficulties demonstrate hesitancy when establishing trust and reciprocally fulfilling others expectations, researchers must continue to measure and understand how to build trusting, high quality relationships for students with EBD. Therefore, it is necessary to establish first a theoretical framework that explains systemically how trusting interactions lead to meaningful relationships.

Theoretical Framework

Examination of trust within any relationship requires an analysis of all actors nested within social networks, and the use of theory to assist researchers with a broader understanding of relational interactions is useful. Many researchers have examined teacher-student relationships using Bowlby's attachment theory (1982); however this theory has primarily been used to explain early childhood teacher-student relationships (e.g., pre K-3). According to Bowlby, a child's early relationships lead to the formation of internal working models of the self and others, although a greater

degree of model-malleability occurs over time (Main, Kaplan, & Cassidy, 1985). In other words, a child's perception of the outside world adjusts over time as they age and expand their social networks.

Mid-adolescent models of relationships are less adult-dependent, and require a greater degree trust during formation (Crosnoe, Kirkpatrick-Johnson, & Elder, 2004). Coleman's (1988) social capital theory based on mutual benefit and containing trust as a key feature, seems a logical, appropriate theoretical framework for examining the variables of high quality relationships. Many researchers have shown that a teacher's provision of social capital builds quality relationships and assists older youth with EBD with navigation of their disadvantaged circumstances (Croninger & Lee, 2001; Crosnoe et al., 2004; Ferguson, 2006; Furstenberg & Hughes, 1995; Kortering & Braziel, 2002; Teachman, Paasch, & Carver, 1996). If teachers and students experience close, trusting interactions and perceive mutual benefit they will ultimately share knowledge and beliefs, thus continuing a quality relationship (Birch & Ladd, 1998). Such experiences allow students to expand their social networks (Sampson, Morenoff, & Earls, 1999). Unfortunately, for students placed in self-contained EBD settings, conflictive and problematic interactions limit access to social networks and less access to social capital (Farmer, Pearl, & Van Acker, 1996).

Definition of Social Capital

The theory of social capital draws upon the literature of Coleman (1988), Fukuyama (1999), and Putnam (2000). Social capital has been defined as a social structure (e.g., classrooms) that provides a resource for action (e.g., learning). According to Coleman, this includes any action that occurs under the auspices of trust, obligation, and the quality of relationships with others. Each action that occurs within social structures (e.g.,

schools) creates, delivers, and enforces social capital. Fukuyama (1999) describes this delivery as a certain set of informal values, skills, or norms (i.e., knowledge) shared among members of a group that permit cooperation and contribute to the social good. This cooperation can be observed during social interactions in schools and classrooms (Putnam, 2000). When a teacher transfers skills or knowledge to a student, Coleman refers to this as human capital. All human capital contributes to the greater social capital.

Social capital is defined by its function, it is not a single entity, but a variety of different entities having characteristics in common: they all consist of some aspect of a social structure, and they facilitate certain actions of individuals who are within the structure (Coleman, 1990, p. 302).

In other words, teachers in self-contained classrooms hold behavioral expectations for their students and likewise, students have individual expectations for their teachers. When these expectations are commonly shared and met between teachers and students, an agreement improves the likelihood of greater trust. Teachers who share knowledge that promotes mutual expectations (e.g., successful methods to reduce problematic situations) allow greater opportunities to build trust, the cornerstone of quality relationships. As an action, if teachers provide students with knowledge (human capital), and then students apply the knowledge to their life, society generally benefits and contributes to the greater social capital. From an interpersonal perspective, students who are satisfied with a teacher's provision of human capital will desire greater interactions, possess increased feelings of belonging, and also move towards a closer relationship quality.

What Does Social Capital Include?

Coleman (1988) indicates that social capital comes in several forms including financial and human. Financial capital refers to the dollars that can be applied to life problems and improve competitiveness. Financial capital generally belongs to families, and is administered by adults. Examples include money spent on health, food, tutoring, private education and/or counseling. Human capital refers to the personal attributes individuals may draw upon in the course of action (e.g., teacher-student interactions). Human capital includes skills, intelligence, physical attributes, qualifications, and relevant knowledge. The functions of social capital within self-contained classrooms may be seen as aggregate variables that include (a) trust, (b) reciprocity, (c) shared knowledge and beliefs, and (d) shared norms. Together, trust, reciprocity, shared norms and beliefs, contribute to quality relationships for teachers and students at high risk for social and academic difficulties (Crosnoe et al., 2004; Korterling & Braziel, 2002; Muller, 2001; Runyan et al., 1998; Teachman et al., 1996).

Trust

Trust is considered paramount to the building of relationships and the promulgation of social capital. Fukuyama (1999) states that social capital is the individual capability that arises from the prevalence of trust in a society or in a certain part of it (e.g., classrooms and teachers). Social capital may be seen as a social network or web of cooperative relationships that work toward a common goal and trust that any obligations will be repaid (Coleman, 1988). A modern society is depicted by Fukuyama as made up of concentric and overlapping radii of trust, such as seen in teacher-student relationships. Fukuyama's model of trust parallels Bronfenbrenner's (1979) ecological model. Fukuyama's model nests individuals (i.e., the teacher-student

dyad) within graduated, larger social structures. Within schools, these systems extend outward from individual interactions to include, peers, teacher and student history, beliefs, and move to the classroom atmosphere, school, parents, neighborhoods, communities, society, and beyond. Each of these variables contributes to how teachers and students interact with one another, transfer social capital, and build trust. Similar to Bronfenbrenner, each concentric circle extending outward has an increasingly lessened influence on the teacher and student. Without trust amongst individuals, the larger social structures could not exist. When operationalized within classrooms, trust manifests as spontaneous sociability (e.g., cooperation, volunteerism, work for collective goals) (Fukuyama, 1999).

From the perspective of students in EBD classrooms who experience fewer close, trusting relationships, considerations of self-preservation may prevent cooperation towards their teachers' academic and behavioral goals. This may also result in conflictive interactions (Birch & Ladd, 1998; Hamre & Pianta, 2001; Ladd & Burgess, 2001; Pianta, et al., 2003; Pianta & Stuhlman, 2004) or over-dependency (Birch & Ladd, 1998; Blankemeyer, et al., 2002). For example, Croninger and Lee (2001) selected trust as a measure of social capital by (a) using a psychometric survey to examine the degree of trust within teacher-student relationships from a student perspective and (b) the frequency and number of helpful exchanges from a teacher to a student as measured by the teacher-reported frequency of helpful 'teacher-talks'. Together teacher and student reports attempted to capture trust and demonstrate how close interactions build trust within the relationship.

Reciprocity

Each member of a group will benefit to the extent that the obligations toward one another are held (Coleman, 1988). Fukuyama describes this as bidirectional trust or reciprocity, whereby one actor chooses to devote resources based on a cost-benefit analysis. At a societal level, this individual reciprocity adds to the fund of social capital in a time that draws upon an individual need (Coleman, 1988). In other words, all individuals that contribute may receive future benefit. Reciprocity and shared norms were the variables used when Furstenberg and Hughes (1995) examined family investment in a child's education for the purposes of improving the child's social resources and labor market prospects, whereby the family and society will likely benefit. Further, a child's perception of the future shapes present interactions in ways that affect future outcomes, and illustrates reciprocity and mutual self-interest (Muller et al., 1999). Within teacher-student relationships, reciprocity can be seen as an exchange of norms, where the teacher provides the student with student-recognized needs, and the student reciprocates through fulfilling the expected classroom norms so long as they continue have their needs met. Because of student characteristics inherent within self-contained EBD classrooms, the mutual fulfilling of expectations is rare (Rinaldi, Kates, & Welton, 2008).

Shared knowledge and beliefs

Social capital includes a set of knowledge and beliefs within individuals. The transfer of knowledge or beliefs, or one's human capital, is considered the sharing of social capital (Coleman, 1988). For example, a teacher may possess knowledge or human capital; however, the social capital transaction occurs when a knowledge set is transferred to a student. Students identified as having EBD generally receive less

knowledge or academic and emotional support by their teachers (Birch & Ladd, 1998). Muller et al. (1999) chose to evaluate social capital by the discrete dimensions of the teacher-student relationship. Specifically, they examined how teachers and students decided to invest in, not invest in, or disengage from a relationship based on each actor's behavior. Associations were found among a teacher's degree of caring, expectations, and student achievement as the basis for promulgating knowledge and beliefs in the classroom (Muller et al., 1999).

Shared norms of civic engagement

Shared norms of civic engagement, or the 'rules for classroom interactions' are considered a powerful yet fragile variable of social capital (Coleman, 1988). The social structure (e.g., classroom atmosphere) depends on norms to perpetuate (a) community feelings, (b) mutual self-interest, (c) rules of engagement (civility), (d) shared commitment to learning, (e) history of (and expected) patterns of successful collaboration, and (f) coordination and communication (Fukuyama, 1999; Putnam, 2000). For example, strong teacher-student relationships promote agreed upon rules, making the consequence of problem behavior greater and reinforcing established trajectories (Coleman, 1988). This agreement is reinforced by rewards, status, and honor within classrooms through adult and peer group positive and negative reinforcement (Bandura, 1969, 1997). Within a self-contained classroom, shared norms (e.g., mutual behavioral expectations) are often violated between teachers and students and result in an individual's atypical and inappropriate behavior patterns (e.g., Carr et al., 1991; Wehby et al., 1995). Such behavioral patterns fracture established norms thus creating conflict, reducing closeness and isolating students from individual relationships and social networks that provide social capital.

Together teacher-student interactions that contain a high degree of trust, reciprocity, shared knowledge and beliefs, contribute to forming quality relationships for teachers and students in high risk for social and academic difficulties (Crosnoe et al., 2004; Kortering & Braziel, 2002; Muller, 2001; Runyan et al., 1998; Teachman et al., 1996). Each variable accumulates through successful, non-problematic social interactions repeated over time. Interventions where teachers provide knowledge that moderate students' satisfaction with social interactions in a positive direction potentially may improve student behavior and willingness to invest in closer relationships with their teachers. As a teacher's positive interactions increase, a student's mutual feelings of trust, reciprocity, and knowledge will also increase, further promoting the likelihood for greater relational investment and provision of social capital.

Students with EBD possess characteristics that inhibit relationship-building opportunities (Kauffman & Landrum, 2009). Students in self-contained classrooms have even fewer opportunities to build relationships. Fewer relationship opportunities reduce these students' chances of access to social capital, known to improve outcomes for students with EBD (Crosnoe et al., 2004; Kortering & Braziel, 2002; Muller, 2001; Runyan et al., 1998; Teachman et al., 1996). Teachers in self-contained classrooms are one of the bridges to increase access to social capital for these students. Instruction in skills that improve interactions will (a) improve the teacher-student relationship and (b) open up the opportunity for inclusion in social networks within the regular education settings that (c) provide greater access to social capital. Together, improved relationships with teachers and peers yield improved social-emotional and academic outcomes that are life long.

To increase social capital, reduce problematic social situations and conflictive interactions for students with EBD, instruction and application of social problem solving skills may be useful. There are several options to accomplish the goal of improving social problem solving. One vehicle by which to establish a requisite skill set for students is through using cognitive behavioral interventions (CBI) that target social problem-solving skills.

Social Problem Solving

Researchers have investigated the use of CBIs, such as social problem solving, and determined it is effective in promoting social competence and mollifying emotional and behavioral difficulties (Chang, Downey, & Salata, 2004; Daunic et al. in press; Webster-Stratton, Reid, & Hammond, 2001). Among all CBI interventions, many researchers continue to discern what mechanisms and techniques are the most effective for specific populations (Bennett & Gibbons, 2000; Lochman & Wells, 2004; McCart, Priester, Davies & Azen, 2006; Robinson, Smith, & Miller, 2002; Wilson, Lipsey, & Derzon, 2003). Conceptually, CBIs are based on the premise that how one thinks in a social situation directly influences their behavior (Meichenbaum, 1977; Vygotsky, 1962). For example, one can influence their behavior through techniques such as verbal self-regulation and self-talk (Kendall, Ronan, & Epps, 1991; Meichenbaum, 1977). Acquisition of these techniques requires instruction that includes modeling, role-plays, feedback, and reinforcement (Smith & Daunic, 2006; Smith, Lochman, & Daunic, 2005). According to D’Zurilla and Goldfried (1971), CBI instruction in social problem solving requires an emphasis in three major concepts (a) use of problem solving, (b) problem identification, and (c) solution implementation. Together, these concepts allow one to render a problematic social situation into a non-problematic situation. Interestingly,

D’Zurilla and Goldfried emphasize the difference between knowing problem solving concepts and solution implementation. One can think about possible solutions for a social problem; however, how a solution is brought to fruition in a problematic situation is a separate skill set (D’Zurilla, Nezu, & Maydeu-Olivares, 2004).

For students with EBD, knowing how to solve social problems and acting upon that knowledge, can foster self-control by helping students inhibit impulsive responding, increase awareness of their own and others’ feelings and perspectives, and identify problematic situations (Mayer & Van Acker, 2009; Zins, Elias, Greenberg, & Weissberg, 2000). A cognitive behavioral approach to solving social problems can ameliorate behaviors such as aggression and disruption, decrease hyperactivity/ impulsivity, and strengthen pro-social responses (Bennett & Gibbons, 2000; Lochman & Wells, 2004; McCart, Priester, Davies & Azen, 2006; Robinson, Smith, & Miller, 2002; Robinson, Smith, Miller, & Brownell, 1999; Wilson, Lipsey, & Derzon, 2003). Although strong empirical evidence is scant on the benefits of instruction in social problem solving for students with EBD, evidence of effectiveness exists for students who are at-risk of developing a disorder (CPPRG, 1999; 2004; Smith, Graber, & Daunic, 2009; Walker, Colvin, & Ramsey, 1995).

Researchers should continue to direct their attention to the use and effectiveness of CBI for students with EBD. Among the many considerations, targeting the mechanisms, techniques, and components that are most effective are needed (Gerber & Solari, 2005). Additionally, as more cognitive and behaviorally based social problem-solving intervention packages become available, researchers should include strategies that facilitate a system-wide acceptance of the intervention, teacher training

components, administrative support, and considerations of the practical realities and hidden barriers in the implementation of CBIs (Wilson, Gottfredson, & Najaka, 2001). Such future considerations will increase the likelihood for generalization and maintenance of the skills CBIs provide for students with behavioral difficulties (Polsgrove & Smith, 2005).

Social Problem Solving as a Relational Intervention

It has been established that relationships are fostered through repeated interactions that require on-going maintenance and a requisite skill set that is particularly important during problematic interactions. Given that students with EBD, by definition have difficulty maintaining positive relationships, an investigation that assesses the effect of a social problem-solving curriculum on the quality of teacher-student relationships within a self-contained classroom for students with EBD would be beneficial.

Because students with EBD experience greater conflict and over-dependency in relationships, a teacher who provides skills promoting psychological adjustment and improved well-being may also increase the trust, reciprocity, and shared norms (social capital) that lead to lower conflict, greater autonomy, and closer teacher-student relationships. For example, social problem-solving curricula that emphasize psychological adjustment and improved well-being have been associated with improved emotion regulation (Meichenbaun, 1977; Webster-Stratton, Reid, & Hammond, 2001). In part, affective responses (e.g., the way a teacher and a student interact, temperament, management of frustration, anxiety) impact the level of relational quality. Moreover, social problem-solving curricula that contain specific teacher-driven, instructional techniques (e.g., overt teacher self-talk, cognitive modeling, teachable moments) that

parallel affective teacher characteristics (e.g., emotional support, trust, open communication, reciprocity) have been associated with positive, high-quality teacher-student relationships from the student's perspective (Abrams, 2005; Croninger & Lee, 2001; Decker et al., 2007; Hestor et al., 2004; Murray & Greenberg, 2001). Additionally, the aforementioned teacher behaviors reflected in the instructional techniques teachers used with social problem solving (e.g., emotional and instructional support in problematic situations) that parallel affective characteristics associated with the provision of social capital (e.g., shared knowledge on models how to problem solve) would increase the likelihood of less conflictive interactions and also have been demonstrated to promulgate social capital (Kortering & Braziel, 2002; Muller et al., 1999; Runyan et al., 1998).

Because teachers often report negative emotions about children with behavioral difficulties (Hamre & Pianta, 2001; Nelson & Roberts, 2000; Saft & Pianta, 2001), a teacher's implementation of a class-wide problem-solving curriculum might influence the emotion regulation during social interactions for the teacher as well as the student. A reduction of negative emotions or conflict that act as barriers to forming more positive relationships with students (Muller, 2001; Stuhlman & Pianta, 2001) might improve the bi-directionally perceived quality of the teacher-student relationship, and increase the willingness for relational investments; particularly since emotionally-invested teachers demonstrate greater instructional and emotional support to their students (Birch & Ladd, 1998, Pianta et al., 2008). If altering a teacher's interactions in a positive direction also moderates students' satisfaction in a positive direction, then the potential for improving their behavior and willingness to invest in closer relationships exists. Further, by

reducing conflict within social interactions, a willingness to trust increases the likelihood that students access knowledge or human capital from teachers, extending social networks and future opportunities for success in life.

Additionally, a social problem-solving curriculum may serve as a structural antecedent (Lazarus, 1981) or model that establishes norms for both the teachers and their students. A model that provides shared knowledge and use of problem-solving skills in self-contained EBD settings establishes norms by which to interact. Self-contained EBD settings typically have greater opportunities to use and practice the acquired skills during the school day as compared to regular education settings, thereby providing ample models and practice. Although many researchers have advocated for increased use of problem-solving curricula in classrooms, broader outcomes and impacts that extend beyond a curricula are still unknown (Maag, 2005). Hence, further research investigating the additional benefits and utility of a problem-solving curriculum including targeted interventions that result in trusting interactions and improved relationships between teachers and students with EBD may prove useful.

Summary

Quality teacher-student relationships are a complicated web of interactions that involve the appropriate degrees of conflict, closeness and dependency. Over time, positive interactions include greater access to social capital through experiencing trust, reciprocity, shared knowledge and beliefs, and shared norms of civic engagement. When both the teacher and the student experience the appropriate relational dimensions and mutually perceive sufficient access to social capital, it is likely that high quality relationships will develop. As suggested in this review, relationships that contain warm and close interactions, low levels of conflict, and the appropriate amount of

dependency foster improved academic and social gains. Because students with EBD often have problems establishing the correct combination of conflict, closeness and dependency when interacting with teachers, interventions that provide solutions to problematic interactions (e.g., social problem-solving interventions) are a viable strategy. Additionally, a teacher's provision of skills that address a student skill deficit, with the addition of immediate feedback, may also promote closer, less conflictive, and more autonomous interactions, further improving the quality of the relationship. Moreover, because self-contained classrooms are rich with problematic interactions, opportunities for students to practice and receive feedback from the teacher may enhance reinforcement of skill acquisition (Bandura, 1969, 1997), and lead to greater social and academic competence. Further, knowing how to render problematic social interactions into non-problematic ones within restrictive school settings will allow students with EBD to successfully transition to less restrictive school settings increasing their access to a greater diversity of social networks and social capital. In sum, instruction in social problem solving may be a potential foundation to buffer the negative outcomes forecasted for students with EBD.

CHAPTER 3 METHOD

In Chapter 3, I present the research methods and procedures of the study. I present an introduction to the present study, which includes an overall guiding question, followed by my research questions, hypothesis, and a description of the research design. A description of how I selected the setting and participants, the procedures for instrument design and modification, along with the research procedures is included.

Introduction to the Present Study

I investigated whether there is a difference in teachers' and students' perspectives about the quality of their relationships with each other when instruction in a problem-solving curriculum (*Take CHARGE!*), based on a cognitive-behavioral approach, occurs within self-contained middle school classrooms for students with EBD versus a comparable setting without treatment. The primary dependent variable is the relationship quality from teacher and student perspectives. I measured these perspectives by modifying Pianta's *Student-Teacher Relationship Scale* (2001) to develop the *Revised Teacher and Student Version* scales described later in this chapter. The guiding research question determined whether a cognitive-behavioral social problem-solving curriculum, implemented by school personnel in self-contained classroom settings for students with emotional and behavioral difficulties improved measures of student-teacher relationships as rated by students and teachers. Secondary questions determined curricular effects upon knowledge and approaches to problem solving.

Statement of Research Questions

My primary research questions are:

1. At pre-treatment, what is the level of agreement between teacher and student ratings of relationship quality?
2. Does Take CHARGE! affect the quality of teacher-student relationships in self-contained classrooms as measured by teacher ratings of relationship quality?
3. Does Take CHARGE! affect the quality of teacher-student relationships in self-contained classrooms as measured by student ratings of relationship quality?

My secondary research questions are:

4. Does Take CHARGE! affect student knowledge of social problem solving skills?
5. What is the post-treatment correlation between students' KQ scores and teacher ratings of relationship quality?
6. Does Take CHARGE! affect students' approach to problem solving?

Rationale for Research Hypotheses

I hypothesized that because teachers often report experiencing negative emotions and high levels of conflict when teaching children with behavioral difficulties (Hamre & Pianta, 2001; Nelson & Roberts, 2000; Saft & Pianta, 2001), having a teacher implement a class-wide cognitive-behavioral problem solving curriculum, such as *Take CHARGE!*, might influence the emotion regulation of the teacher as well as the student. A reduction of negative emotions, acting as barriers to forming more positive, close relationships (Muller, 2001; Stuhlman & Pianta, 2001), might improve the perceived quality of the teacher-student relationship from teacher and student perspectives. I also hypothesize that instruction in the *Take CHARGE!* curriculum will serve as a structural antecedent (Lazarus, 1981) for both teachers and their students, promoting the daily use of problem-solving skills and reducing rates of problematic interactions. Use of social problem-solving skills may also increase the degree of closeness and decrease the degree of conflict, particularly in self-contained settings, where teachers and

students typically have greater opportunities to use and practice the acquired skills during the school day. My alternative hypotheses are the following:

1. There will be agreement between student and teacher pre-treatment ratings of relationship quality.
2. Post-treatment, teachers in the *Take CHARGE!* group will rate relationship quality higher than teachers in the control.
3. Post-treatment, students in the *Take CHARGE!* group will rate relationship quality higher than students in the control.
4. Students in the *Take CHARGE!* group will have greater social problem solving knowledge at post than students in the control after adjusting for pre-scores.
5. There will be a positive correlation between student *Knowledge Questionnaire* scores and change in teacher ratings of relationship quality.
6. Students in the *Take CHARGE!* group will have improved ratings in approaches to problem-solving than students in the control group.

Design and Procedures

Setting and Participants

The setting for this study was nine middle school self-contained classrooms located in North Central Florida during the Spring 2009 semester. Based on a consideration of teacher and student attrition, I recruited 12 self-contained teachers, all of which agreed to participate. During the study, one teacher was moved from the classroom to run an in-school suspension program. Total study participants included 11 self-contained, EBD classroom teachers and 96 middle school students with EBD or similar characteristics (e.g., externalizing or internalizing behavior problems, high referral/ suspension rates). All recruitment and study procedures met University Institutional Review Board (IRB) standards. Parental consent was solicited from each student, and a 95% participation rate was achieved (N = 92).

Sampling Procedures

I recruited classrooms by submitting an application to conduct research in nine middle schools across four counties in North Central Florida. I solicited schools and sought permission for participation with district personnel, principals, and self-contained teachers. School personnel were informed that they have an equal chance of assignment to either a treatment or control condition. For schools and teachers who agreed to participate, the process of matching and random assignment occurred at the school level because typically there is only one self-contained EBD classroom per school. For schools that contain more than one self-contained classroom, all classes within a school were assigned to the same condition (Note: this occurred in two schools). In addition, the fact that each school was classified as treatment or control reduced threats to internal validity that might occur from cross-contamination among classrooms within a school.

Matching Procedures

To investigate if there is a difference in teacher-student relationships within a self-contained setting for students with EBD when the *Take CHARGE!* problem-solving curriculum occurs versus “business-as-usual” condition I used a two-group, pre-post randomized control trial.

I matched schools based on total number and racial composition of EBD students and then randomly assigned members of matched pairs to condition (treatment or control). Assignment thus occurred by pair-wise matching as suggested by Bloom, Bos, and Lee (1999), or blocking groups into strata, through ranking them from highest to lowest according to salient characteristics (e.g., class size). I paired schools first by the total number of EBD students and second by racial composition. I then randomly

assigned one member of each pair to treatment and the other to control by using a coin toss. This procedure ensured that treatment and control groups contained similar characteristics (Bloom et al.).

Threats to internal validity were addressed by procedures suggested by Shadish, Cook, and Campbell (2002). To compensate for history, or events outside of this study that may contribute to any effect between and within subjects, the time between pre and post was limited to approximately 10 to 12 weeks. Maturation (social and emotional growth) was addressed by use of a control group. Measures were taken approximately 11 to 13 weeks apart, and use of a control group offset subject familiarity from repeated testing. Additionally, to insure construct validity, teacher and student scores on the *STRS-RT* and the *STRS-SV*, respectively, were compared on the same constructs (i.e., conflict, closeness, dependency). To limit the possibility that any change in relationship scores was due to statistical regression, particularly since students in self-contained classrooms may produce extreme scores, I used random assignment to condition. To minimize differences between treatment and control classrooms on variables unrelated to *Take CHARGE!*, I matched classrooms based on class size and randomly assigned to condition. Although this cannot fully control for classroom-related variables, this threat to internal validity is minimized. Finally, selection-maturation interaction of subject-related variables (e.g., age of participants, years of teacher experience) was controlled for by random assignment and matching.

Intervention

Take CHARGE!, a social problem-solving curriculum, is a 26-lesson curriculum based on a social information processing model (see Dodge, 1993). *Take CHARGE!* is a selective, classroom-based intervention or an intervention targeted specifically

towards individuals who have difficulty solving social problems. There are 20 core lessons that last approximately 30-40 minutes each. Initial lessons introduce problem solving and highlight six key problem-solving steps (e.g., *Check*- see if you're angry, *Hold on* - calm down and think, *Analyze* - figure out the cause, *Reflect* - on possible solutions, *Go for it* - pick a solution, and *Evaluate* - see what happened). Out of the 20 core lessons, 15 content lessons cover the six steps, and five strategically placed role-play lessons provide opportunities to practice steps as they are learned. Following the 20 core lessons, six booster lessons provide additional review and opportunities for generalization. Core lessons were conducted approximately three times a week for a total of approximately seven weeks and booster lessons were conducted two times a week for a total of approximately three weeks. Total treatments across all classrooms were approximately ten weeks in length.

Each lesson includes a cumulative review, teacher presentation of new material, and activities for guided and independent practice. Teachers attended a seven-hour training on how to use cognitive-behavioral instructional strategies such as overt teacher-self talk, teachable moments, and On-The-Spot Assessments (OTSA) as part of the curriculum in their classroom. Overt teacher self-talk, or cognitive modeling, is a strategy teachers use to reveal the covert, inner thoughts and the processes used to solving social problems. By students being provided a model of a “good thinker thinking,” they are more likely to learn the explicit steps of social problem solving. On-the-Spot Assessments, a strategy within *Take CHARGE!*, catches students being good and using the explicit steps of social problem solving in natural settings such as transitions and lunch lines. Specifically, a teacher and student will process and assess

the steps that were observed in the natural setting. The intent of OTSA is to promote the generalization of problem solving to other settings and reinforce the student for using problem solving steps.

Overall, the curriculum and specific strategies such as self-talk and OTSA, that are aligned with emotional and instructional support strategies associated with high quality teacher-student relationships (Cameron, Connor, & Morrison, 2005, Hamre & Pianta, 2005), will help students develop self-management of behavior through the purposeful manipulation of overt, and eventually covert, verbalizations to navigate problematic social situations. Problematic social situations include difficulty with relational interactions. The major purpose of the curriculum, as used within this study, was to determine if the curriculum content promoted improved relational quality for teachers and their students who exhibit emotional and behavioral difficulties.

Implementation

For purposes of confidentiality, I administered the student instrument, *STRS-SV*, to all students while the classroom teacher completed the *STRS-RT* in another location (e.g., teacher office). In all classrooms, a minimum of one paraprofessional was present. After administration of pre-test measures, I trained treatment self-contained teachers on the *Take CHARGE!* curriculum and in the use of cognitive-behavioral instructional strategies such as self-instruction techniques and cognitive modeling to help students develop problem-solving skills that improve behavior and interpersonal interactions. Training lasted approximately seven hours and covered the curriculum's conceptual underpinnings, purpose, organizational issues, content, and procedures. Additionally, teachers in the control condition were provided with the option to attend

another *Take CHARGE!* training after data collection terminated. Out of six control teachers, five elected to participate in a five-hour training.

Beyond treatment fidelity measures discussed below, assurance that teachers will be comparable with intervention delivery across classrooms is likely because *Take CHARGE!* is a partially scripted curriculum. However, complete control of intervention delivery is not possible due to the specific problem-solving examples generated within classrooms and individual student needs. Moreover, when using scripted curricula with students enrolled in self-contained classrooms, simple curricular modifications that target student interest and provide student choice may be necessary to increase student engagement and reduce disruptive behaviors (Kern et al., 2002). Additionally, empirical evidence suggests that teacher responsiveness (Murray & Greenberg, 2000) to individual student needs fosters improved relationships.

Instrumentation

To answer the research questions, I used teacher and student reports of relationship quality described below. Data collection occurred in both treatment and control schools with all teachers and students pre- and post-intervention. Research questions were answered using a modified version of the teacher-rated, *STRS* (Pianta, 2001) entitled *Student-Teacher Relationship Scale - Revised Teacher (STRS-RT)*, a student-rated version, the *Student-Teacher Relationship Scale – Student Version (STRS-SV)*, *Social Problem Solving Inventory – Revised (SPSI-R)* (D’Zurilla, Nezu, & Maydeu-Olivares, 2002), and the *Knowledge Questionnaire (KQ)*. In addition, I determined the fidelity of implementation using a check sheet for each lesson observed, a teacher-completed fidelity report form, and social validity of curriculum implementation using post-treatment teacher surveys.

Student-Teacher Relationship Scale (STRS)

The *STRS* (Pianta, 2001) has been widely used with pre-school and elementary age children, thereby requiring scale modification for the current study's population. The original *STRS* and subsequently modified version includes a 28-item Likert-type rating scale (five-point with neutral option) administered by paper and pencil, designed to assess teachers' perceptions of their relationship with an individual student and their perceptions about a student's behavior and feelings toward them. Specifically, responses on the five-point Likert-type scale range from one (definitely does not apply) to five (definitely applies). The professional manual outlines both group and individual administration. The manual suggests approximately five to 10 minutes for individual administration and 10 to 15 minutes for group administration. I, however, provided the revised scale (see below) to the teachers and allowed them time to independently complete it on each student while I administered student instruments.

Raw scores and percentile ranks generate both an overall relationship score and three sub-scales: conflict, closeness and dependency. The manual describes interpretation of the scores as normative, based on percentile rank and then compared to norm groups. Student norm groups included in the scale are total population, gender, and three ethnic groups (Caucasian, Hispanic, and African American).

Norming the *STRS* involved 275 female elementary teachers who completed the scale for one to 16 students with a mean age of five years ($n=1,535$) across various geographic regions of the USA. Teacher demographics included 70% Caucasian, 15% African American, 10% Hispanic, and 5% Other. Student genders were 53% males and 47% female. Ethnic distributions of the students were 63% Caucasian, 18% African American, 10% Hispanic, 1.7% Asian American, and 7% Other.

The manual suggests that school psychologists or other professionals with appropriate psychometric training interpret assessment scores. Raw scores can be hand calculated by the researcher based on the scoring criteria provided with each copy of the instrument. The researcher, based on reference tables included in the manual, can also determine percentile ranks. Moreover, directions for scoring missing responses can be accomplished by replacing the missing response with the mean item response, as indicated in the manual. Additionally, instructions are provided to detect evidence of invalid response patterns. For this study, I conducted scoring of both the *STRS-RT* and *STRS-SV* as outlined in the original *STRS* manual. The *STRS* manual describes the instrument as valid for measuring baseline scores (pre-test) and on-going assessment (post-test) and is deemed appropriate for measuring intervention efforts (i.e., that foster quality teacher-student relationships). Since the research questions within this study examine whether *Take CHARGE!* improved teacher-student relationships, this instrument is an appropriate measure.

With respect to construct validity, Cronbach's Alpha of the *STRS* showed internal score reliability coefficients for each sub-scale as Closeness ($\alpha = .86$), Conflict ($\alpha = .87$), and Dependency ($\alpha = .79$). Additionally, test-retest correlations for the total score ($r = .89$) and each sub-scale Closeness ($r = .88$), Conflict ($r = .92$), and Dependency ($r = .76$) are all significantly strong. Moreover, the predictive and concurrent score validity and the score reliability of the *STRS* has been demonstrated repeatedly in a number of studies (e.g., Birch & Ladd, 1998; Hamre & Pianta, 2001; Pianta & Stuhlman, 2004). Scoring procedures from the *STRS* for both the *STRS-RT* and *STRS-SV* will remain the same, however, calculations of the score reliability coefficients for the sample used in

this study will be discussed in Chapter 4.

Student Teacher Rating Scale – Revised Teacher (*STRS-RT*)

Because the original *STRS* has been established as reliable and valid with students in kindergarten through third grade and *Take CHARGE!* is designed for middle school students, it was necessary to modify the scale for age and developmental appropriateness. After my modifications (see Appendix A), I based all further revisions on a careful review of individual responses to all scale items and from cognitive interviews by two middle school level teachers and two administrators from one local school, who work specifically with students with EBD. When asked if the questions were appropriate for teachers working with middle school-aged students with EBD, both teachers and administrators felt they were age and developmentally appropriate for students with EBD. In fact, one teacher noted that a question exploring a student's jealousy when a teacher attends to others, indeed, occurred frequently in his classroom. Additionally, I conducted a review with experts in the field of EBD to insure key concepts and considerations were considered for the target population. As a result, some wording was revised to reflect age appropriate and developmental accuracy. For example, items in the original instrument refer to the teacher's pupils as children and now pupils are referred to as students. Examples of an original and modified item for each factor are: Closeness (e.g., "I share an affectionate, warm relationship with this child" was modified to "I share a friendly, warm relationship with this student"), Conflict (e.g., "This child easily becomes angry at me" was modified to "This student easily becomes angry with me"), and Dependency (e.g., "This child is overly dependent on me" was modified to "This student is overly dependent on me").

After data collection, I conducted an item analysis to examine internal consistency, examine item discrimination, and calculate score reliability for this exploratory version by invoking Cronbach's alpha, as recommended by Crocker and Algina (1986). As expected, the score validity and internal score reliability, or how the items "hang together" and difficulty of items closely approximated the *STRS* due to the similarity of constructs (see Chapter 4).

Student Teacher Rating Scale –Student Version (*STRS-SV*)

To capture the bi-directional influence of relationship quality, I designed a student-rated version, adapted from the established constructs of the *STRS* (Pianta, 2001) and the newly modified *STRS-RT*. The newly created scale contains 27 Likert-type items that are designed to assess students' perceptions of their relationship quality with their teacher (see Appendix B). Similarly, responses on the five-point Likert-type scale range from one (definitely does not apply) to five (definitely applies). The student version was also administered using paper and pencil and took approximately 15 to 20 minutes to complete. The purpose of the *STRS-SV* is to measure similar constructs to the *STRS* (i.e., closeness, conflict, and dependency). Items on the *STRS-SV*, written to assess relationships from a student's perspective contain parallel sub-scales and questions modeled after the *STRS* and *STRS-RT*. Examples of the items within three sub-scales of the *STRS-SV* are the following: Closeness (e.g., "I share a loving, friendly relationship with my teacher"), Conflict (e.g., "My teacher easily becomes angry at me"), and Dependency (e.g., "I always need help from my teacher").

I previously conducted a pilot study to implement the *STRS-SV* with five students identified with EBD and asked two teachers to examine the instrument to evaluate the overall performance. I conducted a cognitive interview (see below) with all students and

teachers to clarify whether specific items are understood as intended. For example, during the cognitive interview within the informant information section, one teacher suggested that middle school students with EBD would understand race instead of ethnicity. I asked each student questions such as, “Could you tell me what this questionnaire was about?” I also asked probing questions such as “Can you tell me what this was asking you?” and “Does this seem like something your friends would understand?” to uncover any inconsistencies or confusion in the interpretation of the items. Student interview techniques were based on Spradley’s (1979) interview techniques and specific questions were based on discussions with a panel of experts and teachers in the field. After a careful review of the individual responses from the cognitive interviews and re-examining all instrument responses, I revised a few of the items such as “I feel uncomfortable when I am physically near my teacher” to “I am uncomfortable when I am physically near or in close contact with my teacher.” Next, I requested a panel of experts, selected based on availability and their expertise within the field, to review the individual items for theoretical support based on the literature reviewed in Chapter 2. After the panel provided feedback, I further revised the clarity of wording on several items such as changing “When my teacher is in a bad mood, I know it's going to be a hard day,” to “When my teacher is in a bad mood, I know it's going to be a long and difficult day.”

As expected, the score validity and internal score reliability closely approximated the *STRS* (Pianta, 2001) due to the similarity of constructs (see Chapter 4). After data collection, I calculated score reliability for this exploratory version as recommended by Crocker and Algina (1986). See Chapter 4 for a full description and statistical analysis.

What Do I Know: Knowledge Questionnaire (KQ)

The Knowledge Questionnaire (KQ) served as a measure of learned social problem-solving concepts. Sample items included “Check all the ways your body may feel when you are angry.” Other sample items required students to supply information (e.g., What are three levels of anger, from lowest to highest?). The original instrument, used in a parallel study (*Tools for Getting Along*), was pilot tested to 35 students exposed to the curriculum and then used in a larger study. Items with low item-to-total scale reliability were eliminated or revised. Reliability estimates from the parallel study reported a Cronbach’s alpha of .72 (Daunic, Smith, Brank, & Penfield, 2006). Because *Take CHARGE!* parallels the content in *Tools for Getting Along* only minor content adjustment of the questionnaire was needed.

Social Problem Solving Inventory – Revised (SPSI-R)

The *Social Problem-Solving Inventory-Revised (SPSI-R)* (D’Zurilla et al., 2002) is based on a theoretical model of problem solving that incorporates two general components. Problem orientation focuses on meta-cognitive processes that reflect general awareness and appraisals of problems encountered in everyday life, and Problem-solving style focuses on four complex skills that are necessary to solve a problem successfully: (1) problem definition and formulation, (2) alternative solution generation, (3) decision making, and (4) implementing a solution and evaluating its outcome. These skills closely parallel those taught specifically in *Take CHARGE!* (also addressed in Dodge’s social information processing model) (Dodge, 1986). The *SPSI-R* includes 52 Likert-type self-report items that comprise five scales: two problem orientation scales: positive problem orientation (PPO; five items) and negative problem orientation (NPO; 10 items), and three problem-solving style scales: rational/adaptive

problem solving scale (RPS; 20 items), impulsive/careless scale (ICS; 10 items), and avoidance scale (AS; seven items). PPO reflects an adaptive problem solving “set” (e.g., efficacy and positive outcome expectancies); NPO reflects maladaptive cognitive processes and negative emotional states (e.g., poor outcome expectancies and low frustration tolerance). The RPS scale attempts to detect a deliberate, systematic coping style that incorporates problem-solving principles and techniques; while the ICS taps an inefficient, impulsive, careless style and; the AS scale taps a tendency to procrastinate, be passive, or be dependent when solving problems. The five-factor model emerged from an exploratory and confirmatory factor analysis and was based on goodness of fit, parsimony, and cross validation criteria (Maydeu-Olivares & D’Zurilla, 1997). A detailed description of scale reliability and validity can be found in the manual (D’Zurilla et al., 2002).

Treatment Fidelity

During the intervention, I assessed treatment fidelity by observing approximately 20% of lessons taught using checklists (developed and modified based on a parallel study) corresponding to adherence of lesson content. Each lesson had a separate checklist based on observations to monitor treatment delivery of essential components derived from the curriculum manual and teacher training. Observers tallied the number of components included in each lesson, and the total observed was converted to a percentage of lessons completed. A portion of these observations (17%) was collected using trained research assistants or Principal Investigators from a similar study for reliability of observations. Treatment fidelity training for any observer consisted of an overview of curriculum features, examples of curriculum content, and scoring of

treatment fidelity forms. Training occurred until an IOA (Inter-Observer Agreement) of 80% was achieved.

For unobserved lessons, participating teachers completed surveys to evaluate curriculum implementation (e.g., lessons covered, lessons missed, student participation) that corresponds to each lesson. Items focused on amount of content covered (e.g., Did you cover all lesson content?), student participation (e.g., Did students underline the role play script illustrating the problem solving steps?), use of materials (e.g., Did you go through the overheads?), and average length of curriculum (e.g., On approximately what date did you begin teaching lesson one?). Responses were Likert-type ranging from one (not at all) to four (all), dichotomous (i.e., yes, no), and open-ended.

Furthermore, to address treatment integrity, teachers were provided with thorough and specific instructions and partial scripts during trainings and while implementing the curriculum. In addition, I conducted weekly visits distributed across schools to provide guidance and support.

Social Validity

To capture the social validity of *Take CHARGE!*, I designed a survey that was distributed to all treatment teachers (see Appendix E). Nine items focused on ease of use (e.g., *The curriculum was easy to use; I completed each lesson in the time allotted*), six items on appeal/utility to students (e.g., *The curriculum concepts were age-appropriate for my students*), and ten on effectiveness for reducing negative behaviors (e.g., *The curriculum improved my students' behavior*). The survey was on the five-point Likert-type scale range from one (strongly disagree) to five (strongly agree). Teachers answered items such as “The content of the curriculum was useful to students” and

“The lessons were easy to teach.” Results and discussion of the social validity of the curriculum will be discussed in Chapters 4 and 5.

Data Analysis

I began data analysis by cleaning up and reducing data, including visual analysis of raw data to check for missing data, deletion duplicate entries, and a 10% data entry check of all data for correct data entry procedures. Next, I computed descriptive statistics to include mean, standard deviation, and frequencies. A level of significance of 0.05 and two-sided hypothesis tests were used for all testing. In all bivariate analyses, including equivalence of treatment and control groups on covariates and baseline subscale scores, I used chi-square tests for independence or binary and categorical data and Wilcoxon rank sum tests for numerical data. For statistically significant results, I computed effect sizes using Cohen’s d (difference between group means divided by the pooled standard deviation). I also evaluated the data for distributional characteristics.

Method Used for Primary and Secondary Questions

Questions

Question 1. I analyzed question one, at pre-treatment, “What is the level of agreement between teacher and student ratings of relationship quality?”, through the following method. I used a specific type of index to estimate the agreement of relationship quality between teachers and students across conditions. Specifically, among the multiple measures of inter-rater agreement, (IRA) I selected r_{WG} (James, Demaree, & Wolf, 1984, 1993; LeBreton, James, & Lindell, 2005), as it is most appropriate when multiple judges rate a single construct (i.e., relationship quality) using an interval scale of measurement (LeBreton & Senter, 2008). Specifically, inter-rater

agreement between teachers and students may be assessed using r_{WG} when agreement is defined in terms of the proportional reduction in error variance. This procedure is recommended when the observed variance on relationship quality is considered across student and teacher raters and there is an expected lack of agreement among raters and a uniform distribution.

Question 2. I analyzed question 2, “Does *Take CHARGE!* affect the quality of teacher-student relationships in self-contained classrooms as measured by teacher ratings of relationship quality using the Wilcoxon signed rank test?”. This method tests whether two independent samples (treatment and control) of observations come from the same population. The method requires two assumptions: (a) the samples under investigation and the observations within each sample are independent of each other, and (b) the observations are comparable. Prior to the Wilcoxon tests, teacher ratings of their students were averaged so that the independence assumption was not violated and then different scores (pre to post) were subtracted.

Question 3. I analyzed question three, “Does *Take CHARGE!* affect the quality of teacher-student relationships in self-contained classrooms as measured by student ratings of relationship quality?” through the following method. A hierarchical linear model (HLM) was conducted, using student pre-test scores as the covariate. This method was selected to best handle the nested data within and between groups. To determine the effects of *Take CHARGE!*, I used the MIXED procedure in SAS (version 9.2, Cary, N.C.) to fit the series of HLMs. Each model was comprised of two random levels: students and classrooms. The dependent variables were post-treatment scores on measures; covariates included condition at Level 2 and pre-intervention scores on

measures. Treatment and control conditions are fixed factors within the models. The Level 1 model (child i in class j) was specified as:

$$Y_{ij} = b_{0ij} + b_{1j}(\text{PRE MEASURE}) + e_{ij}.$$

The Level 2 (class j) model was specified as:

$$b_{0j} = \rho_{00j} + \rho_{01j}(\text{CONDITION})_j + r_{0j}.$$

Y_{ij} represents the post intervention subscale score, b_{0ij} represents the intercept, PRE MEASURE represents the pre-intervention score on measures, and CONDITION is the dichotomous intervention variable equal to one for the control group and zero for the treatment group. I assumed e_{ij} to be normally distributed with a zero mean and constant variance, and the random effects r_{0j} to be normally distributed with constant variance. Adding the error term (r_{0j}) to the intercept equation at the classroom level (Level 2) takes into account the autocorrelation within classrooms (i.e., non-independence of students within a class).

Question 4. I analyzed question four, “Does *Take CHARGE!* affect student knowledge of social problem solving skills?” using an HLM, with student pre-test scores as the covariate. I used the same methods to answer this question as those described in question three.

Question 5. I analyzed question five, “What is the correlation between students’ post *KQ* scores and change in teacher ratings of relationship quality?” through a Spearman- r correlation. The correlation was derived between the total student score of the post *KQ* and the change in each domain score (i.e., conflict, closeness, dependency) as rated by the teacher.

Question 6. I analyzed question six, “Does *Take CHARGE!* affect students’ approaches to problem solving?” by using the following methods. An HLM was conducted using student pre-test scores as the covariate. Methods used were similar to question three and four.

Treatment fidelity

To assess treatment fidelity, I computed component scores (percent of total lessons observed) based on observation checklists completed for 18% of all lessons taught and the number of lessons rated for each teacher ranged from four to seven. To estimate reliability of my treatment fidelity observations, two trained observers and myself compared our ratings on observed lessons. Overall treatment fidelity was determined by averaging observer scores across teachers. (Note: If multiple observers rated the same teacher on a particular occasion, only one rating was included for fidelity computation.) Moreover, I computed the average percent agreement between observers on adherence to lesson components checked as completed when pairs of observers rated the same teacher on the same occasion. The data sample for inter-observer reliability computation resulted from five-paired observations across three teachers, with the number of lessons for a single teacher ranging from one to two. As a further check on treatment fidelity, I analyzed teacher self-report data from the *Take CHARGE! Curriculum Checks* by computing summary frequencies for *Take CHARGE!* lessons taught.

Social validity

As a measure of social validity, I computed summary means and standard deviations from the *Take CHARGE! Teacher Questionnaire* to answer questions about curriculum efficacy and ease of use.

Reliability of Relationship Scales

To investigate how the modified instruments (*STRS-RT* & *STRS-SV*) compared to the existing instrument (*STRS*), I used Cronbach's alpha to measure score reliability within each subscale using treatment and control pre-measures.

CHAPTER 4 RESULTS

I designed the present study to explore the relationship between a social problem-solving curriculum and teacher-student relationship quality as rated by teachers and students in EBD self-contained classrooms. Specifically, I collected and analyzed data to address the following research hypotheses:

1. There will be agreement between student and teacher pre-treatment ratings of relationship quality.
2. Post-treatment, teachers in the *Take CHARGE!* group will rate relationship quality higher than teachers in the control.
3. Post-treatment, students in the *Take CHARGE!* group will rate relationship quality higher than students in the control.
4. Students in the *Take CHARGE!* group will have greater social problem-solving knowledge at post than students in the control after controlling for pre-test.
5. There will be a positive correlation between student *Knowledge Questionnaire* scores and change in teacher ratings of relationship quality.
6. Students in the *Take CHARGE!* group will have improved ratings in approaches to problem-solving than students in the control group.

To determine the effect of a social problem-solving curriculum on the quality of teacher-student relationships, I implemented a randomized control trial and analyzed data using quantitative methods. To fully explore my hypotheses, I needed to (a) modify an existing measure of relationship quality as rated by teachers, and (b) design an instrument that measured relationship quality as rated by students. I used these and other measures to detect whether a social problem-solving curriculum could improve teacher-student relationships. Therefore, I present the findings of this study by describing the results of the randomized control trial, results from the instrument development and modification,

the influence on relationship quality and student problem solving, and overall curricular implementation.

Randomized Control Trial

Descriptive Statistics

I analyzed the data to determine if any differences existed between control and treatment groups on any of the pre-measures. This section includes a description of the analyses and the results.

Tables 3-1 and 3-2 show the demographic distribution of the study participants in the two groups, to include frequencies and percentages. I conducted chi-square analyses to determine if there were any pre-existing differences between the two groups with respect to age, gender, race, and grade for both teachers and students across control and treatment conditions (N = 92). Interpretation of the chi-square tests revealed no significant relationships between demographic characteristics and group assignment.

To summarize the sample's demographic characteristics, more than 91% of the students in self-contained classrooms were in sixth, seventh, and eighth grade and 74% were between 12 and 14 years old. The largest racial populations were African American (52%) and Caucasian (36%), with the majority of students being male (75%). Teachers from this sample were nearly equally distributed with 55% male and 45% female. The majority of the teachers in this sample were Caucasian (64%).

Group Equivalence

All students in treatment and control conditions were similar with the exception of grade. Students in the treatment group had a greater number of fifth and ninth graders

Table 3-1. Student characteristics

Grade		N (%)
	5	5 (5.4%)
	6	33 (35.8%)
	7	29 (31.5%)
	8	23 (25%)
	9	2 (2.1%)
Total		92
Age		N (%)
	11	4 (4.3%)
	12	24 (26%)
	13	25 (27.1%)
	14	20 (21.7%)
	15	14 (15.2%)
	16	5 (5.4%)
Race		N (%)
	AA	48 (52.1%)
	Hispanic	5 (5.4%)
	Other	6 (6.2%)
	Caucasian	33 (35.8%)
Gender		N (%)
	Male	69 (75%)
	Female	23 (25%)

Table 3-2. Teacher characteristics

Gender		N (%)
	Male	6 (54.5%)
	Female	5 (45.4%)
Race		N (%)
	AA	2 (18.1%)
	Hispanic	2 (18.1%)
	Caucasian	7 (63.6%)

when compared to the control. Additionally, differences existed with respect to student race such that more students categorized themselves as other (i.e., bi-racial) in the

control group (see Table 3-3). Teachers in both treatment and control conditions were equivalent (see Table 3-4).

Table 3-3. Equivalence of student by group

	Treatment	Control	Probability
Total n	43	49	
Grade			
5	5	0	
6	13	20	0.05
7	13	16	
8	10	13	
9	2	0	
Age			
Mean (SD)	13.2 (1.1)	13.5 (1.5)	0.30
Gender			
Male	31	38	0.63
Female	12	11	
Race			
AA	22	26	
Hispanic	2	3	0.06
Other	0	6	
Caucasian	19	14	

Instrument Development

STRS-RT

The reliability coefficient (Cronbach's alpha) for the *STRS-RT* was similar to original *STRS* (Pianta, 2001). Cronbach's alphas obtained from the current sample for pre-test data shows conflict internal score reliability coefficients for each factor as

Table 3-4. Equivalence of teacher by group

	Treatment	Control	Probability
Total n	5	6	
Gender			
Male	4	2	0.24
Female	1	4	
Race			
AA	0	2	
Hispanic	2	0	0.21
Caucasian	3	4	

Conflict ($\alpha = .92$), Closeness ($\alpha = .87$), and Dependency ($\alpha = .79$) compared to the *STRS*'s internal score reliability coefficients for each factor as Conflict ($\alpha = .87$), Closeness ($\alpha = .86$), and Dependency ($\alpha = .79$)

STRS-SV

The reliability coefficient (Cronbach's alpha) for the *STRS-SV* was similar to original *STRS* (Pianta, 2001) and the revised teacher measure within this study. Cronbach's alphas obtained from the current sample for pre-test data shows conflict internal score reliability coefficients for each factor as Conflict ($\alpha = .71$), Closeness ($\alpha = .87$), and Dependency ($\alpha = .64$).

Relationship Quality

Reliability of Agreement

There was a moderate to very strong agreement between teachers and students at pre-measures on relational quality. Examination of teacher and student agreement on the relational dimension of conflict reveals teachers and students moderately to very strongly agree on the level of conflict within their relationships by 73% (see Table 3-5).

Examination of teacher and student agreement on the relational dimension of closeness reveals teachers and students moderately to very strongly agree on the level of closeness within their relationships by 74% (see Table 3-6). Examination of teacher and student agreement on the relational dimension of dependency reveals teachers and students moderately to very strongly agree on the level of dependency within their relationships by 65% (see Table 3-7).

Table 3-5. Agreement between student-teacher conflict

	Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lack of agreement	20	21.7	22.0	22.0
	Weak agreement	4	4.3	4.4	26.4
	Moderate agreement	17	18.5	18.7	45.1
	Strong agreement	17	18.5	18.7	63.7
	Very strong agreement	33	35.9	36.3	100.0
	Total	91	98.9	100.0	
Missing	System	1	1.1		
Total		92	100.0		

Table 3-6. Agreement between student-teacher closeness

	Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lack of agreement	15	16.3	16.9	16.9
	Weak agreement	6	6.5	6.7	23.6
	Moderate agreement	14	15.2	15.7	39.3
	Strong agreement	17	18.5	19.1	58.4
	Very strong agreement	37	40.2	41.6	100.0
	Total	89	96.7	100.0	
Missing	System	3	3.3		
Total		92	100.0		

Table 3-7. Agreement between student-teacher dependency

	Level of Agreement	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lack of agreement	24	26.1	26.7	26.7
	Weak agreement	6	6.5	6.7	33.3
	Moderate agreement	12	13.0	13.3	46.7
	Strong agreement	19	20.7	21.1	67.8
	Very strong agreement	29	31.5	32.2	100.0
	Total	90	97.8	100.0	
Missing	System	2	2.2		
Total		92	100.0		

Teacher Rating of Relationship Quality

I evaluated whether the effect of treatment of a social problem-solving curriculum might alter student interactions and improve teacher ratings of relationship quality. I tested the change in the relational dimensions (conflict, closeness, dependency) of

teachers who administered the treatment compared to those who did not. Results indicated that teachers who implemented a social problem-solving curriculum showed no statistically significant change in the relational dimensions, nor all three relational dimensions represented as a total score when compared to teachers in the control group (see Table 3-8). Mean scores between groups are provided in Table 3-9.

Table 3-8. Teacher rating of relationship quality

Relational Dimensions	Control N=6			Treatment N=5			Probability
	Mean	(SD)	Median	Mean	(SD)	Median	
Conflict	0.59	(3.20)	0.17	1.71	(3.51)	0.22	0.657
Closeness	-1.85	(4.19)	1.41	0.27	(1.52)	0.31	0.789
Dependency	0.08	(0.83)	0.06	0.27	(0.87)	0.75	0.789
Total Score	-2.52	(5.81)	-1.47	-1.72	(3.73)	-1.67	1.00

Table 3-9. Mean teacher relationship quality

Relational Dimensions	Mean	Pre		n	Post		
		Mean	SD		Mean	SD	n
Conflict							
Treatment	2.60	0.97		48	2.74	0.95	40
Control	2.28	0.85		43	2.40	0.67	40
Closeness							
Treatment	3.26	0.68		48	3.40	0.61	40
Control	3.60	0.51		43	3.53	0.57	40
Dependency							
Treatment	2.63	0.87		48	3.40	0.62	40
Control	2.50	0.63		43	2.60	0.64	40

Student Rating of Relationship Quality

I evaluated whether a teacher's instruction on the effective use of social problem solving might contribute to a student's ratings of relationship quality. A hierarchical linear model (HLM) tested the relational dimensions (conflict, closeness, dependency) of students who are identified as having emotional and behavioral difficulties. Results of the HLM indicated that students who received instruction in a social problem-solving

curriculum showed no statistically significant change in the relational dimension of conflict, closeness, dependency, nor all three relational dimensions represented as a total score (i.e., conflict, closeness, dependency) when compared to students who were placed in the control group, (see Tables 3-10, 3-11, 3-12, 3-13). Mean scores for student ratings are provided in Table 3-14.

Table 3-10. Student rating of conflict

Effect	Group	Estimate	Standard Error	DF	t-value	Probability
Intercept		14.411	3.195	9	4.51	0.001
Pre Conflict		0.464	0.090	67	5.12	0.000
Group	Control	0.500	1.999	67	0.25	0.803
Group	Treatment	0	.	.	.	.

Table 3-11. Student rating of closeness

Effect	Group	Estimate	Standard Error	DF	t-value	Probability
Intercept		21.581	3.925	9	5.50	0.000
Pre-Closeness		0.349	0.103	68	3.37	0.001
Group	Control	1.403	2.537	68	0.55	0.582
Group	Treatment	0	.	.	.	.

Table 3-12. Student rating of dependency

Effect	Group	Estimate	Standard Error	DF	t-value	Probability
Intercept		9.653	1.381	9	6.99	0.000
Pre-Dependency		0.237	0.097	67	2.44	0.017
Group	Control	0.278	0.890	67	0.31	0.755
Group	Treatment	0	.	.	.	.

Table 3-13. Student rating total score

Effect	Group	Estimate	Standard Error	DF	t-value	Probability
Intercept		53.457	7.303	9	7.32	0.000
Pre-Total		0.400	0.081	67	4.92	0.000
Group	Control	1.055	3.353	67	0.31	0.753
Group	Treatment	0	.	.	.	.

Table 3-14. Mean student relationship quality

		Pre			Post		
	Mean	SD	n	Mean	SD	n	
Closeness							
Treatment	3.12	0.79	49	3.07	0.86	40	
Control	3.23	0.87	43	3.20	0.78	40	
Conflict							
Treatment	2.85	0.80	49	2.64	0.77	39	
Control	2.40	0.84	42	2.47	0.76	40	
Dependency							
Treatment	2.60	0.96	49	2.52	0.77	39	
Control	2.61	0.87	42	2.60	0.86	40	

Student Problem Solving

Knowledge of Problem Solving

I tested the amount of student knowledge using pre- and post-test scores in both treatment and control conditions. Main effects were found for condition, such that students in the treatment condition had significantly higher post-test knowledge scores after adjusting for pre-test (see Table 3-15.). On average for a student with same pre-score in both conditions, the student in treatment would have an increase of 8.6 on a post-test score. Pre-test knowledge score was significantly related to post-knowledge scores. A one-unit increase in pre-knowledge was associated with a .58 in post-knowledge (see Table 3-15). Furthermore, examination of mean scores for both conditions pre to post reveals a significantly greater increase in the treatment condition (see Table 3-16). Finally, I computed the effect size using Cohen's *d* (difference between group means divided by the pooled standard deviation) for post-knowledge scores and determined that the treatment group obtained a score that was 1.47 standard deviations higher than the control.

Table 3-15. Student knowledge of problem solving

Effect	Group	Estimate	Standard Error	DF	t-value	Probability
Intercept		11.393	1.509	9	7.55	0.000
Pre- knowledge		0.579	0.215	65	2.69	0.009
Group	Control	-8.582	1.633	65	-5.26	0.000
Group	Treatment	0	.	.	.	.

Table 3-16. Mean change in knowledge within group

Problem Solving Knowledge	Pre Mean (SD) n = 92	Post Mean (SD) n = 77	Difference Post - Pre	Probability
Treatment	4.6 (1.8)	13.7 (4.9)	9.2 (5.0)	<.0001
Control	4.7 (2.0)	5.2 (2.6)	.25 (2.3)	.73

Problem-Solving Knowledge and Teacher Rating

I used a Spearman-r correlation to see if relationship quality was rated higher by teachers as related to students who scored higher on the post KQ. There was no statistically significant correlations detected between teachers ratings of relationship quality and increased student knowledge of problem solving (see Table 3-17).

Table 3-17. Correlation of change in teacher relationship quality and post student knowledge

Relational Dimensions	Student Knowledge Correlation Coefficient	Probability	Observations
Teacher Closeness	0.14	0.22	78
Teacher Conflict	0.06	0.60	79
Teacher Dependency	-0.03	0.80	78

Approaches to Problem Solving

I evaluated whether a student's exposure to a social problem-solving curriculum would alter their self-reporting of approach to solving social problems. An HLM tested the five scales in the *SPSI-R*: two problem orientation scales: positive problem orientation (see Table 3-18) and negative problem orientation (see Table 3-19), and three problem-solving style scales: rational/adaptive problem solving scale (see Table 3-20), impulsive/careless scale (see Table 3-21), and avoidance scale (see Table 3-22).

Of the five scales, there were no statistically significant effects for the treatment group when compared to the control. Mean scores of all scales are provided in Table 3-23.

Table 3-18. Positive problem orientation

Effect	Group	Estimate	Standard Error	DF	t-value	Probability
Intercept		16.155	4.235	9	3.81	0.004
Pre PPO		0.304	0.226	79	1.35	0.182
Group	Control	- 2.893	2.499	79	-1.16	0.250
Group	Treatment	0	.	.	.	.

Table 3-19. Negative problem orientation

Effect	Group	Estimate	Standard Error	DF	t-value	Probability
Intercept		21.817	8.317	9	2.62	0.027
Pre NPO		0.563	0.260	79	2.16	0.033
Group	Control	- 4.583	5.860	79	- 0.78	0.436
Group	Treatment	0	.	.	.	.

Table 3-20. Rationale / adaptive problem solving

Effect	Group	Estimate	Standard Error	DF	t-value	Probability
Intercept		73.004	15.960	9	4.57	0.001
Pre RPS		0.141	0.247	78	0.57	0.568
Group	Control	- 15.767	9.200	78	- 1.71	0.090
Group	Treatment	0	.	.	.	.

Table 3-21. Impulsive / careless Scale

Effect	Group	Estimate	Standard Error	DF	t-value	Probability
Intercept		20.696	8.591	9	2.41	0.039
Pre ICS		0.629	0.261	79	2.41	0.018
Group	Control	- 8.012	5.309	79	- 1.51	0.135
Group	Treatment	0	.	.	.	.

Table 3-22. Avoidance scale

Effect	Group	Estimate	Standard Error	DF	t-value	Probability
Intercept		24.251	5.403	9	4.49	0.001
Pre AS		0.072	0.246	79	0.29	0.769
Group	Control	- 5.279	3.841	79	- 1.37	0.173
Group	Treatment	0	.	.	.	.

Curricular Implementation

Treatment Fidelity

To substantiate treatment fidelity, data was collected by observations and teachers filled out a self-report on the number of lessons taught. I observed 18% of lessons to assess fidelity of adherence to lesson content and, of the lessons observed, treatment fidelity was 100%. All teachers in the treatment group reported that 100% of lessons were taught.

Table 3-23. Approach to problem-solving

		Pre			Post		
	Mean	SD	n	Mean	SD	n	
Positive problem orientation							
Treatment	17.03	4.19	49	21.59	10.09	49	
Control	16.77	3.80	42	18.41	7.43	43	
Negative problem orientation							
Treatment	27.39	7.39	49	38.04	22.34	49	
Control	26.83	7.60	42	32.44	15.32	43	
Rational/adaptive problem solving							
Treatment	58.81	14.10	48	81.47	41.78	49	
Control	62.50	16.79	42	67.32	30.24	43	
Impulsive/careless scale							
Treatment	29.59	7.13	49	40.08	21.60	49	
Control	29.88	6.97	42	32.04	15.34	43	
Avoidance scale							
Treatment	18.99	6.12	49	26.02	15.88	49	
Control	19.54	5.41	42	20.79	11.43	43	

Additionally, to assess treatment fidelity, I used trained observers and the *Take CHARGE! Curriculum Checks*. The average percent agreement within pairs of observers was 100%, indicating that observers were able to use fidelity checklists with

strong reliability. The average observer-rated treatment fidelity across teachers was 100%, indicating that all teachers followed the curriculum as prescribed.

All five teachers in the treatment condition returned the *Take CHARGE! Curriculum Checks*. For the 15 core lessons, all respondents reported they had covered “most” or “all” lesson content. Lessons averaged 30 minutes, including completion of activities. Some teachers paired students or used small group instruction, and others used a whole-class delivery format. Observational data substantiated that teachers included lesson concepts, activities, and components such as role-plays, discussion questions, and worksheets to a high degree during the teaching period.

Social Validity

To capture the social validity of *Take CHARGE!*, I designed a survey that was distributed to and returned by all treatment teachers entitled the *Take CHARGE! Teacher Questionnaire* (see Appendix E). Overall, scores ranged from 3 to 5 with a mean score of 4. Teachers reported the curriculum was easy to use and reported that the curriculum was appealing and useful to their students. Some teachers reported some difficulty completing lessons in the time allotted and had difficulty including new students entering the class into the lessons. Teachers primarily agreed the curriculum was effective for improving student behavior in their classrooms and would use the curriculum again.

CHAPTER 5 DISCUSSION

The purpose of my study was to determine if exposure to a social problem-solving curriculum (*Take CHARGE!*), based on a cognitive behavioral approach, would improve the quality of relationships between teachers and their students who experience emotional and behavioral difficulties. I defined relationship quality as the degree of conflict, closeness, and dependency between teachers and students. I used a randomized control trial to address the following questions: (a) At pre-treatment, what is the level of agreement between teacher and student ratings of relationship quality?, (b) Does *Take CHARGE!* affect the quality of teacher-student relationships in self-contained classrooms as measured by teacher ratings of relationship quality?, (c) Does *Take CHARGE!* affect the quality of teacher-student relationships in self-contained classrooms as measured by student ratings of relationship quality?, (d) Does *Take CHARGE!* affect student knowledge of social problem solving skills?, (e) What is the post-treatment correlation between students' KQ scores and teacher ratings of relationship quality?, and (f) Does *Take CHARGE!* affect student approaches to problem-solving? Further, I measured the fidelity of treatment and social validity of *Take CHARGE!*. I offer a discussion of the results from this study, the implications in light of previous findings, limitations, and suggestions for future research and practice.

Overview of Findings

Researchers have investigated how the quality of a teacher-student relationship influences a student's academic, social, and emotional outcomes (e.g., Hamre & Pianta, 2001; Ladd & Burgess, 2001; Murray & Greenberg, 2001; Pianta, 2000; Pianta, Belsky, Vandergrift, Houts, & Morrison, 2008). Overall, quality relationships between teachers

and students have a significant effect on reinforcing positive social, emotional, and academic development (Brendtro, Brokenleg, & Van Bockern, 2002; Long, Morse, Fecser, & Newman, 2007; Pianta, 2000; Vitto, 2003); however, student perceptions were typically left out of the assessment. To date, no attempt has been made to investigate the bi-directional influence of relationships assessing both teacher and student ratings using the same relational dimensions. What is more, researchers have not examined fully the relationship quality between teachers and students identified as having emotional and behavioral difficulties and there is limited research on interventions designed to improve relationships (Murray & Malmgren, 2005). Hence, this study attempted to determine teacher and student ratings of relationship quality on the relational dimensions of conflict, closeness, and dependency. Additionally, this study measured the influence of a social problem-solving curriculum, as a possible intervention, on teacher-student relationships. It was hypothesized that, if a social problem-solving curriculum improved the ability for students to manage their social and emotional difficulties, their relationships would improve with their teachers - a key step to improving their academic and social-emotional outcomes.

In the current study, I found that the most reliable instrument used to measure teacher ratings of relationships with students in kindergarten through third grade (*Student-Teacher Relationship Scale, STRS*; Pianta, 2001) could be revised for teachers who work with middle school students who exhibit emotional and behavioral difficulties (*Student-Teacher Relationship Scale – Revised Teacher, STRS-RT*). I also found that the same factors used in the *STRS-RT* could also be fashioned to measure

middle school students with emotional and behavioral difficulties ratings of relationships (*Student-Teacher Relationship Scale-Student Version, STRS-SV*).

In answer to my first research question about the level of agreement between teacher and student ratings of relationship quality at pre-treatment, I found that teachers and students had similar views of the relational dimensions (conflict, closeness, dependency) and primarily had agreement on the quality of their relationships, for better or worse. That is to say, I determined that teachers and students are able to recognize and agree if their relationship is high or low quality. Depending on whether teacher and student agreement of relational quality was high or low indicates specific next steps. Agreement that relational quality is high suggests students may be more willing to accept knowledge (social capital) making them more successful at academic social-emotional skills. Overtime, such success may allow those students to integrate into mainstream settings. Those who do not see the relationship the same way or have low quality relationships may need more emphasis on relational interventions prior to or concurrent with specific social skill interventions, such as *Take CHARGE!*.

This finding is important for two reasons. First, determining mutual agreement is important, as it indicates the level of shared norms, beliefs and values between teachers and students, thus establishing a foundation for interventions designed to improve academic and social-emotional outcomes. Second, for those students who believe their relationship is poor, teachers would then be able to select targeted interventions to improve their relationships. What is unknown is whether the agreement between teachers and students across the three dimensions were high or low quality.

Based on my analysis, students and teachers who were exposed to the curriculum had no significant change in the relational dimensions (conflict, closeness, dependency) when compared to the control group. With respect to the social problem-solving curriculum, *Take CHARGE!*, teachers in the treatment group were able to improve student knowledge of problem solving. I found no relationship between students' *Knowledge Questionnaire* scores and teacher ratings of relationship quality. Additionally, there was no difference between groups on student approaches to problem solving. Based on teacher reports and observational data, teachers implemented *Take CHARGE!* with a high degree of fidelity. Overall, they reported that *Take CHARGE!* is a socially valid curriculum for middle school students with EBD. I will further discuss these findings, organized by the order of research questions, as well as considerations about study limitations, and implications for research and practice.

Discussion

At Pre-Treatment, What is the Level of Agreement Between Teacher and Student Ratings of Relationship Quality?

Given the bi-directional nature of relationships, it is promising that my findings from this study indicate teachers and students hold similar conceptual views overall on the dimensions of conflict, closeness and dependency and, whether high or low, agree primarily on the quality of those relationships. That is to say, since factors such as the degree of conflict, closeness and dependency are dimensions by which teachers and students gauge the quality of relationships, then agreement on relationship quality establishes, what social capital theorists believe, is a level of shared norms, beliefs and values about relationship quality (Coleman, 1988; Fukuyama, 1999; Putnam, 2000). For those students and teachers who rated the overall relationship as high quality, such

mutual agreement may promote actions that benefit a teacher-student dyad such as greater trust, fulfillment of obligation, and lead to higher quality relationships with others. Such agreement may allow teachers to create, deliver, and bestow social capital, identified as a significant resource not readily available to students with EBD (Runyan et al., 1998; Trainor, 2008). Next, teachers are able to identify their students' perception of relationship quality, and based on the degree of conflict, closeness and dependency, adjust their overall approach to achieve the correct balance within the relational dimensions.

Fukuyama (1999) suggests that when individuals hold similar values or norms, such as agreed-upon relational quality, there is greater opportunity for cooperation. For teachers who work with students exhibiting EBD who agree on a high quality relationship, students may be more likely to accept and internalize academic and social-emotional instruction. More importantly, teachers will be able to identify students who perceive the relationship as poor and then provide increased levels of emotional and instructional supports (e.g., Stuhlman & Pianta, 2001) to improve interactions. Ultimately, and after repeated successful social interactions and improved behavior, students in self-contained classrooms may accomplish the goal of integration into mainstream settings.

Instrument Considerations

This study supports previous research findings in that conflict, closeness and dependency remain reliable factors from a teacher's perspective within teacher-student relationships for young children (e.g., Birch & Ladd, 1998; Hamre & Pianta, 2001; Pianta & Stuhlman, 2004). My study extends the work of these researchers by suggesting that the three dimensions are reliable factors for measuring teacher ratings of relationships

with older students. Further, as some researchers attempted to measure relationship quality from the student perspective using similar constructs (e.g., Birch & Ladd, 1998; Lynch & Cicchetti, 1992), analysis from this study suggests that future studies could measure the dimensions of teacher-student relationships, bi-directionally, using instruments that tap the same factors.

Teacher-student relationship research has typically been conducted by measuring the teacher perspective of relationship quality (e.g., *STRS*) and correlating the teacher ratings with various student measures such as teacher reports on behavior ratings (e.g., *Achenbach; Child Behavior Scale, CBS*), student reports on school liking (e.g., *School Liking and Avoidance Questionnaire, SLAQ*), and student achievement (e.g., *Wide Range Achievement Test –Revised, WRAT-R*). Results from these methods generally predicted a student’s future academic, social, and emotional outcomes. Researchers have concluded that teacher-student relationships were a significant factor in a child’s academic and social-emotional growth and higher quality relationships buffered against other risk factors (e.g., Birch & Ladd, 1998; Hamre & Pianta, 2001; Ladd & Burgess, 2001; Pianta, et al., 2003; Pianta & Stuhlman, 2004). What I found in my study, however, extends the literature related to teacher-student relationships by including a student measure that parallels the primary teacher measure used within the majority of teacher-student relationships studies.

Does *Take CHARGE!* Affect the Quality of Teacher-Student Relationships in Self-contained Classrooms as Measured by Teacher Ratings of Relationship Quality?

In this study, teachers rated relationship quality on the dimensions of conflict, closeness and dependency with their students using the *STRS-RT*. There was no statistically significant change in relationship quality for teachers who administered *Take*

CHARGE! when compared to the control group. However, due to the sample size of teachers in the treatment condition ($n = 5$), consideration of feedback from social validity questionnaires, and treatment teachers' mean ratings suggests further investigation. Examination of treatment teachers' mean scores shows a greater positive trend towards closer relationships compared to control teachers. Such a positive trend, coupled with the fact that teachers reported the curriculum improved daily interactions with students based on the *Curriculum Questionnaire* indicates there is some interesting evidence suggesting that teacher ratings of relationship quality may have improved.

Within this study, *Take CHARGE!* had no statistically significant effect on relationship quality. Perhaps, over time, the lack of change between groups may have differed. As described in the literature, positive, trusting, reciprocal interactions – over time- may lead to higher quality relationships (e.g., Brendtro, Brokenleg, & Van Bockern, 2002; Long, Morse, Fecser, & Newman, 2007; Pianta, 2000; Vitto, 2003). There is little to no research, however, on what types of interventions improve relationship quality and the time needed to show effects (Murray & Malmgren, 2005). Perhaps coordinated effort across multiple teachers year to year is needed, as has been suggested by Pianta (1999).

Many researchers have suggested that instructing students in social problem-solving skills requires sufficient time to take effect (Elias & Clabby, 1992; Hinshaw, 2002), so there may be latent effects of *Take CHARGE!*. A teacher may not notice a significant reduction in student conflict or aggression until some time has passed after treatment. This is particularly true for students with EBD, who have more severe externalizing and internalizing emotional and behavioral difficulties (Kauffman &

Landrum, 2009). According to Lane, Wehby, and Barton-Arwood (2005), students with EBD have concomitant learning difficulties that include reading comprehension, critical thinking, and reflective thinking difficulties. Such social-emotional and learning challenges suggest that these students need more time to apply any learned skill and the teachers need time to recognize changed behavior. It is possible that once a teacher recognizes behavior change, relationship quality ratings would increase.

Does *Take CHARGE!* Affect the Quality of Teacher-Student Relationships in Self-contained Classrooms as Measured by Student Ratings of Relationship Quality?

Students rated relationship quality with their teachers using the *STRS-SV*, containing the relational dimensions of conflict, closeness and dependency. There was no statistically significant difference in ratings of relationship quality for students in treatment and control conditions; however, there are some considerations and potential implications.

First, given the multiple factors necessary for maintaining healthy, high quality relationships, the least of which is time to mature, and that little research exists on the time needed to improve relational quality (Murray & Malmgren, 2005), I wanted to determine whether a social problem-solving intervention, conducted over approximately four months, would then improve student ratings of relational quality. Considering that students in the treatment condition had a consistent trend in lower mean ratings of conflict and higher closeness ratings with their teachers compared to control, it is plausible to consider that over time, the intervention could continue to improve the quality of interactions and overall relationship quality. This is particularly important since even small, positive changes in the quality of teacher-student relationships have been

shown to improve academic and social-emotional outcomes (O'Connor & McCartney, 2007).

Second, from a theoretical perspective, it may be the case that students needed more time to recognize the benefits of human capital (Coleman, 1988) provided by teachers. That is to say, teachers provided *Take CHARGE!* as a resource to render problematic social interactions into non-problematic social interactions. If students were not able to fully incorporate the knowledge they received and develop the tenets required to promulgate social capital, then there may not have been a shift in the relational dimensions of conflict, closeness and dependency towards improved relational quality.

Third, and somewhat related, many researchers suggest that students who receive instruction in social and emotional skills display late onset effects (Elias & Clabby, 1992), perhaps explaining no significant difference between treatment and control student ratings. What could exist, however, is a delayed curricular impact on relational quality. That is to say, although a student may indeed possess the knowledge of a particular skill, he or she may not be able to demonstrate the skill effectively without time to practice, succeed/fail, and master. This supports D'Zurilla and colleagues in that social problem-solving knowledge requires knowing problem-solving concepts and solution implementation. A student may know solutions for a social problem, however, how a solution is enacted during a problematic social interaction is a skill set which develops later on (D'Zurilla, Nezu, & Maydeu-Olivares, 2004). It may be the case that late onset effects may have a direct influence on altering student ratings of relationship quality.

For students with EBD, the notion of late onset effects is particularly important, as many of their characteristics include impulsive and irrational tendencies. Such characteristics may impede the premise underlying the cognitive behavioral approach within *Take CHARGE!*, in that the behavioral reward may not be experienced during the learning trial, reducing the chance that the student would try the social problem-solving skill. The combination of delayed curricular effects and student characteristics may confound the impact on student ratings of relational quality.

Finally, as suggested by researchers, ‘teacher fit’ or how a teacher delivers the curriculum may have effected how a student was able to receive and then enact the information within the curriculum. Factors such as ethnicity or gender (Murray, et al., 2008; Saft & Pianta, 2001), as well as foundational norms and beliefs (e.g., Carr et al., 1991; Wehby et al., 1995), contribute to the effectiveness of a teacher’s curricular delivery (Pianta, et al., 2008). Although not measured within this study, such factors may influence how students receive *Take CHARGE!* and perceive the quality of their relationships with teachers.

Does *Take CHARGE!* Affect Student Knowledge of Social Problem-Solving Skills?

Students were assessed on knowledge of social problem solving using the *KQ*, an assessment of problem-solving concepts and skills. There was a statistically significant effect on knowledge in social problem solving for students in the treatment group when compared to control. There are promising implications for the *Take CHARGE!* curriculum. Specifically, this finding demonstrates that middle school students with emotional and behavioral difficulties can learn concepts within the curriculum, creating shared knowledge between teachers and students during social interactions. This is particularly important, as shared knowledge is foundational for building trusting

relationships and the provision of social capital (Coleman, 1988; Fukuyama, 1999; Putnam, 1999).

The knowledge we take from others we then apply as a skill set to situations. When applied correctly, we are rewarded (Bandura, 1969; 1997) and are more likely to try the application of skills again. For social interactions, most individuals prefer them to be non-problematic and meet specific needs. As someone tries new knowledge, interacts, and is pleased with the outcome, they are more likely to repeat the skills required to conduct such interactions. When generalized across contexts, along with knowing other skills, individuals are seen as socially competent. Theoretically, from a social capital perspective, as social competence is perceived by an individual, they are more willing to trust and reciprocally interact, which results in common norms, beliefs and values within a relationship (Coleman, 1988; Fukuyama, 1999; Putnam, 1999). As such theoretical characteristics occur across multiple relationships, the likelihood of building and benefiting from a broader range of social networks increases. Social networks provide the human capital needed for greater success in life. To internally compensate for their disability, students with EBD need to begin acquiring the knowledge needed to form individual relationships and build positive social networks. Teachers within this study were able to provide the foundational knowledge needed that served as a model for forming positive interactions, leading to meaningful, positive relationships, and expanding social networks.

Foundational knowledge is a requisite skill to the application and future attempts at social problem solving. Successful attempts at complex problem-solving skills and the receipt of subsequent reinforcement are the next steps necessary for the treatment

students within this study to impact fully their approaches to problem solving and improve relational quality. Given the characteristics of the students within this study (e.g., aggression, anger, distorted perceptions), the fact that students demonstrated the ability to learn social problem-solving concepts equips them with the tools to render future problematic social situations non problematic. Moreover, considering the high rate of problematic situations within self-contained classrooms for students with emotional and behavioral difficulties, a student with the requisite knowledge on how to solve social problems has a plethora of opportunities to be reinforced when successfully using their new skill results in desired, non-problematic social situations.

Shared knowledge of social problem solving creates an agreed upon set of rules between teachers and students for reciprocal social interactions. According to social capital literature (Coleman, 1988; Croninger & Lee, 2001; Crosnoe et al., 2004; Ferguson, 2006; Fukuyama, 1999; Furstenberg & Hughes, 1995; Korterling & Braziel, 2002; Putnam, 1999; Teachman, Paasch, & Carver, 1996), knowledge of such interactions contribute to norms within self-contained classrooms, thus creating an atmosphere for trust, improved relationships, and the promulgation of social capital.

This study also supports previous efficacy literature wherein trained teachers are able to successfully deliver the knowledge within a curriculum versus effectiveness studies where researchers deliver a curriculum to determine its effectiveness (Quinn et al., 1999). This study also extends the literature by offering further support that teachers who deliver a classroom-based curriculum can improve knowledge of problem solving for students with EBD.

What is the Post-Treatment Correlation Between Students' KQ Scores and Teacher Ratings of Relationship Quality for Each Condition?

There was no statistically significant change detected with respect to teacher ratings of relationship quality, hence there was no correlation to student knowledge. Due to both teachers' and students' exposure to the curriculum, I hypothesized that knowing how to solve social problems would adjust the degree of conflict, closeness and dependency in desired directions resulting in improved perception of relationship quality. Although this was not the case, greater numbers of teachers may have yielded different outcomes. Perhaps larger power and even small effects may provide greater evidence to support the concept that teachers using *Take CHARGE!* would be able to improve relationships. Examination of the social validity questionnaire does suggest that teachers noticed a change in student behavior and use of social problem-solving strategies. Given the evidence that relationships are foundational for improving academic and social outcomes for students who experience emotional and behavioral difficulties (Birch & Ladd, 1997; Howes, Hamilton, Matheson, 1994, Pianta, Steinberg, Rollins, 1995; Ryan, Pierce, Mooney, 2008), further investigation into curricula that assist with establishing a foundation for quality relationships is warranted.

Does *Take CHARGE!* Affect Student Approaches to Problem Solving?

Students were assessed on approaches to social problem solving using the *SPSI-R*, an assessment of approaches to problem solving. There was no statistically significant effect on approaches to social problem solving for students in the treatment group when compared to control; however, there are some considerations and potential implications.

First, because students within this study were selected by their placement in self-contained EBD classrooms, my findings are consistent with some researchers who suggest that as a general rule, social skills treatment may create greater unintended and adverse effects when aggregating deviant youth for treatment (Arnold & Hughes, 1999). Their hypothesis suggests that due to the power of deviant peer association in concentrated settings, such as self-contained EBD classrooms, the desire to please peers, fit in and act like others may overpower the pro-social skills offered through any treatment. According to Arnold and Hughes, often the pro-social behaviors worsen, become more aggressive, and delinquent. These researchers caution against potential undesired effects grouping at-risk students, such as students with EBD, together for treatment. Although the authors do not specifically suggest social problem-solving interventions and there are other powerful factors at play, their findings should be considered for future studies as a possible explanation for lack of desired effect.

Second, from a social capital perspective, perhaps students would rather trust, reciprocally invest, bond and embrace the norms and values of their peers instead of shifting to the pro-social intervention being offered (Coleman, 1988; Fukuyama, 1999; Putnam, 1999). Dodge (1986) corroborates this theoretical perspective by suggesting that aggressive students, who are typically rejected in regular education settings, are less rejected in settings with high concentrations of aggressive students as is the case in self-contained EBD classrooms.

Third, with respect to social problem solving as a specific social skill, others have found positive results (CPPRG, 1999; 2004; Quinn et al., 1999; Smith, Graber, & Daunic, 2009; Walker, Colvin, & Ramsey, 1995) in the amelioration of behaviors such

as aggression and disruption, decreasing hyperactivity/impulsivity, and strengthening pro-social responses (Bennett & Gibbons, 2000; Lochman & Wells, 2004; McCart, Priester, Davies & Azen, 2006; Robinson, Smith, & Miller, 2002; Robinson, Smith, Miller, & Brownell, 1999; Wilson, Lipsey, & Derzon, 2003). Although empirical evidence about proximal and distal benefits of instruction in social problem solving for students with EBD is limited, evidence of effectiveness exists for students who are at-risk of developing a disorder (CPPRG, 1999; 2004; Smith, Graber, & Daunic, 2009; Walker, Colvin, & Ramsey, 1995), suggesting students with EBD could benefit. Further studies should continue to investigate proximal benefits such as improved interactions and distal benefits such as improved relational quality.

Fourth, length of intervention and times of measurement may play a role in a lack of effect. Although students within this study did demonstrate a positive effect in knowledge of the *Take CHARGE!* social problem-solving steps, and given that many students have concomitant learning disabilities, more time may be needed to see effects with solution implementation, as suggested by D’Zurilla, Nezu, and Maydeu-Olivares (2004). Further, as teachers were recently instructed in problem-solving concepts and strategies, and demonstrated fidelity of treatment, perhaps other dimensions of fidelity were not measured. For example, a teacher’s mastery of content for effective delivery that requires a significant period of time to master (Borko & Putnam, 1995) may play a part in effective treatment.

Fifth, from a measurement perspective, my anecdotal evidence suggests the length, complexity of content, and readability of the *SPSI-R* create some issues. The length of this instrument may affect the validity of use for this population based on my

experience administering the measure and from the teachers' and paraprofessionals' feedback. Based on my observation, it seemed many students questioned the meaning of the sentences and words, requiring regular explanation from paraprofessionals, teachers and myself. After administration of the instrument, many adults mentioned the students did not understand questions and that it took too long. Another variable is that many students with EBD also have reading disabilities, making it difficult perhaps to complete lengthy rating scales. Further, the understanding of questions requires reflection and a conceptual base likely lacking with the population in this study. Future research should explore methods to improve the *SPSI-R* for this population.

Finally, other interventions should be explored, as use of only one intervention may not bring about desired effects of quality relationships for students with EBD (Elias & Tobias, 1996). Studies including CBI and a variety of other intervention approaches such as mentoring programs, group therapy, and therapeutic settings may improve their social-emotional and academic outcomes, and expand positive social networks. Such approaches may be essential when including students with EBD in less restrictive settings. Although Arnold and Hughes (1999) caution against providing interventions to students in categorically segregated settings, such as self-contained EBD classrooms, the fact remains that many students continue to be placed in restrictive settings (Kauffman & Landrum, 2009). For students to successfully move into the academic mainstream they must be provided with the appropriate skills, or they will remain in more restrictive settings, further isolating themselves from positive social networks.

Limitations

Interpretation of the results from this study is limited by several factors. First, the sample size of teachers limited the power to detect any causal relationships between

the curriculum and relationship quality. Next, my analysis examined overall group effect; however, it did not explore individual differences across students and teachers (e.g., attendance, race, referrals, age, etc.). Although overall group equivalence was established, students in the treatment group had a greater number of fifth and ninth graders when compared to the control, which may have some influence on experimental effects. When considering features of study design, treatment teachers implemented the curriculum without external support from school personnel and families. With respect to agreement on relational quality between teachers and students, determining what is the correct level of agreement for fostering high quality relationships is undetermined. From an instrumentation perspective, I established reliability regarding the *STRS-SV* and *RT*; however, I did not examine the validity of these measures. Additionally, the factors and validity of the *SPSI-R* may require some revisions to the instrument to accurately measure how the population within this study approaches problem solving. In sum, use of interpretations within this study for evaluation of curriculum effects on student-teacher relationships and student problem solving should be used with caution, due to the initial stages of this type of research.

Implications for Research

The results of the current study provide several areas for future research. First, researchers should access a larger population of teachers and students similar to those included in this study. Greater numbers of participants would allow researchers to (a) increase the power to detect any curricular effect on social problem solving, (b) further understand the reliability and validity of measures, and (c) detect whether a social problem-solving curriculum, like *Take CHARGE!*, contributes to improved relationship quality.

Second, I examined the impact of a pure social problem-solving curriculum on relational quality between teachers and students with EBD. Although *Take CHARGE!* contains components known to enhance quality relationships, such as emotional and instructional support in problematic situations, adding components to the curriculum that directly target the relational dimensions (conflict, closeness, dependency) may increase overall relational quality. Although some *Take CHARGE!* instruction aligned with the relational dimensions such as open communication, trust, involvement, and responsiveness, its true focus was not in these areas. Future studies may chose to modify the curriculum and training to incorporate both social problem-solving concepts and highlight specific strategies to improve conflict, closeness and dependency. Such modifications to this study may address the unique needs of students with EBD, by providing them with a model to reduce problematic interactions and improve social relationships. This multi-pronged approach may allow students with EBD to access positive social networks that provide access to social capital.

Third, as suggested by Arnold and Hughes (1999), future studies may chose to select students with EBD in mainstream and self-contained settings to test for differential effects. Such a comparison may allow researchers to tease out potentially unintended effects of grouping students with a high concentration of undesired behaviors together as compared to students who have greater access to peer models of pro-social behaviors. Although power is a limitation within this study, confounding effects such as deviant peer affiliation (negative social networks) may outweigh impact of the teacher, positive change in the relational dimensions, and curriculum. From a social capital perspective, youth who share similar knowledge, norms, attitudes, and

beliefs have a greater likelihood to trust and associate. According to Dishion and colleagues (Dishion, Patterson, & Griesler, 1994; Dishion, Patterson, Stoolmiller, & Skinner, 1991), the processes by which early adolescents seek out peer groups that reciprocally match their own beliefs and norms subsequently promote similar norms and beliefs. The strength of this potentially negative peer group association may likely reduce the acceptance of human capital from teachers.

Fourth, as suggested by Chen (1988) and others (Elias, Zins, Graczyk, & Weissberg, 2003), considerations of treatment as prescribed, treatment as received, or treatment modified should be considered. Although treatment fidelity measures used within this study demonstrated that teachers could follow the curriculum as prescribed, the quality of delivery from the teacher as well as how the student received the curriculum were not measured. Elias and colleagues offer several factors to explain why teacher delivery may not adequately predict a student's skill acquisition and use such as imprecise outcome measures, emphasis on academic performance, and contextual factors such as student history. Perhaps the fact that *Take CHARGE!* was implemented by teachers, to the exclusion of support by other school personnel and parents, may explain no treatment effects. Future researchers may chose to involve parents and other school professionals in trainings to extend, reinforce and assist with generalization of the concepts provided within the curriculum.

Next, those interested in discovering more about how students with emotional and behavioral difficulties approach problem solving should evaluate the reliability and validity of the *SPSI-R* and potentially modify the questions. Moreover, researchers may chose to design an instrument that assesses approaches to problem solving as

provided within the *Take CHARGE!* curriculum. Finally, future researchers should replicate this study, extend the time of curriculum implementation, and conduct follow up measures.

Finally, the use of different methodologies such as single-subject and qualitative research would provide differing and supporting perspectives on the influence of a social problem-solving curriculum on teacher-student relationships. For example, methodologies such as single subject could target each interaction within self-contained classrooms during social problem-solving instruction for observable and subtle change in the ratio of positive interactions that contribute to relationship quality. Qualitatively, researchers could gain insight into the process of internalization of problem-solving skills and how those skills generalize to new and novel settings. Finally, extending this study to include measuring change in peer perception of teacher-student relationships would also contribute to what is known about teacher-student relationships.

Implications for Practice

There are several implications for teachers (both special and regular education) based on the findings of this study. An analysis of pre-measures indicates that teachers and students agreed on the quality of their relationship as well as particular dimensions within a relationship, therefore, teachers should consciously consider the relational dimensions during interactions to improve the quality of relationships. Because teachers primarily contribute to the classroom atmosphere (Kounin, 1970; Pianta, 2000; Pianta, et al., 2008; Wang, Haertel, & Walberg, 1997) by including emotional and instructional supports, the ability to evaluate and adjust individual interactions that promote the ideal degree of conflict, closeness and dependency will likely create higher quality relationships. The more teachers and students agree upon the quality of relationships,

the stronger the foundation for initiating implementation of relationship-driven interventions. By understanding the degree of conflict, closeness and dependency, a teacher can gauge the quality of the relationship. The degree of conflict, closeness and dependency between teachers and students influence the classroom environment, particularly the related elements of emotional and instructional outcomes. Teachers who gauge their interactions and consciously adjust their behavior toward their students while implementing interventions and using the appropriate degrees of low conflict, high perceptions of closeness, and appropriate degree of dependence contribute to an environment conducive for meaningful relationships.

Although *Take CHARGE!* had no effect on the relational dimensions, the literature I reviewed provides ample evidence indicating that a teacher's consideration and adjustment of the relational dimensions effects the quality of relationships. What is still unknown is what interventions contain components that also effect relational quality. Based on the success of an intervention targeting successful social relationships in self-contained EBD classrooms, students will likely improve their behavior, move to mainstream academic settings, access positive social networks, and increase access to social capital.

Based on responses to social validity surveys completed by teachers, students seemingly benefited from the use of role-plays within the curriculum. Teachers wishing to enhance any social-emotional curricula that does not include role plays may chose to design age and developmentally appropriate role-plays to extend concepts within the lessons, such as those provided within the *Take CHARGE!* curriculum. As found in the social validity data, teachers reported the effectiveness of role-plays during the

instruction of pro-social behaviors such as social problem solving. Many researchers have documented the effectiveness of role-plays in social-emotional curricula (e.g., Barrios & O'Dell, 1998, Ladd, 1981).

Teachers who wish to emphasize curricula that improve the social and emotional well being of their students, such as *Take CHARGE!*, will need the support of other school faculty (i.e., administration, counselors). School administrators who support teachers who elect to nurture students by providing social and emotional supports, such as an emphasis on teacher-student relationships and long-term curricular supports, should emphasize components of the curriculum across the school that benefit not only targeted students, but also the entire school culture (Elias, Zins, Graczyk, & Weissberg, 2003; Pianta & Walsh, 1996). Maintaining such a culture throughout the school, year to year, is particularly important for students with EBD whose social competence deficits are severe and require long-term intervention (Kazdin, 1995). According to Maag (2005), teaching students skills that improve social interactions and improve relationships is equivalent to academic instruction, in that neither should be terminated after a few months of instruction.

There are also several implications for those who train teachers on curricular implementation. First, during training, explicitly suggest that teachers internalize and apply the models used in the curriculum for rendering conflictive situations within their own personal and professional lives. Through being reinforced for neutralizing problematic situations within their own lives, there is a greater likelihood they will be able to share that authentic knowledge with their students. Next, given the time needed to internalize and become proficient at problem solving, teachers will have the content

mastery, which in turn may improve student outcomes during distal curricular applications. This is in support of Stuhlman and Pianta (2001), who suggest that teachers could use strategies to regulate emotions when working with at-risk students, such as students with EBD.

APPENDIX A
STUDENT-TEACHER RELATIONSHIP SCALE – REVISED TEACHER

**Student-Teacher Relationship Scale
Revised Teacher Response Form**

STRS-RT

Teacher's Name _____ Gender: M F Ethnicity _____ Date: _____

Student's Name _____ Grade _____ Gender: M F
Age _____ Ethnicity _____

Please reflect on the degree to which each of the following statements currently applies to your relationship with this student. Using the point scale below, CIRCLE the appropriate number for each item. If you need to change your answer, make an X through the incorrect and circle the correct answer.

	1	2	3	4	5
	Definitely does not apply	Does not really apply	Neutral, not sure	Applies somewhat	Definitely applies
1. I share a friendly, warm relationship with this student.	1	2	3	4	5
2. This student and I always seem to be struggling with each other.	1	2	3	4	5
3. If upset, this student will seek advice from me.	1	2	3	4	5
4. This student is uncomfortable when I am physically near or in close contact with him/her.	1	2	3	4	5
5. This student values his/her relationship with me.	1	2	3	4	5
6. This student appears hurt or embarrassed when I correct him/her.	1	2	3	4	5
7. When I praise this student, he/she beams with pride.	1	2	3	4	5
8. This student spontaneously shares information about himself/herself.	1	2	3	4	5
9. This student is overly dependent on me.	1	2	3	4	5
10. This student easily becomes angry with me.	1	2	3	4	5
11. This student tries to please me.	1	2	3	4	5
12. This student feels that I treat him/her unfairly.	1	2	3	4	5
13. This student asks for my help when he/she really does not need help.	1	2	3	4	5
14. It is easy to understand what this student is feeling.	1	2	3	4	5
15. I often openly share my feelings with this student.	1	2	3	4	5
16. This student sees me as a source of punishment and criticism.	1	2	3	4	5
17. This student expresses hurt or jealousy when I spend time with other students.	1	2	3	4	5
18. This student remains angry or is resistant after being disciplined.	1	2	3	4	5
19. When this student is misbehaving, he/she responds well to my tone of voice.	1	2	3	4	5
20. Dealing with this student drains my energy.	1	2	3	4	5
21. I've noticed this student copying my behavior or ways of doing things.	1	2	3	4	5
22. When this student is in a bad mood, I know we're in for a long and difficult day.	1	2	3	4	5
23. This student's feelings towards me can be unpredictable or can change suddenly.	1	2	3	4	5
24. Despite my best efforts, I'm uncomfortable with how this student and I get along.	1	2	3	4	5
25. This student demonstrates undesirable behavior when he/she wants something from me.	1	2	3	4	5
26. This student is sneaky or manipulative with me.	1	2	3	4	5
27. This student openly shares his/her feelings with me.	1	2	3	4	5
28. My interactions with this student make me feel effective and confident.	1	2	3	4	5

APPENDIX B
STUDENT-TEACHER RELATIONSHIP SCALE –STUDENT VERSION

**Student-Teacher Relationship Scale
Student Version Response Form**

STRS-SV

Student's Name _____ Grade _____ Gender: M F
Age _____ Race: _____ Date: _____

Teachers's Name _____ Gender: M F Race _____

Please choose the number that best describes how each of the following statements applies to your current relationship with your teacher. Using the descriptions for each number below, CIRCLE the number that best fits each item. If you need to change your answer, make an X through the incorrect answer and circle the new correct answer.

	1	2	3	4	5
Definitely does not apply					
Does not really apply					
Neutral, not sure					
Applies somewhat					
Definitely applies					
1. I have a friendly, warm relationship with my teacher.	1	2	3	4	5
2. My teacher and I always seem to be struggling with each other.	1	2	3	4	5
3. If I am upset, I will seek advise from my teacher.	1	2	3	4	5
4. I am uncomfortable when I am physically near or in close contact with my teacher.	1	2	3	4	5
5. I value my relationship with my teacher.	1	2	3	4	5
6. I often feel hurt or embarrassed when I am corrected by my teacher.	1	2	3	4	5
7. When my teacher praises me, I feel proud.	1	2	3	4	5
8. I like to share information about myself with my teacher.	1	2	3	4	5
9. I need a lot of help from my teacher.	1	2	3	4	5
10. I often become angry with my teacher.	1	2	3	4	5
11. I like to please my teacher.	1	2	3	4	5
12. I feel that my teacher treats me unfairly.	1	2	3	4	5
13. Even when I really don't need help, I still like to ask for help from my teacher.	1	2	3	4	5
14. It is easy to understand what my teacher is feeling.	1	2	3	4	5
15. I openly share my feelings with my teacher.	1	2	3	4	5
16. I get in trouble and I am told I am wrong a lot from my teacher.	1	2	3	4	5
17. Sometimes when my teacher spends time with other students, I feel hurt or jealous.	1	2	3	4	5
18. I stay angry or I don't like to do what my teacher says after getting in trouble.	1	2	3	4	5
19. If I am misbehaving I can tell by my teachers voice if he/she is unhappy with me.	1	2	3	4	5
20. I get tired of dealing with my teacher.	1	2	3	4	5
21. My teacher has used my ideas or suggestions.	1	2	3	4	5
22. When my teacher is in a bad mood, I know it's going to be a long and difficult day.	1	2	3	4	5
23. My teachers' feelings towards me can be hard to understand or can change suddenly.	1	2	3	4	5
24. Even though I try to get along with my teacher, we don't get along very well.	1	2	3	4	5
25. I feel my teacher acts different to me when he/she wants me to do something.	1	2	3	4	5
26. My teacher openly shares his/her feelings with me.	1	2	3	4	5
27. When I am with my teacher, I feel good and can accomplish things.	1	2	3	4	5

APPENDIX C
KNOWLEDGE QUESTIONNAIRE

KQ
PROBLEM SOLVING
WHAT DO I KNOW?

Name: _____ Date: _____ Teacher: _____

Circle the best answer to each question.

1. People usually get frustrated when they
 - a. can't have something they want.
 - b. are enraged.
 - c. are in control of their actions.
 - d. get help from someone.

2. When you are angry, what should you do first to help yourself think?
 - a. Ask the teacher what to do.
 - b. Talk to the person who made you angry.
 - c. Calm down.
 - d. Read about what to do.

3. How should you get ideas to solve a problem?
 - a. Talk the problem over with a friend.
 - b. Watch what your friends do when they are angry.
 - c. Try to relax and not think about the problem.
 - d. Think about who caused the problem.

4. When picking the best solution to a problem, you should think about
 - a. how angry you are.
 - b. what other people might think of you.
 - c. what is most likely to happen.
 - d. who is right or wrong.

5. After you pick a solution to a problem and try it out, you should
 - a. just forget about the solution if it doesn't work.
 - b. tell all your friends how the solution worked.
 - c. not worry about whether the solution worked.
 - d. praise yourself if the solution works well.

6. Students who have problems
 - a. should always seek help from someone else.
 - b. can learn skills to help solve their problems.
 - c. most likely caused the problems themselves.
 - d. should let adults handle the problems.

7. When you are angry, the best way to calm down is to
 - a. talk to your friends.
 - b. use self-talk.
 - c. decide how to solve your problems.
 - d. be patient.

8. A goal is
 - a. what other people want you to do.
 - b. usually a barrier.
 - c. caused by anger.
 - d. something you want to happen.

9. When you are enraged, you usually
 - a. lose control.
 - b. are irritated.
 - c. think better.
 - d. solve your problems better.

10. When people are frustrated, they usually want to
 - a. pay attention.
 - b. give up.
 - c. go home.
 - d. solve their problems.

11. A problem always has two parts:
 - a. a right and a wrong answer.
 - b. anger and frustration.
 - c. a beginning and an end.
 - d. a goal and a barrier.

Read each question carefully and follow the directions given.

12. Check all the things that can happen when you know how to solve your problems:

- You will make all A's.
- You will often get what you want.
- You will often get what you need.
- You will be in control of your actions.
- You will never be angry with your friends.

13. Check all the ways your body may feel when you are angry:

- Your stomach feels sick.
- Your feet hurt.
- Your heart beats fast.
- You feel tired.
- Your face feels hot.

14. Check all the things that are true:

- Barriers keep you from getting what you want.
- Barriers should be ignored.
- Barriers can cause problems.
- Barriers are not a problem.
- Barriers show you how to solve problems.

15. What are the three levels of anger, from lowest to highest?

1. _____ (lowest)
2. _____
3. _____ (highest)

16. List the steps you would take to solve a problem.

1.

2.

3.

4.

5.

6.

APPENDIX D
SOCIAL PROBLEM SOLVING INVENTORY-REVISED

SPSI-R

Name: _____ School: _____

Today's Date: _____ Teacher: _____

Instructions

Below are some ways you might think, feel, and act when faced with a **problem**. We are **not** talking about situations that you handle successfully every day. In this questionnaire, a **problem** is something important in your life that bothers you a lot, but you don't immediately know how to make it better or stop it from bothering you so much. The problem could be something about yourself (such as your thoughts, feelings, behavior, health, or how you look), your relationships with other people (such as your family, friends, or teacher), or your surroundings and the things that you own (such as your house, clothes, or games).

Please read each statement carefully and choose one of the numbers below that shows how much the statement is true about you. Think about how you **usually** think, feel, and act when you are faced with important problems in your life **these days**. Circle the number you choose for each statement.

	Not at all true	Slightly true	Fairly true	Very true	Extremely true
1. I worry too much about my problems instead of trying to solve them.	1	2	3	4	5
2. I feel afraid when I have important problems.	1	2	3	4	5
3. When making decisions, I do not carefully think about all the things I could do.	1	2	3	4	5
4. When making decisions, I do not think about the effects that what I might do could have on others.	1	2	3	4	5
5. When solving problems, I think of different ideas and combine some of them to make a better solution.	1	2	3	4	5
6. I feel unsure of myself when making important decisions.	1	2	3	4	5
7. When my first attempt to solve a problem fails, I believe if I don't give up, I will eventually succeed.	1	2	3	4	5
8. When I have a problem, I act on the first idea that comes to me.	1	2	3	4	5
9. I believe that my problems can be solved.	1	2	3	4	5
10. I wait to see if a problem goes away before trying to solve it myself.	1	2	3	4	5
11. When solving problems, I try to find out what is keeping me from getting what I want.	1	2	3	4	5

	Not at all true	Slightly true	Fairly true	Very true	Extremely true
12. When my first efforts to solve a problem fail, I get very frustrated.	1	2	3	4	5
13. I doubt that I can solve difficult problems no matter how hard I try.	1	2	3	4	5
14. I put off solving problems for as long as possible.	1	2	3	4	5
15. After I've decided what to do, I do not take the time to check how well it worked.	1	2	3	4	5
16. I go out of my way to avoid dealing with problems.	1	2	3	4	5
17. Difficult problems make me very upset.	1	2	3	4	5
18. When making decisions, I try to predict the good and bad things that would happen for each solution.	1	2	3	4	5
19. I like to deal with problems as soon as possible.	1	2	3	4	5
20. I try to be creative and think of original solutions to problems.	1	2	3	4	5
21. When solving problems, I go with the first good idea that comes to mind.	1	2	3	4	5
22. When solving problems, I cannot think of many ideas.	1	2	3	4	5
23. I avoid thinking about problems instead of trying to solve them.	1	2	3	4	5
24. When making decisions, I think about the short-term and long-term outcomes of each solution.	1	2	3	4	5
25. After carrying out a solution, I check to see what went right and what went wrong.	1	2	3	4	5
26. After trying to solve a problem, I check to see how much better I feel.	1	2	3	4	5
27. I practice a solution before carrying it out to improve my chances of success.	1	2	3	4	5
28. I believe I can solve difficult problems on my own if I try hard enough.	1	2	3	4	5

	Not at all true	Slightly true	Fairly true	Very true	Extremely true
29. When I have a problem, I get as many facts about it as possible.	1	2	3	4	5
30. I put off solving problems until it is too late to do anything about them.	1	2	3	4	5
31. I spend more time avoiding my problems than solving them.	1	2	3	4	5
32. When I have a problem, I get so upset that I cannot think clearly.	1	2	3	4	5
33. Before trying to solve a problem, I set a goal so I know exactly where I am going.	1	2	3	4	5
34. When making decisions, I do not take the time to think about the good and bad things that could happen for each solution.	1	2	3	4	5
35. When I fail to solve a problem, I try to find out what went wrong and then I try again.	1	2	3	4	5
36. I hate solving problems.	1	2	3	4	5
37. After I carry out a solution, I check to see how much better the problem situation has gotten.	1	2	3	4	5
38. I try to see my problems as challenges.	1	2	3	4	5
39. When solving problems, I think of many different options.	1	2	3	4	5
40. When making decisions, I weigh the outcomes of each solution I could choose.	1	2	3	4	5
41. When I have an important problem, I get depressed and don't do anything.	1	2	3	4	5
42. I go to someone else for help in solving difficult problems.	1	2	3	4	5
43. When making decisions, I think about the effects of each solution on my feelings.	1	2	3	4	5
44. When I have a problem, I look for things around me that might be causing it.	1	2	3	4	5
45. When making decisions, I go with my "gut feeling" without thinking about what will happen.	1	2	3	4	5

	Not at all true	Slightly true	Fairly true	Very true	Extremely true
46. When making decisions, I use a system to help me pick the best solution.	1	2	3	4	5
47. When solving a problem, I keep my goal in mind at all times.	1	2	3	4	5
48. I try to look at problems in different ways before choosing a solution.	1	2	3	4	5
49. When I don't understand a problem, I try to find out more about it.	1	2	3	4	5
50. I get discouraged and depressed when my first efforts to solve a problem fail.	1	2	3	4	5
51. I do not take the time to check out why a solution did not work.	1	2	3	4	5
52. I act too quickly when making decisions.	1	2	3	4	5

APPENDIX E SOCIAL VALIDITY QUESTIONNAIRRE

Take CHARGE! Curriculum Questionnaire

NAME _____ SCHOOL _____

Directions: Please answer these questions about your recent experience teaching the *Take CHARGE!* Curriculum. Circle the number that best matches how much you agree with each item. A “5” means the HIGHEST level of agreement.

	Strongly Disagree			Strongly Agree	
1. The content of the curriculum was useful to students.	1	2	3	4	5
2. Students understood the content.	1	2	3	4	5
3. Students could relate their personal experiences to the content.	1	2	3	4	5
4. Students found the content interesting and enjoyable.	1	2	3	4	5
5. Students thought they could use the content to solve social problems.	1	2	3	4	5
6. The curriculum seemed to improve my students independent problem solving.	1	2	3	4	5
7. The curriculum concepts generated class discussion.	1	2	3	4	5
8. The curriculum was easy to use.	1	2	3	4	5
9. I completed each lesson in the time allotted.	1	2	3	4	5
10. The lessons were interesting to teach.	1	2	3	4	5
11. While teaching the curriculum, I found that my problem solving improved.	1	2	3	4	5

12. The curriculum concepts were age-appropriate for my students.	1	2	3	4	5
13. I plan to include the concepts taught in the curriculum throughout the school	1	2	3	4	5
14. The number of lessons was adequate to teach the concepts.	1	2	3	4	5
15. Teacher directions were clear and concise.	1	2	3	4	5
16. The curriculum is useful for teaching appropriate behavior.	1	2	3	4	5
17. The curriculum is useful for reducing aggressive or disruptive behavior.	1	2	3	4	5
18. The curriculum improved my students' behavior.	1	2	3	4	5
19. Grouping students for lesson activities helped their attitudes toward each other.	1	2	3	4	5
20. I would recommend the <i>Take CHARGE!</i> curriculum to other teachers.	1	2	3	4	5
21. The curriculum seemed useful for improving class-wide social interactions	1	2	3	4	5
22. I reinforced activities or concepts taught in the curriculum during other times.	1	2	3	4	5
23. Students applied learned concepts in the classroom.	1	2	3	4	5
24. Students talked about learned concepts outside of the classroom.	1	2	3	4	5
25. The lessons did not interfere with other teaching responsibilities.	1	2	3	4	5

There is great value any additional comments you might have. Please include them on the back.

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BIOGRAPHICAL SKETCH

Christopher L. Van Loan was born in New York; however, he considers himself a Floridian. Growing up from an early age on the shores of North Volusia County, Chris was always a curious child who pondered how things fit together. After graduating from Sea Breeze Senior High School, Chris completed an Associate in Arts degree from the local community college. Upon graduating with a bachelor's degree in sociology from Florida State University, he served as a volunteer in the United States Peace Corps from 1993 to 1995. Afterward Chris provided advocacy, health-education and related services to migrant farm workers along the East Coast.

These experiences led Chris to an opportunity for educating students with emotional and behavioral difficulties for eight years in therapeutic wilderness education systems ran by Eckerd Youth Alternatives. Each of these experiences provided the foundation for Chris' pedagogical, and ultimately, research underpinnings. While working as a behavioral specialist for a Gainesville, Florida school district, he obtained a master's degree in special education from the University of Florida in 2005. Later that next year, Chris pursued a doctoral degree in special education with an emphasis in emotional and behavioral disorders. During his doctoral studies, Chris worked as a grant coordinator, preparing teachers who serve students with severe disabilities, a research assistant investigating a social problem-solving curriculum, a supervisor of student teachers, and an instructor.

Chris currently lives in North Carolina where he is beginning his journey into the professoriate at Appalachian State University. He still enjoys surfing, riding motorcycles, outdoor activities, and traveling. Recently his interests have expanded to winter sports.