Insecure Attachments: The Effects of Early Infant Experiences on Later Development and Social Interest

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Attachment theorists, based on Bowlby’s theory, believe that the dyadic relationship between infant and caregiver is how an infant begins to mentally organize information that guides behavior of self, significant persons, and the world. This thesis explores how individuals construct experiences across time in a manner that is congruent with their early relationship history. The Adlerian concepts of social embeddedness, teleology or goal-directed behavior, and subjective reality support the attachment theory and its classifications. Researchers have found some correlation between insecure attachment categories and psychopathology, especially when other high-risk factors existed. Identifying attachment types, especially insecure attachments can be an important consideration in determining how therapists approach a treatment modality.
Introduction

Attachment disorders have been discussed in psychology for close to half a century. Attachment concerns were brought to the forefront when young children in orphanages were observed as being fed, kept clean, and considered in good physical condition but they were lacking long-term emotional warmth from a sole caregiver. The lack of emotional warmth from a caregiver was believed to have not only affected the children’s emotional development but their physical growth and developmental condition as well. It was concluded that providing only for an infant’s physical needs was not adequate for what is considered normal development (Shorey & Synder, 2006).

Shortly after the discovery of the inadequate development of children in orphanages, John Bowlby, a psychoanalyst who was interested in explaining both normal and disturbed development, became interested in the parallels between human infants and animal babies. He was interested in formulating a meaningful model of development of psychopathology in relationships from infancy and beyond (Madigan, 2006). Bowlby’s attachment theory has become one of the most influential theories regarding children’s social development (Bowlby, 1982; Green & Goldwyn, 2002).

Emotional regulation is a key component in development, socialization, and mental health. Attachment theorists believe that the infant-caregiver relationship lays the foundation for human emotional regulation. The caregiver’s sensitive interaction with the infant has been linked to the infant’s improved emotional regulation. An infant relies on a caregiver for existence and part of the infant-caregiver attachment relationship is to help the young infant regulate emotional tension when it exceeds their ability to manage it (Kochanska, 2001).
Bowlby concluded that emotions such as anxiety, anger, and fear are naturally occurring responses in life and can help guide individuals in maintaining key relationships. He viewed an individual as being disturbed when these emotions become chronic, misdirected, or inappropriately triggered and at the same time fail to be expressed when the emotion is needed (Sroufe, Egeland, Carlson & Collins, 2005b).

Bowlby believed that an infant must learn to draw effectively upon external resources for emotional regulation and mastery. Effective attachment, which is thought to support the infant’s exploration, enables the infant to remain organized when encountering new experiences. That is, when an infant encounters a new situation, the infant-caregiver attachment relationship allows the infant emotional guidance for how to react (Sroufe et al., 2005b). Attachment theorists suggest that how an infant-caregiver dyad is constructed can have long lasting effects on an individual’s development, socialization, and mental health (Bowlby et al., 1982; Green et al., 2002).

Bowlby discovered that it is through cues that are given and received in the infant-caregiver relationship that the infant learns to form attachment. Bowlby saw attachment as the model and the means for developing the infant’s emotional regulation. Attachment theorists postulate that it is from the dyad relationship that the infant develops emotional regulation by forming patterns of adaptation in a coherent, step-by-step process that begins in infancy and carries forward throughout an individual’s development (Carlson, Jacobvitz & Sroufe, 1995; Sroufe, 2005a). This adaptation or attachment style is thought to be amenable to change over time but is not easily modified. In developmental research there continues to be disagreement about the effects of early experiences on attachment. Some researchers believe that attachment is
almost exclusively the product of current experiences (Roisman, Collins, Sroufe & Egeland, 2005). This thesis reviews the fate early attachment experiences have on development over time.

Attachment Theory

Attachment research suggests that there is a basic, biologically-rooted system of behavior that is universal in human nature despite differences in genetics, culture, and individual experiences. Relationships in general are considered to be critical for the development of emotionality. Attachment theorists view the caregiver-infant dyad as the foundation for the development of the child. It is believed that an individual’s organization of emotional strategies is rooted in the child’s history of repeated experiences of affective encounters with the caregiver (Bowlby et al., 1982; Ainsworth, 1989; Kochanska et al., 2001). Bowlby’s attachment theory conceptualizes that infants, in their helplessness, organize their behavior in order to maintain close proximity to the caregiver to ensure their own protection from danger, alarm, or distress as well as meeting their needs for comfort and nurturance. It is believed that, regardless of age, the attachment system is most strongly activated during times of stress (Pielage, Gerlsma & Schaap, 2000). Attachment is considered a social relationship that reflects a set of behaviors and emotions that is observable in infants and is thought to be a unique and exclusive relationship that forms after the sixth month of life (Ainsworth et al., 1989; Isabella, 1993; NICHD Early Child Care Research Network, 1997; Sroufe et al., 2005; Velderman, Bakermans-Kranenburg, Juffer & van IJzendoorn, 2006).

The caregiver-child dyad is conceptualized as a communal relationship where the child is socialized through a process of reciprocity, and a mutually responsive relationship with the caregiver (Gullone, Ollendick & King, 2006; Kochanska & Murray, 2000; Madigan et al., 2006). One attachment model describes the caregiver in the socialization process as fulfilling three
roles: helping the child maintain social relationship with others by being an interactive partner with the child; educating the child regarding social, moral, and cultural norms by being a direct instructor; and, allowing the child to have socialization outside the family by being a provider of opportunities (Morrison, Rimm-Kauffman & Pianta, 2003).

Attachment theorists’ claim that infants/children who experience their caregiver as responsive and available are likely to have a secure attachment. It is suggested that non-responsive or insensitive caregiving leads to the development of an insecure attachment that results in the child’s inability to draw appropriate cognitive/affective coping strategies (Gullone et al., 2006). It is argued that from the caregiver-child experience children form basic rules that govern their interpretations and expressions of emotion and behavior (Carlson, 1998). Bowlby argued that children develop cognitive, behavioral, and emotional schemas that are uniquely tailored to maintaining close proximity to their caregiver. These schemas are distinctly identifiable patterns or roadmaps (working models) for negotiating social environments where an individual behaves in ways that elicit similar reactions from others. Similar to Alfred Adler’s concept of private logic, these responses reinforce the individual’s internal working model until it becomes deeply ingrained in the personality structure and begins to guide behavior of self, significant others, and the world (NICHD Early Child Care Research Network, 2006; Sroufe et al., 2005b). Attachment theorists view attachment styles as fostering positive perceptions and development as well as predisposing individuals to experience various forms of psychopathology (Shorey et al., 2006).

Attachment theorists and researchers recognize that not all infants who are classified as insecurely attached develop problems later in development; however, when they do it has been associated with attachment type and an unresponsive environment (NICHD et al., 2006).
Bowlby struggled with the generally accepted developmental concept that a child forms a strong bond to a caregiver because the caregiver is a source of food. Instead, Bowlby theorized that children develop cognitive, behavioral, and emotional schemas that are specifically tailored to maintaining proximity to caregivers. From his research Bowlby concluded that infants engage in attachment seeking behavior because they develop the ability to interact and are biologically disposed to do so. Bowlby theorized that infants have a biological response to fear that causes them to seek comfort and protections from their attachment figure. When an attachment figure provides safety and at the same time is a source of fear it creates a condition of stress for the infant. This stressful condition is believed to cause a breakdown in coping strategies and results in behavioral disorganization for the infant (Bowlby et al., 1982; Madigan et al., 2006). Multiple studies of infant behavior demonstrate that when there are threatening conditions the infant will direct an array of behaviors towards the caregiver until proximity between the two is achieved (Sroufe et al., 2005b).

Attachment theorists, like Adlerians, see behavior as goal-directed (Ansbacher & Ansbacher, 1956; Sroufe et al., 2005b). No one behavior is thought to be exclusively an attachment behavior. The complexity of attachment lays in the fact that if one behavior fails in achieving proximity to the caregiver the infant may use another. Development demonstrates that as new behaviors become available infants show increasing differentiation in their reactions to stimuli. The learning process broadens so that when infants receive affirmation regarding the effectiveness of their signals they are then able to substitute more flexible signals as they become available. From this interaction the infant learns how to organize behaviors in order to interact with the caregiver (Sroufe et. al, 2005b). Attachment theorists view the infant-caregiver
attachment relationship as a cumulative product of the infant’s experience with the caregiver that forms across the first year of life (Isabella et. al, 1993).

Infants become attached to caregivers because they are present in an interactive on-going way (Sroufe et. al, 2005b). Bowlby viewed attachment in evolutionary terms and that development is continuous rather than something that happens in phases. He theorized that the emotional connections between individuals have survival values and that these are biologically wired in the central nervous system. He concluded that the attachment dyad builds internal mental representations or working models of each partner in preparation of separation. Attachment theory postulates that a child’s early experience with the caregiver creates a means for which the child interprets and makes sense of subsequent experiences (Bowlby et al., 1982; NICHD et. al, 2006). Theorists view the child’s organization of emotional strategies as rooted in the infant’s history of repeated experiences in affective encounters with the caregiver/parent. This organization of the infant experience is seen as corresponding with the infant’s attachment patterns (Kochanska et al., 2001). It is the quality of care that the infant experiences, in terms of caregiver availability and responsiveness to the infant’s cues that determines the type or quality of attachment (Gullone et. al, 2006). Bowlby believed that the attachment style that is developed and internalized in early childhood is perpetuated throughout an individual’s life span and has a direct impact on adult mental health (Shorey et. al, 2006).

Bowlby’s Internal Working Models

Early attachment is viewed as creating the foundation for later mental representations of the self and the attachment figure. Bowlby suggested that during the first year of life the infant begins to formulate expectations of caregiving rhythms and organizes these expectations internally (Bowlby et al., 1982; Ainsworth et al., 1989). Through the infant-caregiver interaction
the infant begins to construct models of how to view the self, significant others, and the world. Bowlby referred to these constructs as internal working models or states of mind that guide behavior. These models help the infant predict behaviors of others and are applied to the infant’s broadening social world (Gullone et al., 2006; Pielage et al., 2000). The internal working model is viewed as being based on cumulative experience and guides an individual when interpreting experiences. Sroufe, Egeland, Carlson, and Collins claim that people naturally behave according to their expectations of the world and appear to behave in a way that confirms what they expect (Sroufe et al., 2005b).

Bowlby’s internal working model correlates with the Alderian perspective that individuals assimilate and utilize their experiences according to their life style. Children are considered to be good at observing but not at interpreting situations yet they form definite opinions of what they think the situation means. These opinions form conclusions that make-up the individual’s schema or apperception which becomes part of her/his life style. The child, and later the adult, continues unconsciously to move toward this formulated life style (Ansbacher & Ansbacher, 1956; Tobin, Wardi-Zonna & Yezzi-Shareef, 2007).

Attachment is viewed as influencing how a child begins to internalize the relational interactions. The constructs of the internal working model gradually evolve into more complex patterns of affective regulation, self-organization, attitudes, and expectations about the world (Zilberstein, 2006). These models are thought to include both past and present circumstances but are transformed by new experiences. At the same time, new experiences are incorporated and are interpreted by the prior history of adaptation (Sroufe et al., 2005b). These working models are viewed as gaining sophistication with age, amenable to change with changing environments, but not easily modified overtime. Other developmental theorists argue the existence of internal
working models and suggest that attachment theorists fail to consider other constructs that influence the child, such as temperament and other social relationships outside of the caregiver experience (Schneider, Atkinson & Tardif, 2001).

Bowlby’s work with his internal working model began with an interest in formulating a model of development of psychopathology. Through his research and clinical observations he was able to demonstrate a connection between a child’s early experience with parents/caregivers and later social and emotional functioning and adaptation (Madigan et al., 2006). The importance of an encouraging, supportive, and stable caregiver during a child’s early years is believed to contribute a sense of attachment security, trust in significant others, and a sense of self-esteem (Gullone et al., 2006; Kochanska, 1995; Velderman, et al., 2006). A secure attachment is thought to buffer the harmful effects of stressful events.

Attachment research found that when caregivers are reported as being unavailable, insensitive or inconsistent with their young child the relationship is viewed as creating a poor or insecure attachment for the child. Insecure attachment patterns, although not considered indicators of psychopathology, are viewed as heightening the risk for it (Gullone et al., 2006; Hoffman, Cooper, Powell & Marvin, 2006). Insecurely attached children are viewed as unable to draw on appropriate cognitive/affective coping strategies which can lead to serious adverse developmental consequences (Allen, Hauser & Borman-Spurrell, 1996; Brown & Wright, 2003; Gullone et al., 2006; Pielage et al., 2000; Rosenstein & Horowitz, 1993).

Ainsworth’s Relationship of Maternal Sensitivity

Expanding on Bowlby’s work, Mary Ainsworth began observational studies of infants’ secure base behaviors. Ainsworth theorized that it is the parenting/caregiver behaviors that are the chief mechanism in driving individual differences in the infant’s proximity seeking and
secure base behavior. Ainsworth and her colleagues argued that the difference in the quality of attachment relationships is the result of how effectively the caregiver is able to be the source of comfort when the infant is distressed. Ainsworth stressed that attachment patterns are formed during the infant’s first year of life and is based on the history of the infant-caregiver dyad interaction. Ainsworth claimed that it was the maternal sensitivity and responsiveness that predicted attachment security. Her goal was to test Bowlby’s theory of infant behavior towards a caregiver by observing trends in an infant’s responses to separations and reunions with the caregiver (Waters, Merrick, Treboux, Crowell & Albersheim, 2000).

Attachment Classifications

*Strange Situation Paradigm/Infant Attachment Classifications*

Ainsworth and her colleagues developed the Strange Situation Paradigm in order to study infant behavior (Shorey et al., 2006). The procedure involved assessing a series of temporary separations and reunions between an infant, caregiver, and a friendly, unfamiliar female stranger. Ainsworth theorized that it is maternal sensitivity and responsiveness features that predict infant attachment security (Madigan et al., 2006).

Ainsworth theorized that infant behavior appeared to be organized strategies centered on an available caregiver. During the Strange Situation infant behaviors studied included: crying; clinging; signaling; and proximity seeking that is directed toward the caregiver under conditions of fatigue, illness, threats, or stress. The attachment system, whether secure or insecure, is theorized to be based mainly from the history of the infant’s relationship with the caregiver. During the Strange Situation behaviors were classified based on the overall patterns of infant behavior, with special emphasis on the behaviors during the caregiver-infant reunions (Kochanska, 1998). Ainsworth’s procedure identified three distinct patterns of attachment:
secure; anxious-resistant; and anxious-avoidant (Jimerson, Egeland & Teo, 1999; Sroufe et al., 2005b).

Secure attachment is seen as a result of an infant experiencing reliable, sensitive care, especially when a threat or stressor presents itself. When a caregiver is responsive to the infant’s signals, overtures, and moods, the infant comes to expect that the caregiver is available and that his/her signals/cues are effective in eliciting care. In the Strange Situation Paradigm infants acted somewhat distressed when separated from the caregiver but greeted them eagerly and warmly when reunited. The infant was observed to be easily separated from the caregiver yet continued to use the caregiver as a secure base for exploration. The infant demonstrates an ability to express emotions to others and actively seek help from others when unable to help themselves. Securely attached infants are seen as being able to regulate their emotional responsiveness and able to creatively adapt to changing circumstances and new challenges based on their own emotions and on others who are available to help them (NICHD et al., 2006; Pielage et al., 2000; Renken, Egeland, Marvinney, Mangelsdorf & Sroufe, 1989).

Insecure attachments are believed to form when the caregiver is rejecting, inconsistent, unavailable or unresponsive to the signals give by the infant (Pielage et al., 2000; Renken et al., 1989). Attachment theorists view insecure attachments as patterns of behavior that infants use in order to remain in close proximity to the caregiver who would otherwise reject them. Ainsworth and her colleagues initially identified two subtypes of insecure attachment: anxious-avoidant and anxious-resistant (Ainsworth et al., 1989).

An infant classified as having an anxious-avoidant attachment was observed to have inhibiting emotional signals, especially negative ones, which many times were redirected toward inappropriate sources (NICHD et al., 2006; Shorey et al., 2006). In the Strange Situations
Paradigm these infants appeared relatively undisturbed when separated and reunified with caregivers. During the separation phase the infant showed little distress, mainly focused on the toys, and was able to explore the environment and interact comfortably with the stranger. When reunified these infants appeared to dismiss or avoid contact with the caregiver (Kochanska et al., 1998).

Infants with an anxious-resistant attachment classification became distraught and protested the separation with the caregiver. When reunified these infants remained distressed and continued to protest even after indicating that they wanted to be held and comforted (NICHD et al., 2006; Shorey et al., 2006). These infants are seen as demonstrating exaggerated expressions of distress in order to elicit the caregiver’s attention. When reunified they remained distressed, demonstrated limited exploration, and showed resistance toward the caregiver (Kochanska et al., 1998).

As the Strange Situation continued to be used in attachment research it was observed that there was a style of behaviors that revealed chaotic and conflicting behaviors in response to the Strange Situation task that did not fit into Ainsworth’s original classification. These infants were observed as exhibiting approach and avoidant behaviors toward the caregiver simultaneously (Shorey et al., 2006; Zilberstein et al., 2006). Mary Main, an attachment researcher, found that this unclassified style of infant behavior included a variety of contradictory responses such as freezing or dissociation, abnormal or mistimed movements, disorientation, and apprehension of the caregiver. These behaviors have been accepted as a third subtype of insecure attachment and are identified as a disorganizing/disoriented style of attachment. This group is believed to be at greater risk of psychopathology in childhood than the other insecure subtypes (Green et al., 2002; NICHD et al., 2006; Shorey et al., 2006).
**Adult Attachment Interview/Adult Attachment Classification**

Attachment research conducted on adolescents and adults use the Adult Attachment Interview (AAI) to identify attachment classification. It was designed to assess the person’s current state of mind regarding her/his early attachment experience (Madigan et al., 2006; Roisman et al., 2005; Sroufe et al. 2005). Classification of attachment is based on descriptions of childhood experiences with caregiver/parents, the individual’s organization and integration of abstract judgments, and specific memories of attachment relationships (Allen et al., 1996).

Individuals generally fall into one of three major categories: autonomous or secure, dismissing and preoccupied. When individuals are able to describe their past attachment in a way that is coherent, either in negative or positive terms, and is able to provide specific examples they are classified as autonomous. These individuals are considered to have a positive working model of themselves and of others. This autonomous or secure adult classification is similar to the secure attachment classification for infants (Madigan et al., 2005; Roisman et al., 2005; Sroufe et al., 2005b).

When individuals claim to lack a memory of their attachment experience or fail to identify the effects that negative experiences had on them, they are classified as dismissing or attachment avoidant. These individuals generally idealize their attachment history yet are unable to provide support for their experiences or give specific examples (Madigan et al., 2006; Sroufe et al, 2005b). This attachment group is viewed as having an excessive need for self-reliance, fear of depending on others, and tends to hold positive working models of self and negative working models of others. They are viewed as devaluing the importance of others and avoid relying on help (Vogel & Wei, 2005). The dismissing adult classification is similar to the anxious-avoidant attachment classification for infants.
A preoccupied classification, or attachment anxiety, is given when individuals are viewed as being able to talk about feelings but appear to remain entangled in the past, often revealing ongoing anger. These individuals are unable to present an integrated view of attachment experiences, have an excessive need for approval from others, and at the same time fear rejection and abandonment. This group is viewed as holding negative working models of self but has positive working models of others and tends to overemphasize their distress in order to receive help from others (Sroufe et al., 2005; Vogel et al., 2005). The preoccupied adult classification is similar to the anxious-resistant attachment for infants.

Similar to the infant classification categories researchers found that some individuals fall into a category that did not fit the three main adult categories. These individuals are viewed as being unresolved-disoriented regarding losses or past trauma and often referred to deceased individuals in the present tense. This unresolved-disoriented adult classification is similar to the disorganized/disoriented attachment for infants (Sroufe et al., 2005b). Both the Strange Situation Paradigm and the AAI are the most well-validated and widely used research measurements for assessing attachment classifications.

Development, Attachment Theory and Adler’s Theory of Social Interest

There is great interest in being able to predict human behavior. Adlerian theorists view individuals as social beings who want to belong and therefore are socially embedded. Due to the drive to want to belong, behavior becomes purposeful, or goal-oriented, although most often not on a conscious level. This teleological movement is seen as holistic. Individuals look for patterns in which they can fit the details of life. These patterns or concepts form a biased apperception about oneself and the world. When these patterns are grouped together it forms a life style. Reality is subjective because it is based on each individual’s perceptions. The meaning an
individual gives life is founded on his/her interpretation of their heredity and environment.

Different people respond in different ways to the same experiences and influences. Adlerians explain this difference in behaviors as the individual adopting an attitude toward the environment instead of reacting to it (Dreikurs, 1989). Developmentalists, Attachment theorists, and Adlerians see human behavior as having purpose or being goal-directed. Behavior is movement towards a goal (Dreikurs, 1987; Manaster & Corsini, 1982). Individuals repeat behaviors that reinforce a sense of belonging and discard the ones that do not (Dreikurs et al., 1987). It is an individual’s attitude toward others and its significance that constitutes the person’s social interest.

Researchers began examining how the human organism develops as a whole. They recognized that individuals differ at every age and focused on how continuity, or continuity of functioning, is organized over time (Madigan et al., 2006; Sroufe et al., 2005). Many developmental theorists view the infant-caregiver attachment process as the foundation for predicting future behaviors and relationships.

Attachment researchers believe that there is a basic behavioral system that has evolved in social species, especially human species, that leads individuals to maintain proximity to others, even those they are not attached or bonded to. This social and emotional system is thought to be based on a survival function and is thought to originate in the infant-mother/caregiver dyad relationship to meet the infant’s need for protection (Ainsworth et al. 1989; Kochanska et al., 2000; Zilberstein et al., 2006). It is theorized that attachment influences development because the child-caregiver attachment appears to impact a child’s behavior and relationships. The interaction with the caregiver guides the infant and aids in the development of increasing complex patterns of affective behavior, self-organization and expectations about relationships and the world (Gullone et al., 2006).
Other developmental theorists believe behavior is a reflection of the temperament of the individual rather than a result of the dyad relationship history (Kochanska et al., 1998). Some theorists argue that socialization and a child’s temperament are significant factors in the emergence of early internalizing development (Kochanska et al., 1995, Rosenstein et al., 1993). Still other developmental theorists claim that parents/caregivers have a moderate influence on a child’s temperament style and that temperament and caregiver characteristics such as attachment behaviors interact with each other to predict developmental outcomes (Gullone et al., 2006).

Developmental theorists appear to agree that current environmental circumstances do influence behavior and many believe that the early experience has some unique status in overall developmental outcomes. (Carlson, Sroufe & Egeland, 2004; Sroufe, Egeland & Kreutzer, 1990). The organization of the infant’s behavior is seen as deriving mostly from the history of the relationships with the caregiver (Kochanska et al., 1998). Later experiences are interpreted based on earlier experiences and are believed to influence or guide behavior (Brown et al., 2003; Roisman et al., 2005; Schneider et al., 2001). Bowlby viewed the internal working models of attachment as branching pathways. The further an individual goes in one direction the more difficult it becomes to converge on other pathways (Weinfield, Sroufe & Egeland, 2000). Later experiences are interpreted based on earlier experiences and are believed to influence or guide behavior. Some developmental theorists claim that the influences of socialization agents other then the early child-caregiver experience have been overlooked (Schneider et al., 2001).

Adlerians, like many systems theorists, view the family as the first social group where the individual strives to find a significant place. Adlerians view the striving for significance from a teleological perspective where the individual’s movement pulls her/him toward fulfillment of a goal, a movement toward a unique identity. Since children are seen as being good observers but
poor interpreters it can lead to conclusions about the self and life that are based on faulty judgments. Actions driven by the thinking process, which is usually not conscious, have definite influence on behavior (Dinkmeyer, Dinkmeyer & Sperry, 1987).

Adlerians theorize that in early development individuals form a fictional image of what to be like in order to be safe and feel they belong. This fictional image, also known as a fictional goal, becomes the central purpose of the life style and often limits the range of actions that individuals believe they can take (Dinkmeyer et al., 1987). This is not unlike Bowlby’s concept of internal working model where infants are viewed as organizing their behaviors to maintain close proximity to the caregiver to ensure their own survival. It is from this dyadic relationship that the infant forms basic rules about self and others.

Similar to the infant and adult secure and insecure attachment classifications that describe behavior differences, Adlerians, specifically Bernard Shulman, categorize six groups of basic mistakes that make up life style differences. These basic mistakes include: distorted attitudes about the self; distorted attitudes about the world and others; distorted goals; distorted methods of operation; distorted ideals; and distorted conclusions (Dinkmeyer et al., 1987).

Attachment theorists claim developmental stages, when altered, can change attachment categories over time. Adlerians take the view that nothing is absolute. It is how individuals use what they have that counts and determines how social interest is developed (Manaster et al., 1982). Adler’s absolute truth of social embeddedness is based on the belief that difficulties encountered in life are problems of human cooperation that stem from interactions with other people. There are three primary life tasks that are considered to be interconnected: the work/occupation task, the love/intimacy task, and the friendship/social task. Problems surface when difficulties with the tasks of life are experienced. Individuals can have difficulty in any or
all of the life tasks which can impact their level of social interest. (Ansbacher et al., 1956; & Oberst & Steward, 2003). Lack of social interest, from an Adlerian perspective, is believed to lead to psychological problems (Oberst et al., 2003). Many of the studies reviewed in this paper reflect and support this concept.

Methodological Considerations

Seventeen of the studies reviewed were founded on research gathered through an ongoing longitudinal study of high-risk, lower socioeconomic families that begin in 1975. Women in their third trimester of pregnancy were recruited from prenatal clinics sponsored by the Maternal and Infant Care project of the Bureau of Maternal and Child Health, Minneapolis Health Department. The mothers’ medical histories were obtained, including drug/alcohol usage, from hospital medical records. The mothers were classified as 80% white, 14% black, and the remaining 6% were Native American or Hispanic. Sixty-two percent of them were single, 40% had not completed high school, and 86% of the pregnancies were unplanned. The mothers’ ages varied from 12 to 37 years old. The number of participants varied due to the specific focus of each study and some of the subjects being lost over time. The original 1975 study included 190 subjects from the Minneapolis area (Sroufe et al, 1990; Sroufe et al. 2005b).

Six other studies reviewed were based on research gathered using the longitudinal data from the National Institute of Child Health and Human Development Study of Early Child Care (NICHD SECC). The participants were recruited throughout 1991 from 31 hospitals including: Little Rock, AR; Orange County, CA; Lawrence and Topeka, KS; Boston, MA; Philadelphia and Pittsburg, PA; Charlottesvile, VA; Morganton and Hickory, NC; Seattle, WA; and Madison, WI (Campbell, Spiekeer, Burchinal, Poe, & NICDH, 2006; NICHD et al., 1997; NICHD et al., 2000; NICHD et al., 2005; NICHD et al., 2006). Participants were selected among
8,986 women giving birth during a selected 24-hour sampling period. The selections were based on random sampling to ensure demographic diversity regarding economic, educational, and ethnicity of each area. One thousand three hundred sixty-four families with healthy newborns completed a home visit and were enrolled. Fifty-eight percent of the families agreed to participate in the study including 24% ethnic-minority children, 10% low-education mothers, and 14% single mothers. Fifty-three percent of the mothers planned to work full-time, 23% part-time and 24% did not plan on working during the child’s first year (NICHD et al., 2000).

For the NICHD studies all research observers were certified before beginning data collection and tested for observer drift every three to four months. Reliability was calculated using Pearson correlations and a repeated measure analysis of variance (ANOVA) formulation (NICHD et al., 2005).

Caregiver-Child Procedures

In the Minnesota Mother-Child Project studies, the socioeconomic status of the participants' families were evaluated during the prenatal stage, grades first, second, third and sixth and at age 16. The evaluation was based on the mother’s level of education, current occupation, current occupation of spouse if applicable, and total household income. The Duncan TSE12 Socioeconomic Index was used to determine the socioeconomic index score for each family (Sampson, 2005). The Child Care Rating Scale was administered to assess maltreatment regarding childcare practices when infants were seven and ten days old and at three, six, nine, and twelve months. The assessment consisted of home interviews with mothers regarding caregiving skills, feelings toward their infant, and disciplinary practices (Carlson et al., 1998). The NICHD studies used a different method to assess child rearing. The Parental Modernity
Scale of the Child Rearing and Educations Beliefs was administered to assess maternal attitudes toward child rearing when infants’ were one month old (NICHD et al., 2006).

In the Minnesota studies the primary relationship status of the mothers were recorded at the infant’s birth, 30 months, and years six, seven, eight and eleven. Life stress was measured at each assessment using a 44-item life events questionnaire and a seven-point interview rating of emotional support available to the mothers (Carlson et al., 1995; Fury, Carlson & Sroufe, 1997; Renken et al., 1989; Sroufe et al., 1990). The Sampson study used the Life Events Inventory assessment, in an interview format, to capture a variety of stressful life experiences. Maternal Life Stress and individual participant life stress that was measured over time were averaged together to derive a composite life stress score (Sampson et al., 2005).

To assess maternal anxiety the mothers completed the IPAT Anxiety Scale Questionnaire and the Personality Research Form (PRF) at the prenatal and three month stage. The IPAT Anxiety Scale is a 40-item self-administered questionnaire that was used to capture mothers who were experiencing high levels of anxiety. The PRF is a 96-item self-report personality inventory. Scores from the PRF and the Trait Rating Form were correlated and formed the mothers’ aggression scores. (Carlson et al., 1995).

When the infants were seven and ten days old trained examiners administered a 27-item Neonatal Behavioral Assessment Scale (NBAS) to each infant at home for the Minnesota studies (Carlson et al., 1995). The NICHD studies conducted home visits at slightly different ages. Ages of the infants when assessed were one, six, and fifteen months old.

Different from the Minnesota studies, the NICDH studies observed infants while in child care arrangements at six and fifteen months for two and one-half days within a two week interval. The children were assessed using the Observational Record of the Caregiving
Environment (ORCE) which was developed for this project. Data collection for the ORCE involved four 44 minute cycles over two days. Each cycle consisted of four ten-minute observation periods and included a four minute period for rating global quality (NICHD et al., 2000). These studies assessed infants who spent at least ten hours or more per week in nonmaternal care at ages 24 and 36 months (NICHD et al., 2000; NICHD et al., 2005; NICHD et al., 2006). The NICDH study conducted in 2003 assessed participants in child care at ages 6, 15, 25, 36, or 54 months old. When participants were four and one-half years old, 1,083 children and their parents were still enrolled. At that time, the ORCE was administered again (NICHD, 2003).

When infants were three months the mothers completed the Carey Temperament Questionnaire regarding the infant in the Minnesota study. The questions allowed for assessment of nine dimensions of temperament. The use of factor analysis resulted in three factors: adaptability/demandingness, activity/alertness, and distractibility. The adaptability/demandingness factor was used because it was considered the best representative factor between negative temperament and hyperactivity (Carlson et al., 1998). The NICHD study used a similar measure when infants were six months old by having mothers complete a modified Infant Temperament Questionnaire (ITQ) (NICHD et al., 2000). In another study conducted in the Netherlands, assessment of infant temperament at approximately six months old was conducted by having caregivers complete the Infant Behavior Questionnaire (IBQ). The questions consisted of six subscales measuring infant activity level, smiling and laughter, fear, distress to limitations, soothability, and vocal activity (Velderman et al., 2006).

The quality of caregiving was measured at six months in the Minnesota studies. Mothers were videotaped while feeding and playing with their infants at home. During this procedure mothers were rated using Ainsworth’s nine-point Intrusiveness/Sensitivity Scale. This measured
the mother’s degree of physical interference and frequency of intrusiveness and the extent in which the mother disrupts the infant’s ongoing activity rather than adapting to the infant’s state, mood, and current interest (Carlson et al., 1995; Carlson et al., 1998).

The level of fearfulness was measured in a few studies when infants were ages eight and ten months old. All four fear episodes were coded for fear response, the presence or absence of discrete escape behavior, and the average peak intensity of facial, body, and vocal fear. Each episode began when the infant was in a neutral mood and ended when the infant exhibited maximum distress or when the mother requested it ended. The Stranger Approach episode involved a stranger entering the infant’s home. The stranger addressed the infant, then moved closer, stopped and addressed the baby again, and finally picked up the infant. In the Unpredictable Mechanical Dog episode the infant was placed in a high chair near a table. An odd, remote controlled dog moved along a track toward the infant. It stopped approximately six feet away, waited ten seconds then moved back. In the Mask episode the experimenter put on different masks, each for ten seconds. With each episode the experimenter said the infant’s name and moved the mask from side-to-side toward the child. In the Parasol episode a large black and white parasol was opened and pointed at the infant and after five seconds it was closed slowly. The mask episode was conducted again when infants’ were 13 and 15 months old (Kochanska et al., 1998; Kochanska et al., 2001; Kochanska, Aksan & Joy, 2007).

In several studies when infants were 12 and 18 months old the Strange Situation Paradigm assessment was conducted by two coders who used conference ratings to conclude attachment types (Carlson et al., 1998; Carlson et al., 2004; Fury et al., 1997; Renken et al., 1989; Sampson et al., 2005; Sroufe, Bennett, Englund, Urban & Shulman, 1993; Sroufe et al., 1990; Sroufe et al., 2005b). In the Carlson study, independent coders, trained by expert coders,
classified the videotaped Strange Situation to determine attachment classification separately from
the original assessment to test validity of the classifications (Carlson et al., 2004). The
Kochanska study conducted the classic Strange Situation Paradigm when the participants were
14 months old (Kochanska et al., 2001). One of the NICHD studies administered the Strange
Situation Paradigm at slightly different ages. One NICHD study administered it when infants
were six and fifteen months old and another NICHD study consisting of 1,201 children
administered it when participants were 15 months old (NICHD et al., 1997; NICHD et al., 2006).
In both studies the procedure was conducted by trained and certified research assistants. The
videotapes of all episodes were shipped to a central location and were rated by three coders who
were blind to child care status. Coders rated their confidence in each attachment classification
using a five-point scale. Infant distress was rated with a five-point scale for each mother-absent
episode then summed across episodes to create a total Distress score that ranged from three to
fifteen. Disagreements about codes were discussed as a group until there was a consensus
(NICHD et al., 1997).

At ages 18, 30, 42, 48, and 64 months; during first, second, third, and sixth grades, and at
ages 16 and 17.5, the Life Events Inventory was measured by interviews with mothers in the
Sampson study. The measure is a 41-item list that describes a variety of maternal life stress
experiences. The scores were converted to Z-scores and averaged to arrive at an average
maternal life stress score. The Life Events Inventory was administered again at ages 23 and 26.
These scores were combined with the ALES collected at age 19 and converted by Z-scores and
averaged to derive an average participant life stress score (Sampson et al., 2005). The NICHD
research used several different measures to evaluate how life stressors affect families. A three-
item, five-point Likert Scale was designed for this study to assess financial stress and
administered to caregivers when the infants were 24 and 36 months old. During the first and 36 month home interviews a caregiver self-report measuring maternal quality using a 6-item Intimacy subscale of the Personal Assessment of Intimacy in Relationship Inventory (PAIR) was administered. Parenting stress was assessed using a 20-item Parenting Experience Questionnaire when infants were 24 and 36 months old (NICHD et al., 2000).

In several of the Minnesota Mother-Child Project studies a tool problem assessment was given to observe the child’s negative affect and assess infant/caregiver relationship quality when infants were 24 months old. This procedure, using a seven-point Likert-type scale, involved having the child work to solve a series of problems with graded difficulty. The child was allowed available help from the mother/caregiver (Carlson et al., 1998; Carlson et al., 2004; Renken et al., 1989; Sroufe et al., 1990). During a clean-up task in another study approximately 10% of the mothers were viewed as exhibiting seductive behavior toward their child. The behaviors demonstrated by the mothers included sensual whispering or touching, touching of the genitals and attempted bribes with affection (Sroufe et al., 1993).

In the Minnesota studies when infants were 30 months of age the HOME Inventory for Infants and Toddlers, a 45-item inventory with six subscales, was completed by trained observers at the child’s home (Sroufe et al., 1990). A seven-point scale interview assessing the mother’s emotional support was given and transcribed by three independent coders when the children were ages 30 months, and six, seven, eight, and 11 years of age (Carlson et al., 1995). In a similar assessment the NICHD study selected the ages of one, six and fifteen months for videotaping mother and infant during a 15 minute semi-structured play interaction and the home visitor completed the HOME scale to measure overall quality of physical and social resources available to the child. The mother’s level of sensitivity toward the infant was determined by
averaging the six and fifteen HOME scores (NICHD et al., 2000). In another NICHD study the HOME inventory was administered at ages 36 and 54 months. This inventory contained a 55-item list that reflected higher levels of maternal responsiveness, child stimulation, and support for the child than did the one conducted at younger ages. The data collectors were required to maintain a 90% reliability rating (NICHD et al., 2006).

Several of the Minnesota studies conducted four teaching tasks and a barrier box situation when infants were 42 months old. Both mother and child were present. The infant was observed for negative affect and distractibility/hyperactivity. In the teaching task procedure the mother directed the child to: build block towers; name things with wheels; match colors and shapes on a form board; and trace a preset pattern through an etch-a-sketch maze. The barrier box presented the child with an essentially unsolvable problem without the mother present. A seven-point rating was made for both tasks. The scales measured the caregiver’s physical stimulating contact either in the absence of a child’s signal or when the child demonstrated a need for calming. The mother’s psychologically stimulating behaviors such as provoking, teasing, and frustrating a child when calm reassurance was needed was measured (Carlson et al., 1995; Renken et al., 1989; Sroufe et al., 1990). The blurring of boundaries between parent and child when the parent engaged in provocative teasing and taunting behavior made up the generational boundary dissolution category. The 24 and 42 month scales were combined and considered an assessment of the parent-child generational boundaries category (Sroufe et al., 1993).

Using data from the teaching task procedure, at 42 months of age, two studies focused on ratings of maternal hostility and sensitivity and emotional supportiveness toward the child. A factor analysis was conducted on 14 ratings of both mother and child behavior from the teaching task procedure. The result of that analysis appeared to reflect a general factor of maternal
competence and was used as a measure of maternal caregiving skills (Fury et al., 1997; Renken et al., 1989).

During a home visit a subsample consisting of 76 participants with attachment classifications that were stable from 12 to 18 months were instructed to complete a family drawing. The child was instructed to complete a family drawing on a 12 x 18 sheet of paper using ten colored felt-tip pens. In most cases the parents and siblings were in a separate room. These drawings were assigned categories according to the three major infant attachment classifications by two coders who had no knowledge of the child’s history. The rating scales were factor analyzed using principle components analysis with Varimax rotation (Fury et al., 1997). In the Rosenstein and Horowitz study these ratings were used to capture the child’s expectations of family interaction (Rosenstein et al., 1993).

The NICHD study administered the Center for Epidemiological Studies Depression Scale (CES-D) to the mothers when the infants were one, six, and fifteen months old. The average of the three scores along with scores from the NEO Personality Inventory, conducted during the same time, created the composite measure of the mother’s psychological adjustment. The mother’s sensitivity was measured using a four-point scale of videotaped episodes of mother-child play. The two scores were averaged to determine sensitivity in play (NICHD et al., 2000). Similarly, but at different ages, the Minnesota studies administered the CES-D when participants were 48 months, 16 years and 17.5 years old. Another study assessed for maternal depressive symptoms using the Beck Depressive Inventory (BDI), a 21-item list reflecting symptoms and attitudes associated with depression (Sampson et al., 2005).

The NICHD study examined the quality and time spent in child care when 794 of the participants were 24 and 36 months old. The participants were included if they had been
observed at child care at 24 and/or 36 months old and had completed assessments of all risk
factors. Several children were not observed due to caregiver refusal, absence from child care, and
recent changes in the child care setting. The sample represented ethnicity that reflected 83% as
White or non-Hispanic, 10% African American, 4% Hispanic, 2% Asian American, and .5%
were designated as other (NICHD et al., 1997).

Additional Minnesota Mother-Child Assessments

At 54 months a curiosity box consisting of a large wooden box with numerous features
such as doors that open and things that twist, pull and turn was used to assess a child’s readiness
to: explore, their affect, enthusiasm, and systematic way of play (Sroufe et al., 1990).

At 4.5 years of age the participants were given the Preschool Interpersonal Problem-
Solving Assessment (PIPS) to measure relationship expectations, attitudes, and feelings. The
PIPS reflects a seven-point rating of quality of caregiver-child peer relationships and cognitive
flexibility (Carlson et al., 1998).

During the kindergarten through third grades, teachers made rankings of the child’s
peer/social competence and emotional health/ overall adjustment. During the first grade, or age
six, the elementary version with subscales of the HOME inventory procedure was given to
measure the quality of the child’s home environment (Jimerson et al., 1990; Sroufe et al., 1990).
When participants were in kindergarten, third, sixth and high school grades teachers ranked-
ordered their peer competence. Teachers used a written behavioral description of middle
childhood and adolescent adaptive relationship qualities that best described the child and then
rank-ordered the students accordingly. During this time teachers also provided an emotional
health rank-order measure. Although interrater reliability coefficients were not available teacher
rankings showed moderate stability from year to year (Carlson et al., 1998; Carlson et al., 2004).
Two other studies focused on teacher ratings of aggression and passive-withdrawal behaviors of 191 children in first through third grades. Each year the child’s teacher completed the Teacher Version of the Child Behavior Profile and the Devereux Elementary School Behavioral Rating Scale II. To measure aggression factors a 34-item factor analysis of the Behavior Checklist was conducted. The checklist revealed levels of behavior relating to defiance, destructive behaviors, disobedience, disturbing others, lying and fighting. The passive-withdrawal items measured apathy, lack of initiative with engagement of activities, shyness, and avoidance of social activity. Ratings of both behaviors were obtained from classroom observations of a subset of 101 children. Observations of each child were conducted in a variety of classroom settings using the California Q-sort, a 100-item forced rating of child characteristics. The scores were averaged over the three years (Jimerson et al., 1999; Renken et al., 1989).

At the end of first, second, third and sixth grades, teachers were interviewed and asked to complete a 113-item Child Behavior Checklist-Teacher Report Form (CBCL-TRF) to measure the hyperactivity of the participants throughout the school year. The checklist consisted of six items common to two scales. The scales were based on AD/HD diagnostic criteria set forth in DSM-IIIR. The means rating from two of three teachers, using the two that most closely agreed, was used (Carlson et al., 1995; Jimerson et al., 1999). A scale representing dissociative symptoms was determined. The items were selected from the TRF based criteria for diagnoses of dissociative disorders (Carlson et al., 1998). During this same period the participants were examined to determine if they had received any form of special education classes. Teachers provided information to trained research assistants regarding the amount of interaction they had with parents during the school year (Jimerson et al., 1999).
A composite from grades first through third were averaged to produce a rating referred to as parent involvement for the sixth grade outcome analysis. The SES was measured during the sixth grade using the SES T-scores and averaging them from the first through third grades. During the first and sixth grades the Peabody Individual Achievement Test (PIAT), a standardized achievement test, was administered in the child’s home by trained advanced research assistants (Jimerson et al., 1999).

At ages ten and eleven a subsample of participants were selected for participation in three four-week summer camps. Children were selected for each camp based on attachment classifications with an approximate equal number of attachment types, girls and boys, race and age. There were a total of 48 children with 16 children participating per year. One child in the third camp left after five days, leaving 47 subjects. Seven of the children across the three camps had mothers who exhibited seductive behavior toward them at the 24 month assessment. The children attended the Minnesota Summer Camp five days a week, four and a half hours per week for four weeks. Attendance was consistent with few absences. The children selected their own companions. The daily activities varied and many involved all the children at the same time. Observations took place during all activities. There were four master’s level graduate students and one or two advance undergraduate assistants assigned as camp counselors. All counselors had experience working with school-aged children (Carlson et al., 1998).

For the summer camps there was a total of 138 hours of videotape that was edited to extract examples of interaction or proximity between the girls and boys. The result was 438 events and seven hours of tape. Two independent coders rated the tapes and were able to view the tapes as often as they wanted before making a rating. Non-gender and gender violating behaviors were coded on a seven-point using the Gender Boundary Violation and Boundary
Maintenance Scales. Each of the counselors made ratings of each child using a seven-point Social Skills and Peers Scale. A camp exit interview was used as an index of each person’s popularity. The observation friendship score related strongly to the counselor and peer judgments of friendship. The child’s social competence was determined by using a counselor rating of social skills, an observational measure of friendship and peer interview-based measure of popularity (Carlson et al., 1998).

A narrative projective assessment was given to participants at age 12 to measure relationship representational organization in early adolescence. The assessment consisted of a sentence completion task involving 28 ambiguous sentence stems designed to assess attitudes and perceptions that were considered developmental issues. It included a storytelling task that involved four pictures representing ambiguous social situations designed to elicit relationship themes. The participants were asked to tell a story about each picture starting from beginning to the end and relate character thoughts and feelings. The procedures involved assessing parent-child and peer relationships, emotional states, and self-perceptions (Roisman, Madsen, Hennighausen, Sroufe & Collins, 2001; Sampson et al., 2005).

At age 13, 170 participants and their caregivers were videotaped on tasks that involved creating an anti-smoking campaign, completing a puzzle with the caregiver blindfolded, discussing results of imaginary events and collaborating on a Q-sort of the ideal person. The dyad interactions were assessed using a series of seven-point rating scales. Graduate researcher assistants coded the videotapes using 11 dyadic rating scales of behavior and affect. A Varimax rotation was run to reduce the number of variables for meditational analysis. Three scales were used to reflect the general functioning in the relationship according to concepts taken from the family systems theory. The Balance I Scale assessed how comfortable the parent(s) and the child
felt in their relationship roles. The Balance II Scale assessed the balance between individual needs and relationship needs. The Balance III Scale assessed how individuals in the relationship interacted together to complete tasks. The three scales were summed together to create a composite score for the quality of family functioning in early adolescence (Carlson et al., 1998; Roisman et al., 2001; Sampson et al., 2005).

A scale measuring boundary dissolution between the parent and child was used as an indicator of dysfunction in the relationship. Boundary violations such as the child playing the role of meeting the parent’s needs and peer-like behavior between parent and child are viewed as contributing to developmental problems during early adolescence (Carlson et al., 1998).

At age 16 the participants were measured for achievement with a focus on math and reading using the Woodcock-Johnson Test of Achievement-Revised (WJ-R). Parental involvement was measured by averaging the first, second, third, and sixth grade parental participation ratings. The SES was measured by calculating the average of scores from those same time periods (Jimerson et al., 1999).

At 17.5 years two versions of the Kiddie Schedule for Attentive Disorders and Schizophrenia (K-SADS-P and K-SADS-E) were administered to adolescents. Validity of the K-SADS-E was demonstrated when patients reassessed and received the same diagnosis as in the earlier assessment. The history of dissociative experiences was based on the total number of past and present diagnoses of dissociative episodes derived from the K-SADS (Carlson et al., 1998).

At age 19 participants were given the AAI to assess their current state of mind regarding past parent-child experiences. Using audiotapes of the AAI procedure, trained AAI coders, blind to all identifying information, gave participants a classification of secure-autonomous, insecure-dismissing, insecure-preoccupied or unresolved. Coherence of transcript and coherence of mind
were used to measure coherence of the participants’ narratives about their experiences (Carlson et al., 2004; Roisman et al., 2001, Sampson et al., 2005; Waters et al., 2000). The AAI coherence ratings were correlated with concurrent interview-based ratings of overall coherence in the discussion of friends and romantic relationships (Carlson et al., 2004).

Socioemotional functioning was measured after completion of the 19-year assessment using a five-point rating that reflected social and emotional functioning, self-awareness, and goal directedness regarding school and work. Using audio taped interviews designed to capture the range of the adolescent’s relationship and the support provided by those relationships were used to rate the adolescent’s capacities to engage and nurture supportive close relationships (Carlson et al., 2004; Sampson et al., 2005). A 26-item self-report, using a response scale of 1% through 100%, reflected the frequency of dissociative experiences in the individual’s life (Carlson et al., 1998).

At age 19 the participants were administered the Adolescent Life Events Scale (ALES) which was adapted from the Adolescent Perceived Events Scale (APES). The ALES contains a list of 96 negative, stressful events ranging from minor to major. The participants were requested to indicate the degree of impact for each event that occurred in the past 12 months. At the ages of 19, 23, and 26 participants’ life stress was measured using a self-report procedure. At 19 and 26 years of age participants were interviewed about their current living situations (Sampson et al., 2005).

When participants were 19 and 23 years old and involved in a steady romantic relationship for at least two to four months, they were interviewed about the quality of their relationships with their partners. From the 19-year interview the Romantic Relationship Security and Overall Romantic Relationship Quality were measured using a seven-point rating scale. The
interview questions were again conducted at age 23 but with a five-point rating scale. The rating for the two scales were averaged together to derive a composite romantic relationship rating at age 23 (Sampson et al., 2005).

At age 20 participants who were in a romantic relationship four months or longer were asked to complete a videotaped observational protocol with their partner. The couple was given a series of laboratory tasks such as discussing a couple-identified problem in their relationship. Graduate research assistants coded the videotape using ten dyadic rating scales of behavior and affect that paralleled the parent-child rating scales at age 13. A Varimax rotation was run to reduce the number of variables. As a result two components emerged: Romantic Relationship Process and Romantic Relationship Negative Affect (Roisman et al., 2001).

At age 26, 164 participants were administered the AAI as part of a follow-up assessment. One participant was excluded from the analysis due to difficulty with understanding the interview questions. Of the 163 participants, 161 (81 males, 80 females) were measured using the Strange Situation Paradigm in infancy and 146 were administered the AAI at age 19 (74 males, 72 females) (Sampson et al., 2005).

The Developmental Process and the Implications

*Implications for Infants*

Developmental theorists view the role of the infant-caregiver dyads as varying. That is, the same infant characteristics may have a different meaning in a different set of caregiving circumstances. One of the studies done by Sroufe and his colleagues found that one of the strongest predictors for measuring quality of care was the caregiver’s psychological understanding of the of the infant, seeing the infant as an autonomous being and in need of care (Sroufe et al., 2005b).
Attachment security, during infancy, is thought of as the degree of confidence the infant has in the responsiveness of the caregiver. The confidence or lack of confidence the infant has in the caregiver is demonstrated in a variety of ways (Sampson et al., 2005). Maternal sensitive responsiveness is viewed as the caregiver’s ability to perceive the infant’s signals accurately, promptly, and appropriately (Velderman et al., 2006). It was found in the Minnesota longitudinal study that maternal sensitivity predicted secure and insecure infants and temperament helped identify the type or subcategory of insecure attachment (Sroufe et al., 2005b). From these extensive studies developmental researchers viewed resiliency, temperament, as well as numerous other factors as impacting poor attachment (Boris, Hinshaw-Fuselier, Smyke, Scheeringa, Heller & Zeanah, 2006).

The study conducted by Isabella found some support that infants who were measured using two reunion episodes from the Strange Situation Paradigm at one and four months and were classified as having a secure attachment had mothers who were more sensitively responsive than those infants who were classified as insecure. At age one the infants were significantly more likely to be securely attached and exhibit lower levels of resistance than the infants who were insecure and exhibited high levels of resistance during the Strange Situation. Partial support was found for mothers who were rejecting during the one, four, and nine month measurements to have one year olds who were insecurely attached. The study also found that mothers who were considered rejecting at the nine month measurement had infants who exhibited higher levels of avoidant behaviors during the Strange Situation Paradigm. It was found that attachment security was significantly and positively associated with sensitive maternal behavior over time. The authors claimed that the most successful measurement periods for maternal sensitivity responsivity were during the earliest measurement periods when patterns of the dyad interaction
were still being established verses when infant behaviors formed patterns of behavior based on past experiences of care and were less revealing (Isbella et al., 1993).

A study focusing on intervention suggested that past attachment experience can interfere with caregiving, and in some cases carry over into several generations. This study structured the intervention procedures on helping caregivers restructure their current attachment representations. The participants had mothers who were classified as having insecure mental representations. The mothers were asked to describe their early attachment experiences as well as explore the link between those experiences with their developing relationships with their first born infants. Based on Bowlby’s theory that an infant attachment relationship to a caregiver emerges and becomes firmly established during the infant’s second half of the first year, this study conducted the intervention between the infants’ seventh and tenth months of age (Velderman et al., 2006). The infants observed demonstrated high verses average to low negative reactivity. Two types of short-term attachment based interventions were tested using video feedback to caregivers. The first intervention provided caregiver feedback from videotaped infant-caregiver interaction. Feedback was based on rating of caregiver sensitive responsiveness to their infant. The second intervention focused on improving the caregiver’s sensitive responsiveness and restructuring the caregiver’s attachment representation. The findings indicated that there was no significant difference in the intervention and control groups during the pretest phase. The posttest results indicated that the caregivers involved in either intervention were significantly more sensitive than were the control group. The overall findings suggest that both interventions were equally effective in enhancing the caregiver’s sensitivity to the infant but did not provide a significant effect on infant attachment security. However, for the highly reactive infants, attachment security was found to be significantly associated with the caregivers’
gains between the pre- and posttest. Attachment security for the low reactive infants did not appear to impact the infants’ attachment security when there were improvements in caregiver sensitivity. The study suggests that infants who are highly reactive are more susceptible to induced environmental change than are children who are less reactive (Velderman et al., 2006).

A study done by Boris and his colleagues interested in the effects of care with high-risk groups found that more of the children in the foster care group were classified as having an attachment disorder than were children in the homeless shelter or Head Start groups. More children in the homeless shelter group were classified as having an attachment disorder than children in the Head Start group. The authors suggest that even though symptoms of a disorder can fluctuate over time, disorders of attachment may be relatively common in very high-risk children aged 12 to 48 months old (Boris et al., 2004).

A study using a longitudinal design followed infants at ages 9, 14, 22, and 33 months old during a standard laboratory episode designed to elicit fear, anger, or joy responses. These emotions were selected because they are most often linked to early attachment. Using the Strange Situation that was conducted when the infants were 14 months old, a composite score was calculated for each emotion and compared to the attachment classification. The results indicated that insecure-resistant children were more fearful than any group and were less joyful than the insecure-avoidant children. Children who were classified as secure in infancy were less fearful and showed less anger at 33 months of age. Attachment security was not a factor for the variance in measuring joy. However, boys showed more joyful emotion at 33 months than did girls. Overall, this study found that the lower the security attachment was in infancy the more distressed the child was when responding to stimuli that were designed to promote positive affect at 33 months (Kochanska et al., 2001).
A different study found children with avoidant histories less fearful than resistant children at ages 13 to 15 months when conducting the Mask procedure. The avoidant children were rated as less fearful by their parents than were the other groups of children. The resistant group of children also responded more strongly to the frightening objects and events in other laboratory procedures. The parents who reported their children as resistant stated the child was easily distressed in daily situations that involved new, unfamiliar, or intense stimuli (Kochanska et al., 1998).

The NICHD study of child care and family risk found that the mother’s report of family psychosocial risk was associated with more behavior problems and fewer prosocial behaviors. Child development was assessed at 24 and 36 months of age. At 36 months the infant vocabulary skills was predicted by socioeconomic and sociocultural risks. The findings indicate that higher sociocultural risk is associated with less prosocial behavior for children in low-quality child care only. In contrast, the findings did not provide evidence that high-quality care served as a buffering element for children experiencing risk conditions or that low-quality child care resulted in adverse effects for children from low-risk families (NICHD et al., 1997; NICHD et al., 2000).

Evidence was found in one study that linked the infant’s attachment security to the caregiver’s psychological adjustment and sensitive and responsive caregiving. The child’s temperament and hours spent in child care were examined but no correlation was found. However, it was found that children who received less sensitive and responsive caregiving or poor quality or unstable child care and less sensitive and responsive care from their mothers had the highest ratings of insecurity (NICHD et al., 1997).
Implications for Childhood

From a developmental prospective the toddler stage is considered a period when a child’s self-awareness emerges and there is an increasing awareness of others. Toddlers are not yet able to self-regulate but are considered capable of guided self-regulation within a supportive relationship. Observing attachment organization during this period of development is considered difficult due to the expanding cognitive and behavioral capacities of the child (Sroufe et al., 2005b).

One study investigated the role of parent-child relationships and how the attachment relationship promoted ego boundaries in the child and became a predictor of later social competence. Developmentally the young child learned how to be autonomous and at the same time stays connected in attachment relationships. The study found that participants with secure attachment histories were more likely to maintain and less likely to violate gender boundaries. Five of the ten children with scores of five or higher on a boundary violation scale also had mothers who scored as behaving seductively toward the infant during the 24 month assessment (Sroufe et al., 1993).

Another study focused on the mutually responsive orientation in the child-caregiver dyad and the impact it had on the child’s future conscious. This study examined relations between infant attachment classifications at 15 months and later assessment of social competence and behavior problems, as reported by mothers, care providers and teachers, during the transition from school at four and one-half years old through first grade. A correlation or a direct link was found between the positive mother-child orientation and the child’s conscience at early school age. The findings indicate that toddlers who experienced shared cooperation and positive affect with their mothers were more willing to accept rules and requests from their mothers and were
more internally regulated while being directed by adults. The authors claim this is consistent with other similar study results. They suggest that the child-caregiver dyad is an indicator of the child’s future willingness to internalize standards of conduct and is important in the child’s future socialization abilities into the future (Kochanska et al., 2000).

One of the NICHD studies examined the psychosocial developmental pathways from an attachment theory prospective. Guided by the premise that secure children are open to their own emotions and to the overtures of others the study concentrated on how children with different attachment histories respond under conditions of stable and changing parental qualities. Secure children are thought to be able to regulate emotions and emotional responsiveness, adapt successfully to changing circumstances and new challenges, and able to perceive and interpret changing environmental conditions. The findings indicated that more sensitive parenting predicted higher ratings of the child’s social competence across all children. Attachment classifications assessed at 15 months was found to be a predictor of either the mother’s or teacher’s ratings of the child’s social skills, externalizing and internalizing behaviors when the child entered first grade (NICHD et al., 2006).

In contrast, the children classified with an insecure-avoidant attachment were rated less socially competent from 54 months old through the first grade. Teachers rated this same group of children as exhibiting higher levels of externalizing behavior than children classified as secure or insecure-resistant. Teachers rated the avoidant and resistant groups as displaying more internalizing behavior than the secure group. However, when parenting behaviors changed, between the ages of 15 and 54 months, some of the children with insecure attachment demonstrated a change in their projected trajectories. When parenting improved over time children classified as insecurely attached in infancy were reported by their teachers as exhibiting
fewer externalizing behaviors than children who received stable or declining qualities of parenting. When parenting quality declined over time the children with infant insecure attachments were reported as having higher levels of externalizing problems than did the children who were insecure but received improved parenting. It was found that children with insecure-ambivalent attachments did not appear to benefit from increased parenting quality. This study claims that the findings are consistent with other related studies and support existing evidence that early attachment has later effects on development (NICHD et al., 2006).

The authors propose that children with ambivalent attachment may have difficulty noticing changing parental quality due to the history of early inconsistent responsiveness from the parent. This suggests that children with different early attachment categories respond differently to changes in maternal parenting. The authors state that the findings indicate avoidant and disorganized attachment classifications present higher risk for later behavior problems compared with infants that are classified as secure. Further, it suggests that secure attachment appears to be a protective factor against declining parenting behavior and that early insecure attachment may serve as a risk factor for increased externalizing behaviors in preschool, kindergarten, and first grade (NICHD et al., 2006).

Using a barrier box situation the Minnesota study was able to rate a child’s self-esteem. This procedure captured the child’s projected self-confidence, enthusiasm for working on problems, persistency, and the capacity to have fun. The researchers were able to distinguish the secure group of children from the avoidant group by the child’s ratings of help seeking behaviors from the caregiver. The resistant group was found to have lower ratings on negative affect and frustration, demonstrated more dependent entanglement with their caregivers and had the poorest quality of help seeking behaviors than the other groups (Sroufe et al., 2005b).
This same study also found that maltreated toddlers showed lower levels of persistence and enthusiasm and higher levels of inattention and negative affect. These toddlers were more angry, frustrated, and noncompliant than the toddlers receiving adequate care. Seductive care by the mother, labeled as sweet talk, physical threats, bribes, abandonment threats, pleading or harsh tones, occurred when the caregiver was unsuccessful in getting the child to comply. Caregivers using seductive tactics demonstrated lower warmth and higher hostility than did other mothers. When this behavior was used it was observed that the toddler’s arousal level exceeded tolerable limits, was overtaxed, and promoted a loss of control resulting in the toddler’s lack of confidence in maintaining or recapturing control. The authors suggest that this experience led to arousal modulation problems, difficulties with self-management, and lack of flexibility in coping with problems. These symptoms are commonly found in attention-deficit/hyperactivity disorder (AD/HD) (Sroufe et al., 2005b).

Another study assessed hyperactivity and the caregiver-child relationship status when participants were at ages three and one-half, six, eight, and eleven and found similar results. Correlations at assessed ages were found regarding the child’s distractibility and/or hyperactivity. This study claimed that the strongest factors when accounting for AD/HD-type behavior related to the measure of caregiver-infant relationship at birth, the amount of parental support, and the level of parental overstimulation when engaged with the child (Carlson et al., 1995).

Evidence was found to support attachment history-based differences in the quality of peer relationships both in play and in the classroom environment during the pre-school years. This study found that children who victimized their playmates had a history of insecure-avoidant attachment and the victims were children with an insecure-anxious history. When other children
became distressed children with avoidant histories would explicitly do something to make the other child feel worse. In contrast, secure children did not engage in victimizing behaviors with their playmates but when paired with a child identified as avoidant the two would engage in counter assertiveness or maintain a mutual distance. Secure children tended to form nurturing relationships with a playmate identified as having an anxious history. The most common empathic reaction for secure types was genuine empathy. Secure types often became upset when others were distressed. When children with anxious histories were paired they engaged at low-levels but with no signs of victimization. When pairs had avoidant histories the weaker of the two was the one exploited (Sroufe et al., 2005b).

Developmental and Alderian theorists state that children form coherent personalities by the age of five (Sroufe et al., 2005b; Dinkmeyer et al., 1987). The Minnesota longitudinal research suggests that organized patterns of behavior are the result of patterns of prior parent-child relationship organization and variations in care. Developmentally middle childhood is viewed as a time where a child begins to take responsibility for self-guidance and makes major advances in peer relationships, such as close, loyal friendships. In the Minnesota study a subset of participants were observed and assessed in a summer camp setting. It was found that individuals with secure histories were more frequently with peers, less in the company of adults alone, and less isolated than were the other attachment groups (Sroufe et al., 2005b).

When assessing boundary maintenance this same study suggested that there may be a connection between self-boundary violation at an early stage in life and difficulty with maintaining boundaries with others, including gender boundaries in childhood. It was observed that children who stood or walked close to others often were found to have anxious attachment histories and have parents who had violated parent-child boundaries. Children with a history of
maltreatment, especially neglect, entered school with poor language skills, an inability to follow
directions, were unable to work independently, and unable to be persistent. The findings indicate
that caregiver intrusiveness measured at six months of age was strongly related to inattentiveness
and hyperactivity for the child when entering school (Sroufe et al., 2005b).

Another study focused on behavior problems and measuring social and academic
outcomes of children ages nine through twelve years. Research has supported that trajectories of
high-stable aggression demonstrated during the elementary school years predicts anti-social
behavior in adolescence. Using longitudinal data from the NICHD study participants were
selected based on maternal and teacher ratings collected from 24 months to nine years old (refer
2004). For this study a differentiation was made between normative age-related aggressions from
potentially problematic levels. This study included participant data from birth to age 12 years
using interviews, observations at home and school, and laboratory visits. The findings indicate
that even a low-stable level of physical aggression when continued through age nine is a
predictor of some social and academic difficulties in school. The moderate-stable group with
aggressive behaviors had numerous problems with academic achievement, social skills, control
of impulses, and difficulty with peer relations. Teachers rated this group higher in externalizing
problems. The moderate-stable group was three times more likely to meet criteria for AD/HD
than those in the low-aggression group. This group reported themselves as having depressive
symptoms, engagement with risky behaviors, and often bullied others. Girls in the moderate-
stable group reported higher levels of loneliness than girls in the low aggressive group and places
them at a higher-risk for depression. The high-stable aggressive group was five times more likely
than the low level group to meet criteria for AD/HD, over three times more likely to meet criteria
for Oppositional Defiant Disorder (ODD) and unlike the other two groups have decreased quality in friendships (Campbell et al., 2006).

Renken and his colleagues claim that an infant who experiences reliable, sensitive care comes to expect the caregiver to be available and that the infant will continue to be effective in eliciting that care. This represents the infant’s internal working system that molds the model of self and others. This model becomes the framework for interpretation of experience and the way one approaches others. Renken’s study focuses on childhood aggressive-antisocial and passive-withdrawal behaviors using data from the Minnesota Mother-Child Project. The findings indicate that, for boys, aggressive-antisocial behavior is predicted by the avoidant attachment classification and passive-withdrawal behavior is predicted by a resistant attachment classification from the Strange Situation Paradigm assessment at 18 months of age. Overall the predictors are better for boys than girls. The authors speculate that this is due to possible cultural differences in internalizing behaviors for girls. For example, passivity in girls in kindergarten is predicted by anger ratings recorded during a toddler tool problem assessment. The same is not found for boys. Attachment classification is not a predictor for aggression or passive-withdrawal in girls but is found to be related to social competence. In contrast, attachment classification is found to be predictive of pathology among boys (Renken et al., 1989).

That same study finds that parental emotional unavailability is highly predictive of childhood aggression. The authors suggest that a child learns that the vulnerable are exploited or pushed aside, resulting in considerable anger from unmet emotional needs. From this internal model the child enters the world of peers with a different viewpoint from that of a well-nurtured child. This study claims that strong links between early experience and later aggressive behavior
demonstrates the link between aggression in childhood and later adult problems (Renken et al., 1989).

A similar study focused on attachment representations and links to social withdrawal and depressive symptomatology in childhood. The data suggested that regardless of the child’s level of withdrawal there was a significant positive relationship between attachment dysfunction and depressive symptomatology. However, social withdrawal was a risk factor for all children and a significant predictor of depressive symptomatology regardless of the attachment representation. The authors stated that their findings were consistent with previous studies that found that secure attachment buffers against depressive symptoms, especially for economically deprived children (Gullone et al., 2006).

Another study examined the relationship between attachment style, perceived parental rearing styles behaviors, and externalizing and internalizing behaviors in childhood and adolescence. Insecurely attached children had higher scores on internalizing and externalizing symptoms than did securely attached children. Internalizing and externalizing symptoms were positively associated with parental rejection, overprotection, anxious rearing styles, and revealed lower scores on parental emotional warmth. It was found that girls perceive their mother and father to be more emotionally warm than did boys. Boys were found to have higher levels of aggression and rejection toward their mothers and experienced her as more controlling than did girls. Negative maternal behaviors were related to internalizing symptoms for both girls and boys but found externalizing symptoms in girls only. Rejection and anxious rearing was related to depressive symptoms in boys. Girls that experienced rejection from their fathers were found to experience depressive and aggressive symptoms. Overall, parental rejection and anxious rearing remained the strongest predictors of internalizing and externalizing behaviors. The authors claim
that there are specific ways in which attachment rearing behaviors of the mother or father influence symptoms of internalizing and externalizing symptoms that lead to gender-specific pathways (Roelofs, Meesters, ter Huurne, Lotte & Peter, 2006).

Implications for Adolescents

One study interested in achievement trajectories examined early achievement and how it correlates with later achievement from first to sixth grades and from first grade to 16 years of age. This study used data from a longitudinal sample of high-risk children that focused on the importance of special education, school behaviors, parental involvement, quality of the home environment, and SES when assessing academic achievement for students at risk. The SES was found to influence the child’s level of achievement when entering school and continued to do so as the child progresses through school. The findings indicate that students with higher SES improved in math across the year. In contrast, the students with lower SES backgrounds fell further behind (Jimerson et al., 1999).

The same study found that the quality of the home environment revealed improved reading and math skills in the sixth grade and improved reading at age 16 years. The authors suggested the findings indicated the early home environment provided the foundation for early achievement and continued to influence levels of achievement across time. Early home environment and parent involvement were identified as protective factors, promoting academic success, and continued to influence achievement outcomes through age 16. Behavioral problems were found to account for a downward trend in achievement (Jimerson et al., 1999).

Similarly, another study found that harmonious interactions with their parents impacted children when learning emotional regulations and self-regulatory skills for peer acceptance, social success, and academic performance, especially during the early-to-mid-elementary school
years. Sensitive mother-child interaction was found to be a buffering factor for children in high-risk families. The early dyadic interaction was found to be a key predictor of the adolescent’s academic and social behavior eight years after the initial assessment (Morrison et al., 2003).

One study utilized early recollections (ERs) to interpret the inner working model of children diagnosed with Reactive Attachment Disorder (RAD) and provide diagnostic impressions for clinical intervention. The ERs were structured using “I am,” “others are,” and “events are” in the thematic context. The most notable finding was discovered when the coder observed that the affect of the participant did not match the content of the participant’s report. It was observed that these participants displayed blunted affect when describing ERs. However, the authors claimed that the collection of each ER was expressive and indicative of the child’s or adolescent’s emotional needs. They claimed the use of ERs was effective intervention because it created a way for joining the child’s world (Tobin et al., 2007).

A study that focused on the role of attachment on the development of psychopathology during adolescence found that participants with an insecure-ambivalent attachment pattern reported significantly more difficulties in being sociable than those in other attachment categories. The ambivalent group reported significantly higher levels of overall symptomatology than did adolescents with a secure attachment classification. There were reports of depression internalization and thought disorders (Brown et al., 2003). A similar study examined the role of internal working models of attachment in psychiatrically hospitalized adolescents. This study found that males were more likely than females to be diagnosed with Conduct Disorder with or without co-morbid Affective Disorder and have an insecure dismissing attachment disorder. The Dismissing group was found to be more drug abusing, anti-social, narcissistic, and histrionic than the Preoccupied group. The Dismissing group portrayed attachment relationships in a negative
light. The Preoccupied group was found to be more avoidant dependent, schizotypal and dysthymic with a trend toward anxiety. The Preoccupied group appeared to be extremely sensitive to difficulties in their relationships and had negative perceptions of their parents (Rosenstein et al., 1993).

This study also found a strong similarity between the hospitalized participants and their mothers’ attachment classification. The findings suggest that boys with insecure attachments may be encouraged to act aggressively and defiantly which may result in antisocial behaviors. Girls with insecure attachments were encouraged to be the mothers’ caregiver resulting in a conflict between their autonomy and caring for the parent which may lead to depression. The authors stated that the data suggested an adolescent’s attachment classification is causal in determining later psychopathology. However, when using the AAI a significant relationship between adolescent and maternal attachment classifications was found. The authors claim the data supports evidence that transmission of attachment style does take place from one generation to another (Rosenstein et al., 1993).

Implications for Young Adults

Many attachment theorists view the adolescent stage as a period where internal working models are re-worked. As physical and psychological autonomy from caregivers increase it is thought as providing the adolescent with an opportunity to evaluate and transform her/his internal working model of attachment. This view supports Bowlby’s proposition that working models may change over time (Sampson et al., 2005; Sroufe et al., 2005b; Waters et al., 2000). A subset of high-risk participants who were part of the Minnesota Mother-Child Project were followed from infancy through young adulthood. After conducting an attachment assessment, participants were placed in one of four attachment groups: infant secure-adult secure, infant
insecure-adult insecure, infant insecure-adult secure, and infant secure-adult insecure. It was found that maternal stressful life events did not appear to affect stability and change in attachment classification over time. However, the participants who experienced childhood maltreatment were significantly more likely to have an infant-insecure and adult-insecure attachment classification than the other groups. The secure-insecure group had mothers who were significantly more depressed than did the secure-secure group. The insecure-secure group appeared to have better family functioning at age 13 than did the stable insecure-insecure group. Overall, the findings indicate that there was no significant continuity in attachment classifications from the Strange Situation to the AAI. The authors claimed that their data was supported by previous studies done on continuity of infant attachment in high-risk samples. The authors suggested there was a possibility that a high-risk sample may have a less stable environment and less stable relationships than would a middle-class sample (Weinfield et al., 2000).

Several of the Minnesota studies found that internalized relationship experiences that manifest in behavior problems can predict late adolescent and early adulthood outcomes. The findings from this study indicate that middle childhood measures were strong predictors of reported relationship violence. That is, participants with lower peer competence in middle childhood were found to be more likely to use and be victims of violence. Participants who dropped out of school were predicted with 77% accuracy when using the quality-of-care measures through 42 months of age when combined with: behavior problems relating to a history of inadequate care; lack of support and high stress; and parental involvement in the sixth grade. Participants who returned to high school or received a General Education Degree (GED) were found to have more positive early care than those who did not. The group classified as avoidant
exhibited pathways that reflected alienation and anger and had behavioral problems that were associated with conduct disorder. The group classified as resistant exhibited histories related to anxiety disturbances demonstrating strategies of hyper vigilance and hyper-attentiveness when eliciting the caregiver’s attention. Both hyper vigilance and hyper-attentiveness pathways were found to be susceptible to depressive features. The group classified as disorganized - those who experienced confusing or frightening caregivers - exhibited dissociative tendencies, problems with impulse control, and features of conduct disorder. Participants who displayed self-injurious behaviors in early adulthood were found to have a history of disorganized attachment, maltreatment, and dissociation (Sroufe et al., 2005a). These authors suggest that the findings indicate that predictions to later outcomes were strongest when early care was combined with later care, measured with surrounding context, and combined with parents and peer experience. The authors claim these findings support Bowlby’s theory of attachment and the forming of the internal working model (Sroufe et al., 2005b).

A subset of the participants from the Minnesota Mother-Child Project study found that early attachment security was significantly related to the AAI attachment security conducted 20 years later (Waters et al., 2000). The findings indicated 36% of the participants changed attachment classification from infancy to adulthood. The authors claim that their results support Bowlby’s theory of attachment and support the idea that experiences through childhood remains open to revision. This study suggested that stressful life events were significantly related to the likelihood for a secure infant becoming insecure in early adulthood. When mothers reported one or more stressful life events it was found that the infant was more likely to change attachment classification than infants whose mothers had reported none. However, stressful life events were not significantly related to classification changes in insecure infants. The authors suggested that
there are processes that may contribute to stability across time such as consistency in caregiver behavior persistence in early cognitive structures, moderate intensity and low frequency attachment-related stressful events in middle-class samples, effects of individuals on their environment, and stabilizing effects of personality trait variables (Waters et al., 2000).

When examining attachment classifications from ages 19 to 26 the insecure-dismissing classification was the most dominant representing 57.5% of the sample. In contrast, at age 26 the dominant classification was secure-autonomous representing 45.5% of the sample. More participants were coded as secure-autonomous at age 26 than at 19. A smaller number of participants were coded as insecure-dismissing at age 26 than 19. In agreement with other researchers these authors suggest that dismissing tendencies may be more prevalent in adolescence than in young adulthood. The results indicate significant continuity in attachment classification between ages 19 and 26 (Sampson et al., 2005).

In contrast, utilizing data from that same Minnesota Parent-Child Project, another study continued to examine the continuity in attachment classification from the same high-risk sample through age 26. The findings indicate that the secure classification was the most predominant category assigned at both infancy and age 26 and that 60% of the participants changed classification between infancy and early adulthood. A larger percentage of participants were assigned an insecure attachment classification at age 26 than in infancy and of that group 70% were coded as having an insecure-dismissing attachment classification. The data provided evidence that the insecure-dismissing group demonstrated significant continuity in their attachment classification from infancy to adulthood. Participants who changed from secure to insecure across time were more likely to have experienced maltreatment than those in the stable
secure group. Of the secure-insecure group 48% were found to have experienced maltreatment compared to 29% in the stable secure group (Sampson et al., 2005).

In that same study participants who switched to a secure attachment across time were less likely to have experienced maltreatment than did those who were classified as stable insecure. The participants in the stable-secure group reported better family functioning in early adolescence than did those who switched to the secure-insecure group. The findings indicate no significant difference between stable and changing attachment groups when assessed for maternal depression, socioeconomic status, and life stress. Family functioning during adolescence was found to be associated with changes in attachment classification between infancy and early adulthood. In adulthood, participants’ friendship quality was rated marginally better for the stable secure group than the group that switched from secure to insecure. The authors speculated that participants who experience high-risk environments may benefit from close friendships in late adolescence because it promotes a sense of security in relationships and a secure state of mind regarding attachment. The findings from the friendship quality assessment were similar to the young adult romantic relationship findings. The participants who switched from insecure to secure across time described their romantic relationships as having higher quality and greater security than did the stable insecure group. Contrasting other studies this study found no continuity between the infant Strange Situation Paradigm and the adult AAI classification at age 19. However, the authors concluded that, like many other high-risk studies, there appears to be a significant amount of change in attachment classification from infancy to adulthood within a high-risk sample (Sampson et al., 2005).

Several studies investigated the concurrent and longitudinal relationship between working models of early experience and behaviors that support or undermine security within the
parent-child and other relationships in adolescence and adulthood. These studies focused on understanding the implications of working models of experience with parents and how it affects the development of intimacy with romantic partners. The participants were drawn from a high-risk sample from the ongoing Minnesota Parent-Child Project. For these studies participants and their parents were assessed when participants were 13, 14, 20 and 21 years of age. The findings indicated that the parent-child process at age 13 was correlated with the romantic relationship process and negative affect in young adulthood. Links between adolescents’ working model of early experience with parents and the infant-caregiver dyadic behavior with romantic partners as young adults were found (Roisman et al., 2001; Sroufe et al., 2005b). A different mother-infant attachment study used the infant Strange Situation Paradigm and associated it with the Current Relationship Interview (CRI) classifications in young adulthood. The CRI parallels the AAI but was focused on individual experiences with romantic partners. The findings indicated that secure adults perceived their relationships more favorable than did insecure adults (Roisman et al., 2005). The authors claim that their results provided evidence that working models of past experience with parents are developmentally salient organizations of behavior that cohere across time (Roisman et al., 2001). In other studies where the CRI was used to assess young adults and their current relationships the findings indicated that the quality of the participants’ romantic relationship and attachment experiences with the caregiver in infancy influenced the participants’ state of mind in current romantic relationship (Roisman et al., 2005; Sroufe et al., 2005b).

Another Minnesota Mother-Child Project study supports this claim by suggesting that early attachment appears to retain a direct influence on the emotional aspect of young adult relationships and continues to have impact through later parenting. The authors find that infant attachment security significantly predicts responses to measurements of relationship satisfaction
at age 21. Links are found between secure attachment and social competence from early childhood to adulthood. These findings support Bowlby’s theory of working models of others and self. As the infant gains confidence in the caregiver’s capacity to provide regulatory assistance he/she is then able to have confidence in her/his own capabilities of regulation. This confidence remains organized, even during high stress arousal, and promotes the growth of the infant’s emotional regulation (Sroufe et al., 2005a). In contrast, data from a different study suggests that the link between early experience and adolescent social functioning may be indirect and that mutually influencing developmental processes may contribute to later socioemotional functioning (Carlson et al., 2004).

Another study using data from the Minnesota Mother-Child Project examined the change in attachment security and the developmental processes by which participants rose above harsh parenting histories and were able to form an earned-security attachment style. An earned-security attachment is identified when an individual encounters early adversity but demonstrates positive change in insecure attachments over time. This study claimed to have replicated findings that earned-security participants, at ages 20 to 21, were observed in romantic relationships that were at the same level of quality as the continuous-secure group and at a higher quality than those in the insecure group. The authors pointed to other studies that indicated earned-secure individuals parent effectively as do continuous-secure individuals and are more capable of parenting than those classified as insecure (Roisman, Padron, Sroufe & Egeland, 2002).

**Therapeutic Outcomes**

In assessing self-regulating factors in early internalization development, researcher Grazyna Kochanska suggests that children who are less prone to experience discomfort after a wrongdoing may need stronger discipline practices and children who are anxious and easily
distressed may need a gentler discipline that utilizes the child’s discomfort. Kochanska hypothesizes that a secure infant-caregiver attachment provides the child with a sense of felt security which creates a reciprocal co-operative relationship between the two. He stresses that the sense of a felt security is especially important for the fearless child as inducing discomfort for wrongdoings has little to no impact on internalizing. As a result Kochanska suggests that the caregiver needs to rely more on the positive aspects of reciprocal co-operative relationship (Kochanska et al., 1995).

In a study examining how women’s dysfunctional interpersonal styles from early childhood perpetuates vulnerability in affective disorders, researchers found limited evidence for associating attachment styles with depression and anxiety disorders. However, the fearful and angry dismissive groups were found to relate more consistently to anxiety disorders. The fearful group aligned closely with a Social Anxiety Disorder and the angry dismissive group aligned with a General Anxiety Disorder. The authors suggest that participants who experienced social anxiety had a high need for approval and avoided disapproval. This group was found to have parents that demonstrated hostility, criticism, restrictiveness, coerciveness, or a lack of encouragement (Bifulco, Kwon, Jacobs, Moran, Bunn & Beer, 2006).

A study assessing the effectiveness of a new intervention protocol named the Circle of Security (COS) was designed to reduce the risk of insecure attachment by utilizing each child’s attachment classification to individualize treatment. The COS consists of both educational and therapeutic components that allowed for assessing shifts in childhood attachment classifications. Using video tapes of the caregiver-child interactions, the therapist and caregiver were able to discuss the caregiver’s developmental history and how that may influence current caregiving behaviors. The caregiver was provided an opportunity to review, discuss, and practice new
approaches. This resulted in increased ability for the caregiver to see the child’s needs with greater empathy. Before the intervention, 60% of the children were either classified as disorganized-controlling or insecure-other. After the COS intervention nearly two-thirds of the children shifted from one of the disorganized groups to the secure group rather than to one of the organized insecure groups. The authors suggested that once caregivers were better equipped to manage their own defensive strategies in dealing with their children they could facilitate a secure attachment-caregiving pattern (Hoffman et al., 2006).

One of the NICHD studies found that attachment classifications at 15 months of age predicted either teacher or mother ratings of three social behaviors measured when the child entered school. Infants classified as avoidant were rated less socially competent from 54 months through first grade than were infants classified as securely attached. Teachers rated the avoidant group of children as exhibiting higher externalizing and more internalizing behaviors than children who were classified earlier as secure or anxious-resistant. The authors suggested that consistent with other findings, their results showed that infants classified as avoidant and disorganized were at greater risk for later behavior problems than were infants classified as secure (ICHD et al., 2006).

Other studies, such as the one conducted by Shorey and Synder stress that attachment styles are useful frameworks for understanding life span development, personality, and psychopathology. The authors suggest that identifying an individual’s attachment style aids in conceptualizing the client’s problems and can lead to selecting the appropriate treatment approach. It is believed that the cognitive schemes underlying an attachment style, once internalized as a working model, acts as a self-fulfilling philosophy. Behavior becomes consistent with how each individual expects to be treated by others. Attachment styles are
viewed as having strengths and deficits in different areas of memory. Memory is believed to function as a way to guide behavior. The preconscious memory is seen as the area that guides behavior under ordinary circumstances. The imagined memory elicits emotional responses when associated with sensory information. The semantic memory is related to verbal statements and the episodic memory replays events. According to these authors understanding the memory system promotes understanding of personal life histories and attachment styles are considered templates for how individuals perceive and respond to others, including therapists. These authors speculate that the therapeutic relationships for the four attachment styles and how each style might respond include: securely attached clients are able to face their discomforting challenges directly; preoccupied clients have an exaggerated negative affect and are hypersensitive to threatening cues; fearful clients are generally socially withdrawn and may be oppositional and resistant to treatment; dismissing clients may deny anything is wrong and will often intellectualize the therapeutic relationship. The study suggests that assessment of clients’ attachment style be a standard in clinical assessment given that attachment styles influence how both therapists and clients perceive and understand information (Shorey et al., 2006).

*An Adlerian Perspective*

In the Minnesota longitudinal study the authors stressed the importance of Bowlby’s theory on explicit and implicit messages. Bowlby viewed these messages as being encoded in the caregiver’s actions. The caregiver’s actions may result in a failure of the child to access her/his personal experience. Children generally have no choice but to believe what parents/caregivers tell them on a conscious level even though it may contradict the child’s direct experience. Children who disown their experience are believed to have chronic distrust of other people, distrust their own senses, and stifle their curiosity. As a result these children may strike out
randomly. The Minnesota study found that the caregiver’s intrusive care, chronic rejection, hostility, boundary violations, and physical and sexual abuse were predictive of a host of problems for children, including serious psychological disturbance. The authors claimed that the earliest markers of problematic experiences or maladaptive developmental pathways lie in the infant-caregiver relationship and were characterized as a relationship disturbance and not an indication of a disturbed child. These authors took an Adlerian approach and stated interventions need to involve not only the parents but the entire family and not just the identified client (Sroufe et al., 2005b). This process was similar to a holistic and teleological approach to treatment. An individual is understood to be socially embedded, both physically and psychologically, within the context of relationships with other people. Adlerians look at how symptoms of behaviors have purpose and are goal-oriented. Similar to Bowlby’s concept of internal working models and how the individual sees self and others, Adlerians are interested in exploring an individual’s fictions or mental creations that guide and give behavior purpose. Adlerians look at the meaning behind the fictions, whether true or not, in order to join the individual’s world. Developmental, attachment theorists and Adlerians are interested in helping individuals understand their life pathways. Adlerians view an individual’s emotional and cognitive organization as the person’s life style (Oberst et al., 2003).

Similar to Bowlby’s attachment classification types, Adlerian’s have classifications for what fundamentally motivates behavior consisting of: organ inferiority which involves the weakest body part being affected negatively by the demands of life; an aggression drive that acts against the environment; masculine protest which the helpless child uses to strive for control and competence; the striving for superiority to master the challenges of life; striving for perfection in hopes of fulfilling dreams and goals based on fictional reasoning; and striving for completion
and belonging by trying to contribute and belong among people (Oberst et al., 2003). The individual can choose to apply any of these approaches in a positive socially useful way or use it as an excuse for not taking responsibility for the life tasks.

Adlerians view manifestation of psychopathology as symptoms of childhood experiences, inferiority feelings, compensation and an approach, or lack of it, to the life tasks. Adler viewed anxiety as a symptom that is created when the individual believes there is a threat. A symptom is viewed as creating distance between the individual and the life tasks in order to safeguard self-esteem. Manic-Depressive Disorders are viewed as a frantic attempt to force a goal of success when striving for superiority. The symptoms are seen as facilitating the individual’s withdrawal from social integration. A schizophrenic disorder is similar but involves a very low self-esteem with an overly idealized goal of superiority. The schizophrenic symptoms are seen as facilitating the individual’s withdrawal from social integration (Dinkmeyer et al., 1987).

Similar to the insecure-resistant attachment classification, Adlerian’s view depressive disorders as the individual overreacting or inflating the hazards of life as he/she strives for unreachable fictional goals and often blames others for the failure to achieve those goals. The anti-social personality disorder is viewed as an individual’s lack of social interest. These individuals are viewed as not seeking help from others and act as if others are against them. The borderline personality disorder is viewed as the individual seeing themselves as unfavored which results in dependent, rebellious and manipulative relationships where there is no commitment, little sense of obligation, and no concept of belonging (Dinkmeyer et al., 1987; Oberst et al., 2003).

Adlerians believe that understanding the individual’s life style and the purpose behind the behavior provides strategies for challenging the mistaken beliefs and can be utilized as part of
the intervention process. Identifying which of the four priorities of life style the individual has incorporated (comfort, pleasing, control or superiority) is viewed as another strategy for understanding, approaching and working with individuals on their mistaken beliefs (Dewey, 1991).

As cited by Raynor, K. Bartholomew and L. Horowitz designed a two-dimensional model of attachment types which incorporates the model of self and others (see Figure 1). The model of self reflects the degree of anxiety and dependency on others for approval in close relationships. The model of other reflects the degree to which one thinks others will be available and supportive in times of need. The degree in which an individual perceives the self and others reflects the level of her/his secure or insecure position (Raynor, 2007). This model does not appear to be significantly different than Adler’s concept of striving for significance (see Figure 2). The Adlerian model of self reflects the degree to which the individual perceives he/she is superior or inferior to others. The model of others reflects the individual’s perception of how to belong or the level of social interest.

Limitations

Longitudinal studies provide valuable data across time yet generally limit the number of participants due to cost. The majority of the studies reviewed had limitations relating to small sample size and measurement variations (Boris et al., 2004; Brown et al., 2003; Hennighausen et al., 2000; Hoffman et al., 2006; NICHD et al., 2005; NICHD et al., 2006; Sroufe et al., 2005; Tobin et al., 2007). A crucial limitation for the Minnesota Parent-Child Project studies involved variables that could not be identified years or decades earlier making them inaccessible during that project. Although the Minnesota study used multiple-indicator constructs to reduce error, the authors acknowledge the challenge in defining and assessing the participants’ expectations,
attitudes, and feelings they derive from their experiences (Carlson et al., 2004). The Minnesota studies involved high-risk single mothers which affected the types of variables tested and may result in the findings not being generalized to middle and upper class samples (Carlson et al., 2004; Jimerson et al., 1999; Roisman et al. 2002; Sroufe et al., 1990). In contrast, the Sroufe study on parent-adolescent relationships consisted of upper-middle class, highly educated, volunteer samples that exhibited little overt pathology (Sroufe et al., 1991). The Allen study also consisted of racially homogenous participants with upper-middle class backgrounds which limits the findings and results in the findings not being generalized to the rest of the population.

Another limitation was this study’s use of self-reports. Self reports could create biases, such as denial of symptoms which may have affected the accuracy of that assessment (Allen et al., 1996). The Sampson study stated that socioeconomic status did not correlate with changes in attachment over time but these findings had limitations due to all participants being raised in low-income households (Sampson et al., 2005).

The Roisman study was limited by the ability to assess only the participant’s relationship history but not the history of the romantic partner (Roisman et al., 2001). In another study involving the development of young adult romantic relationships a limitation in the findings may have resulted when the sample was split into gender groups. The results were consistently stronger for males than females indicating that the set of predictor variables may have been more strongly skewed toward males. The observational assessment of the couple’s behavior may have been more influenced by the male’s actions as the coders noted that females who were assertive and articulate in the individual interviews appeared to be more quiet and passive during the couple’s observational assessment (Hennighausen et al., 2000).
In a study regarding perceived social support and psychological distress in young adults there were limitations due to all participants being undergraduate students enrolled in psychology classes at the same university. All participants were informed during the initial assessment that they would receive extra credit in the psychology class for the participation in the study putting the accuracy of the findings in question (Vogel et al., 2005).

The Minnesota studies focused on maternal caregiving variables and lacked father-child observational data. These studies focused exclusively on the mother-child dyad and the effect on attachment classifications (Carlson et al., 1995; Hennighausen et al., 2000; Renken et al., 1989; Roisman et al., 2001; Sroufe et al., 1993; Sroufe et al., 2005b). Similarly, the study on boundary violations was limited due to the sample consisting of predominately single mothers possibly resulting in the findings not being generalized to father-child or parent-child boundaries (Sroufe et al., 1993).

Similar to the Minnesota studies the NICHD studies had limitations relating to the analysis of measurements. In particular, the child care quality was difficult to measure when assessing children who spent 40 to 50 hours per week in child care compared to those who spent 10 to 20 hours. The quality of care was not distributed evenly throughout a child care day (NICHD et al., 2003).

The NICHD studies were limited due to the sample and subsamples not being randomly chosen. Although the samples were diverse in ethnicity the study was not considered nationally representative due to the lack of random sampling (NICHD et al., 1997; NICHD et al., 2000; NICHD et al., 2005). Another limitation was the small number of participants who were considered high-risk and that very few low-risk children were in low-quality child-care settings. This made it difficult to examine the extent to which exposure to high levels of social risk related
to aggression trajectories applied to a generalized population (Campbell et al., 2006). Another limitation was the limited analysis of child care settings due to sample size. The samples included relative care consisting of a mother, father, or other relatives and the nonrelative home care that consisted of child-care centers or nonrelative home care (NICHD et al., 1997).

The study focusing on the effects of attachment-based interventions also had limitations due to sample size. In addition, the use of statistical analyses for assessing infant reactivity for such a small number of participants may have been inadequate. This study used the Infant Behavior Questionnaire (IBQ) which is thoroughly validated for assessing childrens’ temperament. However, the authors suggested that observational assessments may have been more reliable than the IBQ which relies on maternal perceptions of the child’s behavior. Another concern regarding the reliance on audio tapes verses transcripts for the AAI assessments could have led to biases and possibly a higher number of securely attached infants being assigned to the control group (Velderman et al., 2006).

Another study’s limitations was due to a broad range of ages for a small sample size. The size of each of group was not adequate enough to predict confidence in the overall results. The clinical interviews were conducted using different types of responders in their relationship with the children. For example, interviews were given to young adult mothers in the homeless shelter group and to foster parents in the maltreated group. It is likely that those caregivers varied in their understanding and perceptions about the child’s behavior limiting the results. Conducting diagnostic status requires agreement of two or more raters and at least one rater must be masked to the dependent measures, however, due to budget constraints this study was unable to have information masked for one of the coders (Boris et al., 2004).
A study conducted on depressive symptomatology and social withdrawal in middle childhood is limited by its exclusive reliance on self-reported depressive symptomatology verses using participants that consisted of nonclinical and clinical depressives (Gullone et al., 2006). Another study’s limitation involves a single-item self-report instrument used for assessing attachment in a nonclinical sample of youths. This single item report may lead to underreporting by the youths. Whether the findings from this nonclinical sample can be replicated in children with clinical manifestations of internalizing and externalizing problems is in question (Roelofs et al., 2006).

Similar to many of the other studies, the Morrison study had limitations regarding a small sample size making it more difficult to apply the findings to a wider population. The participants were mainly Caucasian, some African Americans, and a few Asian Americans. The disproportion of ethnicity affected the findings and made it difficult to apply the results to the general population. Another limiting factor involved not conducting another follow-up on a mother-child sensitivity assessment which could result in underestimating the findings indicating that maternal sensitivity plays an important role in child outcomes (Morrison et al., 2003).

A limitation in a study conducted on the impact of stressful events, insecure attachments, and psychopathology involved the concurrent assessment of all three factors. Concurrent assessments could skew the degree to which psychological symptoms from past attachment vignettes lead individuals to associate fear and distress in their current interpersonal relationships (Pielage et al., 2000).

Future Research

The Kochanska study questions the ability of the Strange Situation to capture individual differences in children’s behavior under the conditions of stress the procedure induces. Some
researchers argue that the behaviors from the assessment reflect the child’s temperamental individuality rather than revealing a relationship history. Therefore, as a result of this study’s lack of finding data with consistent associations between the mother-child relationship it is recommended that more variables of enjoyable interactions be included when assessing for dyad relationship and attachment type (Kochanska et al., 1998). Continued research is needed on infant-caregiver dyads, early child care and how it may be associated with problem behaviors or developmental deficits (NICHD et al., 1997). To support the importance of maternal sensitivity and the effects on the child’s social and academic success found in one study additional research is needed on effective interventions that assist parents in their ability to execute sensitive parenting skills that foster positive caregiver-child interactions (Morrison et al, 2003).

Future investigation of emotional development such as joy, fear, and anger and how it affects children with different attachment histories would be beneficial for better understanding of early attachment and how it affects future competence (Kochanska et al., 2001). Continued research is needed on the effects of different patterns and levels of aggression across childhood and how it affects later adjustment (Campbell et al., 2006). The NICHD 2006 study found parenting changes were associated with changes in family income and maternal depression. The authors stressed the importance of continued research on early attachment problems and approaches to helping parents increase their sensitivity toward their young infants which is believed to improve parenting behavior (NICHD et al., 2006). Research is needed for how to reach caregivers who might not be motivated to participate in receiving educational input on parenting sensitivity due to a variety of reasons (Hoffman et al., 2006).

More research is needed to understand if parents of temperamentally different children are able to tailor their socialization strategies to their children individually to improve
development of internalization in young children (Kochanska et al., 1995 Kochanska et al., 2007). Similarly, the study on social withdrawal in middle childhood suggests further research is needed on the mediating role in relationships between social withdrawal, attachment, and depression and how it may relate to social withdrawal and attachment organizations (Gullone et al., 2006). One study on attachment disorganization found that this type of attachment classification did not appear to be globally related to parental sensitivity, unlike the other attachment classifications. The author suggested that more research is needed in order to understand how parental state of mind, such as unresolved trauma and mood state, may create a marker for extreme vulnerability in their children and how that may lead to psychopathology (Green et al., 2002). Continued studies of the relationship between developmental measures of attachment and specific subtypes of clinical disorders would be beneficial in treatment strategies (Boris et al., 2004).

Additional research is needed to evaluate the true effects of child care quality and child outcomes. The NICHD 2003 study finds mixed results when collecting data exclusively from child care environments. Research is needed on both home and child care environments in order to understand how the quality and quantity of child care may influence a child’s development. More information is needed on the many different ranges of child care quality, in different regulatory contexts (NICHD et al., 2000). A similar study suggests that more research is needed concerning early relationships between other caregivers, in addition to the maternal caregiver, to better understand the development of the child’s conscience (Kochanska et al., 2000).

More research is needed to better understand the development of AD/HD and distinguish it from other childhood disorders. One study claims that aggressive behaviors and social failure are often lumped together with inattentiveness and hyperactivity. The authors recommend
additional studies on endogenous infant factors such as medical history, parental drug/alcohol history and the infant’s motor maturity and adaptability along with exogenous variables such as maternal anxiety/aggression, intrusive caregiving, and parental relationship status and support in order to better understand how they combine and interact with problem behaviors (Carlson et al., 1995).

Additional research on over and under control in family systems is needed to better understand how it may lead to a disturbance in role relations and boundary dissolution. One study found a correlation between inappropriate parent/adult closeness in childhood and the ability to predict AD/HD symptoms in young children. This study recommends the inclusion of siblings in studies to compare subsystems within and across generations and genders including similarities and differences in triangulation of children and parent-child closeness (Sroufe, 1999).

Continued research on attachment-gender boundaries and how the dyad child-caregiver attachment relationship plays a role would add to data on whether it is a significant predictor of later social competence and an integral part of the development of the self (Kochanska et al., 2001). Another study recommended research be conducted on the father-son and father-daughter attachments to better understand how the child-parent attachment affects the child’s peer relationships across time (Schneider et al., 2001).

A longitudinal study done on attachment and behavior in romantic relationships found some correlation between the two, but due to sample size limiting the overall results, additional study is needed. Further investigation on whether secure infants, children, and adolescents grow up to be more effective at eliciting, seeking out or providing support from a romantic partner when distressed would strengthen this study’s findings (Roisman et al., 2005). Although studies have confirmed a correlation between the parent-child experience being internalized and carried
forward into adult relationships, further research is needed regarding the match between partners’ attachment histories in prediction of couple behaviors. Additional research could be beneficial for intervention by demystifying the transmission of relationship expectations. This study suggests that by understanding how partners manage their attachment needs they are able to better identify primary emotions and working models of self and others (Roisman et al., 2001).

In developmental terms adolescence is characterized to be a stage of significant change where many childhood structures are reworked. One study suggests that this stage provides an opportunity for the adolescent to revise/rework attachment strategies or alter the internal working model due to an increased ability to access inner thoughts and feelings relating to others and self. This study indicates that further research would benefit intervention strategies for improving attachment relationships (Brown et al., 2003).

Based on the findings from a study conducted on socioemotional functioning into late adolescence additional research is recommended. More information is needed in order to understand how early memory, behavior, and verbal interactions work to affect experience and representations of experience and to what extent it impacts continuity and socioemotional functioning (Carlson et al., 2004).

The Sampson study recommends continued research to explore changes in attachment security or attachment continuity from adolescence to adulthood to determine if it is a result of an actual change in working models or due to greater amounts of life stress during specific periods of development (Sampson et al., 2005). Similarly, studies done on continuity and discontinuity suggest more research is needed in order to continue following young adult participants who were secure in infancy but insecure as adults. Additional research is needed to determine if time, maturity, and autonomy impacted the young adults ability to work through
difficulties from their past and reclaim their security status (Weinfield et al., 2000; Shorey et al., 2006).

A study that conducted a meta-analysis based on 63 studies did find correlations between child-parent attachment and the child’s/adolescent’s peer relationships. However, those studies were conducted in individualistic-type countries such as the United States, the United Kingdom, and Germany. This study recommended future studies in countries such as Latin America and Africa to help substantiate that the correlation is universal to all societies (Schneider et al., 2001).

**Conclusion**

The exploration of this research regarding insecure attachment, the effects of early infant experiences on later development and social interest have supported the significance of the infant-caregiver attachment relationship across time. The data does support that early attachment experience has significance. However, the findings indicate that the attachment relationship is not the sole factor in determining developmental outcomes. The data reflects that children are able to influence their own development and that ability continues to increase over time. There are often complexities in development, achievement, and social interest such as depression, changes in parenting practices, and the amount of life stressors over time that are found to be influential in individual outcomes Understanding the specifics of each of these influences and how they work together over time continues to remain a challenge (Sroufe et al., 2005b).

Bowlby’s view about an infant’s early experience having special importance in development was validated when researchers observed behaviors that appeared to become self-organized, expanded, became more complex, and formed into general structures. Over time the structures became more refined and specialized as they organized into systems. Developmental theorists claimed that new encounters solidified, altered, disrupted or transformed previous
patterns and a new adaptation was carried forward (Sroufe et al., 2005b). As indicated by the data reviewed representations of the self in the social world continue to be modified by new experience. The emerging child, adolescent, or young adult carries that initial early attachment forward because it is believed to be an organizing pattern that connects so many developmental functions such as social relatedness, arousal, modulation, and emotional regulation. Although the early dyadic attachment relationship is integrated with ongoing experiences across time, the studies have indicated that it is never lost (Sroufe et al., 2005a).

The Minnesota Mother-Child Project longitudinal study reviewed supports a developmental pathway model which theorizes there are four main pathways an individual can follow. One direction involves multiple pathways that converge and eventually lead to the same final pathway. Another direction involves an initial pathway that diverges into multiple outcomes due to outside influences such as environmental conditions. A third direction involves a pathway that is adaptable to change at any point in development. The last optional pathway has certain outcomes that become predictable and unlikely over time the longer that particular pathway is followed (Sroufe et al., 2005a).

Even when new capacities are acquired and organized with existing structures the findings support that early experience is not erased but is amenable to change in light of subsequent development (Sroufe et al., 2005b). However, Sroufe’s study from birth to adulthood indicates that change becomes more difficult the longer a particular pathway model has been followed. The researcher makes accurate predictions of children who overcame a period of behavior problems based on their attachment history. The resilience of these children is found to be based partially on the child’s history and not a result of unique characteristics inherent in the child (Sroufe et al., 2005a).
There are many other factors besides attachment that contribute to a child’s success/achievement. These factors include: early home environment, parental involvement, and socioemotional and socioeconomic situations (Jimerson et al., 1999). It has been demonstrated that when participants change from secure to insecure attachment classifications, early attachment does not appear to shield them from environmental conditions but may affect how the conditions are perceived and interpreted (NICHD et al., 2006).

Adlerian theorists would support many of the attachment concepts. From an attachment perspective the infant-caregiver experience establishes a child’s foundation and from an Adlerian perspective the infant strives to belong within the family system (Dinkmeyer et al., 1987). The thinking-behavior-feeling pattern is viewed as being organized based on perceptions founded on a fictional idea of what is needed in order to feel safe and belong (Manaster et al., 1982). In attachment terms the patterns of behavior are organized around eliciting care (Sroufe et al., 2005b). Adlerians view the patterns of behavior as a life style and attachment theorists view it as the individual’s internal working model. Both concepts appear to represent an individual’s view of self and others that is mostly not conscious (Manaster et al., 1982). Several studies sited stressed the importance of alignment of therapeutic goals with an individual’s attachment type to effectively meet the needs of the client (Allen et al., 1996; Carlson et al., 1998; Green et al., 2002; Shorey et al., 2006).

Adlerians view problems as stemming from difficulty with one or all of the life tasks (Ainsworth et al., 1989). The degree of success or lack of success in any of the tasks of life represents the individual’s level of social interest. The direction an individual’s social interest or internal working model takes can result in problematic pathways (Sroufe et al., 2005b). Denise Lacher’s Model and Meaning graphic provides a visual example of how attachment,
development and life events’ pathways intersect (see Figure 3). It is in this common area that each individual finds her/his uniqueness, his/her life style (Lacher, 2007).
References


Model of Attachment

Figure 1
Striving for Significance

Figure 2
Model and Meaning

Attachment Relationships

Life Events Trauma

Meaning

Development

Figure 3