Contributors to Children's Academic and Social-Emotional Self-Efficacy: Examining the

Developmental Role of Teacher-Child and Parent-Child Interactions and Beliefs

By

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Abstract

This study evaluated the relationships between children's academic and social-emotional self-efficacy and teachers' and parents' relationships and interactions with children. It also examined (via self-report) four theoretical sources of self-efficacy among 47 students in Grades 2, 5, and 8, specifically mastery experiences, vicarious experiences, social persuasions, and physiological states. Using multilevel modeling as the primary statistical analysis procedure, the study's findings delineate the contributions of relationships with both parents and teachers, as well as physiological states (e.g., anxiety, stress), to students' academic and social-emotional self-efficacy development.

CHAPTER 1

REVIEW OF LITERATURE

Introduction

The primary purpose of this study was to examine the relationship between children's academic and social-emotional self-efficacy and teachers' and parents' beliefs and interactions with children. Strong self-efficacy beliefs enhance human accomplishments and personal satisfaction in many ways. High self-efficacy helps create feelings of serenity in approaching difficult tasks and activities. Conversely, people with low self-efficacy may believe that things are tougher than they really are, which contributes to stress, depression, and a narrow vision of how best to solve a problem (Bandura, 1993). As a result of these influences, self-efficacy beliefs are strong predictors of the level of accomplishment that people finally attain. Therefore, self-efficacy is a vital and crucial aspect of people's lives (Bandura, 1986, 1997).

Self-efficacy, in particular, is integral to children's success both in the academic realm as well as in their social-emotional development. When children feel capable of creating positive outcomes in these domains, they will be more likely to persevere and succeed. Increasing children's feelings of self-efficacy may lead to greater academic gains as well as healthier social interactions and emotional maturity (Bandura, 1997). Determining which factors promote children's self-efficacy at home and at school has the possibility of benefiting children by informing parenting practices and improving teacher training programs.

Studies have shown that high levels of self-efficacy are related to academic outcomes as well as social-emotional outcomes (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003). Furthermore, teachers and parents are in the unique positions to cultivate children's self-efficacy throughout their daily interactions.

According to Bandura and Barbaranelli (1996), parents' sense of academic efficacy and aspirations for their children are linked to their children's scholastic achievement through their perceived academic capabilities and aspirations. In addition, children's beliefs in their efficacy to regulate their own learning and academic attainments, in turn, contribute to scholastic achievement. The importance of social-emotional self-efficacy was highlighted in a study by Bandura et al. (2003). In this study, self-efficacy to regulate positive and negative affect was associated with high efficacy to manage one's academic development, to resist social pressures for antisocial activities, and to engage oneself with empathy in others' emotional experiences. Furthermore, a study of French schoolchildren examined the relationship between sources of self-efficacy and students' academic and self-regulatory efficacy beliefs (Joet, Usher, & Bressoux, 2011). This study showed that each of the four sources of self-efficacy (mastery experiences, vicarious experiences, social persuasions, and physiological states) had an effect on children's learning. In sum, self-efficacy is strongly related to students' academic achievement and plays an integral role in children's social-emotional development. The present study integrated the research findings regarding academic self-efficacy, social-emotional self-efficacy, and sources of children's self-efficacy through the lens of social-cognitive theory.

This chapter provides a critical review of the contemporary literature regarding academic and social-emotional self-efficacy. The literature review begins with a discussion of self-efficacy within a social-cognitive theoretical framework. Sections that follow include a discussion of how self-efficacy has been linked to academic achievement and social-emotional adjustment, teacher-child and parent-child interactions and beliefs, and developmental variations in children's self-efficacy. The review concludes with a summary and critique of the existing literature, followed

by a discussion of the research questions and hypotheses suggested by the review and to be examined in this dissertation.

Children's Self-Efficacy

Social-cognitive theory asserts that individuals engage in reciprocal interactions in which behavior, cognition and other personal factors, and the environment are believed to both produce and be a product of each other. The core components of social-cognitive theory are symbolizing capacity, observational learning, forethought, self-regulatory capability, and self-efficacy (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). According to social-cognitive theory, nurturing these capabilities, particularly self-efficacy, is instrumental in directing human behavior, especially in the schools.

Self-efficacy defined. Self-efficacy is defined as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives" (Bandura, 1994, p. 71). People's perceived self-efficacy is their belief in their own ability to be successful in a specific situation. Self-efficacy beliefs contribute to how people feel, think, motivate themselves and behave (Bandura, 1994).

Although self-efficacy shares characteristics with other psychological constructs in the literature, it is unique and different from notions of self-concept and self-esteem. Self-efficacy shares many similarities with the idea of self-concept, such as utilizing a person's own perceived competence; using self-appraisals, social comparison, and mastery experiences; and predicting motivation and performance (Bong & Skaalvik, 2003). Nevertheless, self-efficacy and self-concept have some distinct differences. Whereas self-concept is a description of oneself as a judgment of self-worth, self-efficacy is a judgment of the confidence one has in his or her abilities (Pajares & Schunk, 2001). Furthermore, evaluations of self-concept involve questions of

feeling, such as, "How do I feel about playing basketball?" Questions of self-efficacy involve questions of ability, such as, "Can I make this free-throw?" Self-efficacy is also different from the idea of self-esteem. "Perceived self-efficacy is concerned with judgments of personal capability, whereas self-esteem is concerned with judgments of personal worth" (Bandura, 1997, p. 11). Although the two concepts are related, self-efficacy is a meta-cognitive belief that may be a precursor to self-esteem development (Kleitman & Gibson, 2011).

Sources of self-efficacy. According to social-cognitive theory, people's self-efficacy beliefs work through four different mechanisms. These include cognitive, motivational, affective and selection processes (Bandura, 1994). The specific sources of influence over people's self-efficacy development include mastery experiences, vicarious experiences, social persuasions, and physiological states (Bandura et al., 1996).

The most effective way of creating a strong sense of efficacy is through mastery experiences. Successes build a robust belief in one's personal efficacy, enabling people to persevere in the face of adversity and quickly bounce back from setbacks. Performing a task successfully strengthens our sense of self-efficacy. Conversely, failing to adequately deal with a task or challenge can undermine and weaken self-efficacy (Bandura. 1994). Individuals gauge the effects of their actions, and their interpretations of these effects help create their efficacy beliefs. Outcomes interpreted as successful raise self-efficacy; those interpreted as failures lower it (Bandura et al., 1996).

The second way of creating and strengthening self-beliefs of efficacy is through the vicarious experiences provided by social models. Seeing people similar to them succeed with sustained effort raises people's beliefs that they, too, possess the abilities to master similar skills that are required to succeed (Pajares, 1997). A significant model in one's life can help instill self-

beliefs that will influence the course and direction that life will take. Part of one's vicarious experience also involves the social comparisons made with other individuals. These comparisons, along with peer modeling, can be powerful influences on developing self-perceptions of competence (Schunk, 1983).

Social persuasion is a third way of strengthening people's beliefs that they have what it takes to succeed. People who are verbally convinced that they possess the capabilities to master activities are likely to put forth greater effort and sustain it, than if they dwell on self-doubts and personal deficiencies when challenges arise. Persuaders must cultivate people's beliefs in their capabilities while at the same time ensuring that the envisioned success is attainable. And, just as positive persuasions may work to encourage and empower, negative persuasions can work to defeat and weaken self-beliefs (Pajares, 1997). In fact, it is usually easier to weaken self-efficacy beliefs through negative appraisals than to strengthen such beliefs through positive encouragement (Bandura, 1986).

Finally, people rely on their emotional state when judging their capabilities. They interpret their stress reactions and tension as signs of a likelihood of poor performance. Mood also affects people's judgments of their personal efficacy. Positive mood enhances perceived self-efficacy; negative mood undermines it (Bandura et al., 1996). Physiological states such as anxiety, stress, arousal, fatigue, and mood states also provide information about efficacy beliefs. Because individuals have the capability to alter their own thinking, self-efficacy beliefs, in turn, also powerfully influence the physiological states themselves. Moreover, when people experience aversive thoughts and fears about their capabilities, those negative affective reactions can themselves further lower perceptions of capability and trigger the stress and agitation that help ensure the inadequate performance they fear. This is not to say that the typical anxiety

experienced before an important endeavor is a guide to low self-efficacy. Strong emotional reactions to a task, however, provide cues about the anticipated success or failure of the outcome (Pajares, 1997).

Research on middle school students has found that Bandura's (1997) four hypothesized sources of self-efficacy predict academic and social-emotional self-efficacy, with mastery experience being the strongest predictor overall (Usher & Pajares, 2006). Gender differences have also been uncovered. Mastery experience and social persuasions predicted girls' self-efficacy, whereas mastery experiences and vicarious experiences were the strongest predictors for boys.

Bandura's conceptualization of the four sources of self-efficacy has been supported by numerous other researchers. For instance, Lent and Hackett's (1987) findings on developing a sense of career self-efficacy were well-aligned with Bandura's hypothesized self-efficacy sources. In addition, Schunk (1989) supported Bandura's theory of self-efficacy through his study of the acquisition of new cognitive skills. The sources of self-efficacy have been documented in various research studies involving learning, motivation, and self-confidence (Maddux & Stanley, 1986; Schwarzer, 1992).

Self-efficacy at school and at home. Self-efficacy, in particular, is integral to children's success both in the academic realm as well as in their social-emotional development. When children feel capable of creating positive outcomes in these domains, they will be more likely to persevere and succeed. Increasing children's feelings of self-efficacy may lead to greater academic gains as well as healthier social interactions and emotional maturity. Determining which factors promote children's self-efficacy at home and at school has the possibility of benefiting children by informing parenting practices and improving teacher training programs.

Academic Achievement

One of the most studied aspects of self-efficacy in educational research is the relationship between high levels of self-efficacy and increased academic achievement. When children feel more capable of succeeding on a scholastic task, they are more likely to persevere and complete the work set before them. For example, when children experience success through mastery experiences, such as learning and successfully applying a new mathematics formula, students feel more self-efficacious. This, in turn, propels them to put forth continued academic effort, resulting in higher academic achievement. The link between self-efficacy and academics is key to helping children stay in school, set higher goals, and bounce back from setbacks. The following research studies have delved into the topic of children's self-efficacy and academics.

Research conducted by Caprara, Fida, Vecchione, Del Bove, Vecchio, and Barbaranelli et al. (2008) examined the relationship among self-efficacy, grades, and staying in school in a sample of middle school and high school students. The study reported that at both school levels, high perceived efficacy for self-regulated learning contributed to higher grades, which in turn contributed to the likelihood of staying in school.

Similarly, Alivernini and Lucidi (2011) demonstrated the relationship among self-efficacy, academic achievement, and teacher's autonomy support. The results of this study indicated that self-efficacy had a significant effect on students' academic performance as well as their motivation level. In addition, students' motivation was related to their perceptions of how much teachers supported their autonomy. In this study, autonomy support was the best predictor of students' intentions to drop out of school. Thus, the results from this research study lend further support for the relationship among students' self-efficacy, academic achievement, and remaining in school.

The relationship between self-efficacy and academic achievement was further evidenced in a study by Tella, Tella, and Adeniyi (2011). In this research, self-efficacy, interest in schooling, and locus of control all contributed significantly to middle school students' academic achievement. Additionally, Fan, Lindt, Arroyo-Giner, and Wolters (2009) researched the effects of tenth graders' teacher support, parent-student communication, and friends' academic valuing on students' academic self-efficacy. Results indicated that all three variables were related to academic self-efficacy in both English and mathematics subject areas. Furthermore, a positive link between students' academic self-efficacy and scholastic achievement was found. When teachers, friends, and parents support and value academics, children's self-efficacy increases. This increase in self-efficacy contributes to children's academic achievement.

Rosenfeld, Richman, and Bowen (2000) investigated the relationships between cognitive, emotional, and motivational factors in a sample of students in Grades 4 through 10. Findings reported that levels of academic and social-emotional self-efficacy, sources of self-efficacy, and emotional feedback were all stronger predictors of mathematics outcomes than was general mental ability. This study further highlights the great impact that self-efficacy has on academic outcomes. In a related study of mathematics achievement across 41 countries, Chiu and Xihua (2008) found that students scored higher in math when they had a higher socioeconomic status, lived with two parents, had greater interest in math, and had higher self-efficacy. This shows that among other variables, self-efficacy has been shown to be a strong predictor of scholastic achievement across a vast number of countries and cultures.

Navarro, Flores, and Worthington's (2007) study considered how social-cognitive factors affected children's math and science goals using a social-cognitive framework. Results from the study found that self-efficacy in math and science predicted students' outcome expectations in

math and science, which in turn predicted math and science interests and goals. When children have higher self-efficacy, they are more likely to set higher scholastic targets. In addition, a study by Hacieminoglu, Yilmaz-Tuzun, and Ertepinar (2009) analyzed the relationships among middle school students' motivational goals, self-efficacy, learning approaches, and achievement in science. The research findings found positive correlations among self-efficacy, meaningful learning, and performance orientation. These three factors were also related to children's science grades. This shows that self-efficacy, along with other learning approaches and motivation, shares a fundamental relationship with scholastic achievement.

Another study by Beghetto (2009) evaluated factors that contributed to elementary students' intellectual risk taking (IRT) in science classes. IRT involves adaptive learning behaviors, such as sharing tentative ideas, asking questions, and attempting to do and learn new things. Although IRT generally decreased as children moved into higher grades, the results of this study found that creative self-efficacy, perceptions of teacher support, and students' interest in science were all related to higher levels of IRT. Higher levels of students' IRT may result in more creative learning and a more open and accepting classroom climate.

The relationship between self-efficacy and academic outcomes is further illustrated in a study of parental self-efficacy and their third- and fourth-grade children's literacy skills (Lynch, 2002). Those parents who held stronger self-efficacy beliefs had children with more positive self-perceptions and self-efficacy as young readers. In addition, children's levels of self-efficacy were significantly related to their early literacy achievement. In general, when parents feel confident in their abilities to help their children learn, children, in turn, feel more efficacious and their academic skills improve. Similarly, Murad and Topping (2000) found that when children and parents felt more self-efficacious about their reading abilities, children experienced larger

gains in reading comprehension and fluency as a result of a paired parent-child reading intervention. In addition, Weiser and Riggio (2010) examined how family academic expectations related to children's self-efficacy and academic achievement. Self-efficacy was found to be a strong predictor of expectations for academic success. Families may contribute to their children's academic outcomes by holding high expectations for their children.

The relationship between homework and self-efficacy was analyzed in a 2011 study by Ramdass and Zimmerman. Homework was found to be strongly related to students' goals, self-efficacy, self-reflection, time management, and delay of gratification. Developing self-regulation and improving self-efficacy are critical outcomes of homework activities. Children's academic and social-emotional skills can be enhanced through the gains in self-regulation and self-awareness that have been found to accompany homework completion. The role of students' self-efficacy beliefs and goals in academic achievement was studied by Zimmerman, Bandura, and Martinez-Pons (1992). Students' academic self-efficacy influenced the academic goals they set for themselves. In turn, the goals that children set affected their scholastic outcomes. Therefore, helping children to set high academic goals and promoting a sense of self-efficacy are ways in which adults may help children learn.

Usher (2006) examined how sources of self-efficacy predicted middle school students' academic self-efficacy beliefs. This study concluded that mastery experience, vicarious experience, social persuasion, and physiological state were all related to children's levels of academic self-efficacy. Furthermore, mastery experience was the strongest predictor of academic self-efficacy. Other research by Usher (2009) analyzed the manners in which students form their self-efficacy beliefs specific to mathematics. Usher found that students utilized information from all four hypothesized sources of self-efficacy when forming their self-efficacy beliefs. In

addition, students also incorporated information from teaching structures, their own self-regulated learning, and course placement when constructing self-efficacy beliefs. Teachers and parents may be able to impact children's outcomes through various avenues, since children utilize many sources of information when developing beliefs about their self-efficacy.

Schunk (1984) elaborated on the manner in which self-efficacy beliefs relate to children's achievement behavior. In creating self-assessments of efficacy, people consider various sources of information. People take into account factors like task difficulty, effort put forth, help from others, and patterns in their outcomes when making judgments of their own efficacy. These factors are vital to children's interpretations, which in turn, facilitate students continued work in school and scholastic achievement.

Martin and Marsh (2008) discussed the construct of academic buoyancy (students' ability to successfully deal with academic setbacks and challenges) and its relationship with self-efficacy. In their study of high school students, they found that self-efficacy, academic engagement, teacher-student relationships, and lowered anxiety predicted students' academic buoyancy. These results suggest that when children are less anxious, feel efficacious, are engaged in learning, and have strong relationships with their teachers, they are more academically resilient.

The existing literature has documented a clear link between children's sense of self-efficacy and their academic achievement. Various educational constructs play a part in children's learning, but self-efficacy has remained a significant predictor of children's engagement in learning and their scholastic achievement. The impact of self-efficacy in children's learning cannot be overstated. In addition to academic outcomes, children's self-efficacy development is also vital to their social-emotional adjustment.

Social-Emotional Adjustment

While academic self-efficacy is one predictor of children's success, children also develop a sense of social-emotional self-efficacy that is equally important to cultivate. Children begin to develop their own feelings of social-emotional efficacy at an early age. They look to others as role models, learn from their past experiences, listen to others' evaluations of their social and self-regulatory skills, and rely on their feelings when they form evaluations of their social-emotional self-efficacy. This sense of social-emotional self-efficacy is paramount in children's relationships and mental wellbeing. Several factors that contribute to this relationship between self-efficacy and social-emotional adjustment are outlined next.

People who foster their social-emotional self-efficacy develop greater abilities to resist temptations to participate antisocial or undesirable activities, avoid drugs and alcohol, and cope with feelings of anxiety and depression (Bandura, 1982). A study by Mavroveli and Sanchez-Ruiz (2011) evaluated the relationship among social-emotional self-efficacy, school outcomes, and social behaviors for students in regular education as well as students with special education needs. In this study, higher social-emotional self-efficacy was associated with more peer-reported pro-social behaviors and fewer antisocial behaviors, as well as fewer self-reported bullying behaviors in both groups of students. In addition, students with special education needs reported lower social-emotional self-efficacy than did children without special education needs.

In their study of elementary school students, Galla and Wood (2012) found that children's confidence in their ability to regulate negative emotions, or their emotional self-efficacy, guarded them from experiencing negative academic outcomes. When children had low levels of emotional self-efficacy, however, their scores suffered on a mathematics examination.

This study highlights the vital role that emotional self-efficacy plays in children's academic performance.

A study by Bandura and Barbaranelli (1996) found that children's social-emotional self-efficacy was related to academic achievement. The researchers also claimed that this relationship was mediated by academic aspirations and lower levels of depression, and moral self-punishments for problem behaviors. This research is useful in understanding more deeply the factors that affect children's abilities to manage pressure for harmful conduct. Studies have discovered that, at times, students' emotional feedback and self-efficacy can be better predictors of academic outcomes than general mental ability (Stevens, Olivarez, & Hamman, 2006). Research has also considered the impact of academic self-efficacy on self-confidence and adaptive behaviors. Kleitman and Gibson (2011), for example, found that academic self-efficacy and having a mastery goal orientation predicted self-confidence. In addition, students with higher self-confidence and self-efficacy were engaged in fewer self-handicapping behaviors, or activities to create impediments in order to make success less likely.

The relationship between academic self-efficacy and emotion in middle and high school students was investigated by Goetz, Cronjaeger, Frenzel, Ludtke, and Hall (2010). Self-efficacy in mathematics and physics was highly correlated with emotions of enjoyment, anger, anxiety, pride, and boredom; self-efficacy in English and German classes was moderately correlated with students' emotions. These findings illustrate the relationship between students' emotions and their self-efficacy and suggest that an improvement in students' moods may result if self-efficacy is increased in these school subjects. In a related study, Hagenauer and Hascher found that self-efficacy mediated the effects of classroom practices on students' learning enjoyment.

Certain scholarly articles have demonstrated the effects of parents' self-efficacy on children's social-emotional and academic outcomes. A study by Junttila, Vauras, and Laakkonen (2007) looked at parenting self-efficacy (including aspects of recreation, discipline, participation, and nurturance) in relation to children's loneliness, social-emotional self-efficacy, academic skills, and motivation. The results indicated a relationship between parents' parenting self-efficacy and children's social-emotional self-efficacy. Children's social-emotional self-efficacy also mediated the relationship between parenting self-efficacy and children's academic outcomes.

Research has also found a link among adolescents' social-emotional self-efficacy and academic self-efficacy, resisting social pressures for antisocial activities, and feeling empathy toward others (Bandura et al., 2003). Moreover, social-emotional self-efficacy has also been associated with pro-social behaviors. The relationship between social-emotional self-efficacy and bullying has also been examined in recent research (Barboza, Schiamberg, Oehmke, Korzeniewski, Post & Heraux, 2009). Bullying was found to increase in children who have low social-emotional self-efficacy, lack teacher support, have unfavorable classroom environments, and have parents and teachers who hold low expectations for their school performance. This study sheds light on possible factors that can be altered to enhance children's schooling experiences and decrease bullying behaviors.

Camodeca and Goossens (2005) evaluated how children's social information-processing ability affects their emotions and actions in a bullying situation. Results of the study report that children who participated in bullying showed reactive aggression and felt efficacious in using verbal persuasion in their antisocial activities. This study underscores the importance of teaching children to use their social-emotional skills and self-efficacy in a positive, pro-social manner

instead of in antisocial, bullying situations. Children with high social-emotional self-efficacy are more likely to intervene during a bullying situation. Furthermore, children are more likely to stop bullying episodes when they believe that parents and friends expect them to stand up for victims (Rigby & Johnson, 2006).

Student's behaviors and emotions may be changed through active student participation in empowerment processes (Gao, Newton & Carson, 2008). In a study of children with emotional-behavioral disorders, social-emotional self-efficacy increased with students' involvement in activity planning, self-evaluation, and reflection activities at school. Children can practice skills that may increase social-emotional self-efficacy through appropriate homework activities throughout their school years. When children manage distractions, set goals, manage time, and reflect on their performance, they learn important self-regulatory skills (Ramdass & Zimmerman, 2011). Social-emotional self-efficacy has also been linked to general life satisfaction in adolescents (Danielsen, Samdal, Hetland & Wold, 2009). In addition to self-efficacy, school-related teacher social support also predicted students' school satisfaction.

Early intervention for social and emotional problems is paramount. This was highlighted in a study by Salami (2010), in which social-emotional self-efficacy, happiness, and life satisfaction predicted children's behaviors and attitudes. When children's social and emotional needs are nurtured early in life, they experience fewer behavioral and emotional difficulties later on as they grow older.

It is clear that children's sense of social-emotional self-efficacy affects their behavior, social activities, and emotions. When children have opportunities to learn from experiences and reflect on their emotions and social interactions, they develop confidence in their abilities to interact appropriately with others and regulate their emotions. Teachers and parents are in the

unique position to cultivate children's social-emotional self-efficacy by supplying mastery experiences, vicarious experiences, social persuasions, and physiological states.

Teacher-Child Interactions and Beliefs

Every day teachers have opportunities to nurture children's self-efficacy. Students integrate information gained from peers, adults, and themselves when forming opinions of their academic and social-emotional abilities. Teachers have the chance to build children's self-efficacy by supporting autonomy, forming goal orientations, individualizing instruction, and establishing warm relationships with students.

Teacher support is a very strong contributor to students' academic success, especially for middle and high school students who are at risk for school failure (Rosenfeld et al. 2000). A study by Alivernini and Lucidi (2011) demonstrated the relationship between self-efficacy, children's academic achievement, and teachers' autonomy support. The results of this study indicated that the level of students' motivation was related to children's perceptions of how much their teachers supported their autonomy. When teachers supported children's autonomy and allowed students to complete challenging tasks on their own, children were more motivated to learn.

Findings from a study by Fan, Lindt, Arroyo-Giner, and Wolters (2009), cited previously, showed the effects of teacher support on tenth-grade students' self-efficacy. When students perceived more support from their teachers in math and English, they reported higher academic self-efficacy and higher achievement in those subjects. Research has shown that teachers' behaviors have a significant impact on student's self-efficacy, motivation, and academic skill development. A study by Levpuscek and Zupancic (2009) evaluated the ways in which math teachers' behavior in the classroom related to students' motivation and mathematics skills. In this

sample of eighth-grade students, children's perceptions of their math teachers' behavior (perceived support and mastery goal orientation) predicted students' motivational beliefs and math achievement. Furthermore, students' self-efficacy mediated the relationship between teachers' behavior and math achievement.

Friedel, Cortina, Turner, and Midgely (2007) looked at how a change in teachers' goal emphases affected students' self-efficacy beliefs. When children in Grades 6 and 7 perceived stronger goal emphases from their teachers, their self-efficacy improved. This study illustrates how teachers' increased mastery goal and performance goal emphases may impact middle school students' self-efficacy beliefs.

A later study by Friedel, Cortina, Turner, and Midgely (2010) evaluated the relationship among achievement goals in mathematics, self-efficacy, and children's personal achievement goals. This study found that teachers' mastery and performance goal emphases predicted students' personal goals. Even more, student goals were linked to personal self-efficacy beliefs and coping strategies. Implications from this research suggest that greater emphasis on goals from teachers relates to children's own goal-setting and self-efficacy beliefs.

Research findings by Hughes (2011) demonstrated the effects of teacher-student relationship quality on academic self-efficacy, behavioral engagement, and academic achievement. In this study in Grades 2 and 3, teacher and student reports of their relationship quality predicted children's academic self-efficacy, math achievement, and feelings of belonging at school. This study draws attention to the importance of the teacher-student relationship in children's development, especially in the academic and social-emotional realms.

Hughes and Chen (2011) studied the effects of teacher-student relationship quality on self-efficacy and peer academic reputation throughout Grades 2, 3, and 4. In this study, teacher-

student relationship quality predicted peer academic reputation and academic self-efficacy. These research findings stress that teachers are in a unique position to form relationships with individual students. This relationship may predict the way in which other students view that child's academic abilities, as well as the child's own perceived academic self-efficacy.

Britner (2008) examined self-efficacy and motivation in high school science classes. The study's findings supported Bandura's (1997) theory of the sources of self-efficacy. The study revealed that mastery experiences, social persuasions, vicarious experiences, and physiological states were predictors of students' self-efficacy. In addition, this study found differences in self-efficacy and academic grades between boys and girls. Girls reported stronger science self-efficacy and higher grades than did boys. Finally, self-efficacy was the strongest predictor of grades for all students. Britner's study emphasizes the relationship between the four sources of self-efficacy and academic achievement, as well as highlights gender differences in high school students' levels of self-efficacy.

Another study by Britner and Pajares (2006) evaluated how Bandura's (1997) sources of self-efficacy predicted middle school students' science self-efficacy beliefs. Results were similar to the Britner (2008) study, in that science self-efficacy predicted science achievement and the four sources of self-efficacy were related to children's self-efficacy. Again, girls reported stronger self-efficacy than did boys. These results show the same patterns as did the Britner (2008) study, but examined the relationships within middle school students.

Hagenauer and Hascher (2010) investigated the ways in which teachers facilitate learning in their classrooms. Findings from this study suggested that teachers may affect children's motivation and emotions by tailoring the learning conditions to the specific needs of young

adolescents. Furthermore, teachers may improve children's motivation and engagement by facilitating students' learning enjoyment.

Research has shown that students' self-efficacy even plays a part in their health-related physical fitness. Gao, Newton, and Carson (2008) found that students' self-efficacy, perceptions of task importance, and interest predicted their levels of physical activity in middle school fitness classes. These results suggest that supporting the development of students' self-efficacy may be effective in physical activity courses in addition to academic classes.

Teacher involvement is integral to children's motivation and self-efficacy development. In a study by Skinner and Belmont (1993), these child outcomes were predicted by teachers' autonomy support, class structure, and interpersonal involvement. Research has shown that when teachers place a high value on education, but perceive that parents' educational values are low, students' academic self-efficacy and behavioral engagement in class are affected (Tyler, Boelter & Boykin, 2008). In addition, teacher's social support is strongly related to students' school satisfaction (Danielsen et al., 2009). When teachers are empowered to use language suggestive of choice ("wanting" to change behavior versus "needing" to change behavior), children respond more positively to reconciling peer conflict (Doppler-Bourassa, Harkins & Mehta, 2008).

Zimmerman (2000) has described the relationship among academic motivation and choice of activities, persistence, emotional reactions, and level of effort. Self-efficacious students work harder, participate more quickly, and have more positive emotional reactions to difficulties. Teachers can facilitate children's self-efficacy development by modeling cognitive strategies and providing effective feedback. Children show better academic outcomes when teachers encourage them to set proximal goals and provide frequent feedback. Furthermore, when students are taught

to attribute their mastery of a task to their effort, students show higher levels of motivation, self-efficacy, and perceived progress (Zimmerman, 2000).

Teachers may also help students develop self-efficacious and self-regulatory behaviors and beliefs through assigning effective homework. By assigning homework that is engaging and appropriately challenging, children develop motivation, learn about time management, and build self-efficacy. In addition, teachers can improve students' homework behaviors by using homework logs that help teachers assess children's strengths and weaknesses regarding homework (Ramdass & Zimmerman, 2011).

Another way teachers can promote student achievement is through altering students' beliefs of their competence and self-worth using mastery experiences (Bandura, 1986). When teachers openly share rubrics for assignments, such as writing tasks, students feel more motivated and confident in their academic pursuit of the task at hand (Andrade, Wang, Du, & Akawi, 2009). Furthermore, self-assessments that draw students' attention to specific aspects of their performance improve self-efficacy beliefs. Teachers may also impact students' adaptive learning behaviors by supporting students, increasing children's self-efficacy, and fostering interest in the subject being taught (Beghetto, 2009).

Pajares (2005) provides numerous suggestions about how teachers may improve children's self-efficacy. This research indicates that emphasizing skill development, ensuring adaptive interpretations, engaging in effective modeling practices, and selecting appropriate peer models can have positive effects on students' self-efficacy beliefs. Furthermore, teachers may improve self-efficacy by minimizing relative ability information that is publically available, tailoring instruction to students' capabilities, and praising effort and persistence (Pajares, 2005; Pajares & Schunk, 2001).

In sum, research has identified several mechanisms through which teachers can improve children's academic and social-emotional self-efficacy. When teachers become aware of how interactions within their classrooms impact children's emerging self-beliefs, teachers become empowered to impact children's achievement and adjustment through the development of children's self-efficacy. This empowerment in promoting self-efficacy may also be applied to parents, who also frequently engage in self-efficacy impacting interactions with their children.

Parent-Child Interactions and Beliefs

When parents work with teachers at all grade levels, children's outcomes improve (Barboza et al., 2009). Families have a profound impact on children's academic, social, and emotional development. Just as teachers impact self-efficacy through classroom interactions, parents provide daily exchanges that may either help or hinder children's senses of self-efficacy.

Similar to the findings with regard to teachers' goal emphases, Friedel et al. (2007) found that when children perceived higher levels of goal emphases from their parents, their self-efficacy increased in the middle school years. This study illustrates how parents' increased mastery goal and performance goal emphases (like teachers' goal emphases) may impact their children's self-efficacy beliefs.

Another study by Friedel, Cortina, Turner, and Midgely (2010) examined the relationship between parents' achievement goals in mathematics, children's self-efficacy, and personal achievement goals. Results indicated that parents' mastery and performance goal emphases predicted children's personal goals for mathematics. In addition, children's goals were linked to personal self-efficacy beliefs and coping strategies. This research study suggests that increased parental goal emphasis (like teacher's goal emphases) is strongly associated with children's personal goal setting and self-efficacy beliefs.

Zimmerman et al. (1992) evaluated the role of students' self-efficacy beliefs, as well as student and parent goals, in contributing to academic achievement. Results of the study indicate that parental goal setting, students' personal goals, and students' self-efficacy predicted children's later social studies grades.

A positive link between parent-student communication and children's academic self-efficacy was found by Fan, Lindt, Arroyo-Giner, and Wolters (2009). When parents had more open and frequent communication with their children, these high school students reported higher mathematics and English self-efficacy.

Parents help their children develop self-efficacy through many avenues and interactions. A study by Hoover-Dempsey (2001) examined the relationship between parent involvement in homework and their children's academic outcomes. Parents who took an active role in helping children with homework did so because they believed they should be involved and that they make a positive difference in their children's learning. Some parents helped children establish a routine for completing homework, whereas other parents actively worked to develop their children's learning strategies. In this study, parents' involvement in homework affected students' success in that it increased self-regulatory efficacy and attitudes about schoolwork. Parents cultivated their children's self-regulatory efficacy and academic knowledge through modeling, reinforcement, and instruction.

Research has shown that parents' involvement in their children's education impacts student's self-efficacy and academic skill development. Levpuscek and Zupancic (2009) evaluated how parental pressure to succeed academically was related to students' self-efficacy and mathematics skills. In this sample of eighth-grade students, increased parental pressure predicted lower mathematics grades. Students' self-efficacy, however, mediated the relationship

between parental pressure and math achievement. Although parental involvement in homework and learning activities typically enhances student outcomes, this study indicates that parental pressure to succeed may actually hinder students academically.

Lynch's (2002) study of parents' self-efficacy beliefs and children's reading highlights the important role that parents play in their child's development as a reader and as a self-efficacious learner. This research points to the ways in which parents may assist in their children's reading development by cultivating more of their own self-efficacy in the shared reading process. Murad and Topping (2000), cited previously, illustrated the benefits of parents reading with their children using a paired-reading format. After reading together, first-grade children and their parents felt more self-efficacious about their reading abilities. Children and parents also both reported more positive emotions regarding reading after participating in the paired-reading intervention. This study demonstrates that parents can improve children's reading self-efficacy and feelings about reading by reading together at home.

Research by Englund, Luckner, Whaley, and Egeland (1996) highlighted the relationship between early parenting practices and children's academic achievement in their study of parents and children from birth through Grade 3. Findings suggested that the quality of parents' instruction before school entry was indirectly related to their children's achievement in later grades. Furthermore, a relationship between parental involvement, expectations, and children's achievement in Grades 1, 2, and 3 was reported. This study illuminates the importance of parent involvement, beliefs, and interactions in children's early learning. Results from Navarro et al. (2007) found that when children perceived more support from their parents, they had higher academic self-efficacy in mathematics and science. This increased self-efficacy predicted children's interests and scholastic goals.

Weiser and Riggio (2010) analyzed how family background was related to self-efficacy and academic achievement. Results of the research indicated that self-efficacy mediated the relationship between family involvement and academic expectations. In addition to self-efficacy, family involvement and parents' expectations of children's success were important contributors to children's academic outcomes. In a study of 6- to 9-year-old children by Brody, Flor and Gibson (1999), maternal parenting efficacy beliefs were linked with developmental goals and parenting practices. When parents engaged in competence-promoting parenting practices, their children's sense of academic and social-emotional self-efficacy was stronger.

Parents' own beliefs regarding their parenting abilities are critical to children's overall functioning. Research has shown that parental self-efficacy beliefs are a direct predictor of positive parenting practices, as well as a mediator of maternal depression, social support, poverty, and child temperament. Parents' positive control practices have been shown to be predictive of adolescents' conduct problems (Dumka, Gonzales, Wheeler, and Millsap, 2010), thus underscoring the impact of parenting self-efficacy on children's social behavior. Similar to recommendations for teacher behaviors, Pajares (2005) has also identified ways in which parents can help their children develop self-efficacy. Among other parenting practices, he lists praising what is praiseworthy (not providing empty, insincere praise), fostering optimism and a positive outlook, challenging under-confidence, and modeling self-reflection.

Overall, interactions between parents and their children can be significant sources of children's self-beliefs. Research has shown that parents may promote children's academic and social-emotional self-efficacy through encouraging a positive attitude, becoming actively involved in children's learning, emphasizing goal setting, and modeling effective problem solving practices. Although parents and teachers both have opportunities to impact children's

self-efficacy, children do not interpret all of these interactions as equal. In fact, children often overvalue certain self-efficacy promoting interactions and undervalue others.

Developmental Differences in Sources of Self-Efficacy

As children grow older, they may begin to value self-interpretations from certain sources of influence over others. For example, interactions between children and parents may be very significant for younger children, whereas older children may rely more on exchanges between themselves and their teachers when making self-evaluations. Several studies draw attention to the ways in which the contributors to children's self-efficacy change as children grow older.

Wilson and Trainin (2007) documented that children as young as first grade are able to differentiate among their self-efficacy beliefs for writing, spelling, and reading. Additionally, students' literacy attributions mediate the relation between self-efficacy and academic achievement in these young learners. Friedel et al. (2007) documented a change in teacher goal emphases from elementary school to middle school that affected students' self-efficacy beliefs. In general, children reported a decline in both performance and mastery goal emphases among their teachers from elementary to middle school, which affected their academic self-efficacy. This study illuminates how teachers' goal emphases and, in turn, children's self-efficacy beliefs may change from elementary school to middle school.

Hagenauer and Hascher (2010) found that children's motivation and positive emotions (as well as teachers' classroom practices to promote learning enjoyment) decreased during early adolescence, between Grades 6 and 7. These findings suggest that teachers could possibly increase students' learning enjoyment by responding to their needs for relatedness and competence during this period of development. Caprara et al. (2008) evaluated the developmental course of efficacy for self-regulated learning, academic outcomes, and school

drop out. They found a progressive decline in self-regulatory efficacy for learning from middle school to high school, with males showing a greater reduction. Furthermore, students who showed a lower decline in efficacy were more likely to have higher high school grades and stay in school.

Goetz et al. (2010) examined the relationship between self-efficacy and emotion in middle and high school students. This study found that the relationship was stronger for older students than for younger students, suggesting that older students connect their feelings of anticipated success with more intense emotional reactions. Parent involvement in children's schooling typically decreases as children's grade level increases (Barnyak & McNelly, 2009). Although some parents believe their support is no longer needed as children approach middle and high school, parent efficacy remains critical for parent involvement at all grade levels. Beghetto (2009) found that although intellectual risk taking (IRT) declined as children grew older, students' interest in the subject matter, self-efficacy, and teacher support were all related to higher levels of IRT irrespective of grade level.

Research studies have employed various methods of data collection procedures when evaluating how children's developmental levels affect their outcomes. Common methods of grouping children are by age and by grade level. When studies include research questions that involve the impact of teacher or classroom characteristics on student outcomes, grade level groupings are often used in order to help account for these differences (Cunningham, 1991; Lai & Law, 2013). Particular grade level teams of teachers often exist in schools that aim to balance the academic and behavioral expectations for multiple classrooms within a given grade level. Frequently, schools and districts employ common core standards that they aim to implement at each elementary grade level (Youngs, 2013). When teachers work as collaborative teams, they

often create shared expectations for children's outcomes in math, reading, and writing, as well as their social-emotional development goals (Drew, 2013). Therefore, children's grade level plays an important role in the expectations to which they are held, as well as reflects a commonly accepted standard of educational competence.

In general, the impact that certain sources of children's self-efficacy have may vary over the course of children's development. Children's needs and interests change throughout time. This variation results in an imbalanced valuing of certain sources of influence over others. Research has suggested that children's self-efficacy may tend to decline, due to a host of factors, as children move from elementary grades on to middle school years (Friedel et al., 2007; Caprara et al., 2008; Beghetto, 2009; Hagenauer & Hascher, 2010). Additional assessment of how children's self-efficacy beliefs vary by grade level is necessary to delineate the developmental differences that students may display. More research is needed to determine how teacher-child relationships and parent-child relationships differentially affect children's development of self-efficacy.

Measurement Issues and Analysis Procedures

Researchers have utilized an assortment of assessment techniques to measure the sources of self-efficacy and levels of self-efficacy in various academic and social-emotional domains. Although much of the research has involved correlational techniques, several researchers have used the four hypothesized sources as the sole independent variables predicting self-efficacy (Britner & Pajares, 2006; Klassen, 2004; Matsui et al., 1990). Other researchers have used other items as covariates (such as ability) when examining the relationships between the four sources and self-efficacy (Lent, Lopez, & Bieshke, 1991). Some studies have utilized stepwise or hierarchical regression models (Hampton, 1998, Lent et al., 1991; Matsui et al., 1990). In most of

these cases, researchers have entered mastery experience first, followed by vicarious experience, social persuasions, and physiological state following in that order. This choice has typically been made on the basis of researchers' conceptualization of the sources "relative potency," but has little theoretical support. Other methods of analysis include path models (Johnson, 2005), experimental designs (Luzzo et al., 1991), and qualitative analyses (Pajares, 1994).

Although research studies have examined many diverse realms of children's self-efficacy, a common approach to assessing the sources children's self-efficacy is to use adapted versions of published scales, which often have been developed for older samples. Several researchers have modified items from Lent and colleagues' (1991) *Sources of Mathematics Self-Efficacy Scale*. Although this scale was originally designed to assess the sources of mathematics self-efficacy of college students, numerous researchers have been successful in adapting this scale for other age groups and for various academic subjects (Britner & Pajares, 2006; Usher & Pajares, 2006; 2009). In addition to measuring academic self-efficacy, studies have utilized scales that evaluate the sources of other types of self-efficacy, such as social self-efficacy. In a study of college-aged students, Anderson and Betz (2001) developed a scale that has served as the most thoroughly studied social self-efficacy scale to date.

The four hypothesized sources of self-efficacy have been assessed in various ways. To evaluate mastery experiences, some researchers have asked students to rate their past and current performance in the area of interest (Klassen, 2004; Matsui et al., 1990). Studies have asked students to report the highest degree earned by members of their family to target vicarious experiences. Researchers have assessed social persuasions by asking children to rate whether they receive encouraging comments about their abilities from others. Finally, physiological state has been examined by asking students about their anxiety toward academic subjects. Although

these rating scale items may be helpful at determining how children interact with others, they do not always take into account the *interpretations* that children make of events and interactions, which is crucial in the influence of children's self-efficacy beliefs (Usher & Pajares, 2008).

Researchers have employed various types of measurement when evaluating aspects of the relationships shared between children and their parents and teachers, which contribute to self-efficacy. Some studies have employed observational methods, such as the *Classroom Assessment Scoring System* (CLASS), in which diverse relationship factors are evaluated by trained raters via direct observation of interactions between teachers and students (Pianta, La Paro & Hamre, 2008). Other research has utilized self-report rating scales to measure the strength of the teacher-student relationship, such as the *Student-Teacher Relationship Scale* (STRS; Pianta, 1993). This type of self-report measurement of the relationships between teachers and students in the classroom has also been applied to children and their parents in the home setting. The *Child-Parent Relationship Scale* is a 15-item measure that evaluates the quality of the relationships parents share with their children (CPRS; Pianta, 1992). Relationships that adults share with children have commonly been assessed via direct observation and self-report measures throughout recent research.

Finally, in terms of measuring children's self-efficacy for academics and social-emotional adjustment, self-report methods are most commonly used in order to account for children's interpretations of the interactions they encounter. The typical format for assessing self-efficacy is a rating scale, a number of which have been employed in research studies. There exists no overarching measure of "self-efficacy." Rather, self-efficacy rating scales must be created for the specific domain of functioning that is targeted. Some researchers choose to follow the recommendations of Bandura (2006) regarding the development of self-efficacy scales,

which address content validity, domain specification, multicausality, gradations of challenge, and response scales. The commonly used *Children's Self-Efficacy Scale* (Bandura, 2006) is comprised of subscales that address self-efficacy beliefs specific to enlisting social resources, academic achievement, self-regulated learning, leisure time skills and extracurricular activities, self-regulation, meeting others' expectations, self-assertion, and enlisting parental and community support. These subscales are often used alone in research studies in order to distinguish the specific domain of interest.

In summary, researchers have employed a range of measurement and analysis methods to study children's self-efficacy. It is important to specify the particular domain that is being assessed (e.g., academic, social-emotional, self-assertive) when measuring levels of self-efficacy. Bandura (2006) has delineated factors to consider when creating self-efficacy rating scales. Self-efficacy has been analyzed in research studies using a variety of statistical methods and research designs. When measuring aspects of the relationships shared between children and their teachers and parents, direct observation and self-report measures are routinely utilized. Many commonly used rating scales that measure the sources of self-efficacy are adaptations of earlier measures. Finally, although many researchers have inquired about children's mastery experiences, vicarious experiences, social persuasions, and physiological states, measuring the *interpretations* that children make from these experiences is central to the conceptualization of self-efficacy.

Summary and Critique of the Literature

Educational and psychological research has demonstrated that self-efficacy beliefs contribute to how people feel, think, motivate themselves and behave (Bandura, 1994). Studies have shown that high levels of self-efficacy are related to academic outcomes as well as social-emotional outcomes (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Bandura, Caprara,

Barbaranelli, Gerbino, & Pastorelli, 2003). Educational research has found that Bandura's (1997) four hypothesized sources of self-efficacy predict academic and social-emotional self-efficacy, with mastery experience being the strongest predictor overall (Usher & Pajares, 2006). Research studies have documented that as children grow older, they begin to value self-interpretations from certain sources of influence over others. When children have strong relationships with their parents and teachers, they are able to internalize the experiences they share that promote self-efficacy. The link between self-efficacy and academics is key to helping children stay in school, set higher goals, and bounce back from setbacks. Studies have shown that when children have opportunities to learn from experiences and reflect on their emotions and social interactions, they develop confidence in their abilities to interact appropriately with others and regulate their emotions.

Research has suggested that children look to others as role models, learn from their past experiences, listen to others' evaluations of their social and self-regulatory skills, and rely on their feelings when they form evaluations of their social-emotional self-efficacy. In addition, teachers and parents are in the unique positions to cultivate children's self-efficacy through their daily interactions and relationships. Teachers can build children's self-efficacy by supporting autonomy, forming goal orientations, individualizing instruction, and establishing warm relationships with students. Research has shown that parents may promote children's academic and social-emotional self-efficacy through encouraging a positive attitude, becoming actively involved in children's learning, emphasizing goal setting, and modeling effective problem solving practices.

In sum, increasing children's feelings of self-efficacy may lead to greater academic gains as well as healthier social interactions and emotional maturity. Additional research is needed,

however, to delineate how teachers and parents differentially affect children's self-efficacy at different grade levels. This study integrated multiple elements from previous research regarding methodology and variables to offer a comprehensive perspective on children's self-efficacy. Specifically, this study evaluated both academic and social-emotional self-efficacy and examined how the relationships that children share with their teachers and parents contribute to self-efficacy and may differ across grade levels.

Rationale and Statement of Problem

This study is aimed at informing researchers, teachers, and parents of ways in which students' self-efficacy may be cultivated, which theoretically leads to improved academic and social-emotional outcomes. By measuring the differential influence of parent-child and teacher-student relationships on children's academic and social-emotional self-efficacy development, the study sought to make a unique contribution to existing theory and research on self-efficacy. Moreover, contributions from this study may add to research by applying a developmental perspective to the concept of self-efficacy.

This study included 47 children in public schools from Grades 2, 5, and 8, as well as their parents and classroom teachers. Parents and teachers completed measures to assess their (a) relationships with children, (b) children's overall level of academic achievement, and (c) children's overall social-emotional adjustment. Children completed surveys to (a) assess their academic and social-emotional self-efficacy and (b) provide self-reports about their experiences with each source of academic and social-emotional self-efficacy (mastery experiences, vicarious experiences, social persuasions, and physiological states).

Research Questions and Hypotheses

This study addressed four research questions:

Research Question 1: *To what extent is children's academic self-efficacy explained by (a) the parent-child relationship (based on parent report), (b) teacher-child relationship (based on teacher report), (c) grade level (Grade 2, 5, or 8), and (d) degree of experience with or exposure to sources of academic self-efficacy (based on student report)?*

First, it was predicted that more frequent interactions and experiences that theoretically promote academic self-efficacy (mastery experiences, vicarious experiences, social persuasions, and physiological states) would be associated with higher self-reported academic self-efficacy in children. Second, it was predicted that stronger adult-reported parent-child and teacher-child relationships would be associated with higher self-reported academic self-efficacy in children. Finally, it was predicted that children in Grade 2 would report higher levels of academic self-efficacy than children in Grades 5 or 8.

Research Question 2: *To what extent is children's social-emotional self-efficacy explained by (a) the parent-child relationship (based on parent report), (b) teacher-child relationship (based on teacher report), (c) grade level (Grade 2, 5, or 8), and (d) degree of experience with or exposure to sources of social self-efficacy (based on student report)?*

Similar to the predictions for Research Question 1, it was predicted that more frequent interactions and experiences that promote self-efficacy (mastery experiences, vicarious experiences, social persuasions, and physiological states) would be associated with higher self-reported social-emotional self-efficacy in children. In addition, it was predicted that stronger adult-reported parent-child and teacher-child relationships would be associated with higher self-reported social-emotional self-efficacy in children. Lastly, students in Grade 2 were predicted to report higher levels of social-emotional self-efficacy than students in Grades 5 or 8.

Research Question 3: *How do parent-child relationships, teacher-child relationships, and the sources of children's self-efficacy differ across three grade levels (Grades 2, 5, and 8)?*

It was predicted that parents of second-grade children would report stronger parent-child relationships and higher levels of child-reported social-emotional and academic self-efficacy compared to older students. In addition, it was predicted that teachers of older children would report stronger teacher-student relationships, and older children would report more frequent interactions related to the sources of self-efficacy. Younger children may have underdeveloped self-reflective capabilities that hinder them from fully internalizing the sources of self-efficacy that are affecting their development. Furthermore, older children may have longer histories involving the four sources of self-efficacy, which may enable them to be more in tune with how their feelings of self-efficacy have developed.

Research Question 4: *What is the pattern of correlations among children's achievement and adjustment (as measured by parent and teacher report), parent-child relationships, teacher-child relationships, and grade level?* It was predicted that parents' and teachers' ratings of children's academic achievement and social-emotional adjustment would be highly correlated with each other, in that both reporting sources would be rating the same child. In addition, it was predicted that parents would report of having stronger relationships with children in second grade, whereas teacher-student relationships would be stronger for eighth grade students. Finally, it was predicted that stronger parent-child and teacher-student relationships would be related to higher levels of academic achievement and social-emotional adjustment.

CHAPTER 2

METHOD

Participants

Participants in this study were children from the Virginia Beach (VA) area attending public elementary and middle schools, along with their parents and teachers. Children were recruited from Grades 2, 5, and 8 to include students from varied developmental stages. Both male and female children and teachers were recruited. One caregiver from each student's household was invited to participate. Children, parents, and teachers from all racial/ethnic backgrounds were included in the study. The study included 47 children (11 from Grade 2, 14 from Grade 5, and 22 from Grade 8), 46 parents of these children (one parent report was missing), and 12 teachers from these students' classrooms. The median class size was 25 students, with classes ranging from 15 to 46 students. Teachers had been teaching for a median length of 15 years (range = 11.5 – 31 years).

Most of the children attended regular education classrooms (91%), although 9% of students were in special education classes. The majority of the children in the study were Caucasian (approximately 58%), with 20% African American, 18% Asian, and 4% Hawaiian/Pacific Islander. Approximately 11% of students identified as Hispanic. More female students than male students participated in the study (about 59% and 41%, respectively). Most children reported having two or fewer siblings in the home (86%). Children's ages ranged from 7 years to 14 years, with an average age of 11 years.

Parents in the study ranged in age from 26 years to 59 years, with a median age of 40 years. Most of the parents who chose to participate were female (87%). The majority of parents identified as Caucasian (approximately 71%), with 16% identifying as Asian and 13%

identifying as African American. Most of the participating parents were employed (94%) and were married (80%), as opposed to single (11%) or divorced/separated (9%). Twenty-seven percent of parents had completed high school, while 55% had completed college and 18% had attended graduate school.

The participant group in this research study is fairly representative of the school population in Virginia Beach. The majority of the students currently enrolled in the district are Caucasian (approximately 52%), with 24% African American, 9% Hispanic/Latino, 6% Asian, and 9% from other racial/ethnic backgrounds. The proportion of the sample's students from different racial backgrounds is similar to the overall population, with the exception of Asian students. The study included a higher proportion of Asian students than is represented in the overall school district population. Refer to Table 1 for more information about participant demographic characteristics.

Table 1

Participant Characteristics

Children	Frequency		
Age	Mean = 11 Years		
Race	Caucasian = 58%	African American = 20%	Asian = 14%
	Pacific Islander = 4%	Undisclosed = 4%	
Ethnicity	Hispanic = 11%	Non-Hispanic = 89%	
Gender	Female = 59%	Male = 41%	
Siblings	Two or Fewer = 86%	Three or More = 14%	

Parents	Frequency		
Age	Mean = 41 Years		
Race	Caucasian = 71%	African American = 13%	Asian = 16%
Ethnicity	Hispanic = 4%	Non-Hispanic = 92%	Undisclosed = 4%
Gender	Female = 87%	Male = 13%	
Marital Status	Married = 80%	Single = 11%	Divorced/Separated = 9%
Employment	Employed = 94%	Unemployed = 6%	
Education	High School = 27%	College = 55%	Graduate School = 18%

Teachers	Frequency		
Class Type	Regular Ed. = 91%	Special Ed. = 9%	
Experience	12 or Fewer = 30%	13 to 15 = 23%	16 to 20 = 21%
	21 or More = 26%	Mean = 18 Years	
Class Size	20 or Fewer = 15%	21 to 24 = 21%	25 = 49%
	26 or More = 15%	Mean = 26 Students	

Setting

The study took place in the Virginia Beach City Public School (VBCPS) District. This

school system is a large, urban district on the Atlantic coast of southeastern Virginia. It is

comprised of 56 elementary schools, 14 middle schools, and 11 high schools with a K-12 student

population of 69,251. The district employs 5,629 teachers, 50% of which hold graduate degrees.

The average length of teaching experience for educators in VBCPS is 15.3 years. The researcher

in this study worked as a school psychology intern in the district during the 2012-2013 academic

year, which helped to facilitate recruitment of participants and data collection.

Measurement

This study utilized parent, student, and teacher questionnaires as the primary sources of

data. One parent or caregiver of each participating child was invited to complete three measures:

(a) *Child-Parent Relationship Scale* (CPRS); (b) demographic questionnaire; and (c) *Parent*

Ratings of Children's Functioning (PRCF). Each child completed three questionnaires: (a) *Child*

Self-Efficacy Scale-Adapted (CSES-A); (b) *Sources of Children's Academic Self-Efficacy Scale*

(SCASES); and (c) *Sources of Children's Social-Emotional Self-Efficacy Scale (SCSESES)*.

Finally, teachers completed two measures for each child participant in their classroom: (a)

Student-Teacher Relationship Scale (STRS), and (b) *Teacher Ratings of Children's Functioning*

(TRCF). Each measurement procedure is explained in detail below.

Parent measures. Parents completed the *Child-Parent Relationship Scale* (CPRS;

Pianta, 1992) as a measure of the quality of their relationship with their child. The CPRS

contains 15 items with a 5-point Likert scale response format, with a response of "1" indicating

that the statement "definitely does not apply" and "5" indicating that it "definitely applies." Each

item on the CPRS measures one of two constructs, "closeness" (items 1, 3, 5, 6, 7, 9, and 15) or

"conflict" (items 2, 4, 8, 10, 11, 12, 13, and 14). In the present study, the total score of the CPRS

(range = 15 – 75) was used in data analysis, without separating out items related to "closeness" and "conflict." The CPRS is an unpublished scale; however, mean scores for "closeness" and "conflict" ratings provided by mothers and fathers have been gathered from a sample of 294 boys and 269 girls at multiple ages. Internal consistency reliability estimates (Cronbach's alpha) for the "closeness" and "conflict" subscales were found to be .83 and .72, respectively (Pianta, 1992).

Parents were also asked to respond to two global rating items on the *Parent Ratings of Children's Functioning* (PRCF). The first item of the PRCF asked parents to rate their child's current level of academic achievement from 1 (lowest) to 5 (highest). For the second item, parents were asked to rate their child's overall level of social-emotional adjustment, again from 1 (lowest) to 5 (highest). Two separate scores were utilized in data analyses, including parent ratings of (a) academic achievement (range = 1 – 5), and (b) social-emotional adjustment (range = 1 – 5). Finally, parents completed a brief background information questionnaire about themselves (e.g., age, gender, marital status) and their child. The parent measures are included in Appendix C.

Child measures. Students completed a questionnaire that inquired about their perceived levels of academic and social-emotional self-efficacy, called the *Children's Self-Efficacy Scale-Adapted* (CSES-A). The two subscales on the CSES-A (academic self-efficacy and social-emotional self-efficacy) were created from items on the *Children's Self-Efficacy Scale* (CSES; Bandura, 2006); each was used as an outcome measure in this study. In the development of the current measure, items were drawn from the following CSES subscales: self-efficacy for academic achievement, self-efficacy for self-regulated learning, self-efficacy in enlisting social resources, self-regulatory efficacy, social self-efficacy, and self-assertive efficacy (Bandura,

2006). The Cronbach's alpha coefficients for the self-efficacy scales in the present study ranged

from .80 to .83. Each subscale on the CSES-A is comprised of 10 items, with 20 items total.

Students were asked to respond to each statement by providing a number from zero (cannot do at

all) to 100 (highly certain can do) to indicate how confident they felt about success in each

situation. The CSES-A is found in Appendix D.

To evaluate the sources of children's social-emotional self-efficacy, each child completed

a self-report rating scale entitled the *Sources of Children's Social-Emotional Self-Efficacy Scale*

(SCSESES). This scale is an adapted version of Anderson and Betz's (2001) *Social Sources*

Scale, which was developed to assess social self-efficacy in a sample of college students.

Anderson and Betz's scale is the most current and most thoroughly studied scale of sources of

social-emotional self-efficacy to date. The original *Social Sources Scale* contains 40 items, with

10 items for each theoretical source of self-efficacy, i.e., past performance (mastery

experiences), vicarious learning, social persuasion, and emotional arousal. Anderson and Betz

reported the following internal consistency estimates (coefficient alpha) for each subscale: past

performance (.80), vicarious learning (.77), emotional arousal (.91) and social persuasion (.87).

Because this measure was designed for use with college students, the wording of some items was

altered slightly for purposes of this study to be relevant for elementary and middle school

students. For example, an item that originally stated, "I went to fewer parties than most of my

high school acquaintances" was adjusted to read, "I went to fewer parties than most of my

friends." The resulting SCSESES measure retains the original 40 items with some variation in

wording; the resulting scale was used to measure the sources of children's social-emotional self-

efficacy in this study. For data analysis, each of the four sources of social-emotional self-efficacy

resulted in a separate subscale score (range = 10 – 60). The SCSESES is found in Appendix D.

To assess the sources of children's academic self-efficacy, students completed the *Sources of Children's Academic Self-Efficacy Scale* (SCASES). The SCASES was adapted from Usher and Pajares' *Sources of Academic Self-Efficacy Scale*, which is the most recent version a scale developed by Lent (1991) and later adapted by Usher and Pajares (2009). Usher and Pajares originally developed a 39-item scale that fit Bandura's hypothesized four-factor structure, but found that a revised 24-item version with slightly different items had stronger psychometric properties. Their 24-item scale has been supported with construct and external validity studies with middle-school students. Their final measurement model demonstrated acceptable fit and adequate internal consistency, with Cronbach's alpha coefficients of .88 for mastery experience, .84 for vicarious experience, .88 for social persuasion, and .87 for physiological state (Usher & Pajares, 2009). Because this scale was specifically created for the purpose of studying mathematics self-efficacy, some of the wording for the SCASES was changed to apply to general academic performance. For example, an item originally reading, "I start to feel stressed-out as soon as I begin my math work" was adjusted to read "I start to feel stressed-out as soon as I begin my schoolwork." The resulting SCASES retained all 24 items, which include 6 items addressing each of the following sources of academic self-efficacy: mastery experience, vicarious experience from peers or self, social persuasion, and physiological state. For data analysis purposes, each of the four sources of academic self-efficacy resulted in a separate subscale score (range = 6 – 36). The SCASES is in Appendix D.

Teacher measures. Similar to the parent report form, the teacher report form also contained a measure of the teacher's relationship with the child, the *Student-Teacher Relationship Scale* (STRS; Pianta, 1993). Although the STRS is an unpublished scale, its psychometric properties were evaluated in a sample of 1535 children from Caucasian, African

American, and Hispanic backgrounds. The STRS contains 15 items with a 5-point Likert scale response format, with "1" indicating that the statement "definitely does not apply" and "5" indicating that it "definitely applies." Each item measures one of two constructs, "closeness" (items 1, 3, 5, 6, 7, 9, and 15) or "conflict" (items 2, 4, 8, 10, 11, 12, 13, and 14). In the present study, the total score of the STRS (range = 15 – 75) was utilized throughout the data analyses. The STRS may be found in the top portion of the form in Appendix E.

Similar to the parents, teachers were also asked to respond to two global rating items on the *Teacher Ratings of Children's Functioning* (TRCF). These ratings of children's academic achievement and social-emotional functioning were collected for each participating student. A study by Kilday, Kinzie, Mashburn and Whittaker (2012) found that the correlation between teachers' ratings of students' skills and direct assessment of skills is approximately 0.50, thus supporting the use of a teacher rating of student performance for this study. The first item of the TRCF asked teachers to rate each student's overall level of academic achievement from 1 (lowest) to 5 (highest). For the second item, teachers were asked to rate each child's overall level of social-emotional adjustment, again from 1 (lowest) to 5 (highest). Two separate scores were utilized in data analyses, including teacher ratings of (a) academic achievement (range = 1 – 5), and (b) social-emotional adjustment (range = 1 – 5). The TRCF is located directly below the STRS in Appendix E. Table 2 depicts the measures used in this study, as well as the constructs measured, descriptions, and associated score ranges.

Table 2

Overview of Measures

Construct	Measure	Description	Scores
		Parent Measures	
Parent-child relationship	CPRS (Pianta, 1992)	15 items rated on a 5-point scale to assess the quality of the parent-child relationship (1 = low, 5 = high)	15 - 75
Child academic and social-emotional functioning	PRCF	2 items, each rated on a 5-point scale to assess the parent's rating of their child's academic and social-emotional functioning (1 = low, 5 = high)	1 - 5 per item
		Student Measures	
Children's self-efficacy	CSES-A (Adapted from Bandura, 2006)	20 items rated from 0-100 to assess children's perceived levels of academic and social-emotional self-efficacy (0 = low, 100 = high)	0 – 2000 total
Sources of social-emotional self-efficacy	SCSESES (Adapted from Anderson and Betz, 2001)	40 items rated on a 6-point scale to assess children's experiences with sources of social-emotional self-efficacy building experiences and beliefs (1 = low, 6 = high)	10 - 60 per subscale
Sources of academic self-efficacy	SCASES (Adapted from Usher and Pajares, 2009)	24 items rated on a 6-point scale to assess children's experiences with sources of academic self-efficacy building experiences and beliefs (1 = low, 6 = high)	6 – 36 per subscale
		Teacher Measures	
Teacher-student relationship	STRS (Pianta, 1993)	15 items rated on a 5-point scale to assess the quality of the teacher-student relationship (1 = low, 5 = high)	15 - 75
Child academic and social-emotional functioning	TRCF	2 items, each rated on a 5-point scale to assess the teacher's rating of each student's academic and social-emotional functioning (1 = low, 5 = high)	1 - 5 per item

Procedure

     Participant recruitment. After receiving approval from both the University of

Wisconsin-Madison Internal Review Board and the VBCPS Research Review Committee in

December 2012, principals at 15 schools were contacted to obtain approval to recruit

participants. The researcher consulted with the director of psychological services at VBCPS to

determine which schools to target for participation, based on perceived likelihood of principal's

approval of the research study. Principals at 3 middle schools (out of the 14 total in the district)

were approached for approval, which represents 21% of the district's middle schools. Principals

at 12 elementary schools (out of 56 total in the district) were approached for participation,

representing 21% of the district's elementary schools. After obtaining clearance from 12 of the

school principals (3 middle and 9 elementary), 155 teachers from those VBCPS schools were

recruited for participation in January 2013. The initial teacher contact e-mail script may be found

in Appendix B. In that teacher reports were integral to this research, classrooms were selected

based on teachers' willingness to participate in the study. Teachers received a description of the

research study and completed signed consent forms that are found in Appendix B. Originally, a

total of 8 teachers consented to participate in the study (three in Grade 2, two in Grade 5, and

three in Grade 8). Follow-up contacts with teachers were made in an attempt to include

additional classrooms in the study. After this follow-up, a total of 20 teachers consented to

participate in the study (seven in Grade 2, six in Grade 5, and seven in Grade 8). Of the 155

teachers initially contacted, 20 teachers agreed to participate, representing a teacher response rate

of 12.9%. Next, parents and children from each of the participating classrooms were recruited for

the study in February. Each of the 20 teachers provided information regarding their class sizes,

and as a result, a total of 461 parent/child pairs were available for inclusion in the study at that

time. A flowchart depicting how the estimated total number of possible participants was reduced

to the actual number of participants is depicted in Figure 1. Individual family packets containing parent consent forms, parent surveys, child consent forms, and child surveys were sent home from school with each student enrolled in a participating teacher's classroom. Directions for completing the survey packet and returning it via U.S. mail were enclosed along with a postage-paid return envelope. Finally, teachers of participating students were asked to complete the STRS and the TRCF in late March. Participating teachers were entered into a raffle to win one of five $20 monetary awards for participating in the study. These awards were distributed to teachers in April 2013.

Figure 1

Possible Participants to Actual Participants

Estimated total number of 2nd, 5th, and 8th grade teachers in the district (n = 910 available teachers)

15 school principals approached (n = 195 available teachers)

12 principals elected to participate (n = 155 available teachers)

Teachers initially recruited by e-mail (n = 8 consenting teachers)

In-person follow-up teacher contacts (n = 20 consenting teachers)

Surveys sent to the available parent/child pairs from the 20 participating classrooms (n = 461 available pairs)

7.7 % of parent/child pairs participated (n = 12 participating classrooms)

Reminder notes and extended cutoff date sent to all families (n = 47 parent/child pairs in 12 classrooms)

Final Grade 2 parent/child pairs participating (n = 11)

Final Grade 5 parent/child pairs participating (n = 14)

Final Grade 8 parent/child pairs participating (n = 22)

Data collection. Consistent with school district policy, all measures were required to be completed outside of instructional time. Therefore, parent and child measures were sent home from the school to families in late January. Parents and children were given information pertaining to active consent and were asked to return their consent forms and surveys in February. Postage-paid envelopes were provided to children and parents separately for confidentiality and convenience to return completed surveys directly to the researcher by mail. Data from parent and child surveys were entered into an SPSS computer software program on the original cutoff date, at which point families from only 12 classrooms had chosen to participate. Following this 7.7% response rate, the researcher sent reminder notes to families of students in all 20 classrooms and extended the cutoff date for returning parent and child surveys until March 2013. After the extended cutoff date, 47 families from 12 classrooms at 12 schools (3 second-grade classrooms, 4 fifth-grade classrooms, and 5 eighth-grade classrooms) had participated in the study. The 47 families who participated out of a possible 461 pairs correspond to a family response rate of 10.2%. Next, the 12 teachers were asked to complete surveys for each participating student in their classrooms. Teachers completed surveys only during non-contractual time. The researcher collected the completed teacher surveys. Teachers completed their surveys in the spring so they had sufficient time to interact with students and build relationships with them before data were collected.

After data were collected, each family was assigned an identification number that linked the student's data with his/her respective parent and teacher survey information. Once the surveys were collected, only identification numbers (rather than specific names) were used during the data analysis phase of the research study. For accuracy in data entry, scoring was double-checked by the examiner by entering each piece of data twice to account for and correct

any scoring errors. To protect participants' right to confidentiality, specific responses provided by teachers were not shared with parents or children and vice versa. Every attempt was made to maintain school, teacher, parent, and student confidentiality. Information regarding the timeline for study procedures may be found in Table 3.

Table 3

Timeline of Study Procedures

	Months (2012-2013)				
Procedure	Dec.	Jan.	Feb.	Mar.	Apr.
IRB Approval	X				
Teacher Recruitment and Consent		X			
Parent Recruitment and Consent			X	X	
Child Recruitment and Assent			X	X	
Parent Measures			X	X	
Child Measures			X	X	
Teacher Measures				X	
Distribution of Gift Cards					X

Statistical analyses. Multi-level modeling was used as the primary statistical analysis procedure in this research study. Various student-level independent factors served as level-one predictor variables, as determined by the specific research questions. Individual classrooms served as the level-two predictor variables to account for differences that affect entire classrooms (Raudenbush & Bryk, 2002). Additional analyses were conducted using Analysis of Variance (ANOVA) methods and Pearson Product Moment Correlations.

The first research question asked: *To what extent is children's academic self-efficacy explained by (a) the parent-child relationship, (b) teacher-child relationship, (c) grade level, and (d) degree of experience with or exposure to sources of academic self-efficacy?* The study employed Hierarchical Linear Modeling (HLM) to determine how mastery experiences (Level 1 variable), vicarious experiences (Level 1 variable), social persuasions (Level 1 variable), physiological states (Level 1 variable), the teacher-student relationship (Level 2 variable), the parent-child relationship (Level 1 variable), and child grade level (Level 1 variable) contributed to children's self-reported self-efficacy in academic domains (dependent variable).

The second research question asked: *To what extent is children's social-emotional self-efficacy explained by (a) the parent-child relationship, (b) teacher-child relationship, (c) grade level, and (d) degree of experience with or exposure to sources of social self-efficacy?* Similar to the analysis procedure for the first research question, HLM was used to determine how mastery experiences (Level 1 variable), vicarious experiences (Level 1 variable), social persuasions (Level 1 variable), physiological states (Level 1 variable), the teacher-student relationship (Level 2 variable), the parent-child relationship (Level 1 variable), and child grade level (Level 1 variable) contributed to children's self-reported self-efficacy in social-emotional domains (dependent variable).

The third research question asked: *How do parent-child relationships, teacher-child relationships, and the sources of children's self-efficacy differ across three grade levels?* For this question, the study utilized one-way analysis of variance (ANOVA) methods to examine differences across three grade levels (independent variable) in terms of the parent-child relationship, teacher-student relationship, sources (total) of academic self-efficacy, and sources (total) of social-emotional self-efficacy (dependent variables).

The fourth research question asked: *What is the pattern of correlations among students' achievement and adjustment, parent-child relationships, teacher-child relationships, and grade level?* For this question, Pearson product-moment correlation coefficients were calculated to investigate the associations among parent-child relationships, teacher-student relationships, grade level, and ratings of children's academic achievement and social-emotional adjustment.

CHAPTER 3

RESULTS

Preliminary Data Analyses

Prior to addressing the research questions, descriptive statistics for the predictor and outcome variables were calculated. This information may be found in Table 4. The purpose of the preliminary data analyses was to (a) ensure a relatively normal distribution, (b) determine which predictor variables to include in the HLM analyses, and (c) determine necessary elimination or imputation of particular variables. During the preliminary data analyses, the kurtosis and skewness values were examined. For all of the variables under consideration, the values were not significantly different from zero, suggesting that each followed a normal distribution.

Power. The issue of statistical power was also considered for conducting HLM analyses. Due to complexity and debate among multi-level modeling researchers, no clear "rule of thumb" is commonly accepted when conducting HLM analyses. In his summary of several multi-level modeling studies, Kreft (1996) reported finding .90 power to detect effects when studies contained 30 level-two units, each containing 30 level-one units. To align with Kreft's findings, the present study aimed to include 30-45 classrooms (as level-two units) and as many students (level-one predictors) as possible (up to 30 students). Most classrooms, however, had fewer than 30 students enrolled, and many chose not to participate. In addition, the goal of 30-45 classrooms was not met, despite multiple teacher recruitment attempts. Even then, after some teachers consented to participate, sometimes no children or parents from their classrooms elected to be part of the study, which precluded those classrooms from being included as level-two units. Therefore, results from the analyses should be viewed in light of these sample size and power considerations.

Table 4

Summary of Predictor and Outcome Variables

Variable	N	% Missing	Range	Frequency (%) or M (SD)
Grade Level	47	0.0	2, 5, 8	(23%, 30%, 47%)
Child-Parent Relationship Scale	46	2.1	2.33 - 4.33	3.11 (.37)
Student-Teacher Relationship Scale	47	0.0	1.66 - 3.47	2.53 (.40)
Academic Self-Efficacy	45	4.3	61 - 99	82.99 (12.25)
Academic Mastery Experience	46	2.1	3.50 - 5.33	4.74 (.43)
Academic Vicarious Experience	46	2.1	2.16 - 6.0	4.84 (.93)
Academic Social Persuasions	46	2.1	2.66 - 6.0	5.16 (.83)
Academic Physiological States	46	2.1	1.00 - 4.16	1.92 (.94)
Teachers' Academic Ratings	47	0.0	2.00 - 5.00	4.09 (.86)
Parents' Academic Ratings	45	4.3	3.00 - 5.00	4.50 (.64)
Social-Emotional Self-Efficacy	45	4.3	59 -100	85.45 (17.25)
Soc-Emo. Mastery Experience	45	4.3	3.10 - 5.10	4.08 (.48)
Soc-Emo. Vicarious Experience	45	4.3	3.00 - 4.70	3.82 (.47)
Soc-Emo. Social Persuasions	45	4.3	2.00 - 5.22	4.26 (.65)
Soc-Emo. Physiological States	45	4.3	1.80 - 5.50	3.03 (.77)
Teachers' Social-Emotional Ratings	47	0.0	2.00 - 5.00	4.00 (.75)
Parents' Social-Emotional Ratings	46	2.3	1.00 - 5.00	3.93 (1.00)

Missing data analyses and estimation. The percentage of missing data in this study was compared to the guidelines reflected in Cohen and Cohen (1983), which suggest that a reasonable percentage of missing data may range from 5% to 10% for a given variable. As depicted in Table 4, the percentage of missing data ranged from 0.0% to 4.3%, which suggests that the low amount of missing data in this sample did not warrant imputation of data. Additionally, visual analysis was used to determine if data were missing at random, or if the pattern of missing data was systematic. For the full data set, one entire parent survey and one entire child survey were missing. In addition, one child returned the survey without completing the SCSESES, and one student was missing information related to levels of academic and social-emotional self-efficacy. One parent did not provide a rating of overall academic achievement. Information gathered from teachers was fully complete with no missing values. Based on the analysis of missing data, there appeared to be no systematic pattern to the missing values. Therefore, assuming that the data were missing at random, estimation in the form of residual maximum likelihood (REML) was used when calculating the parameters of the Hierarchical Linear Models.

HLM, ANOVA, and Correlations

Predictors of academic self-efficacy. Hierarchical Linear Modeling (HLM) was used to answer the first research question regarding predictors of children's academic self-efficacy. A two-level random intercept, multi-level model that accounted for students (Level 1) nested within classrooms (Level 2) was applied. With the exception of the grade-level variable, all of the variables were continuous and were considered fixed to allow for clear interpretation and discussion of the results.

For the first research question, a series of models were fit. First, an unconditional model was estimated to assess the amount of variability between and within the classrooms in terms of students' academic self-efficacy. Table 5 presents the estimates of the variance components of the unconditional model, including the variance components associated with the fixed and random effects.

Table 5

Summary of Variance Estimates for the Unconditional Model in Research Question 1

Fixed Effect	Coefficient	SE	*p* Value
Average Classroom Mean	83.41**	2.08	< .01

Random Effect	Variance Component	SE
Classroom Mean	11.37	25.01
Level 1 Effect	140.01	34.59

Model Fit	
χ^2	348.87
BIC [a]	356.44

[a] Schwarz's Bayesian Criterion (BIC) is a quantitative index of model fit. Better-fitting models have more negative values. When comparing models, a difference in BIC of 10 indicates that the model with the lower value is the better-fitting model (Krueger, Hicks, Patrick, Carlson, Iaocono, & McGue, 2002). This BIC value from the unconditional model is compared to the value from the conditional model (see Table 4).

The grand mean academic self-efficacy estimate is 83.41 with a standard error of 2.08. In the following equation, the intra-class correlation (ICC; ρ) describes the proportion of variance associated with differences between classrooms, where τ_{00} is the classroom-level variance and σ^2 is the student-level variance.

$$\rho = \tau_{00} / (\tau_{00} + \sigma^2) = 11.37 / (11.37 + 140.01) = .075$$

This indicates that approximately 7.5% of the academic self-efficacy variance is between classrooms.

Subsequently, a multi-level conditional model was created to account for the effects of the predictors on the dependent variable. At Level 1, six child-level predictors were included in the model: (a) SCASES mastery experiences (b) SCASES vicarious experiences, (c) SCASES social persuasions, (d) SCASES physiological states, (e) child grade level, and (f) parent-child relationships (CPRS). At Level 2, one classroom-level predictor was entered into the model: (a) teacher-student relationships (STRS).

In the following equations, the subscript i denotes the individual-level and the subscript j denotes the classroom-level. The multi-level model for the academic self-efficacy dependent variable included the following Level 1 equation:

$$Y_{ij} = \beta_{0j} + \beta_{1j} \text{ (SCASES mastery experiences)} + \beta_{2j} \text{ (SCASES vicarious experiences)} +$$
$$\beta_{3j} \text{ (SCASES social persuasions)} + \beta_{4j} \text{ (SCASES physiological states)} +$$
$$\beta_{5j} \text{ (grade level)} + \beta_{6j} \text{ (CPRS)} + R_{ij}$$

The multi-level model for the academic self-efficacy dependent variable included the following Level 2 equation:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} \text{ (STRS}_j) + u_{0j}$$

This multi-level model was fit to determine the effects of the independent variables on children's academic self-efficacy (dependent variable), which is noted in the equation as Y_{ij}.

At Level 1, the coefficient for children's physiological states was positive and significant at the .05 level, indicating that students who felt calmer and less anxious in academic situations also reported higher levels of academic self-efficacy. In addition, the coefficient for the CPRS

was positive and significant at the .05 level, suggesting that stronger parent-child relationships were associated with students' higher academic self-efficacy. Finally, the STRS Level 2 predictor was positive and significant at the .05 level, which indicates that stronger teacher-student relationships were also associated with higher academic self-efficacy. See Table 6.

Table 6

HLM Results for Research Question 1, Academic Self-Efficacy Outcomes

	Children's Academic Self-Efficacy B (SE)
Intercept	**96.41** (25.07)**
Level 1Predictors (Student-Level)	
SCASES Mastery Experiences	.01 (5.55)
SCASES Vicarious Experiences	.24 (2.60)
SCASES Social Persuasions	.11 (3.66)
SCASES Physiological States	**4.34* (2.27)**
Grade Level	.07 (2.78)
CPRS	**4.68* (3.57)**
Level 2 Predictor (Classroom Level)	
STRS	**4.65* (3.11)**

Model Fit	Estimate
χ^2	276.65
BIC [a]	283.81

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

[a] BIC value calculated from the full HLM (283.81) differs from the BIC value from the unconditional model (356.44; see Table 5) by more than 10. This difference provides evidence that the full HLM model is a better-fitting model than the unconditional model.

Predictors of social-emotional self-efficacy. Statistical analyses for the second research question concerning the predictors of social self-efficacy paralleled the analysis for the first question regarding academic self-efficacy. Again, a series of HLM models were fit. First, an unconditional model was estimated to assess the variability in social-emotional self-efficacy between and within the classrooms. Table 7 presents the estimates of the variance components of the unconditional model, including the variance components associated with the fixed and random effects.

Table 7

Summary of Variance Estimates for the Unconditional Model in Research Question 2

Fixed Effect	Coefficient	SE	*p* Value
Average Classroom Mean	85.47**	2.98	< .01
Random Effect	Variance Component	SE	
Classroom Mean	26.96	49.66	
Level 1 Effect	273.96	67.16	
Model Fit			
χ^2	378.89		
BIC	386.46		

The grand mean social-emotional self-efficacy estimate is 85.47 with a standard error of 2.98. The ICC was calculated as follows:

$$\rho = \tau_{00} / (\tau_{00} + \sigma^2) = 26.96 / (26.96 + 273.96) = .089$$

This indicates that approximately 9% of the social-emotional self-efficacy variance is between

classrooms.

A subsequent multi-level conditional model was created to account for the effects of the predictors on the dependent variable. At Level 1, six child-level predictors were included in the model: (a) SCSESES mastery experiences (b) SCSESES vicarious experiences, (c) SCSESES social persuasions, (d) SCSESES physiological states, (e) child grade level, and (f) parent-child relationships (CPRS). At Level 2, one classroom-level predictor was entered into the model: (a) teacher-student relationships (STRS).

In the following equations, the subscript i denotes the individual-level and the subscript j denotes the classroom-level. The multi-level model for the social-emotional self-efficacy dependent variable included the following Level 1 equation:

$$Y_{ij} = \beta_{0j} + \beta_{1j} \text{ (SCSESES mastery experiences)} + \beta_{2j} \text{ (SCSESES vicarious experiences)} +$$
$$\beta_{3j} \text{ (SCSESES social persuasions)} + \beta_{4j} \text{ (SCSESES physiological states)} +$$
$$\beta_{5j} \text{ (grade level)} + \beta_{6j} \text{ (CPRS)} + R_{ij}$$

The multi-level model for the social-emotional self-efficacy dependent variable included the following Level 2 equation:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} \text{ (STRS}_j) + u_{0j}$$

This multi-level model was fit to determine the effects of the independent variables on children's social-emotional self-efficacy, which served as the outcome variable.

Results for social-emotional self-efficacy were the same as for academic self-efficacy. Specifically, at Level 1, the coefficient for children's physiological states was positive and significant ($p < .01$), as was the CPRS ($p < .05$). In addition, the STRS Level-2 predictor variable was also positive and significant ($p < .05$). See Table 8.

Similar to the first research question, the predictions for the second question were partially supported. Only one of the four sources of self-efficacy contributed to students' social-emotional self-efficacy (physiological states). The grade-level prediction was not upheld; younger children did not report higher levels of social-emotional self-efficacy. Similar to academic self-efficacy, stronger adult-reported parent-child and teacher-child relationships were related to higher self-reported social-emotional self-efficacy in students.

Table 8

HLM Results for Research Question 2, Social-Emotional Self-Efficacy Outcomes

	Children's Social-Emotional Self-Efficacy B (SE)
Intercept	**98.81* (35.22)**
Level 1Predictors (Student-Level)	
SCSESES Mastery Experiences	5.81 (4.27)
SCSESES Vicarious Experiences	2.44 (3.97)
SCSESES Social Persuasions	.27 (3.86)
SCSESES Physiological States	**9.30** (2.52)**
Grade Level	.07 (2.61)
CPRS	**4.71* (3.82)**
Level 2 Predictor (Classroom-Level)	
STRS	**4.54* (3.61)**
Model Fit	Estimate
χ^2	310.67
BIC [a]	317.78

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

[a] BIC value calculated from the full HLM (317.78) is lower than the BIC value from the unconditional model (386.46; see Table 7) by more than 10; the observed difference provides evidence that the full HLM model is a better-fitting model than the unconditional model.

Grade-level differences. A series of one-way analyses of variance (ANOVAs) was used to examine grade-level differences in parent-child relationships, teacher-child relationships, and student-reported sources of self-efficacy. Due to inconsistently missing data, mean scores were calculated for each of the predictor variables in order to account for missing item scores. Scores from each source subscale were combined into one total score when calculating means for the SCASES and SCSESES. Please refer to Table 9.

Based on these analyses, there were no significant differences across grades in terms of: (a) parent-child relationships, based on parent report, $F (2, 43) = 1.49$, $p = .237$; (b) teacher-student relationships, based on teacher report, $F (2, 44) = .584$, $p = .562$; (c) sources of academic self-efficacy, based on student report, $F (2, 43) = .120$, $p = .887$; or (d) sources of social-emotional self-efficacy, based on student report, $F (2, 42) = 1.081$, $p = .348$. In sum, the prediction that self-reported sources of self-efficacy and adult (teacher, parent)-child relationships would vary across grade levels was not supported.

Table 9

ANOVA Statistics for Grade-Level Differences

Outcome	Predictor	N	Mean	Std. Dev.	Std. Error	Range
Grade 2	CPRS	11	3.2727	.3469	.1046	2.7333 - 3.6666
	STRS	11	2.4454	.2099	.0633	2.0666 - 2.8000
	SCASES	11	4.1701	.4488	.1353	3.2083 - 4.8333
	SCSESES	11	3.9048	.3820	.1152	3.5641 - 4.9872
Grade 5	CPRS	13	3.0256	.2488	.0690	2.6667 - 3.6667
	STRS	14	2.6190	.4456	.1191	2.1333 - 3.4667
	SCASES	13	4.1254	.3463	.0961	3.3750 - 4.5833
	SCSESES	12	3.8078	.3168	.0915	3.3846 - 4.5385
Grade 8	CPRS	22	3.0905	.4191	.0894	2.3333 - 4.3333
	STRS	22	2.5182	.4493	.0958	1.6667 - 3.4000
	SCASES	22	4.1913	.3713	.0792	3.2500 - 4.6667
	SCSESES	22	3.7427	.2390	.0510	3.3500 - 4.2500

Correlations among parent and teacher ratings and grade level. Pearson product-moment correlation coefficients were calculated to examine the strength of the relationships among parent-child relationships, teacher-child relationships, grade level, and parent and teacher ratings of children's achievement and adjustment. To correct for multiple comparisons, the Bonferroni correction method was used to control for Type I error. Results from the correlation analyses may be found in Table 10.

Of these analyses, only three correlations achieved statistical significance. First, there was a small positive correlation between parent and teacher academic ratings ($r = .290$, $p < .05$); however, the correlation between parent and teacher ratings of children's social-emotional adjustment was not significant ($r = .151$, ns). That is, teachers and parents were likely to rate a child's level of academic achievement similarly, but not social-emotional functioning. Second, there was a small positive relationship between parent ratings of children's academic achievement and grade level ($r = .281$, $p < .05$). Parents of older children were more likely to provide higher ratings of their children's academic achievement. Finally, a moderate positive relationship was found between teacher ratings of children's academic achievement and their ratings of social-emotional functioning ($r = .541$, $p < .01$). The correlation between parent ratings of children's academic achievement and ratings of social-emotional functioning, however, was not significant ($r = .178$, ns).

Table 10

Correlations among Grade Level, Adult-Child Relationships, and Child Outcome Ratings

	1	2	3	4	5	6	7
1. CPRS	---						
2. STRS	.133	---					
3. Grade Level	-.169	.044	---				
4. TRCF: Academic	.021	.041	.158	---			
5. PRCF: Academic	.125	.116	.281*	.290*	---		
6. TRCF: Social-Emotional	-.160	-.227	.213	.541**	.193	---	
7. PRCF: Social-Emotional	-.209	-.045	.128	.035	.178	.151	---

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

CHAPTER 4

DISCUSSION

The intent of this research was to further an understanding of academic and social-emotional self-efficacy in students. A main goal of this study was to examine the extent to which interactions and relationships with adults (i.e., parents and teachers) contribute to self-efficacy in a group of children at varied grade levels. Research indicates that a strong sense of self-efficacy is integral to children's success both in the academic realm as well as in their social-emotional development. When children feel capable of creating positive outcomes in these domains, they are more likely to persevere and succeed. Increasing children's feelings of self-efficacy may lead to greater academic gains as well as healthier social interactions and emotional maturity. Determining which factors promote children's self-efficacy at home and at school has the possibility of benefiting children by informing parenting practices and improving teacher training programs. Therefore, exploring the contributions of students' experiences with sources of self-efficacy and the quality of their adult-child relationships is vital to learning about how to promote children's social-emotional and academic self-efficacy development.

The following discussion is organized into four main parts. First, the major study findings and contributions are discussed in terms of the four main research questions. Second, an analysis of the study's strengths and limitations is presented. Third, the implications for educators, parents, and researchers are considered. Finally, study conclusions are provided.

Major Findings

Research Question 1: Predictors of academic self-efficacy. The results from the analysis for the first research question provide information regarding how theoretical sources of academic self-efficacy, parent-child relationships, teacher-child relationships, and children's

grade level predict children's levels of academic self-efficacy. Overall, the results were partially consistent with prior research involving the sources of self-efficacy. In particular, when evaluating the relative contributions of the four sources of self-efficacy, only physiological states emerged as a significant predictor of academic self-efficacy. When children felt more at ease when confronted with challenging schoolwork or tests, they reported higher levels of overall self-efficacy. For students in this study, an ability to maintain a sense of calmness during challenging schoolwork and tests was related to their confidence in their abilities to get good grades and perform well. Children who approached schoolwork feeling stressed, nervous, or depressed reported less confidence in their abilities to concentrate on school subjects, learn academic material, and remember information presented in class.

Contrary to previous research, however, three additional sources of self-efficacy (mastery experiences, vicarious experiences, and social persuasions) were not significant predictors of academic self-efficacy in this study. One possible explanation for this lack of findings is that perhaps the four sources on self-efficacy were not completely captured by the measures used in this study. For instance, the measures that were utilized asked students to rate the degree to which they had received or been exposed to each theoretical source of self-efficacy, and not the impact of each source on self-efficacy per se. Although efforts were made to accurately capture the impact of the four theoretical sources of self-efficacy, the method of data collection and survey format may have resulted in an imperfect representation of the self-efficacy development that the students may have internalized. Although this study did not find three of the four sources of self-efficacy to be significant predictors, additional research studies with much larger sample sizes may reveal the relationships theorized by Bandura that exist between self-efficacy and mastery experiences, vicarious experiences, and social persuasions. Also, it is possible that self-

reporting of physiological states may be easier for students to do, because such internal states are simpler to self-identify than are external sources or events, such as mastery experiences or social persuasions.

In addition, the HLM analysis did not support the prediction that children's academic self-efficacy would vary based on children's grade level. Contrary to predictions, children did not demonstrate different modes of self-efficacy development based on grade level. Children in Grades 2, 5 and 8 did not report significantly different levels of academic self-efficacy.

There were, however, links with adult-child relationships that emerged through the HLM analyses. The strength of parent-child relationships was related to children's reported levels of academic self-efficacy. That is, when parents reported sharing a close, supportive bond with their children, their children reported stronger beliefs that they could succeed at difficult school-related tasks. A similar connection was revealed between the quality of teacher-student relationships and academic self-efficacy. When teachers rated their relationships with children as encouraging and compassionate, their students also reported high levels of schoolwork-related self-efficacy.

In sum, as a group, students who feel calm, content, and relaxed in school and who share close relationships with their teachers and parents also reported high levels of academic self-efficacy. Specifically, they report feeling confident in their ability to learn subjects such as math, science, reading, writing, computers, and social studies; and in their skills related to arranging appropriate study spaces, remembering information read in textbooks, and managing distractions while studying.

Research Question 2: Predictors of social-emotional self-efficacy. The results from the analysis for the second research question concerning social-emotional self-efficacy paralleled the

findings for academic self-efficacy. The factors that significantly contributed to children's levels of academic self-efficacy were also related to children's social-emotional self-efficacy. First, children's physiological states emerged as a significant predictor of children's social-emotional self-efficacy. When children were able to manage symptoms of social anxiety, they felt more confident in their abilities to be successful when confronted with difficult social situations. Children who felt uneasy or nervous when approaching social situations reported feeling less capable of controlling their tempers, making friends, and standing up for themselves.

The three other hypothesized sources of self-efficacy (mastery experiences, vicarious experiences, and social persuasions) did not predict children's social-emotional self-efficacy. As in the first research question, the study may not have adequately captured the four theoretical sources using the survey and self-report format. The present study's focus on global social-emotional and academic self-efficacy may have minimized the likelihood of finding effects for the other sources of self-efficacy. Since self-efficacy is often task-specific (e.g., math self-efficacy), measuring general or global self-efficacy may have contributed to having only partial support for Bandura's model. Again, these results may reflect the notion that for children, self-reporting of physiological states may have emerged as a significant predictor since it is a simpler task involving less inference.

In addition, similar to results for the first research question, children in different grades did not report significantly different levels of social-emotional self-efficacy. This may be a result of the students being somewhat similar in age, representing a narrower grade level span than necessary to determine differences. Another possible explanation is that students may have felt pressure to respond in a socially appropriate manner and protect their self-image, resulting in a

general inflation of self-efficacy ratings across all grade-level groups in order to present themselves with at least a minimal competence rating in each domain.

Also similar to the finding for the first research question, relationships between parents and children as well as between teachers and students emerged as significant predictors of children's reported levels of social-emotional self-efficacy. When children shared close, supportive bonds with their parents and teachers, they also demonstrated more confidence in their abilities to successfully manage social-emotional situations, such as making new friends, resisting peer pressure, and carrying on conversations with others.

In sum, as a group, children who were better able to manage social anxiety and who shared close relationships with parents and teachers displayed social-emotional self-efficacy, such as feeling confident in being able to work well in a group, getting friends to help them with social problems when necessary, and standing firm in response to unreasonable or inconvenient requests.

Research Question 3: Grade-level differences. The ANOVA analyses for the third research examined differences in parent-child relationships, teacher-student relationships, and sources of self-efficacy across three grade levels. Results indicated that there was no significant effect of grade level on any of the measured variables. Contrary to predictions, students in Grades 2, 5, and 8 rated the sources of self-efficacy similarly. Also inconsistent with study hypotheses, adult-child relationships did not vary based on children's grade level. Due to the limited number of participants in this study, however, further research including more children from a wider range of grade levels and ages may reveal whether age- or grade-level differences exist.

Research Question 4: Correlations among variables. Results for the fourth research question reveal some interesting correlations among the research variables. First, parents of older children were more likely to provide higher ratings of their children's academic achievement. This could be the result of a self-selection bias; that is, older children may have been more involved in the decision to participate in the study than were younger children. It is plausible that students who were generally high achieving and conscientious may have encouraged their parents to jointly participate in the study, resulting in participants who were likely to be rated by parents as having the "highest levels of academic achievement." In turn, parents of younger children may have had more control over the decision-making process of whether or not to participate in the study, which may have resulted in children representing more diverse academic abilities in the lower grades.

As predicted, parent and teacher ratings of children's academic abilities were significantly correlated; however, parent and teacher ratings of social-emotional adjustment were not. This discrepancy in alignment between parent and teacher ratings may be due to many factors. One possible explanation is that more information is often shared between teachers and parents regarding academic grades as opposed to social-emotional adjustment. Teachers often provide detailed information about students' grades and academic progress, with less information sharing about social-emotional development. Whereas grades are typically presented in a concrete, letter format (e.g., A-, C+), information sharing between school and home regarding behavior is frequently described in a subjective, anecdotal manner in response to particularly positive or negative incidents. Therefore, it may be more difficult for parents and teachers of students with "average" social-emotional needs and capabilities to have opportunities to share

adequate information when the child's level of social-emotional development is considered to be typical for their age.

Another interesting finding was that teachers provided comparable ratings for students' academic achievement and their social-emotional adjustment. That is, when teachers provided high ratings of academic achievement for a student, they also tended to provide high ratings of social-emotional adjustment. This may be due to teachers not differentiating between children's social-emotional functioning and their academic achievement. Oftentimes, classroom behavior and social-emotional functioning can be either an aid or a hindrance in children's academic skill development. Children with challenging behaviors often exhibit academic skill problems. Similarly, children with positive classroom behaviors often have higher academic performance. Therefore, it is understandable that teachers would report similar levels of social-emotional adjustment and academic achievement for many students.

Strengths and Limitations of the Study

This study contributed to the self-efficacy literature by examining the extent to which adult-child relationships and efficacy-enhancing experiences contribute to students' level of academic and social-emotional self-efficacy. This research is unique in that it is framed within previous research and theory focusing on four sources of self-efficacy (Bandura, 1997) and incorporated a developmental approach by examining differences across three grade levels. This study provided accessible information that teachers, parents, and researchers may incorporate into their parenting practices, teaching approaches, and research methodology in order to promote students' self-efficacy beliefs.

As with any research project, this study has limitations that both limit the conclusions that can be drawn and point to directions for future research. First, the low response rate was a

limitation of this study. Only 12.9% of the teachers and 10.2% of families contacted for participation elected to complete and return the surveys. Of the 20 teachers who volunteered, only 12 had students willing to participate, and in turn, were able to complete the study. This represents a 7.7% teacher participation rate. A larger sample size would have given the study more power to detect effects and relationships between the variables. Also, the number of students and teachers participating at each grade level was not equal; more eighth-grade students and teachers elected to participate than did those in fifth and second grades. Although the response rate was lower than anticipated and fell short of guidelines for adequate numbers of participants, the sample size allowed for multiple comparisons to be made using an HLM framework that took into account classroom-level factors as well as student-level factors.

Second, the measurement relied exclusively on self-report (students) and parent and teacher ratings instead of direct measurement procedures. According to Stone, Speltz, Collett, and Werler, (2013) reports from teachers, parents, and children may be more subject to bias and limited reliability than are direct measurement procedures (e.g., observations or skill assessment). For example, respondents may have interpreted the wording of some questions differently, and the researcher was not physically present to answer questions when participants completed the questionnaires. The survey format could not ensure objective reporting of interactions between adults and children. Moreover, participants may have responded in a socially desirable way, such that the reporting of the strength of relationships with students and of self-efficacy beliefs may be inflated.

Additionally, in that surveys were completed independently by each participant, the researcher had no way of guaranteeing that the data were provided by the individuals listed on the consent forms. In addition, to minimize the length of the questionnaires, single measures

were used to assess broad constructs. For example, the quality of the teacher-student relationship was based solely on teacher ratings on the STRS. Future research could utilize multiple informants (e.g., students and teachers) and multiple methods to gather data related to the research variables in question. The fact that certain constructs were measured by single survey measures from children, teachers, and parents is a limitation of the current study.

Another related limitation involves the issue of selection bias. The study did not utilize any type of random sampling procedure. It is possible that families and teachers who willingly volunteered to participate in the study were qualitatively different from those who did not choose to participate. Families with higher-achieving students may have been more likely to complete the study. They may have felt less pressure to devote extracurricular time to incomplete homework, and instead, volunteered time to participate in the study. Parents who chose to participate may have had more confidence in their child's ability to complete the survey, thus creating a sample of students who may have demonstrated capability and dependability in past situations in order to gain their parents' confidence. Also, some parents may have been more encouraging of their children to participate, whereas some children may not have been able to participate if their parents did not also consent, and vice versa. Some parents of lower socioeconomic status may have felt pressure over their time if they had to choose between working and participating in the study, which may have inhibited their families from participating. Moreover, selection of available families was dependent on teacher consent for participation. Since teacher consent was a prerequisite for student and parent participation, bias existed in which families were approached to participate. In the same manner, information from several consenting teachers was not collected because no student-parent pairs from their classes

elected to participate. In sum, selection bias may have played a role in the resulting dataset, and is considered a limitation to this survey-based research.

Finally, this research examined a specific set of variables hypothesized to relate to children's academic and social-emotional self-efficacy. Numerous other factors (not measured in this study) may have influenced children's development of self-efficacy. This study narrowed its focus on Bandura's (1996) four sources of self-efficacy and Pianta's (1992) conceptualization of teacher-child and parent-child relationships. Future research should examine multiple predictors, including moderating and mediating variables, with larger samples of students. Finally, additional research investigating the degree to which self-efficacy predicts academic and social-emotional outcomes would be beneficial.

Implications for the Future

Understanding the influence of students' experiences and relationships with adults on their self-efficacy beliefs is important for several key stakeholders, including researchers, educators, and parents. The following section describes the implications of the results from this study for each group.

Implications for researchers. This study offers multiple suggestions for avenues of future research on self-efficacy development and children's relationships with teachers and parents. First, this study highlighted the association between children's physiological states and their levels of academic and social-emotional self-efficacy. Further research could explicitly examine this relationship and determine more directly how children can be taught to recognize and control their levels of physiological arousal. In addition, studies that develop ways for children to reflect on and rate their levels of anxiety or worry in stressful academic and social-emotional situations would be a beneficial addition to the literature. The research base would

benefit from gaining more information on practical ways to intervene with children to help them to manage their physiological states, and in turn, their self-efficacy beliefs.

Further research is necessary to fully understand the interactions and experiences that converge to contribute to students' self-efficacy beliefs. This study confirmed the link between children's physiological states and their academic and social-emotional self-efficacy, but the contributions of mastery experiences, vicarious experiences, and social persuasions were not supported. Future studies using a larger sample of children may provide more detailed information about the relative contributions of the self-efficacy sources. Moreover, additional research may aid in further determining the degree to which self-efficacy relates to children's academic and social-emotional outcomes.

An interesting finding from this study that could serve as the basis for future research is the link between the adult-child relationships and children's academic and social-emotional self-efficacy. This study found that when adults (parents, teachers) reported they shared warm, supportive relationships with children, the children also reported higher levels of self-efficacy. Further research should examine the intricate connections and bonds that children share with these important adults, and how they contribute to students' beliefs that they can be successful. Additional studies that point to the significant factors comprising quality parent-child and teacher-student relationships would add to the research base and serve as helpful resources for parents and teachers.

A final area for future research is to examine how the teacher-student relationship and the parent-child relationship predict children's self-efficacy in other domains, such as making career choices, using new forms of technology, or making health-related decisions. This study targeted self-efficacy in academic and social-emotional domains; however, research focusing on

children's beliefs about succeeding in a multitude of different life activities would be interesting and relevant for promoting long-term success.

Implications for educators. Educators should incorporate the research on children's self-efficacy development into their teaching strategies and lesson planning. Teachers should focus their attention not only on academic instruction, but also on building relationships with their students. When teachers report sharing a warm, supportive relationship with their students, then students feel more capable of succeeding. Teachers may help to improve student outcomes when they engage in interactions that strengthen the teacher-student relationship. Explicitly dedicating a portion of instructional time to relationship-building exercises may make a significant impact on children's learning. Teachers should engage in classroom activities that involve sharing feelings, supporting one another, and resolving conflicts to help build warm and caring relationships.

In addition, teachers may help children perform to their best abilities when they discuss ways to manage test anxiety with their classes. Discussing ways to keep calm when faced with difficult academic tasks may equip children with the skills necessary to focus on their work without being hindered by an elevated physiological state. (Sajaniemi, Suhonen & Sims, 2011). Teachers may demonstrate and practice stress-management techniques with their students, such as deep breathing, repeating positive affirmations, or progressive muscle relaxation. Although in present study, the effects of the other three other sources of self-efficacy were not significant predictors of self-efficacy, teachers should remain mindful of the additional potential influences of mastery experiences, vicarious experiences, and social persuasions that have theoretical support.

In addition to helping children manage anxious or uncomfortable feelings during academic work, teachers may use similar strategies to help children feel more self-efficacious in social situations. For example, teachers may deliver social skills lessons in which students learn to practice responding to difficult social pressures and discussing their feelings about each situation. Helping children to notice when they feel physically uncomfortable or nervous may be a helpful tool in teaching children how to maintain a sense of calmness and control over challenging social situations. In these ways, teachers will be able to impact children's feelings of self-efficacy both academically and social-emotionally.

Implications for parents. Along with providing implications for researchers and educators, the results of this study suggest ways that may help parents and other caregivers promote children's self-efficacy development. Parents can work to cultivate a strong and empathetic relationship with their children, which may lead to higher levels of self-efficacy. Parents should strive to learn more about their children and encourage their children to share their feelings to develop an open and supportive parent-child relationship. When parents show their children that they are valued and respected, children are more apt to feel confident in their abilities to achieve and adapt to challenging situations (Navarro et al., 2007).

Parents as well as teachers can help children to manage their physiological states of arousal. Parents may be able to teach their children how to recognize their feelings and physical reactions to stress. Talking with children about how they feel in certain situations can help to strengthen the parent-child relationship, as well as help children experience a sense of control over their emotions (Pajares, 2005). Parents can model relaxation techniques and explain particular methods of controlling anxiety they use in their own lives. Processing children's feelings about taking tests in school, standing up for oneself when necessary, and making new

friends can help children to be more aware of how they make choices and take control of their outcomes. Based on the results of this study, when children are better able to maintain a sense of calmness when encountering difficult academic tasks or challenging social situations, they are more likely to have stronger beliefs in their abilities to navigate the social challenges and complete schoolwork successfully.

Conclusion

This study evaluated the connections between teachers' and parents' relationships and interactions with children and children's academic and social-emotional self-efficacy. Results from the study demonstrated that children's academic and social-emotional self-efficacy is higher when they share close, supportive relationships with their parents and teachers, as well as when they maintain relaxed and calm physiological states during challenging academic tasks or difficult social situations. The study also found that children in Grades 2, 5, and 8 reported similar levels of self-efficacy and had similarly close relationships with parents and teachers. Additional studies that investigate the process of developing self-efficacy for both academic and social-emotional skills will benefit future research, the educational system, and especially children. Teachers and parents are in the unique position to directly impact children's feelings of closeness, confidence, and calmness through their interactions with children and the relationships that they share. Children will reap the benefits when teachers and parents work together to guide children's development of self-efficacy by sharing learning experiences and warm, supportive relationships.

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Appendix A

Internal Review Board Approval

UW-Madison IRB Approval Letter

Virginia Beach City Public Schools Approval Letter

University of Wisconsin-Madison
Education Research IRB
12/14/2012

Submission ID number: 2012-0957

Title: Contributors to Children's Academic and Social-Emotional Self-Efficacy:
Examining the Developmental Role of Teacher-Child and Parent-Child Interactions

Principal Investigator: MARIBETH GETTINGER
Point of contact:
IRB Staff Reviewer: JEFFREY NYTES

A designated ED IRB member conducted an expedited review of the above-referenced
initial application. The study was approved by the IRB member for the period of 12
months with the expiration date of 11/29/2013. The study qualified for expedited review
pursuant to 45 CFR 46.110 and, if applicable, 21 CFR 56.110 and 38 CFR 16.110 in that
the study presents no more than minimal risk and involves:

Category 7: Research on individual or group characteristics or behavior (including, but
not limited to, research on perception, cognition, motivation, identity, language,
communication, cultural beliefs or practices, and social behavior) or research employing
survey, interview, oral history, focus group, program evaluation, or quality assurance
methodologies.

Research with minors permitted per 45 CFR, 46.404. Risks are minimal and parental
consent and assent is being obtained.

To access the materials approved by the IRB, including any stamped consent forms,
recruitment materials and the approved protocol, if applicable, please log in to your
ARROW account and view the documents tab in the submission's workspace.

If you requested a HIPAA waiver of authorization, altered authorization and/or partial
authorization, please log in to your ARROW account and view the history tab in the
submission's workspace for approval details.

Prior to starting research activities, please review the Investigator Responsibilities
guidance (http://go.wisc.edu/m0lovn.), which includes a description of IRB
requirements for submitting continuing review progress reports, changes of protocol and
reportable events.

Please contact the appropriate IRB office with general questions: Health Sciences IRBs
at 608-263-2362 or Education Research and Social & Behavioral Science IRBs at 608-
263-2320. For questions related to this submission, contact the assigned staff reviewer.

VIRGINIA BEACH CITY PUBLIC SCHOOLS
AHEAD OF THE CURVE

November 29, 2012

Ms. Erin M. Van Oss
4611 Edwardian Court
Virginia Beach, VA 23455

Dear Ms. Van Oss:

This letter serves as the Department of Educational Leadership and Assessment's approval for your research study entitled "Contributors to Children's Academic and Social-Emotional Self-Efficacy: Examining the Developmental Role of Teacher-Child and Parent-Child Interactions and Beliefs." Your request to survey second-, fifth-, and eighth-grade students; teachers; and parents was approved with the condition that all participation is voluntary, and you will not identify the names of the individuals, schools, or the school division in any future reports. As always, the final decision to participate rests with the school principals, and you are expected to discuss your study with the principals prior to starting your research activities.

Our approval for your study will expire one year from the date of this letter. If there are any changes to your study, you must submit the changes to our office for review prior to proceeding. It is our expectation that you will submit an electronic copy of the final report upon its completion to the Department of Educational Leadership and Assessment. Please send the report to Shawn.Dickerson@vbschools.com. If you have any questions, please contact me at 263-1408.

Sincerely,

Shawn L. Dickerson, M.S.
Research Specialist

ec: Donald E. Robertson, Ph.D., Assistant Superintendent (ᴅᴇʀ)
       Department of Educational Leadership and Assessment

       Jeanne P. Crocker, Ph.D., Lead Director for Elementary School Education
       Shirann C. Lewis, Director for Elementary School Education
       Maynard E. Massey, Ed.D., Assistant Superintendent for Middle School Education
       Department of School Administration

       All Elementary School Principals

       All Middle School Principals

Department of Educational Leadership and Assessment
2512 George Mason Drive • P.O. Box 6038 • Virginia Beach, VA 23456-0038
Office: 757.263.1030 • Fax: 757.263.1131

www.vbschools.com

Appendix B

Consent Forms

Parent Consent Form

Child Consent Form: Grade Two

Child Consent Form: Grades Five and Eight

Initial Teacher Contact Script

Teacher Consent Form

UNIVERSITY OF WISCONSIN-MADISON
Research Participant Information and Consent Form
Parent/Guardian

Title of the Study: Contributors to Children's Academic and Social-Emotional Self-Efficacy: Examining the Developmental Role of Teacher-Child and Parent-Child Interactions

Principal Investigator: Maribeth Gettinger, Ph.D. (phone: 608-262-0445) (email: mgetting@wisc.edu)

Student Researcher: Erin VanOss (phone: 608-963-7951) (email: embrodhagen@wisc.edu)

DESCRIPTION OF THE RESEARCH
You are invited to participate in a research study about children's feelings of self-efficacy – that is, children's beliefs that they can be successful in particular situations. This study is for a dissertation being conducted through the University of Wisconsin-Madison. You are being asked to participate because you are the parent/guardian of a child in Grade 2, 5, or 8 and, as the child's caregiver, you may provide important information about how you relate to your child in ways that strengthen self-efficacy.

The purpose of the research is to study how interactions between caregivers and children (and between teachers and students) are related to children's social-emotional and academic self-efficacy. The study will also examine how children's self-efficacy is related to their academic achievement and success in social situations. This study will include caregivers, teachers, and children from Grades 2, 5, and 8 in the Virginia Beach City Public School District.

Participants in this study (caregivers and children) will complete a survey sent home by the researchers. Upon completion, the surveys will be returned to the researchers in an addressed, stamped envelope. Your consent and your child's assent are required for participation.

WHAT WILL MY PARTICIPATION INVOLVE?
If you decide to participate in this research you will be asked to complete a survey (attached) asking you to rate (a) dimensions of your relationship with your child, and (b) your child's overall achievement and social adjustment. You are also asked to provide information about yourself (e.g., marital status) and your child (e.g., age, gender) for descriptive purposes only. Completion of the survey will require approximately 10 minutes.

If you give permission for your child to participate in the study, he or she will complete a different survey (also attached), which will require approximately 20 minutes. On this survey, your child will rate the extent to which he or she feels confident in doing academic tasks or being in social situations, and whether adults (such as teachers) do things to help them feel confident.

We ask that you return the caregiver survey and descriptive questionnaire (with the signed consent form) and your child's survey (with the assent form) directly to the researchers in the enclosed, stamped envelope.

Finally, with your consent, your child's teacher will complete a survey (similar to the one you complete) rating his/her relationship with your child and your child's overall achievement and social adjustment.

ARE THERE ANY RISKS TO ME?
There may be minimal risk that information provided by parents, teachers, and/or students on the measures they complete could be inadvertently disclosed. However, any risk of disclosure will be minimized by (a) having parents and teachers return completed surveys directly to the researcher (in sealed, addressed envelopes with ID numbers), and (b) having students place their surveys in a sealed envelope (with ID numbers) immediately after completion (to be returned to the researcher).

ARE THERE ANY BENEFITS TO ME?
Although there will no direct benefits to you, your child, or your child's teacher from participation in this study, we anticipate that many individuals will find the content of the surveys to be interesting and that caregivers, in particular, may appreciate the opportunity to think about their interactions with their child.

HOW WILL MY CONFIDENTIALITY BE PROTECTED?
All surveys (completed by caregivers, students, and teachers) will be returned to the researchers in sealed envelopes and assigned an identification number. Only identification numbers (rather than names) will be used during the data analysis phase of the research study. Specific responses given by caregivers, children, and teachers will not be shared among research participants. Every attempt at maintaining confidentiality will be made. All data will be stored in a locked file cabinet to which only Ms. VanOss (student researcher) has access. Although there will likely be publications or presentations of the results of this study, no names or any other identifying information will be used. Only group data will be reported.

WHOM SHOULD I CONTACT IF I HAVE QUESTIONS?
You may ask any questions about the research at any time. If you have questions about the research, you may contact either the Principal Investigator (the student's research advisor), Maribeth Gettinger, PhD at 608-262-0445, mgetting@wisc.edu, or the student researcher, Erin VanOss at 608-963-7951, embrodhagen@wisc.edu.

If you are not satisfied with responses of the research team, have more questions, or want to talk with someone about your rights as a research participant, you should contact the Education Research and Social & Behavioral Science IRB Office at 608-263-2320.

Your participation is completely voluntary. You may decide not to participate or choose to withdraw from the study at any time; it will have no effect on any services or treatment you or your child are currently receiving.

If you agree to participate in this study, please complete the attached survey and return it (with the signed consent form) in the enclosed, addressed envelope by February 1, 2013. In addition, if you give permission for your child to participate in the study, return his/her completed survey (with the assent form) that your child has placed in a separate, sealed envelope. We appreciate your consideration of this invitation to participate in the research. Please retain a copy of this information for your records.

UNIVERSITY OF WISCONSIN-MADISON
Consent Form
Parent/Guardian

Title of the Study: Contributors to Children's Academic and Social-Emotional Self-Efficacy: Examining the Developmental Role of Teacher-Child and Parent-Child Interactions

Principal Investigator: Maribeth Gettinger, Ph.D. (phone: 608-262-0445) (email: mgetting@wisc.edu)

Student Researcher: Erin VanOss (phone: 608-963-7951) (email: embrodhagen@wisc.edu)

My signature below indicates that I have read the description of this study and had an opportunity to ask questions about my participation and about my child's participation in the research. I understand that participation is completely voluntary, and that I may withdraw my consent at any time without penalty.

Please check one:

____ I **DO** agree to participate in this study by completing and returning the attached survey.

____ I **DO NOT** agree to participate; I am returning the blank survey.

Please check one:

____ As parent/legal guardian, I **DO** give my consent for my child to participate in this research study.

____ As parent/legal guardian, I **DO NOT** give consent for my child to participate in this research study.

Child's Name (please print): _____

Parent's/Legal Guardian's Name (please print): _____

Parent/Legal Guardian Signature: _____

Date: _____

Please mail (in enclosed envelope): (a) this consent form, (b) descriptive questionnaire and caregiver survey completed by you, and (c) assent form and student survey completed by your child and sealed in a separate envelope.

THANK YOU!

UNIVERSITY OF WISCONSIN-MADISON
Consent Form
Child in Grade 2

Hi!

My name is Erin VanOss. I am a college student. I am doing a study. I want to know what kids think about school.

I have some questions for you to answer. The questions ask how good you are at doing things in school, like talking to a new student or working on math. Some questions ask about things you do with your parents or teachers, like having them show you how to work a math problem.

You can skip any questions if you want. It's OK if you want to stop answering all of the questions, too. When you are done, you can put this page and the pages with the questions in an envelope so that no one else can see your answers.

I will write a paper about how students answered these questions. I will not tell anyone what you said.

If you have any questions, you can ask your parents. They can ask me, Erin.

Write your name if you want to be in my study.

_____   _____
Name   Date

UNIVERSITY OF WISCONSIN-MADISON
Consent Form
Child in Grade 5 or 8

Hello,

My name is Erin VanOss. I am a student at the University of Wisconsin-Madison. I am doing a study about students' self-efficacy. Self-efficacy is a word that describes students' beliefs about how well they can do certain tasks or activities. I want to know how students feel about doing schoolwork and about working with other students and adults. I also want to understand what makes students feel this way. I want to know if things that parents and teachers do make a difference in how kids feel about being successful in school and with friends.

You will receive a survey with some questions to answer at home. The questions ask how successful you think you can be in doing things like completing math problems or talking to a new student. You will also answer questions about things you do with your parents and teachers, like having them show you how to solve math problems.

You can choose to answer as many questions as you want. You can skip over any questions, or you can just decide to stop answering all the questions. It's OK to stop at any time. When I am done, I will write a paper about what I found in this study. I may also talk about this study at a conference or in one of my classes. I will only talk about the results for all students; I will never tell anyone about your individual answers. Although there is a very small chance that results may be seen by others, your survey will be given a number, not your name, so that no one else will be able to match your name with the answers you gave. When you have completed the survey, put it in the attached envelope (along with this page)

Do you have any questions about my study? You can ask me questions at any time. You can call me at 608-963-7951 or you can email me at embrodhagen@wisc.edu. You can also ask your parents if you have questions; they can ask me.

If you want to be in my study, please print and then sign your name below. Remember to put this page in the envelope with your survey.

_____
Printed Name

_____   _____
Signature   Date

INITIAL TEACHER CONTACT E-MAIL AND SCRIPT

Hello teachers!

My name is Erin VanOss. I am currently a school psychology intern in the Virginia Beach City Public Schools and a doctoral student at the University of Wisconsin-Madison. For my dissertation, I am conducting a study about students' self-efficacy beliefs – that is, students' beliefs that they can be successful in particular situations. I want to include students and teachers in Grades 2, 5, and 8. I am inviting you to participate because you are a teacher in Grade 2, 5, or 8, and, as a teacher, you can provide important information about how you interact with students in ways that strengthen self-efficacy.

This study will further our knowledge about how interactions between adults (teachers and caregivers) and children contribute to students' social and academic self-efficacy. Your participation will require the completion of one survey (during non-contractual time) for each participating student in your class, which will require about 10 minutes per student. Students (and their caregivers) will also complete surveys independently outside of school time. For your participation, your name will be entered into a raffle to win a gift card to purchase classroom materials. In addition, you will receive a summary of the overall results of this study.

I am happy to provide you with more information about this research study if you would like. Please let me know if you would like to participate in this study by responding to this e-mail. I will then provide you with additional information about the details of participation.

Thank you!

Erin VanOss

Erin.VanOss@VBSchools.com or embrodhagen@wisc.edu

757-263-2728 or 608-963-7951

UNIVERSITY OF WISCONSIN-MADISON
Research Participant Information and Consent Form
Classroom Teacher

Title of the Study: Contributors to Children's Academic and Social-Emotional Self- Efficacy: Examining the Developmental Role of Teacher-Child and Parent-Child Interactions

Principal Investigator: Maribeth Gettinger, Ph.D. (phone: 608-262-0445) (email: mgetting@wisc.edu)

Student Researcher: Erin VanOss (phone: 608-963-7951) (email: embrodhagen@wisc.edu)

DESCRIPTION OF THE RESEARCH
You are invited to participate in a research study about students' feelings of self-efficacy – that is, students' beliefs that they can be successful in particular situations. This study is for a dissertation being conducted through the University of Wisconsin-Madison. You are being asked to participate because you are a teacher in Grade 2, 5, or 8, and, as a teacher, you can provide important information about how you interact with students in the school setting in ways that strengthen self-efficacy.

The purpose of the research is to study how interactions between adults (teachers and caregivers) and children are related to students' social-emotional and academic self-efficacy. The study will also examine how children's self-efficacy is related to their academic achievement and success in social situations. This study will include caregivers, teachers, and children from Grades 2, 5, and 8 in the Virginia Beach City Public School District.

WHAT WILL MY PARTICIPATION INVOLVE?
If you decide to participate in this research you will be asked to complete a survey asking you to rate (a) dimensions of your relationship with each participating student, and (b) each student's overall achievement and social adjustment. Completion of the survey for one student will require approximately 10 minutes. We anticipate that you will be asked to complete a survey for 3 students (30 minutes total) up to 10 students (100 minutes) total in your classroom. We ask that you use non-contractual time to complete the surveys. The researchers will collect your surveys (in sealed envelopes) directly from you upon completion. Participating students and their parents/legal guardians will also complete separate surveys (sent to their homes) that will be mailed directly to the researchers. If you choose to participate, your name will be entered into a raffle to win one of five $20 gift cards that may be used for classroom supplies.

ARE THERE ANY RISKS TO ME?
There may be minimal risk that information provided by parents, teachers, and/or students on the measures they complete could be inadvertently disclosed. However, any risk of disclosure will be minimized by (a) having parents and teachers return completed surveys

directly to the researcher (in sealed, addressed envelopes with ID numbers), and (b) having students place their surveys in a sealed envelope (with ID numbers) immediately after completion (to be returned to the researcher).

ARE THERE ANY BENEFITS TO ME?
Although there will be no direct benefits to you or your students from participation in this study, we anticipate that many individuals will find the content of the surveys to be interesting and that teachers, in particular, may appreciate the opportunity to think about their interactions with students.

HOW WILL MY CONFIDENTIALITY BE PROTECTED?
All surveys will be collected by the researchers in sealed envelopes and assigned an identification number. Only identification numbers (rather than names) will be used during the data analysis phase of the research study. Every attempt at maintaining confidentiality will be made. All data will be stored in a locked file cabinet to which only Ms. VanOss (student researcher) has access. Although there will likely be publications or presentations of the results of this study, no names or any other identifying information will be used. Only group data will be reported.

WHOM SHOULD I CONTACT IF I HAVE QUESTIONS?
You may ask any questions about the research at any time. If you have questions about the research or would like to look at the surveys before agreeing to participate, you may contact either the Principal Investigator (the student's research advisor), Maribeth Gettinger, PhD at 608-262-0445, mgetting@wisc.edu, or the student researcher, Erin VanOss at 608-963-7951, embrodhagen@wisc.edu.

If you are not satisfied with responses of the research team, have additional questions, or want to talk with someone about your rights as a research participant, you should contact the Education Research and Social & Behavioral Science IRB Office at 608-263-2320.
Your participation is completely voluntary. You may decide not to participate or choose to withdraw from the study at any time; there will be no penalty for doing so.

If you agree to participate in this study, please complete and sign the consent form on the following page. We appreciate your consideration of this invitation to participate in the research. Please retain a copy of this information for your records.

UNIVERSITY OF WISCONSIN-MADISON
Consent Form
Classroom Teacher

Title of the Study: Contributors to Children's Academic and Social-Emotional Self- Efficacy: Examining the Developmental Role of Teacher-Child and Parent-Child Interactions

Principal Investigator: Maribeth Gettinger, Ph.D. (phone: 608-262-0445) (email: mgetting@wisc.edu)

Student Researcher: Erin VanOss (phone: 608-963-7951) (email: embrodhagen@wisc.edu)

My signature below indicates that I have read the description of this study and had an opportunity to ask questions about my participation in the research. I understand that participation is completely voluntary, and that I may withdraw my consent at any time without penalty.

Please check one:

____ I **DO** agree to participate in this study.

____ I **DO NOT** agree to participate.

Your (Teacher) Name: _____

Your School: _____

Grade: _____ Number of Years Teaching: _____

Your (Teacher) Signature: _____

Date: _____

Please return in enclosed envelope or give directly to Erin VanOss.

THANK YOU!

Appendix C

Parent Survey

Demographic Questionnaire

Child-Parent Relationship Scale *(CPRS)*

Parent Ratings of Children's Functioning

Dear Parent or Guardian,

Thank you for agreeing to be part of this research study. Please take a moment to complete this demographic questionnaire along with the attached survey.

Thank you!!!

Parent/Guardian Information	Child Information
1. Age: _____	1. Age: _____
2. Gender: Male_____ Female_____	2. Gender: Male_____ Female_____
3. Ethnicity: Hispanic or Latino_____ Not Hispanic or Latino_____	3. Ethnicity: Hispanic or Latino_____ Not Hispanic or Latino_____
4. Race: American Indian or Alaska Native_____ Asian_____ Black or African American_____ Native Hawaiian or Pacific Islander_____ White_____	4. Race: American Indian or Alaska Native_____ Asian_____ Black or African American_____ Native Hawaiian or Pacific Islander_____ White_____
5. Marital status: Single_____ Married_____ Divorced _____ Separated_____ Widowed_____	5. Number of siblings: _____
6. What is your employment status? Full time employed_____ Part time employed_____ Self-employed_____ Housewife/husband_____ Unemployed_____ Retired_____	6. Grade in school: 2 _____ 5 _____ 8 _____
7. Highest level of education: Elementary school_____ High school_____ College_____ Graduate school_____	7. Years attending this school: _____

Child-Parent Relationship Scale (CPRS)

Child: _____   Age: _____

Parent: _____

Please reflect on the degree to which each of the following statements currently applies to your relationship with your child. Using the scale below, circle the appropriate number for each item.

Definitely does not apply 1	Not really 2	Neutral, not sure 3	Applies somewhat 4	Definitely applies 5

1.	I share an affectionate, warm relationship with my child.	1	2	3	4	5
2.	My child and I always seem to be struggling with each other.	1	2	3	4	5
3.	If upset, my child will seek comfort from me.	1	2	3	4	5
4.	My child is uncomfortable with physical affection or touch from me.	1	2	3	4	5
5.	My child values his/her relationship with me.	1	2	3	4	5
6.	When I praise my child, he/she beams with pride.	1	2	3	4	5
7.	My child spontaneously shares information about himself/herself.	1	2	3	4	5
8.	My child easily becomes angry at me.	1	2	3	4	5
9.	It is easy to be in tune with what my child is feeling.	1	2	3	4	5
10.	My child remains angry or is resistant after being disciplined.	1	2	3	4	5
11.	Dealing with my child drains my energy.	1	2	3	4	5
12.	When my child is in a bad mood, I know we're in for a long and difficult day.	1	2	3	4	5
13.	My child's feelings toward me can be unpredictable or can change suddenly.	1	2	3	4	5
14.	My child is sneaky or manipulative with me.	1	2	3	4	5
15.	My child openly shares his/her feelings and experiences with me.	1	2	3	4	5

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Parent Ratings

Please provide a rating of your child's overall academic achievement at this time.

1	**2**	**3**	**4**	**5**
Lowest level of achievement		Average achievement		Highest level of achievement

Please provide an overall rating of your child's current level of social-emotional adjustment.

1	**2**	**3**	**4**	**5**
Lowest level of adjustment		Average adjustment		Highest level of adjustment

Appendix D

Child Survey

Sources of Children's Academic Self-Efficacy Scale *(SCASES)*

Sources of Children's Social-Emotional Self-Efficacy Scale *(SCSESES)*

Children's Self-Efficacy Scale *(CSES-A)*

Sources of Children's Academic Self-Efficacy Scale (SCASES)
Circle the response that most closely fits how you feel about each statement.

		Definitely False	Mostly False	Somewhat False	Somewhat True	Mostly True	Definitely True
1.	Doing schoolwork takes all of my energy.	1	2	3	4	5	6
2.	Adults in my family have told me what a good student I am.	1	2	3	4	5	6
3.	I got good grades on my last report card.	1	2	3	4	5	6
4.	My classmates like to work with me in school because they think I'm good at it.	1	2	3	4	5	6
5.	People have told me that I have a talent for doing well at school.	1	2	3	4	5	6
6.	My whole body becomes tense when I have to do schoolwork.	1	2	3	4	5	6
7.	Seeing kids do better than me in school pushes me to do better.	1	2	3	4	5	6
8.	I compete with myself in school.	1	2	3	4	5	6
9.	Just being in class makes feel stressed and nervous.	1	2	3	4	5	6
10.	I start to feel stressed-out as soon as I begin my schoolwork.	1	2	3	4	5	6
11.	Other students have told me that I'm good at learning.	1	2	3	4	5	6
12.	When I see how my teacher solves a problem, I can picture myself solving the problem in the same way.	1	2	3	4	5	6
13.	My teachers have told that I am good at learning.	1	2	3	4	5	6
14.	I have always been successful in school.	1	2	3	4	5	6
15.	When I see how another student solves a problem, I can see myself solving the problem in the same way.	1	2	3	4	5	6
16.	My mind goes blank and I am unable to think clearly when doing schoolwork.	1	2	3	4	5	6
17.	Seeing adults do well in school pushes me to do better.	1	2	3	4	5	6
18.	I do well on even the most difficult assignments.	1	2	3	4	5	6
19.	I do well on assignments.	1	2	3	4	5	6
20.	I have been praised for my ability to learn.	1	2	3	4	5	6
21.	Even when I study very hard, I do poorly.	1	2	3	4	5	6
22.	I get depressed when I think about learning.	1	2	3	4	5	6
23.	I make excellent grades in school.	1	2	3	4	5	6
24.	I imagine myself working through challenging schoolwork problems successfully.	1	2	3	4	5	6

Sources of Children's Social-Emotional Self-Efficacy Scale (SCSESES)
Circle the response that most closely fits how you feel about each statement.

		Definitely False	Mostly False	Somewhat False	Somewhat True	Mostly True	Definitely True
1.	I usually don't worry about how I'll do in social situations.	1	2	3	4	5	6
2.	My friends tend to avoid social situations.	1	2	3	4	5	6
3.	I have gone to fewer parties that most kids I know.	1	2	3	4	5	6
4.	I always feel like I know what I am doing in social situations.	1	2	3	4	5	6
5.	Teachers rarely compliment my social skills.	1	2	3	4	5	6
6.	Many adults I know have good social skills.	1	2	3	4	5	6
7.	My peers tell me I am skilled in social situations.	1	2	3	4	5	6
8.	I almost never get uptight in social situations.	1	2	3	4	5	6
9.	Social situations make me feel uneasy and confused.	1	2	3	4	5	6
10.	Many of the adults I admire have good social skills.	1	2	3	4	5	6
11.	Other people see me as being poor in social situations.	1	2	3	4	5	6
12.	When I feel stuck in a social interaction I work at it until it is solved.	1	2	3	4	5	6
13.	I am encouraged to use my social skills.	1	2	3	4	5	6
14.	I received good grades in classes that required speaking in front of others.	1	2	3	4	5	6
15.	I have always been skilled socially.	1	2	3	4	5	6
16.	My parents do not have good social skills.	1	2	3	4	5	6
17.	I have had a lot of people around me while growing up.	1	2	3	4	5	6
18.	I am uncomfortable around my peers in school.	1	2	3	4	5	6
19.	Other adults tell me that I am socially skilled.	1	2	3	4	5	6
20.	I get a sinking feeling when I think of interacting in social situations.	1	2	3	4	5	6
21.	Social situations have always been difficult for me.	1	2	3	4	5	6
22.	Making friends always makes me nervous.	1	2	3	4	5	6
23.	My parents encourage me to be proud of my social skills.	1	2	3	4	5	6
24.	My parents encourage me to develop my social skills.	1	2	3	4	5	6
25.	Speaking in public makes me feel nervous.	1	2	3	4	5	6
26.	I know few people who are talented socially.	1	2	3	4	5	6
27.	In general, the people I look up to have good social skills.	1	2	3	4	5	6
28.	People tell me that I am easy to talk to.	1	2	3	4	5	6
29.	I have always had difficulty making friends.	1	2	3	4	5	6
30.	My career role models have poor social skills.	1	2	3	4	5	6
31.	Many of my friends choose activities that don't require social skills.	1	2	3	4	5	6
32.	I tried to improve my social skills whenever I could.	1	2	3	4	5	6
33.	I receive strong encouragement to socialize with others.	1	2	3	4	5	6
34.	Older people tell me that I am skilled in social situations.	1	2	3	4	5	6
35.	My favorite teachers have good social skills.	1	2	3	4	5	6
36.	My parents interact with my friends.	1	2	3	4	5	6
37.	I get really uptight in social situations.	1	2	3	4	5	6
38.	I have always had a lot of friends.	1	2	3	4	5	6
39.	I have usually been at ease in social situations.	1	2	3	4	5	6
40.	Parties make me feel uncomfortable and nervous.	1	2	3	4	5	6

Children's Self-Efficacy Scale
(CSES-A)

This questionnaire is designed to help us get a better understanding of the kinds of things that are difficult for students. Please rate how certain you are that you can do each of the things described below by writing the appropriate number. Your answers will be kept strictly confidential and will not be identified by name.

Rate your degree of confidence by recording a number from 0 to 100 using the scale given below:

0	10	20	30	40	50	60	70	80	90	100
Cannot					**Moderately**					**Highly certain**
do at all					**can do**					**can do**

Confidence
(0-100)

Academic Self-Efficacy

1.	Learn mathematics	_____
2.	Learn science	_____
3.	Learn reading, writing, and language skills	_____
4.	Learn to use computers	_____
5.	Learn social studies	_____
6.	Get myself to study when there are other interesting things to do	_____
7.	Always concentrate on school subjects during class	_____
8.	Remember well information presented in class and textbooks	_____
9.	Arrange a place to study without distractions	_____
10.	Get myself to do school work	_____

Social-Emotional Self-Efficacy

11.	Make and keep friends of the opposite gender	_____
12.	Make and keep friends of the same gender	_____
13.	Carry on conversations with others	_____
14.	Work well in a group	_____
15.	Control my temper	_____
16.	Resist peer pressure to do things in school that can get me into trouble	_____
17.	Get a friend to help me when I have social problems	_____
18.	Stand up for myself when I feel I am being treated unfairly	_____
19.	Get others to stop annoying me or hurting my feelings	_____
20.	Stand firm to someone who is asking me to do something unreasonable or inconvenient	_____

Appendix E

Teacher Survey

Student-Teacher Relationship Scale *(STRS)*

Teacher Ratings of Children's Functioning

Student-Teacher Relationship Scale (STRS)

Child: _____

Teacher: _____ Grade: _____

Please reflect on the degree to which each of the following statements currently applies to your relationship with this child. Using the scale below, circle the appropriate number for each item.

Definitely does not apply 1	Not really 2	Neutral, not sure 3	Applies somewhat 4	Definitely applies 5

1.	I share an affectionate, warm relationship with this child.	1	2	3	4	5
2.	This child and I always seem to be struggling with each other.	1	2	3	4	5
3.	If upset, this child will seek comfort from me.	1	2	3	4	5
4.	This child is uncomfortable with physical affection or touch from me.	1	2	3	4	5
5.	This child values his/her relationship with me.	1	2	3	4	5
6.	When I praise this child, he/she beams with pride.	1	2	3	4	5
7.	This child spontaneously shares information about himself/herself.	1	2	3	4	5
8.	This child easily becomes angry with me.	1	2	3	4	5
9.	It is easy to be in tune with what this child is feeling.	1	2	3	4	5
10.	This child remains angry or is resistant after being disciplined.	1	2	3	4	5
11.	Dealing with this child drains my energy	1	2	3	4	5
12.	When this child is in a bad mood, I know we're in for a long and difficult day.	1	2	3	4	5
13.	This child's feelings toward me can be unpredictable or can change suddenly.	1	2	3	4	5
14.	This child is sneaky or manipulative with me.	1	2	3	4	5
15.	This child openly shares his/her feelings and experiences with me.	1	2	3	4	5

Teacher Ratings

Please provide a rating of this student's overall academic achievement at this time.

1	2	3	4	5
Lowest level of achievement		Average achievement		Highest level of achievement

Please provide an overall rating of your child's current level of social-emotional adjustment.

1	2	3	4	5
Lowest level of adjustment		Average adjustment		Highest level of adjustment