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Adult attachment styles, children's self-competence, and children's cognitive ability: an ecological study

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ADULT ATTACHMENT STYLES, CHILDREN'S SELF-COMPETENCE, AND
CHILDREN'S COGNITIVE ABILITY: AN ECOLOGICAL STUDY

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The School of Human Ecology

by
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ABSTRACT

This study investigated children's perceived self-competence and its relationship to the social antecedent of adult attachment and the outcome of children's cognitive ability. Utilizing a predominantly African American sample, 154 mothers, 80 fathers and 205 children were included in this cross-sectional study of second and fourth grade children.

Regression analyses indicated that the exploratory relationship between adult attachment as a predictor of children's self-competence was upheld with both second and fourth grade children of participating mothers and father. More specifically, maternal attachment was a significant predictor of second grade children's perceived physical competence, social acceptance, and maternal acceptance. Maternal attachment was a significant predictor of fourth grade children's perceived social acceptance. Paternal attachment was a significant predictor of fourth grade children's perceived athletic competence.

Regression analyses also indicated that second and fourth grade children's perceived self-competence was a significant predictor of cognitive ability as measured by a standardized test of cognitive ability. In addition, fourth grade children's perceived cognitive competence was a significant positive predictor of cognitive ability while perceived social acceptance was a significant negative predictor of cognitive ability.

This exploratory study found relationships between adult attachment and children's perceived self-competence in middle childhood. Further research is necessary to investigate whether these relationships are upheld over time and with larger and more diverse samples.

CHAPTER 1

INTRODUCTION

How does a newborn infant evolve into a three-year-old movie buff who dislikes pineapple, loves dogs, and enjoys finger painting? Even more perplexing is how the identical twin sister of this infant grows into a three-year-old bookworm who loves pineapple, fears dogs, and dislikes finger painting. Questions about personal identity and the development of “self” have intrigued philosophers from the days of the ancient Greeks (Harter, 1999a). Yet, it is the past 25 years that have given rise to a surge of research on self constructs including self-concept, self-efficacy, and self-esteem. Rosenberg (1979) deemed this resurgence inevitable as the maintenance and promotion of the self is considered one of the greatest tasks of human life. But what creates this construct of “self” and how does it affect our daily existence? The present work seeks to examine the construct of children’s self-competence and its relationships to the social antecedent of adult attachment and the outcome of cognitive ability.

At the outset of most papers and books written on “the self,” authors generally devote significant attention to the manner in which self terminology will be operationalized for that particular publication (e.g., Davis-Kean & Sandler, 2001; Harter, 1999a; Stipek, Recchia, & McClintic, 1992). This explanation is necessary because a multitude of terms are utilized interchangeably in this discipline. Unfortunately, the terminology is fairly subjective, therefore, to maintain the greatest degree of consistency with extant literature, the variables in this study are based on the well-documented terminology proposed by Susan Harter (1982, 1985a, 1990, 1998, 1999a).

The terms self-esteem and self-concept are often used as synonyms even though they carry very different meanings in the field of developmental psychology. While these two terms are the most popular self terms, they are not the most basic in nature. In order to understand self-esteem and self-concept, one must return to the broader term of self perceptions (e.g., Harter, 1998, 1999a). Self perceptions may be conceptualized as a large umbrella that encompasses the other self terms. These self perceptions are expressed through language and offer personal descriptions (Harter, 1999a). For example, an individual may describe herself as a creative person with curly hair. These are very basic attributes of that individual that do not involve the process of self evaluation. Because language is a necessary precursor to expressed self perceptions, the degree to which young children can accurately convey their sense of self is dependent on their mastery of language (Harter, 1983; Jambunathan & Norris, 2000).

As stated earlier, the terms self-esteem and self-concept are often used interchangeably even though they are operationalized as distinct domains (Brinthaupt & Erwin, 1992; Harter, 1999a). The hierarchy established by Harter (1990, 1998), places self-concept as supportive of self-esteem. Self-concept is comprised of multiple domain specific self-competencies (Bandura, 1988; Harter, 1983). These domain specific self-competencies include: cognitive, social, athletic, and physical domains. Evaluation of self-competence allows the respondent to differentiate abilities on multiple levels rather than constructing a general evaluation. Assessing domain specific self-competence is especially appropriate with young children who describe themselves in concrete rather than global terms (see Harter, 1999a). When these domain specific abilities are viewed together, they offer a profile of perceived competence.

Self-esteem or self-worth is much broader than self-concept as it involves a global evaluation of the degree of satisfaction with oneself against the backdrop of social comparison (Brinthaupt & Erwin, 1992; Harter, 1999a). The distinction between self-esteem and self-competence is especially relevant when researchers use self-competence scales to measure self-esteem. Scales that assess domain specific perceived competence in childhood should not be summed to offer a self-esteem index. This summation masks the strengths and weaknesses that children perceive about their abilities in the different domains of their lives (Harter, 1982; Harter & Pike, 1984). For the purposes of this dissertation, children's self-competence will be assessed.

As self-competence is viewed as the “cornerstone of both social and emotional development” (Kagen, Moore, & Bredekamp, 1995, p. 18), it is important to examine its fundamental components in childhood. Unfortunately, the task of studying self-competence has not been translated into empirical research. Therefore, a void exists in the literature on the antecedents of self-competence and the concrete outcomes of this variable (see Damon & Hart, 1988; Harter, 1999a; 1998). Harter's (1998) concluding remarks to her chapter in the *Handbook of Child Psychology*, included this implication for researchers. She asks that social scientists depart from the “theoretical and descriptive” analyses of the present and embark upon sound empirical research that offers “reasons why we should *care* about the self” (p. 599-600). In light of Harter's (1998) charge to examine the contextual antecedents and outcomes of self representation, it is crucial to widen the scope of research on attachment and self development to include adult attachment styles as predictors of children's self-competence. Inclusion of adult

attachment introduces a far more ecological perspective to the study of self-competence than has previously been included in the literature (Bylsma, Cozzarelli, & Sumer, 1997).

Harter's (1998) implication for researchers raises the issue of outcomes. It is well documented that the outcomes of self-concept are largely theoretical rather than empirical in nature (Damon & Hart, 1988; Harter, 1990, 1998, 1999a). Researchers who specifically investigate self-competence have devoted the greatest attention to academic competence and its relationship to academic outcomes (Guay, Marsh, & Boivin, 2003; Kurdek & Sinclair, 2000; Marsh & Craven, 1997; Marsh, Byrne, & Yeung, 1999). This relationship was found to be significant, specifically in junior high and high school students (Guay et al., 2003), but research on the other domains of self-competence in middle childhood is scant. The purpose of this study is to investigate children's self-competence and its potential relationships with cognitive ability and adult attachment. In addition, the potential relationship between adult attachment and cognitive ability in middle childhood will also be investigated. Heeding Harter's (1998) challenge to examine the situational antecedents and outcomes of self understanding necessitates the infrastructure of the human ecology theory (Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1979, 1986; Bubolz & Sontag, 1993).

Ecological Model of Self Understanding

Contextual research on self-competence requires the framework of the human ecology theory (Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1979, 1986; Bubolz & Sontag, 1993). According to Klein and White (1996), ecological theory involves the study of humans in relation to the many far-reaching influences of their environments. In the *Sourcebook of Family Theories and Methods*, Bubolz and Sontag (1993) cite the

process of human adaptation as necessary to growth and survival of the species.

Assumptions of this theory include the tenet that humans are social beings and thus are interdependent on other humans (Klein & White, 1996). This tenet upholds the proposed relationship that a child's sense of self is dependent upon the social input received from other humans, specifically the family. Therefore, according to the ecological theory, research on self-competence that excludes this social component is severely misguided, as children do not develop in a vacuum. This theory is grounded in the assumption that humans are both biological and social in nature (Klein & White, 1996). This assumption correlates with the social cognitive nature of self-competence as the development of the self is subjected to both social and maturational forces. It is posited that regardless of social stimulation, a child will possess different self concepts at three and thirteen years of age based on cognitive maturation working in concert with social influences (see Harter, 1999a).

Human ecology theory is most readily associated with the work of Bronfenbrenner (Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1979, 1986; Bubolz & Sontag, 1993). Bronfenbrenner's model involves a contextual approach to research where the child is at the center of the model and in constant interaction with the environment. This interaction is bi-directional in that the child and the environment both exert pressure upon each other. Surrounding the child is the "microsystem" that is comprised of those entities that directly impact the child including family members, neighborhood, school, etc. Outside of this microsystem is the "exosystem" that includes those entities that exert indirect influences on the child such as the mother's job or the availability of fresh produce at the local grocery store. Beyond the exosystem is the

“macrosystem” which constitutes the influences of larger society and culture such as the requirement that dictates that a child must pass the LEAP examination before proceeding to the fifth grade. The final system is termed the “chronosystem” which contains the elements of time and history (Bronfenbrenner & Morris, 1998; Bronfenbrenner, 1979, 1986; Bubolz & Sontag, 1993). All of these systems are fluid and dynamic in nature so that changes in the macrosystem, such as a presidential election, exert great influence over the child in the microsystem.

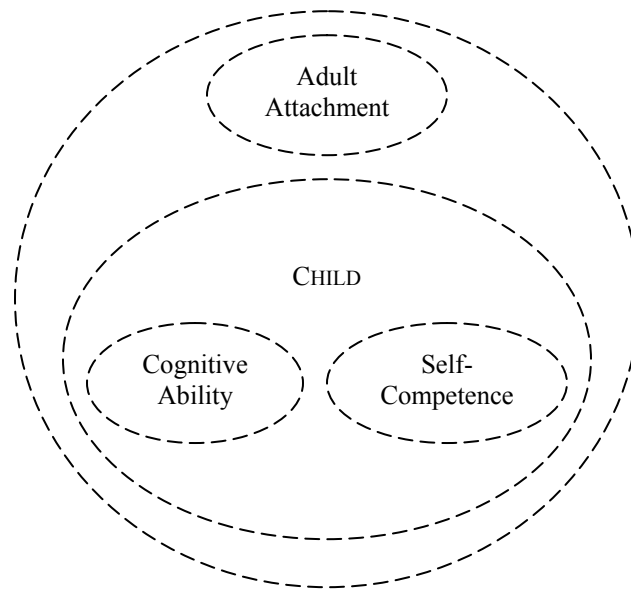


Figure 1. Theoretical Model of Study

The theoretical model of this study (see Figure 1) contains the three variables of interest and is constructed according to Bronfenbrenner’s model. Within the child resides the self-competence and cognitive ability variables. Surrounding the microsystem is the exosystem that contains the variable of adult attachment. This model is fluid as characterized by the dotted circles around each system. Due to its inherent bi-directionality, this model supports investigation of six potential relationships. Based on

the literature in chapter two, the three most salient relationships have been included in the hypotheses for this dissertation.

The contextual nature of Bronfenbrenner's (1979) model offers salient guidance in undertaking Harter's (1998) suggestions for future research in the field of self representations. Harter implies that her research on the developmental nature of self understanding necessitates greater empirical attention on the antecedents and outcomes of self-representation. Incorporating the ecological framework into this research broadens the social antecedents of mother-child attachment to include adult attachment styles as predictors of children's self-competence. The limited amount of research on this subject (Bylsma et al, 1997) maintains a narrow microsystems scope of attachment and self-competence. The influence of significant others on parental attachment styles expands the approach to include the impact of the exosystem on self-competence. In examining the outcome of cognitive ability, the scope of this research is expanded to include many domains of self-competence other than cognitive competence. This research will also expand upon the seminal research on adult attachment styles and children's cognitive ability (Crandell & Hobson, 1999) to include African American elementary-aged children.

In summary, the ecological model is utilized as a framework to support the potential empirical relationships that may emerge in examining the antecedents and outcomes of self-competence. The review in the subsequent chapter synthesizes the literature on the social antecedents and academic outcomes of self-competence with specific attention devoted to the perceived gaps that currently exist in the literature. Hypotheses for this study are delineated following the review of literature. Before

proceeding to the review of literature, the assumptions and limitations of the study are addressed.

In this study, the following limitations govern the interpretation of findings, implications, and recommendations:

- 1) The psychometric properties of the measures utilized in this study were generated with predominantly European American samples whereas this study is comprised largely of African American participants.
- 2) This study does not use a true random sample.
- 3) The data for this study are cross-sectional (utilizing second and fourth grade students) therefore, longitudinal changes cannot be investigated.
- 4) There is limited extant research on fathers.
- 5) The fathers' sample size is small in this study.

The following are assumed to be fundamental to this study:

- 1) Responses to the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991) and the Attachment Style Questionnaire (ASQ; Feeney, Noller, & Hanrahan, 1994) validly and reliably reflect the respondents' adult attachment styles.
- 2) Responses to the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPCSA; Harter & Pike, 1984) and the Self-Perception Profile for Children (SPPC; Harter, 1982, 1985b) validly and reliably reflect the respondents' self-competence.

- 3) Responses to the Woodcock-Johnson Tests of Cognitive Ability (WJ; Woodcock, McGrew, & Mather, 2001) validly and reliably reflect the respondents' cognitive ability.
- 4) It is assumed that participants completed the questionnaires and assessments for this study in a forthright and honest manner.
- 5) It is assumed that, in addition to the environment, heredity also contributes to the development of children's cognitive ability.

CHAPTER TWO

REVIEW OF LITERATURE

Social scientists regard the study of self development as the basis from which humans synthesize their “jumble of personal experiences into one connected life rather than as many disconnected fragments” (Damon & Hart, 1988, p. 2). The pieces of this “connected life” may be found in the multiple domains of self-competence. Because self-competence is pivotal to emotional, social, and cognitive experiences (e.g., Davison & Birch, 2001; Harter, 1983, 1990; Marsh, Craven & Debus, 1991; Stipek, Recchia, & McClintic, 1992), it is necessary to study its precursors and outcomes. The following review offers a brief description of the theoretical perspectives of the self. This section is followed by the social antecedents of self-competence, specifically, the role of attachment as a social antecedent of self-competence. The focus then shifts to the outcomes of self-competence, mainly, the influence of self-competence on cognitive ability followed by literature on the relationship between adult attachment and children’s cognitive ability. The chapter is concluded with delineation of the three hypotheses utilized in this study.

A Developmental Perspective of the Self

The self is not static but rather is constantly changing across the lifespan (see reviews by Damon & Hart, 1982; Harter, 1998). The formal study of the self is a relatively young field whose turn-of-the-century roots draw life from the father of self theory, William James. James’ (1890) classic theory has become the foundation for study of the self as he was the first to examine the elusive nature of the dual “I-self” and “me-self.” James’ distinction between the I-self and me-self has endured a century of scrutiny

and is a reoccurring theme in theoretical research on the self (Harter, 1999a). While James' (1890) theory remains a theoretical pillar in the study of the self, it does not allow for the changes that occur in self understanding over the human lifespan. It is essential to view the self through a developmental lens as intuition and science (e.g., Cole et al., 2001; Jacobs, Lanza, Osgood, Eccles & Wigfield, 2002) indicate that an adolescent has a very different sense of self at sixteen-years-of-age than she did as a six-year-old. When a developmental perspective is applied to self understanding, it allows researchers to embrace the social, emotional, physical, and psychological changes that occur in individuals over time. A developmental perspective looks beyond ages and stages to the issues that reside at the core of children's understanding of self. Developmental issues include the social influences of others and the manner in which cognitive changes affect a child's understanding of self. A developmental perspective of the self also includes examination of children's development from a longitudinal or cross-sectional perspective (Damon & Hart, 1988). The continuum of time allows researchers to truly observe the antecedents and outcomes of self-competence and the manner in which cognitive shifts affect these variables.

Developmental Stages of the Self

Just as it is essential to establish the terminology that is commonly used in studying the self, it is also essential to preface self research with the developmental changes that occur throughout childhood. For the purposes of this literature review, the development of the self will be examined in early childhood and middle childhood, as these periods are applicable to the particular ages that will be studied. Further information on the development of self in infancy, very early childhood, and adolescence is

elaborated upon in self development literature (e.g., Damon & Hart, 1982; Harter, 1999a; Stipek et al., 1992).

Self Representations in Early to Middle Childhood. Any preschool teacher will attest to the fact that she has a classroom filled with self acclaimed experts. This blind confidence in one's abilities to do *everything* well is characteristic of children between two and five years of age. All-or-none thinking prompts a young child to assume that she is either very adept, or conversely, very unskilled in a certain area. While adult onlookers often view this self-possession as humorous, it is actually indicative of a cognitive shift that has yet to take place in a child's mind (Harter, 1999a).

The period of early to middle childhood is marked with descriptions that are based on specific self-competencies that include social, athletic, or cognitive abilities (e.g. Harter, 1999a). These descriptors are less concrete than those made in very early childhood and indicate understanding of others' standards and expectations, but do not indicate a global sense of self. Through Harter's extensive research she found that children in this period begin to compare themselves with other children and with the younger representation of themselves. As children transition into middle childhood the descriptors they utilize are either very positive or very negative, yet, there is a greater willingness to admit the negative perceptions of oneself than in early childhood.

The inability to form global representations is a remnant of children's youthful cognition that is carried over into the early to middle childhood period (see Harter, 1999a for a review). Research generally supports the finding that prior to age seven, children express their self-competence as domain specific entities (Cole et al., 2001; Eccles, Wigfield, Harold, & Blumenfeld, 1993; Harter, 1982; Harter & Pike, 1984; Jacobs et al.,

2002; Marsh, 1989; Wigfield et al., 1997). For example, when asked to describe, “Who are you?” a six-year-old male may describe himself as an exceptional soccer player with a lot of friends who does not like math. Once again, his perceptions are very domain specific and lack in global statements about his self-worth. There is no indication at this age of being a good person or having a global sense of self that extends beyond the social, athletic, and cognitive realms.

Self Representations in Middle to Late Childhood. Some of the most observable changes in self expression occur during the second or third grade (seven to eight-years-of age). The most noticeable of these changes involves a child’s marked propensity in utilizing “trait labels” such as kind, popular, cool, smart, or athletic (see Harter, 1999a). The use of domain specific labels tends to decline across the early childhood years so that a child has the ability to condense his traits into one trait label by middle childhood (e.g., Cole et al., 2001; Eccles et al., 1993; Wigfield et al., 1997). At the age of nine, the boy in the previous paragraph may state that he is athletic, smart, and popular at school in lieu of the domain specific responses cited above. The child is now able to make higher order generalizations about his abilities and incorporate both positive and negative values within the same domain (Harter, 1998).

The influences of peer and social groups become increasingly more apparent between the ages of eight and eleven years as children tend to compare their abilities with those who surround them (see Damon & Hart, 1988; Harter, 1999a, 1982). Self representations in this period are more complex and generally involve affective qualifying statements (Harter, 1999a). The gap between the real and the ideal self begins

to widen between the ages of six and twelve, allowing children to distinguish between the person they would like to be and the person they are in reality (Harter, 1998).

The ability to globally evaluate oneself coincides with cognitive changes that occur between the ages of eight and eleven years (Harter, 1999a, 1982, 1988). According to Harter, children at this age can identify with being a good person even though they may not be very good at another task, like mathematics. This awareness is not evident in a younger child whose self-worth is truly entangled in the perceived successes and deficiencies of separate domains. Daniels (1998) found that when children, ranging from 5 to 17 years-of-age, were asked to evaluate a hypothetical child's sense of self, it was not until age nine that the children referred to "self-esteem" or "self confidence" constructs in describing the character. Research on self development offers a vivid description of the psychological and cognitive changes that occur throughout childhood that is necessary in understanding the antecedents and outcomes of children's self-competence.

Adult Attachment as a Social Antecedent of Self-Competence

Recent studies on self-competence have begun to address the need for developmental research that examines the changes in self over time (Cole et al., 2001; Jacobs et al., 2002). While it is essential to study these inner constructs of self-competence, it is equally as important to examine the variables that reside outside of the developing child in the social world. From an ecological perspective, it is imperative that researchers broaden their research to incorporate the relationships that exist in children's micro-systems. A fertile area of research over the past two decades has centered on the exploration of parent-child attachment and the ensuing development of self in childhood

(e.g., Cassidy, 1988, 1990; Verschueren, Marcoen, & Schoefs, 1996), adolescence (e.g., Arbona & Power, 2003; Paterson, Pryor, & Field, 1995), and college-aged individuals (e.g., Brennan & Morris, 1997; Bylsma et al., 1997; Carranza & Kilmann, 2000; Leondari & Kiosseoglou, 2000). From an ecological perspective, it is not only relevant to examine the attachment relationships between parents and children, but to expand the research lens to examine adult romantic attachment to significant others. Inclusion of this adult attachment variable truly takes researchers into the outer limits of the child's microsphere and perhaps, even into the exosphere. As research focusing specifically on adult attachment and children's self-competence has not been explicitly investigated (Bylsma et al., 1997), it is necessary to review the broader literature on attachment and self development in order to establish a foundation for the specific hypotheses of this research.

Attachment Theory

Attachment is often defined as an “enduring affectional bond of substantial intensity” (Paterson et al., 1995, p. 365). According to attachment theorists (e.g., Ainsworth, 1964, 1989; Bowlby, 1969/1982, 1973, 1980), attachment to a primary caregiver during infancy is not only essential to the physical care of the infant, but ultimately shapes how that individual will view the world as an adult. The evolutionary objective of attachment serves the purpose of protecting the infant from harm by maintaining the infant within close proximity to the mother (Bowlby, 1969/1982). But infants are not merely passive components of this relationship; rather, they are born with tools (crying, cooing, smiling, etc.) that are designed to physically and emotionally engage the primary caregiver. While the infant plays a large role in furthering the

attachment relationship, the infant's overtures for attention must receive sensitive and contingent responses from the caregiver. When an infant's cries are met with prompt, appropriate responses, the infant learns that the world is a warm and dependable place. The caregiver's sensitivity imbues the infant with a feeling of trust in his surroundings and ultimately, a sense of agency and empowerment. These feelings of trust and empowerment are the primary contribution to the infant's internal working model, and ultimately, to self-worth.

Attachment is integral in furthering the emotional, social, cognitive, and behavioral development of an infant. The cognitive domain is manifested in the development of the aforementioned, internal working model. The internal working model may be defined as the intrinsic representations of an individual's worth (Bowlby, 1969/1982). The development of this model serves as a sieve through which an individual filters his sense of self and interactions with others. More specifically, it is an unconscious construct that shapes an individual's sense of personal worth as well as expectations of interpersonal relationships (Ainsworth, 1989; Cassidy, 1990). This sense is rooted in early relationships that establish the unwavering element of the internal working model. The internal working model is unwavering in that it is influential across the lifespan, but it is dynamic in that it is slowly constructed through daily interactions with caregivers (Bowlby, 1969/1982). According to Bowlby (1979), this internal model is the basis for self constructs including self-esteem, self-concept, and self-competence.

Attachment in Adulthood

Research on attachment in adulthood may be divided into two domains: (a) attachment to parents (primary caregivers) as an enduring construct that traverses the life

span, and (b) romantic attachment to significant others in adulthood (Hazan & Zeifman, 1999). Central to the tenets of attachment theory, is the finding that these two groups are not isolated entities, but rather, overlapping and dynamic in nature (Bowlby, 1969/1982). Through their extensive research, Hazan and Zeifman (1999) found that attachment is as integral to adult relationships as it is to the primary infant-caregiver relationship. Both fields of study are very expansive in nature, therefore, for the purposes of this dissertation, only the research related to romantic attachment will be reviewed.

Bowlby (1979) conceptualized attachment as extending from “the cradle to the grave,” yet, prior to the late 1980’s, very little empirical research was conducted on attachment beyond infancy (p. 127). Based on Bowlby’s (1969/1982) and Ainsworth’s (1978) theoretical foundations, Hazan and Shaver (1987) proposed a theoretical framework of adult attachment. This framework rests on the notion that through the internal working model, attachment is both a durable and dynamic construct. Adult attachment relationships are generally conceptualized as romantic in nature but may include any significant relationship that involves the salient attachment characteristics of (a) maintenance of proximity, (b) distress at separation, (c) safe haven, (d) security and nurturance (e) emotional connectedness, and (f) singularity of individual (Ainsworth, 1989; Hazan & Zeifman, 1999). Attachment behavior in adulthood is akin to a secure base where the attachment figure provides a “safe haven” for the significant other in times of anxiety or distress (Cassidy, 2000).

Adult attachment differs from infant attachment in that there is an assumed reciprocal caregiving relationship between adults. While an infant may engage a caregiver in an interaction, the adult generally administers the nurturing (Berman &

Sperling, 1994; Hazan & Shaver, 1994). Therefore, an assumption of adult attachment is that the potential exists for adults to both give and receive care from a significant other. In addition, adult attachment may be more abstract in nature. While an infant needs physical reminders of an attachment figure's presence, adults possess object permanence and can conjure up strategies for contacting an attachment figure when they are not in plain sight (Hazan & Shaver, 1994). For adults, the notion of "felt security" becomes much more significant in their attachment relationships (Sroufe & Waters, 1977) as the psychological aspect of attachment partially replace the physical aspect. This brief overview suggests that the effects of adult attachments are far-reaching and greatly impact the quality of life for both parents and children (Feeney, 1996).

The Relationship between Attachment and Self Development

Inherent to the ecological paradigm is the assumption that all relationships, both immediate and removed, affect a child in a fluid bi-directional manner. Therefore, it is essential to explore the manner in which adult attachment to significant others affects a child's sense of self. The majority of research on attachment and the development of self has focused on the relationship between attachment to parents in childhood (Cassidy, 1988; Verschueren et al., 1996) and adolescence (e.g., Arbona & Power, 2003; Carranza & Kilmann, 2000; Leondari & Kiosseoglou, 2000; Meyers, 1998; Paterson et al., 1995) and the ensuing perceptions of self-esteem. Another fruitful area of research has been the examination of the relationship between adult attachment and adult self-esteem within individuals (e.g., Brennan & Morris, 1997; Bylsma et al., 1997). While these studies have illuminated the link between attachment and self perceptions, they have not addressed the lack of research investigating this relationship between adults and children in middle

childhood. In fact, the specific relationship between adult attachment styles as a predictor of children's self-competence in middle childhood has yet to be empirically investigated.

Attachment and Self Development in Childhood

Measuring attachment to primary caregivers in childhood and middle childhood has proved to be a major obstacle in attachment related research (Kerns, Tomich, Aspelmeier, & Contreras, 2000). The period between toddlerhood and adolescence remains a gray area for attachment researchers with respect to valid instrumentation (Kerns et al., 2000; Solomon & George, 1999). Available assessments are generally qualitative in nature and require a significant amount of time and extensive training for the coders (Solomon & George, 1999). Some researchers have turned to representational measures of attachment using dolls, puppets, and stories (Solomon & George, 1999). Verschueren and colleagues (1996) utilized one such measure in their study of attachment and self-competence in five-year-old children. The results from this study indicated that children who possessed positive self-competence, perceived themselves to be securely attached to their mothers, whereas children with negative self-competence perceived themselves as insecurely attached to their mothers (Verschueren et al., 1996). While this study is supportive of the relationship between secure attachments and high self-competence, the generalizability is limited in that it was conducted with European American middle-class children from predominantly intact families. In addition, even though representational assessments of attachment and self-perception offer promising strides in assessment of young children's thoughts and feelings, they are still in their infancy with respect to empirical reliability and professional utilization (Solomon & George, 1999).

In a similar study, Cassidy (1988) found that a significant relationship existed between attachment style and self-competence. Children labeled as secure were open in expressing their perceived faults with a mixture of positive and negative self perceptions. Insecure children, specifically those classified as avoidant, depicted themselves as “perfect” in their assessment and even when probed, did not admit any weaknesses. This behavior may be akin to avoidant adults who feign perfection and independence in order to evade relationships with others (Bartholomew, 1990).

Attachment and Self Development in Middle Childhood

Research on attachment and self development bypasses middle childhood and regains momentum in adolescence and young adulthood. For the most part, this is due to the lack of valid attachment measures in middle childhood and the ease with which this variable may be tested in young adults (Kerns et al., 2000). Despite efforts to conduct validity studies on attachment measures in middle childhood (Kerns et al., 2000) there are still major gaps in the attachment literature extending between childhood and young adulthood. Related studies in middle childhood include parental memories of childhood love and acceptance as a predictor of children’s socio-emotional functioning (Contreras, 2000), the relationship between early attachments and children’s social functioning (Bohlin, Hagekull, & Rydell, 2000), the influence of parental attachment on parental monitoring (Kerns, Aspelmeier, Gentzler, & Grabill, 2001), and the relationship between attachment and adjustment to school as reported by teachers and peers (Granot & Mayseless, 2001). While all of these studies focus on children in the middle childhood years, they ignore self development by centering on observable behaviors that are more readily assessed.

In an unprecedented study that specifically addressed attachment and self-competence in middle childhood, Doyle, Markiewicz, Brendgen, Lieberman, and Voss (2000) found that children in grades four through six who possessed a secure perception of attachment to mothers were more likely to have higher levels of perceived athletic abilities and peer relations than children with perceived insecure attachments. Children's perceived attachments to their fathers did not have similar predictive properties of self-competence. In fact, a perceived secure attachment to fathers was only associated with higher levels of perceived school competence in middle childhood (Doyle et al., 2000). In general though, children whose fathers participated in the study scored higher on perceived competence than children whose fathers did not participate in the study. Doyle and colleagues (2000) surmised that this finding involved variables other than perceived attachment. These children may have received more overall support from their fathers. While this study offers a cursory glance at self development in middle childhood, it focused on parent-child attachment rather than the variable of adult attachment to significant others. Studies focusing on the latter are scant in middle childhood.

Attachment and Self Development in Adolescence and Young Adulthood

The period of adolescence and young adulthood offers more assessment opportunities to measure attachment with self-report instruments. While the majority of researchers have investigated the relationship between attachment and self development utilizing European American samples (e.g., Armsden & Greenberg, 1987; Kenny, Lomax, Brabeck, & Fife, 1998), Arbona and Power (2003) examined the relationship between parental attachment and self-esteem with African American, Mexican American and European American adolescents. After controlling for demographic variables, the

authors found that the relationship between parental attachment and self-esteem did not vary based on ethnic background (Arbona & Power, 2003). In addition, both maternal and paternal attachment contributed uniquely to adolescent's self-esteem with avoidance of mother and anxiety toward father contributing to lower self-esteem. The generalizability of these results must be limited to adolescents who have relationships with both their mothers and fathers as respondents who only reported attachment to one parent or caregiver were eliminated from the study. Because the attachment assessment (Armsden & Greenberg, 1987) was administered to students only once, students' perceptions of their parental relationship may have been skewed due to contextual circumstances such as being grounded or receiving some extra cash from a parent. In addition, while the students were randomly selected, self-selection was a limitation of the study as 50% of the randomly selected individuals chose not to participate (Arbona & Power, 2003).

College students provide researchers with samples of convenience and are highly studied in the field of adult attachment despite the threat that they pose to research generalizability. One study utilizing a college sample indicated that securely attached students attained higher scores on measures of self-esteem and lower scores on measures of loneliness than insecurely attached students (Leondari & Kiosseoglou, 2000). In addition, securely attached students reported less guilt and anxiety toward their parents when leaving for college. A study by Caranza and Kilmann (2000) assessed the links between adult attachment and college females' perceptions of their parents. Women with insecure attachment classifications reported lower self-esteem than those who were securely attached; the insecure women also placed less trust in interpersonal

relationships. The students in this study reported that all parental dyads were intact but women who were insecurely attached described fathers as distant and demanding and mothers as absent or demanding (Caranza & Kilmann, 2000). Once again, the results of this study were limited to young women whose biological parents were married.

The issue of self-esteem continues to emerge as a correlate of attachment at every stage of development, but in young adulthood there is a divide in the literature between those studies that examine self-esteem in relation to adult romantic attachment versus adult attachment to parents. In two studies that examined the former relationship (Brennan & Morris, 1997; Bylsma et al., 1997), the authors employed similar measures to test differing hypotheses related to adult romantic attachment and global self-esteem with young adults. Both studies utilized Bartholomew and Horowitz's (1991) Relationship Questionnaire (RQ) and Rosenberg's (1965) measure of global self-esteem. In addition, both authors included two different measures of self-competence that essentially examined similar domains. Bylsma et al., (1997) included a self-developed questionnaire that assessed respondents' self-competence across six specific domains including: (a) social, (b) athletic, (c) romantic, (d) creative, (e) academic, and (f) physical appearance. Brennan and Morris (1997) used a questionnaire that measured respondents' self-competence across five domains including: (a) social, (b) athletic, (c) creative (d) academic and (e) physical appearance.

The authors' (Brennan & Morris, 1997; Bylsma et al., 1997) results were consistent with previous studies (Feeney & Noller, 1990; Bartholomew & Horowitz, 1991) that found positive attachment styles to be associated with high global self-worth while negative attachment styles were associated with low global self-worth. Brennan

and Morris (1997) hypothesized that even though both groups of individuals classified as secure and dismissing scored higher in self-esteem than preoccupied and fearful individuals, a difference in the composition of secure versus dismissing self-esteem would surface based on self-competence. Respondents classified as secure would possess both high levels of self-liking and self-competence. Respondents classified as dismissing would attempt to compensate for lower self-liking by placing great value in honing specific competencies such as athletics, physical appearance, etc. The results supported this hypothesis as secure adults possessed higher self-liking while dismissing adults placed a higher premium on self-competencies.

Bylsma and colleagues (1997) noted the same pattern where secure and dismissing adults scored higher in overall levels of self-competence while preoccupied and fearful adults scored lower in overall self-competence. The variation in self-competence was only significant in the social, athletic, physical appearance, and romantic domains. This study is less comprehensive than Brennan and Morris's study (1997) as the authors did not attempt to interpret the variation in attachment styles and self-competencies due to the absence of specific hypotheses (Bylsma et al., 1997). Both studies were limited in that respondents were students in college-level psychology courses who received class credit for their participation. In addition, from an ecological perspective, the studies are mono-dimensional in that they explore attachment and self-development within subjects rather than expanding the lens to include other relationships. The authors (Bylsma et al., 1997) suggested that further research is necessary on the relationship between adult attachment styles and domain specific self-competencies from other perspectives. For this reason, it is essential to introduce new dimensions into the

scholarly dialogue of parent-child relationships by examining adult attachment as a social antecedent of children's domain specific self-competence. This exploratory relationship is the foundation of hypothesis one in the present study.

Children's Cognitive Outcomes in Relation to Self-Competence

Examining the antecedents of children's self-competence begets the question of outcomes: why is self-competence important and what are the ramifications of its positive or negative extremes? The question has been raised as to whether or not the intuitive belief holds that positive self-perceptions are fundamental to overall wellbeing as there is scant evidence that empirically supports this intuition (Damon & Hart, 1988; Harter, 1998). For this reason it is necessary to not only understand what contributes to the creation of self-competence, but also to explore the manner in which self-competence manifests itself in daily life. One such manifestation that parents, teachers, and policy makers focus on is that of children's cognitive ability and academic achievement. The manner in which children's self-concept relates to academic achievement has received empirical consideration (e.g. Guay et al., 2003; Marsh & Craven, 1997; Marsh, Byrne, & Yeung, 1999), but the relationships between self-competence and cognitive ability have received less scholarly attention (Kurdek & Sinclair, 2000). The relationship between self-concept and academic achievement has been illustrated to be reciprocal (Guay et al., 2003; Marsh et al., 1999) where children's perceptions of academic ability affect performance in school, and in turn, academic performance fuels children's academic perceptions. Yet, while it is conceptually sound to test the relationship between academic self-competence and academic achievement, it is equally as relevant to explore the

possibility of relationships between multiple self-competence domains and cognitive outcomes.

Cognitive ability is akin to self-esteem in that both terms are ascribed different meanings depending upon the preference of the author. For the purposes of this study, the broader term “cognitive outcomes” is utilized to define general cognitive corollaries.

“Cognitive ability” is defined as intellectual potential or stable intellectual domains that are measured by a standardized assessment, whereas “academic achievement” is defined as end-of-year grades in specific subject areas as assigned by the students’ teachers. From an ecological perspective, three contextual domains are posited to influence academic achievement in a multifaceted manner including: (a) psychological influences, (b) family relationships, and (c) peer relationships (Bronfenbrenner & Morris, 1998; Kurdek & Sinclair, 2000). Research conducted on these ecological contributors indicates that while the family component (Grolnick & Slowiaczek, 1994) is a more salient contributor to academic achievement than the peer component (e.g. Altermatt & Pomerantz, 2003; Altermatt, Pomerantz, Ruble, Frey, & Greulich, 2002; Cillessen & Bellmore, 1999), the greatest contributor to academic achievement is the child’s individual psychological influences (Kurdek & Sinclair, 2000). These influences include factors inherent to the child’s psychological domain such as motivation, academic maturity, and academic self-competence.

Kurdek and Sinclair (2000) studied the impact of psychological factors upon academic successes in first through fifth-grade children by examining academic competence rather than the broader construct of self-esteem. Kurdek and Sinclair (2000) examined the relationships between academic competence and three different cognitive

outcomes including: (a) cognitive aptitude scores (CTB/McGraw-Hill, 1993), (b) state administered proficiency tests, and (c) teachers' assessments of students' verbal and mathematic abilities. The authors (2002) found support for their hypothesis that psychological factors, including academic self-competence, have a much greater effect on cognitive outcomes of first through fifth-grade children, than family or peer relationships. In addition, the degree to which academic competence was correlated to each cognitive outcome varied greatly depending on the specific academic outcome.

Academic achievement was consistently linked to the memory, verbal, and nonverbal domains of the cognitive aptitude tests, but was inconsistently linked to the state administered proficiency tests and the teachers' assessments of students' verbal and math abilities (Kurdek & Sinclair, 2000). This finding illustrates that not all cognitive outcomes are related to academic competence in the same manner. It also illustrates that standardized measures of cognitive ability are more closely related to a child's academic perceptions than those measures that involve the extrinsic evaluation of teachers. This research suggests that children's perceived competence is more accurate in determining stable competencies such as memory and verbal skills than in constructing a comprehensive view of overall achievement or worth (Pomerantz & Ruble, 1997). In addition, it must also be noted that the majority of the research conducted on self-competence and academic achievement has relied on the teachers' assessments of children's academic ability via surveys and questionnaires rather than measures of cognitive ability (e.g., Cillessen & Bellmore, 1999; Guay, Marsh, & Boivin, 2003). Teacher assessments of academic achievement introduce their biases into the evaluations and obscure the true abilities of the students.

Kurdek and Sinclair (2000) furthered the understanding of self development by examining the psychological, family and peer predictors of academic outcomes in middle childhood. While the authors' ecological research is thorough in scope, the relationships between academic competence and cognitive outcomes were considered non-directional. In addition, the authors' inclusion of only academic competence in relation to cognitive outcomes eliminated finding a possible relationship between other domain specific competencies and cognitive outcomes. Kurdek and Sinclair (2000) bolstered their research through the utilization of multiple sources of academic outcomes, but academic competence was measured with an assessment designed for this particular study. The authors did not elaborate upon the pilot testing of this instrument or measures of reliability and validity. This study was also conducted with a predominantly European American middle-class sample from the same elementary school, which limits its generalizability to more diverse populations. Despite the flaws of this research, Kurdek and Sinclair contributed a greater understanding of competence and its relationship to cognitive outcomes. Further research is needed to determine if the relationships outlined in this study are upheld when examining African American as well as European American children.

Children's Cognitive Outcomes in Relation to Adult Attachment

The child alone does not solely influence his cognitive outcomes. This statement is one based on common sense, as is it generally understood that cognitive development involves interaction of biological, environmental, and psychological factors. Parents serve as significant contributors to all three domains and are therefore essential variables in any ecologically sound research model. Including the social antecedent variable of

adult attachment in the investigation of children's cognitive ability considerably broadens the scope of research on cognitive ability. This relationship is one with great theoretical potential but scant empirical evidence. The relationship between children's attachment to parents and ensuing cognitive and academic outcomes (e.g., Jacobsen, Edelstein, & Hofmann, 1994; Moss & St-Laurent, 2001; Murray & Yingling, 2000), has received greater attention than that of parents' attachment styles and children's cognitive ability (Crandell & Hobson, 1999). Maternal attachment styles have been found to be significant predictors of various relationships between mother and child including warm versus insensitive interactions (e.g. Crowell, O'Connor, Wollmers, Sprafkin, & Rao, 1991; Pearson, Cohn, Cowan, & Cowan, 1994), and synchronous versus disorganized interactions (Crandell, Fitzgerald, & Whipple, 1997). While maternal attachment styles have been found to be predictive of children's social cognition (Steele, Steele, & Johansson, 2002) little research has been devoted to hypothesizing the manner in which maternal or paternal attachment may ultimately affect a child's cognitive ability.

A secure attachment relationship between parent and child is generally associated with psychosocial outcomes rather than cognitive ramifications, yet, at 24 months of age, the maternal-child attachment relationship was found to be predictive of language development (Murray & Yingling, 2000). It is hypothesized that because physical, social-emotional and cognitive domains interact throughout development, an impending challenge in one domain requires utilization of resources from the other domains (Kahneman, 1973). This model of limited cognitive resources (Kahneman, 1973) may be applied to the relationship between attachment and cognitive ability. When a child is securely attached to his primary attachment figure, that child does not need to devote

excess energy and cognition to constant monitoring of the attachment figure. In turn, this child may devote that saved energy to different tasks such as language development, social relationships, and basic exploratory learning (Main, 1991). Jacobsen and colleagues (1994) found that a secure attachment relationship with a primary caregiver at age seven predicted greater competence in Piagetian reasoning tasks at ages 9, 12, 15, and 17. The authors hypothesized that secure attachment equipped children with the freedom to explore their worlds and advance their cognitive ability (Jacobsen et al., 1994). A basic tenet of attachment theory is that exploration is the basis for learning. When children are insecurely attached they are too preoccupied with their caregivers' whereabouts to confidently learn about their worlds. As children devote more energy to monitoring their caregiver, they allot less energy to cognitive and social development.

Van Ijzendoorn and colleagues (1995) identified attachment security as asserting a strong influence on language development but a weak association with general cognitive development. Yet, recent research by Moss and St-Laurent (2001) found that mother-child attachment quality at age six was related to specific domains of children's cognitive ability at age eight. In addition to employing a general measure of IQ, Moss and St-Laurent examined the specific cognitive domains of mastery motivation, cognitive engagement, affective communication, and academic performance as measured by end-of-year grades in math and language. Moss and St-Laurent (2001) found that cognitive engagement between mother and child at age six was predictive of mastery motivation at age eight, while emotional communication with mother at age six was predictive of academic achievement at age eight. Children who were securely attached to their mothers obtained higher communication, cognitive engagement, and mastery motivation scores

than insecurely attached children (Moss & St-Laurent, 2001). In addition, insecurely attached children at age six were at greater risk for academic underachievement at age eight than their secure counterparts. The research conducted by Moss and St-Laurent (2001) directly examined the attachment relationship between mother and child, yet one variable that contributes to the quality of the parent-child interactions is the specific adult attachment style of the primary caregiver.

In widening the research lens to include adult attachment, an already limited field of literature is further narrowed to one seminal piece of research by Crandell and Hobson (1999). Crandell and Hobson adopted a social-developmental perspective in examining children's IQ whereby it is assumed that interactions with others are a necessary contributor to high-level cognitive processes. The authors assessed the attachment relationship between three-year-old children and their mothers via the Adult Attachment Interview as a Questionnaire (Crandell et al., 1997). The researchers found that children of secure mothers scored significantly higher (19 points) on standardized intelligence tests than children of insecure mothers, even after researchers controlled for demographic influences (SES and education) and maternal IQ (Crandell & Hobson, 1999). While the relationship between mother-child synchrony and overall IQ was not significantly related, the authors found that children who scored significantly higher on Verbal Reasoning were part of a mother-child dyad that possessed higher levels of synchrony in their playtime and clean-up interactions than children who scored lower on verbal reasoning (Crandell & Hobson, 1999). In support of Kahneman's (1973) model of limited cognitive resources, a child who felt overwhelmed by feelings of desertion may have been distracted from performing well on cognitive tests. The authors hypothesized that this

lower cognitive performance was due to more than just a lack of mental resources, but to the quality of affective states that parents modeled or imposed upon their children (Crandall & Hobson, 1999). It is evident that multiple mediating factors may account for the relationship between adult attachment style and children's IQ but "these results indicate that something about a mother's state of mind in relation to attachment...seems to have a significant bearing on young children's performance on standardized tests of intellectual ability" (Crandell & Hobson, 1999, p. 463).

Differences exist between the research conducted by Crandell and Hobson (1999) and the research in this dissertation, including that of age and diversity. Crandell and Hobson assessed 3-year-old children while the present study examined elementary school children. In addition, the participants in Crandell and Hobson's study were educated, middle-class, European American women who were married. Fathers were not included in the study nor were alternative caregivers such as grandparents or foster parents. Regardless of these limitations, this study is the only piece of empirical research to formally test the intuition that a parent's attachment style affects the quality of the parent-child relationship, which in turn, influences children's cognitive development.

Hypotheses

Through this literature review it is evident that scant empirical evidence exists on the relationships established in this body of research. The relationship between adult attachment and children's self-competence lends an exploratory nature to hypothesis one as this relationship is unprecedented in the field of self development. The relationship established in hypothesis two expands upon previous research on children's self-competence and cognitive ability as multiple domains of competence are investigated

with a sample comprised largely of African American children. The third hypothesis expands upon the seminal research conducted by Crandell and Hobson (1999) by including the ecological variable of adult romantic attachment as a predictor of children's cognitive ability. The ecological theory threads together the three areas of adult attachment, children's self-competence, and children's cognitive ability into a composite theoretical model that serves as a framework for this research. The purpose of this study is to investigate the relationships among children's self-competence, the social antecedent of adult attachment and the outcome of children's cognitive ability. There are three hypotheses:

- 1) It is hypothesized that a significant relationship will exist between adult attachment styles and children's self-competence (Figure 2).
- 2) It is hypothesized that a significant relationship will exist between children's specific self-competencies and cognitive ability as measured by a standardized test of cognitive ability in middle childhood. It is hypothesized that a more powerful relationship will exist between cognitive/scholastic competence and cognitive ability as measured by a standardized test of cognitive ability in middle childhood than will exist with the other domains of self-competence (Figure 3).
- 3) It is hypothesized that a significant relationship will exist between adult attachment and children's cognitive ability (Figure 4).

Social Antecedents

Children's Self-Competence

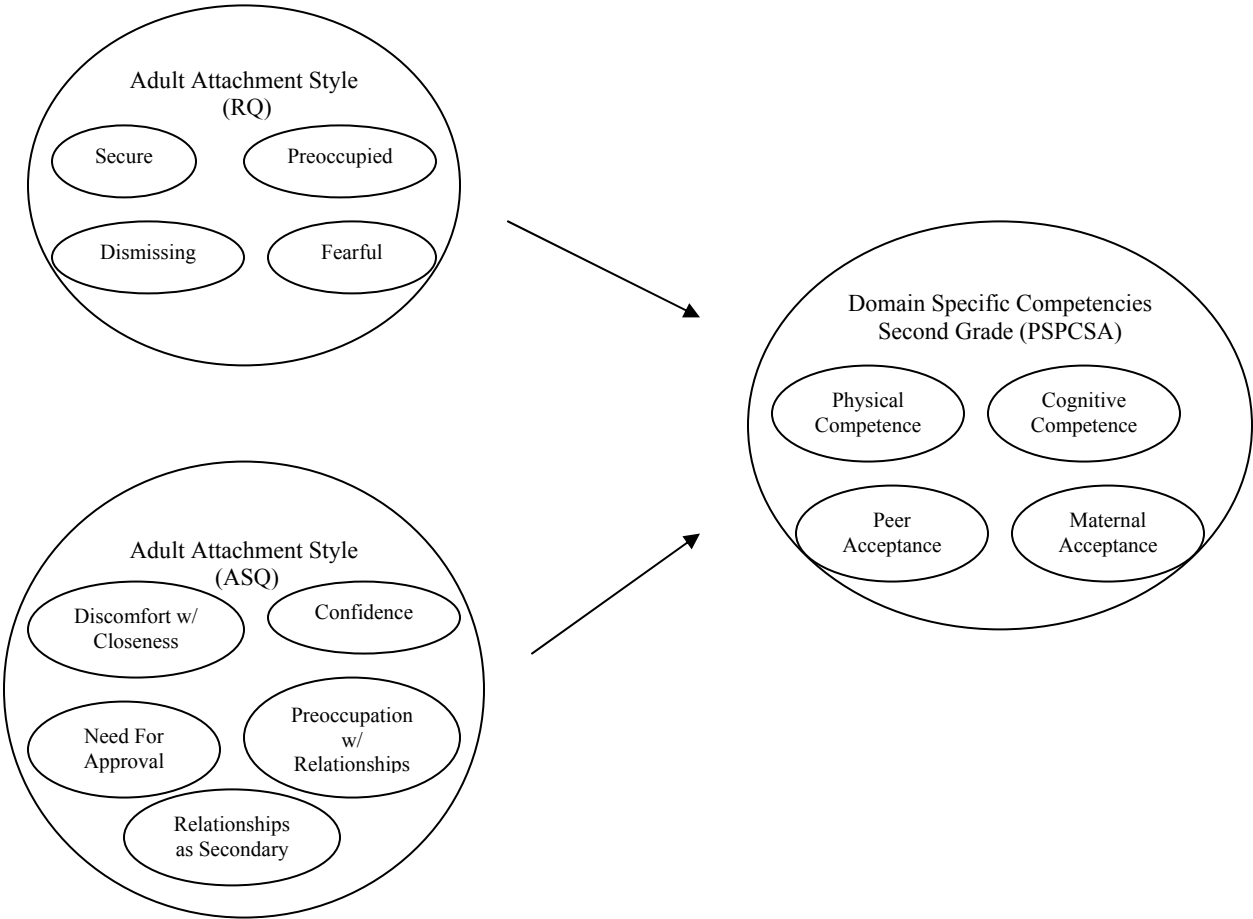
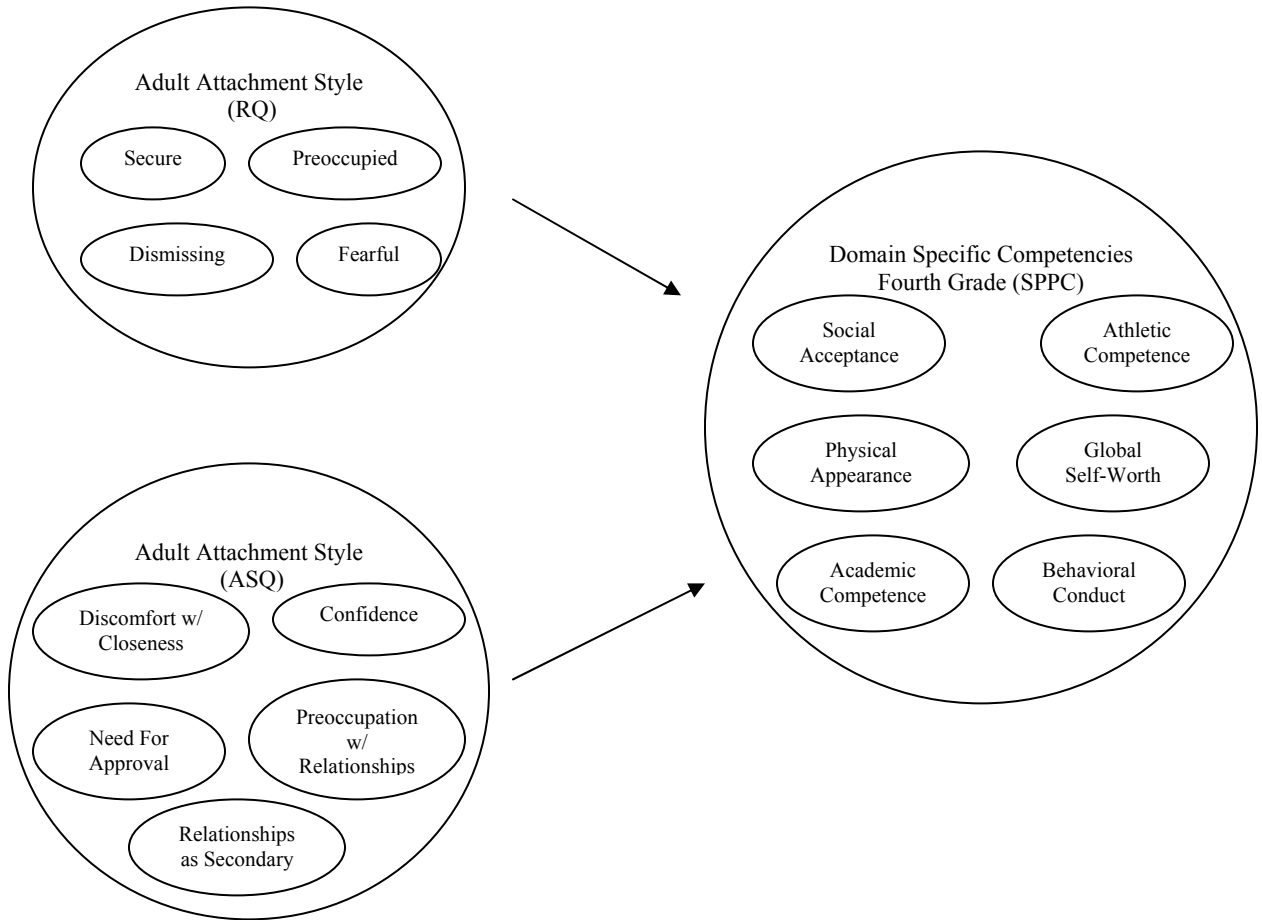


Figure 2. Hypothesis One (figure con'd.)

Social Antecedents

Children's Self-Competence



Children's Self-Competence

Cognitive Outcomes

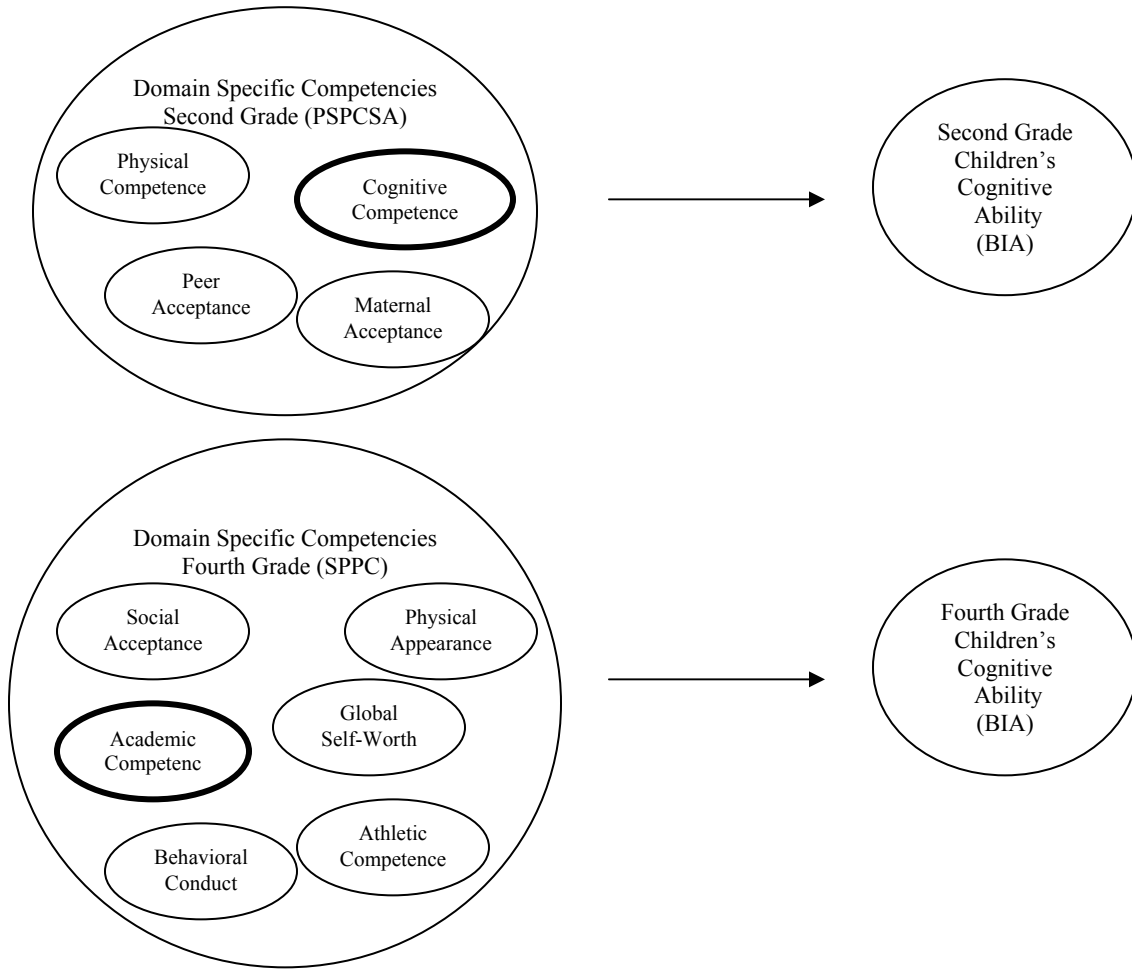


Figure 3. Hypothesis Two

Social Antecedents

Cognitive Outcomes

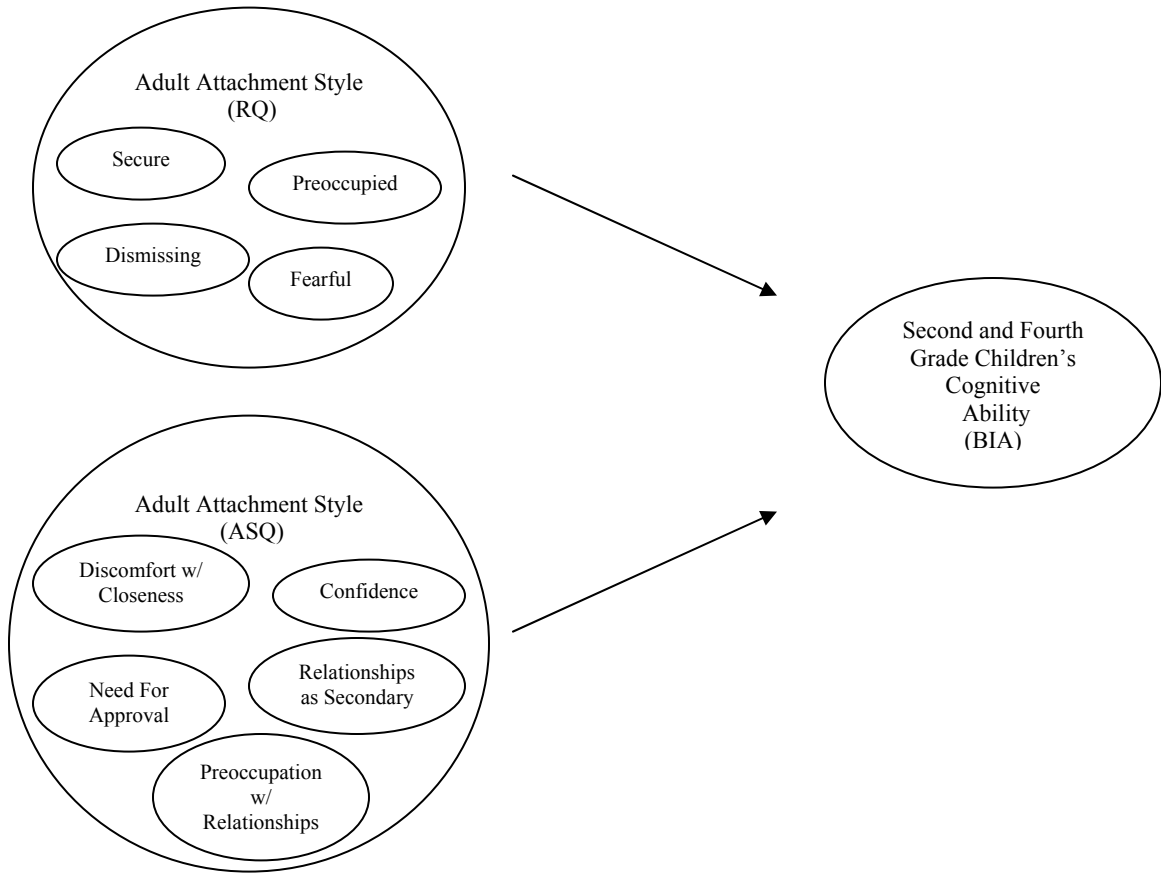


Figure 4. Hypothesis Three

CHAPTER THREE

METHODOLOGY

The purpose of this study was to investigate the relationships among adult attachment styles, children's self-competence, and children's cognitive ability. This study was a component of a larger research project by Dr. Garrison investigating "family stress and children's development within and across time," for the Louisiana Agricultural Experimental Station and Louisiana State University. This larger study longitudinally examined the dynamic nature of family stress and children's cognitive development. In the following chapter, the recruitment of participants will be described followed by the demographic characteristics of the sample. Following this section is a summary of the research measures and the procedure for collecting data in the present study. The chapter is concluded with a description of the data analyses necessary for the present study.

Participants and Sampling

The data for this study were collected in the second wave of the larger longitudinal study. Prior to the first wave of this study, approval was received by the Institutional Review Board, and permission was solicited from various school boards to contact principals regarding the research project. Of the principals who were contacted (n = 63), 22 agreed to participate with 19 of those schools actually participating in the first wave of the study. In late 2000, consent forms were sent home with first and third grade children in each of the participating schools. From these 19 schools, parental permission was received from approximately 431 families. In January 2001, surveys were sent to these consenting families with mothers and fathers receiving separate surveys. The surveys included socioeconomic-demographic characteristics, assessments of family

stress and parenting styles, as well as stamped return envelopes for the completed surveys. Families were offered \$25.00 for their participation in the study. Of these 431 families, parental surveys were returned from 290 families (278 mothers and 143 fathers) for a response rate of 67%.

The children from these 290 families were interviewed at their schools during the spring of 2001 with 133 children in the 1st grade and 148 children in the 3rd grade. Participating students accompanied research assistants to a quiet location designated by the principal where a standardized assessment of cognitive ability and an assessment of motivation were administered. Nine of the 290 children were not interviewed because they either moved out of the area, transferred to a school that was not included in the study, or did not meet the sampling criteria (e.g., they were too old or had a disability).

Following the first wave of the study, permission was once again secured from the participating principals to follow-up with the original families. Due to school re-zoning, 28 of the 281 children from the first wave of the study were transferred to other schools. After locating the transient students and obtaining consent from the new principals, 17 schools were added to the original 19, for a new total of 36 participating schools. Ten families of the original 290 families were lost to follow-up because they moved out of the region. Consent forms were again mailed to the remaining original 280 families in order to obtain permission to interview their children in the second wave of the study. In January 2002, surveys were sent to these participating families with mother and fathers receiving separate surveys. The contents of the surveys once again included socioeconomic-demographic characteristics, assessments of family stress and parenting styles, as well as stamped return envelopes for the completed surveys. Two additional

assessments measuring adult attachment styles were included in the survey. Families were offered \$30.00 for their participation in the second wave of the study. Complete parental surveys were returned from 154 mothers and 80 fathers for a response rate of 55% for mothers and 56% for fathers.

The 205 children from these participating families were interviewed at their schools during the spring of 2002 with 96 children in the second grade and 109 children in the fourth grade. The school assignments for the research assistants were alternated so that a different research assistant from the previous year tested each child. Participating students were administered one of three assessments in separate sessions. These assessments included: a standardized assessment of cognitive ability, an assessment of motivation, and an age-related assessment on children's self-competence.

Description of the Sample

The majority of mothers or female legal caregivers (either a grandmother or aunt) included in the second wave of the study ($n = 154$) indicated their race as African American (49%) or European American (47%). Seven female caregivers specified their race as American Indian, Asian/Pacific Islander, Hispanic/Spanish/Latino or other. The mothers ranged in age from 21 to 62 years (mean age = 37, $SD = 6.56$) with the majority of the women (68%) indicating that they were married or cohabiting. With respect to education, about 43% of the mothers had attended some college or trade school and most of these female caregivers (74%) were engaged in full-time employment (at least 40 hours per week). Thirty percent of the mothers reported a household income between \$20,000 and \$40,000. These statistics were representative of the average female resident of the catchment region.

The majority of the fathers or male legal guardians ($n = 80$) were European American (61%) or African American (33%). Five respondents indicated their race as American Indian, Hispanic/ Spanish/Latino, Asian, Pacific Islander, or other. The fathers ranged in age from 26 to 62 years (mean age = 40, $SD = 7.00$) with a large majority of the fathers (92%) indicating that they were married or cohabiting. About 43% of the fathers had attended some college or trade school and most were employed full-time (89%). Nineteen percent of the fathers reported a household income of between \$20,000 and \$40,000 and another 30% reported a household income between \$40,000 and \$60,000. This fairly small sample of fathers was not typical of the catchment area as more were European American and earning a higher income than the average male in this region.

The majority of children ($n = 205$) in the second wave of the study were African American (50%) while the remaining children were European American (42%). Fifteen children were American Indian, Hispanic/Spanish/Latino or Asian or Pacific Islander. The sample was slightly skewed with more students in the fourth grade (53%) as opposed to the second grade (47%). Fifty-five percent of the children were female and 45% were male.

Measures

There were five principal measures utilized in this study: (a) The Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991), (b) the Attachment Style Questionnaire (ASQ; Feeney, Noller, & Hanrahan, 1994), (c) The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPCSA; Harter & Pike, 1984), (d) The Self-Perception Profile for Children (SPPC; Harter, 1982), and (e)

the Woodcock-Johnson Tests of Cognitive Ability (W-J; Woodcock, McGrew, & Mather, 2001). In addition, the participating parents answered demographic questions pertaining to socioeconomic status, income, employment status, age, race, and family size. A description of the measures follows.

Adult Attachment Styles

Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991). Hazan and Shaver (1987) developed the seminal assessment of adult attachment which was expanded by Bartholomew and Horowitz (1991) to create the Relationship Questionnaire (RQ; Appendix A). The RQ is based on the assumption that relationships are formed on two underlying constructs: (a) model of self and (b) model of others. Figure 2 illustrates the manner in which Bartholomew (1990; Bartholomew & Horowitz, 1991) conceptualized the adult attachment classifications.

		MODEL OF SELF	
		Positive (Low)	Negative (High)
MODEL OF OTHER (Avoidance)	Positive (Low)	CELL I <i>Secure</i> Comfortable with intimacy and autonomy	CELL II <i>Preoccupied</i> Preoccupied with relationships
	Negative (High)	CELL IV <i>Dismissing</i> Dismissing of intimacy Counter-dependent	CELL III <i>Fearful</i> Fearful of intimacy Socially avoidant

Figure 5. Model of adult attachment (Bartholomew & Horowitz, 1991).

The first axis in figure 2 depicts an individual's personal sense of worthiness on a positive or negative basis while the second axis is indicative of an individual's perceptions of the reliability and trustworthiness of others (either positive or negative). Individuals who possess positive models of self and others are labeled *secure*. This individual has a positive sense of self and views others as trustworthy and emotionally accessible (Bartholomew, 1990). Cell II depicts individuals with a negative sense of self and a positive sense of others. These individuals are termed *preoccupied* because they desire the intimate relationships with others, but deem themselves unworthy of such intimacy. Preoccupied adults are constantly seeking the approval of others (Bartholomew, 1990). Cell III represents individuals who have negative perceptions of both self and others. These individuals are labeled *fearful-avoidant* as they evade social interaction to safeguard against the perceived rejection of others. Cell IV represents individuals who have a high sense of self but view others as untrustworthy and unreliable. These individuals are labeled *dismissing-avoidant*, as they remain independent in order to avoid intimate relationships.

The RQ requires respondents to select one of four brief statements that best describes their attachment to other adults. Respondents are asked to "Indicate if you agree or disagree with each statement" based on a four-point scale. A selection of 1 indicates *strongly agree*, 2 indicates *agree*, 3 indicates *disagree*, and 4 indicates *strongly disagree*. The final question asks respondents "Which of the above descriptions do you think fits you best?" Respondents circle either A, B, C, or D, based on their analysis of which statement best describes their style. The classifications for this measure include secure, preoccupied, dismissing, and fearful (Bartholomew & Horowitz, 1991). The dimensional

rating provides a score for respondents on each of the four attachment styles, whereas the “forced-choice” question provided a single predominate attachment style. The four dimensional rating were utilized in conducting the correlational analyses. The responses to the fifth RQ item were utilized in the regression analyses. Prior to conducting these analyses, the responses were recoded into three dummy variables.

The expected percentages of each attachment classification as reported by Bartholomew and Horowitz (1991) are as follows: secure 47%, preoccupied 14%, dismissing 18%, and fearful 21%. In addition, the four attachment variables were found to be relatively stable in 70% of respondents over a period of eight months (Scharfe & Bartholomew, 1994). Bartholomew and Horowitz (1991) have demonstrated validity with self-concept, peer attachment relationships, and family functioning. Yet, it has also been found that forced choice assessments minimize the potential relationship between adult attachment and various outcomes due to the fact that attachment fluctuates by degree in addition to style (Crowell, Fraley, Shaver, 1999). For this reason, it is suggested that a continuous assessment of adult attachment be administered in addition to categorical assessments of adult attachment (Crowell et al., 1999).

Attachment Style Questionnaire (ASQ; Feeney, Noller, & Hanrahan, 1994). Because of the aforementioned finding, the RQ was supplemented with the ASQ (Feeney, et al., 1994; Appendix B). The ASQ is a 40-item self-report measure that classifies adult attachment on a five-factor scale. These classifications include (a) confidence, (b) discomfort with closeness, (c) need for approval, (d) preoccupation with relationships, and (e) relationships as secondary. The ASQ measures adult attachment on a 6-point Likert-type response scale. The respondent is asked to “indicate how much you disagree

or agree with each of the following statements” by circling 1 = *totally disagree*, 2 = *strongly disagree*, 3 = *slightly disagree*, 4 = *slightly agree*, 5 = *strongly agree*, 6 = *totally agree* (see Appendix B). The format of this measure offers a rich assessment of attachment styles as individuals are not forced to ascribe to all characteristics of each category (as in the paragraph models) but may select the degree to which each dimension is represented in their lives.

The *confidence* classification is representative of the secure attachment category in other models (Bartholomew, 1990; Hazan and Shaver, 1987) and measures both perceptions of self and others. The remaining four classifications represent varying levels of insecure attachment (Feeney et al., 1994). The *discomfort with closeness* classification is characteristic of individuals who find it difficult to trust others and feel uncomfortable letting others into their lives. Individuals classified as *need for approval* are similar to Bartholomew’s (1990) preoccupied and fearful classifications as these individuals strive to gain the acceptance of others by conforming to standards other than their own. These respondents want to experience intimate relationships but generally fear that they are not worthy of the affections of other individuals.

The fourth category, *preoccupation with relationships*, is reserved for individuals who obsess over maintaining their relationships with others. These individuals are very anxious about their relationships and very clingy toward their attachment figures. This category is akin to preoccupied adults (Bartholomew, 1990; Bartholomew & Horowitz, 1991) who fear desertion and will go to extremes to maintain attachment relationships. The final category, *relationships as secondary*, is characteristic of Bartholomew’s (1990) dismissing-avoidant adults who use their personal independence as a shield from

experiencing attachment relationships. These adults value personal advancement as more important than personal relationships. Research conducted utilizing this assessment demonstrated great consistency with Bartholomew and Horowitz's (1991) Four Group Model of Attachment in European American respondents (Feeney et al., 1994).

The responses of the ASQ were summed with three of the items necessitating reverse scoring. The scores on confidence range from 8 to 48, discomfort with closeness from 10 to 60, need for approval, from 7 to 42, preoccupation with relationships from 8 to 48, and relationships as secondary from 7 to 42. The degree to which respondents is classified by each attachment style increases as their scores within that classification increase. For example, an individual who scores a "30" on the confidence scale identifies more closely with the confidence attachment style than an individual who scores a "12" on that scale. The internal reliability of this scale (Chronbach's alpha) ranges from .76 to .84, with re-test reliability at a 10-week interval ranging from .67 to .78 (Feeney et al., 1994).

Children's Self-Competence

The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPCSA; Harter & Pike, 1983, 1984). The PSPCSA was used to assess self-competence in children in the second grade. This 24-item scale uses a domain-specific approach to assess children's perceptions of cognitive competence, physical competence, peer acceptance, and maternal acceptance. The version of the assessment appropriate for first and second grade students was administered according to the instructions outlined in the procedural manual by Harter and Pike (1983b). Either the male or female assessment

was administered based on the gender of the child. The assessments differ only in the gender pronouns and the pictorial depictions of the children.

During administration of the measure, children were shown two pictures. One picture depicted a child who was competent in a given task while the other depicted a child who was not as competent in the same task. An example from the peer acceptance scale is “This boy/girl has lots of friends to play games with...but ...this boy/girl doesn’t have as many friends to play games with. Which boy/girl are you most like?” After the child indicated the picture that best represented him/her, the research assistant asked, “Is this boy/girl a lot like you or a little like you?” The assessment was comprised of six questions for each subscale. Items were scored on a four-point scale from 1 (low competence/acceptance) to 4 (high competence/acceptance). The theoretical range for each of the four subscales was from 6 to 24. The sum of each subscale served as an indicator of competence for the particular domain; as the subscale score increased, children’s perceptions of their competence in that domain also increased. A master list of items is included in Appendix C.

Harter and Pike (1984) stressed that this measure is not to be used as an index of global self-worth. This measure is an indication of children’s perceptions of domain specific competencies that are theoretically indicative of global self-worth for a child younger than eight years of age. The psychometric properties of the scale are acceptable (Harter & Pike, 1984). The competence subscales have low to acceptable internal consistency with Cronbach’s alphas ranging from .66 to .71. The social acceptance subscales have acceptable internal consistency with Cronbach’s alphas ranging from .74 to .85. Reliability of the total scale ranges in the mid to upper .80s (Harter & Pike, 1984).

An oblique rotation factor pattern indicated highly interpretable loadings, especially for the 1st and second grade participants. Although Harter and Pike do not report normative data per se, the descriptive statistics from their preliminary sample were used for purposes of comparison in chapter four.

The Self-Perception Profile for Children (SPPC; Harter, 1982, 1985b). The SPPC was utilized to assess children's evaluations of personal competence in the third and fourth grades. The SPPC is a 36-item self-report scale that is comprised of five specific domains of self-competence (academic competence, social acceptance, athletic competence, physical appearance, behavioral conduct) and global self-worth (see Appendix D). This assessment was administered in a single gender-neutral format that read "kid" for each item, rather than "boy" or "girl." The items were read aloud by the research assistant prior to the child making the answer selection. During administration of the questionnaire, children were first asked to select between two sentence pairs that described a child who was competent at the given task and a child who was less competent at the same task. An example from the social acceptance subscale reads: "Some kids find it hard to make friends...but ...other kids find it pretty easy to make friends. Which kid are you like?" The child is then asked to mark if the description is "Really true for me," or "Sort of true for me."

Each subscale contained six items that were scored on a four-point scale where 1 = low competence and 4 = high competence in the specific task. Therefore, the theoretical range for each of the four subscales was from 6 to 24. The summed scores of each subscale were used to summarize a child's given profile. Harter's (1982, 1985b) psychometric evidence indicated that the subscales demonstrated good internal

consistency with Cronbach's alphas ranging from .71 to .86 in grades three through eight. Specifically, Cronbach's alphas ranged from .75 to .82 for fourth grade students. Three-month test-retest reliability estimates for the assessment were also high ranging from .70 to .87 (Harter, 1982). In addition, the SPPC indicated a highly interpretable factor structure (Harter, 1985b).

Children's Cognitive Ability

The Woodcock-Johnson Tests of Cognitive Ability (WJ; Woodcock, McGrew, & Mather, 2001). Children's cognitive performance was assessed using the Brief Intellectual Ability (BIA) portion of the well-established Woodcock-Johnson Tests of Cognitive Ability (Woodcock, McGrew, & Mather, 2001). The Woodcock-Johnson (W-J) measures the cognitive ability of persons from kindergarten through adulthood. The BIA is the recommended portion of the W-J battery for research rather than diagnostic purposes, and includes cognitive tests of verbal comprehension, concept formation, and visual matching.

The test of verbal comprehension included sections on naming pictured objects (ranging in difficulty from a picture of a "cat" to a picture of a "spire"); providing synonyms and antonyms ("Tell me another word for 'yard,'" or "Tell me the opposite of 'sit'"); and completing analogies ("Pencil is to lead, as pen is to..."). Children were given an indefinite amount of time to answer each question. The questions increased in difficulty as the exam proceeded and children continued until they incorrectly answered three questions in a row. If a child chose to "pass" a certain question, that question was counted as an incorrect answer.

The test of concept formation involved identifying and stating what was different about drawings that were inside a box from those that were outside a box. For example, a child may be shown a picture of a triangle on the left side of the page and another triangle inside a box on the right side of the page. Children must identify that the drawing inside the box is different because it is small and green, rather than large and yellow. Children were given one minute to ponder each question and then were prompted by the research assistant. The questions increased in difficulty as the exam progressed and children continued until they incorrectly answered three questions in a row.

The test of visual matching included a task where children matched two identical numbers in a row. The test increased in difficulty as children proceeded down the columns. For example, line one may contain the sequence, “2 6 7 2 9” whereas line 45 may contain the sequence, “513 315 153 315 531.” Children were instructed to complete as many lines as possible in three minutes. The three separate sections were computed into a single Standard Score (SS) based upon the mean score of all three tests. The median reliability coefficient for the BIA is .95, with a range of .94 to .98 across ages (McGrew & Woodcock, 2001).

Data Collection Procedures

The two adult attachment measurements were included in a self-administered parental questionnaire that was developed for use in the larger study. Parents or legal guardians of children in the second or fourth grades completed the assessments. It was not necessary for both a male and female parental figure to complete the assessments. If the household contained two parents who consented to participate in the larger study,

each parent was sent an individual survey for their completion. In addition, parents were asked to complete the assessments independently rather than corroborate on answers.

Research assistants administered the PSPCSA to second grade students. The research assistant accompanied the child to a quiet location (generally the library) and administered the assessment on an individual basis. Children were shown the pictures and asked to respond while the research assistant marked the answers on a separate sheet. Children were encouraged to be honest and were told that there was no right or wrong answers. The assessment was administered at various times during the course of the school day based on the schedules of teachers and research assistants.

Research assistants administered the SPPC to fourth grade students. The assessment was administered on an individual basis in a location designated by the principal. Because this format did not include pictures, children were allowed to mark their own answers after the question was read aloud by the research assistant. Children were encouraged to be honest and were told that there was no right or wrong answer. The assessment was administered at various times during the course of the school day. No testing was conducted with fourth grade students during the week of Louisiana Educational Assessment Program (LEAP) testing.

Research assistants administered the W-J to second and fourth grade students. Once again, children accompanied the assistants to a quiet location where the assessment was administered on an individual basis. Children were shown various words, pictures, or figures and were asked questions pertaining to the visual figures. The research assistant marked the child's answers on a separate form that was not shared with the child. The assessment was administered according to the rigorous protocol established by

Woodcock and colleagues (2001). Time limits on various sections were observed in a uniform fashion and children were not informed of their performance on the assessment. This assessment was administered to children in the morning (prior to 12:00 PM) in order to maintain some consistency in respondent concentration and alertness.

Data Analyses

The Statistical Package for Social Sciences (SPSS) was used to examine the relationships among adult attachment styles, children's self-competence, and children's cognitive ability. Because some socioeconomic-demographic characteristics are related to cognitive ability (Pungello, Kupersmidt, Burchinal, & Patterson, 1996), these variables were included as control variables in the current study. In addition, the data from the mothers and fathers were analyzed separately due to the fact that there were a number of single mothers. Separate data analyses for men and women also reduce the potential for problems that may result from dependencies between husbands and wives (Harring, Hewitt, & Flett, 2003). Data on children's self-competence were analyzed separately by grade because different assessments were used for second and fourth grade children.

Descriptive statistics were obtained to ensure that the data were normally distributed for each measure. Correlational analyses (two-tailed, $p \leq .05$) were conducted to investigate the presence of bi-variate linear relationships. Depending on the metric of the variables, either Pearson's or Spearman's correlation were performed between the relevant variables. Based on the results of the correlational analyses, statistically significant SES-demographic variables were included as control variables in the regression analyses and were dummy coded where necessary.

The hypotheses were tested using hierarchical multiple regression. Multiple regression analysis allows researchers to study the effects of independent predictor variables on a dependent variable while statistically controlling for the effects of other covariates (Pedhazur, 1982). According to Pedhazur (1982), multiple regression serves the purpose of “explanation and prediction.” (p. 65). Pedhazur cites hierarchical regression, or incremental partitioning of variance, as a useful tool in explaining social phenomena. With hierarchical regression, the researcher indicates the order in which variables are entered into the analysis in order to determine the amount of variance contributed by predictor variables (Pedhazur, 1982). Regression is considered to be a “robust” statistical tool that withstands violations of its assumptions (Pedhazur, 1982)

Several parameter estimates were used to interpret the results of the regression analyses. The R^2 was reported to determine the percentage of the variability in the dependent variable explained by the study’s predictor variables. In addition, the adjusted R^2 was also reported in this study. The adjusted R^2 takes into account the number of predictor variables in the study and the “shrinkage” that would occur if the study were to be replicated with a larger sample (Huck, 2000). The adjusted R^2 was especially relevant in this study because of the fathers’ small sample size ($n = 80$). The adjusted R^2 was also used because its value was adjusted according to the number of predictor variables that were included in the regression equation. This adjustment was especially relevant in the present study as a large number of attachment variables were used in hypotheses one and three.

Other parameter estimates referenced in this study (Pedhazur, 1982) included the F statistic which is a measure of significance for the overall model and is used to test the

hypothesis that a relationship does not exist between the dependent and independent variables ($R^2 = 0$). The p-value indicated the probability of falsely rejecting the null hypothesis and as convention was set at .05 in these analyses. The standard error of regression indicated the spread of error (residuals) around the regression line and is indicative of the goodness of fit of the regression line. The standardized beta coefficient indicated the relative impact of one predictor variable in relationship to the relative impact of the other predictor variables using the same units across variables.

When hypothesis testing is used repeatedly in a study, researchers must account for an increase in Type I error. In order to reduce the likelihood of type I or experimentwise error, researchers often employ the Bonferroni technique (Huck, 2000). A Bonferroni correction is calculated to determine a more stringent alpha level than the traditional level of .05 (Huck, 2000). In creating more stringent criterion for significance, the researcher reduces the likelihood of Type I errors (rejecting a true null hypothesis). Because of the exploratory nature of the relationships in this study, a Bonferroni correction was not calculated. Although this is a limitation of the study that must be addressed, it allows relationships to be established that have never been examined in the past, especially with regard to hypothesis one. Despite the small sample of fathers in this study, it is important to explore the possibility of potential significant relationships in this understudied group of individuals. A regression analysis is a “robust” statistical technique which also helps to mitigate the limitations of not using the Bonferroni correction in this study and a small sample size (Pedhazur, 1982).

Multicollinearity was addressed in the preliminary stages of analysis. Multicollinearity is defined as a high degree of interrelations between predictor variables

and is identified to reduce the likelihood of measurement error (Pedhazur, 1982). A correlation matrix may be utilized to identify multicollinearity in predictor variables that share a relationship greater than .80 (Mertler & Vannatta, 2001). Additional tests to identify multicollinearity include the measures of tolerance and variance inflation factor (VIF) (Mertler & Vannatta, 2001). Tolerance is a measure of collinearity among predictor variables with values ranging from 0 to 1. A tolerance score less than .25 is indicative of high collinearity between variables. VIF is the inverse of the tolerance score and is indicative of multicollinearity at values greater than 4.0. Both VIF and tolerance scores were examined to identify the presence of multicollinearity in this study.

Hypothesis One

It was hypothesized that a significant relationship would exist between adult attachment and children's self-competence. A two-step regression analysis was conducted with both the second and fourth grade children and with mothers and fathers. The first step was to examine the influence of selected control variables on children's self-competence. The second step of the regression analyses included the addition of adult attachment as a predictor of children's self-competence (see Figures 3 and 4).

Hypothesis Two

It was hypothesized that a significant relationship would exist between children's domain specific competencies and cognitive ability as measured by a standardized test of cognitive ability in middle childhood. It was also hypothesized that a more powerful relationship would exist between cognitive/scholastic ability in middle childhood than with the other domains of self-competence. A two-step regression analysis was conducted for each grade level (second and fourth) in which the first step was to examine the

influence of the control variables on children's cognitive ability. The second step of the regression analyses included the addition of domain specific competencies (including academic competence) as predictors of children's cognitive ability (see Figure 5).

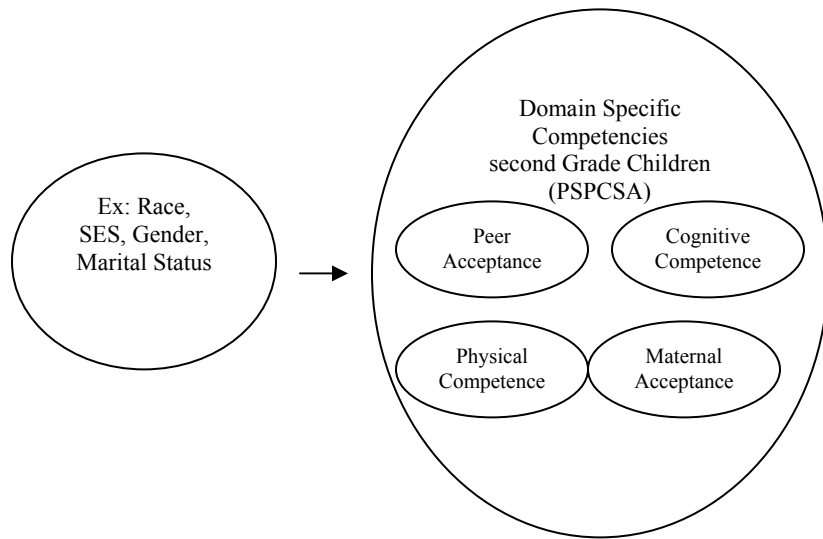
Children's BIA scores were divided into second and fourth grade groups to correspond with the instrument used to measure children's self-competence. Hypothesis two included "within-child" variables, therefore, only data from children of participating mothers were included in this analysis.

Hypothesis Three

It was hypothesized that a significant relationship would exist between adult attachment and children's cognitive ability. A two-step regression analysis was conducted in which the first step was to examine the influence of selected control variables on children's cognitive ability. The second step of the regression analyses included the addition of adult attachment as a predictor of children's cognitive ability (see Figure 6). Separate analyses were conducted for mothers and fathers. Because the BIA is a standardized assessment, children were analyzed together regardless of grade level.

STEP ONE

Selected
Control
Variables



STEP TWO

Adult Attachment
Styles

Children's
Self-Competence

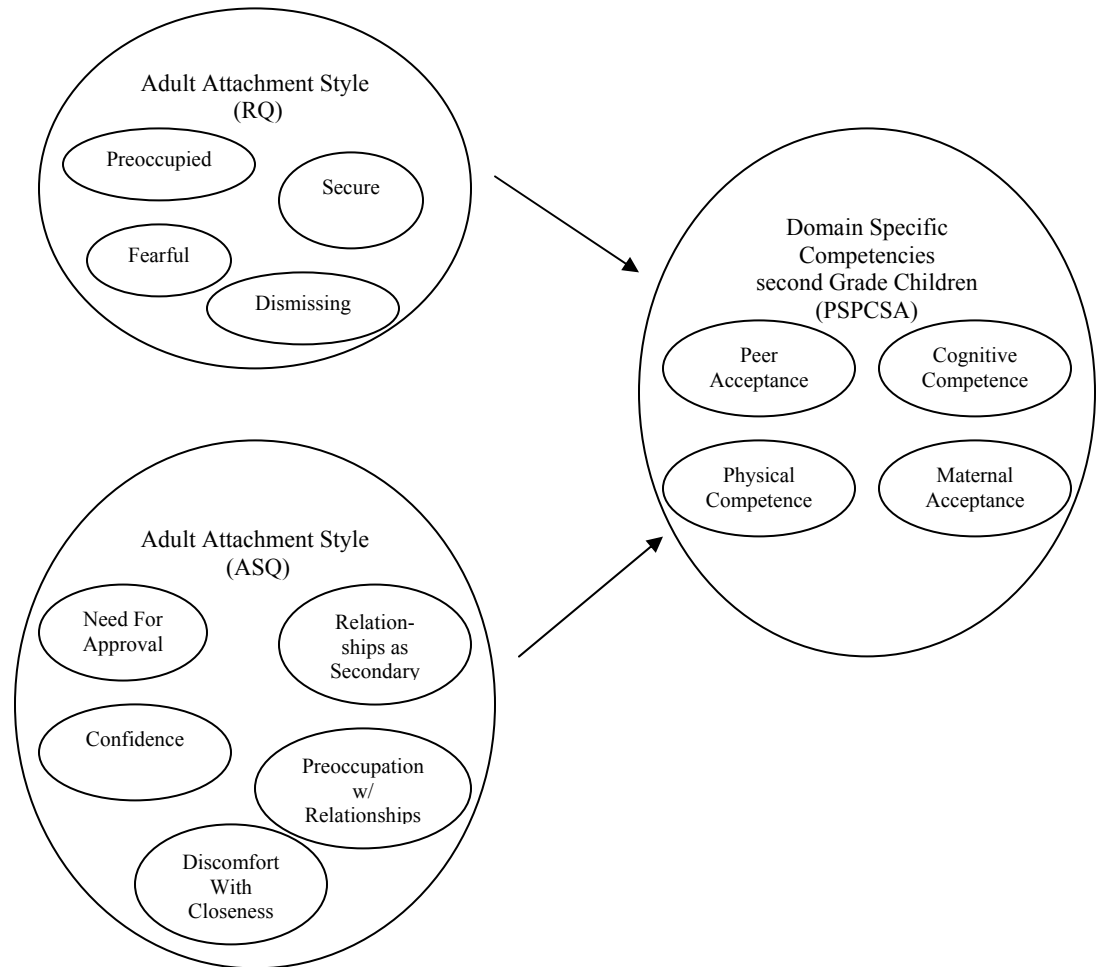
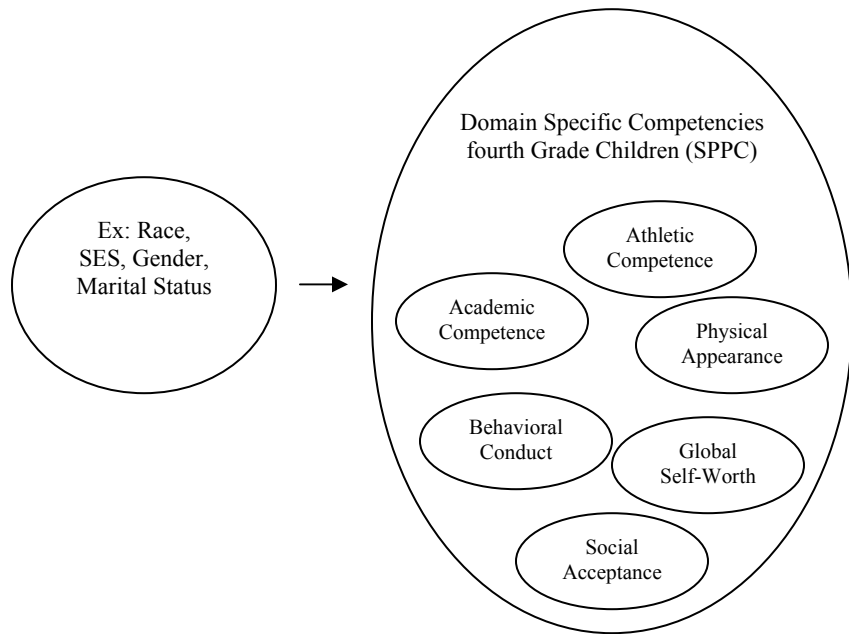


Figure 6. Regression Hypothesis One (con'd)

STEP ONE

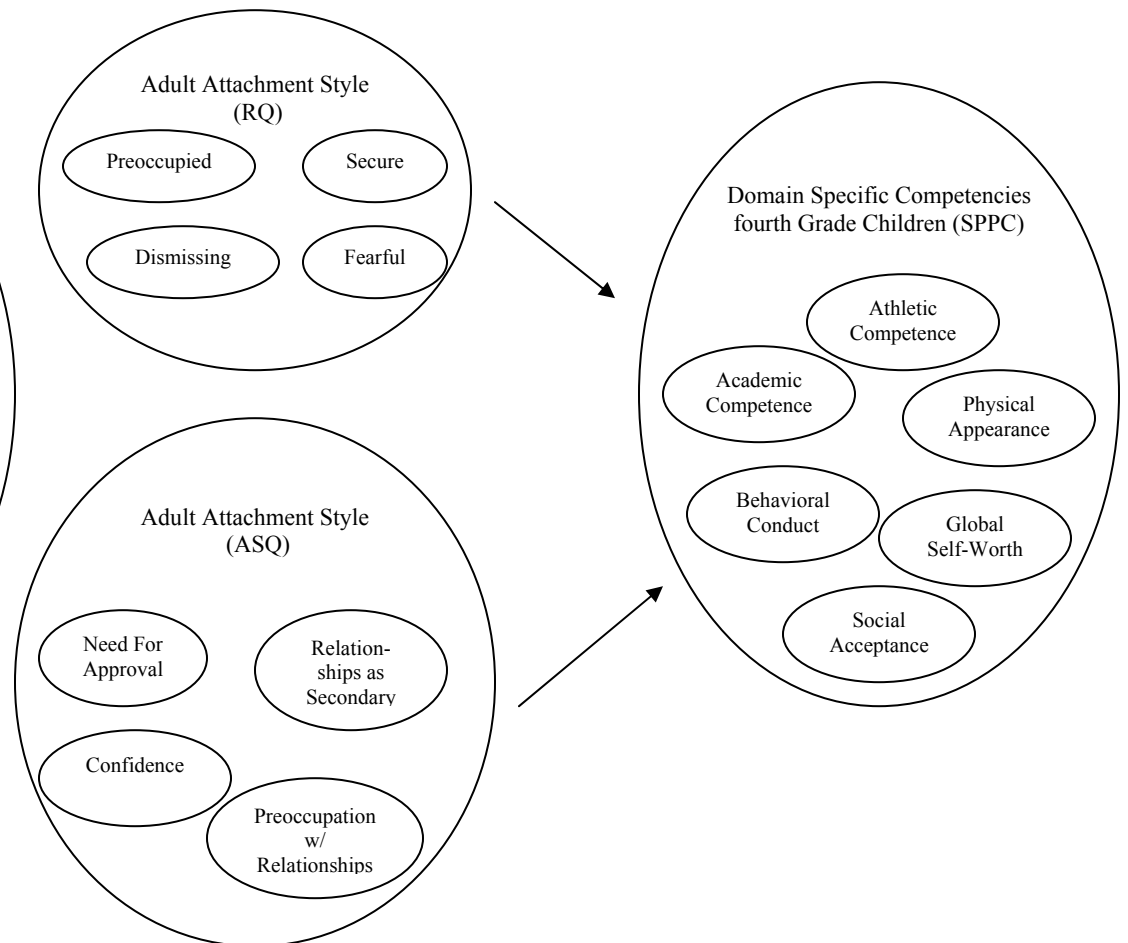
Select
Control
Variables



STEP TWO

Adult Attachment
Styles

Children's
Self-Competence



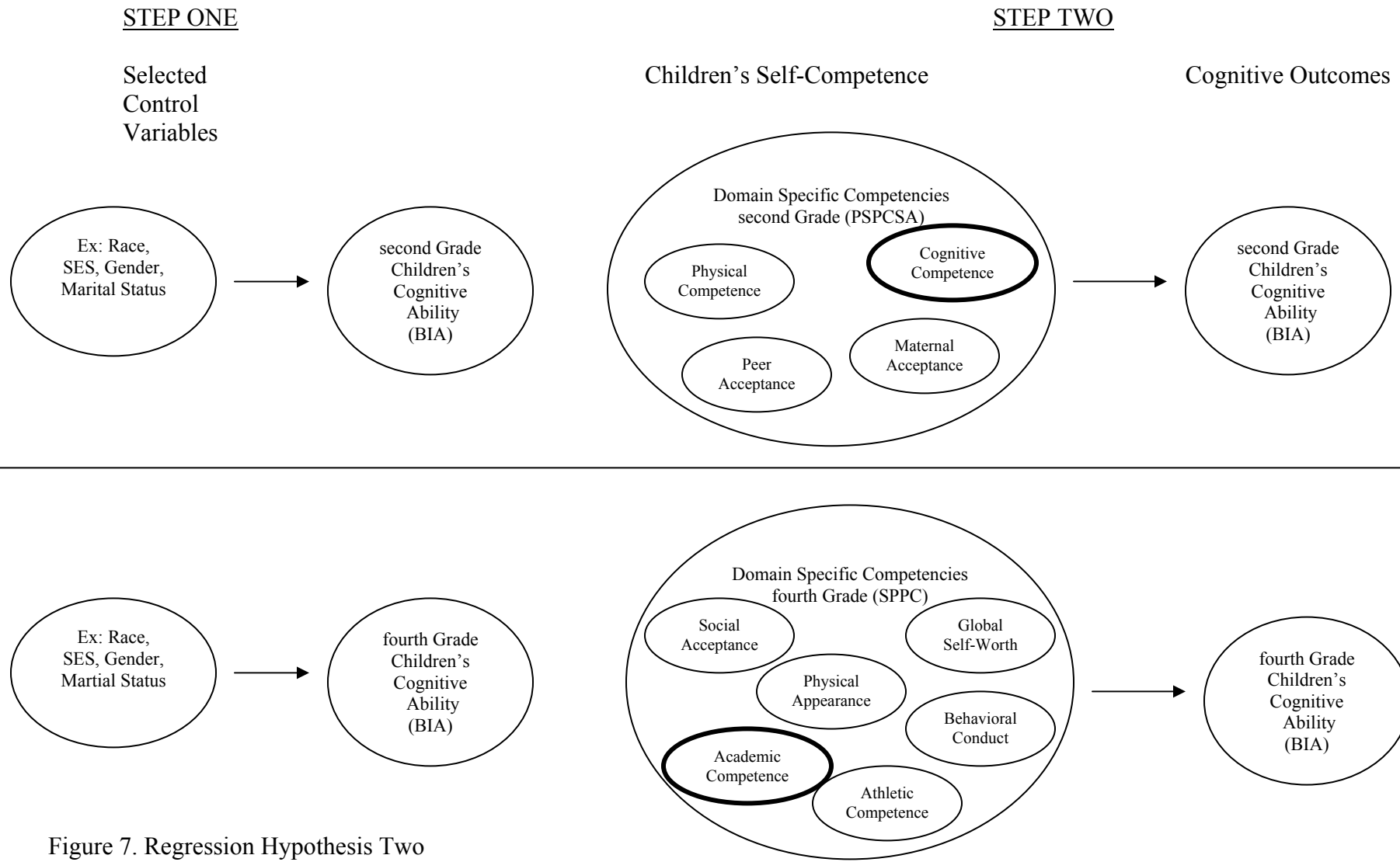


Figure 7. Regression Hypothesis Two

STEP ONE

Selected
Control
Variables

STEP TWO

Social Antecedents

Cognitive Outcomes

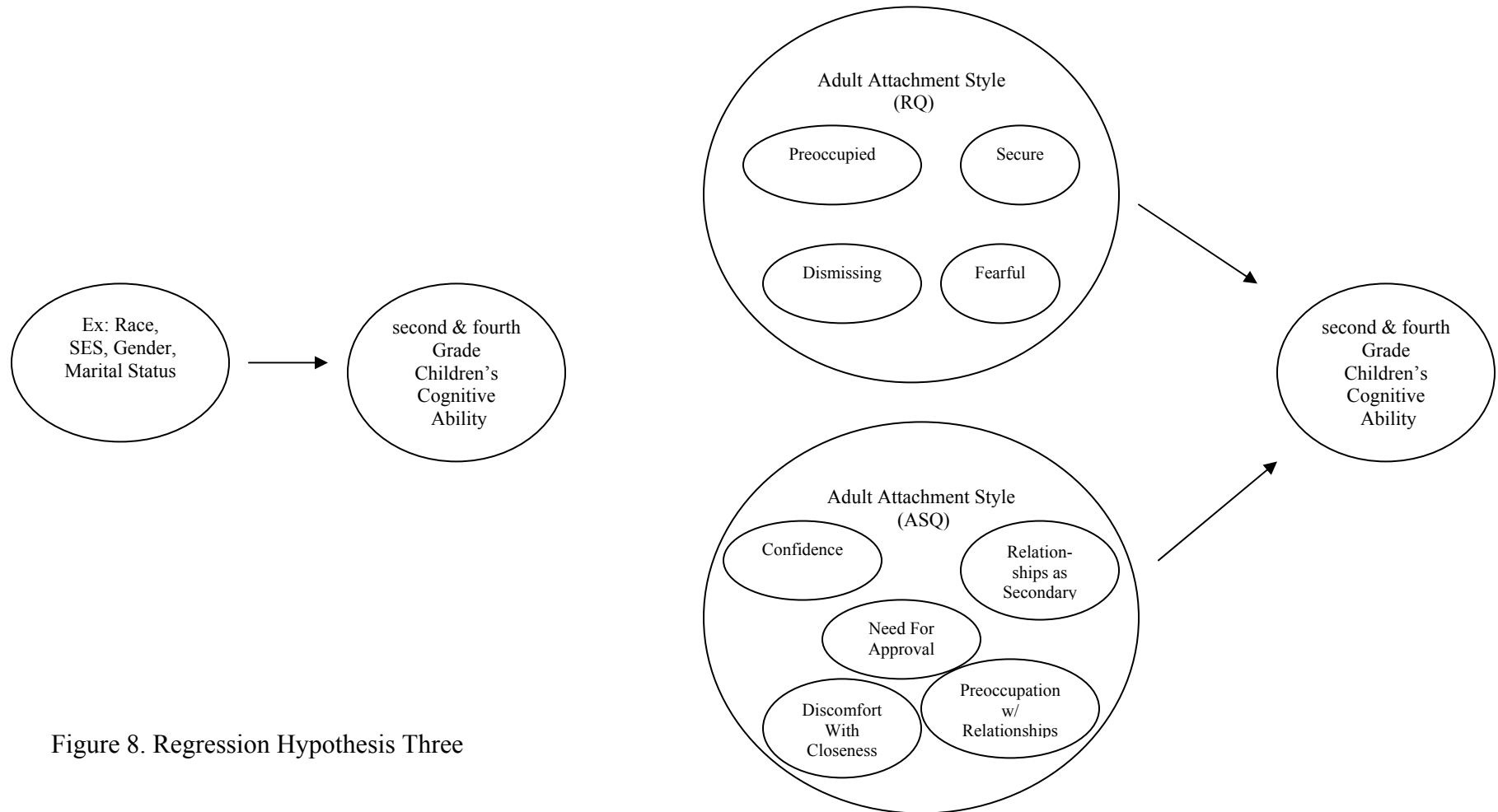


Figure 8. Regression Hypothesis Three

CHAPTER FOUR

RESULTS

The following chapter contains the results of the data analyses. The first section of the chapter contains a summary of the descriptive statistics for each instrument. Where appropriate, mother's data will precede father's data. Following this section, results from correlational and regression analyses will be presented based on the hypotheses of this study. It is important to preface the results of analyses with fathers' data with an acknowledgement of the limited sample size, particularly when the sample must be divided by child's grade. Fortunately, regression is considered a robust statistical technique (Pedhazur, 1982).

Descriptive Statistics

Description of Adult Attachment

Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991.) The expected percentages of each attachment classification as reported by Bartholomew and Horowitz (1991) are as follows: secure 47%, preoccupied 14%, dismissing 18%, and fearful 21%. The proportions of mothers ($n = 154$) who classified themselves as secure (49%) and preoccupied (11%) were similar with percentages from previous research (e.g., Bartholomew & Horowitz, 1991; Brennan & Bosson, 1998). The percentage of mothers who reported their attachment style as dismissing (28%) was much higher in this sample than reported in previous research. Conversely, the percentage of mothers who reported their attachment style as fearful (12%) was much lower in this sample than in previous research. In summary, the majority of mothers in this sample identified with the "secure" RQ attachment style.

The percentages of RQ attachment styles were similar for fathers ($n = 80$). Proportions of fathers who classified themselves as secure (47%) and preoccupied (12%) were similar to previous research (e.g., Bartholomew & Horowitz, 1991; Brennan & Bosson, 1998). As with the mothers, the percentage of fathers who reported their attachment style as dismissing (33%) was much higher in this sample than reported in previous research, and the percentage of fathers who reported their attachment style as fearful (8%) was much lower than that of previous research. In summary, the majority of fathers in this sample identified with the “secure” RQ attachment style.

Attachment Style Questionnaire (ASQ; Feeney et al., 1994.) The expected ranges as reported by Feeney et al. (1994) were: confidence 8 to 48, discomfort with closeness 10 to 60, need for approval 7 to 42, preoccupation with relationships 8 to 48, and relationships as secondary 7 to 42. The descriptive statistics for the mother’s adult attachment styles as measured by the RSQ were examined to ensure normal distribution. The scores for the mothers confidence subscale range from 17 to 48, ($M = 35.7$, $SD = 5.7$). The mean compares to Feeney et al.’s (1994) mean of 36.4 which indicates that on average, most of the mothers identified with the confident attachment style. The mean for the confident subscale is the highest of the five subscales which is consistent with previous research (Feeney et al., 1994). The scores for the discomfort with closeness subscale range from 16 to 59 ($M = 33.6$, $SD = 8.4$). This value compares with Feeney et al.’s mean of 29.2. Discomfort with closeness is the second highest ranking subscale which is also consistent with previous research (Feeney et al., 1994).

The scores for the need for approval subscale range from 7 to 38, ($M = 18.6$, $SD = 5.9$). The mean compares to Feeney et al.’s mean of 21.7. The scores for the

preoccupation with relationships subscale range from 8 to 40, ($M = 23.5$, $SD = 6.4$). This value compares with Feeney et al.'s mean of 26.5. The scores for the relationships as secondary subscale range from 7 to 41 ($M = 16.8$, $SD = 6.0$). This mean compares to Feeney et al.'s mean of 14.8. Relationships as secondary is the lowest ranking subscale in both Feeney et al.'s preliminary sample and in this sample.

Descriptive statistics for the fathers' adult attachment styles as measured by the RSQ were also examined to ensure normal distribution. The scores for the fathers' confidence subscale range from 29 to 39, ($M = 34.6$, $SD = 2.6$). The mean compares to Feeney et al.'s (1994) mean of 36.4. The mean for the confident subscale was the highest of the five subscales which is consistent with previous research (Feeney et al., 1994). The scores for the discomfort with closeness subscale range from 20 to 47 ($M = 33.3$, $SD = 5.0$). This value compares with Feeney et al.'s mean of 29.2. Discomfort with closeness was the second highest ranking subscale in this sample which is also consistent with previous research (Feeney et al., 1994).

The scores for the need for approval subscale range from 8 to 30, ($M = 18.9$, $SD = 4.8$). The mean compares to Feeney et al.'s mean of 21.7. The scores for the preoccupation with relationships subscale range from 13 to 36, ($M = 24.8$, $SD = 5.8$). This value compares with Feeney et al.'s mean of 26.5. The scores for the relationships as secondary subscale range from 7 to 34 ($M = 17.2$, $SD = 5.8$). This mean compares to Feeney et al.'s mean of 14.8. Relationships as secondary is the lowest ranking subscale in both Feeney et al.'s preliminary sample and in this sample.

Summary of Adult Attachment

The variables measuring adult attachment for both mothers and fathers were normally distributed. While percentage distributions of the RQ's four attachment styles were not distributed in the same manner as Bartholomew and Horowitz's initial sample (1991), they were similar for both mothers and fathers in this sample. The majority of parents in this sample were classified as securely attached, followed in descending order by dismissing, preoccupied, and fearful. The same is true for attachment classifications by the ASQ where the majority of parents were classified as confident (secure), followed in descending order by discomfort with closeness, preoccupation with relationships, need for approval, and relationships as secondary. The overall distribution of the ASQ scores for both mothers and fathers were consistent with those of Feeney et al. (1994).

Description of Children's Self-Competence

Pictorial Scale of Perceived Competence and Social Acceptance (PSPCSA; Harter & Pike, 1983, 1984). The descriptive statistics of second grade children's self-competence ($n = 96$) as measured by the PSPCSA were examined to ensure normal distribution. The scores for the physical competence subscale ranged from 6 to 24, ($M = 20.7$, $SD = 3.1$). The mean is consistent with Harter and Pike's (1984) mean of 20.8 which indicates that on average, children had a positive perception of their physical competence. The scores for the cognitive competence subscale ranged from 11 to 24 ($M = 21.4$, $SD = 2.8$). This value compares to Harter and Pike's mean of 20.6. Of the four subscales, cognitive competence ranked as the highest in this sample, whereas, Harter and Pike reported that physical competence was the highest perceived competence in their sample.

The scores for the peer acceptance subscale ranged from 6 to 24 ($M = 17.8$, $SD = 4.6$). This value is consistent with Harter and Pike's (1984) mean of 18 which indicates that the children had relatively positive perceptions of peer acceptance. The scores for the maternal acceptance subscale ranged from 7 to 24 ($M = 15.8$, $SD = 3.7$). This value compares with Harter and Pike's mean of 17.6 and is the lowest mean of the four subscales, indicating that the average child in this sample had a less than positive perception of maternal acceptance.

The Self-Perception Profile for Children (SPPC, Harter, 1983, 1985b). The descriptive statistics of fourth grade children's self-competence ($n = 109$) as measured by the SPPC were examined to ensure normal distribution. The scores for the fourth grade children's scholastic competence subscale ranged from 7 to 24, ($M = 17.6$, $SD = 4.2$). This mean compares to Harter's (1985b) mean of 16. The social acceptance subscale ranged from 7 to 24 ($M = 17.7$, $SD = 3.9$). This is consistent with Harter's mean of 17.4. The athletic competence subscale ranged from 7 to 24 ($M = 17.3$, $SD = 4.2$) which compares to Harter's mean of 18.0. The physical appearance subscale ranged from 7 to 24 ($M = 19.1$, $SD = 4.4$). This mean compares to Harter's mean of 18.0. The behavioral competence scale ranged from 11 to 24 ($M = 19.6$, $SD = 3.8$). This mean compares to Harter's mean of 17.6. The global self-worth scale ranged from 11 to 24 ($M = 19.7$, $SD = 3.4$) which compares to Harter's mean of 18.1.

Summary of Self-Competence

On average, the scores of the second grade children were consistent with those scores obtained by Harter and Pike's (1984) preliminary sample. The children in this sample rated their perceptions of cognitive ability highest, followed closely by physical

competence. This positive reporting of self-competence by young children is indicative of their desire to be perceived as competent by others (Harter & Pike, 1984). The scores for the acceptance scales were lower than the competence scales which is consistent with Harter and Pike's findings. Peer and maternal acceptance scores were much lower for children of this sample than those in Harter and Pike's sample. The lower means and higher standard deviations for the acceptance subscales are consistent with the sample utilized by Harter and Pike (1984).

On average, the scores of the fourth grade children were consistent with or slightly higher than those scores obtained by Harter's (1985b) preliminary sample. The children rated their perceptions of global self-worth highest, followed closely by behavioral competence and physical appearance. The three lowest scoring subscales were social acceptance, followed by scholastic competence and athletic competence. While these were the lowest scoring subscales for this sample, the means indicated fairly positive perceptions of these domains.

Description of Children's Cognitive Ability

The descriptive statistics of children's cognitive ability, as measured by the BIA portion of the Woodcock Johnson III (Woodcock, McGrew, & Mather, 2001), were examined to ensure normal distribution. The BIA Standard Score (SS) for both the second and fourth grade participants ranged from a minimum of 52 (0.5%) to a maximum of 161 (0.5%) ($M = 104.3$, $SD = 15.9$). This mean is consistent with the theoretical mean of 100 (range = 0 to 200). The BIA scores for second grade children ($n = 96$) ranged from 52 to 161 ($M = 103.0$, $SD = 16.4$) encompassing both the lowest and highest scores in the

total sample. The BIA scores for the fourth grade children ranged from 54 to 147 ($M = 105.8$, $SD = 15.1$).

As previously indicated in this dissertation, the W-J III was not utilized for diagnostic purposes but the scores may still be translated into standardized classification labels. The expected breakdown of cognitive ability in a general sample is 25% in the low category, 50% in the average category, and 25% in the high category. In the total sample, 15% of the children were classified as “very low” to “low average,” 50% were classified as “average,” and 35% were classified as “high average” to “very superior.” These percentages indicate that while the majority of students were classified as average (50%), more of the remaining students were classified in the high category as opposed to the low category. In the second grade sample, 19% of the children were classified as “very low” to “low average,” 50% were classified as “average” and 31% were classified as “high average” to “very superior.” In the fourth grade sample, 11% of the children were classified as “very low” to “low average,” 50% were classified as “average” and 39% were classified as “high average” to “very superior.”

Summary of Children’s Cognitive Ability

The BIA scores for both second and fourth grade children indicated that exactly 50% of the students were categorized within the average range while a greater number of the remaining children were categorized in the “high average” to “very superior” range as opposed to the lower range. This classification indicates that while the majority of children may be categorized as “average” in their cognitive ability, the sample was comprised of a disproportionately high number of above average children in comparison to the general population.

Correlational and Regression Analyses

Prior to conducting the regression analyses for each hypothesis, correlational analyses were conducted to identify the significant control variables to include in each equation. In the following section, the results of the correlational and regression analyses will be presented according to each hypothesis. Where applicable, mother's data will precede father's data and data from second grade children will precede those of fourth grade children. Problems with multicollinearity were assessed by VIF and tolerance scores. In no instances was multicollinearity considered a problem in these analyses.

Hypothesis One

Mothers and Second Grade Children. It was hypothesized that a significant relationship would exist between adult attachment styles and children's self-competence. Six control variables were entered in the correlation analyses including: marital status, employment, race, SES, mother's age, and children's gender. Of the control variables, child's gender was significantly related to cognitive self-competence ($r = .25$). Race ($r = .27$), SES ($r = -.36$), mother's employment status ($r = .27$), and marital status ($r = -.43$) were significantly related to children's physical competence. Race ($r = .41$) and mother's marital status ($r = -.30$) were significantly related with peer acceptance (see Table 1). Adult attachment as measured by the discomfort with closeness variable was positively and significantly correlated with children's physical competence ($r = .41$), cognitive competence ($r = .24$), and peer acceptance ($r = .32$). The preoccupation with relationships variable was positively and significantly correlated with children's physical competence ($r = .25$) and cognitive competence ($r = .24$).

Table 1. Intercorrelations for Second Grade Children's Self-Competence and Mother's Predictor Variables

Variable	1	2	3	4	5	6	7	8	9	10	11
Children's Self-Competence											
Physical Competence	.21	.27*	-.43*	.27*	-.36*	.22	.12	.41*	.16	.19	.25*
Cognitive Competence	.25*	.06	-.01	-.01	-.09	.07	.08	.24*	.16	-.04	.24*
Peer Acceptance	.22	.12	-.30*	.41*	-.29	.08	.16	.32*	-.13	.10	.11
Maternal Acceptance	.12	.06	-.14	.21	-.12	.10	-.05	.20	-.15	.05	-.03
Predictor Variable											
1. Child's Gender	-	.04	-.10	.21	-.14	-.01	.01	.07	-.10	.02	-.11
2. Mother's Employment	-	-	-.12	-.08	.12	-.14	-.04	-.07	-.02	-.05	.01
3. Marital Status	-	-	-	-.27*	-.12	-.17	-.10	-.22	.03	-.10	-.10
4. Race	-	-	-	-	-.53*	.28*	-.17	.06	-.33*	.16	-.11
5. SES	-	-	-	-	-	-.25*	.08	-.19	-.03	-.22	-.09
6. RQ Attachment Style	-	-	-	-	-	-	-.29*	.29*	.15	.34*	.32*
7. ASQ Confidence	-	-	-	-	-	-	-	.11	.01	-.27*	.03
8. ASQ Discomfort w/ Closeness	-	-	-	-	-	-	-	-	.48*	.55*	.67*
9. ASQ Need for Approval	-	-	-	-	-	-	-	-	-	.41*	.71*
10. ASQ Relationships as Secondary	-	-	-	-	-	-	-	-	-	-	.58*
11. ASQ Preoccupation w/ Relationships	-	-	-	-	-	-	-	-	-	-	-

*p ≤ .05, two-tail test

Multiple regression analyses were conducted to establish whether maternal attachment was predictive of children's self-competence. Control variables that were significant in the correlational analyses were included in the regression analyses: child's gender, mother's employment, marital, race, and SES.

For the first regression equation, children's physical competence was the dependent variable (see Table 2). The control variables (child's gender, mother's employment, race, gender, SES) were significantly related to children's physical competence ($F = 3.39, p = .01$). These variables accounted for 15% (adjusted R^2) of the variance in physical competence. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was significant ($F = 2.58, p = .01, R^2 = .37$) accounting for 23% (adjusted R^2) of the variance in physical competence. Maternal attachment explained modest variance in children's perceptions of physical competence

beyond the variance accounted for by the control variables. Of the predictor variables, discomfort with closeness was found to be significantly related to physical competence ($\beta = .39, p = .02$).

For the second regression equation, children's cognitive competence was the dependent variable (see Table 2). The control variables (child's gender, mother's employment, race, gender, SES) were not significantly related to children's cognitive competence ($F = 1.68, p = .15$). These variables accounted for 5% (adjusted R^2) of the variance in cognitive competence. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was significant ($F = 1.89, p = .05, R^2 = .30$) accounting for 14% (adjusted R^2) of the variance in cognitive competence. Maternal attachment explained modest variance in children's perceptions of cognitive competence beyond the variance accounted for by the control variables. Of the predictor variables, relationships as secondary was found to be a significant negative predictor of cognitive competence ($\beta = -.36, p = .03$).

For the third regression equation, children's peer acceptance was the dependent variable (see Table 2). The control variables (child's gender, mother's employment, race, gender, SES) were significantly related to children's peer acceptance ($F = 3.29, p = .01$). These variables accounted for 14% (adjusted R^2) of the variance in children's perceptions of peer acceptance. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was significant ($F = 2.14, p = .03, R^2 = .33$) accounting for 17% (adjusted R^2) of the variance in peer acceptance. Maternal attachment explained modest variance in children's perceptions of peer acceptance beyond the

variance accounted for by the control variables. Of the predictor variables, discomfort with closeness was found to be a significant predictor of peer acceptance ($\beta = .36, p = .04$).

For the fourth regression equation, children's maternal acceptance was the dependent variable (see Table 2). The control variables (child's gender, mother's employment, race, gender, SES) were not significantly related to children's perceptions of maternal acceptance ($F = .85, p = .52$). Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = .77, p = .69, R^2 = .15$). Maternal attachment explained modest variance in children's perceptions of maternal acceptance beyond the variance accounted for by the control variables. Of the predictor variables, discomfort with closeness was found to be a significant predictor of maternal acceptance ($\beta = .39, p = .04$).

Table 2. Hierarchical Regression Analysis Predicting Second Grade Children's Self-Competencies with Mother's Adult Attachment Variables

Step and Predictor Variable	R ²	ΔR^2	<u>B</u>	SE	β
Physical Competence					
Step 1	.21				
Child's Gender			.86	.72	.14
Mother's Employment			1.14	.82	.16
Marital Status			-2.33	.84	-.36*
Race			.06	.83	.01
SES			-.00	.03	-.00
Step 2	.37	.16			
RQ Secure			.22	1.18	.04
RQ Dismissing			.75	1.28	.11
RQ Preoccupied			2.32	1.45	.23
ASQ Confidence			.03	.09	.05
ASQ Discomfort w/ Closeness			.17	.07	.39*
ASQ Need for Approval			.09	.09	.15
ASQ Relationships as Secondary			-.02	.08	-.04
ASQ Preoccupation with Relationships			-.04	.09	-.09
Cognitive Competence					
Step 1	.12				(table con'd.)

Step and Predictor Variable	R ²	ΔR ²	B	SE	β
Child's Gender			1.50	.61	.29*
Mother's Employment			.72	.69	.13
Marital Status			.08	.72	.02
Race			-.92	.71	-.18
SES			-.02	.03	-.12
Step 2	.30	.19			
RQ Secure			.80	1.00	.16
RQ Dismissing			1.03	1.09	.18
RQ Preoccupied			2.22	1.23	.28
ASQ Confidence			-.04	.07	-.08
ASQ Discomfort w/ Closeness			.11	.06	.32
ASQ Need for Approval			.02	.08	.05
ASQ Relationships as Secondary			-.15	.06	-.36*
ASQ Preoccupation with Relationships			.10	.07	.26
Peer Acceptance					
Step 1	.20				
Child's Gender			1.13	1.02	.13
Mother's Employment			.77	1.15	.08
Marital Status			-1.61	1.19	-.18
Race			2.85	1.17	.32*
SES			.02	.05	.02
Step 2	.33	.13			
RQ Secure			.17	1.72	.02
RQ Dismissing			.34	1.86	.03
RQ Preoccupied			.79	2.11	.06
ASQ Confidence			.12	.13	.12
ASQ Discomfort w/ Closeness			.22	.10	.36*
ASQ Need for Approval			-.15	.13	-.21
ASQ Relationships as Secondary			-.09	.11	-.12
ASQ Preoccupation with Relationships			.08	.13	.12
Maternal Acceptance					
Step 1	.06				
Child's Gender			.29	.89	.04
Mother's Employment			.56	1.00	.07
Marital Status			-.93	1.04	-.13
Race			1.42	1.02	.21
SES			.03	.04	.09
Step 2	.15	.09			
RQ Secure			-.01	1.55	-.00
RQ Dismissing			.41	1.68	.05

(table con'd.)

Step and Predictor Variable	R ²	ΔR ²	B	SE	β
RQ Preoccupied			.65	1.90	.06
ASQ Confidence			-.08	.12	-.12
ASQ Discomfort w/ Closeness			.19	.09	.39*
ASQ Need for Approval			-.10	.12	-.15
ASQ Relationships as Secondary			-.04	.10	-.07
ASQ Preoccupation with Relationships			-.07	.12	-.13

Note: RQ Fearful (omitted category)

*p ≤ .05, two-tail test

Mothers and Fourth Grade Children. Bivariate correlations between the control variables, predictor variables, and outcome variables are presented in Table 3. The same six control variables were included in the correlation analyses: marital status, employment, race, SES, mother's age, and children's gender. Of the control variables, race was significantly correlated with children's social acceptance (r = -.09). Mother's marital status was significantly correlated with social acceptance (r = .27) and behavioral competence (r = .28). SES was significantly related to children's scholastic competence (r = .28), social acceptance (r = .26), athletic competence (r = .29), behavioral competence (r = .28), and global self-worth (r = .23). Adult attachment as measured by the discomfort with closeness (r = -.30), need for approval (r = -.28), and preoccupation with relationships (r = -.29) variables were negatively and significantly correlated with children's physical appearance.

Table 3. Intercorrelations for Fourth Grade Children's Self-Competence and Mother's Predictor Variables

Variable	1	2	3	4	5	6	7	8	9
Children's Self-Competence									
Scholastic Competence	.03	.28*	.06	.10	-.06	.11	-.01	.05	.10
Social Acceptance	-.09*	.26*	.27*	-.08	-.02	.21	-.09	-.14	.09
Athletic Competence	.09	.29*	.06	.18	-.03	.12	-.06	.12	.07
Physical Appearance	.12	.06	-.09	-.06	.09	-.30*	-.28*	-.16	-.28*

(table con'd.)

Behavioral Competence	-.06	.28*	.28*	-.01	-.13	-.04	-.11	-.09	-.08
Global Self-Worth	.08	.23*	.10	.11	-.14	-.06	-.14	-.11	-.12
<hr/>									
Predictor Variable									
<hr/>									
1. Race	-	-.38*	-.16	-.02	-.23*	.06	-.09	.11	.10
2. SES	-		.47*	-.09	.15	.04	.09	-.09	.00
3. Marital Status	-			-.17	.11	-.05	.07	.02	-.03
4. RQ Attachment Style	-				-.38*	.44*	.16	.26*	.25*
5. ASQ Confidence	-					-.34*	-.16	-.25*	-.23*
6. ASQ Discomfort w/ Closeness	-						.52*	.58*	.58*
7. ASQ Need for Approval	-							.43*	.64*
8. ASQ Relationships as Secondary	-								.45*
9. ASQ Preoccupation w/ Relationships	-								

*p ≤ .05, two-tail test

Multiple regression analyses were conducted to establish whether maternal attachment styles were predictive of children’s self-competence. Control variables found to be significant in the correlational analyses were included in the regression analyses: marital status, race, and SES.

For the first regression equation, children’s scholastic competence was the dependent variable (see Table 4). The control variables (marital status, race, SES) were significantly related to children’s scholastic competence ($F = 3.04, p = .04$). These variables accounted for 7% (adjusted R^2) of the variance in scholastic competence with SES as a significant predictor of scholastic competence ($\beta = .40, p = .00$). Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = 1.23, p = .28, R^2 = .17$) accounting for 3% (adjusted R^2) of the variance in scholastic competence. Maternal attachment explained little variance in children’s perceptions of scholastic competence beyond the variance accounted for by the control variables. None of the predictor variables were found to be significantly related to scholastic competence.

For the second regression equation, children’s social acceptance was the dependent variable (see Table 4). The control variables (marital status, race, and SES)

were not significantly related to children's perceptions of social acceptance ($F = .244$, $p = .07$). These variables accounted for only 5% (adjusted R^2) of the variance in children's perceptions of social acceptance. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was significant ($F = 3.41$, $p = .00$, $R^2 = .36$) accounting for 26% (adjusted R^2) of the variance in social acceptance. Maternal attachment explained significant variance ($\Delta R^2 = .27$) in children's perceptions social acceptance beyond the variance accounted for by the control variables. Of the predictor variables, dismissing ($\beta = .41$, $p = .01$) and discomfort with closeness ($\beta = .47$, $p = .01$) were found to be significant and positive predictors of social competence while relationships as secondary ($\beta = -.38$, $p = .00$) was found to be a significant and negative predictor of social competence.

For the third regression equation, children's athletic competence was the dependent variable (see Table 4). The control variables (marital status, race, SES) were significantly related to children's athletic competence ($F = 3.65$, $p = .02$). These variables accounted for 9% (adjusted R^2) of the variance in athletic competence with race ($\beta = .25$, $p = .04$) and SES ($\beta = .41$, $p = .00$) as significant predictors of athletic competence. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = 1.85$, $p = .06$, $R^2 = .24$) accounting for 11% (adjusted R^2) of the variance in athletic competence. Maternal attachment explained modest variance in children's perceptions of athletic competence beyond the variance accounted for by the control variables. None of the predictor variables were found to be significantly related to athletic competence.

For the fourth regression equation, children's perception of physical appearance was the dependent variable (see Table 4). The control variables (marital status, race, SES) were not significantly related to children's perceptions of physical appearance ($F = 1.77$, $p = .16$). These variables accounted for 3% of the variance in perceptions of physical appearance. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = 1.46$, $p = .16$, $R^2 = .20$) accounting for 6% (adjusted R^2) of the variance in children's perceptions of physical appearance. Maternal attachment explained modest variance in children's perceptions of physical appearance beyond the variance accounted for by the control variables. None of the predictor variables were found to be significantly related to perceptions of physical appearance.

For the fifth regression equation, children's behavioral competence was the dependent variable (see Table 4). The control variables (marital status, race, SES) were found to be significantly related to children's behavioral competence ($F = 3.28$, $p = .03$). These variables accounted for 9% (adjusted R^2) of the variance in behavioral competence. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = 1.77$, $p = .08$, $R^2 = .23$) accounting for 10% (adjusted R^2) of the variance in behavioral competence. Maternal attachment explained modest variance in children's perceptions of behavioral competence beyond the variance accounted for by the control variables. None of the predictor variables were found to be significantly related to perceptions of behavioral competence.

For the sixth regression equation, children's global self-worth was the dependent variable (see Table 4). The control variables (marital status, race, SES) were not

significantly related to children's global self-worth ($F = 2.03, p = .12$). These variables accounted for 4% of the variance in global self-worth. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = 1.31, p = .24, R^2 = .18$) accounting for 4% (adjusted R^2) of the variance in global self-worth. Maternal attachment explained modest variance in children's perceptions of global self-worth beyond the variance accounted for by the control variables. None of the predictor variables were found to be significantly related to perceptions of global self-worth.

Table 4. Hierarchical Regression Analysis Predicting Fourth Grade Children's Self-Competence with Mother's Adult Attachment Variables

Step and Predictor Variable	R^2	ΔR^2	<u>B</u>	SE	β
Scholastic Competence					
Step 1	.11				
Marital Status			-.80	1.14	-.09
Race			1.52	1.01	.18
SES			.13	.04	.40*
Step 2	.17	.06			
RQ Secure			-.89	1.49	-.11
RQ Dismissing			.49	1.49	.05
RQ Preoccupied			2.56	2.43	.17
ASQ Confidence			.03	.12	.03
ASQ Discomfort w/ Closeness			.08	.13	.12
ASQ Need for Approval			-.09	.12	-.13
ASQ Relationships as Secondary			.01	.11	.02
ASQ Preoccupation with Relationships			-.01	.13	-.01
Social Acceptance					
Step 1	.09				
Marital Status			1.90	1.07	.22
Race			.35	.95	.05
SES			.04	.04	.14
Step 2	.36	.27*			
RQ Secure			1.76	1.21	.23
RQ Dismissing			3.47	1.21	.41*
RQ Preoccupied			1.62	1.99	.11

(table con'd.)

Step and Predictor Variable	R ²	ΔR ²	B	SE	β
ASQ Confidence			.06	.10	.08
ASQ Discomfort w/ Closeness			.31	.12	.47*
ASQ Need for Approval			-.19	.10	-.29
ASQ Relationships as Secondary			-.25	.07	-.38*
ASQ Preoccupation with Relationships			.11	.11	.18
Athletic Competence					
Step 1	.13				
Marital Status			-.59	1.11	-.06
Race			2.02	.99	.25*
SES			.13	.04	.41*
Step 2	.24	.11			
RQ Secure			-2.01	1.41	-.25
RQ Dismissing			-.32	1.41	-.04
RQ Preoccupied			2.01	2.31	.13
ASQ Confidence			.09	.12	.10
ASQ Discomfort w/ Closeness			.08	.13	.11
ASQ Need for Approval			-.12	.11	-.17
ASQ Relationships as Secondary			.09	.10	.13
ASQ Preoccupation with Relationships			-.05	.12	-.08
Physical Appearance					
Step 1	.07				
Marital Status			-1.74	1.22	-.18
Race			1.81	1.08	.21
SES			.09	.05	.25
Step 2	.20	.13			
RQ Secure			-.28	1.53	-.03
RQ Dismissing			-.66	1.53	-.07
RQ Preoccupied			1.17	2.51	.07
ASQ Confidence			.01	.13	.01
ASQ Discomfort w/ Closeness			-.11	.14	-.15
ASQ Need for Approval			-.05	.12	-.07
ASQ Relationships as Secondary			.06	.11	.08
ASQ Preoccupation with Relationships			-.17	.13	-.25
Behavioral Self-Competence					
Step 1	.12				
Marital Status			1.76	1.05	.20
Race			.74	.93	.10
SES			.07	.04	.23
Step 2	.23	.11			

(table con'd)

Step and Predictor Variable	R ²	ΔR ²	B	SE	β
RQ Secure			1.18	1.33	.15
RQ Dismissing			-.42	1.33	-.05
RQ Preoccupied			3.44	2.17	.24
ASQ Confidence			-.19	.11	-.22
ASQ Discomfort w/ Closeness			.14	.12	.21
ASQ Need for Approval			-.09	.11	-.14
ASQ Relationships as Secondary			-.01	.09	-.02
ASQ Preoccupation with Relationships			-.15	.12	-.24
Global Self-Worth					
Step 1	.08				
Marital Status			-.10	.93	-.01
Race			1.33	.82	.20
SES			.08	.04	.30*
Step 2	.18	.10			
RQ Secure			-.41	1.19	-.06
RQ Dismissing			-1.06	1.19	-.14
RQ Preoccupied			1.69	1.95	.14
ASQ Confidence			-.14	.10	-.19
ASQ Discomfort w/ Closeness			.08	.11	.15
ASQ Need for Approval			-.03	.10	-.06
ASQ Relationships as Secondary			-.03	.08	-.05
ASQ Preoccupation with Relationships			-.16	.10	-.30

Note: RQ Fearful (omitted category)

*p ≤ .05, two-tail test

Summary of Hypothesis One

Mothers' Data. It was hypothesized that adult attachment would be a significant predictor of children's self-competence. Regression analyses for hypothesis one illustrated that this relationship was upheld with physical competence, cognitive competence, and peer acceptance at the second grade level. At the second grade level, significant relationships existed between specific predictor variables and every domain of children's self-competence. At the fourth grade level, hypothesis one was supported in the relationship between adult attachment and children's social acceptance. Therefore,

hypothesis one was supported at the second grade level and partially supported at the fourth grade level in this exploratory study.

Fathers and Second Grade Children. Bivariate correlations between the control variables, predictor variables, and outcome variables are presented in Table 5. Six control variables were entered in the correlation analyses including: marital status, employment, race, father's age, SES, and children's gender. Of the control variables, race was significantly correlated with maternal acceptance ($r = -.34$). Adult attachment as measured by the need for approval ($r = .38$) and relationships as secondary ($r = .36$) variables was positively and significantly correlated with children's cognitive competence. Attachment style as measured by the RQ was negatively and significantly correlated with children's peer acceptance ($r = -.40$).

Table 5. Intercorrelations for Second Grade Children's Self-Competence and Father's Predictor Variables

Variable	1	2	3	4	5	6	7
Children's Self-Competence							
Physical Competence	-.05	.26	-.04	.27	.30	.23	.14
Cognitive Competence	-.18	.17	.23	.11	.38*	.36*	.11
Peer Acceptance	.20	-.40*	-.06	.07	.04	-.07	-.14
Maternal Acceptance	-.34*	.17	-.10	-.23	-.09	-.06	-.22
Predictor Variable							
1. Race	-	.06	-.19	.15	-.46*	-.11	-.18
2. RQ Attachment Style		-	-.42*	.13	.25	.15	.36*
3. ASQ Confidence			-	-.18	.11	.14	-.16
4. ASQ Discomfort w/ Closeness				-	.23	.51*	.48*
5. ASQ Need for Approval					-	.42*	.50*
6. ASQ Relationships as Secondary						-	.27
7. ASQ Preoccupation w/ Relationships							-

* $p \leq .05$, two-tail test

Multiple regression analyses were conducted to establish whether paternal attachment styles were predictive second grade children's self-competence. Race was the only significant control variable from the correlational analyses.

For the first regression equation, children's physical competence was the dependent variable (see Table 6). The control variable (race) was not significantly related to children's physical competence ($F = .06, p = .81$). Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = 1.65, p = .14, R^2 = .36$) accounting for 14% (adjusted R^2) of the variance in physical competence. Paternal attachment explained modest variance in children's perceptions of physical competence beyond the variance accounted for by the control variables. None of the predictor variables were found to be significantly related to physical competence.

For the second regression equation, children's cognitive competence was the dependent variable (see Table 6). The control variable (race) was not significantly related to children's cognitive competence ($F = 1.71, p = .20$). Race accounted for 2% of the variance in cognitive competence. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = 1.16, p = .36, R^2 = .29$) accounting for 4% (adjusted R^2) of the variance in cognitive competence. Paternal attachment explained modest variance in children's perceptions of cognitive competence beyond the variance accounted for by the control variables. None of the predictor variables were found to be significantly related to cognitive competence.

For the third regression equation, children's peer acceptance was the dependent variable (see Table 6). The control variable (race) was not significantly related to children's peer acceptance ($F = 1.45, p = .24$). Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = .85, p = .58, R^2 = .23$). Paternal attachment explained modest variance in children's perceptions of peer acceptance beyond the variance accounted for by the control

variables. Of the predictor variables, need for approval was found to be a significant predictor of peer acceptance in the positive direction ($\beta = .54, p = .05$).

For the fourth regression equation, children’s maternal acceptance was the dependent variable (see Table 6). The control variable (race) was not significantly related to children’s perceptions of maternal acceptance ($F = .3.59, p = .07$). Race accounted for 7% (adjusted R^2) of the variance in children’s perceptions of maternal acceptance. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = 1.33, p = .27, R^2 = .32$) accounting for 8% (adjusted R^2) of the variance in peer acceptance. Paternal attachment explained modest variance in children’s perceptions of maternal acceptance beyond the variance accounted for by the control variable. None of the predictor variables were significant predictors of maternal acceptance.

Table 6. Hierarchical Regression Analysis Predicting Second Grade Children’s Self-Competencies with Father’s Adult Attachment Variables

Step and Predictor Variable	R^2	ΔR^2	<u>B</u>	SE	β
Physical Competence					
Step 1	.00				
Race			-.22	.93	-.04
Step 2	.36	.36			
RQ Secure			-2.12	1.61	-.39
RQ Dismissing			1.27	1.53	.23
RQ Preoccupied			.17	1.72	.02
ASQ Confidence			.21	.20	.21
ASQ Discomfort w/ Closeness			.13	.12	.24
ASQ Need for Approval			.12	.13	.22
ASQ Relationships as Secondary			-.00	.10	-.05
ASQ Preoccupation with Relationships			-.00	.10	-.16
Cognitive Competence					
Step 1	.05				
Race			-1.36	1.04	-.22
Step 2	.29	.24			(table con’d.)

Step and Predictor Variable	R ²	ΔR ²	B	SE	β
RQ Secure			-2.36	1.94	-.39
RQ Dismissing			-.95	1.84	-.15
RQ Preoccupied			-2.25	2.06	-.28
ASQ Confidence			.34	.24	.30
ASQ Discomfort w/ Closeness			.00	.14	.03
ASQ Need for Approval			.18	.16	.29
ASQ Relationships as Secondary			-.00	.12	-.05
ASQ Preoccupation with Relationships			.10	.07	.26
Peer Acceptance					
Step 1	.04				
Race			1.69	1.40	.20
Step 2	.23	.19			
RQ Secure			2.01	2.71	.25
RQ Dismissing			1.84	2.57	.22
RQ Preoccupied			-.24	2.89	-.22
ASQ Confidence			-.15	.34	-.10
ASQ Discomfort w/ Closeness			.00	.19	.11
ASQ Need for Approval			.45	.22	.54*
ASQ Relationships as Secondary			-.21	.17	-.29
ASQ Preoccupation with Relationships			-.12	.17	-.15
Maternal Acceptance					
Step 1	.10				
Race			-1.93	1.02	-.31
Step 2	.32	.22			
RQ Secure			-1.36	1.91	-.22
RQ Dismissing			.00	1.81	-.01
RQ Preoccupied			-.45	2.04	-.06
ASQ Confidence			-.23	.24	-.20
ASQ Discomfort w/ Closeness			-.00	.14	-.09
ASQ Need for Approval			-.16	.16	-.25
ASQ Relationships as Secondary			-.00	.12	-.00
ASQ Preoccupation with Relationships			-.13	.12	-.26

Note: RQ Fearful (omitted category)

*p ≤ .05, two-tail test

Fathers and Fourth Grade Children. Bivariate correlations between the control variables, predictor variables, and outcome variables are presented in Table 7. Six control variables were entered in the correlation analyses including: marital status, employment,

race, father's age, SES, and children's gender. Of the control variables, marital status was significantly related to behavioral competence ($r = .35$). Child's gender was significantly related to athletic competence ($r = -.40$). Adult attachment as measured by the discomfort with closeness ($r = -.32$) and relationships as secondary variables ($r = -.34$) were negatively and significantly correlated with children's physical appearance. Adult attachment as measured by relationships as secondary ($r = -.39$) and preoccupation with relationships ($r = -.36$) were significantly and negatively correlated with children's athletic competence.

Table 7. Intercorrelations for fourth Grade Children's Self-Competence and Father's Predictor Variables

Variable	1	2	3	4	5	6	7	8
Children's Self-Competence								
Scholastic Competence	-.19	-.30	.17	-.20	-.12	-.18	-.25	-.27
Social Acceptance	.18	-.02*	.10	-.11	.02	.05	.05	.16
Athletic Competence	-.16	-.40*	.16	-.08	-.14	-.32	-.39*	-.36*
Physical Appearance	-.08	.00	.05	.01	-.32*	-.11	-.11	-.34*
Behavioral Competence	.35*	.21	-.08	.11	-.15	-.13	-.16	-.10
Global Self-Worth	-.24	-.21	.08	-.08	-.20	-.16	-.11	-.21
Predictor Variable								
1. Marital Status	-	.24	-.16	.09	-.13	-.17	.16	.05
2. Child's Gender		-	-.10	.09	.02	-.03	.20	.18
3. RQ Attachment Style			-	.02	-.22	.02	-.21	-.22
4. ASQ Confidence				-	-.19	-.39*	-.38*	-.39*
5. ASQ Discomfort w/ Closeness					-	.64*	.44*	.54*
6. ASQ Need for Approval						-	.57*	.57*
7. ASQ Relationships as Secondary							-	.50*
8. ASQ Preoccupation w/ Relationships								-

* $p \leq .05$, two-tail test

Multiple regression analyses were conducted to establish whether fathers' attachment styles were predictive of fourth-grade-children's self-competence. Control variables found to be significant in the correlational analyses were included in the regression analyses: marital status and child's gender.

For the first regression equation, children's scholastic competence was the dependent variable (see Table 8). The control variables (marital status and child's gender) were not significantly related to children's scholastic competence ($F = 1.71, p = .20$). These variables accounted for 4% (adjusted R^2) of the variance in scholastic competence. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = 1.44, p = .22, R^2 = .35$) accounting for 11% (adjusted R^2) of the variance in scholastic competence. Father's attachment explained modest variance in children's perceptions of scholastic competence beyond the variance accounted for by the control variables. None of the predictor variables were found to be significantly related to scholastic competence.

For the second regression equation, children's social acceptance was the dependent variable (see Table 8). The control variables (marital status and child's gender) were not significantly related to children's perceptions of social acceptance ($F = .74, p = .49$). Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = .52, p = .86, R^2 = .16$). Paternal attachment explained modest variance in children's perceptions of social acceptance beyond the variance accounted for by the control variables. None of the predictor variables were found to be significantly related to social acceptance.

For the third regression equation, children's athletic competence was the dependent variable (see Table 8). The control variables (marital status and child's gender) were significantly related to children's athletic competence ($F = 3.44, p = .04$). These variables accounted for 12% (adjusted R^2) of the variance in athletic competence with child's gender ($\beta = -.40, p = .02$) as a significant predictor of athletic competence. Next,

the three RQ dummy variables and the five ASQ attachment variables were added and the model was significant ($F = 2.43$, $p = .03$, $R^2 = .47$) accounting for 28% (adjusted R^2) of the variance in athletic competence. Paternal attachment explained modest variance in children's perceptions of athletic competence beyond the variance accounted for by the control variables. Of the predictor variables, father's need for approval was found to be significantly predictive of athletic competence ($\beta = -.50$, $p = .05$).

For the fourth regression equation, children's perception of physical appearance was the dependent variable (see Table 8). The control variables (marital status and child's gender) were not significantly predictive of children's perceptions of physical appearance ($F = .24$, $p = .79$). Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = .63$, $p = .77$, $R^2 = .19$). Paternal attachment explained modest variance in children's perceptions of physical appearance beyond the variance accounted for by the control variables. None of the predictor variables were found to be significantly related to perceptions of physical appearance.

For the fifth regression equation, children's behavioral competence was the dependent variable (see Table 8). The control variables (marital status and child's gender) were not significant predictors of children's behavioral competence ($F = 2.80$, $p = .07$). These variables accounted for 9% (adjusted R^2) of the variance in behavioral competence. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = .92$, $p = .53$, $R^2 = .25$). Paternal attachment explained modest variance in children's perceptions of behavioral competence beyond the variance accounted for by the control variables. None of the

predictor variables were found to be significantly related to perceptions of behavioral competence.

For the sixth regression equation, children’s global self-worth was the dependent variable (see Table 8). The control variables (marital status and child’s gender) were not significant predictors of children’s global self-worth ($F = 1.30, p = .29$). These variables accounted for 2% (adjusted R^2) of the variance in global self-worth. Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was not significant ($F = .53, p = .85, R^2 = .16$). Paternal attachment explained modest variance in children’s perceptions of global self-worth beyond the variance accounted for by the control variables. None of the predictor variables were found to be significantly related to global self-worth.

Table 8. Hierarchical Regression Analysis Predicting Fourth Grade Children’s Self-Competence with Father’s Adult Attachment Variables

Step and Predictor Variable	R^2	ΔR^2	<u>B</u>	SE	β
Scholastic Competence					
Step 1	.09				
Marital Status			-1.08	2.65	-.07
Child’s Gender			-2.24	1.46	-.27
Step 2	.35	.26			
RQ Secure			-.63	2.08	-.08
RQ Dismissing			.65	2.21	.07
RQ Preoccupied			3.56	3.12	.23
ASQ Confidence			-.38	.18	-.39
ASQ Discomfort w/ Closeness			.20	.16	.28
ASQ Need for Approval			-.24	.18	-.36
ASQ Relationships as Secondary			-.18	.19	-.20
ASQ Preoccupation with Relationships			-.17	.14	-.29
Social Acceptance					
Step 1	.04				
Marital Status			2.50	2.37	.19
Child’s Gender			-1.24	1.31	-.17
Step 2	.16	.12			(table con’d.)

Step and Predictor Variable	R ²	ΔR ²	B	SE	β
RQ Secure			-.84	2.06	-.12
RQ Dismissing			-1.15	2.19	-.14
RQ Preoccupied			3.68	3.13	.28
ASQ Confidence			.00	.19	.04
ASQ Discomfort w/ Closeness			-.00	.16	-.08
ASQ Need for Approval			-.00	.18	-.16
ASQ Relationships as Secondary			.00	.19	.05
ASQ Preoccupation with Relationships			.11	.14	.21
Athletic Competence					
Step 1	.16				
Marital Status			-.17	2.73	-.01
Child's Gender			-3.65	1.51	-.40*
Step 2	.47	.31			
RQ Secure			-.49	2.01	-.06
RQ Dismissing			.29	2.14	.03
RQ Preoccupied			3.84	3.06	.23
ASQ Confidence			-.34	.18	-.33
ASQ Discomfort w/ Closeness			.31	.16	.40
ASQ Need for Approval			-.36	.17	-.50*
ASQ Relationships as Secondary			-.27	.18	-.29
ASQ Preoccupation with Relationships			-.18	.14	-.28
Physical Appearance					
Step 1	.01				
Marital Status			-1.75	2.84	-.11
Child's Gender			-.12	1.57	-.01
Step 2	.19	.18			
RQ Secure			1.15	2.39	.14
RQ Dismissing			1.48	2.55	.15
RQ Preoccupied			1.54	3.63	.10
ASQ Confidence			.00	.22	-.07
ASQ Discomfort w/ Closeness			-.23	.19	-.31
ASQ Need for Approval			.15	.21	.22
ASQ Relationships as Secondary			.00	.22	.08
ASQ Preoccupation with Relationships			-.23	.16	-.37
Behavioral Competence					
Step 1	.14				
Marital Status			3.75	2.12	.30
Child's Gender			.96	1.17	.14
Step 2	.26	.12			(table con'd.)

Step and Predictor Variable	R ²	ΔR ²	B	SE	β
RQ Secure			2.00	1.82	.29
RQ Dismissing			.67	1.95	.09
RQ Preoccupied			.85	2.78	.07
ASQ Confidence			-.00	.17	-.09
ASQ Discomfort w/ Closeness			-.00	.14	-.08
ASQ Need for Approval			.14	.16	.25
ASQ Relationships as Secondary			-.20	.17	-.27
ASQ Preoccupation with Relationships			-.00	.12	-.20
Global Self-Worth					
Step 1	.07				
Marital Status			-1.92	2.29	-.15
Child's Gender			-1.24	1.26	-.17
Step 2	.17	.10			
RQ Secure			.50	2.01	.07
RQ Dismissing			.14	2.15	.02
RQ Preoccupied			2.89	3.06	.22
ASQ Confidence			-.00	.18	-.11
ASQ Discomfort w/ Closeness			-.00	.16	-.07
ASQ Need for Approval			-.14	.18	-.25
ASQ Relationships as Secondary			.00	.18	.06
ASQ Preoccupation with Relationships			-.00	.14	-.10

Note: RQ Fearful (omitted category)

*p ≤ .05, two-tail test

Summary of Hypothesis One

Fathers' Data. It was hypothesized that adult attachment would be a significant predictor of children's self-competence. Regression analyses for hypothesis one illustrated that this relationship was not upheld at the second grade level as none of the models were significant. Hypothesis one was supported at the fourth grade level with paternal attachment as a significant predictor of children's perceptions of athletic competence. Therefore, the relationship between father's adult attachment and children's self-competence was partially supported at the fourth grade level in this exploratory study with a small number of fathers.

Hypothesis Two

Second Grade Children. It was hypothesized that a significant relationship would exist between children's domain specific self-competence and cognitive ability as measured by a standardized test of cognitive ability. It was also hypothesized that a more powerful relationship would exist between cognitive/scholastic competence and cognitive ability than with the other domains of self-competence. Bivariate correlations between the control variables, predictor variables, and outcome variables are presented in Table 9. Six control variables were entered in the correlation analyses including: marital status, parental employment, mother's age, race, SES, and children's gender. Of the control variables, race ($r = -.28$) and SES ($r = .26$) were significantly related to cognitive ability. Of the four predictor variables, peer acceptance ($r = -.25$) and maternal acceptance ($r = -.27$) were significantly correlated with cognitive ability in the negative direction.

Table 9. Intercorrelations for Second Grade Children's Cognitive Ability and Predictor Variables

Variable	1	2	3	4	5	6
Children's Cognitive Ability	-.28*	.26*	-.16	.10	-.25*	-.27*
Predictor Variable						
1. Race	-	-.52*	.15	-.06	.39*	.21
2. SES		-	-.20	-.07	-.26*	-.12
3. Physical Competence			-	.41*	.52*	.17
4. Cognitive Competence				-	.28	.27
5. Peer Acceptance					-	.46
6. Maternal Acceptance						-

* $p \leq .05$, two-tail test

A multiple regression analysis was conducted to establish whether children's self-competence was predictive of cognitive ability (see Table 10). Control variables that were significant in the correlational analyses were included in the regression analyses: race and SES. The control variables were significantly related to children's cognitive

ability ($F = 3.69, p = .03$). These variables accounted for 7% (adjusted R^2) of the variance in cognitive ability. Next, the self-competence variables were added and the model was significant ($F = 2.62, p = .03, R^2 = .20$) accounting for 12% (adjusted R^2) of the variance in cognitive ability. Self-competence explained modest variance in cognitive ability beyond the variance accounted for by the control variables. Of the predictor variables, perception of cognitive competence was approaching significance in relation to cognitive ability in the positive direction ($\beta = .25, p = .06$) while maternal acceptance was approaching significance in the negative direction ($\beta = -.25, p = .06$).

Table 10. Hierarchical Regression Analysis Predicting Second Grade Children's Cognitive Ability with Perceived Self-Competence Variables

Step and Predictor Variable	R^2	ΔR^2	<u>B</u>	SE	β
Step 1	.10				
Race			-5.72	4.48	-.17
SES			.23	.17	.18
Step 2	.20	.10			
Physical Competence			-.72	.73	-.13
Cognitive Competence			1.62	.84	.25
Peer Acceptance			-.23	.57	-.06
Maternal Acceptance			-1.12	.59	-.25

* $p \leq .05$, two-tail test

Summary of Hypothesis Two

Second Grade Children. Hypothesis two was supported at the second grade level as children's self-competence was significantly related to children's cognitive ability. The predictor variable of cognitive competence was approaching significance in its relationship to cognitive ability. Maternal acceptance was equally as powerful in its relationship to cognitive ability, although in the opposite direction of cognitive competence.

Hypothesis Two

Fourth Grade Children. Bivariate correlations between the control variables, predictor variables, and outcome variables are presented in Table 11. Six control variables were entered in the correlation analyses including: marital status, parental employment, mother's age, race, SES, and children's gender. Of the control variables, mother's employment ($r = .27$), race ($r = -.38$), and SES ($r = .57$) were significantly related to cognitive. Of the four predictor variables, scholastic competence ($r = .39$) was significantly correlated with cognitive ability in the positive direction.

Table 11. Intercorrelations for Fourth Grade Children's Cognitive Ability and Predictor Variables

Variable	1	2	3	4	5	6	7	8	9
Children's Cognitive Ability	.27*	-.38*	.57*	.39*	.03	.25	.05	.12	.06
<u>Predictor Variable</u>									
1. Employment	1.00	-.26*	.31*	.14	.08	.19	.20	.17	.22
2. Race		1.00	.38*	.03	.09	.10	.12	-.06	.08
3. SES			1.00	.28*	.22	.28*	.09	.28*	.21
4. Scholastic Competence				1.00	.34*	.75*	.18	.17	.37*
5. Social Acceptance					1.00	.28	.13	.03	.22
6. Athletic Competence						1.00	.26*	.05	.47*
7. Physical Appearance							1.00	.17	.51*
8. Behavioral Competence								1.00	.40*
9. Global Self-Worth									1.00

* $p \leq .05$, two-tail test

A multiple regression analysis was conducted to establish whether children's self-competence was predictive of cognitive ability (see Table 12). Control variables that were significant in the correlational analyses were included in the regression analyses: employment, race, and SES. The control variables were significant predictors of children's cognitive ability ($F = 14.14$, $p = .00$). These variables accounted for 34% (adjusted R^2) of the variance in cognitive ability with SES as a significant predictor of

cognitive ability in the positive direction ($\beta = .43, p = .00$). Next, the six self-competence variables were added and the model was significant ($F = 7.27, p = .00, R^2 = .49$) accounting for 42% (adjusted R^2) of the variance in cognitive ability. Self-competence explained significant variance ($\Delta R^2 = .13$) in cognitive ability beyond the variance accounted for by the control variables. Of the predictor variables, perception of scholastic competence was found to be significantly related to cognitive ability in the positive direction ($\beta = .46, p = .00$) and social acceptance was found to be significantly related to cognitive ability in the negative direction ($\beta = -.19, p = .05$).

Table 12. Hierarchical Regression Analysis Predicting Fourth Grade Children's Cognitive Ability with Perceived Self-Competence Variables

Step and Predictor Variable	R^2	ΔR^2	<u>B</u>	SE	β
Step 1	.36				
Employment			4.43	3.55	.12
Race			-4.97	3.22	-.17
SES			.57	.13	.46*
Step 2	.49	.13*			
Scholastic Competence			1.73	.51	.46*
Social Acceptance			-.76	.38	-.19*
Athletic Competence			-.50	.55	.13
Physical Appearance			.20	.37	.06
Behavioral Competence			-.23	.41	-.06
Global Self-Worth			-.55	.57	-.12

* $p \leq .05$, two-tail test

Summary of Hypothesis Two

Fourth Grade Children. Hypothesis two was supported at the fourth grade level as children's self-competence was significantly related to children's cognitive ability. Furthermore, the specific relationship between scholastic competence and cognitive ability was also supported as children's scholastic competence was the strongest predictor of cognitive ability in the model.

Hypothesis Three

Mothers' Data. It was hypothesized that a significant relationship would exist between adult attachment styles and children's cognitive ability. Bivariate correlations between the control variables, predictor variables, and outcome variables are presented in Table 13. Six control variables were entered in the correlation analyses including: mother's age, marital status, parental employment, race, SES, and children's gender. Of the control variables, marital status ($r = .20$), race ($r = -.33$), and SES ($r = .37$) were significantly related to children's cognitive ability. Of the six predictor variables, confidence ($r = .19$) and relationships as secondary ($r = .16$) were significantly correlated with cognitive ability in the positive direction. Discomfort with closeness was significantly correlated with cognitive ability in the negative direction ($r = -.19$).

Table 13. Intercorrelations for Children's Cognitive Ability and Mother's Predictor Variables

Variable	1	2	3	4	5	6	7	8	9
Children's Cognitive Ability	.20*	-.33*	.37*	-.01	.19*	-.19*	.06	.16*	-.03
Predictor Variable									
1. Marital Status	1.00	-.22*	.48*	-.18*	-.01	-.16*	.03	-.06	-.06
2. Race		1.00	-.45*	.13	-.11	.22*	-.20*	.14	-.01
3. SES			1.00	-.18*	.11	-.21*	.03	-.19*	-.05
4. RQ Attachment Style				1.00	-.39*	.44*	.15	.29*	.29*
5. ASQ Confidence					1.00	-.51*	-.37*	-.43*	-.39*
6. ASQ Discomfort w/ Closeness						1.00	.31*	.48*	.49*
7. ASQ Need for Approval							1.00	.43*	.67*
8. ASQ Relationships as Secondary								1.00	.51*
9. ASQ Preoccupation w/ Relationships									1.00

* $p \leq .05$, two-tail test

A multiple regression analysis (see Table 14) was conducted to establish whether adult attachment was predictive of cognitive ability. Control variables that were significant in the correlational analyses were included in the regression analyses: marital

status, race, and SES. The control variables were significant predictors of children's cognitive ability ($F = 10.87, p = .00$). These variables accounted for 16% (adjusted R^2) of the variance in cognitive ability with SES as a significant predictor of cognitive ability in the positive direction ($\beta = .32, p = .00$). Race was a significant predictor of cognitive ability in the negative direction ($\beta = -.18, p = .04$). Next, the three RQ dummy variables and the five ASQ attachment variables were added and the model was significant ($F = 3.60, p = .00, R^2 = .22$) accounting for 16% (adjusted R^2) of the variance in children's cognitive ability. Although the model was statistically significant, none of the predictor variables were significant to children's BIA. In addition, maternal attachment explained little variance ($\Delta R^2 = .04$) in cognitive ability beyond the variance accounted for by the control variables.

Table 14. Hierarchical Regression Analysis Predicting Children's Cognitive Ability with Mother's Adult Attachment Variables

Step and Predictor Variable	R^2	ΔR^2	<u>B</u>	SE	β
Step 1	.18				
Marital Status			-.52	2.82	-.02
Race			-5.53	2.61	-.17*
SES			.40	.11	.32*
Step 2	.22	.04			
RQ Secure			-2.75	4.24	-.09
RQ Dismissing			-1.20	4.04	-.03
RQ Preoccupied			4.55	5.17	.10
ASQ Confidence			.40	.27	.14
ASQ Discomfort w/ Closeness			-.05	.20	-.03
ASQ Need for Approval			-.30	.29	-.11
ASQ Relationships as Secondary			-.07	.25	-.03
ASQ Preoccupation with Relationships			.25	.28	.10

Note: RQ Fearful (omitted category)

* $p \leq .05$, two-tail test

Summary of Hypothesis Three

Mothers' Data. The regression model for hypothesis three was statistically significant but the hypothesis was not supported because maternal attachment was not a significant predictor of children's cognitive ability. The significance of the model was due to the contributions of the control variables and not maternal attachment.

Hypothesis Three

Fathers' Data. Bivariate correlations between the control variables, predictor variables, and outcome variables are presented in Table 15. Six control variables were entered in the correlation analyses including: father's age, marital status, employment, race, SES, and children's gender. Of the control variables, SES was significantly related to children's cognitive ability ($r = .32$). Of the six predictor variables, need for approval was significantly correlated with cognitive ability in the negative direction ($r = -.25$).

Table 15. Intercorrelations for Children's Cognitive Ability and Father's Predictor Variables

Variable	1	2	3	4	5	6	7
Children's Cognitive Ability	.32*	-.03	-.08	-.14	-.25*	-.20	-.10
<u>Predictor Variable</u>							
1. SES	-	-.13	-.16	-.10	.05	-.05	-.04
2. RQ Attachment Style		-	-.33	.15	.40	.16	.36
3. ASQ Confidence			-	-.20*	-.24*	-.17	-.31*
4. ASQ Discomfort w/ Closeness				-	.50*	.46*	.51*
5. ASQ Need for Approval					-	.48*	.54*
6. ASQ Relationships as Secondary						-	.38*
7. ASQ Preoccupation w/ Relationships							-

* $p \leq .05$, two-tail test

A multiple regression analysis (see Table 16) was conducted to establish whether adult attachment was predictive of cognitive ability. SES was not a significant predictor of children's cognitive ability ($F = .81$, $p = .37$). Next, the three RQ dummy variables and

the five ASQ attachment variables were and the model was not significant ($F = 1.01$, $p = .44$, $R^2 = .12$). Adult attachment explained modest variance in the model beyond the variance accounted for by the control variable. None of the predictor variables were significantly related to children's cognitive ability.

Table 16. Hierarchical Regression Analysis Predicting Children's Cognitive Ability with Father's Adult Attachment Variables

Step and Predictor Variable	R^2	ΔR^2	<u>B</u>	SE	β
Step 1	.01				
SES			.11	.13	.10
Step 2	.11	.10			
RQ Secure			-2.63	6.46	-.08
RQ Dismissing			5.56	6.61	.01
RQ Preoccupied			3.03	8.32	.06
ASQ Confidence			-.46	.60	-.10
ASQ Discomfort w/ Closeness			.04	.44	.01
ASQ Need for Approval			-.92	.49	-.30
ASQ Relationships as Secondary			-.33	.44	-.10
ASQ Preoccupation with Relationships			.07	.41	.03

Note: RQ Fearful (omitted category)

* $p \leq .05$, two-tail test

Summary of Hypothesis Three

Fathers' Data. Hypothesis three was not supported with the fathers' data as paternal attachment was not significantly related to children's cognitive ability. In addition, none of the predictor variables were significantly related to cognitive ability.

Summary of Results

Based on the analyses for hypothesis one, four significant relationships emerged between maternal attachment and children's self-competence and one significant relationship emerged between paternal attachment and children's self-competence. At the second grade level, maternal attachment was a significant predictor of children's perceptions of physical competence, cognitive competence, and peer acceptance. None of

the models were statistically significant for fathers at the second grade level. At the fourth grade level, maternal attachment was a significant predictor of children's perceptions of social acceptance. At the fourth grade level, paternal attachment was significantly related to children's athletic competence. Of the maternal predictor variables, "discomfort with closeness" and "relationships as secondary" re-appear as significant predictors of children's competence at both the second and fourth grade levels. Of the paternal predictor variables, "need for approval" was a significant predictor of children's peer acceptance at the second grade level and of athletic competence at the fourth grade level. Therefore, it may be summarized that hypothesis one was upheld for second grade children of participating mothers and partially upheld for fourth grade children of participating mothers and fathers in this exploratory study. Hypothesis one was not supported for second grade children of participating fathers.

In hypothesis two, it was stated that children's perceptions of self-competence would be a significant predictor of children's cognitive ability. Regression analyses for hypothesis two illustrated that this relationship was supported at both the second and fourth grade levels. It was also stated in hypothesis two that a more powerful relationship would exist between cognitive/scholastic competence and cognitive ability. Support for this relationship was found at the fourth grade level, as scholastic competence was a significant and positive predictor of cognitive ability. This relationship was not supported at the second grade level where cognitive competence was approaching significance in its relationship with cognitive ability ($p = .06$).

It was stated in hypothesis three that a significant relationship would exist between adult attachment and children's cognitive ability. Regression analyses for

hypothesis three illustrated that this relationship was not supported for either mothers or fathers in this sample. Therefore, it may be summarized that these data analyses did not provide support for hypothesis three.

CHAPTER 5

DISCUSSION

The current study investigated the social antecedents and cognitive outcomes of children's perceptions of self-competence. Results from the data analyses were presented in the previous chapter. In this chapter, limitations of the study will be presented first in order to provide the appropriate context for the interpretation of the results. Following the interpretation of the results will be suggested directions for future research. Next, implications of the study will be elaborated upon followed by a summary of the dissertation.

Limitations of Study

The findings of this study must be viewed within the context of its limitations. The first limitation of this study was the fathers' small sample size. Despite this limitation, fathers were included in the data analyses to establish potential relationships that have not been examined in the scant extant literature on paternal attachment and children's perceptions of self-competence. Second, the data were cross-sectional which impeded the comparison of results across second and fourth grade children. In addition, the study does not use a true random sample which limits the generalizability of the conclusions. The third limitation of the study was that many parental dyads did not complete the questionnaires. There were many instances when, even though both parents were present in the household, only one completed and returned the questionnaire. Questionnaires from both caregivers would have allowed for comparisons within households. A fourth limitation of this study was that parental data were collected via self-report which may have limited the truthfulness of the responses. In addition, order

effects of the RQ and ASQ may have impacted the responses to those measures. Another limitation was that the psychometric properties of the attachment and perceived self-competence measures were generated with predominantly European American samples whereas the majority of mothers and children in this study were African American. Finally, while the sample contained high percentages of European and African American respondents, other ethnic groups, such as Latino and Asian Americans, were underrepresented making it necessary to use caution in generalizing the findings to other populations.

Interpretation of Hypothesis Testing

For the purposes of this study, three hypotheses were formulated based on the tenets of the ecological theory and extant research in the field of children's perceived self-competence. Empirical investigation of these hypotheses was to expand upon current research in the field of perceptions of self-competence and examine the perceived voids that exist in the literature. The focus of the first hypothesis was an exploratory relationship with adult attachment as a potential predictor of children's perceptions of self-competence. The focus of the second hypothesis was on the influences of children's perceived competence on cognitive ability. The final hypothesis expanded on the research of Crandell and Hobson (1999) by examining the potential relationships between adult attachment styles and children's cognitive ability.

Adult Attachment as a Social Antecedent of Self-Competence

As stated in chapter one, the development of self-competence is a complex process with many contributing factors. One factor that has received little empirical attention is that of adult attachment. This lack of empirical evidence lends an exploratory

nature to the results obtained through hypothesis one. At the second grade level, maternal attachment was a significant predictor of children's cognitive competence explaining a modest 14% of the variance in cognitive competence. Maternal attachment was a significant predictor of physical competence explaining respectable (23%) variance in children's perceptions of physical competence. In addition, maternal attachment was a significant predictor of peer acceptance explaining 17% of the variance in the dependent variable. In their daily interactions with significant others, mothers may model the behavior that is inherent to their internal working models. These behaviors teach children how to construct their own internal working models which will dictate their perceptions of self and others. Perception of peer acceptance is a social construct and this research suggests that children may make conclusions about their social lives based on their mothers' attachment styles. The cognitive and physical competence models may indicate that adults with certain attachment styles devote more time to their children's cognitive and physical activities. This increased interaction may in turn, bolster the children's perceptions of self-competence in those domains.

The same attachment variables reappeared as significant predictors of children's perceptions of self-competence in hypothesis one. For mothers, "discomfort with closeness" was the most salient variable in predicting three of the second grade children's self-competencies. Mothers' identification with the "discomfort with closeness" variable was a significant predictor of children's increased perceptions of physical competence, peer acceptance, and maternal acceptance. Sample items on the RQ (Feeney et al., 1994) that are highly indicative of "discomfort with closeness" include: "I prefer to depend on myself rather than other people; other people have their own problems so I don't bother

them with mine; I worry about people getting too close.” Children of mothers with this attachment style may view their mothers keeping the world at a distance and handling problems without seeking social support. These children, in turn, may also assume that it is better to shield one’s true feelings and abilities from others. For this reason, children of “discomfort with closeness” mothers may learn at a young age that it is essential to be independent and self sufficient. Out of necessity, they may possess greater perceptions of self-competence than their peers who receive nurturing feedback from their mothers.

The “relationships as secondary” variable was a significant predictor of lower cognitive competence for children of participating mothers. This attachment style is associated with adults who identify with the following statements: “I am too busy with other activities to put much time into relationships; To ask for help is to admit that you are a failure; My relationships with others are generally superficial.” As mothers’ classification of this attachment style increased, children’s perceptions of cognitive competence decreased. This may be attributed to the fact that “relationships as secondary” mothers may place their child’s needs “second” to other demands. These children in turn, may not feel like a priority in their mothers’ lives and subsequently, their performance in school may suffer.

The results of hypothesis one were similar for fourth grade children of participating mothers. In the fourth grade sample, maternal attachment was a significant predictor of children’s social acceptance and explained 26% of the variance in the dependent variable. Inherent to one’s perceptions of social acceptance is the attachment construct of the internal working model. As stated in chapter two, it is through attachment to caregivers that children develop an internal working model. Through this internal

working model children construct how they are perceived by others. At both the second and fourth grade levels, maternal attachment was significantly predictive of peer and social acceptance. This consistency between the two age groups may indicate that with respect to attachment, the internal working model is more predictive of social constructs than other domains of competence such as athletic, behavioral, and cognitive competencies.

As with the second grade children, there were attachment variables at the fourth grade level that were significantly related to social acceptance. “Discomfort with closeness” was a significant positive predictor of social acceptance and “relationships as secondary” was a significant negative predictor of social acceptance. The former relationship may be due to an inflated sense of one’s ego and the latter relationship may be due to a sense of neglect by others. In investigating the reoccurrence of the “discomfort with closeness” and “relationships as secondary” variables, it is informative to review the demographic characteristics of this sample. The average mother in this sample was African American, 37 years of age, married or cohabiting, and employed full time. Of the five ASQ attachment variables, only the “discomfort with closeness” and “relationships as secondary” variables were significant predictors of children’s perceptions of self-competence. These two variables are similar in that individuals place significant others at a distance due to trust or achievement issues. These two variables may be considered avoidant attachment variables whereas the remaining variables (confidence, need for approval, and preoccupation with relationships) typify people who seek the intimacy of others and place a high premium on significant relationships. In this study, the intimacy seeking attachment styles were not predictive of perceptions of self-

competence in the mothers' sample, but the avoidant attachment styles were significantly related to perceptions of self-competence in several models. The significance of these attachment variables may be due to the parenting styles of the African American mothers in this sample.

Before discussing the findings for the father's data, it is important to note that the small sample of participating fathers was a limitation in conducting the data analyses and may be a contributing factor to the weak relationships in both the second and fourth grade analyses. Hypothesis one was not supported at the second grade level as adult attachment was not a significant predictor of children's perceptions of self-competence. Just as there were two attachment variables that were most salient in the mothers' analyses, the same was true for the fathers' analyses with respect to the "need for approval" variable. Need for approval was the only attachment variable that was a significant predictor in both the second and fourth grade samples.

At the second grade level, "need for approval" was a significant predictor of increased perceptions of peer acceptance for children of participating fathers. This attachment style is associated with adults who identify with the following statements: "It is important to me that others like me; I worry that I won't measure up to other people; It is important to me to avoid doing things that others won't like." As fathers' classification of this attachment style increased, children's perceptions of peer acceptance increased. This interesting relationship may be attributed to the fact that these fathers place a high premium on pleasing others in order to be included in a social relationship. Children may in turn, witness this priority in their father's lives. Therefore, whether or not it is true,

children of these fathers may perceive strong peer acceptance because they are modeling this value of “fitting in” or “people pleasing.”

In understanding the aforementioned relationship, it is informative to again review the demographic variables of the sample. In this study, the average father was European American, 40 years of age, married or cohabiting, employed full time, and earning an income of \$20,000 to \$60,000. While the small sample size limits confidence in the results, the fathers in this sample may model a desire to please their spouse at home regarding the children (“It is important to me to avoid doing things that others won’t like,” or “I find it hard to make a decision unless I know what other people think”). Children may see their father’s desire to “people please” or “spouse please” and may translate this into placing a high premium on peer acceptance. The reality of the children’s peer acceptance may be irrelevant as they *perceive* themselves to possess a high degree of peer acceptance.

At the fourth grade level, paternal attachment was predictive of children’s perceptions of athletic competence. In children of participating mothers, adult attachment was predictive of social acceptance, whereas in children of participating fathers, adult attachment was predictive of athletic competence. These relationships may ultimately be attributed to parental engagement with children. Fathers who were classified according to the “intimate” attachment styles may place a higher value on interactions with their children. These interactions may involve athletic or physical activities. Therefore, this increased exposure to sports may translate into a higher perceived athletic competence. Alternatively, maternal attachment may translate into the amount of time that mothers and children spend communicating. This level of intimacy, or lack thereof, may be the

impetus behind the significant relationship between maternal attachment and social acceptance at the fourth grade level.

Need for approval was the only attachment variable that was a significant predictor of athletic competence in children of participating fathers. As fathers' identification with this attachment style increased, children's perceptions of athletic competence decreased. These fathers may engage in athletic activities with their children while reinforcing the notion that it is important to seek the approval of others, specifically coaches or more physically competence peers. If these children do not receive approval from others, then they may deem themselves to possess inadequate athletic ability. Children of "need for approval" fathers may constantly need the reassurance of others (parents, coaches, peers) in order to perceive themselves as athletically competent.

Directions for Future Research. The findings from hypothesis one reinforce the far-reaching social consequences of the attachment construct. The significant relationships found between adult attachment and children's perceptions of self-competence contribute greatly to the void in attachment literature. While some researchers have touched upon attachment and perceived self-competence (Arbona & Power, 2003; Bylsma et al., 1997; Doyle et al., 2000), research examining adult attachment as a predictor of children's perceptions of self-competence is unprecedented in the field. The finding that maternal attachment is significantly predictive of children's perceptions of their social worlds is unique in that the majority of the mothers in the sample were African American. These findings contribute a unique perspective to the homogeneous landscape of self-competence research and hold great potential for future investigation.

Because testing of the relationship between adult attachment and children's perceptions of self-competence was unprecedented in the literature, both the RQ and the ASQ were utilized as measures of adult attachment. While the variables in both measures are said to be theoretically related (Feeney et al., 1994), it was evident in this study that they were not measuring the same constructs. For example, the RQ "dismissing" variable and the ASQ "relationships as secondary" variable are supposed to be analogous (Feeney et al., 1994). Yet, in examining their significant impact on social acceptance in fourth grade children of participating mothers, these two variables possessed almost identical standardized beta values, but in the opposite directions. While this is the only model in which both variables were significant predictors of the dependent variable, the same relationship was evident in other models. This incongruence between the two measures may be due to the fact that the mothers in this study were predominantly African American and the measure was tested with European American participants. Similar inconsistent results were found by Coreil (2000) in her study of African American caregivers' attachment styles as measured by the RQ. Even though the validity of the RQ with African American respondents has yet to be studied, it was included in this research due to the exploratory nature of hypothesis one. The ASQ is more probative than the RQ and was more predictive of the relationships in this study. Future research is needed to compare the validity of the RQ with that of the ASQ.

While comparisons between mothers' and fathers' data are not possible due to the small sample of fathers, several relationships that are stereotypical with respect to gender are supported in this study. These include maternal attachment as a significant predictor of social acceptance and paternal attachment as a significant predictor of athletic

competence in fourth grade children. As stated earlier, these significant relationships were most likely due to the degree of intimacy seeking on behalf of the adult. Those adults who were classified according to intimacy seeking attachment styles may relate with their spouses and children in a different manner than those adults who avoid intimate relationships with others. The specific relationships between maternal and paternal attachment and children's perceptions of self-competence hold great potential for future research with larger samples of both fathers and mothers.

Another fertile area of future investigation is in the reoccurrence of specific predictor variables in these analyses. In this sample of African American mothers, both "discomfort with closeness" and "relationships as secondary" emerge as the *only* significant predictors of the ASQ. While the majority of mothers in this study were categorized as confident in their attachment style, this study had a much higher percentage of individuals who identified with "discomfort with closeness" and "relationships as secondary" than in the sample utilized by Feeney and colleagues (1994). These two variables continued to re-emerge as significant predictors in all three hypotheses. For fathers, "need for approval" was the single predictor variable that was significant in multiple models. Perhaps the reoccurrence of these variables was due to the disparate racial composition of mothers and fathers in these samples. These distinctions may also be attributed to the differences between men and women. Future research examining larger and more diverse samples will contribute greater understanding to this initial finding.

Children's Cognitive Outcomes in Relation to Self-Competence

The relationship between perceived self-competence and cognitive ability has received little empirical attention (Kurdek & Sinclair, 2000). In the present study, multiple domains of perceived self-competence were examined as predictors of cognitive ability in second and fourth grade children. This research expanded upon previous research in the field by widening the research lens to include multiple competencies other than academic competence. The results of hypothesis two indicated that at the second grade level, children's perceptions of self-competence was a significant predictor of children's cognitive ability explaining modest variability (12%) in the dependent variable. The significance of this model indicates that children as young as second grade had fairly accurate perceptions of their cognitive ability.

The positive influence of the cognitive competence variable was matched in the negative direction by the maternal acceptance variable. As children's perceptions of maternal acceptance increased, scores on the BIA decreased. Initially, this relationship seemed to conflict with theory and intuition. In referencing the maternal acceptance subscale of the PSPCSA, the items that measured maternal acceptance (mother takes child to his/her favorite places; mother cooks child's favorite foods; mother lets child stay overnight at friends' houses; and mother lets child eat meals at friends' houses) may be more related to permissive parenting than maternal acceptance. Mothers who were permissive with sleep-overs and food choices may be equally permissive with academic endeavors. Therefore, children with higher perceptions of "maternal acceptance" may actually have more permissive mothers. The children who scored low on "maternal acceptance" may have authoritative mothers who place a higher premium on schoolwork

and healthy food choices. A child of this authoritative mother would naturally perceive his/her mother as being strict and therefore disagree with the statements in the PSPCSA. While the predictors of cognitive competence and maternal acceptance were not statistically significant in this model, the opposing nature of the standardized beta scores prompts further investigation.

Hypothesis two was also supported at the fourth grade level in that children's perceptions of self-competence was a significant predictor of cognitive ability explaining high variance (42%) in the dependent variable beyond that accounted for by the control variables. In addition, scholastic competence was a significant predictor of cognitive ability in the positive direction. This indicates that children's perceptions of cognitive competence were predictive of their actual cognitive ability. Children who rated themselves low on cognitive competence scored lower on the BIA than children who rated themselves as high on cognitive competence. This finding expands upon research conducted by Kurdek and Sinclair (2000) in which the authors found a similar relationship between academic competence and cognitive ability. While Kurdek and Sinclair's sample was comprised of European American middle-class children, this study echoed the same findings but with African American children in second and fourth grades. In addition, Kurdek and Sinclair cited the traditional family structure of their sample as a limitation to the generalizability of their results. Although the majority of students in this study lived in a two-parent household, the family composition of this sample was not strictly limited to two-parent households like that of Kurdek and Sinclair's sample.

This study expanded upon Kurdek and Sinclair's (2000) research in that multiple domains of perceived competence were assessed. Specifically, social acceptance was a significant and negative predictor of cognitive ability. As children's perceptions of social acceptance increased, their cognitive ability as measured by the BIA decreased. This relationship may support the stereotype between popularity and intelligence in young children. While this stereotypical relationship between popularity and intelligence is more readily associated with adolescents, findings from this study may indicate that this relationship is evident in younger children. Kurdek and Sinclair's research did not include competence variables beyond academic competence; therefore, this study contributes a new finding to this limited area of research. It is also interesting to note that peer acceptance was not a significant predictor of cognitive ability at the second grade level but was significant at the fourth grade level. As children progress through elementary and middle school, they begin to place greater value in peer relationships. This increased value may explain the significance of the social acceptance variable and the lack of significant relationships between cognitive ability and physical appearance, athletic competence, behavioral competence, and global self-worth.

The cognitive shift that occurs between early childhood and middle childhood was elaborated upon in chapter two. This cognitive shift lends itself to the formation of global self-worth and allows a child to view himself as a good or bad person. Great attention was devoted to the explanation of global self-worth as it was assumed that this would be a significant variable in differentiating between second and fourth grade children's perceptions of self-competence. Global self-worth was not a significant predictor of children's cognitive ability at the fourth grade level which indicates that

these children did not associate their overall “goodness” as human beings with their cognitive ability. Global self-worth was not a significant variable throughout the analyses of this dissertation which illustrates that this study did not include any antecedents or outcomes of this broad sense of self.

Directions for Future Research. The significant relationship between cognitive/scholastic competence and cognitive ability at the second and fourth grade levels leads to the question of bi-directionality. Future research must address cognitive ability as a predictor of cognitive/scholastic competence in order to fully understand the directionality of the relationships. Investigating bi-directional relationships is applicable in all three hypotheses and is supported through the ecological theory. The framework of this dissertation included three of the six possible relationships, but future research must examine the remaining three relationships to offer a more thorough understanding of perceptions of self-competence and adult attachment.

The present study utilized cross-sectional data whereas future studies would benefit from a longitudinal design. Harter’s measures lend themselves to longitudinal examination of perceptions of self-competence with separate measures for children in early childhood, middle childhood, and adolescence. As illustrated in this study, peer acceptance was not a significant predictor of cognitive ability at the second grade level, but was a significant predictor at the fourth grade level. It would be interesting to note if this change would be evident over time within a sample of children as they progress from second to fourth grade. In addition, how do the influences of self-competence evolve from middle childhood to adolescence in relation to cognitive ability? Would physical appearance become more salient for females in relation to cognitive ability as they enter

adolescence? Conversely, would athletic competence become more salient for males as they develop? A longitudinal study spanning first grade through high school would enrich the understanding of self-competence and cognitive ability as researchers could make comparisons on the impact of each competence across grade levels.

The significant nature of hypothesis two makes this an interesting relationship to expand upon in the future. In order to more fully investigate the relationship between perceived self-competence and cognitive ability it would be beneficial to include the input of children's teachers. In this study, cognitive outcomes were measured via a standardized test of cognitive ability rather than end-of-year grades. While it is necessary to have an objective measure of children's cognitive ability, the study of this hypothesis would be enriched by including teachers' input on children's self-competence. Future research should include Harter's (1983, 1985b) measures of teacher's perceptions of children's self-competence. Assessing teacher's perceptions of students' competencies would offer an outside perspective on how the children are viewed by others. This additional perspective would also verify whether the child's perceptions of self are shared by their teachers. The teachers' measure of children's self-competence, combined with children's perceptions of their own self-competence, would create a richer understanding of the predictors of cognitive ability and enhance the ecological nature of the study.

Children's Cognitive Outcomes in Relation to Adult Attachment

The hypothesis on the relationship between adult attachment and children's cognitive ability was not supported in this study with adult attachment explaining low variance in the dependent variables in both the mothers' and fathers' analyses. The hypothesis stemmed from research conducted by Crandell and Hobson (1999) in which

maternal attachment was predictive of cognitive ability in three-year-old children.

Neither maternal nor paternal attachment styles were predictive of cognitive ability in this study and none of the attachment variables were significant predictors of cognitive ability.

There were many differences between the present study and the study conducted by Crandell and Hobson (1999). The most obvious difference was the age of the children. While it is evident that cognitive ability at three years of age is contingent upon interaction with a significant caregiver (generally mother), many other factors may serve as more powerful predictors of cognitive ability for second or fourth grade children. The second difference is that cognitive ability in Crandell and Hobson's study was assessed via the Stanford-Binet (Thorndike, Hagen, & Sattler, 1986). While both the Stanford-Binet and the Woodcock-Johnson are well respected tests of cognitive ability, the age differences in the children preclude comparisons across samples. In addition, Crandell and Hobson assessed maternal attachment utilizing the Adult Attachment Interview as a Questionnaire (AAIQ, Crandell, Fitzgerald, and Whipple, 1997). This questionnaire assessed the respondents' recollections of their childhood relationships with their parents, while the RQ and the ASQ assesses adult romantic attachment to significant others. While the two forms of adult attachment are closely related, attachment to a significant other may be perceived as a very different construct from attachment to one's parents. Finally, the demographic composition of the two studies differed. Mothers in Crandell and Hobson's study were predominantly European American, married, and college educated whereas the majority of mothers in the present study were African American, married or cohabiting, and had attended some college or trade school. Of these

explanations, the two that were most salient to the different findings between the two studies include the age of the children and the forms of measurement.

Directions for Future Research. While support for the relationship between adult attachment and children's cognitive ability was not found in this study, the findings contribute a valuable piece of information to the attachment/self-competence literature. Crandell and Hobson (1999) found that three-year-old children of secure mothers scored 19 points higher on the Stanford-Binet intelligence test. Future research must determine if this gap remains substantial across childhood or if the gap narrows as children age. Crandell and Hobson's (1999) results must be extended to determine if adult *romantic* attachment is a significant predictor of cognitive ability in three-year-old children. If this relationship is supported, the study should be continued longitudinally to determine if adult romantic attachment remains a significant predictor of cognitive ability throughout childhood. Perhaps Crandell and Hobson's findings may only be significant until a child reaches a certain age when other factors become stronger mediators in children's cognitive ability. If this is true, it is necessary to investigate the age at which adult attachment ceases to serve as a predictor of children's cognitive ability. Regardless of the results of this study, the relationship between adult attachment and cognitive ability remains an interesting area for future research as "there is something about a mother's state of mind in relation to attachment ...that seems to have a significant bearing on young children's performance on standardized tests of intellectual ability" (Crandell & Hobson, 1999, p. 463).

Implications of Research

Before concluding this dissertation, it is relevant to surmise the implications that this body of research may hold for others, specifically, researchers, parents, and teachers. The finding that adult attachment was a predictor of second and fourth grade children's perceptions of self-competence brings to light an area of investigation that is unprecedented in the literature. This study holds implications for researchers in that it introduced new dimensions into the scholarly dialogue of parent-child relationships by examining adult attachment as a social antecedent of children's perceptions of self-competence. This study may also indicate that the adult attachment and children's self-competence instruments may be applicable to a more diverse population than the European American samples that they have generally been utilized with in the past.

The significant relationships between maternal attachment and peer/social acceptance may indicate that the social nature of a mother's internal working model may influence a child's perceptions of likeability and acceptance by others. Something as seemingly far removed as adult attachment may have an impact on children's perceptions of their acceptance by others in middle childhood. Future research is needed to clarify the specific components of this relationship, but this finding may have relevant implications for mothers. There may be something inherent to a mother's relationship with a significant other that influences a child's perception of social acceptance. Adult attachment may influence the quality of the interactions between mothers and children, or children may view their mothers' interactions with a significant other and model this behavior with peers. Therefore, mothers should be cognizant of their interactions with significant others as this behavior may be translated into a predictor of social acceptance

in middle childhood. Future research is necessary to determine if this relationship exists in early childhood and adolescence.

The finding that second and fourth grade children's perceived self-competence was a significant predictor of cognitive ability has implications for both parents and teachers. At the second grade level, perceptions of self-competence explained 12% of the variance in cognitive ability, but at the fourth grade level, perceptions of self-competence explained 42% of the variance in children's cognitive ability. As stated earlier, this finding was driven by the contribution of the scholastic competence variable at the fourth grade level. As children develop, they gain keener insight into their strengths and weaknesses which may explain the stronger relationship in fourth grade children. These findings may illustrate that children as young as second grade are aware of their cognitive ability. In addition, this research may indicate to parents and teachers that early successes or failures with cognitive endeavors may shape a child's perceptions of his cognitive ability for the remainder of his life.

Researchers may wish to extend the focus of this dissertation to include the environment or teaching style that is most conducive to high self-competence. Jambunathan, Burts, and Pierce (1999) found that children in developmentally appropriate pre-kindergartens had higher perceptions of self-competence than children in developmentally inappropriate pre-kindergartens. Early childhood researchers may combine the findings from the present study with those of Jambunathan and colleagues to expand upon the understanding of the antecedents and outcomes of self-competence. Perhaps the increased perceptions of self-competence that were evidenced in children enrolled in developmentally appropriate classrooms translates into higher scores on

standardized tests from pre-kindergarten through high school. From this research, teachers and parents may glean that it is necessary to engage children in tasks that encourage problem solving and exploration rather than workbook exercises that may limit perceptions of cognitive competence.

Conclusion

The primary goal of the present research was to investigate the antecedents and outcomes of children's perceptions of self-competence. More specifically, the three relationships investigated included: (a) adult attachment as a predictor of children's self-competence, (b) children's perceived self-competence as a predictor of cognitive ability, and (c) adult attachment as a predictor of children's cognitive ability.

Several findings emerged from this study. Maternal attachment was a significant predictor of multiple domains of self-competence at the second and fourth grade levels and children's self-competence was predictive of cognitive ability in both second and fourth grade children. These empirical findings contribute to the larger panorama of self representation in that they depart from the "theoretical and descriptive" analyses to include the contextual antecedents and outcomes of self representation (Harter, 1998, p. 599-600). Harter's (1998) concluding remarks to her chapter in the *Handbook of Child Psychology* imply that it is crucial to widen the scope of research to include an ecological perspective in the study of self-competence. This dissertation served the larger purpose of broadening the research lens to include an ecological investigation of the antecedents and outcomes of perceived self-competence.

The present research acknowledges Harter's (1998) charge by moving beyond the descriptive analyses of perceived self-competence and investigating adult attachment as

an ecological antecedent of children's self-competence. Many of the relationships established in this study were exploratory in nature and may begin to fill the perceived voids in the self-competence literature. The contributions of the present study will hopefully encourage future ecological research that will continue to elaborate upon the "reasons why we should *care* about the self" in childhood and throughout the life cycle (Harter, 1998, p. 599-600).

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APPENDIX A
RELATIONSHIP QUESTIONNAIRE

RELATIONSHIP QUESTIONNAIRE
BARTHOLOMEW AND HOROWITZ (1991)

Below are statements about how some people form relationships with other people,
Based on your own relationships, indicate if you agree or disagree with each statement.

1 = Strongly Agree
2 = Agree
3 = Disagree
4 = Strongly Disagree

- A. It is easy for me to become emotionally close to others. I am comfortable depending on others and having others depend on me. I don't worry about being alone or having others not accept me.

1 2 3 4

- B. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient. I prefer not to depend on others or have others depend on me.

1 2 3 4

- C. I want to be emotionally intimate with others but I often find that others are reluctant to get as close as I would like. I don't like being without close relationships, but sometimes I worry that others don't value me as much as I value them.

1 2 3 4

- D. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry I will be hurt if I allow myself to become too close to others.

1 2 3 4

Which of the above descriptions do you think fits you best? A B C D

APPENDIX B
ATTACHMENT STYLE QUESTIONNAIRE

ATTACHMENT STYLE QUESTIONNAIRE
FEENEY, NOLLER, AND HANRAHAN (1994)

Below are some statements that describe people. Indicate how much you *disagree* or *agree* with each of the following statements.

- 1 = Totally Disagree
2 = Strongly Disagree
3 = Slightly Disagree
4 = Slightly Agree
5 = Strongly Agree
6 = Totally Agree

- | | |
|--|-------------|
| a. Overall, I am a worthwhile person. | 1 2 3 4 5 6 |
| b. I am easier to get to know than most people. | 1 2 3 4 5 6 |
| c. I feel confident that other people will be there for me when I need them. | 1 2 3 4 5 6 |
| d. I prefer to depend on myself rather than other people. | 1 2 3 4 5 6 |
| e. I prefer to keep to myself. | 1 2 3 4 5 6 |
| f. To ask for help is to admit that you're a failure. | 1 2 3 4 5 6 |
| g. People's worth should be judged by what they achieve. | 1 2 3 4 5 6 |
| h. Achieving things is more important than getting on with others. | 1 2 3 4 5 6 |
| i. Doing your best is more important than getting on with others. | 1 2 3 4 5 6 |
| j. If you've got a job to do, you should do it no matter who gets hurt. | 1 2 3 4 5 6 |
| k. It's important to me that others like me. | 1 2 3 4 5 6 |
| l. It's important to me to avoid doing things that others won't like. | 1 2 3 4 5 6 |
| m. I find it hard to make a decision unless I know what other people think. | 1 2 3 4 5 6 |
| n. My relationships with others are generally superficial. | 1 2 3 4 5 6 |
| o. Sometimes I think I am no good at all. | 1 2 3 4 5 6 |
| p. I find it hard to trust other people. | 1 2 3 4 5 6 |
| q. I find it difficult to depend on others. | 1 2 3 4 5 6 |
| r. I find that others are reluctant to get as close as I would like. | 1 2 3 4 5 6 |

- s. I find it relatively easy to get close to other people. 1 2 3 4 5 6
- t. I find it easy to trust others. 1 2 3 4 5 6
- u. I feel comfortable depending on other people. 1 2 3 4 5 6
- v. I worry that others won't care about me as much as I care about them. 1 2 3 4 5 6
- w. I worry about people getting too close. 1 2 3 4 5 6
- x. I worry that I won't measure up to other people. 1 2 3 4 5 6
- y. I have mixed feelings about being close to others. 1 2 3 4 5 6
- z. While I want to get close to others, I feel uneasy about it. 1 2 3 4 5 6
- aa. I wonder why people would want to get involved with me. 1 2 3 4 5 6
- bb. It's very important to me to have a close relationship. 1 2 3 4 5 6
- cc. I worry a lot about my relationships. 1 2 3 4 5 6
- dd. I wonder how I would cope without someone to love me. 1 2 3 4 5 6
- ee. I feel confident about relating to others. 1 2 3 4 5 6
- ff. I often feel left out or alone. 1 2 3 4 5 6
- gg. I often worry that I do not really fit in with other people. 1 2 3 4 5 6
- hh. Often people have their own problems, so I don't bother them with mine. 1 2 3 4 5 6
- ii. When I talk over my problems with others, I generally feel ashamed or foolish. 1 2 3 4 5 6
- jj. I am too busy with other activities to put much time into relationships. 1 2 3 4 5 6
- kk. If something is bothering me, others are generally aware and concerned. 1 2 3 4 5 6
- ll. I am confident that other people will like and respect me. 1 2 3 4 5 6
- mm. I get frustrated when others are not available when I need them. 1 2 3 4 5 6
- nn. Other people often disappoint me. 1 2 3 4 5 6

APPENDIX C

PICTORIAL SCALE OF PERCEIVED COMPETENCE AND SOCIAL ACCEPTANCE

PICTORIAL SCALE OF PERCEIVED COMPETENCE AND SOCIAL ACCEPTANCE

Name/IDNO _____ Birthday _____

Interview Date/Time _____ Interviewer _____

		Score (1 – 4)
1.	Good at numbers	
2.	Friends to play with	
3.	Good at swinging	
4.	Eats at friends	
5.	Knows a lot in school	
6.	Others share	
7.	Good at climbing	
8.	Mom takes you places	
9.	Can read alone	
10.	Friends to play games with	
11.	Good at bouncing ball	
12.	Mom cooks favorite foods	
13.	Good at writing words	
14.	Has friends on playground	
15.	Good at skipping	
16.	Mom reads to you	
17.	Good at spelling	
18.	Gets asked to play by others	
19.	Good at running	
20.	Stays overnight at friends	
21.	Good at adding	
22.	Others sit next to you	
23.	Good at jumping rope	
24.	Mom talks to you	

APPENDIX D
SELF-PERCEPTION PROFILE FOR CHILDREN

SELF-PERCEPTION PROFILE FOR CHILDREN

Name/IDNO _____ Birthday _____

Interview Date/Time _____ Interviewer _____

Sample Question

Really true For me	Sort of true for me		But		Sort of true for me	Really true for me
(a)		Some kids would rather play outdoors in their spare time		Other kids would rather watch T.V.		
<hr/>						
1		Some kids feel that they are very good at their school work		Other kids <i>worry</i> about whether they can do the school work assigned to them.		
2		Some kids find it <i>hard</i> to make friends		Other kids find it's pretty <i>easy</i> to make friends		
3		Some kids do very <i>well</i> at all kinds of sports		Other kids <i>don't</i> feel that they are very good when it comes to sports		
4		Some kids are <i>happy</i> with the way they look		Other kids are <i>not</i> happy with the way they look		
5		Some kids often do <i>not</i> like the way they behave		Other kids usually <i>like</i> the way they behave		
6		Some kids are often <i>unhappy</i> with themselves		Other kids are pretty <i>pleased</i> with themselves		
7		Some kids feel like they are <i>just as smart</i> as other kids their age		Other kids aren't so sure and <i>wonder</i> if they are as smart		
8		Some kids have <i>a lot</i> of friends		Other kids <i>don't</i> have very many friends		
9		Some kids wish they could be a lot better at sports		Other kids feel they are good enough at sports		
10		Some kids are <i>happy</i> with their height and weight		Other kids wish their height or weight <i>were different</i>		
11		Some kids usually do the right thing		Other kids often <i>don't</i> do the right thing		

12	Some kids <i>don't</i> like the way they are leading their life	But	Other kids <i>do</i> like the way they are leading their life
13	Some kids are pretty <i>slow</i> in finishing their school work	But	Other kids can do their school work <i>quickly</i>
14	Some kids would like to have a lot more friends	But	Other kids have as many friends as they want
15	Some kids think they could do well at just about any sports activity they haven't tried	But	Other kids are afraid they might <i>not</i> do well at sports they haven't ever tried
16	Some kids wish their body was <i>different</i>	But	Other kids <i>like</i> their body the way it is
17	Some kids usually <i>act</i> the way they know they are <i>supposed</i> to	But	Other kids often <i>don't</i> act the way they are supposed to
18	Some kids are <i>happy</i> with themselves as a person	But	Other kids are often <i>not</i> happy with themselves
19	Some kids often <i>forget</i> what they learn	But	Other kids can remember things <i>easily</i>
20	Some kids are always doing things with <i>a lot</i> of kids	But	Other kids usually do things by <i>themselves</i>
21	Some kids feel that they are <i>better</i> than others their age at sports	But	Other kids <i>don't</i> feel they can play as well
22	Some kids wish their physical appearance (how they look) was <i>different</i>	But	Other kids <i>like</i> their physical appearance the way it is
23	Some kids usually get in <i>trouble</i> because of things they do	But	Other kids usually <i>don't</i> do things that get them in trouble
24	Some kids <i>like</i> the kind of <i>person</i> they are	But	Other kids often wish they were someone else
25	Some kids do <i>very well</i> at their classwork	But	Other kids <i>don't</i> do very well at their classwork
26	Some kids wish that more people their age liked them	But	Other kids feel that most people their age <i>do</i> like them

27	In games and sports some kids usually <i>watch</i> instead of play	But	Other kids usually <i>play</i> rather than just watch
28	Some kids wish something about their face or hair looked <i>different</i>	But	Other kids <i>like</i> their face and hair the way they are
29	Some kids do things they know they <i>shouldn't</i> do	But	Other kids <i>hardly</i> ever do things they know they shouldn't do
30	Some kids are very <i>happy</i> being the way they are	But	Other kids wish they were <i>different</i>
31	Some kids have <i>trouble</i> figuring out the answers in school	But	Other kids almost <i>always</i> can figure out the answers
32	Some kids are <i>popular</i> with others their age	But	Other kids are <i>not</i> very popular
33	Some kids <i>don't</i> do well at new outdoor games	But	Other kids are <i>good</i> at new games right away
34	Some kids think that they are good looking	But	Other kids think that they are not very good looking
35	Some kids behave themselves very well	But	Other kids often find it hard to behave themselves
36	Some kids <i>are not</i> very happy with the way they do a lot of things	But	Other kids think the way they do things is <i>fine</i>

VITA

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