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## **Relationships and Learning in Early Childhood Education: A Structural Equation Model**

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The University of Southern Mississippi

RELATIONSHIPS AND LEARNING IN EARLY CHILDHOOD EDUCATION:  
A STRUCTURAL EQUATION MODEL

by

Alicia Gordy Westbrook

A Dissertation  
Submitted to the Graduate School  
of The University of Southern Mississippi  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy

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May 2012

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## ABSTRACT

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by Alicia Gordy Westbrook

May 2012

A study of the relationship between mediated learning experiences (MLE), social and emotional development, student-teacher relationships, and overall development using structural equation modeling was conducted. With attachment theory as the theoretical base, the current study proposed that the educational constructs have a direct effect on the overall development of young students and the relationships between the constructs have an indirect effect on overall development. This research suggests that through positive student-teacher relationships, teachers engage students in mediated learning experiences which promotes social and emotional development and effects the students' overall development.

Data collected from 118 pre-primary teachers and students were analyzed to confirm the relationship among the educational constructs. Four self-administered questionnaires were used to assess pre-primary teachers' attitude toward MLE, students' social and emotional development, and pre-primary teachers' perceptions of student-teacher relationships. The current study resulted in a significant model that explains the relationship between social and emotional development and student-teacher relationships on the overall development of young students.

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## DEDICATION

This work is dedicated to Ruby Mae Westbrook; always set your goals high.

“Commit to the Lord whatever you do, and he will establish your plans.” (Proverbs 16:3)

## ACKNOWLEDGMENTS

This work would not have been completed without the love, support, encouragement, understanding, and teaching of various important people in my life. I would like to acknowledge Dr. Rose Jones and Dr. Richard Mohn for their time and expertise as they guided me through this process and provided encouragement every step of the way. I also would like to acknowledge Dr. Ellen Ramp; her watchful eye helped me create a piece of work that I am proud of. I truly appreciate all of the committee members as they gave of their time and took an interest in what I had to say.

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## CHAPTER I

### INTRODUCTION

Students' success is typically measured by student performance on standardized assessments as evidenced by the emphasis placed on school performance on state tests (U.S. Department of Education, 2002). Factors such as gender and socioeconomic status are often represented as predictors of academic achievement, but equally significant to achievement are the relationships students have with teachers and the social and emotional development of young students (Arnold & Doctoroff, 2003; Garner & Waajid, 2008; Pianta & Stuhlman, 2004). As teachers and students continue to feel pressure to perform well on state tests, educational stakeholders must take time to reflect on the whole student and all variables that influence students' overall development.

Mediated learning experiences (MLE), social and emotional development, and student-teacher relationships are latent variables that have been linked to the overall development of young students (Dobbs, Doctoroff, Fisher, & Arnold, 2006; O'Connor & McCartney, 2007; Pianta & Stuhlman, 2004). Additionally, literature suggests that the latent variables are connected by attachment theory (Frank, Stolarski, & Scher, 2006; Scott-Little, Kagan, & Frelow, 2006; Thijs, Koomen, & van der Leij, 2008). Attachment theory is the overall theoretical framework that laid the foundation for the current research study. This chapter delineates the theories that support: (a) MLE, (b) social and emotional development, and (c) student-teacher relationships. In addition, the statement of the problem, research questions, and hypothesis are shared. Readers should have a better understanding of the latent variables by reading the Definition of Terms. In conclusion, a justification for research is provided.

## Theoretical Framework

### *Attachment Theory*

During the 1930s and 1940s clinicians from America and England made observations and published articles on the effects long term institutional care and frequent changes of mother figures had on the development of young children (Bowlby, 1952). In 1950, Bowlby was asked to work for the World Health Organization where Bowlby read the literature and discussed with the clinicians what the observations meant for society. After involvement with World Health Organization, Bowlby submitted *Maternal Care and Mental Health* (1952), which discussed the influence of inadequate maternal care on personality development, stress young children show when separated from people they know and love, and made recommendations on how to avoid the dire effects this could have on children. This work became the foundation for what Bowlby would later call attachment theory.

Bowlby (1980) worked and developed attachment theory that was a variation of object-relations theory and explained attachment behavior and lasting attachments that children have with others. The conceptual framework of attachment theory was explained by Bowlby first in 1969, then later in his 1980 book, *Attachment and Loss: Sadness and Depression*. Bowlby explained that attachment is a behavior that a child displays throughout life and the goal of the behavior is to maintain closeness and communication between the child and attachment figure(s).

Mary Ainsworth's "Strange Situation" (Ainsworth, Blehar, Waters, & Wall, 1978) provided empirical research that added to the knowledge and understanding of attachment behaviors (Ainsworth, Blehar, Waters, & Wall, 1978). Ainsworth observed

the way infants reacted when the mother left the child in a strange environment and how the infant responded upon the return of the mother. The 1978 study was an extension of Ainsworth's 1964 observational research conducted in Africa, where Ainsworth observed interactions between 28 infants and their mothers. The study provided classification of behaviors related to attachment, which presented further justification for Ainsworth's three types of attachment behaviors children display; secure, anxious-ambivalent insecure, and anxious-avoidant insecure. O'Connor and McCartney (2007) further explained when a child has a secure attachment, the child trusts that individual needs will be taken care of; therefore, the child is able to use the caregiver as a secure base and explore the environment freely. The secure base would enable a child to have experiences and interactions with the environment, which promoted overall development. O'Connor and McCartney described an anxious-avoidant child as one who does not expect to get support from the unavailable caregiver; the child avoided contact with the caregiver and focused on the immediate environment to prevent from feeling rejected. Children who had anxious-avoidant attachment expressed a flat affect and often did not develop a full range of emotion (Interdisciplinary Council on Developmental and Learning Disabilities, 2000; O'Connor & McCartney, 2007). A child who had a caregiver that was inconsistent often developed an anxious-ambivalent attachment, which limited the child's ability to actively explore the environment. An anxious-ambivalent child was described as restricted in engaging with the environment because the child constantly monitored the caregiver and demonstrated behaviors characterized as dependent and clingy with the caregiver (O'Connor & McCartney, 2007).

Attachment theory has provided researchers with a better understanding of the impact adult-child interactions have on young children (O'Connor & McCartney, 2007). Research in attachment theory has indicated that a child with a secure attachment versus a child with an anxious-ambivalent or anxious-avoidant insecure attachment scored higher on standardized measures of academic achievement and a securely attached child is able to better regulate emotions and is easily engaged in interactions (Interdisciplinary Council on Developmental and Learning Disabilities, 2000; Spieker, Nelson, Petras, Jolley, & Barnard, 2003).

### *Mediated Learning Experiences*

The theory of Mediated Learning Experience (MLE) was developed between 1950 and 1963 as Feuerstein worked with culturally deprived children (“intellectually and academically dysfunctional”) who were to immigrate to Israel (Feuerstein, Klein, & Tannenbaum, 1991, p. 4). Feuerstein noted that the culturally deprived children needed more than exposure to new experiences to learn. In the 1980’s Feuerstein further confirmed his theory through research with Jewish Ethiopians who immigrated to Israel. Once again, the culturally deprived individuals did not benefit from new experiences and required an individual to mediate the experience (Feuerstein et al., 1991). MLE is Feuerstein’s learning theory that can be described as a child’s experience with stimuli around an interaction with an adult (Kozulin & Presseisen, 1995). In Feuerstein’s 1980 book, *Instrumental Enrichment: An Intervention Program for Cognitive Modifiability*, MLE was explained as

...stimuli emitted by the environment are transformed by a ‘mediating’ agent, usually a parent, sibling, or other caregiver. This mediating agent, guided by his

intentions, culture, and emotional investment, selects and organizes the world of stimuli for the child (Feuerstein, 1980, p. 16).

There are three main concepts of MLE: intentionality, transcendence, and meaning (Klein, Wieder, & Greenspan, 1987; Kozlwin, 2002; Kozlwin, & Presseisen, 1995). In regard to intentionality, Kozlwin (2002), noted that “experienced, well-intentioned, and active human beings” are the source of stimulation between the child and the environment/stimuli which creates a mediated learning experience for the child (p.11). The theory of MLE focuses the importance of transcendence. The concept of transcendence, as it relates to MLE, promotes connecting primary principles of the specific stimuli and how the stimuli is transferred to various situations and tasks (Kozlwin & Presseisen, 1995). Klein et al. (1987), signify the importance of meaning as it is attached to affective domains that a child learns through mediation including feelings of competence and success.

#### *Social and Emotional Development*

Social and emotional development has been described as a developmental domain critical to a child’s overall development and closely related to language and cognition (Linder, 2008; National Association for the Education of Young Children, 1997). Linder (2008) articulated the importance of social and emotional development to a child’s overall development underscored by delays in the development domain that affected sensory integration, pragmatic skills, and attention and memory. To better understand the differing skills and abilities of social and emotional development, a four-branch ability model was theorized (Mayer, Salovey, & Caruso, 2004).



Mayer et al. (2004) delineated about a four-branch ability model as a way to illustrate the differing skills and abilities associated with social and emotional development. The foundational first branch is explained by an individual's ability to use nonverbal gestures and cues to express emotions and to recognize emotions in others. The second branch is characterized by thinking and the ability to use emotions to solve problems. Next, branch number three contained two parts: understanding and growth. Understanding of emotions suggests that individuals frequently reflect on and must involve reflection of emotions and understand the effect emotions have on situations. Growth was explained as developmental. As individuals grow and develop, a better appreciation of understanding emotions and the effect emotions have on situations would mature. The ability to manage emotion is the final and fourth branch of the model. Mayer, Salovey, and Caruso (2004) described management of emotions as an individual's ability to respond to emotions appropriately in different social situations.

Table 1 provides a summary of themes found across theorists.

Table 1

*Themes Found Across Theorists*

<i>Themes</i>	<i>Theorists</i>			
	Bowlby	Ainsworth	Feuerstein	Mayer et al.
Emotional Development	X	X		X
Back & Forth Communication	X	X	X	X
Positive Relationships	X	X	X	X
Emotional Regulation	X	X		X

## Statement of the Problem

The literature denoted that mediated learning experiences, social and emotional development, and student-teacher relationships are connected by attachment theory (Frank et al., 2006; Scott-Little et al., 2006; Thijs et al., 2008) and research indicated relationships between the latent variables and students' overall development (Dobbs et al., 2006; O'Connor & McCartney, 2007; Pianta & Stuhlman, 2004). However, the literature has not indicated a relationship between mediated learning experiences, social and emotional development, and student-teacher relationships. This study proposed a theoretical model based on the literature that explains the relationships between the educational constructs and pre-primary students' overall development.

## Research Question

Is there a relationship between pre-primary teachers' attitudes toward Mediated Learning Experiences (MLE), young students' social and emotional development, pre-primary teachers' perceptions of student-teacher relationships, and the overall development of young students?

## Research Hypotheses

H1: Pre-primary teachers' attitude toward MLE has a positive direct effect on the overall development of students.

H2: Pre-primary teachers' perception of young students' social and emotional development has a positive direct effect on the overall development of students.

H3: Pre-primary teachers' perception of student-teacher relationships has a positive direct effect on the overall development of students.

H4: Pre-primary teachers' attitude toward MLE has a positive indirect effect on students' overall development through pre-primary teachers' perception of student-teacher relationships.

H5: Pre-primary teachers' perception of young students' social and emotional development has a positive indirect effect on students' overall development through pre-primary teachers' perception of student-teacher relationships.

H6: Pre-primary teachers' attitude toward MLE has a positive indirect effect on students' overall development through pre-primary teachers' perception of students' social and emotional development.

#### Definition of Terms

##### *Mediated Learning Experience*

Mediated Learning Experience (MLE), a theory proposed by Feuerstein (1980), which focused on the improvement of cognitive disabilities for individuals who had cognitive delays. MLE made interactions with stimuli meaningful which changed the experience the child had with the stimuli (Kozulin & Presseisen, 1995). MLE can be defined as a teacher's ability to be intentional, transcendent, and the ability to make learning meaningful (Ben-Hur, 1998).

##### *Pre-primary Teachers*

Pre-primary teachers are defined as teachers who teach young students who are between the ages of three and six.

### *Social and Emotional Development*

Social and emotional development is a developmental domain that is defined by a child's ability to externalize and internalize problems, use emotional knowledge to adapt to social situations, and a child's overall social competence (Linder, 2008; Mayer et al., 2004).

### *Student-Teacher Relationships*

Hughes, Gleason, and Zhang (2005) defined student-teacher relationship as the quality in which children experience supportive and positive interactions versus children who experience conflict with teachers in the classroom. Garner and Waajid (2008) termed student-teacher relationships as positive and supportive versus conflict and dependency. Howes et al., (2008) described teacher-child relationships as providing children with acceptance, security, and being actively engaged. Student-teacher relationships can be defined as how teachers interact with children; supportive and accepting versus conflict (Garner & Waajid, 2008; Howes et al., 2008; Hughes et al., 2005).

### *Students' Overall Development*

Students' overall development is made up of several developmental domains: social, self-help, gross motor, fine motor, language development, and cognitive development (Linder, 2008). For the purpose of this study, young students' overall development is defined as students' standardized score on the Child Development Inventory (CDI) in the areas of self-help skills, gross motor development, fine motor development, language development, and academic skills.

### Delimitations

Anticipated potential delimitations of the study include the following:

1. The scope of study is limited to pre-primary teachers in Mississippi who work in licensed early childhood centers.
2. The scope of study is limited to young students between the ages of three and six whose teachers participated in the study.
3. The scope of study is limited to young students between the ages of three and six whose parents signed a consent stating the child could participate in the study.
4. A convenience sample was used.
5. The study did not evaluate the actual interactions between pre-primary teachers and students.
6. The study was limited to self-administered questionnaires.

### Assumptions

1. Standardized procedures for administering and scoring the Student-Teacher Relationship Scale, Social Competence and Behavior Evaluation, and Child Development Inventory were followed.
2. Pre-primary teachers filled out the instruments honestly and completely.
3. All students who returned parental consent forms had an equal opportunity to participate in the study.
4. The validity of the instruments utilized in the proposed research allowed for appropriate statistical analysis of the model presented.
5. There was no error in the data.

## Justification

Students who enter kindergarten and first grade without academic readiness skills which include literacy and social and emotional competencies struggle to be successful on grade level task (Evans, 2004; Hughes et al., 2005). Additionally, students who do not obtain pre-academic and social and emotional competence by kindergarten or first grade often continue to struggle throughout their school careers (Hughes et al., 2005). Research has indicated positive student-teacher relationships support students' social and emotional development, which in turn impact overall development of young students (Hamre & Pianta, 2001; Pianta & Stuhlman, 2004). As research in the area of social and emotional development and the overall development of young students become more prominent, it is vital to add to the body of literature. Furthermore, research in student-teacher relationships, social and emotional development, and students overall development has historically been correlational and predictive (Garner & Waajid, 2008; Hamre & Pianta, 2001; Murray, Murray, & Waas, 2008; Pianta & Stuhlman, 2004) and warrants an in-depth look as to how the latent variables are related and the influence the variables have on one another.

This study proposed a theoretical model based on the literature that explains the relationships between, MLE, social and emotional development, student-teacher relationships, and students' overall development. Several researchers (Garner & Waajid, 2008; Hamre & Pianta, 2001; Palermo, Hanish, Martin, Fabes & Reiser, 2007) have completed research that showed a relationship between student-teacher relationships, social and emotional development and development.

According to the literature, another variable had a positive effect on young children and academic achievement: Mediated Learning Experiences (Frank et al., 2006; Keane & Kretschmer, 1987). The model that was proposed in this study became unique when the latent variable, MLE, is added.

### Summary

The literature suggests that the latent variables: mediated learning experiences, social and emotional development, and student-teacher relationships positively influence student outcomes when a secure attachment is the foundation for interactions between teacher and child (Dobbs et al., 2006; Garner & Waajid, 2008; Palermo et al., 2007). It was proposed that although the current research connects each latent variable to attachment theory and other researchers (Frank et al., 2006; Garner & Waajid, 2008) have shown a relationship between: (a) mediated learning experience and teacher-child relationships; (b) social and emotional development and mediated learning experiences; and (c) teacher-child relationships and social and social and emotional development there is limited evidence of a relationship between all three latent variables and the effects the latent variables have on young students' overall development. The proposed research will indicate the relationships between: (a) MLE; (b) social and emotional development; (c) student-teacher relationships; and (d) overall child development.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

“Through interactions, adult-child relationships enable the child to enjoyably attend to an adult teacher, cooperate with that adult and ensure the adult’s value as a transmitter of meaning and information” (Pianta, 2006, p. 150).

Attachment theory is often thought of as how the relationship between a parent and child can be explained, and more recently, attachment theory has furthered applied the understanding of student-teacher relationships. The review of the literature highlights research that has added to professionals’ understanding of the role student-teacher relationships play in young students’ overall development. This chapter discusses the following latent variables: (a) mediated learning experiences; (b) social and emotional development; (c) student-teacher relationships; and (d) overall child development. To begin, research showed the impact mediated learning experiences have on child development while supporting student-teacher relationships. Following mediated learning experiences, research in the area of social and emotional development signified the importance of student-teacher relationships and mediated learning experiences has on the overall development of the young student. Student-teacher relationships were explored in both pre-primary and primary grades to illustrate the significance student-teacher relationships play on students’ social and emotional development as well as on the students’ overall development, which consist of adaptive skills, language development, and pre-academic skills. Finally, the overall development of the student will be portrayed as adaptive skills, language development, literacy, and numeracy measurement on a standardized assessment and as an appropriate outcome measure in



early childhood research. In summary, the literature explored the direct and indirect effects between mediated learning experiences, social and emotional development, and student-teacher relationships, and the latent variables influence on young students' overall development.

### Mediated Learning Experience

The importance of secure attachment in a student-teacher relationship is supported by Feuerstein's (1980) theory of Mediated Learning Experience (MLE). Feuerstein (1980) believed that optimal cognitive development could not be reached through simple exposure of environmental stimuli, but instead believed that stimuli needed to be mediated so the child could better understand and later be able to use this knowledge. According to Feuerstein, the sooner the child was exposed to mediated learning, the child's affect would increase and the child would have the capacity to modify stimuli. Thus, these abilities together would increase the child's overall cognitive development.

Researchers underscored Feuerstein's MLE as direct learning versus mediate learning (Ben-Hur, 1998; Keane & Kretschmer, 1987; Kozulin & Presseisen, 1995). Direct learning experiences refer to a child's direct interaction with stimuli. To illustrate, direct learning experiences typically address the student's own experience with toys, materials, or the environment (Kozulin & Presseisen, 1995). Kozulin and Presseisen (1995) explained that mediated learning experiences included the students' experience with stimuli around an interaction with an adult. For example, while a student interacted with a toy or other material, an adult would engage the student in questions related to the stimuli and help the student make meaningful connections between personal experiences and the stimuli. The researchers argue that MLE made interactions with stimuli

meaningful which changed the experience the child had with the stimuli (Kozulin & Presseisen, 1995).

As previously mentioned, the three main concepts of MLE are intentionality, transcendence, and meaning (Klein et al., 1987; Kozluin, 2002; Kozluin, & Presseisen, 1995). Ben-Hur (1998) described the teacher's role in MLE as intentional, not incidental. A teacher's intentionality is not limited to focus on content or instruction, but also includes an understanding of classroom environment, children's ability, and awareness of the teacher's own ability and behavior. According to Ben-Hur (1998), based on Feuerstein's work, transcendence referred to the teacher's ability to make connections for the student. Connections included ideas from previous experiences to new experiences, the child's own awareness of the new experience, and how the child could expand the new idea to different context. The theme underscored in MLE is meaning, which is defined as the teacher's ability to make learning meaningful. Ben-Hur (1998) argued that the teacher's ability to make experiences meaningful for students facilitated students' learning.

#### *MLE Research with Special Populations*

Much of the research in MLE has focused on special populations, such as infants and toddlers, hearing impaired, cognitively impaired, and individuals who are culturally deprived (Frank et al., 2006; Keane & Kretschmer, 1987; Klein et al., 1987). Keane and Kretschmer (1987) examined 45 profoundly deaf children who did not have an evident secondary diagnosis. The researchers randomly assigned the children into three groups of 15 to an experimental group, and one of two comparison groups, elaboration or standard. All groups were given the Learning Potential Assessment Device (LPAD),

which assessed the children's ability to learn. The examiner in the experimental group used affective and cognitive support, criteria of MLE, during the LPAD. The examiner in the standard conditional group instructed the children on the purpose of the task as well as the examiner in the elaborated conditional group, provided feedback to the children and asked the student for explanations throughout the LPAD. Keane and Kretschmer (1987) found through pre-post test results, that the experimental group, with mediated feedback, and the elaborate conditional group, with interactive feedback, provided significant statistical findings ( $t=3.62$ ,  $p<.001$ ), which supported learning was transferred. The researchers noted that further research is needed, but were hopeful that the current study would provide insight to deaf education teachers, on the importance of providing meaningful learning experiences for children with hearing impairments.

Frank et al. (2006) conducted a study that included 299 children and 49 pre-primary educators in which the researchers examined the interactions between the children and caregivers. Through the use of filmed observations of free play, researchers scored the Mediated Learning Experience Rating Scale (Lidz, 1991) and coded children's emotional responses as negative affect and positive affect. The researchers found that cognitive oriented mediation practices predicted lower positive emotional responses while emotionally oriented mediation practices predicted an increase in positive emotional responses. Frank, et al. (2006) concluded that the pre-primary educators who engaged in emotionally oriented mediation provided positive student-teacher relationships, which promoted opportunities for positive interactions and learning.

Thus, Feuerstein et al. (1986) emphasized that schools have the responsibility to teach students how to learn. Feuerstein et al. note that the educational product is important; however, more important is (a) how the student reached the product; (b) how the student problem solved; and (c) how the student made decisions about the product. Through mediated learning experiences with an intentional adult, student-teacher relationships are improved, which in turn supports students' social and emotional development (Ben-Hur, 1998; Frank et al., 2006; Pianta & Stuhlman, 2004; Ritchie & Howes, 2003).

### Social and Emotional Development

Social and emotional development is referred to as an individual's ability to understand and regulate emotions so that the individual could grow both emotionally and intellectually (Mayer & Salovey, 1997). Mayer and Salovey stated that emotions aided the individual in thinking when able to accurately identify emotions. Elias et al. (1997) described social emotional competence as an individual's capacity to control and express emotion in social situations. Stanley Greenspan (2003) asserted an individual's emotional capacities were needed for self-regulation, mutual engagement with another individual, and for complex problem solving. Linder (2008) further explained social and emotional development as the "how of learning and development because much of learning is driven by emotional needs and responses and is dependent of social input" (p. 95).

Related, Hawkins (1997) specifically wrote about the need to promote social emotional development as a way to increase academic success. In 1997, Hawkins contributed to *Healthy Children 2010: Enhancing Children's Wellness*, a series of books

across a variety of disciplines, which promoted healthy children by the year 2010. The review of the research in the area of social and emotional development, academic success, and school dropout led to the declaration that in order for America's children to have healthy lives, America needed effective schools (Hawkins, 1997). Effective schools, as defined by Hawkins, recognized the importance of the integration of academic and social and emotional learning.

In recent years, social and emotional development has been linked to academic success. Welsh, Parke, Widaman, and O'Neil (2001) conducted a longitudinal study of 163 children across grades one, two, and three. The researchers' goal was to discover if effects between social competence and academic competence were directional over time. Welsh et al. (2001) gathered data related to both the social and academic competence of children and teachers. Students rated peers on social competence and behavioral characteristics sorting peers into the following categories: liked to play, don't like to play, helpful, turn taker, mean, and other social and behavioral characteristics. Teachers were asked to rate students' likeability by peers and other behavioral characteristics. Academic competence was measured through report cards that were sorted into three categories: unsatisfactory, needs improvement, or outstanding. Additionally, teachers rated students' work habits using a 3-point scale: unsatisfactory, satisfactory, or above average. The results of this study provided evidence of a relationship between social competence and academic competence ( $\beta=.47$ ,  $SE=.14$ ). Over the two-year period, researchers were able to state that academic competence consistently influenced social competence.

Dobbs et al. (2006) researched the association between social and emotional functioning and mathematical skills of 108 ethnically diverse preschoolers. Teachers completed the Devereux Early Childhood Assessment, the Teacher's Report Form of the Child Behavior Checklist, and provided demographic information on the children. The children were assessed with a standardized test, Test of Early Mathematics Ability, second edition. The analysis depicted a correlation between social and emotional functioning and mathematical skills. Initiative, self-control, and attachment were positively correlated with mathematical skills ( $r = .57, .33, .33$ ) while withdrawal, social problems, and attention problems were negatively correlated with mathematical skills ( $r = -.37, -.31, -.45$ ). Additionally, initiative, self-control, attachment, withdrawal, social problems, and attention problems were predictors of the Test of Early Mathematics Ability, second edition.

Emotional regulation is thought of as a pre-academic skill that promoted attention while maintaining emotional stability (Linder, 2008). Graziano, Reavis, Keane, and Calkins (2007) examined how emotional regulation effected academic achievement while mediating the student-teacher relationship. The study used a diverse sample of 325 kindergarten students and collected various types of data throughout the kindergarten school year. Parents completed the Emotion Regulation Checklist to assess students' emotional regulation ( $\alpha = .68$ ), the Academic Performance Rating Scale was used to measure academic competence in the kindergarten classroom ( $\alpha = .79$ ), parents completed the Behavior Assessment System for Children to assess student behavioral problems, the Student-Teacher Relationship Scale was used to measure the relationship between the student and teacher ( $\alpha = .86$ ), and the Wechsler Individual Achievement Test

was used to assess student academic achievement. Graziano et al. used a hierarchical regression analysis controlling for IQ and found that emotion regulation was a significant predictor of academic success,  $F(2, 204) = 20.64, p < .001, \beta = .20$ . Additionally, the researchers found that students with better emotional regulation had better student-teacher relationships,  $F(1, 248) = 3.91, p < .05, \beta = .13$ .

As stated earlier, Garner and Waajid (2008), examined emotion knowledge and student-teacher relational variables to school competence. Emotion knowledge was assessed on 74 preschoolers through 10 audiotape emotion vignettes. The children were to listen to 10 vignettes and point to the correct face which depicted one of five emotions; happy, sad, afraid, angry, or surprise. Children were assigned points for correct answers and a total score was calculated to represent emotion situation knowledge score. The researchers found that emotion knowledge predicted school competence and as was a predictor of the Developmental Indicators for the Assessment of Learning- Revised (DIAL-R) in the areas of cognition and language.

In contrast to emotion knowledge and emotional regulation is emotional lability. Spritz, Sandberg, Maher, & Zajdel (2010) defined emotional lability as students' emotional arousal measured through mood swings, angry reactivity, and the intensity of emotions. In a study of 44 students from a Head Start program, pre-primary teachers rated student-teacher relationships using the Student-Teacher Relationship Scale (STRS), emotional lability using the Emotion Regulation Checklist, and students' scores on the vocabulary subtest of the Stanford-Binet Intelligence Scale, fourth edition. The researchers found that students' verbal abilities were significantly correlated with

emotional lability ( $r = -.31, p < .05$ ). Consequently, students' poor verbal abilities predicted conflict in the student-teacher relationship ( $\beta = -.27$ ).

Dobbs et al. (2006) found that social and emotional constructs correlated with academic success; Garner and Waajid (2008) found social and emotional constructs predicted academic success; and Welsh et al. (2001) illustrated a bidirectional relationship between social and emotional constructs and academic success. The researchers' findings are a reflection of the views of Elias et al. (1997), Hawkins (1997), and Mayer et al. (2004) that social and emotional intelligence is an important construct of academic success. Elias et al. (1997) emphasized that basic academic abilities are not effective when children do not develop socially and emotionally.

#### Student-Teacher Relationships

Bowlby and Ainsworth laid the foundation for future researchers with a theoretical framework and a solid research base (Honig, 2002). Researchers continue to study and discuss the implications attachment theory has on the development of young children (Brophy-Herb, Lee, Nievar, & Stollak, 2007; Osofsky, 2005; Schore, & Schore, 2008; Zeanah, Smyke, Koga, & Carlson, 2005). O'Connor and McCartney (2007) used research from Phase I and II of the National Institute of Child Health and Human Development Study of Early Care and Youth Development and discovered associations between attachment and cognitive skills. The researchers found that attachment does play a significant role in cognitive development, more so than other variables such as sex, amount of time children spent in child care, and the quality of child care when examined in large, diverse samples.



Spieker et al. (2003) discussed similar findings from research conducted in 1996 and 1997 of 179 mothers and children from low socioeconomic homes eligible for Early Head Start programs. Spieker et al. found that children with secure attachment scored higher on cognitive and language test and found that secure attachment in infancy continued to provide benefits into childhood. Additionally, Blair (2002) wrote about the importance of responsive parent-child relationships and affective interactions between parent and child as related to school readiness in the form of self-regulation. Blair noted that such interactions helped children develop the tools needed to develop self-regulation as it relates to emotion and cognition, which are predictors for school success. Attachment research overwhelmingly points to the magnitude of warm and responsive parent-child interactions and the effects such interactions have on outcomes for children (Blair, 2002; Spieker et al., 2003).

Bowlby and Ainsworth's work focused on the importance of a secure attachment with a primary caregiver (Ainsworth et al., 1978; Bowlby, 1980; Bowlby, 1988). In 1987, emerging literature in the field of attachment research focused on the importance and effects secondary attachments have on children (Tavecchio & van IJzendoorn, 1987). Tavecchio and van IJzendoorn (1987) first introduced secondary attachments as the "extension hypothesis" in which attachment theory goes beyond the relationship between the mother and child to include relationships that are formed within the infants first year of life including father, siblings, extended family members, and professional caregivers (p. 24). Attachment theory research now includes the effects of secondary attachments, which focuses specifically on student-teacher relationships (Brophy-Herb et al., 2007; Garner & Waajid, 2008; Gerber, Whitebook, & Weinstein, 2007; Murray et al., 2008).

*Pre-primary student-teacher relationships.*

A large body of professional literature has called attention to the significance of student-teacher relationships (Gerber et al., 2007; Hamre & Pianta, 2001; Hughes et al., 2005; Ritchie & Howes, 2003). The focus of student-teacher relationships in pre-primary, primary, elementary, and middle school has brought attention to the impact relationships have on social and emotional development as well as on academic achievement (Pianta & Stuhlman, 2004). Understanding the variables associated with student-teacher relationships and differences based on the age level of students is important in further understanding ways to impact students' overall development.

Ritchie and Howes (2003) conducted a study to predict student-teacher attachment patterns. The researchers used program practices, caregiver behaviors, and classroom climates as predictors. Two hundred fifty-six children from underrepresented families in Los Angeles and rural North Carolina were observed with the Adult Involvement Scale and independent observations in the child care environment (Howes & Stewart, 1987). Operational definitions referred to the type of interactions children had with their pre-primary teacher. An intense interaction with a child care teacher means that the teacher used appropriate physical touch with the child, restated the child's statement, and engaged the child in conversations and play. Sensitive interaction means that the child care teacher displayed behaviors that were warm, attentive, and engaged. A regression model was used to predict student-teacher attachment patterns. Ritchie and Howes (2003) found that a child who had intense, sensitive interactions with a teacher and spent a majority of the day with the primary teacher was the best predictor of a secure child-teacher attachment.

Similarly, researchers Gerber et al. (2007) studied predictors of teacher sensitivity. Through a study that included 41 teacher participants, Gerber et al. examined which variables best predicted teacher sensitivity. Teacher sensitivity was described as a teacher's ability to recognize individual needs of children and to respond warmly and consistently to ensure learning and development. Variables included physical environmental characteristics: National Association for the Education of Young Children (NAEYC) accreditation, size, teacher turnover, number of children receiving government subsidized, organizational climate; and classroom characteristics: number of children enrolled, teacher child ratio, number of minority children enrolled, and classroom quality (National Association for the Education of Young Children, 1997). Of these variables, accreditation, small class size, and classroom quality were predictors of teacher sensitivity. Teacher variables were also considered to predict teacher sensitivity: age, education level, early childhood education training, number of years teaching, number of years at the center, economic status, well-being, and social network (social supports) were all used in the multiple regression analysis. Among these variables, formal training in early childhood education predicted teacher sensitivity.

Gerber et al. (2007) delineated the importance of a high quality early childhood education program as a predictor of teacher sensitivity, which was also found to be an important aspect of the Ritchie and Howes (2003) study. Hence, all the researchers considered scores of four and up from the Harms, Clifford, and Cryer (2005) Early Childhood Environmental Rating Scale (ECERS), a high quality program. A positive student-teacher relationship is one facet of a high quality early childhood program according to the ECERS. Positive student-teacher relationships are based on a teacher's

ability to be sensitive to a child's wants and needs and to respond to children consistently in a warm manner to promote growth and development (Gerber et. al., 2007; Ritchie & Howes, 2003). Therefore, the studies reveal the importance of positive student-teacher relationships can be explained through research that connects student-teacher relationships with academic achievement.

Garner and Waajid (2008) examined emotion knowledge and student-teacher relational variables to school competence. Seventy-four preschoolers from economically and ethnically diverse populations and 18 teachers participated in the study. Garner and Waajid had children complete an emotion knowledge task and the Developmental Indicators for the Assessment of Learning-R (DIAL-R) which is a school competence test. The classroom teachers completed the Classroom Adjustment Scale to assess the children's school competence and the Student-Teacher Relationship Scale to depict the quality of student-teacher relationships. The researchers described emotional competence as a child's ability to employ knowledge about emotion to help regulate emotions so the child is better able to discuss social exchanges. School competence was described as classroom competence, approaches to learning, and interpersonal classroom behaviors. Garner and Waajid (2008) found that the student-teacher relationship predicted teacher-reported school competence and teacher reported school competence was related to student-teacher closeness.

Palermo et al. (2007) researched the quality of the student-teacher relationship on academic readiness. Additionally, this study examined prosocial and aggressive behavior and peer group exclusion as mediators of student-teacher relationship. Ninety-five children from diverse ethnic and socioeconomic backgrounds and four teachers

participated in the study. Four instruments were used to test the correlation of various factors between student-teacher relationships and academic readiness for kindergarten. A 19-item measure of academic readiness which assessed children's logical thinking, mathematics ability, reading and writing was completed by the teachers and was reported reliable at  $\alpha = .94$ . The other four instruments included the Student-Teacher Relationship Scale ( $\alpha = .93$ ), Child Behavior Scale ( $\alpha = .92$ ), Child Behavior Checklist-Teacher Report Form ( $\alpha = .90$ ), and the Peer Exclusion subscale of the Child Behavior Scale ( $\alpha = .90$ ). The researchers used models to show the associations between student-teacher relationships, behavior, peer group exclusion, and kindergarten readiness and provided extensive information to discuss the models. However, concrete operational definitions were not provided for the variables. In concluding, Palermo et al. (2007) found a positive correlation between student-teacher closeness with academic readiness and prosocial behavior and a positive correlation between student-teacher dependency and conflict with aggressive behavior and peer group exclusion. The researchers noted that the student-teacher relationship correlated with school readiness outcomes (Palermo et al., 2007).

In 2007, researchers from University of California, University of North Carolina, and University of Virginia conducted an extensive study using data from two existing studies: the National Center for Early Development and Learning (NCELD) and the State Wide Early Education Program Study (SWEEPS) (Howes et al., 2008). The study included 2800 children from 700 randomly selected state-funded pre-kindergarten programs across 11 states; 61% of the participants were from the NCELD; and 55% were from SWEEPS. Howes et al. (2008) looked at variables that influenced children's

growth in academic and social skills over a pre-kindergarten year. Variables included structural quality, process quality, Developmentally Appropriate Practices (DAP) materials, effective teaching, and student-teacher relationships. Structural quality included teacher qualifications, location and length of program, and adult to child ratio. Experiences and interactions with teachers and materials was described as process quality while DAP materials were depicted as age appropriate manipulatives, books, blocks, and dramatic play items. Instruments used to collect data included the Early Childhood Environmental Rating Scale-Revised (ECERS-R), Classroom Assessment Scoring System (CLASS), Student Teacher Relationship Scale (STRS), and snapshot (an observational report). Effective teaching was explained as sensitive interactions in a positive social emotional environment centered on learning experiences. Student-teacher relationships focused on how teachers interacted with and responded to children. The researchers reported gains in pre-academic skills, controlling for family characteristics, between the fall and spring assessments. Estimated gains include .33 for Peabody Picture Vocabulary Test-3<sup>rd</sup> Edition (PPVT III), .38 for Oral & Written Language Scale (OWLS), .91 in naming letters, .16 for Woodcock-Johnson III Tests of Achievement: Applied Problems Subtest (WJ III) (Howes et al., 2008).

Howes (2000) conducted a five-year longitudinal study with child participants from the Cost Quality and Outcomes Study to predict students' social competence with their second grade peers. The study included 793 students of which 79% of the students were of white ethnicity. 6% of the students were African American and 5% Latino. The first year of the study, preschool teachers completed the Student Teacher Relationship Scale (STRS) and the Classroom Behavior Inventory (CBI). Peer play was assessed

using the Peer Play Scale in which the participants were observed for five minutes, three separate times over a one hour period. During the last year of the study, second grade teachers completed the STRS and the Teacher Assessment of Social Behavior Questionnaire. A hierarchical multiple regression method was used to predict second grade social competence with peers. Howes (2000) concluded that second-grade social competence with peers ratings could be predicted by four-year old behavior problems and the quality of the student-teacher relationship ( $\beta = .56$ ).

Recent research by the Center on the Developing Child at Harvard University (2007) denoted scientific evidence from brain research on the important role warm and responsive interactions between pre-primary teachers and young students have on the overall development of the child. The Center on the Developing Child at Harvard University suggests public policy should be based on the needs of low-income families' access to high-quality early educational environment. Research of the economic benefits of low-income families whose children participated in model programs generated benefit-cost ratios ranging from 2:1 to 17:1. The researchers gave emphasis to the principle elements that consistently generate positive outcomes: (1) qualified pre-primary teachers; (2) low student-teacher ratio; (3) developmentally appropriate materials and activities; (4) language-rich environment; (5) warm and responsive interactions between pre-primary teachers and young students; and (6) consistent levels of child participation (Center on the Developing Child at Harvard University, 2007).

Based on research with pre-primary children, Gerber et al. (2007) and Ritchie and Howes (2003), described teacher sensitivity as a predictor of positive teacher child relationships in early childhood education. Positive teacher child relationships promoted

academic achievement as discovered by Garner and Waajid (2008), Howes et al. (2008), and Palermo et al. (2007). A classroom environment in which learning experiences are promoted and which children feel secure, the children have positive teacher child relationships and move about the classroom engaged in learning opportunities with responsive and intentional adults (Ainsworth, 1978; Feuerstein, 1980; O'Connor & McCartney, 2007; Ritchie & Howes, 2003).

*Primary student-teacher relationships.*

Hamre and Pianta (2001) conducted a longitudinal study with 179 children from kindergarten to eighth grade. The researchers' goal was to discover if kindergarten teachers' reports of student-teacher relationship types as conflict, closeness, or dependency would later predict school outcomes. Hamre and Pianta used the Student-Teacher Relationship Scale to assess teacher-reported student-teacher relationship in terms of conflict, closeness, or dependency; academic performance was collected each year. Additionally, the Iowa Test of Basic Skills was administered each year, along with teachers' observations of work habits, and district disciplinary records. The results of the study predicted academic and behavioral outcomes from kindergarten to eighth grade. Hamre and Pianta found that when teachers reported conflict or dependency in the student-teacher relationship, negative academic and behavioral outcomes were significantly predicted (Hamre & Pianta, 2001).

Further, research conducted by Pianta and Stuhlman (2004) focused on the importance of student-teacher relationships in the first years of school. A study which included 490 children was conducted across three years: pre-kindergarten, kindergarten, and first grade. The researchers examined associations between student-teacher



relationships and social and academic success through the use of three types of data collection: students' completion of standardized assessments, teacher reported checklist and scales, and observations from research assistants. The first data collection was assessment of pre-school and first grade using the Woodcock Johnson Psycho-Educational Battery-Revised Test Cognitive Ability and Test of Achievement. Second, teachers completed several scales and checklists which included a mock report card, the Child Behavior Check-List, California Preschool Social Competency Scale, Social Skills Questionnaire, and the Student-Teacher Relationship Scale. The last data were collected by observers. Observers used Observational Record of the Caregiving Environment and Classroom Observation System-First grade to examine interactions between children and teachers. Pianta and Stuhlman reported several findings from the data. Across time, teachers' perceived levels of conflict and time were moderately correlated ( $r = .40$ ). Teachers' perceived levels of closeness and time showed a lower correlation to conflict and time ( $r = .21$ ). The researchers indicated that the decreasing trend reflected primary teachers' perceptions of the importance of student-teacher relationships. Additionally, student-teacher relationships as defined by conflict or closeness were predictors for academic performance and social competence.

Hughes et al. (2005) examined teachers' perceptions of relationships between parent-teacher and student-teacher of ethnically diverse students to discover if such attitudes influenced teachers' perceptions of academic competence. The study included 607 ethnically diverse children from low socioeconomic backgrounds, considered at-risk for school success. Of the 607 children, 147 were African American, 236 Hispanic, and 224 were Caucasian. Children were administered the Woodcock Johnson III Broad

Reading and Math or a Spanish assessment, Bateria Woodcock-Munoz, which is comparable to the English test. Teachers completed the Teacher Relationship Inventory, an academic performance scale, and a teacher-report home school relationship questionnaire. The researchers found ethnicity was a significant ( $p \leq .001$ ) factor in teachers' perception of academic abilities and parent-teacher relationships. Caucasian and Hispanic students were rated higher than African American students. In addition to ethnicity, gender was found to be a significant factor which stated girls experienced higher rates than boys of parent-teacher alliance ( $p \leq .05$ ) and student-teacher support ( $p \leq .001$ ). Other findings included relationship variables as predictors of teachers' perceptions of academic ability. Teachers, who rated child and parent relationships less positive, also rated children's academic competence more poorly. The quality of parent-teacher relationship was also a strong predictor of teachers' perceptions of children's academic ability.

The research completed for student-teacher relationships in the primary grades was reflective of research completed for student-teacher relationships in the preprimary grades (Garner & Waajid, 2008; Hamre & Pianta, 2001; Howes et al., 2008; & Hughes et al., 2005). The work of Pianta (2001), Pianta and Stuhlman (2004), and Hughes et al. (2005) found that student-teacher relationships were significant predictors of academic ability, school competence and social competence. Additionally, a classroom environment in which learning experiences were promoted and in which children felt secure, the children had positive student-teacher relationships and moved about the classroom engaged in learning opportunities with a responsive and intentional adult (Ritchie & Howes, 2003). Ritchie and Howes (2003) noted the significance of adults

who were intentional in actions and provided meaning to what was being taught to students. Teachers who are engaging, responsive, and intentional promote positive student-teacher relationship and exhibit behaviors that are reflective of mediated learning experience which will further be discussed in the next section (Ben-Hur, 1998; Ritchie & Howes, 2003).

### Overall Development

Researchers have studied the effects student-teacher relationships have on the overall development of students (Pianta & Stuhlman, 2004), how social and emotional development of young children can predict cognitive development (Dobbs et al., 2006) and how teachers' mediated learning experiences are related to young students' overall developmental outcomes (O'Connor & McCartney, 2007). Students' developmental ability in a variety of domains has been the outcome measure for numerous early childhood research studies (e.g. Garner & Waajid, 2008; Howes et al., 2008; O'Connor & McCartney, 2007). Though often vaguely defined, students' overall development is generally measured by a student's score on a standardized test and has been measured by a variety of instruments: Iowa Test of Basic Skills, Stanford-Binet Intelligence Scale, Oral & Written Language Scale (OWLS), and the Woodcock-Johnson III (WJ III) (Garner & Waajid, 2008; Howes et al., 2008; Hughes et al., 2005; Pianta & Stuhlman, 2004; Spritz et al., 2010).

Palermo et al. (2007) used academic readiness as an outcome measure in research that looked at the relationship between teacher-child relationships, prosocial and aggressive behavior, and peer group exclusion. The researchers hypothesized a theoretical model in which the student-teacher relationship had a direct effect on

prosocial behavior, aggressive behavior, and academic readiness. The final model showed a direct effect from student-teacher relationship to academic readiness and prosocial behavior when the student-teacher relationship was categorized as close. When the student-teacher relationship was categorized as dependent or conflict, there was an indirect effect of academic readiness through prosocial and aggressive behavior, and peer group exclusion. Palermo et al. (2007) demonstrated the effect student-teacher relationships have on students' cognitive development by using a standardized assessment of academic readiness skills as an outcome measure in research.

The Child Development Inventory (CDI) is a 300-item questionnaire that assessed students overall development in the areas of social, self-help, gross motor, fine motor, language development, and cognitive development (Ireton, 1992). Specifically, in the areas of language development and cognitive development, the CDI measures students' language expression and comprehension abilities as well as their letter and number skills. Arnold and Doctoroff (2003) delineated students' development through literacy measures, which included language skills, phonological knowledge, letter identification, and knowledge about print skills measured by the CDI. The use of the CDI to measure students' overall development is documented in early childhood literature (Chaffee, Cunningham, Secord-Gilbert, Elbard, Richards, 1990; Garrity & Servos, 1978; Gottfried, Guerin, Spencer, & Meyer, 1989; Tomblin, Shonrock, & Hardy, 1989).

Table two provides a summary of the type of studies discussed in the literature review.

Table 2

*Summary of Studies*

Construct	Types of Studies	Emphasis of Studies
Mediated Learning Experiences	Experimental	Interactions
	Multiple Regression	Intentionality
		Transcendence
Social and Emotional Development	Correlational	Social Competence
	Multiple Regression	Academic Readiness
		Attachment
		Emotional Regulation
		Emotional Knowledge
Student-Teacher Relationship	Correlation	Attachment
	Multiple Regression	Academic Readiness
		Interactions
	Structural Equation Modeling	Social Development
		Emotional Development

## Conclusion

The literature suggests that the three educational constructs discussed in the literature review (a) mediated learning experiences; (b) social and emotional development; and (c) student-teacher relationships are all connected by attachment theory. Thijs, et al. (2008) noted the theoretical base of the student-teacher relationship research is attachment theory. Frank, et al. (2006) researched early childhood teachers' abilities to mediate learning experiences in which the researchers signified the importance that the children used the teacher as a secure base. Research by Scott-Little, et al. (2006) highlighted attachment theory as the origin of social and emotional development where the researchers stated a secure attachment promoted self-regulation and self-understanding. With attachment theory as the theoretical base, it is proposed that the educational constructs have a direct effect on the overall development of young students and the relationships between the constructs have an indirect effect on overall development. This conclusion is reflected in the literature as various researchers found a relationship between overall development and student-teacher relationships, mediated learning experiences, and social and emotional development (Dobbs et al., 2006; O'Connor & McCartney, 2007; Pianta & Stuhlman, 2004).

In summary, teachers play a significant role in young students' overall development, including social and emotional development (Interdisciplinary Council on Developmental and Learning Disorders, 2000; Linder, 2008). With much emphasis being placed on standardized achievement scores, it becomes important for teachers to recognize the various variables which directly affect such scores. The literature review suggests going beyond socioeconomic status and readiness skills and focusing on

teachers' abilities to promote mediated learning experiences in order to build student-teacher relationships and promote social and emotional development (Arnold & Doctoroff, 2003; Hamre & Pianta, 2001). Looking beyond the correlation between the constructs, this study proposes a theoretical model based on the literature that explains the relationships between (a) mediated learning experiences; (b) social and emotional development; (c) student-teacher relationships; and (d) students' overall development.

## CHAPTER III

### RESEARCH DESIGN AND METHODOLOGY

As it has been noted, teachers impact the overall development of young children, and the research has documented the influence of the teacher-child relationship on young students (Hamre & Pianta, 2001; Palermo et al., 2007). Rooted in attachment theory and the belief that positive relationships are the foundation for all learning, this study was designed to further investigate how the educational constructs interact with one another.

The purpose of this study was to analyze the relationships between pre-primary teachers' perceptions of mediated learning experiences, social and emotional development of young students, student-teacher relationships, and students' overall development. This research suggests that through positive student-teacher relationships, teachers engage students in mediated learning experiences which promote social and emotional development and effects the students' overall development. This chapter presents a description of the research design, instrumentation and treatment of data involved in the study.

#### Research Question

This study sought to confirm the relationships as expressed in the research question: Is there a relationship between pre-primary teachers' attitude toward Mediated Learning Experiences (MLE), students' social and emotional development, pre-primary teachers' perceptions of student-teacher relationships, and the overall development of young students?



## Research Hypotheses

Directly derived from the research question are the following specific hypotheses which served as the guide for the study:

H1: Pre-primary teachers' attitude toward MLE has a positive direct effect on the overall development of students.

H2: Pre-primary teachers' perception of student-teacher relationships has a positive direct effect on the overall development of students.

H3: Pre-primary teachers' perception of young students' social and emotional development has a positive direct effect on the overall development of students.

H4: Pre-primary teachers' attitude toward MLE has a positive indirect effect on students' overall development through pre-primary teachers' perception of student-teacher relationships.

H5: Pre-primary teachers' perception of young students' social and emotional development has a positive indirect effect on students' overall development through pre-primary teachers' perception of student-teacher relationships.

H6: Pre-primary teachers' attitude toward MLE has a positive indirect effect on students' overall development through pre-primary teachers' perception of students' social and emotional development.

## Population

Researchers have adequately illustrated the influence pre-primary and primary teachers have in young students' overall development and the use of teachers as participants in early childhood education research (Garner & Waajid, 2008; Harne & Pianta, 2001; Hughes et al., 2005; Palermo et al., 2007). Based on the statistical analysis

that was used, structural equation modeling, a large sample size was required (Kline, 1999; Schumacker & Lomax, 2004). A convenience sample of 120 pre-primary teachers who work in licensed early childhood education centers in 13 different counties across Mississippi was used. Pre-primary teachers in this study were awarded one contact hour of training as approved by the Director of Licensure and Regulation, Mississippi Department of Health, which regulates licensure and required training for all early childhood educators, including pre-primary teachers in the state of Mississippi. Pre-primary students, ages three to six, whose teacher contributed to the study were randomly chosen from a pool of students who returned a signed consent form to participate in the study. Each pre-primary teacher who participated in the research randomly chose a student from a class with a signed consent form to participate. Students that were chosen to participate had no contact with the instruments and were not asked to complete any further assessments. Pre-primary teachers completed instruments that assessed teachers' attitudes towards mediated learning experiences, their perceptions of the relationship between the particular student and teacher and the teachers' perceptions of the students' social and emotional development. Additionally, pre-primary teachers completed a 220-item questionnaire which assessed students' overall development. All assessments were based on knowledge and observation of students; students did not complete assessments.

## Instrumentation

A self-administered questionnaire can provide researchers with what participants are feeling, thinking, or doing (Mitchell & Jolley, 2004). The use of four self-administered questionnaires were used to assess pre-primary teachers' attitudes toward MLE, students' social and emotional development, and pre-primary teachers' perceptions of student-teacher relationships. Four instruments were utilized for data collection: (1) Relationships and Learning in the Classroom; (2) Social Competence and Behaviors Evaluation; (3) Student-Teacher Relationship Scale; and (4) Child Development Inventory. The instruments are described below.

### *MLE: Relationships and Learning in the Classroom*

Upon approval from The University of Southern Mississippi Institutional Review Board, the survey was developed based from the literature and information obtained from a focus group held on Thursday, November 20, 2008. The focus group was approved by The University of Southern Mississippi Institutional Review Board, protocol number 28111806. The period of approval granted from The University of Southern Mississippi Institutional Review Board was from November 18, 2008 to November 17, 2009. In the fall of 2009, Westbrook and Mohn presented the Relationships and Learning in the Classroom (RLC) to fellow researchers at the Mid-South Educational Research Association Conference.

RLC is a self-administered questionnaire used to assess teachers' attitudes towards and understanding of teacher-child relationships, social and emotional intelligence, and mediated learning experiences. The self-administered questionnaire was developed to determine if an assessment can measure six educational constructs: attitudes

and understandings of teacher-child relationship, mediated learning experiences, and emotional intelligence. A convenience sample of 235 participants participated in the validation of the RLC, voluntarily completing the self-administered questionnaires. Participants were pre-primary and primary teachers from various counties in a southern state. Primary teachers who completed the questionnaire were from urban and rural school districts while the majority of pre-primary teachers were from rural counties in a southern state. Thirty-eight percent of the participants had a bachelor's degree, 18% were master's level teachers, 17% were high school graduates, 14% had some college, and 15% had an associate's degree from a Junior College. With regard to teaching experience, 25% had less than five years; 21% had between five and 10 years; 16% had 10 to 15 years; 16% had between 15 and 20 years; and 20% had 20 plus years of experience in education.

An exploratory factor analysis was conducted on the 24 items. The extraction method used was Principal Axis Factoring (PAF) with an oblique rotation. The Kaiser-Meyer-Olkin measure indicated that there was sampling adequacy for the analysis,  $KMO = .83$ . Bartlett's test of sphericity,  $\chi^2 (276) = 1285.48, p < .001$ , showed that the correlations between the items were large enough to warrant the PAF.

The results of the four factor solution indicated issues with several of the items. For three of the items, the extracted communality was below .10; additionally, the highest loading in the pattern matrix on any of the 4 factors was below .25. The Relationships and Learning in the Classroom questionnaire contained four reversed scored items that were placed throughout the instrument. One of the factors in the solution only had reversed score items loading above .40. The reversed scored items had no theoretical

basis to be grouped together; therefore, they were removed. A PAF was run on the remaining 17 items.

The Kaiser-Meyer-Olkin measure indicated that there was sampling adequacy,  $KMO = .86$ . Bartlett's test of sphericity,  $\chi^2(136) = 1078.19, p < .001$ , showed that the correlations between the items were large enough to warrant the PAF. The scree plot indicated that two factors should be retained. The two factors explained 35.2% of the variance. Stevens (2002) indicates that for a sample size of 200, loadings of .364 or greater can be considered significant. Using this as a guideline, loadings below .35 were suppressed to aid interpretation. The first factor contained all questions from the Attitude section of the questionnaire and had a Cronbach's alpha of .77. The second factor contained all questions from the Understanding section of the questionnaire and had a Cronbach's alpha of .83. A value of .7 is considered an adequate score for reliability (Kline, 1999). The correlation between the two factors was  $r = .45$ , indicating a moderate relationship.

Westbrook and Mohn (2009) noted several limitations of the RLC. As this study was a pilot study for developing a questionnaire, additional validity evidence was not gathered. Additionally, a convenience sample was used in gathering data on the self-administered questionnaire. Although an appropriate sample size was used, the impact of the use of a convenience sample resulted in a sample that cannot be generalized to all preprimary and primary teachers (Leedy & Ormrod, 2005). Moreover, the analysis found two constructs versus the hypothesized six constructs the researchers conceived. The analysis showed that the test items did not decipher pre-primary teachers' attitudes and understanding of each of the three educational constructs. This could be due to how

the questions were written, how items were scored, or the fact that the questions did not differentiate enough between each construct.

Westbrook and Mohn (2009) concluded a high score on the Relationships and Learning in the Classroom self-administered questionnaire equals a positive attitude toward teacher-child relationships, social and emotional intelligence, and MLE. Furthermore, a high score underscores teachers' understandings of how to engage young children to develop positive teacher-child relationships, of how to increase children's social and emotional development, and of how to provide mediated learning experiences. Knowing teachers' attitudes and understandings of the constructs emphasizes how each construct influences student outcomes in a learning environment.

For the purpose of the current research, the RLC was adapted to include 10 questions which assess pre-primary teachers' attitudes towards mediated learning experiences. The questions reflect the three principles of MLE: (a) intentional interactions; (b) transcendent; and (c) the ability to make learning meaningful.

*Social and Emotional Development: Social Competence and Behavior Evaluation*

The Social Competence and Behavior Evaluation (SCBE) is a self-administered questionnaire used to assess teachers' perceptions of student social and emotional development (LaFreniere & Dumas, 1995). Formally known as the Preschool Socioaffective Profile, the SCBE was developed for both research and educational purposes for use in the classroom (LaFreniere, Dumas, Capuno, & Dubeau, 1992). The SCBE is composed of 80 items that use a Likert-type rating scale which ranges from 1 (the behavior never occurs) to 6 (the behavior almost always occurs). The original normative sample consisted of 608 Canadian students that ranged in age from 28 months

to 76 months with the average mean for females was 49.3 months and 49.9 for males (LaFrenier et al., 1992). A later sample included 1736 participants from the United States that ranged in age from 30 months to 78 months. From the later sample, a more diverse population was represented: 72% Caucasian, 18% African American, 7% Hispanic, and 3% Asian American (LaFreniere & Dumas, 1995). According to the authors, the population was, at the time, reflective of the U.S. Bureau of Census.

The SCBE provides researchers and educators with scores for four summary scales: (1) social competence; (2) internalizing problems; (3) externalizing problems; and (4) general adaptation (LaFreniere & Dumas, 1995). The four summary scales are derived from eight basic scales which range from a negative to positive and represent a continuum. The eight basic scales include (1) depressive-joyful; (2) anxious-secure; (3) angry-tolerant; (4) isolated-integrated; (5) aggressive-calm; (6) egotistical-prosocial; (7) oppositional-cooperational; and (8) dependent-autonomous. The factors that make up the social competence construct are a summary of the eight scales that are represented by the positive continuum (i.e.: joyful, secure, and tolerant). Internalizing problems is made up of a summary of depressive, anxious, isolated, and dependent while externalizing problems summarized angry, aggressive, egotistical, and oppositional. The construct, general adaptation, is a summary of all 80 items.

Reliability of the SCBE was based on interrater reliability, test-retest, and Cronbach's Alpha for each of the eight basic scales. Interrater reliability ranged from a low of .72 to a high of .89 (LaFreniere & Dumas, 1995). Test-retest over a two week period consisted of a range from .74 to .87. Cronbach's Alpha from the eight basic scales ranged from .79 for dependent-autonomous to .91 for isolated-integrated. Although,

LaFreniere & Dumas (1995) did not provide any reliability data for the four summary scales, the statistical analysis for the eight basic scales are considered appropriate ranges (Creswell, 2005).

LaFreniere & Dumas (1995) used a principal components analysis and VARIMAX rotation to learn how the items loaded onto the summary scales. The analysis confirmed a three-factor model that accounted for 67.1% variance. Items loaded onto the social competence scale at .66 to .90, .63 to .84 for internalizing problems, and .80 to .88 for externalizing problems. The authors did not report statistical information for the fourth summary scale, general adaptation.

With the exception of not providing information for the general adaptation summary scale, the SCBE provided evidence of an adequate scale development with all items loading at .63 or higher (Field, 2009). The SCBE is an older assessment, but continues to be a valid choice when assessing teachers' perceptions of students' social and emotional development (Lobo & Winsler, 2006; Masataka, 2002; McCabe, 2005; McCabe & Marshall, 2006).

#### *Student-Teacher Relationship Scale*

The Student-Teacher Relationship Scale (STRS) is a self-administered questionnaire that assesses teachers' perceptions of a relationship with a particular student (Pianta, 2001). The author intended the assessment to provide information for early identification for adjustment problems so that intervention could be provided. The STRS accompanies an intervention program, Student, Teacher, and Relationship Support, that underscores the importance of the student-teacher relationship and the impact relationships have on student achievement. The STRS is a three-factor scale that



measures conflict, closeness, and dependency. It consists of 28 Likert-type questions that range from 1 (definitely does not apply) to 5 (definitely applies). The normative sample for the STRS consisted of 275 teachers and 1,535 students. Seventy percent of the teachers that were part of the norming sample were Caucasian, 15% were African American, 10% were Hispanic, and another 5% were of other ethnicity. Of the 1,535 students who participated in the norming sample 53% of the students were males while 47% were females. Pianta (2001) reported students represented a range of socioeconomic status and the majority of students, 63%, were Caucasian. Eighteen percent of the students were African American, 10% were Hispanic, 1.7% students were Asian American, and another 7% were of other ethnicity.

Reliability and validity were reported for the STRS. Reliability was established using test-retest measures and internal consistency measures using Cronbach's Alpha. Test-retest reliability was conducted over a four-week period and were all found significant at  $p = < .05$ . The reliability for the total instrument was .89 and the remaining factors were reliable at .88 for closeness, .92 for conflict, and .76 for dependency. Cronbach's Alpha for the STRS included  $\alpha = .92$  for conflict;  $\alpha = .86$  for closeness;  $\alpha = .64$  for dependency;  $\alpha = .89$  for the entire instrument. Pianta (2001) noted that  $\alpha = .64$  for dependency was notably low but explained that only five questions were loaded onto the construct, dependency, that could explain the low internal consistency for dependency.

Construct validity of the STRS was explained through an exploratory factor analysis. Pianta (2001) used a principal components analysis and VARIMAX rotation to

learn how the items loaded with a .40 cutoff value. The model explained 48.8% total variance while conflict accounted for 29.8% of the variance.

Additionally, 12.9% of the variance was accounted for by closeness and only 6.2% of the variance was accounted for by dependency. The analysis that indicated concurrent validity presented a moderate correlation between the STRS and Teacher-Child Rating Scale.

There are several statistical concerns that arose from that analysis used to establish reliability and validity of the STRS; these include a low Cronbach's Alpha score for dependency and the low variance accounted for by closeness and dependency. Pianta (2001) stressed the low Cronbach's Alpha was due to only five questions making up the construct dependency which could also explain the low variance accounted for in dependency. Although there are concerns surrounding the dependency construct, the STRS continues to be a readily used instrument for assessing student-teacher relationships in early childhood education (Garner & Waajid, 2008; Hamre & Pianta, 2001; Howes, 2000; Palermo et al., 2007; Pianta & Stuhlman, 2004).

#### *Students' Overall Development: The Child Development Inventory*

The Child Development Inventory (CDI) was the product of 20 years of research by Ireton (1992), which provided a systematic and standardized method for involving parents in the assessment of their young children's development. The CDI can be used both as a screener and assessment for young children ages 15 months to six years of age. The CDI includes 270 statements that describe developmental skills that are readily observed in young children's daily routines and activities. The CDI was standardized on a norm sample of 568 children ages one to six.

Ireton (1992) noted that the validity of the CDI was determined in three ways. First, Ireton assessed the norm group of children at two different ages. Secondly, the CDI results were compared to various psychological exams, and finally, investigating the CDI results for children with developmental delays. The CDI developmental scales correlated closely with age ( $r = .84$ ) as well as with reading achievement in kindergarten: general development ( $r = .69$ ); letters ( $r = .56$ ); language comprehension ( $r = .42$ ); and expressive language ( $r = .36$ ). The validity of the CDI provides evidence of the effectiveness of the assessment, and because it is a self-administered questionnaire for assessing young students' overall development it was appropriate for the current study.

Originally, the CDI was normed and validated through parent reports. Research supports parents accurately report children's present levels of performance when the information is obtained systematically, using a standardized assessment (Ireton & Glascoe, 1995). Teachers play a significant role in young students' overall development (Interdisciplinary Council on Developmental and Learning Disorders, 2000; Linder, 2008); therefore, it is important to know if teachers report children's development similar to how parents report their children's development. Pre-primary teachers spend up to 40 hours a week observing young students' overall development during daily routines and activities; therefore, a pilot study was conducted to find a correlation between parent scores and pre-primary teachers' scores on the CDI.

Upon approval from The University of Southern Mississippi Institutional Review Board, the CDI was disseminated to 10 preschool teachers from 5 different accessible Hattiesburg early childhood education centers and parents whose children were served at the centers. Sixteen packets ( $N = 16$ ) were returned completed with both parent and

teacher consent; the age range of the children who participated were 25 months to 69 months (mean = 45 months). The pilot study found that parents and pre-primary teachers scores on the CDI were significantly correlated for fine motor ( $r = .88$ ), language comprehension ( $r = .86$ ), letters ( $r = .94$ ), and numbers ( $r = .86$ ). Self-help skills ( $r = -.242$ ) and gross motor ( $r = .49$ ) were not significantly correlated.

It is important to note that the CDI is set up to assess a general development by scoring the first 10 questions of each section. For the purpose of the current study, pre-primary teacher were asked to complete 10 questions from the self-help and gross motor sections, but because scores were not significantly correlated, per-primary teachers did not complete the entire questions for these sections. As a result, pre-primary teachers answered 220 items versus 270 items of the CDI.

Appendix A is an approval letter The University of Southern Mississippi Institutional Review Board.

#### Data Collection

Participants in the current study were solicited through several different means. Initially, pre-primary teachers who participated in a professional learning community sponsored by a Mississippi Department of Human Services, Division of Early Childhood Care and Development, a statewide early childhood training grant were implored. Pre-primary teachers who participated in the professional learning communities and current study were from the northern, central, and southern parts of the state. Through support from Pinebelt Association for Community Enhancement, Inc. (P.A.C.E.) and Pearl River Valley Opportunity, Inc. (PRVO) Head Start pre-primary teachers participated in the study. Additional participants came from licensed early childhood

educational centers that the researcher contacted in central and southern parts of Mississippi.

In accordance with The University of Southern Mississippi Human Subjects Protection Review Committee, pre-primary teachers who participated in the study were informed of benefits, risks, that participation was voluntary, and participation in study would result in one contact-hour of training as approved by the Director of Licensure and Regulation, Mississippi Department of Health. A copy of the letter provided from the Mississippi Department of Health is included as Appendix B. Consent forms for pre-primary teachers and students are included as Appendix C and Appendix D.

Verbal instructions and hands-on demonstration were provided to the pre-primary teachers on how to randomly choose a student to participate and complete assessment instruments. The researcher stressed the importance of obtaining parental consent before randomly choosing students to participate in the study. Pre-primary teachers were instructed that the researcher would return in 10 working days to collect all forms; when necessary, pre-primary teachers were provided 15 working days to collect data. Research forms were coded to ensure confidentiality and no identifying information is available to connect participants to questionnaires.

#### Data Analysis

Structural Equation Modeling (SEM) was used to analyze the relationships between the latent variables that have been discussed. SEM is an analytic tool that assesses how data reflects a proposed theoretical model (Schumaker & Lomax, 2004). Kline (2005) stresses the theoretical model is based on theory and empirical research and guides the researcher in specifying the model. The proposed theoretical model for this

research is grounded in attachment theory and is a representation of the research found in early childhood education. SEM was chosen for the data analysis based on its flexibility and capacity to determine how the proposed theoretical model and relationships among the latent variables are consistent with data that was collected. Initially, a confirmatory factor analysis assessed the relationships among the latent variables that make up the constructs of social and emotional development and overall development. Additionally, an exploratory factor analysis assessed the construct MLE. Subsequently, the model was tested to determine how well the data fits the model and to interpret the parameter estimates of the model. SEM was utilized to determine if the proposed model should be rejected or retained, while allowing for model modification to ensure the best fit model is the simplest explanation (Schumaker & Lomax, 2004). To analyze the collected data, a combination of AMOS and SPSS statistical software was used. Figure 1 represents the theoretical model which includes the latent variable, mediated learning experiences and three constructs: social and emotional development, student-teacher relationships, and overall development.

### Summary

This chapter provided a description of the research design, detail information on the instruments used in the study, and details of the treatment of the data. The methods for completing the study were provided. The following chapters provide a description of the results and a discussion of the findings from the analysis.

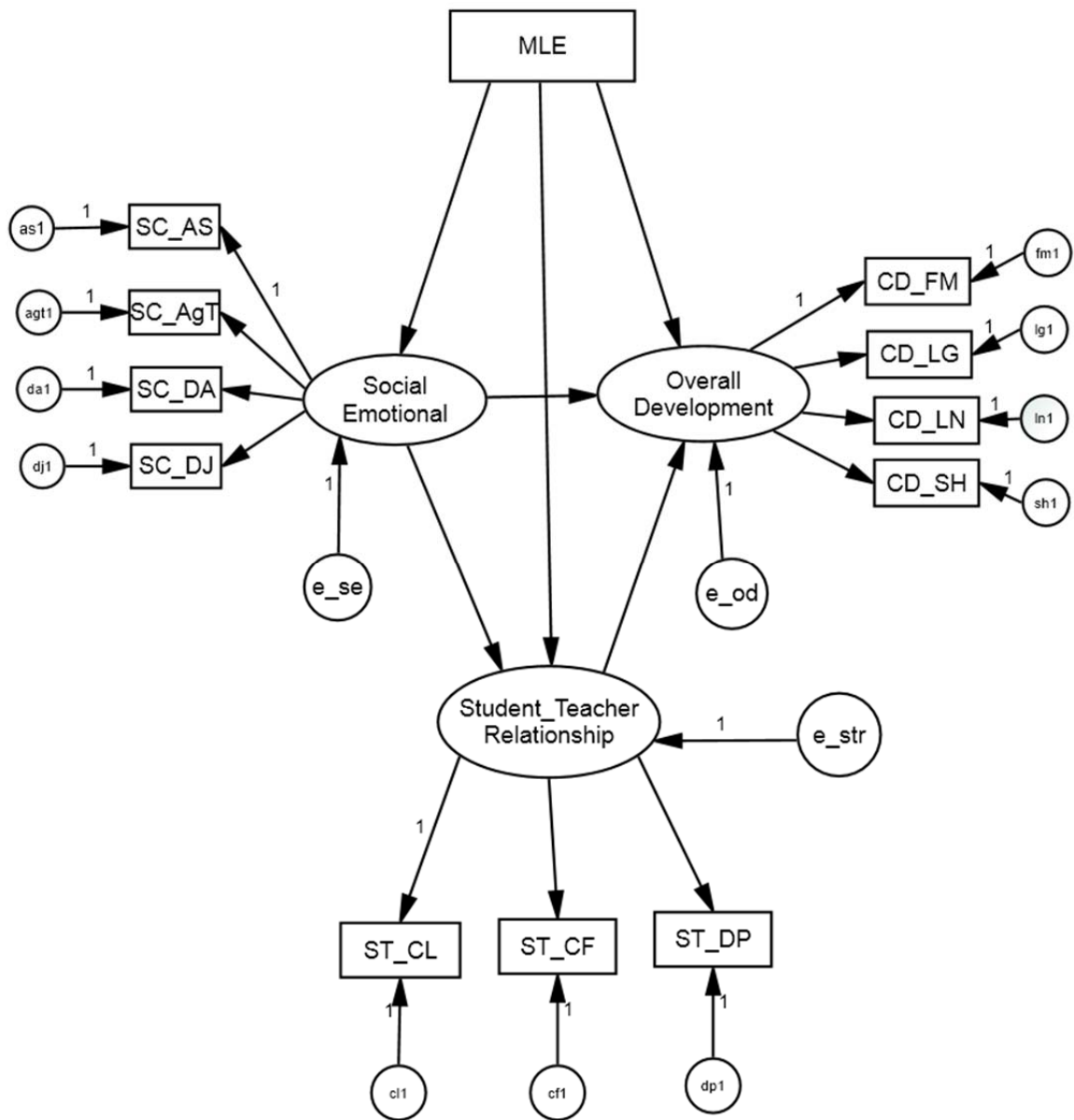


Figure 1. Proposed Theoretical Model.

## CHAPTER IV

### RESULTS

This study proposed a theoretical model based on the literature that explains the relationships between student-teacher relationships, mediated learning experience, social and emotional development and students' overall development. The purpose of this study was to analyze the relationships between four educational constructs:

(1) pre-primary teachers' perceptions of student-teacher relationships, (2) social and emotional development of young students, (3) mediated learning experiences, and (4) overall development. Approval from The University of Southern Mississippi Institutional Review Board was granted to conduct the current research set forth in the previous three chapters. This chapter describes the results of the statistical analysis. Appendix E is an approval letter The University of Southern Mississippi Institutional Review Board.

#### Participant Demographics

Participants in the current study are pre-primary students, ages 3 to 6, with signed parental consent and completed research forms from the students' pre-primary teacher. Pre-primary teachers from the northern, central, south west, and southern parts of Mississippi participated in the study. Head Start pre-primary teachers who taught in Head Start classrooms were asked to participate. Pinebelt Association for Community Enhancement, Inc. and Pearl River Valley Opportunity, Inc. provided nine Head Start classrooms and 18 Head Start teachers, who completed research packets for the current study. Altogether, 163 pre-primary teachers from Mississippi were solicited to contribute to the study. One hundred twenty participants were eligible to participate. However, 43



participants were not eligible for various reasons: incomplete research packets, non-responsive, parent consent was not acquired, or students were not in the correct age group.

Pre-primary students who participated in the study (N = 118) had an average age of four years and 18 months (SD = .780). Of the 118 students, 53% were females and 63% were Caucasian. The following table describes the population of the pre-primary students.

Table 3

*Participant Characteristics of Students*

N = 118

Measure	<i>f</i>	<i>M</i>	<i>SD</i>	<i>%</i>
Age		4.18	.780	
3	24			20
4	52			44
5	39			33
6	3			3
Ethnicity		1.43	.852	
Caucasian	74			63
Non-Caucasian	44			36
Gender		1.53	.501	
Male	56			48
Female	62			53

Note: The variation in sample size is reflective of two outliers that were removed from the data set.

In brief, the demographic data provided a summary of the pre-primary students who participated in the study. However, demographic data was not provided for the pre-primary teachers who completed the questionnaires because demographic data were not used as latent variables in the proposed theoretical model.

### Data Analysis

The data was analyzed using two statistical programs, SPSS 18 and AMOS 20. As noted, structural equation modeling (SEM) was used to examine the relationships between the observed variable, mediated learning experiences, and the latent variables of, social and emotional development and student-teacher relationships to overall development. It is important to note that SEM uses a variety of statistical analysis which allows researchers to answer questions about both experimental and non-experimental data (Kline, 2005). In addition, Kline (2005) highlighted the use of both observed and latent variables in SEM allows researchers to examine a variety of hypotheses. For the purpose of this model SEM was utilized to determine if the model fit the current data and to determine the relationships between the constructs.

### *Data Preparation and Screening*

Data preparation and screening play a significant role in SEM as missing data affects the ability to run an analysis using SEM and outliers impact the fit of the model (Kline, 2005). Descriptive statistics was used to determine if there were missing data. Any missing data was handled according to the instrument manuals. There were seven missing data points from various participants in the Student-Teacher Relationship Scale (STRS). According to Pianta (2001), missing data should not be disregarded if the number of missing items does not exceed one per subscale. Using a recommended

formula from Pianta (prorated subscale raw score = obtained subscale raw score/ number of items completed), all missing data points were calculated consistent to the STRS manual. Additionally, the Social Competence and Behavior Evaluation, Preschool Edition (SCBE) had 14 missing data points from various participants. The SCBE allows for medium substitution based on the norming sample when there are eight or less missing values from a participant.

Outliers are extreme data points that affect the mean, standard deviation, and correlation coefficients that must be explained or deleted in SEM analysis (Schumacker & Lomax, 2004). Schumacker and Lomax (2004) note that outliers are common with self-reported data. Based on Mahalanobis distance, participant 7 ( $M = 49.371$ ) and participant 100 ( $M = 55.159$ ) were removed. Field (2005) noted the difficulty of establishing a cut-off point for deleting cases, but recommended values above 25 should be deleted.

The last step in data preparation and screening was to assess the assumption of univariate normality which analyzed the skewness and kurtosis of the data. All variables fell into the acceptable range for skewness of  $\pm 3$ . Table 4 provides a summary of means, standard deviations, skewness, and kurtosis for the observed variables.

Table 4

*Descriptive Statistics for Observed Variables*

Variable	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>
MLE	4.37	.34	.04	-.71

Table 4 (continued).

Variable	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>
<b>Social &amp; Emotional</b>				
Anxious-Secure	9.52	5.78	.62	.02
Angry-Tolerant	15.37	8.57	.80	1.13
Depd-Autonomous	35.25	6.83	-.37	-.21
Depressive-Joyful	9.12	6.41	.99	.64
Opp-Cooperative	37.99	8.27	-1.14	2.10
<b>Student-Teacher Relationship</b>				
Closeness	43.09	5.03	-1.35	2.23
Conflict	19.23	7.56	1.78	4.34
Dependency	10.87	3.80	.30	-.79
<b>Overall Development</b>				
Self-Help	9.27	1.21	-2.11	5.60
Fine Motor	21.88	3.93	-1.49	1.91
Language	76.29	9.80	-2.09	4.41
Letters & Numbers	16.82	6.48	-.01	-.45

Note: Some observed variables are abbreviated for the table. Depd-Dependent and Opp-Oppositional

### Exploratory Factor Analysis: Mediated Learning Experiences

An exploratory factor analysis (EFA) was conducted on the adapted Relationships and Learning in the Classroom to measure the construct, mediated learning experiences using principal component analysis. The initial analysis showed two factors with five low loading items. Items with loadings below .512 were suppressed as suggested by Field (2009). The final analysis was significant for one factor with all items loading at or above .538. The Kaiser-Meyer-Olkin (KMO), which measures sampling accuracy was .791, which indicated an appropriate sample. The final factor explains 39% variability and was reliable with a Chronbach's alpha of .778.

As a result of the EFA, the educational construct, mediated learning experiences, becomes an indicator variable in our theoretical model. The EFA confirmed that the assessment tool, RLC, measures only pre-primary teachers attitude towards mediated learning experiences. The EFA that was conducted for the current research is reflective of the initial research Westbrook and Mohn (2009) completed. Table 5 presents the factor loadings.

Table 5

#### *Factor Loadings for Mediated Learning Experiences*

	<i>Component 1</i>
MLE_2: I believe students are successful when teachers Understand the objectives that are taught.	.546
MLE_6: I believe it is important to ask students reflective questions about what the students are doing during planned activities.	.538

Table 5 (continued).

	<i>Component 1</i>
MLE_7: I believe emotion is connected to learning.	.594
MLE_9: I believe teacher planned activities should engage students in conversations.	.601
MLE_10: I believe it is important to help students expand concepts in new contexts.	.798

*Note:* Principal axis factoring was utilized as the extraction method.

### Confirmatory Factor Analysis

Researchers have documented the importance of first establishing measurement models for the latent variables before assessing the structural model (Brown, 2006; Jackson, Gillaspay, Purc-Stephenson, 2009; Schumacker & Lomax, 2004). Confirmatory factor analysis (CFA) allows the researcher to “confirm that a set of variables defines the constructs” (Shumaker & Lomax, 2004, p. 168). Reliability analysis and a CFA were run on two constructs: (1) social and emotional development and (2) overall development. It is not necessary to analyze a construct with three or fewer indicators, as the model will be identified as just-identified due to the model obtaining zero degrees of freedom (Kline, 2005). The construct, student-teacher relationship, does not warrant a CFA due to the number indicators that represent the construct. As noted earlier, the EFA conducted on the construct, MLE, identified one factor model; therefore, a CFA was not necessary.

*CFA: Social and Emotional Development*

Social and emotional development had an initial eight indicator variables according to the initial validity analysis conducted by LaFreniere and Dumas (1995). Chronbach's alpha scores of .6 or greater were the justification for retaining an indicator variable. Based on the current data set, three of the indicator variables did not meet the criteria of  $\alpha = .6$  or greater. Aggressive-calm, yielded a Chronbach's alpha of .188, egotistical-prosocial ( $\alpha = .502$ ) and isolated-integrated ( $\alpha = .265$ ). It is imperative to note that the population presented is strikingly different from the norming population; this could account for the poor Chronbach's alpha scores on several indicator variables. In 1995 the norming sample was conducted on preschool children from two midwest states made up of 68% Caucasian children (20% African American) whose age range from three to six with the majority of students (42%) being five years of age. The current population consist of students from a southern state and is made up of 63 % of Caucasian children (40% non-white) whose age range from ages three to six with the majority of students (44%) being four years of age. Many of the observations that make up the indicator variables of aggressive-calm, egotistic-prosocial, and isolated-integrated are not developmentally appropriate for children ages three and four. Therefore, the low Chronbach's alpha scores may reflect the age difference between the current study and the norming sample.

A confirmatory factor analysis was completed to establish the measurement model (Brown, 2006; Jackson et al., 2009). The CFA confirmed that the indicator variables do measure the latent variable of social and emotional development ( $\chi^2 [5, N = 118] = 21.99, p < .001$ ) and had respectable Comparative Fit Index (CFI) of .943 and Root Mean

Squared Error of Approximation (RMSEA) was high at .169 with a 90% confidence interval between .101 and .244. Although the RMSEA was high, the factor loadings were high and the CFI was acceptable, therefore, it was determined that the observed variables define the social and emotional construct. Table 3 reports the factor loadings of each indicator variables retained in the final model.

In summary, five indicator variables were retained: (1) anxious-secure; (2) angry-tolerant; (3) dependent-autonomous; (4) depressive-joyful; and (5) oppositional-cooperative. Table 6 provides a summary of the Chronbach's alpha for each indicator. Table 7 provides a summary of the indicator variables that make up the latent variable, social and emotional development.

Table 6

*Social and Emotional Development: Chronbach's Alpha*

Variable	$\alpha$
Aggressive-Calm	.188
Anxious-Secure	.665
Angry-Tolerant	.851
Depd-Autonomous	.701
Depressive-Joyful	.749
Egotistic-Prosocial	.502
Isolated-Integrated	.265
Opp-Cooperative	.847

Note: Factor loadings were not reported for indicator variables not retained.



Table 7

*Factor Loadings and Goodness-of-Fit*

Variable	$\beta$	CFI	RMSEA	90% Confidence Level
Social & Emotional		.943	.169	.101-.244
Anxious-Secure	.665			
Angry-Tolerant	.851			
Depd-Autonomous	.701			
Depressive-Joyful	.749			

Note: Some indicator variables are abbreviated for the table; Depd-Dependent and Opp-Oppositional. Factor loadings were not reported for indicator variables not retained.

*CFA: Child Development Inventory*

The Child Development Inventory has six indicator variables according to the initial validity analysis conducted by Ireton (1992). Similar to the reliability analysis of the SCBE, Chronbach's alpha scores of .6 or greater were the justification for retaining an indicator variable. The CFA revealed the reliability of the gross motor indicator variable did not meet the criteria of  $\alpha = .6$ . In the current study, five of the 10 items that made up the gross motor indicator variable had zero variance and were removed from the analysis. The removed items could explain the lack of reliability for the variable. Additionally, the pilot study had previously indicated that the gross motor variable was not significantly correlated between parent report and teacher report. Due to the lack of

correlation between parent and teacher scores and the low reliability of the gross motor indicator variable, it was removed from the latent variable overall development.

Moreover, the reliability analysis discovered that several of the indicator variables had observations with zero variance and were removed from the final analysis. In addition to the gross motor indicator, fine motor and language development had observations that were removed. Tables 8 and 9 provide a summary of the indicator variables that make up the latent variable, overall development.

The CFA confirmed that the indicator variables do measure the construct of overall development. Statistically reporting, ( $\chi^2 [2, N = 118] = 3.504 p < .173$ ). The model had an acceptable CFI score of .992 and a respectable RMSEA of .080 with a 90% confidence level between .001 and .217. The indicators had high factor loadings with the exception of self-help ( $\beta = .21$ ). Although self-help had low factor loadings, it was retained because self-help had an acceptable Chronbach's alpha and removal of self-help did not significantly impact the measurement model.

In summary, four indicator variables were retained: (1) fine motor; (2) self-help; (3) language; and (4) letters-numbers. Table 8 provides a summary of the Chronbach's alpha scores. Table 9 provides a summary of the indicator variables that make up the latent variable, overall development.

Table 8

*Child Development Inventory: Chronbach's Alpha*

Variable	$\alpha$
Fine Motor	.877
Gross Motor	.409
Self-Help	.603
Language	.946
Letters & Numbers	.918

Table 9

*Factor Loadings and Goodness-of Fit*

Variable	$\beta$	CFA	RMSEA	90% Confidence Interval
Overall Development		.992	.080	.001-.217
Fine Motor	.80			
Self-Help	.21			
Language	1.84			
Letters & Numbers	.82			

To conclude, the researcher prepared the data by first addressing the issues of missing data and outliers. Secondly, an exploratory factor analysis was conducted to analyze the construct of mediated learning experiences. The results of that analysis indicated the need to transform MLE into an observed or indicator variable. The final step was to conduct confirmatory factor analysis to examine the indicator variables that make up the latent variables. The confirmatory factor analysis provided assurance that the data fit the model. The following information will describe the analysis of the proposed theoretical model, how model modifications were conducted, and whether or not directional relationships were confirmed or rejected.

#### Model Analysis

The current study sought to analyze the relationships between four educational constructs: (1) pre-primary teachers' perceptions of student-teacher relationships, (2) social and emotional development of young students, (3) mediated learning experiences, and (4) overall development. There were 118 participants in the study ( $N = 118$ ). The research question specifically asks, Is there a relationship between pre-primary teachers' attitude toward Mediated Learning Experiences (MLE), students' social and emotional development, pre-primary teachers' perception of student-teacher relationships, and the overall development of young students? A CFA was conducted to analyze the theoretical model presented. Schumacker & Lomax (2004) emphasized that the CFA is used to validate the significance of the model.

The initial analysis for the model exposed a negative variance of a parameter estimate. Negative variance in SEM is known as the presence of a Heywood case. Kline (2005) recognized various causes of Heywood cases, including, but not limited to

extremely low or high populations, outliers, and limited indicators per factor. To account for the Heywood case, the researcher constrained the variance between two parameters.

Adjusted for the Heywood case, the analysis revealed chi-square of 133.000, with 50 degrees of freedom (*df*) ( $X^2 [50, N = 118] = 133.00, p < .001$ ). The model fit summary revealed a poor fitting model with a Comparative Fit Index (CFI) of .861 and a Root Mean Squared Error of Approximation (RMSEA) of .119 with a 90% confidence interval between .095 and .144. An acceptable CFI ranges from .90 and .95 with an excellent fit being  $>.95$  and a poor fit,  $<.90$  (Kline, 2005; Schumacker & Lomax, 2004). Schumacker & Lomax (2004) note an adequate RMSEA is  $<.08$  and a good fit is  $<.05$ . The modification indices indicated a relationship (14.08) between anxious-secure and depressive-joyful, two indicator variables of the social and emotional construct. Based on the modification indices, the analysis revealed a lack of fit between anxious-secure and depressive-joyful. Correlating anxious-secure and depressive-joyful not only makes statistical sense, but also is reflected in the literature; therefore, the indicator variables were correlated for the subsequent analysis. LaFreniere & Dumas (1995) delineated that anxious-secure and depressive-joyful made up the construct of emotional adjustment. Additionally, the indicator variable dependent-autonomous was removed due to the negative loading of the indicator which didn't reflect the literature or data.

A final analysis revealed a chi-square 72.697 with 30 *df* ( $X^2 [39, N = 118] = 72.697, p < .001$ ). The model fit significantly improved as well. The adapted measurement model had an acceptable CFI of .935 and a RMSEA of .086 with a 90% confidence level of .054 and .116. The model indicated that the standardized estimates of factor loadings for the latent variables were statistically significant ranging from -.24

(dependency) to .97 (angry-tolerant). Further analysis of the model revealed residual covariance matrix values ranging from -1.45 (anxious-secure and mediated learning experiences) to 3.13 (dependency and closeness). Shumacker and Lomax (2004) explained, “large (above 2.58) residuals indicate values not well accounted for by the model” (p. 178). Although the relationship between dependency and closeness was not well accounted for, based on the fit of the model, the theory behind the model, and the literature that supports the Student-Teacher Relationship Scale, the indicator variable of dependency and closeness were not correlated. To conclude, the final analysis estimated a reasonable fit for the model. Table 10 provides a summary of the model fit indices. Table 11 provides a summary of the standardized estimates of factor loadings for the latent variables; social and emotional development, student-teacher relationships, and overall development. Appendix F provides the covariant matrix for the model.

Table 10

*Model Goodness-of-Fit Indices*

$\chi^2$	72.697
<i>df</i>	39
<i>p</i> value	.001
CFI	.935
RMSEA	.086
90% Confidence Interval	.054-.116

Table 11  
*Standardized Estimates of Factor Loadings*

Construct	Estimate
<b>Socail &amp; Emotional</b>	
Anxious-Secure	.62***
Angry-Tolerant	.97***
Depressive-Joyful	.61***
<b>Student-Teacher Relationship</b>	
Closeness	.54***
Conflict	-.78***
Dependency	-.24**
<b>Overall Development</b>	
Fine Motor	.92***
Self-Help	.63***
Language	.83***
Letters & Numbers	.56***

Note: Factor loadings were significant at: \*\*  $p < .01$  and \*\*\*  $p < .001$ .

### *Structural Paths*

The analysis provided evidence of significant paths that specifically address the hypothesis addressed in the research. There were six hypothesis that were answered by analyzing the structural paths of the model: (1) Pre-primary teachers' attitude toward MLE has a positive direct effect on the overall development of students; (2) pre-primary

teachers' perception of student-teacher relationships has a positive direct effect on the overall development of students; (3) pre-primary teachers' perception of young students' social and emotional development has a positive direct effect on the overall development of students; (4) pre-primary teachers' attitude toward MLE has a positive indirect effect on students' overall development through pre-primary teachers' perception of student-teacher relationships; (5) pre-primary teachers' perception of young students' social and emotional development has a positive indirect effect on students' overall development through pre-primary teachers' perception of student-teacher relationships; and (6) pre-primary teachers' attitude toward MLE has a positive indirect effect on students' overall development through pre-primary teachers' perception of students' social and emotional development.

The structural paths indicated that mediate learning experiences did not have a significant direct or indirect path to any of the latent variables. Consequently, the first hypotheses of pre-primary teachers' attitude toward MLE has a positive direct effect on the overall development of students,  $\beta = -.091$ ,  $p > .05$ , and was not accepted. The second hypothesis stated, pre-primary teachers' perception of student-teacher relationships has a positive direct effect on the overall development of students, had a standardized coefficient of  $\beta = 3.20$ ,  $p < .01$ . Thus, the second hypothesis was accepted. The third hypothesis, pre-primary teachers' perceptions of young students' social and emotional development has a positive direct effect on the overall development of students was accepted;  $\beta = 2.58$ ,  $p < .05$ . The fourth hypothesis, pre-primary teachers' attitudes toward MLE has a positive indirect effect on students' overall development through pre-primary teachers' perceptions of student-teacher relationships, was rejected. The standardized



coefficient was  $\beta = .009$ ,  $p > .05$ . The fifth hypothesis tested the indirect relationship between social and emotional development, student-teacher relationship, and overall development. The standardized coefficient between social and emotional development and student-teacher relationship was  $\beta = -.96$ ,  $p < .001$ ; the hypothesis was accepted. Lastly, pre-primary teachers' attitudes toward MLE have a positive indirect effect on students' overall development through pre-primary teachers' perceptions of students' social and emotional development were rejected. The standardized coefficient was  $\beta = -.046$ ,  $p > .05$ .

The structural path revealed a negative relationship between social and emotional development and student-teacher relationships. This is explained as when social and emotional development goes up by one standard deviation, student-teacher relationship goes down by .964. Hence, this is reflective of the measure of the Student-Teacher Relationship Scale (STRS). A teacher who scores a student high on dependency and conflict struggles with the student, views the student as angry, and views the student as overly dependent on the teacher, even when the teacher's help is unnecessary (Pianta, 2001). When a student scores high on the Social Competence and Behavior Evaluation (SCBE), the student is secure, tolerant, happy, and overall well adjusted (LaFreniere & Dumas, 1995). Hence, as a student develops socially and emotionally, the SCBE score would increase and the STRS subscales of conflict and dependency would decrease.

It is important to note that standardized coefficients larger than 1.0 are uncommon, and the current analysis has large standardized coefficients from social and emotional to overall development and student-teacher relationship and overall development. Karl Jöreskog (1999) suggested that standardized coefficients can be larger

than one magnitude if factors measure similar constructs. A CFA of the latent variables revealed a high correlation ( $r = -.96$ ) between social and emotional development and student-teacher relationship. Figure 2 is the final model with standardized coefficients and structural paths.

### Summary

This chapter described in detail the demographics of the population for the study and the analysis of the data. The process of preparing the data for analysis was provided, the results of the exploratory factor analysis was shared and the confirmatory factor analysis for two latent variables were provided. Finally, a description of both the measurement and structural model was provided to answer the research question and hypothesis. The following chapter will provide further discussion of the possible implications of this study.

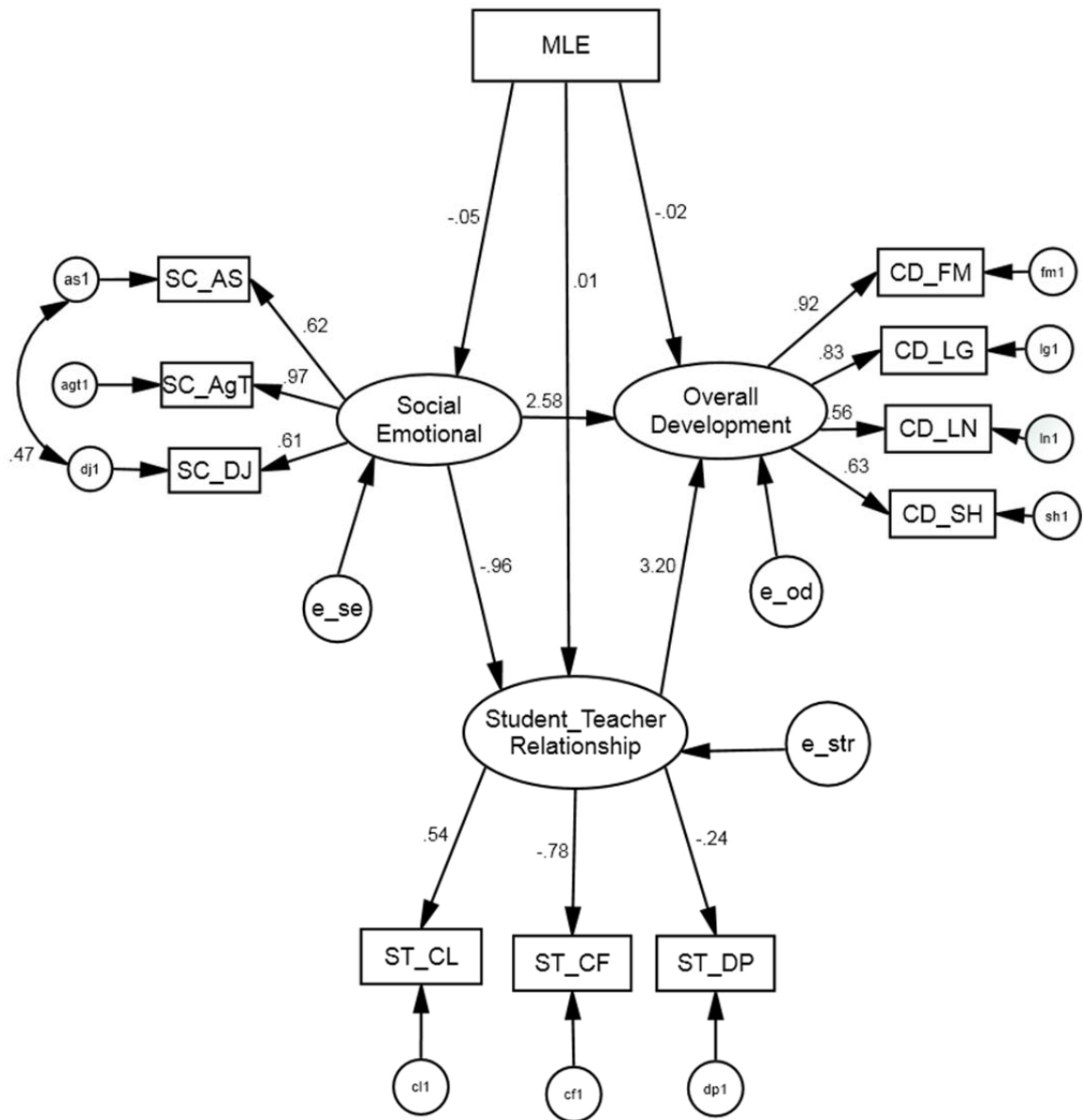


Figure 2. Path Diagram of Structural Model.

## CHAPTER X

### DISCUSSION

The purpose of this study was to determine if there was a relationship between mediated learning experiences, social and emotional development, and student and teacher relationships on the overall development of the young student. Through structural equation modeling (SEM) the researcher was able to theoretically and statistically represent the relationships between the educational constructs. In the past, early childhood literature has made connections between (1) mediating learning experiences; (2) social and emotional development; (3) student-teacher relationships; and (4) overall development of young children through research that examined variables that predicted or correlated one another. The current study examined how the constructs the relational paths of the constructs and provided additional information on the identified constructs.

As explained in Chapter I and Chapter II of the study, the literature suggests that the educational constructs discussed are all connected by attachment theory, that the constructs have a direct effect on the overall development of young students, and that the relationships between the constructs have an indirect effect on overall development. Much of the research in early childhood education explores correlations and predictors of educational constructs. As a result, the researcher sought to explain the relationship between the constructs and proposed a model to better describe the impact mediated learning experiences, social and emotional development, and student-teacher relationships have on the overall development of young students. This chapter provides

further discussion of the model including; interpretations of the evidence; limitations; recommendations for policy and practice; and suggestions for future research.

### Findings and Interpretations

Structural equation modeling allows for a theory driven model based on literature that provides robust statistical analysis to assess the theoretical model. The current study began with attachment theory and evolved into a theoretical model that encompassed educational constructs, supported in the literature, and connected to attachment theory. The statistical measures used are all a part of the SEM family and allow for a complex and in depth look at the data (Kline, 2005). A strong case for the use of SEM versus just regression or correlation statistics is that SEM accounts for measurement error (Shumacker & Lomax, 2004). Additionally, SEM permits model modification, which is often described as positive aspect of SEM and a limitation of SEM (Kline, 2005). In the current study, the analysis of the theoretical model dictated the need to modify the model. Heywood cases were accounted for; the indicator variables of anxious-secure and depressive-joyful were correlated; and the indicator variable, dependent-autonomous, was not retained for the final analysis. The modified model was an adequate measurement model according to CFI and RMSEA measures. Obtaining an adequate fit warranted further analysis of the directional relationships of the educational constructs.

#### *Findings and Interpretations: Path Analysis*

The construct of Mediated Learning Experiences (MLE) was not well supported in this study. The researcher had worked previously in developing an instrument that would assess a teacher's attitude toward and understanding of mediated learning experience. For this study, the adapted instrument did not measure the three indicators of

MLE: intentionality, transcendence, and meaning. Therefore, MLE became an observed or indicator variable which measured pre-primary teachers' attitudes toward MLE. The structural paths from MLE to social and emotional development, student-teacher relationship, and overall development were not significant and did not have high standardized coefficients. These findings imply that MLE did not have a significant impact on the educational constructs in the current study.

The structural model explained the relationship between social and emotional development and overall development, student-teacher relationship and overall development, as well as the indirect relationship between social and emotional development and student-teacher relationship on overall development. Thus, the strong path between social and emotional development to overall development is consistent with current literature in early childhood education (Dobbs et al., 2006; Garner & Waajid, 2008; Mayer et al., 2004). The significant paths and adequate model fit supports the directional paths of social and emotional development.

As explained in Chapter III, although the path from student-teacher relationship to overall development was significant, it had a large standardized coefficient estimate. This could be explained by multicollinearity of the model (Jöreskog, 1999), but does not necessarily mean a misfit of the model. The CFA confirmed the correlation between social and emotional development and student-teacher relationships and the measurement model confirmed an adequate fit. Hence, student-teacher relationships significantly affect the overall development of young students. Comprehensive research by Pianta (2001), Howes et al. (2008), and Hughes et al. (2005) support the findings in the current study.

### Limitations

There are five limitations that must be noted. Several limitations were foreseen while others were unpredicted. The limitations of this study are both conceptual and theoretical in nature. As noted in the delimitations of the study, the current study was limited to pre-primary teachers and students in one state; thus, the study is not generalizable to other populations. Additionally, the population sample may be biased due to the attrition rate of parental consent (Pokorny, Jason, Schoeny, Townsend, & Curie, 2001). Esbensen, Miller, Taylor, He, and Freng (1999) found that students who are considered high-risk are often underrepresented in population samples due to the lack of parental consent.

Structural equation modeling is a large sample technique with sample sizes between 100 and 200 participants is considered a medium sample size (Kline, 2005). Kline reported that small sample sizes may be adequate in simple models, but more complex models require a sample size of 500 plus. Iacobucci (2010) noted that large sample sizes are especially important when projected effects are subtle and model is not clearly defined. Although the current study ( $N = 118$ ) meets adequate fit indices and is considered a medium sample size, a larger sample may have resulted in smaller standardized coefficient estimates that could be interpreted more confidently.

Conceptually and theoretically, there are two limitations to note. The analysis of the model alerted the researcher of possible multicollinearity in the model as the latent variables social and emotional development and student teacher relationships are highly correlated. Theoretically, the latent variable, mediated learning experiences, was not significant in the model. To begin, the measure for mediated learning experiences did not

decipher between intentionality, transcendence, and meaning; thus, mediated learning experiences became an observed variable. Further scrutiny of the measure indicates that the adapted version of the RLC was not an appropriate measure of mediated learning experiences for the purpose of this study.

### Recommendations for Current Practices and Policy

Early childhood education goes beyond of daily care routines for young students. It is well documented that the first years of life is a time when young students' brains are actively developing and by the age of two, toddlers' brains are as active as those of adults (Linder, 2008). Early childhood literature underscores the role that attachment, and ultimately, relationships play in the development of neural pathways that are necessary for growth and development of young students (Center on the Developing Child at Harvard University, 2007; Interdisciplinary Council on Developmental and Learning Disorders, 2000; Linder, 2008;).

Universal Design for Learning (UDL) is a research-based framework for actively engaging students in curriculum that stresses the need to activate students' affective systems of the brain to ensure learning occurs (Rose & Meyer, 2002). Teachers activate affective systems through meaningful relationships that support student learning by making connections between emotions, cognitive learning, and memory (Cunconan-Lahr & Stifel, 2007; Gargiulo & Metcalf, 2010; Rose & Meyer, 2002). Research in early childhood suggests that pre-primary teachers can build meaningful relationships, which is necessary for activating the affective system, when teachers are responsive, consistent, warm, and engaging (Greenspan, 2003; Hamre & Pianta, 2001; Hughes et al., 2005; Ritchie & Howes, 2003).



It is recommended that pre-primary teachers recognize the important and professional roles they play in preparing young students for future academic success and practice being responsive, consistent, warm, and engaging teachers. A responsive teacher responds to the needs of the students and acknowledges the students' emotional makeup. A consistent teacher provides a constant routine, support, expectations, and consequences in all aspects of daily routines and activities. A warm teacher uses his or her voice, body, and facial expressions to connect with students, letting children know that they are in a safe environment. Lastly, an engaging teacher has conversations with students, is genuinely interested in what students are learning, and supports activities that students are interested in. An engaging teacher not only aids in the physical and cognitive development of the student, but recognizes the students' need to develop emotionally and socially. An engaging teacher prepares for students' learning and supports the overall development of students through appropriate assessments that lead to meaningful goals and objectives for students.

To support pre-primary teachers in their quest to become responsive, consistent, warm, and engaging teachers, public policy must incorporate standards for such teachers. Over and over again, early childhood education literature directs researchers to the important role student-teacher relationships play in the overall development of young students. Over and over again, this fact is ignored when developing policy, as well as when distributing state and federal funds for early childhood education. Currently in the state of Mississippi, early childhood public policy focuses on the need for high quality early education services that provide developmentally appropriate materials and practices from trained pre-primary teachers. Two federally and state funded programs, *Mississippi*

*State Child Care Quality Step System* and *Mississippi Building Blocks* focus on the need for early childhood education centers to provide high quality education for young students in Mississippi as measured by the Early Childhood Environmental Rating Scale-Revised (ECERS-R) (Thronburg, Hawks, & Mayfield, 2010).

The ECERS-R is an environmental assessment tool that assesses the overall quality of an early childhood education program. This assessment tool was developed out of the Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill (Warash, Markstrom, Lucci, 2005). Harms et al., (2005) explained the environmental assessment is a seven point Likert-type scale that assess seven domains of the early childhood environment: space and furnishing, person care routines, language-reasoning, activities, interactions, program structure, and parents and staff. Of the domains, interaction is made up of five questions with one question geared to staff-child interactions. The other questions in the interaction domain are concerned with supervision of students, discipline, and peer interactions. Although the ECERS-R is widely used in most states for training and technical assistance programs (Warash et al., 2005), the ECERS-R does not provide an in-depth assessment of the student-teacher relationship that ultimately has a significant impact on the overall development of young students.

It is recommended that future policy and grant funded programs incorporate the use of assessment tools that measure student-teacher interactions in the classroom environment. In addition to the use of the Student-Teacher Relationship Scale that was utilized in the current study, the use of Classroom Assessment Scoring System (CLASS) is recommended. The CLASS is an environmental assessment developed by Pianta, La

Paro, and Hamre (2008) and provides a comprehensive analysis of classroom interactions. Pianta, La Para, and Hamre designed the CLASS to examine emotional support in the classroom, classroom organization, and instructional support. The authors of the CLASS recognize social and emotional development as an indicator of school success; therefore the emotional support domain assesses teachers' abilities to support social and emotional functioning in the classroom. Classroom organization assesses teachers' classroom management capabilities, productivity in the classroom, and instructional learning formats of the class. The last domain, instructional support, goes beyond the content of the curriculum and learning activities. Instructional support measures how teachers implement curriculum to support cognitive and language development (Pianta, La Para, & Hamre, 2008).

To conclude, Mississippi must recognize the importance of early childhood education by supporting the needs of the students, families, and teachers. As recommended by Center on the Developing Child at Harvard University (2007), high quality, effective early childhood programs have (a) educated teachers; (b) small student-teacher ratios; (c) developmentally appropriate curriculum and materials; (d) a language-rich environment; (e) warm and responsive interactions between teacher and student; and (f) high levels of participation from students. Such programs impact the community and become an investment with many returns. It is recommended that education programs for current and future early childhood educators focus on teaching pre-primary teachers the skills that are required to be engaging, responsive, and warm teachers. It is highly recommended that state-funded programs look beyond the

structure of the classroom so Mississippians can begin to close the educational gap that continues to impact our economy and quality of life.

#### Recommendations for Future Research

The current study looked to further describe the relationships between mediated learning experiences, social and emotional development, student-teacher relationships, and young students overall development. The analysis led to further questions and recommendations for future research. The following describes the identified needs.

The population sample must be expanded to not only include students and pre-primary teachers in Mississippi, but in other regions of our country as well. Additionally, better descriptive information should be provided on pre-primary teachers to include experience, education, ethnicity, and gender. It would also be valuable to learn what type of programs pre-primary teachers work in: state funded preschool programs, faith-based education programs, private education centers, etc. In regards to population, it will also be important to add to the sample size. If the current study were to be duplicated, it is highly recommended to increase the sample size to a large sample (500).

As noted in the limitations section of this chapter, conceptual limitations should be accounted for in the future. The measure of student-teacher relationships and social and emotional development were highly correlated. It is recommended to adjust the measures to ensure the assumption of multicollinearity is not violated. One suggestion is to use a more stringent assessment of student-teacher relationships, such as the CLASS. The use of an observational tool would add validity to this study and better explain the relationship between social and emotional development and student-teacher relationships as well as between student-teacher relationships and overall development.

The literature suggests that mediated learning experiences is rooted in attachment theory and impacts the overall development of young students (Klein et al., 1987; Kozlun, 2002; Kozlun, & Presseisen, 1995). Unfortunately, there is not an adequate assessment to measure teachers' understanding of MLE. Other educational philosophies, such as Universal Design for Learning, stress teachers' abilities to make connections to past experiences and actively engage students in learning may be a better measure of classroom practices that promote learning. This recommendation changes the theoretical framework of the current study, but the addition of a more discrete measure would add another layer of understanding for future studies.

#### Summary

A quantitative study of 118 pre-primary teachers and students analyzed educational constructs that impact the overall development of young students. Grounded in attachment theory, the researcher proposed a theoretical model that sought to explain the directional relationships between (1) mediated learning experiences; (2) social and emotional development; (3) student-teacher relationships; and (4) overall development of young students.

The review of literature guided the researcher in the design of the theoretical model which proposed mediated learning experiences had a direct effect on overall development, and indirect effects on overall development through social and emotional development and student-teacher relationships. Additionally, the literature directed the researcher to the relationship between social and emotional development and overall development. It was proposed the social and emotional development also had an indirect effect of overall development through student-teacher relationships. The analysis

revealed that for the measures used, when social and emotional development increases, the student-teacher relationship decreases. This implied as the student becomes increasingly secure and well-adjusted, the student relies less and less on the teacher. Consequently, the analysis revealed a high correlation between social and emotional development and student-teacher relationships, which indicated the need for alternative measures that provided deeper scrutiny of the two constructs: social and emotional development and student-teacher relationships. Lastly, the literature denoted the role student-teacher relationships play in the overall development of the student. The current study confirms student-teacher relationships significantly affect the overall development of young students.

#### *Current Study in Relation to Previous Research*

Similar to Palermo et al. (2007), who used the Student-Teacher Relationship Scale (STRS) to explore the relationship between student-teacher relationships, behavior, peer group exclusion, and academic readiness, the current study used the STRS to explore the relationship between mediated learning experiences, social and emotional development, student-teacher relationships, and overall development. Palermo et al. (2007) used the STRS in a path analysis, which analyzed the indicator variables of student-teacher relationship construct in the current study to academic readiness. The path analysis analyzed the direct effect between student-teacher closeness and academic readiness. The current study originated similar results and found a direct effect between student-teacher relationships and overall development, including language development and letters and numbers.

Howes et al. (2008) studied variables that influenced children's growth in pre-academic and social skills over a pre-primary year. Along with the ECERS-R and CLASS, the researchers used the STRS to explore the relationship between student-teacher relationships and academic development. Howes et al. (2008) confirmed gains of pre-academic skills when pre-primary teachers engaged in effective teaching, which included sensitive interactions in a learning environment centered on learning experiences. Student-teacher relationships focused on how teachers interacted with and responded to children. Similar to Howes et al. (2008) who used observation and the STRS to describe student-teacher relationships, the current study used the STRS to explore student-teacher relationships and overall development, including pre-academic skills of language development, letters, and numbers. Both studies note positive developmental outcomes when teachers viewed the relationship between young student and teacher as close.

Contrary to Graziano et al. (2007), who found students with better emotional regulations had better student-teacher relationships, the analysis in this study showed a significant negative path between social and emotional development and student-teacher relationships. It was found that as young students' social and emotional development increased, student-teacher relationships decreased.

#### Review of Results from Model

The current study resulted in a significant model that explains the relationship between social and emotional development and student-teacher relationships on the overall development of young students. Although, the data resulted in a model that met the standards of an adequate fit, the results should be interpreted cautiously. The large

standardized coefficient estimates indicate possible multicollinearity in the model or issues within the population. As noted earlier, recommendations future analysis of the current study needs to explore alternate populations with a large sample size and the need to continue to explore other measures of the educational constructs.

## Conclusion

### The Importance of Attachment

In 1952, Bowlby stated, “If a community values its children, it must cherish their parents” (p. 84). In today’s society where the majority of young students have working parents and many young students spend 8 to 10 hours a day in early childhood educational settings (Children’s Defense Fund, 2008), it is imperative that society supports parents by ensuring their youngest students are cared for and taught by pre-primary teachers who understand their role as a secure base. Research informs us that pre-primary teachers support attachment and develop a secure base when teachers are sensitive, warm, consistent, and engaging (Ritchie & Howes, 2003; Spieker et al., 2003).

The work of Bowlby (1952) and Ainsworth et al. (1978) informed parents and educators of the important role attachment plays in young students overall development. Socially and emotionally, the securely attached young student is better able to regulate emotions and is easily engaged in interactions with adults and peers (Interdisciplinary Council on Developmental and Learning Disabilities, 2000). Academically, when a student uses an adult as a secure base, the student moves about the classroom freely, exploring objects and engaging in learning activities; therefore, increasing school readiness and overall development (O’Connor & McCartney, 2007).



*Final Discussion*

The motivation behind this research comes from the desire to better understand how mediated learning experiences, social and emotional development and student-teacher relationships impact the overall development of young students. In recent years, early childhood education literature has begun to take notice of predictors outside of gender, socioeconomic status, and educational levels of parents that influence the overall development of young students. The research study presented here looks beyond demographic data as predictors to better explain how educational constructs impact students' development.

Finally, as educational policy changes and educator stakeholders begin to embrace the impact early childhood education plays in later school achievement, it will be important for policy and practices to take note of early childhood literature that emphasizes various educational constructs that impact the overall development of young students. The study presented here will add to the body of literature that probes deeper into the needs of young students. Additionally, recommendations for future research are noted as further examination of the impact social and emotional development and student-teacher relationships have on students overall development is needed. As early childhood education continues to evolve, we must account for relationships and encourage future teachers to achieve the qualities of a warm, consistent, responsive, and engaging teacher.

## APPENDIX A

## IRB APPROVAL LETTER FOR PILOT STUDY



## THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board

118 College Drive #5147  
 Hattiesburg, MS 39406-0001  
 Tel: 601.266.6820  
 Fax: 601.266.5509  
 www.usm.edu/irb

**HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE  
 NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **10072202**

PROJECT TITLE: **Pilot: Is There a Correlation Between Parent Scores and Teacher Scores on the Child Development Inventory?**

PROPOSED PROJECT DATES: **07/01/2010 to 06/30/2011**

PROJECT TYPE: **New Project**

PRINCIPAL INVESTIGATORS: **Alicia Westbrook**


COLLEGE/DIVISION: **College of Education & Psychology**

DEPARTMENT: **Curriculum, Instruction, & Special Education**

FUNDING AGENCY: **N/A**

HSPRC COMMITTEE ACTION: **Expedited Review Approval**

PERIOD OF APPROVAL: **08/10/2010 to 08/09/2011**

  
 Lawrence A. Hosman, Ph.D.  
 HSPRC Chair

8-16-2010  
 Date

## APPENDIX B

## APPROVAL LETTER FROM MISSISSIPPI STATE DEPARTMENT OF HEALTH



MISSISSIPPI STATE DEPARTMENT OF HEALTH

September 14, 2010

Ms. Alicia Westbrook  
216 Patton Avenue  
Hattiesburg, MS 39401

Dear Ms. Westbrook:

This office is please to approve the **Research Study**.

It is suggested that the following statement be placed on any proof of attendance you may issue those participating in the session.

“This session has been approved for 1 hour of child care facility staff development by the Child Care Facilities Licensure Branch of the Mississippi State Department of Health.”

If it is not possible to place the statement on the proof of attendance it is suggested that each participant be given a copy of this letter to attach to the certificate.

Should you have any questions, please feel free to contact me at 662-842-3076 or by email at [Nancy.Nunley@healthymms.com](mailto:Nancy.Nunley@healthymms.com).

Sincerely,

*Nancy B. Nunley*  
Nancy B. Nunley, M.Ed.  
Child Care Licensure  
(662)842-3076  
(662)842-3045 (fax)

## APPENDIX C

## TEACHER CONSENT FORM

Dear Teacher,

I am conducting research to analyze the relationship between primary teachers' perception of student-teacher relationships, children's social and emotional development, primary teachers' understanding of Mediated Learning Experiences (MLE) and overall development of young children. Attached are four questionnaires concerned with these elements and will take approximately 45 minutes to complete. Being an educator myself, I know that your time is valuable. I truly appreciate your giving of your time to help me in my endeavor.

Your participation in this research is completely voluntary. Because you will be giving of your time, at any point, you are free to decline participation. Additionally, all data collected will be anonymous; because of this, please do not put any identifying information on the questionnaire. Any information inadvertently gathered during the course of this study will be kept confidential. To ensure confidentiality, the returned questionnaires will only be available to me, my statistician, Dr. Richard Mohn, a research professor from The University of Southern Mississippi, and Dr. Rose Jones, chair of my dissertation committee.

Knowing the relationships between primary teachers' perception of student-teacher relationships, children's social and emotional development, and MLE of young children will allow educators to better understand how the various variables effect the development of young children. If you would like the results of this study, you may contact Alicia Westbrook via email at [alicia.westbrook@usm.edu](mailto:alicia.westbrook@usm.edu).

By completing and returning the attached questionnaire you are granting permission for this anonymous and confidential data to be used for the purposes described above.

If you have any questions about completing the self-administered questionnaire, please contact Alicia Westbrook at 601.266.6425. Thank you for considering helping me with my endeavor.

Sincerely,

Alicia Gordy Westbrook, MS. Spec. Ed.

<p>This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review Board, The University of Southern Mississippi, 118 College Drive #5147,</p>
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APPENDIX D  
PARENTAL CONSENT FORM

Dear Parent,

I am asking your child's teacher to participate in a research study that is being conducted as a final requirement in acquiring a doctoral degree in early childhood education. I am researching the relationship between pre-primary teachers' perceptions of student-teacher relationships, social and emotional development of young children, mediated learning experiences, and children's overall development.

Your child's teacher will be completing questionnaires that focus on their relationship with your child, their thoughts about how they teach your child, and questions about early childhood development. The information your child's teacher provides **will not** have your child's name or any other identifying information on it.

By signing and returning this form to your child's teacher, you are providing consent that your child's teacher can complete the questionnaires and will be able to answer the questions while reflecting on his/her relationship with your child and your child's early childhood development as it related to the preschool environment.

If you have any questions or would like to know the results of this study, please contact Alicia Westbrook at 601.266.6425. Thank you for considering helping me with my endeavor.

Sincerely,

Alicia Gordy Westbrook, MS. Spec. Ed.

\_\_\_\_\_  
Parent Signature

\_\_\_\_\_  
Date

<p>This project has been reviewed by the Human Subjects Protection Review Committee, which ensures that research projects involving human subjects follow federal regulations. Any questions or concerns about rights as a research subject should be directed to the chair of the Institutional Review</p>
---

## APPENDIX E

## IRB APPROVAL LETTER FOR DISSERTATION



## THE UNIVERSITY OF SOUTHERN MISSISSIPPI

Institutional Review Board

118 College Drive #5147  
 Hattiesburg, MS 39406-0001  
 Tel: 601.266.6820  
 Fax: 601.266.5509  
 www.usm.edu/irb

**HUMAN SUBJECTS PROTECTION REVIEW COMMITTEE  
 NOTICE OF COMMITTEE ACTION**

The project has been reviewed by The University of Southern Mississippi Human Subjects Protection Review Committee in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months. Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: **11041107**

PROJECT TITLE: **The Relationship Between Pre-Primary Teachers' Perceptions of Student-Teacher Relationships, Social and Emotional Development of Young Children, Mediated Learning Experiences, and Childrens' Overall Development**

PROPOSED PROJECT DATES: **04/11/2011 to 04/11/2012**

PROJECT TYPE: **Dissertation**

PRINCIPAL INVESTIGATORS: **Alicia Westbrook**

COLLEGE/DIVISION: **College of Education & Psychology**

DEPARTMENT: **Curriculum, Instruction, & Special Education**

FUNDING AGENCY: **N/A**

HSPRC COMMITTEE ACTION: **Exempt Approval**

PERIOD OF APPROVAL: **05/09/2011 to 05/08/2012**

*Lawrence A. Hosman*  
 \_\_\_\_\_  
 Lawrence A. Hosman, Ph.D.  
 HSPRC Chair

*5-10-2011*  
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 Date

## APPENDIX F

## STANDARDIZED RESIDUAL COVARIANCE

	MLE	CD <sub>SH</sub>	CD <sub>LN</sub>	CD <sub>LG</sub>	CD <sub>FM</sub>	ST <sub>CL</sub>	ST <sub>CF</sub>	ST <sub>DP</sub>	SC <sub>AS</sub>	SC <sub>AgT</sub>	SC <sub>DJ</sub>
MLE	.000										
CD <sub>SH</sub>	-.134	.000									
CD <sub>LN</sub>	-1.044	-.729	.000								
CD <sub>LG</sub>	-.352	-.108	.536	.000							
CD <sub>FM</sub>	.308	.162	-.035	-.063	.000						
ST <sub>CL</sub>	.488	.245	1.36 0	1.38 5	1.24 9	.000					
ST <sub>CF</sub>	-.012	.447	.914	.153	.137	-.344	.000				
ST <sub>DP</sub>	1.559	.616	1.98 1	2.22 8	1.72 7	3.13 2	.164	.000			
SC <sub>AS</sub>	-1.458	- 1.36 4	.756	-.938	-.316	-.280	-.664	1.52 3	.000		
SC <sub>AgT</sub>	.092	-.367	.520	-.367	.175	.523	.093	.830	.028	.000	
SC <sub>DJ</sub>	-.925	-.069	1.50 9	-.361	.003	-.430	.073	.558	.000	-.027	.000

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