IMPACT OF CHILDHOOD ADVERSITY ON SELF-CONCEPT AND QUALITY OF PEER RELATIONSHIPS IN ADOLESCENCE

APPROVED BY SUPERVISORY COMMITTEE

UMA RAO, M.D.

CHERYL SILVER, PH.D.

CRISTA WETHERINGTON, PH.D.

DEDICATION

I would like to thank the members of my advisory committee, Uma Rao, M.D., Cheryl Silver, Ph.D., and Crista Wetherington, Ph.D., for their guidance and support throughout the research process. I would also like to thank my family and friends for their patience and encouragement of my aspirations.

IMPACT OF CHILDHOOD ADVERSITY ON SELF-CONCEPT AND QUALITY OF PEER RELATIONSHIPS IN ADOLESCENCE

by

LAUREN CHRISTINE SMITH

THESIS

Presented to the Faculty of the Graduate School of Biomedical Sciences

The University of Texas Southwestern Medical Center at Dallas

In Partial Fulfillment of the Requirements

For the Degree of

MASTER OF SCIENCE

The University of Texas Southwestern Medical Center at Dallas

Dallas, Texas

August, 2009

IMPACT OF CHILDHOOD ADVERSITY ON SELF-CONCEPT AND QUALITY OF PEER RELATIONSHIPS IN ADOLESCENCE

LAUREN CHRISTINE SMITH, B.S.

The University of Texas Southwestern Medical Center at Dallas, 2009

UMA RAO, M.D.

Experiences of childhood adversity have been found to be related to maladjustment in multiple aspects of mental health and development. The current study examined the impact of childhood adversity (separation/loss of caretaker, illness/injury/non-caretaker loss, physical neglect, physical abuse, emotional abuse, witnessing violence, and sexual abuse) on self-concept and quality of peer relationships in 68 adolescents, aged 12 to 18, with various histories of adversity. Specifically, self-concept was examined as a mediator between a history of adversity in childhood and the quality of peer relationships during adolescence. The findings suggested that self-concept during adolescence was a better predictor of the quality of peer relationships during adolescence than one's history of

adversity. These results have implications for understanding resilience in children with experiences of adversity, particularly that they are not "doomed" to poor quality relationships with their peers during adolescence.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

CHAPTER ONE
Introduction

Childhood experiences of adversity, including parental separation or divorce, death or serious illness of a family member, maltreatment, foster or institutional care, persistent parental conflict or witnessing domestic violence, low socioeconomic status, and parental unemployment have been linked to poor developmental outcomes among children and adolescents who face these stressful experiences (Cicchetti, & Rogosch, 1997; Frederick, & Goddard, 2008; Levendosky, Huth-Bocks, & Semel, 2002; Patterson, Vaden, & Kupersmidt, 1991). Stressful experiences in childhood may have a more pervasive impact on development than those occurring in adulthood, as they tend to disrupt the developing coping skills that influence subsequent functioning (Compas, 1987). Childhood adversity research has previously focused on one particular event or chronically stressful situation in terms of the effects on specific developmental outcomes, without examining the contributions of a variety of adverse events. However, the consideration of all types of childhood adversity and family backgrounds is important when seeking to understand personal and social adjustment in adolescence and adulthood.

The more frequent types of adversity that have been examined in relation to psychosocial adjustment outcomes include maltreatment, persistent poverty, experiencing a natural disaster, and serious illness during childhood or illness of a primary caregiver (Cicchetti, & Rogosch, 1997; DeCivita, Pagani, Vitaro, Tremblay, 2007; Houck, Rodrigue, & Lobato, 2007; New, Lee, & Elliott, 2007). For example, Cicchetti and Rogosch (1997) noted that children of low income

families tend to have an increased likelihood of academic failure, as well as emotional distress and overall mental disorder, compared to children who do not experience chronic financial hardship or distress. Similarly, Patterson et al. (1991) contended that adverse family backgrounds, including poverty and low socioeconomic status, potentially reinforce aggressive and disruptive behavior styles, which may place children at risk for rejection by peers. Children and adolescents experiencing chronic illness also have significantly more mental health problems than those who are physically healthy (New et al., 2007). New et al. emphasized the importance of examining mental health needs in populations of chronically-ill children because of the potential for emotional and behavioral problems to affect disease status and overall illness adjustment. In addition, children whose parents suffer serious illness report significantly more psychological problems, including low self-esteem and social skills deficits (Houck et al. 2007). As some children and adolescents experience several types of adversity, the severity and chronicity of these experiences, rather than the type of stressful event, may be important predictors in psychosocial adjustment.

CHAPTER TWO
Review of the Literature

Childhood Adversity and Psychosocial Adjustment

Researchers have cited poor adjustment outcomes in adolescents related to a variety of psychosocial stressors. Parental physical illness, a stressor that presents the possibility of both short-term and long-term losses for the child or adolescent, has been associated with multiple psychological problems, including depression, anxiety, low self-esteem, and deficits in social competence (Houck et al., 2007). Additionally, children with chronic illnesses must face issues directly surrounding their disease status, including missing school, and therefore, opportunities for social interaction with peers, in addition to external factors that may compound adjustment to their illnesses, such as lack of social support, poverty, and stigmatization of their physical condition. For example, children infected with human immunodeficiency virus (HIV) likely suffer not only from cognitive deficits associated with the virus, such as learning and attention problems, but also from body image issues and other internalizing and externalizing disorders (New et al., 2007). These children may also have family members infected with HIV, which represents an additional stressor that the child must cope with, as well as further strain on the family's resources.

Persistent poverty during childhood and adolescence has also been cited to have detrimental effects on development, more so than intermittent poverty, and may be especially disadvantageous when experienced during early and middle childhood (Civita et al., 2007). Although researchers have identified associations

between specific adversities and general mental health, relatively little research has been directed toward understanding how overall adversity, or the experience of multiple life stressors, affects particular aspects of psychosocial development and adjustment.

Childhood Maltreatment: Research on Risk and Consequences

Childhood maltreatment, as a significant developmental adversity, appears to dominate recent social science research, particularly in relation to psychological development and later adolescent and adult adjustment. Maltreatment research is important in understanding the nature and consequences of abusive home environments, as well as the implications for intervention with victims and perpetrators of maltreatment. Researchers have commented on the deleterious effects of maltreatment in areas such as self-esteem and self-concept, quality of peer relationships, social competence, and perceptions of social support (Bolger, Patterson, & Kupersmidt, 1998; Kinard, 1999; Levendosky et al., 2002; Reyes, Kokotovic, & Cosden, 1996; Salzinger, Feldman, Hammer, & Rosario, 1993). Research has supported the notion that certain populations are at higher risk for becoming victims of abuse, and researchers have identified significant risk factors for victims of early childhood abuse, including prematurity, low birth weight, neonatal illnesses, and "difficult" temperament in infancy, factors that tend to make care-giving more difficult (George, & Main, 1979). Additionally, children with developmental and intellectual deviations, special needs and behavior disorders, and children who come from large families are at significantly

higher risk of being maltreated (Hetherington et al., 2005). In addition to higher rates of overall psychopathology compared to non-abused children, victims of maltreatment are reported to have a lack of positive reciprocity from the children they name in their social networks (Salzinger et al., 1993), a less positive sense of self (Bolger et al., 1998), and impaired social interaction (George, & Main, 1979; Jacobson, & Straker, 1982), particularly showing more negative patterns of behavior with peers and deficiencies in social problem-solving skills (Haskett, & Kistner, 1991). Kim and Cicchetti (2004) also explained that maltreated children show deficits in self-esteem, impaired perceptions of competence, and disturbances in the integration of memories, perception, and identity, leading to greater dissociation of the self. Disruptions in the developing views of self and others may lead to impaired adjustment in adolescence and adulthood and in quality of family, peer and intimate relationships, although longitudinal studies to test such hypotheses are lacking.

Research on childhood maltreatment includes a variety of definitions of type and severity of abuse, which has led to some inconsistency across studies. Consequences of physical and sexual abuse dominate the literature on maltreatment (Black, Dubowitz, & Harrington, 1994; Haskett, & Kistner, 1991; Jacobson, & Straker, 1982; Lopez, & Heffer, 1998; Murthi, Servaty-Seib, & Elliot, 2006; Reyes, Kokotovic, & Cosden, 1996; Salzinger et al., 1993), although some researchers have chosen to explore neglect (including failure to provide for the physical and emotional needs of children, and lack of supervision), emotional maltreatment, and being witness to domestic violence (Bolger et al.,1998;

Levendosky et al., 2002). Considering the definition of physical abuse, for example, various studies have chosen different criteria to operationally define this type of abuse; Clemmons et al. (2007) defined physical abuse as "a parent or other adult caregiver did something to [participants before they were 18 years of age] on purpose (e.g., kicked, hit with a fist, knocked them down) (p. 175)," while other researchers defined abuse based on involvement with child protective agencies (Burack et al., 2006).

Overlap in some definitions of maltreatment, including emotional and psychological maltreatment, has led researchers to consider the effects of experiencing multiple forms of maltreatment, which victims of abuse often tend to report (Bolger et al., 1998; Cicchetti, & Rogosch, 1997). For example, Clemmons et al. (2007) examined the cumulative impact of co-occurring types of maltreatment, and found that maltreatment severity interacted with number of abuse types to predict trauma symptoms in adulthood. Additionally, they noted that individuals with long-term adjustment problems were better classified based on severity, rather than type, of maltreatment experience, and identified six specific severity indicators, including frequency, duration, nature of acts, relationship to perpetrator, number of perpetrators, and use of force (Clemmons et al., 2007). Other researchers have also focused on the severity of abuse as an indicator of later adjustment (Steel, Sanna, Hammond, Whipple, & Cross, 2004).

Despite the focus on different types of maltreatment, researchers have given less attention to the experience and consequences of maltreatment as a component of overall adversity. The potential for experiencing some type of

adversity in childhood and the variety of life stresses encountered lend to the importance of research to support interventions for children and adolescents experiencing adverse life circumstances. Although the literature is dominated by experiences of abuse, it will be important to examine other salient stressful events, including separation from or loss of caregiver, serious illness or injury during childhood, and witnessing domestic violence, in gaining a broader understanding of how adversity impacts all facets of development, particularly with regard to identity formation, self-concept and quality of peer relationships.

Development of Self-Concept in Childhood and Adolescence

Self-concept becomes a prominent aspect of development during adolescence, as children become more competent in most areas of their lives and experience the physical transformations associated with puberty. Researchers have suggested that the main transitional task for the adolescent is identity formation, which is likely influenced by parent and peer interactions, and leads to a positive or negative idea of self (Hay, & Ashman, 2003). Ybrandt (2008) agreed that adolescence is a period in which questions of identity begin to arise, coupled with a more refined understanding of what social behaviors are appropriate in particular social contexts. Self-concept is thought to have an impact on the mental health and adjustment of adolescents, in that positive self-concept may guard against both internalizing and externalizing problems common to individuals during this developmental period (Ybrandt, 2008). However, self-concept can be regarded as both a risk factor, negatively influencing social adjustment and

functioning, and a protective factor, as it may promote general well-being, in the developmental process.

Harter et al. (1997) noted a relatively recent shift in the study of the self-system from a focus on global representations of self to a more multidimensional framework, in which various factors are considered to influence the overall sense of self. Additionally, Harter et al. (1997) emphasized that the previous global framework masked important distinctions that individuals make in self-evaluations of adequacy in different domains of their lives. Hence, the current conceptualization of self-concept, supported by extensive data, emphasizes the multidimensional model as a more inclusive and thorough way to explain self-concept (Harter et al., 1997). Marsh (1989) also recognized the importance of these various factors, and argued that self-concept cannot be adequately defined or understood if its multidimensionality is not taken into account. On the other hand, a recent definition describes *global* self-concept as the individual's overall evaluation of his or her personal characteristics and behavioral competence (McCullough, Huebner, and Laughlin, 2000). Early models of the self-system (Coopersmith, 1967; Rosenberg, 1979) focused on the construct of self-esteem, or the individual's overall sense of worth as a person (Harter et al., 1997). More recently, Ybrandt (2008) differentiated self-concept from self-esteem, suggesting that self-concept is expressed as the cognitive perceptions of an individual's attitude and treatment toward oneself, while self-esteem expresses how much one values oneself as a person.

An early multidimensional model of self-concept suggested that one's idea of self is multifaceted, hierarchically organized, and becomes increasingly differentiated with age, meaning that the number of domains to be evaluated increases across the life span (Harter et al., 1997; Shavelson, Hubner, & Stanton, 1976). Self-concept is thought to include specific domains that are important to one's self-perceptions and feelings of self-worth, which can be hierarchically organized into academic and nonacademic domains (Marsh, 1989). The academic domain can be further divided into math and verbal self-concept, while the non-academic domain includes areas like physical ability, physical appearance, parent relationships, same and opposite sex peer relationships, and honesty/trustworthiness (Hay, & Ashman, 2003; Lopez, & Heffer, 1998; Marsh, 1989). In a more recent model, Wenar and Kerig (2006) proposed that self-concept has two major components; the first is the content of the self-concept (which answers the question, "what am I like?"), and the second component is the value ascribed to such self-perceptions, also known as self-esteem or self-competence. Ybrandt (2008) proposed that self-concept lies on somewhat of a continuum, where positive self-concept is represented by self-affirmation, self-love, and self-protection, and negative or abnormal self-concept involves self-blame, self-attack, and self-neglect. Part of a positive self-concept, self-loving behavior is thought to lead to healthy adjustment in adolescents, and is likely associated with higher self-esteem (the value of oneself as a person). These self-loving behaviors may include self-discipline and goal orientation, which may

minimize the risk for self-destructive feelings, such as worthlessness and uncertainty of oneself (Ybrandt, 2008).

Peer and Parent Influence on Self-Concept Development

Hay and Ashman (2003) also acknowledged the multidimensionality of self-concept, and noted that parents, peers, and teachers all play a role in giving feedback to the adolescent in the formation of self-concept. However, there is still uncertainty as to the relative influence of parents and peers in the process of self-concept development. The early symbolic-interactionist view (Cooley, 1902; Mead, 1934) suggested that the self is created through the internalization of other's beliefs about oneself (Bouchey, & Harter, 2005), implying the importance of feedback from others in the adolescent's environment. Similarly, Erik Erikson (1968) proposed that identity development is a process involving person-context interactions, and stressed that people surrounding the adolescent throughout development play an important role in shaping the adolescent's identity (as cited in Beyers, & Goossens, 2008). Ybrandt (2008) also acknowledged that the development of self-concept is a product of interpersonal interactions, which tend to complement and confirm one's self-concept.

The main argument for the influence of parents in identity formation is that adolescents continue to use their parents as significant reference points in the validation of their behavior and self-concepts (Hay, & Ashman, 2003). Bowlby's attachment theory states that quality relationships with parents allow adolescents the freedom to experiment with new roles and make independent choices, while

still relying on the support of parents to reinforce their behavior (Beyers, & Goossens, 2008). Attachment theory, currently the leading viewpoint in the understanding of continuity and change in personality development, suggests that poor-quality relationships in childhood are an important source of children's developmental problems. The attachment model, seeking to understand the impact of interpersonal relationships on social and personality development, is not seen as deterministic, but rather as a model asserting that developmental trajectories are influenced by both risk and protective factors (Frederick, & Goddard, 2008). Although attachment theory focuses on relationships with primary caregivers, attachments with others outside the home, including peers, also likely influence the development of identity. Hay and Ashman (2003) reported that the values, norms, and overall culture of the adolescent group are also thought to influence self-concept development. In addition, adolescents with poor self-concepts are thought to be more attached to and, therefore, more influenced by their peers (Hay, & Ashman, 2003).

Gender Differences in Self-Concept

Along with most other aspects of human development, gender is thought to influence self-concept development across the lifespan (Hay, & Ashman, 2003). In a study of adolescents' emotional stability and self-concept, Hay and Ashman (2003) found gender differences among the various dimensions of self-concept, as measured by the *Self-Description Questionnaire- III* (*SDQ-III*), which focuses on eleven domains of self-concept, including self-perceptions of general

school, math and verbal abilities, physical appearance, relations with parents, honesty and trustworthiness, physical ability, emotional stability, and same and opposite sex relationships. Gender differences were more evident in the adolescents' perceptions of self than in their emotional stability; specifically, males tended to score higher on measures of math self-concept, while females scored higher on measures of verbal self-concept. However, Hay and Ashman (2003) noted a common element in male and female self-concept, specifically that perceptions of physical appearance significantly influenced both male and female feelings of self-worth.

Similarly, Marsh (1989) found that gender differences in certain domains of self-concept were consistent with traditional sex-role stereotypes; for the most part, males were higher in self-concept domains of appearance, physical ability, and math, while girls tended to be higher in verbal self-concept, consistent with the findings of Hay and Ashman (2003). It has also been proposed that for girls, early onset puberty is associated with a more negative self-concept and a higher frequency of mental health problems (Ybrandt, 2008). Ybrandt (2008) suggested that the greater psychosocial pressures exerted on girls compared with boys contribute to changes in self-image of adolescent girls. In addition, girls are considered to be more interpersonally oriented than boys, leading them to be more vulnerable to adverse family factors, including maltreatment, parental psychopathology, and emotional unavailability (Ybrandt, 2008). Further research on the normal development of self-concept, as well as research on how self-

concept is associated with other aspects of development and functioning will be important in understanding self-concept in adverse developmental contexts.

Childhood Adversity and Self-Concept

Relatively little research effort has been devoted to the understanding of self-concept development in the context of general adversity. Most research in this area has been focused on one specific type of adversity, particularly childhood maltreatment. Childhood maltreatment has been found to be associated with multiple deficits in social functioning, including poor social skills, lower self-esteem, and a more negative self-concept, although it is unclear whether abuse uniformly affects all domains of self-concept (Lopez, & Heffer, 1998; Murthi, Servaty-Seib, & Elliot, 2006). Cicchetti et al. (2006) noted that there are multiple aspects of an abusive environment that contribute to the damaging effects on adjustment, including rejection and lack of appropriate care-giving responses, aggression, and insecure parent-child attachments (as cited in Frederick,& Goddard, 2008). Lopez & Heffer (1998) reported a negative relationship between a history of childhood physical abuse and multiple dimensions of self-concept in young adulthood, also measured by the *SDQ-III*, particularly in the domains of relations with parents, general self, and emotional stability. Lopez & Heffer (1998) attributed this relationship to adolescents' perceptions of lowered parental support, which in turn may have led to poorer self-concept and social competence. Accordingly, Lopez and Heffer (1998) stated that the detrimental effects of physical abuse on the development of a healthy

self-concept should be considered in the overall context of unsupportive parental relationships, which could be an important focus of treatment with this population. Similarly, Bolger et al. (1998) explained that in the context of maltreatment, poor self-concept may be rooted in impaired social competence and negative representations of the self. On the other hand, Kim and Cicchetti (2004) argued that experiencing one's mother as a source of emotional security, regardless of maltreatment experiences, is likely to increase the probability that children are able to develop a greater sense of self-worth and a more positive concept of self. These feelings of secure attachment and emotional security appear to be important protective factors against the development of poor self-concept, even in adverse family environments.

More recent research has focused on the differential impact of abuse on various domains of self-concept. Cicchetti and Rogosch (1997) proposed that children are not uniformly affected by maltreatment experiences, and suggested that future research focus on this differential impact, meanwhile identifying markers of resiliency in maltreated children. Researchers focusing on self-concept in sexually abused females found that abused young women scored lower than non-abused peers on family, competence, affect, and physical domains of self-concept; however, there was no difference found between the abused and non-abused groups in the social or academic domains of self-concept (Murthi, Servaty-Seib, & Elliott, 2006). Murthi et al. (2006) offered the explanation that the social and academic domains of self-concept may be less affected by everyday life experiences than the family, competence, affect, and physical domains, and

that these two specific facets of self-concept may be resilient in the face of negative environments. The discrepancy in the literature regarding differences between abused and non-abused peers on multiple dimensions of self-concept, particularly those that are social in nature, further reinforces the need for future research in this area. In addition, it has been proposed that the type of maltreatment experienced, severity, frequency, age of onset, and the child's relationship to the perpetrator may lead to different consequences in the development of social-cognitive processes, and therefore in the development of self-concept (Burack et al., 2006). The differential impact of maltreatment experiences on self-concept development underscores the importance of studying other adverse life experiences and identifying specific circumstances that may lead to a negative self-concept during adolescence and adulthood.

Cicchetti and Rogosch (1997), in a review of resiliency in maltreated children, found that self-system processes, including the development of positive self-concept and self-esteem, appear to be important in resilient outcomes for maltreated children. They explained that higher self-esteem, an internal locus of control for positive events, and ego-resiliency predicted overall competence and adaptive functioning in maltreated children. In addition, they found that maltreated children tended to show less resilience in their overall functioning than children experiencing other adverse life events, including family unemployment, persistent poverty, dependence on the state for subsistence, minority status, and parental psychopathology, although both groups exhibited similar levels of self-esteem (Cicchetti, & Rogosch, 1997). This finding also supports the need for

further study of other childhood adversities and their effects on adolescent functioning.

The Development of Peer Relationships in Childhood and Adolescence

Peer relationships exert a strong organizing influence in many aspects of human maturation (Kim, & Cicchetti, 2004), including the development of social skills and competence, cooperation, intimacy, models of support, and self-efficacy, to name a few. Bolger et al. (1998) noted that healthy peer relationships help promote the development of reciprocity, cooperation, and moral reasoning. Not only do peer relationships elicit further social development, but they also function as sources of social support, companionship, and caring for the child or adolescent outside the home (Levendosky et al., 2002). Salzinger et al. (1993) noted that social support in the context of peer relationships is important in protecting against the effects of stress, as well as in serving to integrate individuals into the social world. In a study on quality of parent and peer relationships, Field, Diego, and Sanders (2002) found that adolescents with more intimate peer relationships tended to have lower levels of depression and less frequent suicidal thoughts. Salzinger et al. (1993) also explained that negative social status among peers can have long-term consequences on the adjustment of children and adolescents, including general mental health problems (rather than specific disorders), school withdrawal, delinquency, and adult criminality.

Peer relationships and interactions are marked by direct reciprocity in roles, which are enacted through sharing, cooperation, and compromise.

According to Piaget (1932), the reciprocal interactions seen in peer relationships are the primary models leading to mutuality and intimacy in adult relationships (as cited in Dean, Malik, Richards, & Stringer, 1986). Peer relationships are contrasted with parent-child or other adult-child interactions, which tend to be characterized by complimentary and asymmetrical roles, where behaviors are unique to a given role. In parent-child relationships, it is assumed that parents take on the roles of authority figure and caretaker (Dean et al, 1986), whereas equality and similarity define the nature of peer relationships. For most children, initial interactions with peers are based on experiences with parents and siblings, as well as exposure to the social behavior of others outside the home (Salzinger et al., 1993).

Parental Influence on Peer Relationship Formation

As children transition into adolescence, peer relationships become increasingly more important as a source of companionship and intimacy (Levendosky, Huth-Bocks, & Semel, 2002), as well as in the formation of identity, or self-concept. As adolescents transfer emotional bonds from parents to peers, their social and personality development become differentiated from that of their parents in a process called individuation (Hay, & Ashman, 2003). Although attachment behavior is increasingly shifted to peers during adolescence, parental relationships continue to play an important role in the development of peer relationships (Brown et al., 1993; Levendosky et al., 2002), particularly through

parenting practices that emphasize behavior monitoring and collaborative decision-making (Brown et al., 1993).

Engels, Dekovic, and Meeus (2002) supported the view that parents continue to maintain significant influence on the social relationships of their adolescents, and noted that most adolescent friendships are affected by both parent and adolescent characteristics. For example, parents essentially direct their children to associate with certain peer groups as they encourage and reinforce certain characteristics and maintain control over the type of peer influences to which their children are exposed (Brown et al., 1993). In summary, parents not only model peer relationships, but they also give feedback reinforcing particular social skills. Secure attachment with involved caregivers has also been linked to higher levels of social competence, peer acceptance, and popularity (Coleman, 2003). It is evident from research addressing attachment and peer relationships that parents who promote healthy peer relationships in their children also foster social competence and positive conceptions of self-efficacy.

Social Competence and Self-efficacy in Peer Relationships

Social competence, one's ability to successfully navigate the social world, involves social interaction skills that are required to initiate and maintain close relationships (Coleman, 2003), likely learned from family interactions. Children and adolescents form perceptions of their ability to act competently in interpersonal situations, which are known as social self-efficacy beliefs. Bandura (1986) suggested that self-efficacy beliefs involve the knowledge of appropriate

social behaviors, the confidence in one's ability to engage in social behaviors, and the expectation that others in the social environment will maintain such interaction (as cited in Coleman, 2003). These self-efficacy beliefs develop through mastery experiences with specific social behavior and feedback from others regarding the competence of one's performance (Bandura, 1986, as cited in Coleman, 2003).

Beginning in childhood, the development of social-cognitive processes, including social perspective-taking skills, is important in the capacity for interpersonal and intrapersonal awareness, as these processes affect future relationships. Wenar and Kerig (2006) proposed that social perspective-taking, which involves the ability to distinguish one's experience from that of others, is involved in the development of social competence. A second element in the development of social competence is social problem solving, in which children learn to interpret social cues, generate conflict resolution strategies, and examine the effectiveness of such strategies. A third factor is empathy, which involves the awareness of feelings of others coupled with a vicarious affective response to those feelings (Wenar, & Kerig, 2006).

Burack et al. (2006) also explained the importance of developing age appropriate social perspective-taking, a skill necessary in successful social interactions, as well as in the development of close relationships and positive social self-efficacy. According to Burack et al. (2006), social perspective-taking involves the restructuring of children's basic understanding of friendships, peer groups, authority, and the self. This type of interpersonal understanding,

demonstrated by the ability to acknowledge what others are thinking and feeling, is modeled by parents, who serve as the child's primary model of empathic responsiveness. As children and adolescents reach higher levels of social perspective taking, they also experience advances in empathy, communication, and problem-solving skills, all components of social competence according to Wenar and Kerig (2006). However, Burack et al. (2006) suggested that delays in social perspective-taking skills may explain the tendency among some children to report exaggerated self-perceptions, particularly in competence and social acceptance. So, children who lag behind their peers in skills of interpersonal awareness are likely to experience difficulty in peer relationships (Burack et al., 2006), particularly because of an inflated sense of social competence and social self-efficacy without the actual skills needed to maintain adaptive relationships.

Childhood Adversity and Peer Relationships

In contrast to children in healthy family relationships, children who experience significant life and family stress, including maltreatment, witnessing domestic violence, and chronically low income and socioeconomic status, are thought to have lower social competence and poorer quality of peer relationships (Bolger, Patterson, & Kupersmidt, 1998; Jacobson, & Straker, 1982; Salzinger, Feldman, & Hammer, 1993). Again, the literature abounds with childhood experiences of maltreatment related to the quality of peer relationships, without much focus on other life stressors or adversity in general. It has been suggested that maltreating parents, with whom the child lacks secure attachment, set

negative models of self and others in relationships, which may lead to difficulties in peer relationships. Dean et al. (1986) suggested that after repeated negative experiences with others, including maltreating caregivers and other models of violent behavior, maltreated children begin to withdraw, perhaps as a means of self-protection. In addition to maltreatment experiences, Dean et al. (1986) proposed that long-term exposure to a lower socioeconomic environment may increase the potential for boys to engage in physically violent interactions with peers. On the other hand, secure attachment to parents likely contributes to positive peer interactions and successful relationships outside the family, as secure attachments promote self-esteem and balanced ego development (Bolger et al. 1998). Researchers have also reported that since maltreated children are generally not exposed to models of empathy in relationships with their parents, they tend to be less empathic and interpersonally sensitive than their non-maltreated peers (Bolger et al., 1998; Burack et al., 2006).

In a model of parental influence on peer relationships, based on Bowlby's attachment theory (1969), children generalize relationship models learned with parents to their relationships with peers through internal representations of relationships (Bolger et al., 1998), which are based on interactions with significant others during childhood (Levendosky et al., 2002). Shields, Ryan, and Cicchetti (2001) conceptualized these relational representations as "cognitive-affective mental structures that contain information about others, oneself, and expected patterns of social interactions." Shields et al. (2001) contended that relational representations with caregivers are primary, influencing children's

future interactions by setting expectations for new relationships, organizing perceptions of social encounters, and defining the social roles of self and others. Since maltreating or domestically violent parents are more likely to be isolated and socially unskilled, maltreated children miss opportunities to learn social skills at home and are less likely to be exposed to other models of healthy relationships. In addition, maltreating mothers tend to rate their children as significantly less socially competent than non-maltreating mothers, especially in their ability to get along with peers, siblings, and parents (Kinard, 1999), perhaps eventually leading these children to have an altered perception of their social skills. In addition, witnessing violence among family members may also lead children to create negative relational representations, and to believe that violence is part of intimate relationships, further leading these children to engage in aggressive behavior or to withdraw from peers altogether (Bolger et al., 1998; Levendosky et al., 2002). Bolger et al. focused on multiple types of maltreatment in relation to children's quality of peer relationships, and questioned whether or not positive peer relationships may buffer against the negative effects of maltreatment. They found that severity and frequency of maltreatment played a role in the quality of peer relationships, and that children who experienced more chronic maltreatment were less often rated as desirable playmates by peers. On the other hand, effective parents allow their children to practice social skills with peers, and guide their children's entry into the peer-world by providing examples of appropriate behavior (Bolger et al., 1998). Similarly, Shields et al. (2001) argued that positive

parent-child relationships are indicative of more sophisticated understanding of emotion, as well as adaptive emotional and behavioral regulation in children.

Salzinger et al. (1993) stated that maltreated children's methods of coping with abuse may be evident in their social behavior in general, and lead to negative responses from peers. Salzinger et al. (1993) found that abused children had lower social status among peers compared with non-abused control children, due to the perceptions of peers that abused children engaged in fewer prosocial behaviors, such as leadership and sharing, and were involved in a higher proportion of antisocial behaviors, such as fighting and disruptive, attention-getting behavior. Salzinger et al. (1993) proposed that distortions in the social cognitions, or the appraisals of other people's intentions, feelings and behavior, of abused children lead to the risk of poor peer relationships. Behavioral theory supports the idea that maltreated children likely view aggression as an efficacious means of social interaction and control and attribute hostile intent to the actions of peers, compared to non-abused children (Dodge, & Frame, 1982; Perry, Perry, & Rasmussen, 1986), as these behaviors and social cognitions tend to be reinforced in maltreating homes. In addition, maltreated children are more likely to display rigid and restricted reasoning skills when engaging in social problem-solving (Shields et al., 2001). According to Shields et al. (2001), the angry and aggressive responses of maltreated children in social situations lead peers to be more likely to avoid, reject, or victimize these children, continually confirming the maltreated children's negative expectations for social interaction.

Not only do victims of childhood maltreatment have negative models on which to base their relationships, but many of these children show higher levels of both aggressive and avoidant behavior, resulting in lower peer status (Coie, Dodge, & Kupersmidt, 1990). George and Main (1979) reported that physically abused toddlers displayed significantly more aggression toward caretakers, as well as more aggressive and more avoidant behaviors toward their peers than non-abused children. George and Main (1979) proposed that when maltreated children monitor the behavior of themselves and others, their sense of control in social interactions becomes threatened; therefore, avoidance becomes a means of reducing expressions of anger or distress and maintaining control in social interactions. In a sample of elementary-school age children, Jacobson and Straker (1982) confirmed George and Main's (1979) results that abused children show more avoidant behavior compared with non-abused peers. In addition to less frequent peer interaction, abused children also showed fewer imaginative and sustained exchanges, and interacted with less enjoyment than non-abused peers (Jacobson, & Straker, 1982).

Children and adolescents in adverse home environments may lack a cohesive sense of self, leading to confusion in their social roles with peers. Certain behaviors associated with maltreatment may also be associated with the quality of peer relationships, with aggressive or withdrawn behavior perpetuating a cycle of peer rejection and lowered self-esteem. In abusive parent-child relationships, particularly those involving emotional maltreatment, low self-esteem is likely to result from the experience of parental rejection and negativity,

which is in turn associated with aggressive or avoidant behavior in these children (Bolger et al., 1998). So, children experiencing maltreatment appear to be caught in a cycle of negative self-concept and poor peer relationships that is proliferated by negative models of relationships originally set by maltreating parents.

The focus of much research on the peer relationships of maltreated children has been on the nature and consequences of negative internal representations of relationships, as well as the impact of parents and other important figures throughout development. Shields et al. (2001) suggested that future research examine whether such internal representations are consistent across time and if they continue to influence the social status of maltreated children. Additionally, Engels et al. (2002) proposed that future research in this area should focus on how parenting styles affect peer relationships through ways other than the generational transmission of social skills.

Although the cross-sectional nature of most childhood maltreatment studies limits generalizability to long-term developmental consequences of maltreatment, this research has significantly added to the understanding of maltreatment as a potential risk factor for future psychosocial maladjustment. In addition, the focus on one particular negative life experience cannot allow for the generalization of findings to others who experience negative self-concept or poor quality of peer relationships.

Adversity, Self-Concept, and Peer Relationships

Self-concept appears to be related to the quality of peer relationships through social competence and feelings of self-efficacy in social situations. Additionally, self and other representations, originally modeled by parents, likely play a role in the relationship between self-concept and peer relationships. Researchers have found that adversity, namely maltreatment, affects the development of the self-system, including identity, self-concept, and relational representations that impact future social interactions (Bolger et al., 1998; Burack et al., 2006; Cicchetti & Rogosch, 1997; Lopez & Heffer, 1998). Again, children who experience adversity may lack physical and emotional security to form positive ideas about themselves, others, and the world in general. These negative self-conceptions may be compounded by a lack of social mastery experiences, leading to poor social competence, and potentially a self-perpetuating cycle of negative self-concept and poor social functioning. Lopez & Heffer (1998) suggested that a possible mediational pathway between childhood physical abuse and poor social functioning and negative self-concept in adolescence may lie in the quality of intimate relationships experienced with parents, suggesting the importance of healthy attachments with parents, regardless of maltreatment history. It appears important to consider the effects of early family environments and parent-child interactions in the development and maintenance of negative self-perceptions, particularly with respect to feelings of competence in peer relationships.

Study Rationale and Hypotheses

As noted, researchers have tended to focus on childhood maltreatment as one of few major childhood adversities and its separate associations with later self-concept and quality of peer relationships. Additionally, recent research has indicated that one's self-concept and quality of peer relationships appear to be related through feelings of social competence, although these constructs together have been studied relatively rarely within the context of overall adversity. The present study aimed to extend previous research by examining the role of self-concept as a link between childhood adversity and quality of peer relationships. The primary goal of this study was to examine the role of adolescent self-concept as a potential mediator between childhood adversity and the quality of peer relationships in adolescence. Specifically, it was hypothesized that:

1. There would be a negative correlation between childhood adversity scores and adolescent self-concept scores.
2. There would be a negative correlation between adolescent self-concept scores and quality of peer relationship scores in adolescence.
3. There would be a positive correlation between childhood adversity scores and quality of peer relationship scores in adolescence.
4. Self-concept would mediate the relationship between childhood adversity and quality of adolescent peer relationships.

In summary, it was hypothesized that adolescents with more experiences of childhood adversity, indicated by higher adversity scores on the *Childhood Adversity Interview* (*CAI*), would be correlated with more negative self-concept and therefore, a poorer quality of peer relationships, relative to adolescents with fewer experiences of childhood adversity (indicated by lower scores on the *CAI*). See Table 1 for a list of measures associated with each variable.

CHAPTER THREE
Methodology

Participants

The present sample includes 68 adolescent volunteer participants, between the ages of 12 years 0 months and 18 years 0 months (see Tables 2 and 3 for descriptive statistics of sample). There were 34 boys and 34 girls, with an average age of 14.65 years (*SD* = 1.75). Participants were primarily non-Caucasian (58.8%), with several ethnic groups represented (African American, *n*=16; Hispanic, *n*=16; Asian, *n*=2; Biracial, *n*=6). Additionally, participants were primarily of middle socioeconomic status (SES); 26 participants (38.2% of the sample) received an SES rating of "02" (see Results section for discussion of SES ratings); however, SES data were missing for nine participants.

All participants in this study were able to speak and read English, at least at the sixth-grade reading level, and had no evidence of past or current DSM-IV symptoms of substance abuse or dependence. These exclusion criteria were set by the primary study, in order to identify factors in childhood and adolescence that lead to the development of these types of disorders. Participants received monetary compensation, as well as travel expense reimbursement for their participation.

Design and Procedures

This study used a cross-sectional correlational research design to examine relationships among a history of childhood adversity, adolescent self-concept, and quality of peer relationships in a mixed group of adolescents, with and without

childhood adversity, aged 12 years 0 months to 18 years 0 months, relying on data obtained from self-report measures and semi-structured interviews. Adolescents recruited through the primary research study met with a trained clinician for an initial assessment, in which a variety of self-report measures and semi-structured interviews were administered.

Data were collected using archival information on these volunteer participants, previously drawn from the surrounding community, who are part of a larger project examining risk factors in the development of substance use disorders in adolescents (risk marker study). Participants with a history of maltreatment were recruited for the risk marker study through community agencies, including Child Protective Services (CPS), the Dallas Children's Advocacy Center, Children First, Child and Family Guidance Center, and the Texas Department of Mental Health and Mental Retardation Services, as well as from local schools and advertisements in newspapers and online. Control subjects were recruited from other community agencies, local medical clinics and schools, and advertisements.

The study was approved by The University of Texas Southwestern Medical Center Institutional Review Board (UTSW IRB). Before primary data were collected, informed consent was obtained from parents or legal guardians and signed written assent obtained from each adolescent, in which all participants were informed of any risks involved in their research participation and were notified of their right to refuse participation at any point in the study, as all participation was voluntary. The researchers have followed the UTSW IRB code

of ethics regarding human subjects in research, emphasizing the avoidance of harm to participants. Additionally, all researchers involved in this study have been certified in Human Subjects Protection training and Health Insurance Portability and Accountability Act (HIPAA) training to ensure safety of research participants and confidentiality of participant data.

Measures

Childhood Adversity Interview. Childhood adversity, the independent variable in the present study, was assessed as a continuous variable, and was measured by scores on the *Childhood Adversity Interview* (*CAI*). The *CAI* is a semi-structured parent and adolescent interview that assesses seven domains of adversity: separation/loss of caretaker, illness/injury/non-caretaker loss, physical neglect, emotional abuse/assault, physical abuse/assault, witnessing violence, and sexual abuse/assault. Each domain is rated for severity on a scale of 1 (no adversity in a particular domain) to 5 (highest adversity in a particular domain), with a minimum total score of 7 and a maximum score of 35. All questions refer to occurrences in the adolescent's life prior to the age of 11. Dienes et al. (2006) reported a mean intraclass correlation of .86 for the severity ratings, indicating adequate reliability.

What Am I Like. The *What Am I Like* questionnaire, part of the Harter *Self-Perception Profile for Adolescents*, was filled out by adolescent participants, and was used to assess self-concept, the proposed mediating variable in the present study. This questionnaire is a 45-item self-report measure designed to

assess ratings of global self-worth, as well as self-concept in twelve specific domains: Creativity, Intellectual Ability, Scholastic Competence, Job Competence, Athletic Competence, Appearance, Romantic Relationships, Social Acceptance, Close Friendships, Parent Relationships, Humor, and Morality. Items ask the respondents to select which one of two self-descriptions is *sort of true for me* or *really true for me*, with no undecided response. The items are scored on a 4-point scale, with a rating of 1 on an item representing an endorsement of *really true for me* on a negative self-judgment, and a rating of 4 (reflecting the most competent self-judgments) representing an endorsement of *really true for me* on a positive self-judgment. Self-concept was also measured as a continuous variable, with total scores of 45 and 180 representing the lowest and highest extremes in self-concept scores, respectively. Although not used in the analyses of self-concept, a benchmark for determining level of self-concept was set, with ratings of 3 or 4 on more than half of the items indicating a more positive self-concept, while a poorer self-concept is indicated by scores of 1 or 2 on more than half of the items. Reliability and internal consistency are high, with only one of the scales having a coefficient alpha below .80 (Worrell, 1997).

Social Style Questionnaire (SSQ). The *SSQ*, a 40-item self-report measure, assesses five domains of social self-concept in interpersonal relationships: initiating relationships, disclosing personal information, asserting displeasure with others, providing emotional support and advice, and managing interpersonal conflict (Buhrmester, Furman, Wittenberg, & Reis, 1988). Each item, which asks the participant how he or she would feel about engaging in a

particular social situation, is scored on Levenson and Gottman's (1978) 5-point rating scale, with 1 representing *I am poor at this* and 5 representing *I am EXTREMELY good at this*. Ratings of 2, 3, or 4 on an item represent intermediate self-judgments of competence in handling a certain social situation (*I am only fair at this*, *I am OK at this*, and *I am good at this*, respectively) (Buhrmester et al., 1988). This measure also has satisfactory reliability and internal consistency (Butler et al. 2007).

Each domain includes eight items, and scores on each domain can range from 8 (each item is rated 1) to 40 (each item is rated 5). In the present study, scores on each of the five domains were added for a total score, ranging from 40 to 200, to determine each participant's level of social self-concept. Buhrmester et al. (1988) noted that as interpersonal competence tends to be context specific, it is possible for people to be competent in some areas of social behavior while being incompetent in other areas. Since participants may rate themselves higher on some domains than others, scores were added from each of the five domains to produce an overall social self-concept score, with lower scores representing poorer social self-concept, and higher scores representing more positive social self-concept. A total score, rather than an average score which could under- or overestimate social self-concept, allows for greater variance in the scores obtained. Since there is no theoretical basis for combining the two self-concept measures for a composite self-concept score, the *SSQ* and *What Am I Like* questionnaires serve as separate measures of self-concept, with the *SSQ* focusing more on the social domain of self-concept. Only scores from the *What Am Like*

questionnaire were used in analyses to test the hypothesis that self-concept mediates the relationship between childhood adversity and quality of peer relationships. However, the scores on these two measures were correlated to determine the extent to which overall self-concept (score on the *What Am I Like*) predicts social self-concept (*SSQ*) (see *Data Analysis*).

Social Adjustment Scale- Self Report (selected items). The *Social Adjustment Scale- Self-Report* (*SAS-SR*; Weissman, 1999), adapted for adolescent use in this study, was used to assess the quality of peer relationships for each participant, also measured as a continuous variable. The original self-report measure was designed to assess an individual's ability to adapt to and derive satisfaction from a variety of social roles for respondents age 17 and older (Allison & Vitelli, 2007). The adult questionnaire is a 54-item measure that relies on self reports of level of satisfaction in six domains of social functioning: work or student functioning, social and leisure activities, relationships with family outside the home, role as a marital partner, role as a parent, and role within the family unit. The adapted child and adolescent version of this questionnaire includes 23 of the original 54 items, in two of the original six domains, including role as student and social and leisure activities, while items in the original domain of extended family relationships were reworded to address relationships with parents. Each of the 23 items on this self-report measure is also scored on a 5-point scale, with higher scores representing poorer social adjustment (Allison & Vitelli, 2007).

Eight selected items on this questionnaire, relevant to satisfaction with peer relationships, were used to determine a social adjustment and quality of peer relationships score for each participant: “Have you had any arguments with kids at school in the last two weeks?” “How many friends have you seen or spoken to on the telephone in the last two weeks?” “Have you been able to talk about your feelings and problems with at least one friend during the last two weeks?” “How many times in the last two weeks have you been with other kids? For example: visited with friends, gone to movies, bowling, invited friends to your home?” “Have you had any arguments with your friends in the last two weeks?” “If your feelings were hurt by a friend during the last two weeks, how badly did you take it?” “Have you felt shy or nervous with people in the last two weeks?” “Have you felt lonely and wished for more friends during the last two weeks?” Scores range from 8 (rating of 1 on each item), indicating optimal social adjustment and higher quality of peer relationships, to 40 (rating of 5 on each item), indicating poorer social adjustment and lower quality of peer relationships. Research on reliability and various validity constructs has generally supported the utility of the *SAS-SR*, although evidence is limited due to small sample sizes and overall lack of research (Allison, & Vitelli, 2007).

Chronic Stress Interview. The outcome variable, quality of peer relationships, was defined by level of satisfaction with one’s recent and current relationships, as measured by the *Chronic Stress Interview*. Three domains of the *Chronic Stress Interview* (Hammen et al., 1995), including close friendships, romantic relationships, and social life, were examined to assess quality of peer

relationships in the six months prior to the initial interview. This semi-structured interview assesses different relationships, which are rated by both the participant and the clinician on quality factors, such as trust, availability, and reciprocal acceptance, as well as stability, conflict resolution, and investment in relationship (for romantic relationships). Clinicians ask questions such as, "In terms of friendships, do you have one closest or best friend?" and "How has this relationship been going?" to obtain sufficient information about the overall quality of a relationship and to objectively rate the impact on the individual's life (Hammen et al., 1995).

Clinicians score each item on a 5-point rating scale, with 1 representing the *presence of a high quality relationship* and 5 representing the *absence of a close relationship*. Again, a benchmark for comparing differences in scores on this measure was set, although not used in analyses, higher scores (ratings of 3 or higher on two or more domains) indicate poorer quality of peer relationships, while lower scores (ratings of 2 or lower on two or more domains) represent a better quality of peer relationships. Total scores for the three domains range from 3 (presence of high quality relationships on all three domains) to 15 (absence of a close relationship on all three domains). Hammen et al. (1995) reported adequate reliability, noting an intraclass correlation of .92. In the present study, scores on the *SAS-SR* and clinician ratings on the *Chronic Stress Interview*, were considered as separate measures of quality of peer relationships. Both of these measures are scored with lower scores representing a higher quality of peer relationships. Only scores on the *Chronic Stress Interview* were considered in the statistical analyses

for hypothesis-testing. However, scores on these two peer relationship measures were correlated to determine the consistency of self-reported satisfaction in peer relationships (*SAS-SR*) with objectively scored quality of peer relationships (*Chronic Stress Interview*).

CHAPTER FOUR
Results

Data Analyses

All analyses were performed using SPSS 16.0. Descriptive statistics, including means and standard deviations, for each interview and questionnaire are shown in Table 4. Scores were present for all participants on the *Childhood Adversity Interview* (*n*=68). Scores were missing for one participant on the *Chronic Stress Interview* (*n*=67), 26 participants on the *What Am I Like* questionnaire (*n*=42), 19 participants on the *Social Style Questionnaire* (*n*=49), and 17 participants on the *Social Adjustment Scale-Self Report* (*n*=51). However, only scores from the *Childhood Adversity Interview* (*CAI*), *Chronic Stress Interview* (*CSI*), and *What Am I Like* (*WAIL*) questionnaire were used in the analyses for hypothesis-testing.

Analyses tested the hypotheses that (1) there will be a negative correlation between childhood adversity scores and adolescent self-concept scores; (2) there will be a negative correlation between adolescent self-concept scores and quality of peer relationship scores in adolescence (because on measures of peer relationship quality, higher scores indicate poorer adjustment); (3) there will be a positive correlation between childhood adversity scores and quality of peer relationship scores in adolescence; and (4) self-concept will mediate the relationship between childhood adversity and quality of adolescent peer relationships. Each of these regression equations resulted in a correlation coefficient (Pearson *r*) that represents the magnitude and direction of a linear

relationship between variables. Statistical significance for each of these correlations was determined based on a preset alpha level, $\alpha = .05$.

According to Baron and Kenny (1986), several conditions must be met for mediation to be established: the independent variable must significantly affect the mediating variable; the independent variable must significantly affect the dependent variable; and the mediator must significantly affect the dependent variable. Additionally, the effect of the independent variable on the dependent variable would be reduced after the mediating variable is added into the regression equation (Baron, & Kenny, 1986).

Baron and Kenny asserted that the use of multiple regression analysis for mediation requires that there is no measurement error in the mediating variable and that the dependent variable does not cause the mediator variable. However, as self-concept is an internal, psychological construct, measurement error is inevitable. Additionally, the direction of the relationship between self-concept and quality of peer relationships is somewhat unclear, as research has shown that each of these constructs may influence the other, without a clear causal relationship (Bolger et al., 1998; Burack et al., 2006). However, the use of multiple regression analysis to test the mediational hypothesis is not unwarranted, as some research supports the idea of self-concept as a potential predictor of the quality of peer relationships (Lopez & Heffer, 1998). In addition, it seems that social science research examining psychological constructs cannot avoid all measurement error, but can only minimize this error by ensuring the use of valid and standardized measurement procedures.

In the present study, Path 1 (see Figure 1) represents a direct relationship between a history of childhood adversity and the quality of peer relationships in adolescence, while path 2 represents self-concept mediating the relationship between childhood adversity and quality of peer relationships in adolescence. It was expected that both childhood adversity and self-concept would predict quality of peer relationships to some extent, but that the addition of self-concept into the regression equation (Path 2) would reduce the effect of childhood adversity on the quality of peer relationships. Hence, the relationship between childhood adversity and the quality of peer relationships would be less significant with the addition of the mediator variable. A reduction in the significance between adversity and quality of peer relationships would support the idea that self-concept accounts for greater variance and hence, serves as a link between these two variables.

Effect of Childhood Adversity on Self-Concept in Adolescence

Linear regression analysis was used to examine the first hypothesis, which predicted that there would be a negative relationship between childhood adversity and self-concept in adolescence. Childhood adversity was entered as the independent variable, while adolescent self-concept was entered as the dependent variable. In this model, childhood adversity accounted for 6.8% of the variance in adolescent self-concept. Although there was a negative relationship between these two variables, there was a non-significant trend between childhood adversity and adolescent self-concept, $B(40) = -.30$, $p = .053$. (See Table 5 for a summary of regression analysis of childhood adversity and adolescent self-concept).

Effect of Adolescent Self-Concept on Quality of Peer Relationships in Adolescence

Linear regression analysis was also used to test the second hypothesis, which predicted that there would be a negative correlation between self-concept scores (measured by the *WAIL*) and quality of peer relationship scores (measured by the *CSI*). In this model, adolescent self-concept was entered as the independent variable, and quality of peer relationships was entered as the dependent variable. In this model, adolescent self-concept accounted for 14.7% of the variance in quality of peer relationships. Adolescent self-concept was significantly related to quality of peer relationships, and a negative relationship between the two measures was established, $B(40) = -.41$, $p = .007$. (See Table 6 for a summary of regression analysis of adolescent self-concept and quality of peer relationships).

Effect of Childhood Adversity on Quality of Peer Relationships in Adolescence

To test the third hypothesis, which predicted that there would be a positive correlation between childhood adversity scores and quality of peer relationship scores, linear regression analysis was used. Childhood adversity was first entered as the independent variable, while quality of peer relationships in adolescence was entered as the dependent variable. Childhood adversity was found to account for only 2.9% of the variance in quality of peer relationships during adolescence. Although there was a positive correlation between these two variables, they were

not significantly correlated, *B*(65) =.21, *p* =.088. (See Table 7 for a summary of regression analysis of childhood adversity and quality of peer relationships).

Adolescent Self-Concept as a Mediator

Although a significant relationship was not established between childhood adversity and adolescent self-concept or between childhood adversity and the quality of peer relationships in adolescence, multiple regression analyses were run to test the fourth hypothesis, which predicted that adolescent self-concept would serve as a mediator between childhood adversity and quality of peer relationships in adolescence. In the first step, which was calculated in testing the third hypothesis above, childhood adversity (measured by scores on the *CAI*) was entered as the independent variable, while quality of peer relationships in adolescence (measured by scores on the *CSI*) was entered as the dependent variable. Next, adolescent self-concept (measured by scores on the *WAIL*) was entered into the regression equation as a second predictor variable. This model accounted for 13.7% of the variance in quality of peer relationships during adolescence. There was a significant relationship among the variables only when adolescent self-concept was added as a predictor variable, *B*(40) = -.388, p =.015. Through the addition of self-concept to the regression equation, the relationship between childhood adversity and quality of peer relationships was reduced in significance from *p*=.234 to *p*=.644; however, the meditational hypothesis cannot be supported because this relationship was not significant before the self-concept

was added, nor was significance established between the independent and mediating variables. (See Table 8 for a summary of mediational analysis).

Additional Analyses

Each participant's scores on the *What am I Like* (*WAIL*) and *Social Style Questionnaire* (*SSQ*) self-concept measures were correlated using linear regression analysis to determine the extent to which overall self-concept predicts social self-concept. Scores from the *WAIL* (overall self-concept measure) were entered as the predictor variable, while scores from the *SSQ* (social self-concept measure) were entered as the outcome variable. Overall self-concept accounted for 19.7% of the variance in social self-concept, and there was a significant correlation between these two variables, $r(39)=.47$, $p=.002$. (See Table 9 for a summary of intercorrelations between measures of self-concept).

Additionally, scores on the *Chronic Stress Interview* (*CSI*) and the *Social Adjustment Scale- Self-Report* (*SAS-SR*) were correlated using linear regression analysis to determine the consistency of self-reported satisfaction in peer relationships (*SAS-SR*) with objectively scored (clinician ratings) quality of peer relationships (*CSI*) for each participant. Scores on the *CSI* were entered as the independent variable, while scores on the *SAS-SR* were entered as the dependent variable. The scores on these two measures were significantly correlated with one another, $r(49)=.40$, $p=.003$. (See Table 10 for summary of intercorrelations between measures of quality of peer relationships).

In addition, a series of one-way analyses of variance (ANOVA) were used to determine whether any of the variables (adversity, self-concept, or quality of peer relationships) varied by demographic characteristics, including age, gender, ethnicity, or socioeconomic status (SES). All demographic variables were dichotomized for this analysis: ethnicity was categorized into Caucasian and non-Caucasian groups; age was dichotomized based on the approximation of middle school versus high school age groups, where participants aged 12.0-14.9 made up the "middle-school-aged" group, and participants aged 15.0-17.58 made up the "high-school-aged group." SES was determined from the rating each participant received in his or her initial interview, which considered parent education, occupation, and annual income, was dichotomized into "high" and "low" groups. SES was rated 1 through 5, where 1 represents highest SES and 5 represents lowest SES. Ratings of 1 and 2 represented higher SES, while ratings of 3, 4, and 5 represented lower SES.

First, all interview and questionnaire score means were compared across male and female participants. However, gender did not significantly affect scores on any of the measures. (See Table 11 for summary of one-way ANOVA results for scores by gender).

Next, all interview and questionnaire means were compared across the two identified age groups (see above). Again, all differences were found to be non-significant. However, age differences for the *SAS-SR* showed a non-significant trend, $F(49)=3.370$, $p=.072$, with younger participants scoring higher than older participants, indicating poorer social adjustment and quality of peer relationships

in the younger adolescent group. (See Table 12 for summary of one-way ANOVA results for scores by age).

Interview and questionnaire means were also compared across the dichotomized ethnic groups (Caucasian and non-Caucasian). Differences among Caucasians and non-Caucasians on the *CAI* were found to be significant, $F(66)=10.930$, $p=.002$, with non-Caucasians scoring significantly higher on the measure of adverse childhood experiences. All other group differences were found to be non-significant. (See Table 13 for summary of one-way ANOVA results for scores by ethnicity).

The final ANOVA examined differences among the dichotomized socioeconomic groups. Significant differences were found for both the *CAI*, $F(57)=11.695$, $p=.001$, where participants from higher socioeconomic status groups scored significantly lower in terms of adverse childhood experiences than participants from lower socioeconomic status groups; and for the *SAS-SR*, $F(45)=15.043$, $p<.01$, where participants from higher socioeconomic status groups scored significantly lower, indicating greater social-adjustment and satisfaction in peer relationships, than participants from lower socioeconomic status groups. All other group differences were found to be non-significant. (See Table 14 for summary of one-way ANOVA for scores by SES).

Post hoc Analyses

Since significant results were found in the ANOVA's for both socioeconomic status and ethnicity on the *CAI*, a final regression analysis was

conducted to account for these two demographic variables in the relationship between childhood adversity, adolescent self-concept, and quality of peer relationships. In the final set of analyses, socioeconomic status and ethnicity were entered as the independent variables in step one, where the *CSI* was the dependent variable (same for all steps). In step two, the *CAI* was added as the next independent variable, and the *WAIL* questionnaire was added as the independent variable in step three (see Table 15 for a summary of final regression analyses). Socioeconomic status and ethnicity alone were not found to predict scores on the *CSI*, confirming the results of the ANOVA's (see above), R^2= .024, p =.643. Additionally, when the *CAI* was added, there was only a minor change in significance, R^2 change =.007, p =.626. However, when the *WAIL* questionnaire was added into the model in step three, the results were found to be significant, R^2change = .142, p =.019. Although socioeconomic status and ethnicity were found to have a significant impact on the *CAI* scores, they did not have an impact on the outcome measure, the *CSI*. Thus, socioeconomic status, ethnicity, and childhood adversity do not account for a statistically significant portion of the quality of peer relationships above the proportion accounted for by adolescent self-concept.

Additionally, the *SSQ* and the *SAS-SR* were substituted for the *WAIL* and the *CSI*, respectively, to reexamine the first three hypotheses using different measures for adolescent self-concept and quality of peer relationships. Linear regression was used retest the first hypothesis, the *CAI* was entered as the independent variable, and the *SSQ* was entered as the dependent variable. This

model was non-significant, with childhood adversity accounting for less than 1% of the variance in social self-concept, β (47)=-.021, *p*=.885. Also using linear regression, analyses to retest the second hypothesis, where the *SSQ* was entered as the independent variable and the *SAS-SR* was entered as the dependent variable, found a non-significant relationship between social self-concept and quality of peer relationships, β(46)=-.189, *p*=.198. However, linear regression analyses to retest the third hypotheses, in which the *CAI* was entered as the independent variable and the *SAS-SR* was entered as the dependent variable, found a non-significant trend between childhood adversity and quality of peer relationships, where adversity accounted for 7% of the variance in quality of peer relationships, β(49)=.264, *p*=.061. (See Tables 16 through 18 for summary of regression analyses).

Further post hoc analyses included a series of one-way ANOVAs examining differences in each domain of adversity on the CAI by the four demographic variables, age, gender, ethnicity, and SES. All differences were non-significant for age and SES, although there was a non-significant trend for SES on the separation/loss of caregiver domain, where the low SES group tended to score higher than the high SES group, F(66)=2.979, *p*=.090. One significant difference was found for gender, where females scored significantly higher on the sexual abuse domain than males, F(66)=6.902, *p*=.011. Additionally, there was one significant difference for ethnicity in the separation/loss of caregiver domain, with non-Caucasians scoring significantly higher than Caucasian participants, F(66)=7.313, *p*=.009. There were also three non-significant trends found for

ethnicity in physical neglect, F(66)=3.346, *p*=.072; emotional abuse, F(66)=3.787, *p*=.056; and sexual abuse domains, F(66)=3.690, *p*=.059, where non-Caucasians tended to score higher than Caucasian participants. (See Tables 19 through 22 for summary of ANOVA results).

CHAPTER FIVE
Discussion

The goal of this study was to determine the relative impact of experiences of adversity in childhood and one's self-concept during adolescence on quality of peer relationships in adolescents with a range of negative childhood experiences. Additionally, this study sought to expand the literature on childhood adversity from a focus on child maltreatment to include other salient events that are believed to impact mental health and overall development. Various studies on maltreatment and peer relationships have found that children who experience abuse are at significantly greater risk for lower social status among their peers and poorer peer relationships than their nonmaltreated peers (Dean et al., 1986; Salzinger et al., 1993). Overall, however, the results of this study suggest that one's self-concept during adolescence is a better predictor of the quality of peer relationships experienced than one's history of adversity. This finding fits with the research of Coleman (2003), who reported that early experiences of attachment may not directly impact relationships in adolescence and adulthood, but may be mediated by internal processes, such as one's self-concept.

The lack of significance found in analyses of the first hypothesis, although there was a non-significant trend, suggests that adolescents who experienced more adversity in childhood were only somewhat more likely have a negative self-concept during adolescence than those who experienced less adversity in childhood. The results lend support to the second hypothesis, which proposed that there would be a negative correlation between adolescent self-concept scores and quality of peer relationship scores. The significant correlation between these two

variables suggests that adolescents with higher self-concepts were more likely to have a better quality of peer relationships than adolescents with poorer self-concepts. The relationship in the third hypothesis, which proposed that there would be a positive correlation between childhood adversity scores and quality of peer relationship scores, was also found to be a non-significant, although positive, correlational trend, suggesting that children with more experiences of adversity were only slightly more likely to have poorer social adjustment and quality of peer relationships than adolescents with fewer adversity experiences.

However, the fourth hypothesis, which proposed that self-concept would act as a mediating variable between experiences of childhood adversity and quality of peer relationships in adolescence, could not accurately be determined for multiple reasons. The first criterion for establishing mediation, which requires a significant relationship between the independent and mediating variables, was not met, as there was only a non-significant trend between childhood adversity and adolescent self-concept. The second criterion for establishing mediation, that the mediating variable significantly predicts the dependent variable, was supported by a significant correlation between adolescent self-concept and quality of peer relationships. Additionally, it is somewhat unclear whether the third criterion was met, which postulates that the dependent variable may not cause the mediating variable, as the relationship between adolescent self-concept and quality of peer relationships may be a bidirectional relationship (Bolger et al., 1998; Burack et al., 2006; Coleman, 1993; Ybrandt, 2008). For example, Coleman (2003) reported that social self-efficacy beliefs, part of social self-

concept, are established through experience with others and are particularly sensitive to the feedback of others. Additionally, Ybrandt (2008) reported that interpersonal relationships tend to confirm self-concept, lending support to the bidirectionality of the relationship between self-concept and peer relationship quality. The fourth criterion requires that a previously significant relationship between the independent and dependent variables is reduced once the mediating variable is added to the regression equation. Although the significance between these variables decreased once the mediating variable was added, a significant relationship was not established directly between childhood adversity and quality of peer relationships in adolescence, so this criterion could not adequately be assessed. Since these criteria were not met, it could not be determined whether self-concept in adolescence acts as a mediating variable between experiences of childhood adversity and the quality of peer relationships in adolescence. When interpreting these results, it is important to consider factors other than childhood adversity that likely influence adolescent self-concept and quality of peer relationships, such as quality of attachment to caregivers, peer acceptance, social competence, and academic performance (Hetherington et al., 2006; Kim & Cicchetti, 2004; Schwartz, 2008). Additionally, it is important to consider the limitations in this study when understanding the lack of support for the meditational hypothesis (see *Limitations* below).

From the correlational analyses examining the relationship between the self-concept measures, the *What Am I Like* (*WAIL*) questionnaire and the *Social Style Questionnaire* (*SSQ*), a significant relationship was found, suggesting that

overall self-concept (measured by the *WAIL*) is predictive of social self-concept (measured by the *SSQ*). These results fit with the literature which proposes a multi-faceted nature of self-concept. However, it is unknown whether each specific aspects of self-concept (physical, social, etc.; see *Development of Self-Concept in Childhood and Adolescence*, above) carry the same weight in terms of one's overall self-concept. Future research on self-concept might examine specific domains of self-concept that are more salient in determining overall positive feelings toward the self.

Additionally, a significant relationship was found between the measures of quality of peer relationships, suggesting consistency between clinician rated quality of peer relationships on the *CSI*, a measure of long-term social relationship quality, and self-reports on the eight selected items from the *SAS-SR*, a measure of social adjustment and quality of recent social interactions. Although not relevant for the purposes of this study, as the *SAS-SR* was not used for hypothesis-testing, these results may prove important for the investigators of the primary study, from which the participant data were drawn.

Demographic variables, particularly socioeconomic status and ethnicity, appeared to have some effect on questionnaire and interview scores. Non-Caucasians and participants of lower socioeconomic status groups scored significantly higher on the *CAI*, indicating a greater history of adversity in childhood. These results were expected based on the existing literature which examined the demographics of families who are more likely to experience domestic violence and child maltreatment (Hetherington, et al., 2005). However,

it is interesting to note that as additional adverse experiences are included in the *CAI*, these groups tended to experience greater overall adversity than Caucasians and participants of higher socioeconomic status. These results suggest that socioeconomic status and ethnicity were associated with experiences of overall adversity only, but did not have significant relationship with quality of peer relationships.

In the post hoc linear regression analyses that substituted the *SSQ* and the *SAS-SR* for the *WAIL* and *CSI*, respectively, there were no significant relationships found, so mediation was not retested, The lack of significance in these analyses reinforces the results found using the *WAIL* and *CSI* for hypothesis testing, particularly that childhood adversity had little impact on adolescent self-concept and quality of peer relationships. The results of the additional ANOVAs that examined differences in each of the seven domains of the *CAI* by demographic variables suggest that females were significantly more likely than males to experience sexual abuse, consistent with the literature that asserts that females are four times more likely than males to be victims of sexual abuse (Azar, 2002; Trickett & Putnam, 1998, as cited in Hetherington, et al., 2006). Additionally, a significant difference was found on the separation/loss of caretaker domain for ethnicity, with non-Caucasians scoring significantly higher than Caucasians in this domain. Future qualitative analyses examining ethnic differences in experiences of separation or loss of a caregiver may examine the reasons for separation, including removal from the home for foster care, abandonment, parental illness or death, financial strain, imprisonment, and so on.

Examining the reasons behind separation may be useful in the understanding of why certain ethnic groups tend to experience greater adversity in this area.

Limitations

Several limitations should be considered in the interpretation of the results of this study. First, the measures selected for assessing self-concept (*WAIL* and *SSQ*) and quality of peer relationships *(SAS-SR*) rely solely on self-reports, which may be vulnerable to some inconsistency or to a social desirability bias, particularly since the topics under study could have been sensitive areas for some participants. However, the use of only the clinician ratings may have reduced some of this bias in the present study. Although the *CAI* used parent and adolescent reports and objective clinician ratings to measure childhood adversity, retrospective assessment can lead to error in data collection, particularly as some parents and adolescents may not have accurately recalled such events or how severe each event would have been rated at the time it occurred. Additionally, the use of only eight items from the *SAS-SR* may have limited the questionnaire's validity in terms of measuring social adjustment, since the instrument was intended for use as a whole. In the post hoc analyses using the *SAS-SR* as the measure of quality of peer relationships, this question of the validity of using only eight items may have affected the significance of the relationship with the *CAI* and the *SSQ*.

The cross-sectional design limits the conclusions that can be made about developmental aspects of self-concept and quality of peer relationships, although

most research on this topic has also employed a cross-sectional design. In addition, the small sample size, particularly due to the amount of missing data on the self-report measures, may have limited the power in this study to find significant results. Future studies using examining childhood adversity and adolescent self-concept will need a larger sample size to better examine the relationship among these variables. Finally, the participants in this sample had a relatively low mean level of adversity reported in childhood, which may have lowered the strength of the relationship between adversity and self-concept. Additionally, the participants in the present study were relatively well-adjusted in terms of self-concept and quality of peer relationships, as evidenced by high mean scores on self-concept measures and low mean scores on quality of peer relationship measures. Future research in this area may focus on adolescents with histories of more severe adversity in childhood and the impact of greater levels of adversity on self-concept.

The internal validity of this study may have been compromised by the self-selected nature of the sample, as those participants who volunteered are likely different than those families with histories of adversity that did not volunteer, perhaps in the severity of adversity experienced. Additionally, the clinical history of participants (including mental health diagnoses other than substance abuse), and environmental factors after age eleven, were not considered in the assessment of childhood adversity, but may have impacted subsequent functioning. Although a comparison group was not used in the present study, the sufficient range of scores on the *CAI* allows for the comparison of different levels of adversity. It is

important that all of these limitations be accounted for in interpretation of the results.

Implications for Future Research and Clinical Practice

Although self-concept was not found to mediate the relationship between childhood adversity and quality of peer relationships, the significant correlation between self-concept and quality of peer relationships supports previous research which asserts that social self-competence and self-efficacy appear to play a role in one's peer interactions and ability to maintain close relationships (Bandura, 1986; Coleman, 2003). As self-concept was found to play an important role in the quality of peer relationships, regardless of adversity status, enhancing self-concept may be an important target for interventions with children who have chronic relationship problems or those with few social interactions and relationships. The non-significance of the relationship between both childhood adversity and the quality of peer relationships has positive implications for children who experience adversity, particularly that they are not "doomed" to poor self-concept and quality of peer relationships when they reach adolescence. Research on resiliency of children who experience adversity suggests that the presence of a secure emotional attachment with a caregiver and perceived warmth in relationships with parents, regardless of maltreatment or other adversity experiences, is more likely to lead to a greater sense of self-worth and a more positive sense of self (Kim & Cicchetti, 2004; Lopez & Heffer, 1997). Additionally, since research suggests that children are not uniformly affected by

different types of maltreatment (Cicchetti & Rogosch, 1997), or adversity in general, it seems possible that adolescents in the present study may have experienced less severe forms of adversity, leading to relatively better adjustment than those who experience severe and chronic adversity. Again, it is important to take into account other factors thought to affect self-concept and quality of peer relationships, such as attachment to caregivers, peer acceptance, and social competence when understanding the lack of significance between the variables in this study.

This study adds to previous literature by providing directions for future research on childhood adversity, particularly on events other than maltreatment, and longitudinal effects of adversity into adulthood. Future research may also focus on the interaction between specific aspects of self-concept, particularly social self-concept, and one's quality of peer and intimate relationships into adulthood. Additionally, research examining the subjective reports of distress associated with adverse life events (not considered on the *CAI*) may prove important in understanding resiliency in self-concept and other developmental outcomes. Finally, a focus on adversity in relation to various domains of self-concept may lead to specific interventions for poor self-concept in adolescents.

Table 1.

Variables and Measures

Variable	Measures	Meaning of Scores
Childhood Adversity	*Childhood Adversity Interview*	Higher scores= more adversity experienced
Adolescent Self-Concept	*What Am I Like,* *Social Style Questionnaire*	Higher scores= more positive self-concept
Quality of Peer Relationships	*Social Adjustment Scale- Self Report,* *Chronic Stress Interview*	Higher scores= more negative quality of peer relationships

Table 2**.**

Participant Demographics: Gender, Ethnicity, and Socioeconomic Status (SES)

Gender	***n***	**%**
Males	34	50
Females	34	50
Total (*N*)	68	100
Ethnicity	***n***	**%**
Caucasian	28	41.2
Non-Caucasian	40	58.8
African American	16	23.5
Hispanic	16	23.5
Asian	2	2.9
Biracial	6	8.8
Total	68	100
SES Rating	**n**	**%**
High 01	9	13.2
02	26	38.2
Low 03	9	13.2
04	8	11.8
05	7	10.3
Missing	9	13.2
Total	68	100

Table 3.

Participant Demographics: Age at Initial Evaluation

Descriptive Statistic	***n*= 68**
Mean	14.65
Median	14.17
Mode	13.67
Standard Deviation	1.75
Range	5.58
Minimum	12.00
Maximum	17.58

Table 4.

Means and Standard Deviations of Interview & Questionnaire Scores

Measure	***x***	***SD***
Childhood Adversity Interview (*n*=68)	10.90	3.57
Chronic Stress Interview (*n*=67)	6.75	1.64
What Am I Like (*n*=42)	136.19	20.46
Social Style Questionnaire (*n*=49)	140.86	26.86
Social Adjustment Scale-Self-Report (*n*=51)	14.04	4.53

Table 5.

Regression Analysis of Childhood Adversity and Adolescent Self-Concept

Model	**Adjusted R^2**	***B***	***SE B***	**β**
1	.068[a]	-1.844	.925	-.301

Note. [a]Predictors: (Constant), *Childhood Adversity Interview*
Dependent Variable: *What Am I Like Questionnaire*

Table 6.

Regression Analysis of Adolescent Self-Concept and Quality of Peer Relationships

Model	**Adjusted R^2**	***B***	***SE B***	**β**
1	.147[a]	-.033	.012	-.409**

Note. [a]Predictors: (Constant), *What Am I Like Questionnaire*
Dependent Variable: *Chronic Stress Interview*
*****p<.05, **p<.01

Table 7.

Regression Analysis of Childhood Adversity and Quality of Peer Relationships

Model	**Adjusted R^2**	***B***	***SE B***	**β**
1	.029[a]	.096	.056	.210

Note. [a]Predictors: (Constant), *Childhood Adversity Interview*
Dependent Variable: *Chronic Stress Interview*

Table 8.

Regression Results for Self-Concept as a Mediator Between Adolescent Self-Concept and Quality of Peer Relationships

	B	***SE B***	**β**
Step 1			
Constant	5.559	.857	
CAI	.094	.078	.188
Step 2			
Constant	10.495	2.104	
CAI	.036	.077	.071
WAIL	-.032	.012	-.388*

Note. CAI= Childhood Adversity Interview, WAIL= What Am I Like questionnaire
Dependent Variable: *Chronic Stress Interview*
Adjusted R^2=.011 for step 1; ΔR^2=.137 for step 2
*p<.05

Table 9.

Intercorrelations Between Measures of Self-Concept

Model	**Adjusted R^2**	***B***	***SE B***	**β**
1	.197[a]	.602	.183	.466**

Note. [a]Predictors: (Constant), *What Am I Like questionnaire*
Dependent Variable: *Social Style Questionnaire*
** $p<.01$

Table 10**.**

Intercorrelations Between Measures of Quality of Peer Relationships

Model	**Adjusted R^2**	***B***	***SE B***	**β**
1	.146[a]	1.059	.342	.404**

Note. [a]Predictors: (Constant), *Chronic Stress Interview*
Dependent Variable: *Social Adjustment Scale-Self-Report*
***p*<.01

Table 11.

One-way Analysis of Variance for Interview & Questionnaire Scores by Gender

	Male		**Female**					
Measure	***x***	***SD***	***x***	***SD***	**F**	***df***	***p***	η^2
CAI	10.30	3.45	11.50	3.64	1.941	66	.168	.029
CSI	6.42	1.31	7.06	1.87	2.572	65	.114	.038
WAIL	137.90	14.10	134.64	25.15	.262	40	.612	.006
SSQ	138.50	26.02	142.78	27.88	.303	47	.585	.006
SAS-SR	13.32	3.44	14.59	5.21	.978	49	.328	.020

Note. CAI= Childhood Adversity Interview, CSI= Chronic Stress Interview, WAIL= What Am I Like questionnaire, SSQ= Social Style Questionnaire, SAS-SR= Social Adjustment Scale- Self-Report

Table 12.

One-way Analysis of Variance for Interview & Questionnaire Scores by Age

	12.0-14.9 years		**15.0-17.58 years**					
Measure	***x***	***SD***	***x***	***SD***	**F**	***df***	***p***	η^2
CAI	10.68	3.21	11.18	4.02	.313	66	.578	.005
CSI	6.57	1.56	6.97	1.73	.983	65	.325	.015
WAIL	139.91	18.72	132.10	21.97	1.546	40	.221	.037
SSQ	142.37	27.59	139.00	26.47	.188	47	.667	.004
SAS-SR	15.07	4.63	12.78	4.18	3.370	49	.072	.064

Note. CAI= Childhood Adversity Interview, CSI= Chronic Stress Interview, WAIL= What Am I Like questionnaire, SSQ= Social Style Questionnaire, SAS-SR= Social Adjustment Scale- Self-Report

Table 13**.**

One-way Analysis of Variance for Interview & Questionnaire Scores by Ethnicity

	Caucasian		**Non-Caucasian**					
Measure	***x***	***SD***	***x***	***SD***	**F**	***df***	***p***	η^2
CAI	9.30	3.26	12.02	3.39	10.930	66	.002*	.142
CSI	6.37	1.68	7.00	1.58	2.432	65	.124	.036
WAIL	135.90	21.38	136.48	20.03	.008	40	.929	.000
SSQ	139.40	26.89	141.86	27.92	.098	47	.756	.002
SAS-SR	12.85	2.96	14.81	5.21	2.323	49	.134	.045

Note: CAI= Childhood Adversity Interview, CSI= Chronic Stress Interview, WAIL= What Am I Like questionnaire, SSQ= Social Style Questionnaire, SAS-SR= Social Adjustment Scale- Self-Report
*$p < .05$

Table 14**.**

One-way Analysis of Variance for Interview & Questionnaire Scores by SES

	High		Low					
Measure	***x***	***SD***	***x***	***SD***	**F**	***df*[1]**	***p***	η^2
CAI	9.41	3.05	12.43	3.81	11.695	57	.001**	.170
CSI	6.40	1.73	7.10	1.35	2.426	57	.125	.041
WAIL	138.54	21.20	132.36	17.94	.725	37	.400	.019
SSQ	142.43	25.42	138.71	31.82	.233	43	.632	.005
SAS-SR	12.18	3.16	17.32	4.82	15.043	45	*p*<.001**	.251

Note. CAI= Childhood Adversity Interview, CSI= Chronic Stress Interview, WAIL= What Am I Like questionnaire, SSQ= Social Style Questionnaire, SAS-SR= Social Adjustment Scale- Self-Report

[1]SES data were missing for nine participants

**p<.01

Table 15**.**

Post Hoc Analysis: Regression Analysis Controlling for SES and Ethnicity

	B	***SE B***	**β**
Step 1			
Constant	6.260	1.629	--
SES	-.008	.024	-.062
Ethnicity	.394	.589	.118
Step 2			
Constant	.5.766	1.927	--
SES	-.005	.025	-.038
Ethnicity	.307	.620	.092
CAI	.047	.096	.091
Step 3			
Constant	10.265	2.574	--
SES	.000	.024	.001
Ethnicity	.517	.587	.155
CAI	-.008	.092	-.015
WAIL	-.033	.013	-.393*

Note. CAI= Childhood Adversity Interview, WAIL= What Am I Like questionnaire
Dependent variable: *Chronic Stress Interview*
*$p<.05$

Table 16**.**

Post Hoc Analysis: Regression Analysis of Childhood Adversity and Adolescent Self-Concept

Model	**Adjusted R^2**	***B***	***SE B***	**β**
1	-.021[a]	-.171	1.178	-.021

Note. [a]Predictors: (Constant), *Childhood Adversity Interview*
Dependent Variable: *Social Style Questionnaire*

Table 17**.**

Post Hoc Analysis: Regression Analysis of Adolescent Self-Concept and Quality of Peer Relationships

Model	**Adjusted R^2**	***B***	***SE B***	**β**
1	.015[a]	-.032	.025	-.189

Note. [a]Predictors: (Constant), *Social Style Questionnaire*
Dependent Variable: *Social Adjustment Scale-Self-Report*

Table 18**.**

Post Hoc Analysis: Regression Analysis of Childhood Adversity and Quality of Peer Relationships

Model	**Adjusted R^2**	***B***	***SE B***	**β**
1	.051[a]	-.337	.176	-.264

Note. [a]Predictors: (Constant), *Childhood Adversity Interview*
Dependent Variable: *Social Adjustment Scale-Self-Report*

Table 19.

Post Hoc Analysis: One-way Analysis of Variance for Childhood Adversity Interview Domain Scores by Age

	12.0-14.9 years		**15.0-17.58 years**				
Domain	***x***	***SD***	***x***	***SD***	**F**	***df***	***p***
Separation/ Loss of Caretaker	1.76	0.96	1.98	1.05	.751	66	.389
Illness/Injury/ Non-Caretaker Loss	1.92	1.24	1.72	1.11	.496	66	.484
Physical Abuse	1.24	0.63	1.22	0.76	.014	66	.905
Physical Neglect	1.41	0.62	1.60	0.97	.981	66	.326
Witnessing Violence	1.58	0.76	1.77	0.94	.836	66	.364
Emotional Abuse	1.42	0.73	1.42	0.77	.001	66	.981
Sexual Abuse	1.23	0.74	1.38	0.96	.503	66	.481

Table 20.

Post Hoc Analysis: One-way Analysis of Variance for Childhood Adversity Interview Domain Scores by Sex

	Female		Male				
Domain	***x***	***SD***	***x***	***SD***	**F**	***df***	***p***
Separation/ Loss of Caretaker	1.93	1.01	1.79	1.00	.329	66	.568
Illness/Injury/ Non-Caretaker Loss	1.88	1.07	1.78	1.30	.127	66	.723
Physical Abuse	1.32	0.88	1.13	0.07	1.319	66	.255
Physical Neglect	1.50	0.78	1.49	0.82	.006	66	.940
Witnessing Violence	1.62	0.80	1.71	0.89	.186	66	.668
Emotional Abuse	1.46	0.79	1.38	0.70	.165	66	.686
Sexual Abuse	1.56	1.11	1.04	0.26	6.902	66	.011*

Note. *$p<.05$

Table 21.

Post Hoc Analysis: One-way Analysis of Variance for Childhood Adversity Interview Domain Scores by Ethnicity

	Caucasian		**Non-Caucasian**				
Domain	***x***	***SD***	***x***	***SD***	**F**	***df***	***p***
Separation/ Loss of Caretaker	1.48	0.84	2.11	1.03	7.313	66	.009**
Illness/Injury/ Non-Caretaker Loss	1.59	1.01	2.00	1.28	2.014	66	.161
Physical Abuse	1.18	0.48	1.26	0.81	0.242	66	.624
Physical Neglect	1.29	0.62	1.64	0.88	3.346	66	.072
Witnessing Violence	1.48	0.80	1.79	0.85	2.219	66	.141
Emotional Abuse	1.21	0.57	1.56	0.82	3.787	66	.056
Sexual Abuse	1.07	0.38	1.46	1.03	3.690	66	.059

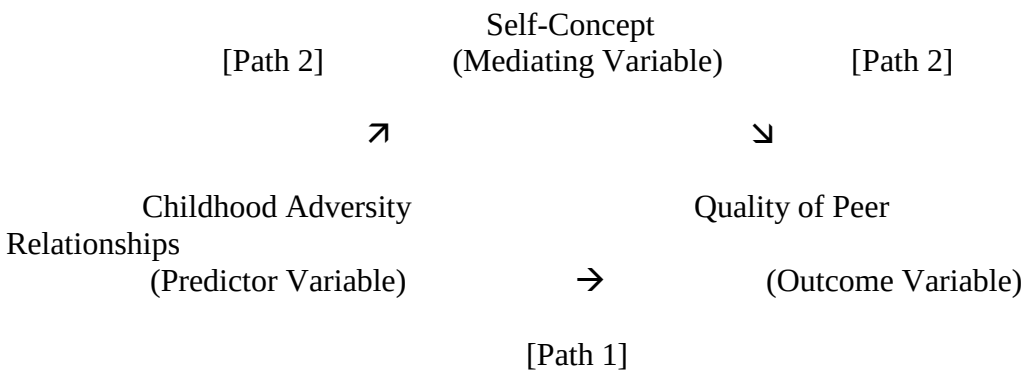
Note. $^{**}p<.01$

Table 22.

Post Hoc Analysis: One-way Analysis of Variance for Childhood Adversity Interview Domain Scores by SES

	High		Low				
Domain	***x***	***SD***	***x***	***SD***	**F**	***df***	***p***
Separation/ Loss of Caretaker	1.64	0.89	2.07	1.07	2.979	66	.090
Illness/Injury/ Non-Caretaker Loss	1.66	1.14	1.75	1.02	.093	66	.761
Physical Abuse	1.15	0.42	1.42	1.02	2.039	66	.159
Physical Neglect	1.38	0.76	1.50	0.64	.421	66	.519
Witnessing Violence	1.61	0.81	1.54	0.76	.102	66	.750
Emotional Abuse	1.43	0.77	1.40	0.71	.035	66	.853
Sexual Abuse	1.18	0.60	1.42	0.92	1.538	66	.220

Figure 1. *Model of Mediation*



References

Allison, J. A. & Vitelli, R. (2007). Review of *Social Adjustment Scale- Self-Report.* Retrieved September 3, 2008, from Mental Measurements Yearbook Database.

Azar, S. T. (2002). Parenting and child maltreatment. In M. Bornstein (Ed.), *Handbook of parenting*. Mahwah, NJ: Erlbaum.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* New Jersey: Prentice Hall.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Berndt, T. J., & Perry, T. B. (1986). Children's perceptions of friendships as supportive relationships. *Developmental Psychology, 22*(5), 640-648.

Beyers, W., & Goossens, L. (2008). Dynamics of perceived parenting and identity formation in late adolescence. *Journal of Adolescence, 31,* 165-184.

Black, M., Dubowitz, H., & Harrington, D. (1994). Sexual abuse: Developmental differences in children's behavior and self-perception. *Child Abuse & Neglect, 18*, 85-95.

Bolger, K. E., Patterson, C. J., & Kupersmidt, J. B. (1998). Peer relationships and self-esteem among children who have been maltreated. *Child Development, 69*(4), 1171-1197.

Bouchey, H. A., & Harter, S. (2005). Reflected appraisals, academic self-perceptions, and math/science performance during early adolescence. *Journal of Educational Psychology, 97*(4), 673-686.

Bowlby, J. (1969). *Attachment and loss: Vol. 1. Attachment.* New York: Basic.

Brown, B. B., Mounts, N, Lamborn, S. D., & Steinberg, L. (1993). Parenting practices and peer group affiliation in adolescence. *Child Development, 64*, 467-482.

Buhrmester, D., Furman, W., Wittenberg, M. T., & Reis, H. T. (1988). Five domains of interpersonal competence in peer relationships. *Journal of Personality and Social Psychology, 55*(6), 991-1008.

Burack, J. A., Flanagan, T., Peled, T., Sutton, H. M., Zygmuntowicz, C., & Manly, J. T. (2006). Social perspective-taking skills in maltreated children and adolescents. *Developmental Psychology, 42*(2), 207-217.

Butler, J. C., Doherty, M. S., & Potter, R. M. (2007). Social antecedents and consequences of interpersonal rejection sensitivity. *Personality and Individual Differences, 43*, 1376-1385.

Cicchetti, D., & Rogosch, F. A. (1997). The role of self-organization in the promotion of resilience in maltreated children. *Development and Psychopathology, 9*, 797-815.

Cicchetti, D., Rogosch, F., & Toth, S. (2006). Fostering secure attachments in infants in maltreating families through preventive interventions. *Development and Psychopathology, 18*, 623-649.

Clemmons, J. C., Walsh, K., DiLillo, D., & Messman-Moore, T. L. (2007). Unique and combined contributions of multiple child abuse types and abuse severity to adult trauma symptomology. *Child Maltreatment, 12*(2), 172-181.

Coie, J. D., Dodge, K. A., & Kupersmidt, J. B. (1990). Peer group behavior and social status. In S. R. Asher & J. D. Coie (Eds.), *Peer Rejection in Childhood*. New York: Cambridge University Press.

Coleman, P. K. (2003). Perceptions of parent-child attachment, social self-efficacy, and peer relationships in middle childhood. *Infant and Child Development, 12*, 351-368.

Compas, B. E. (1987). Stress and life events during childhood and adolescence. *Clinical Psychology Review, 7*, 275-302.

Cooley, C. H. (1902). *Human nature and the social order*. New York: Scribner.

Coopersmith, S. (1967). *The antecedents of self-esteem*. San Francisco: W.H. Freeman.

Dean, A. L., Malik, M. M., Richards, W., & Stringer, S. A. (1986). Effects of parental maltreatment on children's conceptions of interpersonal relationships. *Developmental Psychology, 22*(5), 617-626.

De Civita, M., Pagani. L. S., Vitaro, F., & Tremblay, R. E. (2007). Does maternal supervision mediate the impact of income source on behavioral adjustment in children from persistently poor families? *Journal of Early Adolescence, 27*(1), 40-66.

Dienes, K. A., Hammen, C., Henry, R. M., Cohen, A. N., & Daley, S. E. (2006). The stress sensitization hypothesis: understanding the course of Bipolar disorder. *Journal of Affective Disorders*, *95*, 43-49.

Dodge, K. A., & Frame, C. L. (1982). Social cognitive biases and deficits in aggressive boys. *Child Development*, *53*(3), 620-635.

Engels, R., Dekovic, M., & Meeus, W. (2002). Parenting practices, social skills, and peer relationships in adolescence. *Social Behavior and Personality, 30* (1), 3-18.

Erford, B. T. (2008). *Research and evaluation in counseling.* Boston: Lahaska Press.

Erikson, E. (1968). *Identity, youth and crisis.* New York: Norton.

Field, T., Diego, M., & Sanders, C. (2002). Adolescents' parent and peer relationships. *Adolescence, 37* (145), 121-130.

Frederick, J., & Goddard, C. (2008). Living on an island: Consequences of childhood abuse, attachment disruption and adversity in later life. *Child and Family Social Work, 13*, 300-310.

George, C., & Main, M. (1979). Social interactions of young abused children: Approach avoidance, and aggression. *Child Development, 50,* 306-318.

Giant, C. L., &Vartanian, L. (2003). Experiences with parental aggression during childhood and self-concept in adulthood: The importance of subjective perceptions. *Journal of Family Violence, 18*(6), 361- 367.

Hammen, C. L., Burge, D., Daley, S. E., Davila, J., Paley, B., & Rudolph, K. D. (1995). Interpersonal attachment cognitions and prediction of symptomatic

responses to interpersonal stress. *Journal of Abnormal Psychology*, *104*(3), 436-443.

Harter, S., Bresnick, S., Bouchey, H. A., & Whitesell, N. R. (1997). The development of multiple role-related selves during adolescence. *Development and Psychopathology*, *9*, 835-853.

Haskett, M. E., & Kistner, J. A. (1991). Social interactions and peer perceptions of young physically abused children. *Child Development, 62*, 979-990.

Hay, I., & Ashman, A. F. (2003). The development of adolescents' emotional stability and general self-concept: The interplay of parents, peers, and gender. *International Journal of Disability, Development and Education, 50*(1), 77-91.

Hetherington, E., Parke, R. D., Gauvain, M., & Locke, V. O. (2005). *Child psychology: A contemporary viewpoint*. 6th Ed. Boston: McGraw-Hill.

Houck, C. D., Rodrigue, J. R., & Lobato, D. (2007). Parent-adolescent communication and psychological symptoms among adolescents with chronically ill parents. *Journal of Pediatric Psychology*, *32*(5), 596-604.

Jacobson, R. S., & Straker, G. (1982). Peer group interaction of physically abused children. *Child Abuse and Neglect, 6,* 321-327.

Kim, J., & Cicchetti, D. (2004). A longitudinal study of child maltreatment, mother-child relationship quality and maladjustment: The role of self-esteem and social competence. *Journal of Abnormal Child Psychology, 22*(4), 341-354.

Kinard, E. M. (1999). Perceived social skills and social competence in maltreated children. *American Journal of Orthopsychiatry, 69*(4*)*, 465- 481.

Levendosky, A. A., Huth-Bocks, A., & Semel, M. A. (2002). Adolescent peer relationships and mental health functioning in families with domestic violence. *Journal of Clinical Child Psychology, 31*(2), 206-218.

Levenson, R. W., & Gottman, J. M. (1978). Toward the assessment of social competence. *Journal of Consulting and Clinical Psychology, 46*, 453-462.

Lopez, M. A., & Heffer, R. W. (1998). Self-concept and social competence of university student victims of childhood physical abuse. *Child Abuse & Neglect, 22*(3), 183-195.

Marsh, H. W. (1989). Age and sex effects in multiple dimensions of self-concept: Preadolescence to early adulthood. *Journal of Educational Psychology, 81*(3), 417-430.

Mead, G. H. (1934). *Mind, self, and society from the standpoint of a social behaviorist.* Chicago: University of Chicago Press.

McCullough, G., Huebner, E. S., & Laughlin, J. E. (2000). Life events, self-concept, and adolescents' positive subjective well-being. *Psychology in the Schools, 37*(3), 281-290.

Mufson, L., Weissman, M. M., Moreau, D., & Garfinkel, R. (1999). Efficacy of interpersonal psychotherapy for depressed adolescents. *Archives of General Psychiatry, 56*, 573-579.

Murthi, M., Servaty-Seib, H. L., & Elliot, A. N. (2006). Childhood sexual abuse and multiple dimensions of self-concept. *Journal of Interpersonal Violence, 21*(8), 982-999.

New, M. J., Lee, S. S., & Elliott, B. M. (2007). Psychological adjustment in children and families living with HIV. *Journal of Pediatric Psychology*, *32*(2), 123-131.

Patterson, C. J., Vaden, N. A., & Kupersmidt, J. B. (1991). Family background, recent life events, and peer rejection during childhood. *Journal of Social and Personal Relationships, 8*, 347-361.

Perry, D. G., Perry, L. C., & Rasmussen, P. (1986). Cognitive social learning mediators of aggression. *Child Development, 57*(3), 700-711.

Piaget, J. (1932). *The moral judgment of the child*. London: Kegan Paul.

Reyes, C. J., Kokotovic, A. M., & Cosden, M. A. (1996). Sexually abused children's perceptions: How they may change treatment focus. *Professional Psychology: Research and Practice, 27*(6), 588-591.

Rosenberg, M. (1979). *Conceiving the self*. New York: Basic Books.

Salzinger, S., Feldman, R. S., & Hammer, M. (1993). The effects of physical abuse on children's social relationships. *Child Development, 64*, 169-187.

Schwartz, S. J. (2008). Self and identity in early adolescence: Some reflections and an introduction to the special issue. *Journal of Early Adolescence*, *28*(1), 5-15.

Shavelson, R .J., Hubner, J. J., & Stanton, G. C. (1976). Validation of construct interpretations. *Review of Educational Research, 46*, 407-441.

Shields, A., Ryan, R. M., & Cicchetti, D. (2001). Narrative representations of caregivers and emotion dysregulation as predictors of maltreated children's rejection by peers. *Developmental Psychology, 37*(3), 321-337.

Steel, J., Sanna, L., Hammond, B., Whipple, J., & Cross, H. (2004). Psychological sequelae of childhood sexual abuse: Abuse-related characteristics, coping strategies, and attributional style. *Child Abuse & Neglect, 28*(7), 785-801.

Trickett, P. K., & Putnam, F. W. (1998). The developmental impact of sexual abuse. In P. Trickett & C. Schellenbach (Eds.), *Violence against children in the family and community*. Washington: APA Books.

Wenar, C., & Kerig, P. (2006). *Developmental psychopathology: From infancy through adolescence*. (5th ed.). Boston: McGraw Hill.

Worrell, F. C. (1997). An exploratory factor analysis of Harter's self-perception profile for adolescents with academically talented students. *Educational and Psychological Measurement, 57*(6), 1016-1024.

Ybrandt, H. (2008). The relation between self-concept and social functioning in adolescence. *Journal of Adolescence, 31,* 1-16.