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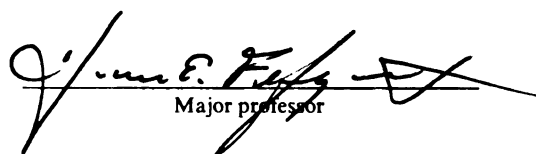
Replication and Reorganizational Processes

presented by

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Ph.D. degree in Clinical Psychology


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**REPRESENTATIONAL MODELS OF ATTACHMENT:
REPLICATION AND REORGANIZATIONAL PROCESSES**

By

Lisa Elaine Crandell

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ABSTRACT

REPRESENTATIONAL MODELS OF ATTACHMENT: REPLICATION AND REORGANIZATIONAL PROCESSES

By

Lisa Elaine Crandell

This study examined the replication of dysfunctional parent-child relationships across generations, the impact of maternal attachment security on child outcome, and experiences underlying discontinuity in developmental trajectories. Subjects were 46 mother-toddler dyads recruited from a community-based sample. Utilizing an adaptation of the Adult Attachment Interview (George, Kaplan & Main, 1985), the results indicated that the manner in which childhood histories were mentally organized and integrated in adulthood imparted a profound influence on parent-child behavior patterns in the next generation. Specifically, mothers classified as secure expressed more warmth, affection and enjoyment when playing with their children and they facilitated more self-reliant behavior from their children than insecure mothers. Children of secure mothers were more compliant and rated as more likeable than children of insecure mothers. Additionally, the secure mothers and their children engaged in more synchronous interactions than insecure dyads. Conversely, insecure mothers were more hostile, negative and sarcastic in their affect. They were more intrusive, manipulative and overcontrolling in their play and/or were more likely to engage in emotionally disconnected, parallel play. The children of these mothers expressed more anger, dislike or hostility toward their mothers, demonstrated

more emotional distress, and were more disobedient than children of secure mothers. With respect to child outcome, children of secure mothers demonstrated higher intellectual functioning and were more likely to be classified as securely attached compared to children of insecure mothers. With regard to the reorganization of attachment representations, virtually all mothers who had experienced unloving and insecure parent-child relationships in childhood but presented with secure attachment representations in adulthood (i.e., resolved) had experienced an alternate attachment figure in childhood or adolescence whereas almost none of the insecure mothers had experienced this type of relationship. Additionally, the resolved mothers participated in individual psychotherapy in adulthood for an average of two years compared to insecure mothers who were not as likely to enter into individual psychotherapy and for those who did, the average length of time of treatment was three to six months.

**THIS DISSERTATION IS DEDICATED TO MY SISTER
MARSHA ANN CRANDELL BECK
THROUGHOUT MY LIFE
SHE HAS GIVEN ME THE NURTURANCE AND SUPPORT
THAT HAS ENABLED ME TO ACHIEVE THIS GOAL**

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CHAPTER ONE

Literature Review

Introduction

In the past decade, there has been considerable interest and research related to experiences in one's family of origin and the impact of these experiences on subsequent development. In particular, there have been numerous studies investigating the replication of dysfunctional parent-child relationships across generations (Crowell & Feldman, 1989; Fonagy, Steele & Steel, 1991; Haft & Slade, 1989; Jacobvitz, Morgan, Kretchmar & Morgan, 1991; Pratt, Roth, Cohn, Cowan & Cowan, 1991; Quinton & Rutter, 1988). Attachment theory provides a rich framework for conceptualizing and exploring these issues of continuity because it focuses on the emotional dimension of parent-child relationships and the affective correlates of these early experiences in subsequent relationships.

This study sought to advance understanding in the field of attachment theory and parent-child relationships in the following ways: 1) by investigating variations in current methodology for classifying representational models of attachment; 2) examining the interplay among adult attachment security, parent-child interactions, and child functioning in pre-school age children; and

3) exploring the role of alternate attachment figures, psychotherapy and intelligence in the reorganization of attachment representation in adulthood.

Attachment Theory

There are four fundamental assumptions underlying classic attachment theory: 1) that attachment is a biologically based phenomenon which serves to facilitate the survival of the species; 2) that on the basis of the primary attachment relationship, the child develops internal representations of self and other; 3) that these representations organize the child's affective experiences; and 4) that these self/other representations are the foundation for subsequent relationships throughout development. The following review is organized around these four assumptions.

Attachment as a Biological Phenomenon

Bowlby (1969/1982, 1973, 1980) proposed an ethological theory of attachment which maintained that all infants have a biological propensity to become attached to their primary caregiver(s). The function of this attachment relationship is to protect the infant from environmental threats and dangers. To this end, the child is biologically equipped with behaviors to elicit parental attention and proximity in times of distress. Bowlby argued that diverse behaviors such as crying, clinging, smiling, vocalizing, and following promote proximity with the parent and thereby represent an "attachment behavioral system." Many of these same behaviors have been observed in the animal kingdom where they serve

the same function. Thus, within this evolutionary framework, the attachment relationship facilitates survival of the species by protecting the infant from harm.

There are also intra- and inter-personal sequelae emanating from the attachment relationship. When the caregiver is available and responsive to the child's distress signals, the child learns the caregiver will reliably afford protection, which provides the child with a sense of safety and security. It also validates the child's experiencing. In turn, this leads to the ability to differentiate self from other. As this sense of security and differentiation evolve, there is increasing physical and psychological separation between parent and child as the child progressively explores and interacts with the larger world. Therefore, at a very basic level, the message being communicated to the child, via the attachment relationship, relates to the child's connection with and separateness from others. Franz & White (1985) summarize a number of theorists who argue that these dimensions of connectedness and individuation are the fundamental aspects of human experiencing. These two dimensions are inextricably intertwined in the attachment relationship. As the parent responds to the child's needs, the child is provided with a sense of safety and security. This creates the experience of connectedness that in turn provides a context for individuation. In this sense, the early parent-child attachment relationship represents a foundational experience for individual and interpersonal development.

Internal Working Models

The second assumption of attachment theory is that the child develops internal representations of self and other on the basis of the early attachment relationship. Bowlby (1980) stated, "...a person who has formed a secure attachment is likely to possess a representational model of attachment figure(s) as being available, responsive, and helpful and a complementary model of himself as at least a potentially lovable and valuable person" (p.242). Thus, a securely attached child develops a fundamentally positive image of self and other. In contrast, an infant who experiences the primary attachment figure as rejecting, develops representations of the world as "comfortless and unpredictable" and of him or herself as not worthy of help and comfort (Bowlby, 1980). Consequently, an insecurely attached child develops a fundamentally negative image of self and other. Bartholomew (1990) presents a model of self/other representations and Bartholomew & Horowitz (1991) provide empirical support for the presence of these self/other representations in two studies examining adult attachment styles. Memories of secure attachment with one's parents in childhood were associated with a positive image of both self and other in adulthood. Memories of insecure attachment were associated with three different patterns: a negative image of self and other; a positive image of self and a negative image of other; or, a negative image of self and a positive image of other. Although Bowlby had not predicted these "mixed models", these authors argue that they are complementary models as they relate to the individual's self-worth and how he or she strives to either protect or affirm this self-image in interactions with others. In addition, they

found that these combinations of self/other representations were significantly related to issues of dependency, avoidance, and difficulties in intimacy in close relationships in adulthood.

This lends support to the third assumption of attachment theory which posits that self/other representations serve to organize the child's affective experiences throughout development. Although Bowlby did not articulate this organizational process specifically, extrapolating from the theory generates the following scenarios. On a global level, there are three basic interactional patterns between parent and child: (1) the parent is sensitive to and fulfills the child's needs (nurturance); (2) the parent does not respond to or fulfill the child's needs (neglect); (3) the parent covertly or overtly dismisses and/or overrides the child's needs (rejection, and in extreme cases, abuse). When the caregiver responds appropriately and consistently to the child's cues, the child's internal experience is that "someone is there for me". This leads to a learned contingency, "When I am uncomfortable, I can communicate my distress and it will be alleviated." From a classical conditioning paradigm, the infant also develops positive affect toward the object relieving this discomfort so that felt security and emotional connectedness converge with respect to the caregiver. The child develops a basic sense of trust (Erikson, 1963), security, self-awareness, and confidence in his or her ability to relate to and explore the world. This is secure attachment. There is a balance in the child's sense of connectedness to and differentiation from others.

When the caregiver is consistently rejecting or neglecting, the child develops a sense of mistrust and insecurity because emotional needs are not

gratified. Additionally, experiencing unmet needs inspires anger and frustration. Therefore, the child develops negative affect toward the caregiver. Main (1981) argues that parental rejection and the child's resulting anger are the central determinants of avoidant attachment. She states that the function of the avoidant pattern is to suppress emotion "as a conditional strategy for maintaining proximity under conditions of maternal rejection" (p. 686). In other words, under distress, the child's attachment system is activated but previous attempts to seek comfort and reassurance from the primary attachment figure have either been rejected or ignored. The child is then faced with an irresolvable conflict. Avoidance represents a moderately successful adaptation to this dilemma. The "shift in attention" away from the attachment figure allows the child to maintain needed proximity in threatening circumstances by minimizing rejection and curtailing anger toward the caregiver. The child's resulting anger and hostility from having these attachment needs frustrated are then expressed in less threatening situations. In fact, even Ainsworth, Blehar, Waters & Wall (1978) noted that infants identified as avoidant in the Strange Situation often displayed aggression and hostility toward their mothers during home observations. Within this context, the child must learn to depend on him or herself, or devise ways of securing protection from the caregiver. In both cases, this fundamental parental task becomes the child's own responsibility. This premature self-reliance may account for the preoccupation with issues of independence, personal control, and an inflated sense of self, which are consistently noted in avoidant adults. Furthermore, these traits would restrict the capacity for emotional vulnerability

and intimacy in interpersonal relationships, which is another characteristic of these individuals as they progress developmentally. Thus, avoidant attachment represents an imbalance in human experiencing for the realm of individuation is pursued at the expense of connectedness to others.

Ambivalent attachment would develop in response to inconsistent parenting. While parental nurturance, neglect, and rejection are the global patterns, there are variations and vacillations in these responses. Some parents may be consistently rejecting while others may alternate between periods of nurturance and rejection. In these cases, the child experiences sporadic gratification of emotional needs. Therefore, like the avoidant child, the ambivalent child develops a general sense of mistrust and insecurity from experiencing unmet needs and anger and frustration toward the caregiver for failing to fulfill these needs. However, the caregiver is sometimes sensitive and responsive to the child's needs so like the secure infant, the ambivalent child also develops positive affect toward the caregiver. The clinging, dependent behaviors in conjunction with the angry, resistant behaviors accurately reflect the insecurity and sporadic relief the ambivalent child experiences with the caregiver. Role-reversal represents a specific type of parental inconsistency and is often found to be related to ambivalent attachment. Parents who are role-reversing are responding to their child on the basis of the parent's own needs. Hence, rejection of the child's needs is implicit in role-reversing relationships. However, the nature of the parent-child relationship in role-reversal is qualitatively different from rejection. The parent necessarily pushes aside the child's needs in the

process of imposing his or her own needs onto the child. Yet, because the child is required to provide love and nurturance to the parent, their relationship is often close and affectionate. The rejection characteristic of avoidant attachment is a cool aloofness on the part of the parent and these parents often recoil from physical affection with their children. Therefore, role-reversal represents a specific type of parental rejection which is juxtaposed with experiences of physical affection and closeness. In fact, physical and emotional proximity are maximized, sometimes to the point where personal boundaries are blurred. In extreme cases, the child is psychologically merged with the parent, which not only denies the child's needs, it precludes the development of his or her sense of self. Therefore, in some combination, the underlying dynamic to ambivalent attachment is parental inconsistency. When parents respond sporadically to their child's needs, the child develops a pervasive sense of mistrust and insecurity, a poorly developed sense of self, and uncertainty about his or her ability to relate to the world. In cases of role-reversal, the parent does not vacillate between periods of nurturance and rejection, these conflicting experiences exist simultaneously and are woven into the very fabric of the parent-child relationship. In both cases, ambivalent individuals demonstrate significant difficulties in the process of separation-individuation and often remain entangled in the parent-child relationship, even into adulthood. This vacillating struggle to individuate is the characteristic feature of ambivalent attachment in adulthood. Fundamentally, the ambivalent pattern represents the opposite adaptation as the avoidant pattern for these

individuals are invested in being connected to others at the expense of individuation.

In summary, attachment security is conceptualized to develop in response to parent-child interactional patterns along two dimensions: the quality and consistency of the dyadic interchanges whereby quality distinguishes secure from insecure attachment and consistency discriminates avoidant from ambivalent attachment. From this context, the child develops representational models of self and other which organize his or her affective experiences and orientation towards others. This connection between attachment security and interpersonal relatedness represents the fourth basic assumption of attachment theory.

Attachment Security and Interpersonal Relatedness

Given that the child develops internal self/other representations in response to the attachment relationship, the fourth assumption of attachment theory posits that the early parent-child relationship establishes the prototype for subsequent relationships. Bowlby (1980) stated, "On the way in which an individual's attachment behavior becomes organized within his personality turns the pattern of affectional bonds he makes during his life" (p.41). There is compelling evidence that the mental model developed in response to early parent-child relationships does influence the development of other significant relationships across the life span. The following sections will provide a review of this research as it relates to parenting, peer, and intimate relationships.

Attachment Security and Parenting

There are several studies which indicate that there is continuity between adult attachment security and patterns of attachment developed with one's own children in adulthood. George, Kaplan & Main (1985) developed the Adult Attachment Interview (AAI) which assesses the quality of an adult's current internal representations of parent-child attachment relationships from childhood. The internal representations are evaluated by: the adult's ability to access and integrate early childhood attachment experiences with a general understanding of the parent-child relationship; an awareness of the impact it has had upon their personality and adult relationships; and resolution of anger toward parents. From the AAI, three patterns of adult attachment were identified: secure, dismissing and preoccupied. Individuals classified as securely attached had very diverse experiences with respect to early parent-child relationships. Some individuals experienced loving, secure relationships while others experienced physical and emotional abuse, extreme role-reversal, psychological and physical neglect and/or rejection. However, as adults, these individuals shared a common organization of thought regarding these relationships: they had access to specific childhood memories; valued early attachment experiences; were able to integrate positive and negative aspects of their parents into a coherent view of the overall relationship; and acknowledged the influence of these experiences on their personality. Individuals classified as dismissing had difficulty accessing specific childhood memories, devalued the importance of early attachment experiences, and/or discounted the influence of these experiences on current functioning.

They were restricted in their affect when relaying events and were preoccupied with issues of independence, personal strength, and control. Childhood experiences typically involved either overt or covert parental rejection and an absence of affection. In addition, their autobiographical memories often contradicted their semantic or overall representations of parent-child relationships. For example, some of these individuals responded that their parents were loving and always there for them while relaying explicit incidents of parental rejection. Those not invested in idealizing their parents may have presented and discussed negative aspects and experiencing of their parents, but quickly dismissed the impact upon themselves. Individuals classified as preoccupied had access to specific memories, in fact were often flooded by negative experiences, but were unable to integrate these experiences into a coherent understanding of the parent-child relationship. Their protocols were marked by a sense of confusion and vacillation between the negative aspects of their relationship with their parents and a continuing desire to please them. Some of these individuals were preoccupied with anger and resentment toward unloving parents and were engaged in an active struggle to individuate while others had adopted a more passive stance. This passive subgroup had difficulty separating parent from self and/or past from present, were vague and evasive in their descriptions, and presented a weak sense of personal identity. Typically, preoccupied individuals had experienced moderate to extreme role-reversing or enmeshed parenting and all of them were still psychologically entangled in the parent-child relationship.

From the standpoint of a mental model, the AAI identified three patterns of organization of thought with respect to attachment relationships which are consistent with the patterns of attachment identified by behavioral observations in early childhood (Ainsworth, et al, 1978). Using the AAI, several subsequent studies demonstrated a link between adult attachment representations and child attachment security. Main & Goldwyn (1984) note that mothers who were labeled securely attached with respect to their adult representations of attachment security were more likely to have children who were securely attached whereas mothers who were classified as insecurely attached tended to have children who were insecurely attached. Likewise, Main, Kaplan, & Cassidy (1985) found that adult attachment security of mothers and fathers was significantly related to the attachment security of their infants. Similarly, several other researchers have documented that insecure attachment representations from early parent-child relationships are associated with insecure attachment relationships in second generation parent-child dyads (Crowell & Feldman, 1989; Haft & Slade, 1989; Jacobvitz et al., 1991; Pratt et al., 1991).

Collectively, these studies provide considerable support for the notion that working models of attachment do influence subsequent parent-child relationships. However, it is important to keep in mind that the AAI depends on retrospective accounts of historical events and therefore, it is not clear to what extent the reported memories of these events correspond to actual reality. As such, it is the individual's "current state of mind" with respect to attachment relationships that is linked with the continuity of attachment security in the following generation.

These studies provide partial support for Bowlby's claim that parent-child attachment relationships represent the prototype for affective bonds throughout life. However, to fully support this position, the mental model constructed should not be circumscribed to parent-child relationships, but should involve a more global representation that encompasses other close relationships. The data on peer and intimate relationships address this issue.

Attachment Security, Peer, and Intimate Relationships

There are several studies which indicate that there is continuity between attachment security and the quality of interpersonal relationships. Sroufe (1989) reports that pre-school children elicited responses from teachers consistent with their attachment histories. In general, teachers responded to the three groups as follows: secure children received warm, positive gestures and high expectations for compliance; ambivalent children were treated as more immature and needy with low expectations for compliance; and avoidant children were less likely to seek teacher support and were the only children to elicit teacher anger. Similarly, Pastor (1981) observed dyadic interactions in preschool children who had previously been classified by the Strange Situation. He found that the interactions of the dyads involving secure/avoidant and ambivalent/avoidant children were more aggressive and hostile than the secure/secure, secure/ambivalent, or ambivalent/ambivalent dyads. In addition, the interpersonal hostility was reciprocated by both members in the avoidant dyads. These studies indicate that children were involved in interactions with teachers and peers that were consistent

with their attachment histories, underscoring the power of parent-child relationships in shaping the nature of other interpersonal relationships in childhood.

There are also several studies suggesting continuity between attachment representations of parent-child relationships from childhood and the quality of intimate relationships in adulthood. Kobak & Sceery (1988) interviewed first-year college students using the AAI, obtained Q-sort ratings from peers regarding these individuals' social interactions, and assessed self-perceptions on the basis of questionnaires. They discovered significant differences in interpersonal styles that were related to adult attachment security. Specifically, they found secure adolescents were rated more positively by peers and reported feeling more content and supported in their social relationships than insecure adolescents. Preoccupied individuals were rated as very anxious by peers and reported feeling high levels of personal distress but experienced some support in their social relationships. Dismissing individuals were rated as hostile by peers and reported feeling very distant in their social relationships.

Hazan & Shaver (1987) examined the relation between adult attachment security and romantic love styles. On the basis of questionnaire data, they identified secure, avoidant, and ambivalent attachment patterns and accessed information regarding adult romantic relationships. Individuals classified as securely attached described warmer relationships with their parents and between their parents in their early childhood experiences than insecurely attached adults. They reported their adult love relationships were based on trust and friendship,

experienced them as more satisfying, and were engaged in more enduring relationships than avoidant or ambivalent adults. Individuals classified as avoidant generally described their parents, particularly their mothers as being cold and rejecting. They indicated that their adult relationships were characterized by lack of trust, fear of intimacy, and moderate vacillation in emotional highs and lows. Individuals classified as ambivalent described their parents as being intrusive, unfair, and threatening and the parental relationship was characterized as unhappy. They indicated that their adult relationships were marked by obsessive preoccupation and sexual attraction, desire for union and intense jealousy, and extreme emotional highs and lows.

Cohn, Silver, Cowan, Cowan & Pearson (1991) report that adult attachment security, as assessed with the AAI, was not related to marital satisfaction by self-report measures but was related to couples' behavior in romantic relationships. Specifically, couples comprised of two insecurely attached partners engaged in more conflict and less positive interactions than couples with two securely attached partners. Couples comprised of a secure husband and an insecure wife resembled the couples with two secure partners. The authors suggest that perhaps the presence of a secure partner has an ameliorative effect on the quality of the relationship. Since there were only two couples composed of a secure wife and an insecure husband, it is not known whether either partner can fill this role or whether a secure husband plays more of a stabilizing role in the marital relationship.

Using questionnaire measures to classify adult attachment security, Feeney & Noller (1990) report that secure adults were more trusting in their relationships and were involved in longer and more stable relationships than insecure adults. Ambivalent subjects expressed dependence and desire for commitment in relationships yet their relationships were the least enduring. Avoidant subjects reported feeling distant and mistrustful in intimate relationships and were more likely to report never having been in love.

Finally, Collins & Read (1990) report adults were generally involved in romantic relationships that confirmed their working models. For example, most subjects had romantic partners who shared similar beliefs and feelings about closeness, intimacy and the dependability of others. However, some individuals who were anxious about being abandoned and unloved chose partners who were uncomfortable with closeness and intimacy. These authors echo Weiss (1982) in suggesting that many individuals seek partners consistent with how their attachment systems have been prepared to respond. Those individuals who expect partners to be psychologically available and dependable, choose partners that meet those expectations and vice-versa.

In terms of relationship satisfaction, Kobak & Hazan (1991) report that adult attachment security was related to partner ratings of marital adjustment and couples' ability to maintain constructive communication during problem solving. Finally, Frommer & O'Shea (1973) found that separation from family of origin in childhood was significantly related to marital conflict and parenting difficulties. Although not directly assessing the continuity between adult attachment security

and romantic relationships, separation is a primary determinant in the development of attachment and it is interesting to note that mothers who did experience this disruption from their families of origin went on to have difficulties in their emotional connections to their husbands and children.

These patterns of attachment identified in infants and toddlers by the Strange Situation and in adolescents and adults by interviews and questionnaires strongly resemble the interpersonal trends detailed by Horney (1950). A summary of her theory and its relation to attachment theory is provided in the following section.

Modes of Interpersonal Relatedness

Horney proposed that when caregivers are insensitive to a child's developing individuality and emotional needs, the child feels unloved and isolated. This experience creates a sense of core insecurity or "basic anxiety". Attempts to alleviate this basic anxiety are evidenced in three psychological solutions: the expansive solution (appeal to mastery); the self-effacing solution (the appeal to love and morbid dependency); and the solution of resignation (the appeal to freedom). Individuals who adopt an "appeal to mastery" attempt to conquer their fears and conflicts. They seek perfection and complete self-sufficiency, are disdainful of others, and require admiration and blind obedience in an effort to alleviate their own sense of inadequacy and inferiority. They are openly arrogant, ambitious, aggressive and demanding. Often they are driven by vindictiveness, revenge and a need to triumph over others. Their sense of being unlovable is

translated into anger toward others and bitter resentment. Individuals who solve their internal conflict by adopting an "appeal to love" dramatize their neediness and helplessness. They alleviate their basic anxiety by appeasing and becoming dependent on others. For these individuals, "love" is their cure. As Horney writes,

"Others should supply the initiative, do his work, take the responsibility, give meaning to his life, or take over his life so that he can live through them...the power which the appeal of love has for the self-effacing type becomes perfectly clear. It is not only a means to allay anxiety; without love he and his life are without value and without meaning. Love therefore is an intrinsic part of the self-effacing solution...love becomes as indispensable for him as oxygen is for breathing" (p.228).

Individuals who "appeal to freedom" withdraw as a means of coping with their inner conflicts. Horney describes this process of resignation as "a shrinking, restricting and curtailing of life and growth" (p. 260). While the other modes are characterized by an active reaching out or involvement with others, this mode is characterized by detachment and an emotional distance from others. These individuals engage in a life void of "pain or friction or zest". They purposely avoid becoming too involved or attached to anyone or anything. Their relationships and attachments are restricted to a level of experiencing that prohibits a sense of neediness or dependency.

There is a thematic continuity between these interpersonal orientations that Horney described as "moves toward, against and away from others" and attachment styles. The "moving away" solution encompasses characteristics of the avoidant/dismissing types whereas the "moving toward" profile characterizes the

ambivalent/preoccupied types. The "moving against" solution shares the anger and hostility present in the avoidant type. However, the "moving against" orientation also shares the vacillation between connectedness and disengagement from others that is characteristic of the ambivalent type. In that sense, the "moving against" orientation appears to represent a mix between the avoidant and ambivalent attachment patterns. Horney stated that these modes are solutions for intrapsychic conflict as well as determinants for the form of human relationships. She suggested that the connection between these processes involves the experiencing of love. The common dynamic is a deeply ingrained sense of feeling unloved and hence, unlovable. Those who "move against" respond with anger and hostility at the injustice of feeling unloved as a child. Those who "move toward" desperately seek to attain affirmation of their lovability while those who "move away" protect themselves by dissociating from experiences of love and attachment. The common outcome is rigidly relating to others via these modes and distorting the experiencing of interpersonal relationships to accommodate these orientations.

While there is no direct evidence for Horney's model, the theoretical overlap between the modes of relating she described and the styles of attachment derived from attachment theory are remarkably similar. In addition, both theoretical models postulate that experiences of parental love and nurturance become incorporated into beliefs about the self and are subsequently translated into characteristic ways of relating to others.

Summary of Theoretical Assumptions

In summary, the underlying assumptions of attachment theory are as follows: children are biologically predisposed to develop an attachment relationship with their primary caregiver(s); they develop internal representations of self and other based on this relationship; these representations consolidate into interpersonal styles of relating that can be observed as early as 12-24 months of age; and that these styles appear to be somewhat stable throughout development.

The theoretical and empirical efforts presented thus far provide support for these assumptions. They all converge on the idea that the emotional relationship between parent and child has a significant impact upon subsequent individual development and interpersonal relatedness. However, the studies represent diverse samples, measures, and content areas, making it very difficult to know to what degree these results can be generalized. In addition, it still remains unclear what influences the child brings to the parent-child relationship, what specific parent-child interactions underlie and differentiate secure and insecure infant attachment, and exactly how these patterns are related to the reiteration of attachment relationships throughout development. These issues are addressed in the remaining sections of the literature review.

Origins of Attachment Security

While there is still lively debate about the role of infant temperament in the development of attachment, there is growing consensus that infant temperament may contribute to the expression of attachment behaviors but is not

a causal factor in the development of secure or insecure attachment (See Belsky & Isabella, 1988 for an in-depth review of this literature). For example, an irritable infant may cry more often and be more difficult to soothe but as long as the parent is sensitive and responsive to these qualities, the child will have the experience of being cared for that evolves into a secure attachment. In this way, the caregiver is assumed to be the dominant influence in determining the quality of the attachment relationship. There is some indirect support for this position in two studies that demonstrated the predictive power of adult attachment security. Benoit, Vidovic, & Roman (1991) and Fonagy et al., (1991) used the AAI and interviewed mothers during pregnancy. A 77% and 75% concordance rate was reported between maternal attachment security during pregnancy and child attachment security at 12 months of age, respectively. Although child temperament was not assessed, the data indicate that for the majority of women in these two studies, child attachment security was determined by maternal functioning rather than characteristics of the infants.

It remains a possibility, however, that there is an interaction between infant temperament and parental attachment security. Parents with secure attachment representations may be capable of providing sensitive and contingent caregiving to a wide range of infant temperaments. Parents with insecure attachment representations may be able to provide this type of caregiving to infants with "easy" temperament styles but the challenges of more "difficult" temperaments may trigger the unresolved issues from their own histories in a way that prevents them from responding to their infants. While the potential for this interaction

effect remains open for debate, there are numerous studies that have examined the role of parental behavior in the development of infant attachment security.

Mother-Infant Interactions Studies

On a global level, many studies have identified parental "sensitivity" and "responsiveness" as primary determinants in the development of attachment security (Ainsworth et al., 1978; Belsky, Rovine & Taylor, 1984; Belsky & Isabella, 1988; Benn, 1986; Egeland & Farber, 1984; Lamb & Easterbrooks, 1981). But there have only been a few studies to investigate finer bands of behavior within these global constructs. Studies that have addressed this area emphasize the affective quality of parent-child interactions as a root variable in attachment security.

Studying mother-infant interactions, Goldberg, MacKay-Soroka & Rochester (1993) found that maternal responsiveness to infant affect was associated with secure, avoidant and ambivalent infant attachment. Secure infants demonstrated equal displays of negative, positive and neutral affective events and mothers of these infants were responsive to all three types of affective displays. Further, these mothers provided the most comments and verbal elaborations regarding emotions. Conversely, avoidant infants displayed the least amount of all three affective events, and their mothers were the least comforting and responsive to displays of affect, particularly to negative emotional expressions. Also, mothers of avoidant infants provided the fewest comments and verbal elaborations about emotions in general. Ambivalent infants demonstrated

primarily negative affect and their mothers were most responsive to negative affective events. Like the mothers of avoidant infants, these mothers provided few comments and dialogue about the presence of emotions in general.

Izard, Haynes, Chisholm & Baak (1991) note that in a longitudinal study of mother-infant dyads, maternal emotional experiences and expressiveness during infancy predicted infant attachment security at 13 months of age. Specifically, mothers of secure infants were more emotionally expressive with regard to positive and negative affect. Mothers of insecure infants reported experiencing more negative emotions and less positive emotions than mothers of secure children, yet they reportedly suppressed their expressions of negative emotions around their children. Ironically, their children demonstrated more anger, sadness and distress in mildly stressful conditions than secure children.

In studies with mother-infant dyads at three and six months of age, Tronick, Ricks & Cohn (1982) found complex relationships between infant behavioral responses and maternal expressions of affect that were subsequently related to infant attachment security at 12 months of age. In conditions of "normal" face-to-face parent-infant interactions, mothers were rated along three dimensions: 1) the extent to which they were responsive to the infant's behaviors by imitating or exaggerating infant social actions ("elaboration"); 2) the extent to which they intruded on the infant's activities ("overcontrolling"); and 3) the extent to which they were hesitant and/or withdrew during the interaction ("undercontrolling"). Following this condition, mothers were instructed to "distort" mother-infant interactions by simulating depressed affect. Mothers who

scored higher on "elaboration" during normal interactions had infants who attempted to use positive social behaviors to reengage their mothers in the depressed condition. Mothers who scored higher on "overcontrolling" and "undercontrolling" had infants who either used negative social behavior or withdrew from the interactions with no attempt to reengage their mothers in interaction. How the infants adapted to the depressed condition was predictive of their attachment security at 12 months of age. An overwhelming majority of the infants who used the positive strategy were classified as securely attached at 12 months of age, whereas infants who used the negative or withdrawal strategies were classified as insecurely attached. Of further interest, there was a dramatic increase in infant distress and disjointed cycles of positive, negative and neutral affective states for all infants during the depressed condition compared to the normal interaction sequences. These authors present observable data that demonstrate: 1) infants are remarkably sensitive to maternal behavior and affect; 2) maternal style of interaction and expression of affect is directly related to differential organization of infant behavior; and 3) these strategies become stabilized over time and are used for negotiating subsequent stress.

Isabella & Belsky (1991) provide further evidence for this notion of "disjointed cycles" in parent-infant interactions as it relates to attachment security. They report in a longitudinal study of mother-infant dyads at 3 and 9 months of age that reciprocal and mutually rewarding behavioral interactions were predictive of infant attachment security at 12 months of age. Specifically, mothers who were sensitive to infant behavioral and affective cues by providing appropriate and well-

timed responses had infants who were later classified as securely attached.

Conversely, mothers who were intrusive and overcontrolling had infants classified as avoidant, whereas mothers who were unresponsive and/or inconsistent had infants classified as ambivalent at 12 months of age. These authors conclude that the experience of dyadic synchrony that evolves from appropriate and predictable parent-infant interactions is the substrate of secure attachment by providing the infant with "...an optimal degree of interactive stimulation as well as a predictable interactive partner" (p. 381).

Additional studies highlight the role of parental rejection and lack of emotional warmth in the avoidant attachment pattern. Based on in-home observations, Ainsworth et al., (1978) noted that mothers of avoidant infants displayed an aversion to close bodily contact and rejected their infants' attempts for physical affection. Egeland & Farber (1984) report similar patterns of parenting during in-home observations of mother-infant interactions during feeding and play activity. Mothers of avoidant infants avoided physical contact except when necessary, and even then responded in a stiff and mechanical fashion. They were less responsive and effective in their response to infant crying and were psychologically unavailable to their infant. Mothers of ambivalent infants demonstrated poor caregiving skills, although they were more adept than mothers of avoidant infants. Similarly, Tracy & Ainsworth (1981) report that mothers of avoidant infants were less likely to hug or cuddle their infants than mothers of either ambivalent or secure infants. In times of distress when the attachment behavioral system is intensely activated, children seek close bodily

contact for reassurance. For avoidant infants, these efforts are rebuffed. Collectively, these studies of parent-child interactions highlight the role of emotional warmth, affect expression, and regulation in the mother-infant dyad and suggest that these are core elements of attachment security that underlie parental "sensitivity" and "responsiveness."

Intergenerational Replication of Attachment Security

The remaining questions to be addressed are what differentiates parents within the affective realm and specifically how is it related to repetition processes across generations? Since the Main & Goldwyn (1984) study, adult attachment security has been consistently linked with infant attachment security (Benoit et al., 1991; Fonagy et al., 1991; Jacobvitz et al., 1991; Pratt et al., 1991). These studies point to the organization of adult attachment representations as the underlying process linking attachment patterns across generations. The implicit theoretical model of this transmission hypothesis is as follows. Attachment representations provide a template for parent-child relationships and thus serve to structure dyadic interchanges on a behavioral and affective level. Secure attachment representations in adulthood reflect a flexible, non-defensive organization of thought that permit open, sensitive and contingent caregiving to a broad range of child verbal and non-verbal behaviors. Insecure representations reflect distorted, defensive strategies that create restrictive, intrusive and/or inconsistent parental responses to child behaviors. Therefore, parents with secure attachment representations are more aware of their own internal experiencing and have

access to a broader range of affective experiences which, in turn, enables them to provide more sensitive and responsive caregiving to their children. Parents with insecure attachment representations are restricted and limited in these domains by virtue of their representational models. However, there have only been a few attempts to investigate this transmission hypothesis using a behavioral level of analysis.

In a cross-sectional study with mothers and their three-year-old children, Crowell & Feldman (1989) found that maternal attachment security, as assessed with the AAI, was associated with maternal and child behavior in semi-structured play sessions. Specifically, they report that secure mothers had warm and responsive interactions with their children and a style of assistance which promoted learning and self-discovery. They provided clear instructions in tasks requiring compliance and expressed enthusiasm in play activities. Preoccupied mothers were confusing and inconsistent, and had difficulty getting compliance from their children. In play activities, they vacillated between periods of warmth and gentleness and periods of anger and frustration. Dismissing mothers were directive and controlling, unsupportive, and lacking in closeness and physical affection with their children. Additionally, children of the preoccupied and dismissing mothers were more angry, anxious, disobedient, and/or subdued than children of secure mothers.

Haft & Slade (1989) present data from a pilot study with mothers and one-year-old infants that focused on the emotional interchanges between parent and child. They found that mothers with secure attachment representations were

consistently responsive to their infants' expressions of positive and negative affect. Preoccupied mothers were randomly responsive to infant affective expressions, frequently vacillating between ignoring and misinterpreting their infants' cues. Dismissing mothers consistently distorted and misinterpreted their infants' cues in a selective manner. Specifically, they rejected their infant's expression of anger and distress as well as their cues for comfort and reassurance. This rejection initially involved an attempt to "override" the infant's experience through a counter comment and often progressed into ridicule and sadistic comments if the infant persisted. These authors suggest that "moment-to-moment interchanges" create a context of "affective sharing", and that through this experience, infants incorporate maternal attachment representations as part of their own psychic structure. When parents are "attuned" to their infants' affective cues and respond in a consistent manner, this structure reflects reciprocal and mutual experiencing. This echoes the conclusion drawn by Tronick et al. (1982) that the infant's capacity for affect regulation and stabilization is derived from parent-child interaction patterns. When this interactive process produces a, "...shared, positive emotional state, the infant develops a sense of effectance out of their cumulative repetition, but when such interactions do not accomplish this goal the infant develops a sense of ineffectance or helplessness" (p. 84). They posit that this quality of competence or ineffectance is then carried forward into subsequent interactions and relationships.

Jointly, the Crowell & Feldman (1989) and Haft & Slade (1989) studies indicate that maternal attachment representations differentiate parenting behavior

along the dimensions of style of assistance and affective quality in parent-child interactions. This is a significant advancement in attachment research. While previous research has demonstrated a link between maternal behavior and child attachment security, these are the only studies to examine mother behavior on this level of analysis as a function of maternal attachment security.

Summary of Parent-Child Interaction Research

The data presented from parent-child interaction studies provide compelling evidence that the affective quality and patterning of parent-child interactions around the negotiation and fulfillment of the child's basic needs are the substrate of the child's mental organization of attachment. Furthermore, from these experiences, the core psychological structures of self and other evolve and become consolidated into modes of interpersonal relatedness that are carried forward throughout development.

What has yet to be clarified is precisely when these self/other representations become consolidated, the impact of simultaneously competing experiences on these representations, and the circumstances which permit and/or facilitate their reorganization. This question regarding the potency of early parent-child relationships is a core issue in attachment theory. The notion of "internal working models" implies that an individual continually revises and elaborates mental representations throughout the developmental process. However, the theory also predicts that these models become increasingly stable and resistant to change because incoming information is either restricted or

distorted as it is assimilated into the existing organization. Thus, while fundamental change of self/other models may be possible, altering these representations should become increasingly difficult as the child progresses developmentally. Therefore, even though early parent-child attachment relationships are assumed to represent the prototype for future relationships, it is not theoretically or empirically clear at what point in the developmental process these internal models of attachment security become consolidated or what processes and variables facilitate their reorganization. These questions were a central focus of the current study.

Reorganizational Processes

The studies reported earlier that examined continuity between adult attachment security and patterns of child attachment in the following generation provide substantial evidence that painful and unloving relationships with one's parents in childhood are strongly associated with the replication of these experiences when parenting one's own children. However, there were also instances of discontinuity. While these instances were not studied systematically, there were commonalities across studies. Resolving the difficulties stemming from parent-child relationships in childhood appeared to be a critical variable for healthy parenting in adulthood. Parents who had conflicted and/or unloving relationships with their own parents in childhood but had come to terms with these experiences in adulthood were able to break the pattern and foster secure attachments on the part of their children whereas those parents who had not

resolved these issues perpetuated the pattern with their own children. This is consistent with observations made by Fraiberg, Adelson & Shapiro (1975) who note that mothers who dissociated themselves from the affect arising from their own mistreatment were more vulnerable to repeating the pattern of parenting with their children whereas connecting with childhood pain and anger freed mothers from recreating the negative parenting cycle.

Ricks (1985) describes a series of studies investigating maternal attachment history, current marital relationships, and parenting difficulties. Results of these studies indicate that maternal rejection in childhood, in conjunction with defensiveness and idealization of parents in adulthood, were significantly related to insecure infant attachment. Maternal histories of disruption or rejection that were associated with positive child outcomes occurred in the context of stable marriages, positive self-esteem and strong bonds to in-law families. Ricks suggests that what allowed these mothers to modify a maladaptive parenting style was engaging in a "significant emotional experience" which altered their self/other representational models.

Collectively, these studies suggest that accessing childhood pain is a powerful deterrent against repetition in parenting, while repression and isolation of painful affect is linked with reiteration of these patterns with one's own children. Individuals who engage in this process and/or encounter a "corrective emotional experience", are able to break the cycle of parenting experienced and parenting provided. However, there are only a few studies that have directly examined discontinuities from one's family of origin to adult functioning.

Recovery and Discontinuity of Attachment Security

Quinton & Rutter (1988) conducted studies with women who had been placed in foster care since early childhood ("ex-care" group) and compared the quality of their parenting and marital relationships in adulthood with women who had been raised with their biological families. They found that overall, the "ex-care" woman had poorer social functioning, more difficulties in parenting, and more disrupted and conflicted marital relationships in adulthood. However, a significant number of these women were not having psychosocial difficulties and demonstrated good parenting skills. What differentiated these women from the other "ex-care" women was the presence of a non-deviant and supportive spouse. In other words, the absence of a supportive spouse was not associated with problems in parenting for the control group but was for the "ex-care" women. The "ex-care" women were more vulnerable to parenting difficulties based on their childhood experiences but the presence of a supportive spouse mediated this link. Therefore, Quinton & Rutter suggest that choices and experiences in adult life can have a tremendous impact on reducing or minimizing adversity from childhood. Similarly, Wambolt (1991), found that for young adults with problematic family of origin experiences, choosing partners from dissimilar family of origin experiences provided a means of escaping from repetition of relationship patterns. These two studies are consistent with Rick's (1985) argument that a "significant emotional experience" in adulthood is a central element in redirecting the course of one's life. While this may be true, it is not clear why some

individuals from pathological family backgrounds are able to choose healthy and supportive spouses when the majority of these individuals do not.

Crandell (1992) reports data from a pilot study which suggest that the reorganization of attachment representations may be related to a "corrective emotional experience" in adulthood, but the ability to engage in and assimilate this experience is rooted in a secure attachment relationship with an alternate attachment figure at some point in the person's early developmental history. All of the subjects in this pilot study had experienced severely unloving and/or abusive relationships with both parents during childhood. Subjects were classified as either secure or insecure based on their representational models of parent-child relationships. Utilizing an interview which focused on attachment relationships across the life span, she found that experiencing a secure attachment relationship with some other adult during childhood differentiated women who had reorganized their representational models of attachment in adulthood from those who had not. Similarly, Kaufman & Zigler (1987) report that individuals who had been physically abused by their parents during childhood and were able to break this cycle with their own children had experienced a supportive relationship with one parent during childhood. Quinton & Rutter also mention that while the pathway associated with healthier outcome involved a complex network of variables, many of the women who were able to redirect their lives reported having experienced a loving caregiving relationship with someone during childhood.

The qualitative data from the Crandell (1992) study suggest that the experience of an alternate attachment figure can have a major impact on self/other representations. This was evident in the following comments. When asked what this relationship taught them, typical responses included:

"...to care about myself and let me think that I'm important -- that I'm a worthy person...that I'm lovable"; "That someone can be there for me, for me, as opposed to my mother or grandmother who really wanted me more for them. And that was important...Probably because I had that relationship, I had more of a sense of self"; and "I used to think I was unlovable or like defective or something but my sister loved me and took care of me...and so I thought maybe I am lovable."

Finally, although there is some data addressing the continuity of attachment security classifications across time, it is largely restricted to early childhood and is inconclusive. Several studies provide support for the cross-time stability of attachment security in young children (Main, et al., 1985; Main & Weston, 1981; Sroufe, Fox & Pancake, 1983; Waters, 1978). However, Thompson, Lamb & Estes, (1982) and Vaughn, Egeland & Sroufe, (1979) report a 60% and 53% stability rate, respectively, in attachment classification for children in high-risk samples marked by poverty, divorce and frequent changes in residence. These two latter studies suggest attachment security may change in childhood in response to changes in the family and caregiving environments. Bartholomew (1990) writes,

"In early childhood, models of the self and other are not expected to be well formed and certainly not clearly differentiated. Rather it is continuity in the quality of the family environment that appears to be largely responsible for continuity in attachment-related behaviors. It is only over the course of time that the quality of attachment

relations is integrated into stable and self-sustaining internal representations" (p.165).

However, there is no empirical support for the latter part of this statement since there is little data on the cross-time stability of attachment classification in adulthood. Therefore, it is not known whether there actually is more plasticity in attachment security during childhood compared to adulthood, or at what point in the developmental process it may become more resistant to change. This issue is crucial if we are to understand continuities and discontinuities in attachment relationships across the life span. In the Crandell (1992) study, all of the women who had reorganized their representational models of attachment had experienced a loving caregiving relationship by adolescence whereas none of the insecure women had. This suggests that attachment representations can be significantly influenced by relationships outside of the parent-child relationship but these representations may begin to be consolidated by adolescence. Consequently, in the absence of a loving caregiving experience by adolescence, it may be improbable that an individual could utilize a "corrective emotional experience" in adulthood that would shift their developmental trajectory. Additionally, it may be increasingly unlikely that an individual would even experience such an encounter. Several researchers have commented upon the tendency for individuals to select and create later social environments that confirm their expectations (Bartholomew, 1990; Bartholomew & Horowitz, 1991; Collins & Read, 1990; Sroufe & Fleeson, 1986). However, the data from the Crandell study were based on a small number of subjects and are only preliminary. There is still much we

do not understand about the processes underlying the formation, consolidation, and reorganization of attachment representations. The present study was designed to explore these issues.

Goals and Hypotheses of Current Study

Rationale

There were three overarching goals governing this study: 1) to investigate variations in current methodology for classifying representational models of attachment; 2) to examine specific processes underlying the replication of problematic parent-child relationships across generations; and 3) to explore processes and experiences underlying discontinuity in developmental trajectories.

With regards to the first goal, virtually all studies demonstrating continuity in the quality of attachment security in parent-child relationships across generations have utilized the AAI. While the validity of this instrument has been well documented, it requires extensive resources to administer, transcribe, and score. This has posed significant limitations to research in this area. Therefore, the present study examined whether the AAI could be converted into a questionnaire (AAQ) and used for classifying subjects broadly as either secure or insecure in their attachment representations. The AAQ contained basically the same questions posed in the AAI. The major changes involved administering the instrument as a questionnaire measure, as opposed to a one-on-one interview, and using a modified version (Adams, 1992) of the Adult Attachment Rating and Classification System (Main & Goldwyn, 1989) for classifying attachment security.

Adams (1992) found that maternal responses on a truncated version of the AAQ were meaningfully related to parental perception of child behavior. However, he utilized a group administration in his study and he did not use the AAQ as a means for classifying adult attachment representations. Additionally, while other researchers have developed and used questionnaire measures to classify adult attachment security (Collins & Read, 1990; Hazan & Shaver, 1987), these have been check-off lists that require subjects to classify themselves. The validity of these methods has been questioned given the tendency for insecurely attached adults, particularly those of the avoidant type, to distort and misrepresent their experiences. The present study was the first attempt to combine a comprehensive and in-depth instrument, comparable to a clinical interview, with the practical administration of a questionnaire to classify adult attachment security. In addition, the study sought to examine how representational models of parent-child relationships from the past, as assessed by the AAQ, related to self-perceptions of distress in second generation parent-child relationships.

With respect to the second goal, previous studies on parent-infant interactions have provided an entrance for examining the interplay among adult attachment representations, parent-child interactions, and the reiteration of parent-child relationships patterns across generations. Yet, there is need for empirical work to further elucidate the factors underlying these processes and how they present at different developmental stages. For example, previous studies have demonstrated that parental style of interaction (e.g., consistency and degree of control), as well as the quality of parental affect that is experienced and

shared, are both powerful determinants in the child's emotional development. However, only the Haft & Slade (1989) study describes parental behavior along both dimensions as a function of parental attachment representations. Additionally, with the exception of Crowell & Feldman (1989), studies of such dyadic interactions at a behavioral level of analysis have focused almost exclusively on mother-infant pairs so that it remains unclear how these interactional patterns and child attachment security present at later points in development. A major obstacle to this research has been how to assess attachment security in older children since proximity seeking behaviors are no longer activated during physical separations from parents. As children advance in cognitive development, indices of the attachment relationship move away from behavioral manifestations to internal representations. A few studies suggest that it may be a viable research strategy to examine children's working models of attachment at the representational level.

Main et al., (1985) report that the responses of 6-year-old children to a family photograph upon physical separation from parents and answers to a hypothetical question about a two-week separation from parents were significantly related to their attachment security at one year of age. They argue that children who were securely attached in infancy developed internal representations of their parents as being responsive to their needs and thus emotionally accessible and that these representations were reflected in their responses to the attachment-related situations. Cassidy (1988) used a puppet interview and story completion task to access attachment representations of 6-year-old children and she found

qualitative differences in these childrens' working models of the attachment relationship. Secure children provided coherent, elaborated responses; were flexible and open in their communication style; and depicted parents as being protective and empathic. Avoidant children actively refused to answer some stories or responded, "I don't know"; were non-empathic, aloof and defended in their communication style; and presented parents as unresponsive or harsh. The study did not identify an ambivalent pattern and the author points out that the method was preliminary and needs to be refined in further research.

Although preliminary, these studies suggest that examining child attachment security at the representational level is feasible as children mature. Yet, there is little research available in this area and even less with children in the pre-school age years. Numerous researchers have commented on the need for studying attachment and attachment-related behaviors for children in this age range (Bretherton, Ridgeway & Cassidy, 1990; Cicchetti, Cummings, Greenberg & Marvin, 1990; Schneider-Rosen, 1990). Therefore, the second goal of the current study was to further investigate child attachment security and specific behavioral parent-child interactions patterns, as a function of adult attachment security, as they present in play interactions between mothers and their three-year-old children.

In terms of child outcome, child attachment security was assessed with the Attachment Story Completion Task (ASCT; Bretherton et al., 1990), which is designed to assess representations of attachment security in three-year-old children. These authors note that childrens' scores on the ASCT were associated

with attachment security as assessed by the Strange Situation at 18 months of age and a concurrent measure based on separations and reunions with their mothers. Yet, they also comment that the ASCT is in need of further validation. As part of the second goal, the ASCT was used to provide that additional validation. In addition, these authors found associations among cognitive skills at 18 and 24 months of age, as assessed by the Bayley Scales of Infant Development, tests of language development, and child attachment security at three years of age. However, the BSID provides a developmental index that is not directly equivalent to intelligence and the authors note that during the 24-month old assessment, there was a significant ceiling effect with this instrument. Thus, the current study examined whether this relation between child attachment security and cognitive functioning continued to be present on a standardized and comprehensive measure of intelligence for children of pre-school age.

Finally, with regards to the third goal, no previous studies have directly examined the variables and experiences underlying the process of reorganization of attachment representations. It was expected that in the context of unloving relationships with one's parents during childhood, experiencing a loving relationship with some other adult would be a central determinant in whether an individual had been able to reorganize their representational model of attachment in adulthood. The rationale for this hypothesis rests on the assumption that having had a secure relationship with some other person would provide competing input about issues relating to safety, security, trust, self/other representations, and the experience of being emotionally connected to someone. This information

would be critical for disconfirming the self/other representations formed in response to negative parent-child relationships and would provide the basis for allowing the individual to feel safe enough to become emotionally connected in a "corrective" relationship at a later point in life. Thus, accessing childhood pain and engaging in a "significant emotional experience" may be key elements in modifying representational models, but the ability to successfully engage in this kind of experience and process this pain would be rooted in a secure attachment at an earlier point in the individual's developmental history. Since the plasticity of these representational models is not known, it was not clear whether this experience must occur simultaneously with early parent-child relationships, or whether it could still be effective if experienced at a later point in development. Given that adolescence is a period of physical and psychological reorganization, it is possible that this stage of development may pose another significant opportunity for disconfirmation of one's representational model of attachment. However, the Crandell (1992) study suggests that if there were no loving relationships before middle adolescence, those that occurred in later life were not effective in altering self/other representations. Thus, it was expected that individuals who had resolved the experience of unloving parent-child relationships and had reorganized their representational models of attachment would have experienced a loving relationship with some other adult either during childhood or early adolescence while individuals who were still entangled and struggling with these issues would not have had a secure alternate attachment relationship.

In addition, psychotherapy may be a significant factor in the reorganization of attachment representations. Many theorists and clinicians from a psychodynamic perspective speculate that the mechanism for therapeutic change is altering a person's self/other representations. It is interesting to note that all of the women from the Crandell (1992) study had been involved in psychotherapy at some point in their lives. However, only the women who had experienced an alternate attachment relationship demonstrated that the therapeutic experience led to a positive change in their lives and relationships with others. These data are only preliminary and open to a range of criticisms. However, they do indicate that women with insecure attachment representations were involved in adult relationships marked by intense emotional conflict, distrust, and dissatisfaction and they suggest that perhaps this difficulty to engage successfully with others may extend to therapeutic relationships as well. Therefore, this study also sought to identify whether a secure alternate attachment figure during childhood was related to experiences in psychotherapy at a later point in life and to what extent psychotherapy was related to the reorganizational process.

Finally, the study aimed to specify to what extent intelligence may impact the process of reorganizing representational models of attachment in adulthood. While intelligence and attachment security in general should be independent from each other, intelligence may be a significant factor in the reorganization of attachment representations given that this process involves actively accessing and integrating experiences from one's past into a current state of mind with respect to attachment relationships.

Hypotheses

Five major hypotheses were derived from the three research goals. The first hypothesis related to methodology, the second and third hypotheses related to replication processes across generations, the fourth hypothesis related to the reorganizational process of attachment representations in adulthood, and the fifth hypothesis reflected an exploratory question about adults with mixed representational models of attachment. The specific hypotheses were as follows:

Hypothesis 1

It was predicted that mothers classified as secure and resolved, as assessed by the AAQ, would report less distressed parent-child relationships than mothers classified as insecure, as indicated by lower scores on the Parenting Stress Index (PSI; Abidin, 1986).

Hypothesis 2

Adult attachment security would differentiate parenting behavior with respect to the quality of maternal affect and style of relating in the following ways:

- a) Secure and resolved mothers would demonstrate more positive affect and less negative affect when interacting with their children than insecure mothers.

- b) **Secure and resolved mothers would demonstrate a more positive style of relating when interacting with their children than insecure mothers.**
- c) **Secure and resolved mothers would demonstrate more synchronous interactions when playing with their children than insecure mothers.**

Hypothesis 3

Adult attachment security would differentiate child functioning in the following ways:

- a) **Children of secure and children of resolved mothers would demonstrate more positive and less negative affect when interacting with their mothers than children of insecure mothers.**
- b) **Children of secure and children of resolved mothers would demonstrate more positive and less negative social behaviors when interacting with their mothers than children of insecure mothers.**
- c) **Children of secure and children of resolved mothers would be classified as securely attached whereas children of insecure mothers would be classified as insecurely attached.**

- d) **Children of secure and children of resolved mothers would demonstrate higher intellectual functioning than children of insecure mothers.**

Hypothesis 4

Although resolved and insecure mothers have in common the experience of unloving and painful parent-child relationships in childhood, they are distinctly different in the way they have come to terms with those experiences. Therefore, it was predicted that resolved mothers would be significantly different from insecure mothers in terms of their relationship histories and current functioning. Specifically, it was predicted that:

- a) **Resolved mothers would have experienced a secure alternate attachment figure in childhood or adolescence whereas insecure mothers would not have had this experience.**
- b) **Resolved mothers would have more psychotherapy experience than insecure mothers.**
- c) **Resolved mothers would demonstrate higher intellectual functioning than insecure mothers.**

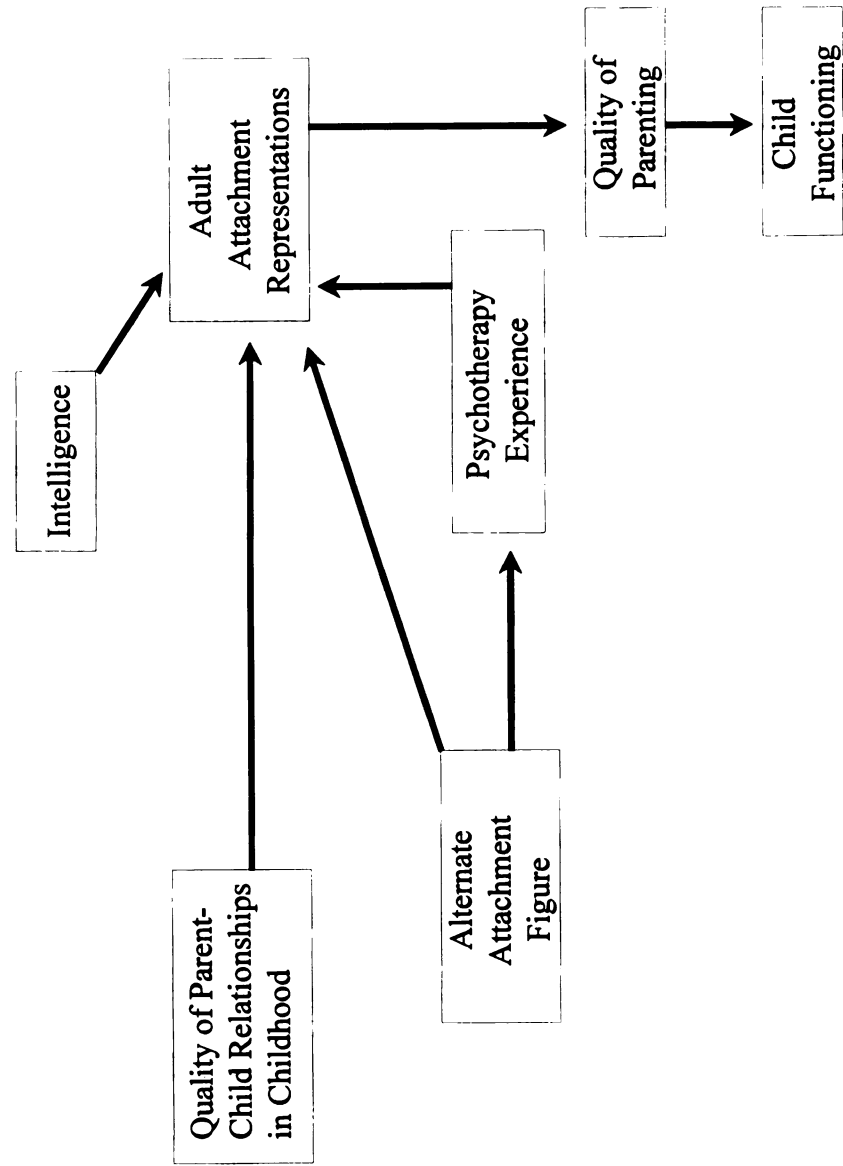
Hypothesis 5

Finally, as exploratory analyses, the sequelae for mothers with mixed attachment representations was examined. This group was defined as those

mothers who demonstrated qualities of secure and insecure attachment representations and/or experienced early parent-child relationships that were innocuous but not actively loving. It was expected that these mothers would fall mid-way between mothers with secure and insecure attachment representations with regards to the quality of maternal affect and style of relating during parent-child play interactions. It was also expected that children of mothers with mixed attachment representations would fall mid-way between children of mothers with secure and insecure attachment representations with respect to the quality of child affect and social behaviors during parent-child play interactions, child attachment security, and intellectual functioning.

The overall model of this study is illustrated in Figure 1.

Figure 1

Predicted Model of Replication and Reorganizational Processes of Attachment Representations

CHAPTER TWO

Method

Subject Selection

Mother-toddler dyads were recruited from birth announcements published in a local newspaper in 1989. Twenty-two hundred women were identified, sent an introductory letter inviting them to participate in a study of parent-child relationships, and asked to return demographic forms to indicate their consent. Subjects were eligible to participate if their child was not born with any major birth defects, had no diagnosed major physical, mental or emotional conditions, and lived in the subject's home. Of those women who returned the consent and demographic forms, one hundred and twenty-eight subjects met these criteria and were subsequently mailed two questionnaires which constituted Phase I of the study. It should be noted that the task demands of completing these questionnaires were not insignificant. In particular, one of the questionnaires asked personal and often painful questions about experiences in one's family of origin and required approximately two hours to complete.

On the basis of the two questionnaires, 70 women were invited to continue in Phase II, of which 46 agreed and subsequently completed their participation in the study. (Three women agreed to participate but dropped out before completing the project.) Therefore, the total sample consisted of 46 mother-toddler dyads.

The names of all subjects who completed the project were pooled and a lottery was drawn so that 10 subjects received a stipend of \$15.00 for their participation.

Subject Description

The mothers were predominately Caucasian (98%), married (94%), well-educated (46% had earned a college degree and 26% had attended some college), and in their thirties ($M=33$ years, $SD=4$ years). Occupational status was established using the Revised Duncan Socioeconomic Index (TSEI2; Stevens & Featherman, 1981). The mean occupational score for mothers was 45 ($SD=21$, $Range=17-83$), spanning the scale from janitor to university professor. The mean occupational score for fathers was 50 ($SD=20$, $Range=16-88$), spanning the scale from low-skilled laborer to physicist. Both mean scores represent middle-class socioeconomic status, encompassing such occupations as nursing, teaching and office managing.

There were slightly more female toddlers (57%) than male (43%) and the mean age was 40 months ($SD=2$ months, $Range=35-46$ months). The majority of children (96%) were delivered between 36-42 gestational weeks and 78% had no birth difficulties. Of the 10 subjects who did encounter birth difficulties, half involved an emergency Cesarean birth (primarily due to breech presentations), with the remaining 5 subjects encountering problems involving maternal infection or infant respiratory distress. Slightly more than half of the toddlers (59%) attended day care, with 70% of that care being provided in a

private home setting and 30% in a public facility. The mean age for beginning day care was 3 months, (SD=9 months, Range=1-40 months). Among those children who attended day care, 74% attended between 20-40 hours per week while the remaining children attended less than 20 hours per week. Half of the children in this study (52%) were the second born child in a family with two children.

Measures and Procedure for Phase I

Women who agreed to participate were sent the Parenting Stress Index (PSI; Abidin, 1986) and the Adult Attachment Questionnaire (AAQ; Appendix A). The PSI is a standardized 100-item questionnaire that assesses stress in the parent-child relationship, providing three global ratings of parental stress: Child Domain Score; Parent Domain Score; and Total Stress Score. The Child Domain evaluates six dimensions of child functioning (Adaptability, Acceptability, Demandingness, Mood, Hyperactivity, and Positive Reinforcement). The Parent Domain evaluates seven dimensions of parent functioning (Depression, Attachment, Competence, Social Isolation, Relationship with Spouse, Health, and Role Restriction). These two domain scores are then summed to provide the Total Stress Score. Abidin (1986) reports internal consistency reliability coefficients of .89, .93 and .95 for the Child, Parent and Total Stress domains, respectively and retest reliability coefficients of .63, .91 and .96 for these domains, respectively.

The AAI was converted into a questionnaire (AAQ) by translating the questions, with some modifications, into an 18-page, open-ended questionnaire. Bakersman-Kranenburg & van Ijzendoorn (1993) report on the psychometric properties of the AAI. They interviewed 83 mothers twice, two months apart with different interviewers, and found that 78% of the AAI classifications remained the same over this time period. In addition, they found that attachment security classifications were unrelated to maternal intelligence, memory, or social desirability. Since the current study was the first one to utilize the AAQ for classifying adult attachment security, there was no comparable information about its reliability and validity but given that it is a derivative of the AAI, it was reasonable to expect similar properties in identifying representational models of attachment.

Like the AAI, the AAQ asks subjects to describe their childhood relationships with their parents, their understanding of why their parents behaved the way they did, the effects of these early relationships on their adult personality, and how their relationships with their parents have changed over the years. A modified scoring system (Adams, 1992) of the original Adult Attachment Rating and Classification System (Main & Goldwyn, 1989) was used in the current study. As with the original scoring system, the modified system rates responses along two dimensions. The first dimension assesses the "emotional quality of the parent-child relationship" and consists of the following five Experiencing Scales: Rejection, Role-Reversal, Neglect, Pressure to Achieve; and Abuse. An overall index of the degree to which the parent was loving toward the subject is assigned

on the basis of scores along these five scales. Subjects receive scores for both parents on the Experiencing and Loving Scales. The second dimension assesses the subject's "current representational model of attachment" by evaluating the structural and organizational nature of the subjects' recollections and it consists of the following three Representational Scales: Idealization of the parent (the subject receives a score for each parent and an Overall Idealization score), Ability to Recall Memories, and Resolution of Emotional Conflicts with the parent. An overall index of Coherency is assigned on the basis of scores along these three scales as well as the overall organization and connectedness of the material presented.

One of the changes in the modified scoring system is that the rating scales are reduced from nine-point to five-point scales. In the present study, scores of 4 and 5 on the Experiencing and Loving Scales indicated severely negative experiences and unloving relationships. Scores of 4 and 5 on the Representational Scales indicated extreme defensiveness, poor ability to recall, poor resolution and incoherent presentations. Subjects were assigned to attachment groups on the basis of their AAQ scores by the following criteria. Individuals were classified as resolved (Main & Goldwyn referred to this group as "earned secure") if they had experienced a severely unloving relationship with at least one parent and provided an integrated, coherent presentation of those relationships (N=11 and 8/11 had severely unloving relationships with both parents). Individuals were classified as secure if they had experienced an actively loving relationship with at least one parent, a minimum of an adequately loving

relationship with the other parent, and provided an integrated, coherent presentation of those relationships (N=10). Individuals were classified as insecure if they experienced a severely unloving relationship with at least one parent and provided a highly idealized, defensive and/or incoherent presentation of those relationships (N=15). No attempt was made to categorize individuals by specific type of insecure attachment. There were also ten individuals who either received Coherency scores of 3 and/or parent Loving scores of 3. These individuals were assigned to a separate group, entitled mixed attachment representations, for the purpose of exploratory analyses.

To assess the inter-rater reliability of the AAQ and the modified scoring system, I trained an advanced undergraduate student in weekly 4-hour training sessions over a three-month time period, for a total training time of approximately 50 hours. Training consisted of scoring six practice protocols that were thoroughly discussed to familiarize the student with the scoring system. An additional ten training protocols were scored independently by myself and the student for the purpose of establishing reliability. Pearson inter-rater reliability coefficients for these ten training protocols were as follows: Rejection=.84; Role Reversal=.86; Neglect=.81; Pressure to Achieve=.94; Abuse=.97; Loving=.87; Idealization of Parent=.74; Recall=.69; Resolution of Conflict=.86; Coherency=.90. These coefficients were slightly lower than those reported by Adams (1992) who utilized percentage of agreement within one point to calculate reliabilities.

I scored all AAQ protocols as they were returned by mail to classify subjects by their attachment representations. Following this initial scoring, the second coder, who was blind to my scoring and the hypotheses, scored the protocols independently. Disagreements of one point were assigned the score designated in the initial scoring, whereas disagreements of two or more points were resolved through discussion between both raters.

Measures and Procedure for Phase II

Once subjects were assigned to attachment groups, they were asked to participate in Phase II, which consisted of two sessions. In the first session, mothers brought their toddlers to the university campus. Mothers oriented their child to the play room and then exited to an adjacent room across the hall. An assistant conducted an intellectual screening with the mothers while I administered an attachment security assessment and intellectual assessment of their child in the playroom. Upon completion, mothers were reunited with their child in the playroom and the dyad engaged in a 30-minute parent-child interaction task that was videotaped behind a one-way mirror. The rationale for this order was to provide a natural separation between parent and child to heighten attachment themes for the child attachment assessment.

The intellectual screening used to assess maternal IQ consisted of the Vocabulary, Arithmetic, Picture Arrangement and Block Design subtests of the Wechsler Adult Intelligence Scale - Revised (WAIS-R; Wechsler, 1981). Silverstein (1982) presents normative data and IQ equivalents for this

combination of subtests and reports a correlation of .94 between these estimated IQ scores and Full Score IQ scores. The assistants who administered the intellectual screening to mothers were two graduate students in the clinical psychology program and one advanced undergraduate student. The undergraduate student received training to administer the WAIS-R by administering two practice screenings and eight additional screenings over a one month period.

Child attachment security was assessed with the Attachment Story Completion Task (ASCT; Bretherton et al., 1990), which is designed to assess attachment representations in three-year-old children. It consists of six family figures (one female and one male child, two parents, and two grandparents) and a few additional props. The child is given the beginnings to six stories, designed to elicit attachment themes, and asked, "show me and tell me what happens next." The child protagonist is the same sex as the subject. The first story is a warm-up story to orient the child to the task and is not scored. The five scored stories are as follows:

1. Spilled Juice. The two children and parents are seated at a table and the child figure is made to spill his or her juice on the floor. The mother figure responds "(George or Jane), you spilled your juice" and the child is asked to provide an ending to the story.
2. Hurt Knee. The two children and parents take a pretend walk in the park. The child figure is made to climb a tower, falling and hurting his or her knee.

3. **Bedroom Monster.** The child figure ascends the stairs of the playhouse to go to bed. Upon arriving in his or her bedroom, the child exclaims, "Mommy, daddy -- there's a monster in my room!"
4. **Separation.** The parent figures take an overnight trip, leaving the two child figures with the grandparents. After the parents have departed, the child is asked to depict what the family does during their absence.
5. **Reunion.** The parent figures return from their trip the following morning and the child is asked to depict how the family reacts to their return.

These stories were videotaped and scored for attachment security using the criteria described by the authors as guidelines. Responses were scored on a four-point scale, with 1=very secure, 2=fairly secure, 3=insecure, and 4=very insecure. Attachment scores were assigned based on the structure and content of stories. Stories were scored as very secure if the child provided an appropriate response and with little or no prompting. They were scored as fairly secure if the child provided an appropriate response after one or two prompts and/or demonstrated slight avoidance of the story issue. Stories were scored as insecure if the child provided an appropriate response but only after multiple prompts, provided an inappropriate response, or could not provide an ending to the story. Stories were scored as very insecure if the child provided a bizarre ending to the story. Examples of an appropriate response included: having the parent clean-up the juice, providing a band-aid, alleviating the child's fear, engaging in adaptive behavior during separation, and reuniting the figures during reunion. Inappropriate responses included: extreme punishment, ignoring the pain and/or fear of the child figure, continuous searching and anxiety during separation,

ignoring the parent figures during reunion, and failure to provide story endings. Examples of bizarre responses included: having the parent figure kick the child figure in the head after falling from the tower, having the monster eat the child figure, and disorganized, tangential story endings that were unrelated to the story issue.

On the basis of these five stories, subjects were assigned an overall attachment security score. This overall score represented the modal response across the five stories. For example, if the child received two scores of two and three scores of three, or one score of one, one score of four, and three scores of three, the overall attachment security score was a three. The exception to this rule involved scores of four. In those cases, even if the child received four scores of one and one score of four, the overall security score was a two. For cases that did not have a modal score, the outlying score was used to decide the direction of the overall security score. For example, if the child received two scores of one, two scores of two and one score of three, the overall attachment score was a two. If there were two scores of two, two scores of three and one score of one, the child received an overall attachment score of two.

Child IQ was assessed with a standardized, abbreviated battery of the Stanford-Binet Intelligence Scale (SB; Thorndike, Hagen & Sattler, 1986) that consisted of the following subtests: Vocabulary and Comprehension, Pattern Analysis, Quantitative, Bead Memory and Memory for Sentences. Standard Area Scores in Verbal Reasoning, Abstract/Visual Reasoning, Quantitative Reasoning, and Short-Term Memory were obtained from these subtests, respectively. IQ

scores were derived from the Sum of Standard Area Scores, as indicated in the scoring manual.

The parent-child play interaction task was comprised of three conditions: a 10-minute child directed play session (CD); a 10-minute parent directed play session (PD); and clean-up (CU) (Robinson & Eyberg, 1981). This task was later coded with a modified version (Whipple, Denburg & Davies, 1993) of the Belsky Parent-Child Interaction Coding System (Belsky, Youngblade, Rovine & Volling, 1990). The revised version contains a total of 9 parent scales and 7 child scales that are coded minute-by-minute for each 10-minute play session, and every 15 seconds during clean-up. All scales are based on a five point rating system, with the exception of two parent scales, which are based on a three point rating system. Scores are assigned on the basis of both frequency and intensity of verbal and non-verbal behaviors. The scores are then summed across each scale to provide a total score within the CD, PD and CU conditions.

The parent scales tap two overall dimensions of warmth/affection and control. The warmth/affection dimension is comprised of three scales. Positive Affect assesses parental nurturance, affection, enjoyment, and enthusiasm. Negative Affect taps parental hostility, displeasure, annoyance, sarcasm, and escalations leading to loss of control. Parent Positive Feedback assesses the degree to which the parent provides contingent rewards and praise to the child for his/her behavior. The parental control dimension is comprised of four scales. Self-Regulation assesses the parent's ability to "be there" for the child and provide the "scaffolding" which is supportive of the child's efforts. Intrusive-

Overcontrolling taps "ill-timed" or manipulative behavior that reflects the parent's agenda, with disregard for the child's needs. **Unresponsive-Undercontrolling** captures the extent to which the parent either actively ignores the child's request or is uninvolved at times when support or assistance would be helpful to the child. **Demands Self-Reliant Behavior** assesses parental behavior directed toward promoting the child's autonomous behavior without the element of facilitation present in the Self-Regulation scale. Finally, there are two additional scales in the parent domain. One scale assesses whether the parent **Complies** with the task instructions inherent in each condition, and the other scale assesses the extent to which the dyad engages in **Parallel Play** (which is not coded in the CU condition). These two scales are based on a three point rating system.

Child affect is comprised of three scales. **Positive Affect** assesses the child's enthusiasm and level of comfort, ranging from depressed/flat affect to neutral, to expressions of fun, delight and "bubbliness." **Negative Affect** taps displays of anger, dislike, hostility, resistance and aggression, whereas **Degree of Distress** assesses the presence of crying, whining and expressions of fear. Child social behavior is comprised of four scales. **Dyadic Proximity** encompasses both physical and psychological closeness to the parent. **Compliance** involves specific instances of complying with parental requests or instructions, whereas **Disobedience** assesses overt refusals to comply. Finally, **Dependency** taps the extent to which the child turns to the parent for help.

In addition, there are five global ratings completed at the end of each condition. Global scores assess the following areas: amount of effort the parent

puts forth to engage the child; the degree of synchrony in the parent-child dyad; how well the rater likes the parent; likes the child; and the child's activity level. Each item is scored on a five point scale, from little or none, to average, to a great deal.

Videotapes from the MSU Longitudinal Study (Zucker & Fitzgerald, 1991) were used as training tapes for the current study. The first author from Whipple, Fitzgerald & Zucker (in press) trained four undergraduate students as video coders bimonthly, over a three-month period. Each coder received a minimum of 45 hours of training. Raters were blind to all other aspects of the current study. Upon completion, raters independently scored a videotape completed by the trainer. Overall Pearson correlation coefficients for each rater, compared to the trainer were as follows: .98, .96, .95, and .97. During data collection, the four coders were divided into two dyads and each dyad was randomly assigned 23 videotapes from attachment groups. Each pair scored approximately every other tape so that 13 videotapes were dual coded. Inter-rater reliability coefficients collapsing all three conditions were as follows: Parent Scales=.98; Child Scales=.97 and Global Ratings=.63. For data entry, the dual coded tapes were assigned the scores given by the predesignated senior coding dyad.

In the second session, mothers returned to the university campus without their child and completed the Attachment Relationships Interview (ARI; Crandell, 1991; Appendix B) with the assistant who had conducted the intellectual

assessment in the first session. Subjects were provided feedback about the nature of the study following completion of this session.

All three assistants received training for the ARI by conducting three practice interviews over a six-week period and participating in group discussions. The ARI was used to assess the presence of an alternate attachment figure in childhood and adolescence, and experiences of psychotherapy in adolescence and adulthood. For descriptive analyses, alternate attachment figure was coded in six categories, with 0=none, 1=sibling, 2=grandparent, 3=aunt, 4=teacher, 5=step-parent. For statistical analyses, alternate attachment figure was recoded as a dichotomous variable, with 0=no and 1=yes. While all attachment relationships are close relationships, not all close relationships represent attachment relationships. Therefore, scoring for the ARI differentiated close and attachment relationships by three criteria. Subjects were asked separately for childhood and adolescence, "When you were upset, in trouble, or needing help, who did you turn to?" They were then asked to provide detailed descriptions of those relationships, how they evolved over time, and what they learned from them. To be scored positive for an alternate attachment figure, the subject had to: 1) describe a loving relationship with an elder; 2) provide concrete examples of receiving comfort, nurturance, and emotional support in times of distress; and 3) provide evidence that this comfort and support was a soothing experience and not simply administrative efforts on the part of the caregiver to take care of the subject's distress. Descriptions of close relationships (i.e., peer relationships) were not counted as alternate attachment figures because technically they do not adhere to

the essence of an attachment relationship that is based on caregiving experiences from an individual who is in a position to provide protection and security.

On the ARI, subjects were also asked whether they had any psychotherapy in adolescence or adulthood, and they were asked to provide descriptions of the type and duration of this therapy. For descriptive analyses, type of psychotherapy was coded in five categories, with 0=none, 1=individual, 2=marital, 3=family, and 4=group. For statistical analyses, this variable was recoded so that 0=no psychotherapy experience and 1=positive for psychotherapy experience. Duration was recoded in five categories with 0=none, 1=less than three months, 2=three to six months, 3=six+ to twelve months, 4=twelve+ to twenty-four months, and 5=more than twenty-four months. Scores were based on continuous psychotherapy so that an eleventh-month period in adolescence and a twelve-month period in adulthood would receive scores of 3 for each time period, rather than a score of 4 for adulthood.

A summary of the measures used is presented in Table 1.

Table 1

Summary of Measures

MEASURES	
PHASE I	
<u>Mother</u>	
Historical Information and Adult Attachment Security	Adult Attachment Questionnaire
Self-Perception of Distress in the Parent-Child Relationship	Parenting Stress Index
PHASE II	
<u>Mother</u>	
Intelligence	WAIS-R (abbreviated form)
Alternate Attachment Figure and Psychotherapy Experience	Attachment Relationships Interview
<u>Child</u>	
Intelligence	Stanford-Binet (abbreviated form)
Attachment Security	Attachment Story Completion Task
<u>Parent-Child Dyad</u>	
Parent-Child Interaction	Belsky Parent-Child Interaction Coding System

CHAPTER THREE

Results

Overall, the data supported the predicted model illustrated in Figure 1. Results are discussed in five sections, corresponding to the specific hypotheses detailed in Chapter One, but prior to the presentation of this data, the psychometric properties of the AAQ are reported.

Table 2 presents the inter-rater reliabilities for the individual and overall scales of the AAQ. The correlations ranged from .78 to .96 on the separate scales. The reliabilities for the Loving and Coherent scales, which were used to classify individuals with respect to their attachment security, were .81 and .78, respectively. As indicated in Table 3, AAQ classifications were not completely independent of intellectual functioning. Mothers classified as secure scored significantly higher than mothers classified as insecure on Vocabulary and they scored higher than insecure and mixed mothers on overall IQ. Otherwise, there were no significant differences among any of the four attachment groups on any of the subtests scores or overall IQ scores.

Hypothesis 1

Adult attachment security did not differentiate distressed from non-distressed parent-child relationships on the Parenting Stress Index (PSI). As indicated in Table 4, there were no significant differences among any of the groups on any of the scales on the PSI. The means reported reflect percentile

Table 2

Inter-rater Reliabilities for the Adult Attachment Questionnaire

Pearson Correlations	
<u>Experiencing Scales</u>	
Rejection	.85
Role Reversal	.89
Neglect	.96
Pressure to Achieve	.89
Abuse	.95
Loving	.81
<u>Representational Scales</u>	
Idealization	.87
Degree of Recall	.83
Resolution	.78
Coherency	.78
Average of all Scales Combined	.87

Correlations are based on the scores of two raters

Table 3

Intellectual Functioning by Adult Attachment Questionnaire Classifications

	RESOLVED		SECURE		INSECURE		MIXED		F Ratio	P Value	SNK ¹
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Vocabulary ²	12.82	2.32	14.11	2.37	10.93	3.31	11.60	2.46	2.89	.05	S>I
Arithmetic	10.91	1.45	11.89	2.61	10.27	2.19	10.60	1.90	1.21	.32	
Pict. Arr.	9.46	2.07	11.56	1.42	9.80	2.56	10.30	1.89	1.87	.15	
Block Des.	11.64	1.70	13.00	2.06	10.60	2.87	11.00	2.21	2.14	.11	
IQ	109.73	7.68	118.10	8.74	101.67	12.59	105.80	7.12	6.03	.001	S>I,M

¹SNK=Student-Newman-Keuls

²Means reflect WAIS-R standard scale scores. Pro-rated IQ scores derived from Silverstein (1982).

Resolved (n=11) Secure (n=9) Insecure (n=15) Mixed (n=10)
(df=3,41)

ranks. Scores between 15th and 80th percentiles are considered to be within the normal range. All of the means for all three groups were within this non-clinical range. In addition, the standard deviations for all three groups were typically 20-30 percentile points, indicating that some of the mothers in each group were experiencing clinical levels of stress but these cases could not be identified as a function of maternal attachment security.

Hypotheses 2 and 3

Hypotheses 2 and 3 predicted that adult attachment security would differentiate parenting and child behavior with respect to the quality of affect, style of relating, and parent-child synchrony during play interactions. Prior to conducting these comparisons, preliminary analyses were conducted to ascertain whether resolved and secure mothers could be combined into a single group for comparisons with insecure mothers. The results of these analyses are presented in Table 5 through Table 7.

As Table 5 indicates, there were no significant differences between resolved and secure mothers on any of the parent demographic variables. However, there was a significant difference on one child demographic variable. Ten of the eleven resolved mothers (91%) had a female child, compared to five of the ten secure mothers (50%). Otherwise, there were no differences between these groups with respect to child age, birth order, or day care experience.

Table 4

Parenting Stress Index Comparisons of Mothers with Resolved, Secure and Insecure Attachment

	RESOLVED (n=11)		SECURE (n=10)		INSECURE (n=15)		<u>F Ratio</u>	<u>P Value</u>
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>		
TOTAL STRESS	58.91	27.07	47.00	31.91	53.56	31.09	.61	.61
<u>Child Domain</u>	49.36	28.68	54.40	32.78	54.50	31.94	.65	.58
Adaptability	63.00	25.43	65.00	28.87	62.63	31.18	.02	1.00
Acceptability	42.64	31.71	54.50	33.70	54.88	30.08	.45	.72
Demandingness	56.19	28.95	49.80	35.67	48.56	34.61	1.50	.23
Moodiness	58.09	32.53	55.90	28.49	69.56	26.90	.80	.50
Dist/Hyperactive	44.09	34.56	51.50	36.82	48.94	32.92	.14	.94
Reinforcing	50.82	33.83	53.50	24.39	55.56	32.46	1.35	.27
<u>Parent Domain</u>	66.36	25.01	40.50	28.72	54.88	29.86	1.67	.19
Depression	60.09	30.30	35.00	27.79	55.12	34.30	1.38	.26
Attachment	54.91	34.80	32.50	25.19	42.06	35.98	1.05	.38
Role Restriction	62.28	17.37	54.00	26.75	53.75	29.75	.29	.83
Competence	47.27	25.24	31.60	28.66	49.07	33.03	1.17	.33
Social Isolation	64.09	28.36	45.00	29.06	67.44	25.15	1.71	.18
Spouse R'ship	73.09	15.85	53.00	26.79	60.56	26.29	1.60	.20
Health	63.18	29.01	47.50	29.93	53.75	32.02	.89	.45

(df = 2,33)

Table 6 displays the results of comparisons between resolved and secure mothers on the PSI. There were no significant differences between these two groups on any of the overall stress or child variables. However, there were two interesting differences related to parental functioning. Resolved mothers scored significantly higher on Spouse Relationship than secure mothers, indicating that they perceived more emotional distance and lack of support from their spouses regarding child management. In addition, there was a non-significant trend on the Depression scale, suggesting that resolved mothers experienced more sadness, guilt, and/or dissatisfaction with themselves and their life circumstances than secure mothers.

Table 7 presents the comparisons of resolved and secure mothers with respect to parent-child interactions. There were no significant differences between these two groups on any of the parenting scales of the parent-child interaction task (PCI). Additionally, there were no significant differences between children of resolved and children of insecure mothers on any of the child scales of the PCI.

Given that there were no significant differences between resolved and secure mothers, or children of resolved and children of secure mothers with regard to parent-child play interactions, these two groups were joined to form a combined secure group ($n=21$) for comparisons with insecure mothers ($n=15$) to test hypotheses 2 and 3. As indicated in Table 8, the results from these analyses supported the prediction that adult attachment security would differentiate parenting behavior with respect to the quality of parent affect, style of relating,

Table 5

Demographic Variables of Families with Resolved and Secure Maternal Attachment

	RESOLVED (n=11)		SECURE (n=10)		<u>F Ratio</u>	<u>P Value</u>
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>		
Mother Age (in years)	35.37	3.92	35.59	3.73	.01	.90
Mother Educ. ¹	4.18	.60	4.30	.68	.18	.68
Mother Race (3=Caucasian)	3.00	.00	3.00	.00	----	---
Marital Status (3=Mar 4=Sin)	3.09	.30	3.00	.00	.90	.35
Mother Occup. ²	46.76	22.69	59.74	19.67	1.95	.18
Father Occup. ²	55.32	21.38	60.56	12.94	.45	.51
Mother # kids	1.82	.60	1.80	.63	.01	.95
Blended Family ³	1.91	.30	1.90	.32	.01	.95
Length of Preg. ⁴	1.92	.30	2.00	.00	.91	.35
Birth Diff. ³	1.64	.51	1.80	.42	.64	.43
Birth Order	1.55	.69	1.70	.48	.35	.56
Child Sex (1=F 2=M)	1.09	.30	1.50	.53	4.89	.04
Child Age (in months)	40.09	2.81	40.00	3.16	.01	.95
DAY CARE						
Attends ³	1.36	.50	1.20	.42	.64	.43
Type ⁵	1.43	.54	1.88	.35	3.74	.08
Start (in mon)	13.29	14.87	7.75	9.11	.78	.39
Frequency ⁶	1.57	.54	1.88	.35	1.73	.21

¹Mother Educ: 4=college degree and 5=graduate degree²Occupation scores derived from Duncan Socioeconomic Index (Stevens & Featherman, 1981)³Dichotomous variable: 1=yes and 2=no⁴Length of pregnancy: 1=<36 weeks, 2=36-42 weeks, 3=>42 weeks⁵Type of daycare: 1=public facility, 2=home care, 3=other⁶Frequency: 1=<20 hrs/wk, 2=20-40 hr/wk, 3=>40 hr/wk

(df=1,19)

Table 6

Parenting Stress Index Comparisons of Mothers with Resolved and Secure Attachment

	RESOLVED (n=11)		SECURE (n=10)		F Ratio	P Value
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>		
Total Stress	58.91	27.07	47.00	31.90	.86	.37
Child Domain	6.64	1.36	6.80	.92	.10	.75
Adaptability	63.00	25.43	65.00	28.87	.02	.87
Acceptability	42.64	31.71	54.50	33.70	.69	.41
Demandingness	56.18	28.95	49.80	35.67	.20	.66
Moodiness	58.09	32.53	55.90	28.49	.03	.87
Dist/Hyper	44.09	34.56	51.50	36.82	.23	.64
Reinforcing	50.82	33.83	53.50	24.39	.04	.84
Parent Domain	6.46	1.37	6.60	.97	.08	.78
Depression	60.09	30.30	35.00	27.79	3.88	.06
Attachment	54.91	34.80	32.50	25.19	2.80	.11
Role Restrict	62.27	17.37	54.00	26.75	.72	.41
Competence	47.27	25.24	31.60	28.66	1.78	.20
Social Iso	64.09	28.36	45.00	29.06	2.32	.14
Spouse R'ship	73.09	15.85	53.00	26.79	4.48	.05
Health	63.18	29.00	47.50	29.93	1.49	.24

(df=1,19)

Table 7

Parent-Child Interaction Patterns by Resolved and Secure Maternal Attachment

	CHILD DIRECTED PLAY					PARENT DIRECTED PLAY					CLEAN UP				
	Resolved		Secure			Resolved		Secure			Resolved		Secure		
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>F</u> Ratio	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>F</u> Ratio	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>F</u> Ratio
<u>PARENT</u>															
Pos. Affect	2.82	.34	2.76	.32	.16	3.03	.13	3.03	.43	.00	2.85	.30	2.87	.26	.02
Neg. Affect	.90	.00	.90	.00	.00	1.00	.00	1.01	.03	1.11	1.01	.04	1.00	.00	.91
Pos. Feed.	2.45	.29	2.36	.40	.32	2.50	.27	2.56	.40	.17	2.24	.17	2.33	.32	.58
Self-Reg.	3.46	.29	3.27	.23	2.86	3.56	.30	3.53	.23	.05	3.30	.31	3.25	.19	.22
Intrusive	1.05	.12	1.00	.00	1.40	1.11	.24	1.00	.00	2.08	1.02	.06	1.05	.11	.74
Undercon.	1.01	.03	1.01	.03	.01	1.01	.03	1.00	.00	.90	1.00	.00	1.01	.04	1.11
Self-Rel.	1.25	.20	1.19	.18	.44	1.35	.31	1.40	.25	.14	1.07	.11	1.07	.09	.03
Compliance	3.00	.00	2.97	.09	1.11	3.00	.00	3.00	.00	.00	2.97	.09	2.75	.53	1.88
Parallel Play	1.00	.00	1.00	.00	.00	1.00	.00	1.00	.00	.00	Scale not Coded in CU				

Resolved (n=11) and Secure (n=10)

Means are based on a 5 point scale (except for Compliance and Parallel Play which are based on a 3 point scale), with 1=not at all present (df=1,19)

All F Ratios were non-significant at the $p < .05$ level.

Table 7 (cont 'd)

	CHILD DIRECTED PLAY					PARENT DIRECTED PLAY					CLEAN UP				
	Resolved		Secure			Resolved		Secure			Resolved		Secure		
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>F</u> Ratio	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>F</u> Ratio	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>F</u> Ratio
<u>CHILD</u>															
Pos. Affect	3.06	.26	3.04	.07	.03	3.14	.34	3.09	.38	.09	2.91	.22	2.82	.32	.60
Neg. Affect	1.00	.00	1.01	.03	1.11	1.00	.00	1.05	.13	1.72	1.00	.00	1.16	.34	2.55
Distress	1.00	.00	1.00	.00	.00	1.02	.04	1.02	.04	.92	1.02	.05	1.27	.76	1.19
Proximity	3.72	.55	3.38	.30	2.92	3.48	.39	3.45	.48	.03	3.37	.50	3.23	.50	.42
Compliance	1.16	.20	1.17	.16	.01	1.30	.27	1.47	.22	2.57	4.25	.66	3.77	1.25	1.27
Disobed.	1.01	.03	1.01	.03	.01	1.09	.03	1.00	.00	.91	1.02	.03	1.14	.30	1.87
Dependency	1.05	.09	1.01	.03	2.05	1.03	.05	1.03	.07	.01	1.02	.05	1.00	.00	1.90
<u>GLOBALS</u>															
Engage	3.09	.54	2.80	.79	.99	3.64	.67	3.70	.68	.05	3.64	.67	3.50	1.18	.11
Parent Like	3.18	.87	3.10	.57	.06	3.27	.79	3.50	.53	.59	3.36	.67	3.40	.84	.01
Child Like	3.36	.67	3.40	.52	.02	3.27	.79	3.40	.70	.15	3.46	.69	3.40	.52	.04
Child Active	2.81	.60	2.90	.57	.10	3.00	.63	3.00	.47	.00	3.09	.30	3.20	.42	.47
P-C Synch	3.55	.52	3.20	.79	1.42	3.36	.51	3.40	.84	.02	3.55	.69	3.00	.94	1.62

Resolved (n = 11) and Secure (n = 10)

Means are based on a 5 point scale, with 1 = not at all
(df = 1, 19)All F Ratios are non-significant at the $p < .05$ level

and degree of synchrony in parent-child play interactions. The results also supported the prediction that adult attachment security would differentiate child functioning with regard to the quality of affect and social behavior during parent-child play interactions.

As illustrated in Table 8, in the child-directed play condition (CD) of the PCI, there were no differences between the combined secure and insecure mothers on any of the parent scales. However, children of insecure mothers had significantly higher levels of negative affect and distress than children of combined secure mothers. In addition, on the global ratings, children of combined secure mothers were rated as more likeable and these parent-child dyads engaged in more synchronous interactions than the insecure dyads.

Continuing with Table 8, in the parent-directed play condition (PD), there were numerous differences between the combined secure and insecure mothers. The insecure mothers expressed more negative affect, were more intrusive and overcontrolling in their play, and were more likely to engage in emotionally disconnected, parallel play than combined secure mothers. Children of insecure mothers were more disobedient than children of secure mothers. In addition, these dyads engaged in less synchronous interactions than the combined secure dyads. There was also a non-significant trend, suggesting that combined secure mothers expressed more positive affect and provided more positive feedback than insecure mothers.

Table 8

Parent-Child Interaction Patterns by Combined Secure and Insecure Maternal Attachment

	CHILD DIRECTED PLAY					PARENT DIRECTED PLAY					CLEAN UP				
	Comb. Sec.		Insecure		F Ratio	Comb. Sec.		Insecure		F Ratio	Comb. Sec.		Insecure		F Ratio
	Mean	SD	Mean	SD		Mean	SD	Mean	SD		Mean	SD	Mean	SD	
<u>PARENT</u>															
Pos. Affect	2.79	.33	2.66	.38	1.23	3.03	.30	2.79	.44	3.67 ^a	2.86	.03	2.63	.04	3.76 ^a
Neg. Affect	1.00	.00	1.01	.26	1.42	1.01	.02	1.11	.18	6.73 ^c	1.01	.03	1.06	.17	1.91
Pos. Feed.	2.40	.34	2.31	.29	.82	2.53	.33	2.31	.33	3.77 ^a	2.28	.25	2.06	.23	7.32 ^c
Self-Reg.	3.37	.27	3.25	.44	.99	3.54	.26	3.40	.26	2.65	3.28	.25	3.12	.35	2.52
Intrusive	1.02	.09	1.05	.16	.52	1.06	.18	1.40	.64	5.25 ^b	1.03	.08	1.07	.23	.57
Undercon.	1.01	.03	1.00	.00	1.49	1.01	.02	1.01	.04	.81	1.01	.02	1.00	.00	.71
Self-Rel.	1.22	.19	1.14	.12	2.00	1.38	.27	1.22	.25	3.05	1.08	.10	1.02	.04	5.05 ^b
Compliance	2.99	.07	3.00	.00	.71	3.00	.00	2.99	.26	1.42	2.87	.38	2.71	.60	1.00
Parallel Play	1.00	.00	1.00	.00	.00	1.00	.00	1.05	.11	4.12 ^b	Scale not coded in CU				

Combined Secure (n=21) and Insecure (n=15)

Means based on a 5 point scale (except for parent Compliance and Parallel Play which are based on a 3 point scale) with 1=not at all present

(df=1,34) ^ap<.10, ^bp<.05, ^cp<.001

Table 8 (cont'd)

	CHILD DIRECTED PLAY					PARENT DIRECTED PLAY					CLEAN UP				
	Comb. Sec.		Insecure		F Ratio	Comb. Sec.		Insecure		F Ratio	Comb. Sec.		Insecure		F Ratio
	Mean	SD	Mean	SD		Mean	SD	Mean	SD		Mean	SD	Mean	SD	
<u>CHILD</u>															
Pos. Affect	3.05	.19	3.04	.21	.01	3.11	.35	3.07	.19	.17	2.87	.27	2.88	.29	.02
Neg. Affect	1.00	.02	1.04	.06	5.64^b	1.02	.09	1.07	.11	1.76	1.08	.24	1.09	.15	.02
Distress	1.00	.00	1.05	.11	5.37^b	1.02	.04	1.06	.14	1.73	1.14	.52	1.15	.22	.00
Proximity	3.56	.47	3.47	.23	.39	3.47	.42	3.49	.37	.02	3.31	.49	3.23	.47	.18
Compliance	1.17	.18	1.13	.13	.55	1.38	.25	1.30	.20	1.06	4.02	.99	3.19	1.40	4.36^b
Disobed.	1.01	.03	1.01	.03	.09	1.01	.22	1.03	.05	5.67^b	1.07	.21	1.07	.08	.00
Dependency	1.03	.07	1.02	.06	.35	1.03	.06	1.03	.03	.06	1.01	.04	1.01	.03	.01
<u>GLOBALS</u>															
Engage	2.95	.67	2.73	1.03	.60	3.67	.66	3.50	.86	.42	3.57	.93	3.27	1.10	.81
Parent Like	3.14	.73	2.60	1.06	3.35	3.38	.67	2.92	1.00	2.59	3.38	.74	2.80	1.14	3.42
Child Like	3.38	.59	2.87	.64	6.20^c	3.33	.73	3.00	.79	1.65	3.42	.60	3.07	.88	2.16
Active	2.86	.57	3.00	.65	.48	3.00	.55	3.21	.98	.69	3.14	.36	2.67	.72	6.81^c
P-C Synch	3.38	.67	2.47	.64	16.93^d	3.38	.67	2.64	.50	12.41^d	3.24	.83	2.60	.83	5.18^b
CU Time ¹											11.52	4.71	13.87	10.18	.86

Combined Secure (n=21) and Insecure (n=15) ($df=1,34$) $^b p < .10$, $^c p < .05$, $^d p < .001$. Means based on a 5 point scale with 1 = not at all
¹CU Time coded by 30 sec. intervals so 11.52 is approx. 5'30" and 13.87 is approx. 6'45"

During the Clean-Up condition (CU), combined secure mothers provided more positive feedback and encouraged more self-reliant behavior from their children than insecure mothers. In turn, their children were more active and compliant than children of insecure mothers. Despite the fact that combined secure mothers directed their children toward more self-reliant behavior than insecure mothers, these dyads were once again rated as more synchronous in their interactions than insecure parent-child dyads. There was also a non-significant trend, suggesting that combined secure mothers demonstrated more positive affect than insecure mothers.

With regard to child attachment security, there was partial support for the prediction that children of resolved and children of secure mothers would demonstrate secure attachment whereas children of insecure mothers would demonstrate insecure attachment. Prior to examining these differences, Table 9 displays the correlational matrix for the individual stories of the ASCT and child intellectual functioning. All five stories were significantly correlated to each other and to the overall security score, validating the internal consistency of the ASCT in tapping representational models of child attachment security. Consistent with the data reported by Bretherton, et al., (1990) child attachment security was related to intellectual functioning as three of the five stories and the overall attachment score were related to Verbal Reasoning, Memory, and IQ.

Table 9

Intercorrelations Among Child Intellectual Functioning and Attachment Story Completion Task

	Abstract	Quant	Memory	IQ	Spilled Juice	Hurt Knee	Bedroom Monster	Separation	Reunion	Attach Score
Verbal	.32 ^a	.48 ^b	.65 ^b	.82 ^b	-.42 ^b	-.61 ^b	-.40 ^b	-.41 ^b	-.24	-.45 ^b
Abstract		.25	.60 ^b	.71 ^b	-.36 ^a	-.29	-.08	-.02	-.13	-.32 ^a
Quant			.49 ^b	.73 ^b	-.12	-.43 ^b	-.10	-.01	-.17	-.07
Memory				.89 ^b	-.36 ^b	-.49 ^b	-.16	-.15	-.32 ^a	-.39 ^b
IQ					-.42 ^b	-.59 ^b	-.26	-.22	-.30 ^a	-.42 ^b
Juice						.54 ^b	.44 ^b	.62 ^b	.51 ^b	.84 ^b
Hurt Knee							.40 ^b	.51 ^b	.43 ^b	.60 ^b
Monster								.64 ^b	.47 ^b	.69 ^b
Separation									.49 ^b	.76 ^b
Reunion										.67 ^b

^ap<.05, ^bp<.01
N=46

Table 10 presents the ANOVA for children of resolved, secure and insecure mothers with respect to child attachment security. The Sequence variable refers to the order in which children were administered the ASCT. The intent was to present the ASCT in the first segment of the three-part assessment, followed by the intellectual assessment and then the parent-child play interaction task. This sequence was followed in the majority of cases. However, some children were too anxious to separate from their mothers initially so the assessment was reordered such that the interaction task came first, followed by the ASCT and then the intellectual assessment. In addition to this reordering, some children remained anxious after the parent-child interaction task and required that their mothers remain present for the ASCT and Stanford-Binet assessments. As illustrated in Table 10, the ANOVA indicate that there were no significant differences among the three attachment groups with respect to the sequencing of the assessment or maternal presence. Descriptive data provided a different picture. The majority of children in all attachment groups were able to progress through the assessment sequence as planned (resolved=64%, secure=80%, insecure=73%, and mixed=60%). However, for those children who were not, the only children who required the presence of their mothers for the remainder of the assessment belonged to mothers with insecure attachment. None of the children from the mothers with resolved or secure attachment required the presence of their mothers once they were acclimated to the playroom.

Table 10

Child Attachment Security by Resolved, Secure and Insecure Maternal Attachment

	Resolved (n=11)		Secure (n=10)		Insecure (n=15)		<u>F Ratio</u>	<u>P Value</u>	<u>SNK¹</u>
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>			
Sequence ²	1.36	.51	1.20	.42	1.33	.62	.28	.75	
Mother Present ³	.00	.00	.00	.00	.20	.56	1.31	.28	
Spilled Juice ⁴	1.64	.81	2.60	.97	2.87	.52	8.90	.001	R<S, I
Hurt Knee	2.00	.63	2.30	1.06	3.20	.68	8.25	.001	R<I, S<I
Monster	2.64	1.03	2.40	1.17	2.53	.99	.13	.88	
Separation	2.27	.79	2.60	.97	2.87	.83	1.52	.23	
Reunion	2.27	1.01	2.40	1.17	2.73	.59	.89	.42	
Overall Attachment Security	2.18	.75	2.60	.84	2.93	.46	3.95	.03	R<I

¹SNK=Student-Newman-Keuls²Sequence=Order of ASCT in three-part child assessment³Mother Present=whether mother was present during administration of ASCT, with 0=no and 1=yes⁴ASCT stories based on a 4 point scale, with 1,2=secure attachment and 3,4=insecure attachment (df=2,33)

Continuing with Table 10, there were significant differences among the ASCT stories and overall child attachment security as a function of maternal attachment security. Children of resolved mothers were scored as more secure than children of secure and children of insecure mothers on the Spilled Juice story. In addition, children of resolved and children of secure mothers were scored as more secure than children of insecure mothers on the Hurt Knee story. Finally, children of resolved mothers were scored as more secure than children of insecure mothers with respect to their overall attachment security.

In keeping with the analyses for the parent-child interaction task, children of resolved mothers were combined with children of secure mothers for comparisons with children of insecure mothers. These comparisons are presented in Table 11 and the results indicated a similar pattern. Children of the combined secure mothers were more secure than children of insecure mothers on the Spilled Juice and Hurt Knee stories, as well as on their overall attachment security.

Finally, with regard to child intellectual functioning, the results supported the prediction that children of resolved and children of secure mothers would demonstrate higher intellectual functioning than children of insecure mothers. As indicated in Table 12, both groups scored higher than children of insecure mothers on Verbal Reasoning, Abstracting Reasoning, Memory, and overall IQ. In addition, children of resolved mothers scored significantly higher than children of secure mothers on Verbal Reasoning.

Table 11

Child Attachment Security by Combined Secure and Insecure Maternal Attachment

	Combined Secure (n=21)		Insecure (n=15)		F Ratio	P Value
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>		
Sequence ¹	1.29	.46	1.33	.62	.07	.79
Present ²	.00	.00	.20	.56	2.71	.11
Spilled Juice ³	2.10	1.00	2.87	.52	7.52	.01
Hurt Knee	2.14	.85	3.20	.68	15.85	.000
Monster	2.52	1.08	2.53	.99	.00	.98
Separation	2.43	.87	2.87	.83	2.30	.14
Reunion	2.33	1.07	2.73	.59	1.73	.20
Total Security	2.38	.81	2.93	.46	5.71	.03

¹Sequence=Order of ASCT in three-part child assessment

²Mother Present=whether mother was present during administration of ASCT, with 0=no and 1=yes

³ASCT stories based on a 4 point scale, with 1,2=secure attachment and 3,4=insecure attachment

(df=1,34)

Table 12

Child Intellectual Functioning by Resolved, Secure and Insecure Maternal Attachment

Child ²	RESOLVED (n=11)			SECURE (n=10)			INSECURE (n=15)			F
	Mean	SD	SNK ¹	Mean	SD	SNK	Mean	SD		
Verbal	122.18	8.55	R>S,I	110.40	13.50	S>I	97.80	13.75		12.52 ^c
Abstract	113.09	9.09	R>I	111.20	9.81	S>I	98.28	11.86		7.46 ^c
Quantit.	110.80	10.25		111.78	10.70		100.73	12.97		2.97
Memory	120.09	10.20	R>I	112.90	11.20	S>I	99.67	13.39		9.87 ^c
IQ	119.73	6.97	R>I	113.60	9.64	S>I	98.33	11.86		15.95 ^c

¹SNK = Student-Newman-Keuls

²Means reflect Stanford-Binet Composite Standard Area Scores, with a M of 100 and SD of 16. IQ scores derived from the scoring manual. (df=2,33)

^cp<.05, ^bp<.01, ^pp<.001

In addition to these differences in parenting and child functioning, there were also significant differences on demographic variables between combined secure and insecure mothers. As illustrated in Table 13, combined secure mothers were significantly older, more educated, and married to husbands with higher occupational levels than insecure mothers. Otherwise, there were no significant differences between combined secure and insecure mothers on any other parent or child demographic variables. (The reader is referred back to Chapter Two for comparisons of these variables to the overall sample characteristics.)

Supplemental Analyses

Summarizing the ANOVA's with regard to parenting behavior, mothers with secure and resolved attachment representations expressed more positive affect, demonstrated more positive parenting behaviors, and engaged in more synchronous interactions with their children than mothers with insecure attachment representations. However, since the resolved and secure mothers were significantly older, more educated, and of higher socioeconomic status than insecure mothers, one could argue that these demographic variables were the driving force underlying the different interactional patterns.

To test this latter hypothesis, a series of post hoc hierarchical multiple regressions were conducted. The significant demographic variables were regressed onto the PCI scales in step one and maternal attachment security in step two. The significant results are presented in Table 14.

Table 13

Significant Differences in Demographic Variables for Mothers with Combined Secure and Insecure Attachment

	Combined Secure (n=21)		Insecure (n=15)		F
	<u>Mean</u>	<u>SD</u>	<u>Mean</u>	<u>SD</u>	
Maternal Age (in years)	35.47	3.74	30.41	3.75	16.06 ^b
Mother Education ¹	4.24	.63	3.13	.83	20.70 ^b
Father Occupation ²	57.81	17.64	35.65	15.10	15.53 ^a

¹Education coded so that 3=some college, 4=college degree, and 5=graduate degree

²Occupation scores based on the Duncan Socioeconomic Index (Stevens & Featherman, 1981)

^ap<.01, ^bp<.001

(df=1,33)

As indicated in Table 14, maternal attachment security accounted for a significant portion of the variance above and beyond the demographic variables on a particular triad of parent-child behaviors involving parental expectations for child autonomous behavior, child compliance, and parent-child synchrony. Specifically, in the PD and CU conditions, maternal attachment security was uniquely related to parental encouragement of child self-regulatory and self-reliant behavior, and child compliance. With regard to parent-child synchrony, maternal attachment security accounted for an additional 7%, 12% and 12% of the variance during CD, PD, and CU conditions, respectively. These results suggested that adult attachment security was highly correlated with maternal education, socioeconomic status, and age at child bearing. While none of the demographic variables exerted a significant influence independently, collectively, they impacted the quality of parent-child play interactions. During interactions involving parent-directed tasks (i.e., PD play and CU conditions), maternal attachment security imparted an additional influence on parental expectations of child behavior and child compliance. In addition, maternal attachment security was uniquely related to the degree of parent-child synchrony in interactions involving free play and goal-directed activities.

Hypothesis 4

The results supported the prediction that resolved mothers would be differentiated from insecure mothers with respect to their relationships histories. The Frequency and ANOVA results presented in Table 15 provide a descriptive

Table 14

Multiple Regression of Demographic Variables and Maternal Attachment Security on Parent-Child Interaction Patterns

	<u>R²</u>	<u>Adj. R²</u>	<u>F Value</u>	<u>F Change</u>	<u>Beta</u>	<u>T</u>
<u>CD SYNCH</u>						
Demo	.23	.17	3.96 ^b			
Age					.33	1.47
Education					.13	-.54
SES					.14	.93
Attach Sec.	.30	.23	4.34 ^b	4.46 ^a	-.34	-2.11 ^a
<u>PD SELF-REL</u>						
Demo	.03	-.04	.37			
Age					-.24	-.93
Education					-.07	-.25
SES					-.10	-.63
Attach Sec	.11	.02	1.24	3.78 ^a	-.36	-1.94 ^a
<u>PD CHILD COMPL</u>						
Demo	.06	-.01	.82			
Age					-.22	-.87
Education					-.14	-.55
SES					-.19	-1.16
Attach Sec	.15	.07	1.81	4.58 ^a	-.39	-2.14 ^a
<u>PD SYNCH</u>						
Demo	.11	.05	1.70			
Age					.03	.12
Education					.09	.35
SES					-.02	-.12
Attach Sec	.23	.15	2.97 ^a	6.15 ^b	-.42	-2.48 ^b
<u>CU SELF-REG</u>						
Demo	.17	.11	2.91 ^a			
Age					.27	1.14
Education					-.36	-1.44
SES					.28	1.84
Attach Sec	.25	.18	3.37 ^b	4.08 ^a	-.34	-2.02 ^a
<u>CU CHILD COMPL</u>						
Demo	.01	-.06	.11			
Age					.03	.11
Education					-.37	-1.48
SES					-.15	-.98
Attach Sec	.25	.18	3.49 ^b	13.60 ^c	-.62	-3.69 ^c
<u>CU SYNCH</u>						
Demo	.03	-.04	.45			
Age					.09	.35
Education					-.10	-.38
SES					-.09	-.55
Attach Sec	.15	.06	1.76	5.53 ^a	-.42	-2.35 ^a

N=46

^ap<.05, ^bp<.01, ^cp<.001

Table 15

Alternate Attachment Figure and Psychotherapy Experience by Resolved and Insecure Maternal Attachment

RESOLVED (n=11)				INSECURE (n=15)			
<u>Frequency</u>		<u>ANOVA</u>		<u>Frequency</u>		<u>ANOVA</u>	
<u>Desc.</u>		<u>Mean</u>	<u>SD</u>	<u>Desc.</u>		<u>Mean</u>	<u>F</u>
AChild ¹	64%	.64	.51	13%		.35	9.01 ^b
ATeen ¹	55%	.55	.52	7%		.26	9.54 ^b
AEver ¹	82%			13%			
TTher ²	46%	.46	.52	7%		.26	6.26 ^b
TDur ³	12-24 mon	1.70	2.28	> 24 mon		1.33	3.92 ^a
ATher ⁴	64%			60%			
ADur ³	> 24 mon	4.14	1.87	3-6 mon	1.67	.71	13.60 ^b
ITher ²	64%	.64	.51	33%	.33	.49	2.38
IDur ³	> 24 mon	4.14	1.87	3-6 mon	1.80	.84	6.77 ^b

¹AChild, ATeen and AEver = presence of a secure alternate attachment figure in childhood, adolescence, and either of those developmental stages, respectively, with 1=yes and 0=no.

²TTher and ITher = individual psychotherapy in adolescence and adulthood, respectively, with 1=yes and 0=no.

³TDur, ADur and IDur = months of psychotherapy

⁴ATher includes individual, marital, family or group psychotherapy in adulthood

^ap<.05, ^bp<.01

account of the differences between resolved and insecure mothers with respect to alternate attachment figures in childhood and adolescence, and psychotherapy experiences. With regard to a secure alternate attachment figure (AAF), 64% of the resolved mothers had an AAF in childhood compared to only 13% of the insecure mothers and 55% of the resolved mothers had an AAF in adolescence compared to only 7% of the insecure mothers. Collectively, nine of the eleven women (82%) in the resolved group had an AAF at some point in their developmental history, compared to only two of the fifteen women (13%) from the insecure group. These differences were striking and highly significant. With regards to psychotherapy, nearly half of the resolved mothers (46%) entered into individual psychotherapy as an adolescent, compared to only one of the insecure mothers (7%). More than half of each group engaged in some type of psychotherapy in adulthood. The differences were the type and duration of therapy. All of the resolved mothers had individual psychotherapy, with a mean duration of more than 24 months. In comparison, only 33% of the insecure mothers had individual psychotherapy, with a mean duration of 3 to 6 months. The remaining insecure mothers who engaged in therapy participated in either marital, family or group psychotherapy, also with a mean duration of 3 to 6 months. Thus, resolved mothers were more likely to enter into individual psychotherapy in adulthood than insecure mothers and they stayed engaged in therapy for a significantly longer time.

While the number of subjects with no AAF in their histories was too small to conduct an ANOVA, descriptive data suggested that even more intensive

individual psychotherapy was related to the reorganization of attachment representations for these individuals. Regarding the two resolved subjects who never had an AAF, one mother participated in individual psychotherapy in adolescence for five years, individual psychotherapy in adulthood for two years, and marital therapy for one year. The other mother participated in individual psychotherapy in adulthood for three years. Thus, for both mothers in the resolved group with no previous alternate attachment figure, they were involved in individual psychotherapy for a minimum of three years. This is in comparison to the thirteen insecure mothers with no AAF who, on average, had only three to six months of individual psychotherapy in adulthood.

In terms of intelligence, the data did not support the prediction that resolved mothers would demonstrate higher intellectual functioning than insecure mothers. These comparisons were presented in Table 3. There were no significant differences on any WAIS-R subtests or in overall IQ between resolved and insecure mothers, and both groups were within the Average range of intellectual functioning.

The correlational data displayed in Table 16 and Figure 2 present a descriptive account of the linkages among alternate attachment figure, psychotherapy, intelligence, maternal attachment security, and child IQ for resolved and insecure mothers.

Table 16

Intercorrelations Among Child IQ, Mother IQ, Alternate Attachment Figure, Psychotherapy, and Maternal Attachment Security

	MomIQ	AAF Child ¹	AAF Teen ¹	Teen Ther ²	Teen Dur ³	Adult Ther ²	Adult Dur ³	Mom Attach
Child IQ	.44 ^a	.48 ^a	.30	.37	.32	.11	.28	-.78 ^b
Mom IQ		.33	.15	-.19	-.20	-.25	.03	-.42 ^a
AAF Child			.47 ^a	-.02	-.19	-.15	-.09	-.53 ^b
AAF Teen				.29	.21	-.05	.41 ^a	-.61 ^b
TTher					.92 ^b	.56 ^b	.61 ^b	-.35
TDur						.59 ^b	.53 ^b	-.29
ATher							.29	.10
ADur								-.43 ^a

¹AAF Child and AAF Teen = the presence of a secure alternate attachment figure in childhood and adolescence, respectively.

²Teen Ther and Adult Ther = individual psychotherapy in adolescence and adulthood, respectively.

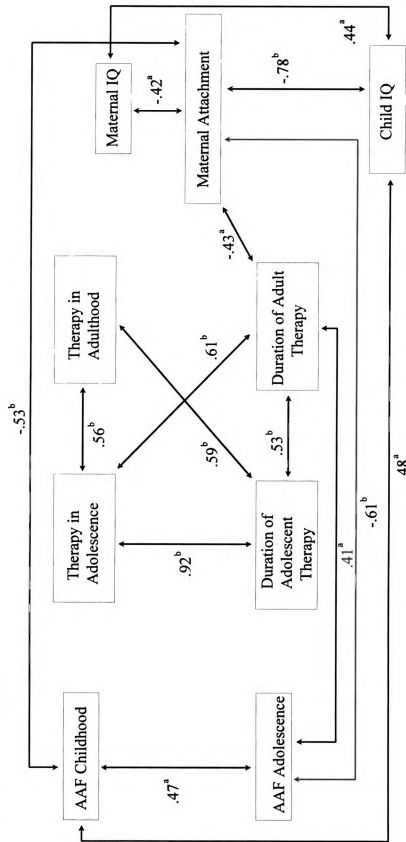
³Teen Dur and Adult Dur is the length of individual psychotherapy in adolescence and adulthood, respectively.

(n=26)

^ap<.05, ^bp<.01

Figure 2

Intercorrelations Among Alternate Attachment Figure (AAF), Psychotherapy, Maternal IQ, Maternal Attachment Security and Child IQ



(n=26)

^a $p < .05$, ^b $p < .01$

The reorganization of attachment representations in adulthood was related to the presence of an AAF in childhood and adolescence, IQ, and duration of individual psychotherapy in adulthood. Of these variables, an AAF in childhood and adolescence represented the most significant correlations to the reorganizational process, ($r = -.53$ and $-.61$, respectively). These negative correlations indicate that experiences of an AAF (1=yes, 0=no) were strongly related to low Coherency scores, with low scores on this scale indicating secure attachment representations. The cluster of psychotherapy variables involving individual therapy and duration of therapy in adolescence and adulthood were highly correlated with each other but only the duration of individual therapy in adulthood was related to the reorganization of attachment representations. Having an AAF in childhood was significantly correlated with an AAF in adolescence, probably because for many mothers the AAF was a family member that provided continuity from childhood to adolescence. An AAF in adolescence was also related to the duration of individual psychotherapy in adulthood. IQ was not significantly correlated to any of the AAF or psychotherapy variables but was significantly related to maternal attachment security. Interestingly, child IQ was related to the presence of an AAF in maternal childhood, maternal attachment security, and maternal IQ.

In summary, these data indicated that resolution of issues stemming from experiences of poor parenting in childhood was strongly related to a secure attachment relationship with some other adult in childhood or adolescence, and individual psychotherapy in adulthood for a minimum of two years. For mothers

without a previous secure attachment relationship, this resolution process entailed individual psychotherapy in adulthood for a minimum of three years. In conjunction with the previous data linking unresolved childhood pain to dysfunctional second-generation parent-child interaction patterns, these data also suggested that failure to resolve issues from childhood was related to intellectual functioning in one's own children. Supplemental analyses were conducted to further examine this association.

Supplemental Analyses

Given that adult attachment security was significantly related to maternal age, education, SES and IQ, it is possible that these variables were responsible for the relation between maternal attachment security and child IQ. To test this hypothesis, a post hoc hierarchical multiple regression was conducted. Maternal IQ and the significant demographic variables were regressed onto child IQ in step one and maternal attachment security in step two. As Table 17 illustrates, maternal IQ and the demographic variables were significantly related to child IQ. Collectively, they accounted for approximately half of the variance, although none of these variables were independently significant. When maternal attachment security was entered into the equation, there was a significant increase, accounting for an additional 15% of the variance. The corresponding beta weights indicate that of these variables, maternal attachment security was the best single predictor of child IQ.

Table 17

Multiple Regression of Demographic Variables, Maternal IQ and Maternal Attachment Security on Child IQ

	<u>R²</u>	<u>Adj R²</u>	<u>F</u>	<u>F Change</u>	<u>Beta</u>	<u>T</u>
<u>Child IQ</u>						
Demo	.63	.39	6.69 ^c			
Mom IQ					.04	.29
Mom Age					.05	.25
SES					.13	.98
Mom Educ.					.20	1.01
Mom Attachment						
Reps.	.73	.53	9.08 ^c	11.67 ^c	-.47	-3.41 ^c

n=46

^cp<.001

Additional analyses were then conducted to ascertain whether quality of parenting was the mediating link between maternal attachment security and child IQ. The correlational data displayed in the first two columns of Table 18 present the relations among the parent scales of the PCI, child IQ, and mother IQ. Child IQ was related to the quality of maternal affect and maternal style of relating in both play conditions and clean-up. With regard to the quality of parental affect, higher child IQ was associated with higher maternal positive affect and lower negative affect. With regard to parental style of relating, higher child IQ was associated with high maternal positive feedback, encouragement of self-regulatory and self-reliant behavior, and low maternal parallel play. Additionally, child IQ was positively related to the degree of parent-child synchrony across all three conditions.

Parent IQ was associated with the expression of negative affect but not positive affect, such that higher parent IQ was related to lower scores on parent negative affect. Parent IQ was also associated with style of relating. Higher parent IQ was related to providing positive feedback, and encouraging child self-regulatory and self-reliant behavior. Higher parent IQ was also related to lower scores on compliance to task during the CD play condition and lower scores on intrusiveness during the PD play condition. Of particular interest is, that although child IQ was strongly related to parent-child synchrony across all three conditions, parent IQ was not related to this variable in any condition.

Table 18

Intercorrelations among Parenting Behavior, Child IQ and Parent IQ.

	Child IQ ¹	Mom IQ ²	Partial Corr ³
<u>Child Directed Play</u>			
Parent Positive Affect	.23	.22	
Parent Negative Affect	-.33 ^a	-.24	-.14
Parent Provides Positive Feedback	.10	-.08	
Parent Facilitates Self-Reg. Beh.	.08	-.17	
Parent Intrusive	.02	-.18	
Parent Undercontrolling	.05	.02	
Parent Demands Self-Reliant Beh.	.08	-.05	
Parent Compliance to Task	-.10	-.30 ^a	
Parent Parallel Play	---	---	
Parent-Child Synchrony	.59 ^b	.19	.57 ^c
<u>Parent Directed Play</u>			
Parent Positive Affect	.29 ^a	.19	.18
Parent Negative Affect	-.21	-.33 ^a	
Parent Provides Positive Feedback	.12	.08	
Parent Facilitates Self-Reg. Beh.	.12	.27	
Parent Intrusive	-.27	-.44 ^a	
Parent Undercontrolling	.05	-.26	
Parent Demands Self-Reliant Beh.	-.16	-.14	
Parent Compliance to Task	-.01	.04	
Parent Parallel Play	-.37 ^a	-.35 ^a	-.10
Parent-Child Synchrony	.45 ^b	.20	.42 ^b
<u>Clean-Up</u>			
Parent Positive Affect	.33 ^a	.12	.29
Parent Negative Affect	-.16	-.37 ^a	
Parent Provides Positive Feedback	.41 ^b	.43 ^b	.20
Parent Facilitates Self-Reg. Beh.	.49 ^b	.43 ^b	.30 ^a
Parent Intrusive	-.05	-.13	
Parent Undercontrolling	-.05	-.02	
Parent Demands Self-Reliant Beh.	.29 ^a	.30 ^a	.21
Parent Compliance to Task	.02	.18	
Parent-Child Synchrony	.37 ^a	.13	.33 ^b

¹IQ derived from Stanford-Binet abbreviated test battery.²IQ derived from Silverstein (1982).³Partial corr between Child IQ and parenting behavior, controlling for Mom IQ
N=46^ap<.05, ^bp<.01, ^cp<.001

These results indicated that while child IQ was related to particular expressions of maternal affect and parenting behaviors, the most consistent association was between child IQ and parent-child synchrony. Further, parental ability to engage in synchronous interactions was determined more by representational models of attachment than intellectual functioning.

These findings were underscored by the partial correlations between child IQ and parenting, controlling for maternal IQ, as presented in column three of Table 18. The partial correlations indicated that for the parenting scales significantly related to child IQ, the only specific parenting behavior that remained significantly related to child IQ was facilitating self-regulatory behavior, once the effects of maternal IQ were taken out of the equation. Yet, the degree of parent-child synchrony remained significantly related to child IQ across all three conditions.

In summary, results from the multiple regression and correlational analyses indicated that the manner in which mothers mentally organized and reflected upon their own childhood histories had a direct impact on parent-child interchanges involving parental expectations for child self-regulatory behavior and child compliance, and on the degree of synchrony in parent-child interactions. In addition, maternal attachment security imparted a unique influence on child intellectual functioning, above and beyond that which could be explained by the more conventional variables of parent IQ, age, education and SES.

Hypotheses 5

There was partial support for the prediction that mixed parent-child dyads would fall mid-way between secure and insecure dyads with respect to parent-child interaction patterns. An exploratory ANOVA and Bartlett's Box Test revealed that mixed mothers were more similar to the insecure mothers than to the secure mothers on the parent-child interaction task, but also had significantly more heterogeneity of variance than either group. This precluded further analyses of these individuals as a separate group. Therefore, for additional exploratory analyses, seven of the individuals in this group who had received Loving scores of 3 and 4 and Coherency scores of 4 were included into the insecure group on the basis of their Coherency scores. ANOVA analyses comparing the newly formed combined insecure group ($n=22$) with the combined secure group ($n=21$) were then conducted. Table 19 presents these comparisons and indicates a slight shift in the differences between dyads with secure and insecure maternal attachment security.

A comparison of Tables 8 and 19 illustrates that combining mothers with mixed and insecure attachment security enhanced the "positive" differences and diminished the "negative" differences between the original combined secure and insecure attachment groups. For instance, in the CD condition, the previous findings regarding likability of the child and parent-child synchrony in the combined secure dyads were replicated. The differences were that, in addition, combined secure mothers encouraged more self-reliant behavior from their children and were rated as more likeable than combined insecure mothers. Also,

the previous pattern of increased negative affect and distress in children of insecure mothers was reduced below a level of significance in the combined insecure group. A similar pattern emerged in the PD condition. Parent-child synchrony remained higher in the combined secure dyads compared to the combined insecure dyads. In addition, combined secure mothers demonstrated more positive affect, provided more positive feedback, and were rated as more likeable than combined insecure mothers. Also, although parent negative affect and child disobedience remained significant in the combined insecure group, it was less so and parent intrusiveness and parallel play were reduced below a level of significance. In the CU condition, parent positive feedback and encouragement of self-reliant behavior remained significantly higher in the combined secure group than the combined insecure group. Differences included an increased level of significance in child compliance, activity and parent-child synchrony in the combined secure dyads compared to the combined insecure dyads. Further, combined secure mothers were rated as more likeable than combined insecure mothers. There was also a non-significant trend, suggesting that combined insecure parent-child dyads required a longer time to complete clean-up than combined secure dyads.

With regard to child outcome, the results supported the prediction that children of mixed mothers would fall mid-way between children of secure/resolved mothers and children of insecure mothers with respect to intellectual functioning and attachment security. Table 20 presents these comparisons. In terms of intelligence, children of mixed mothers were significantly higher than children of

insecure mothers on Verbal Reasoning, Memory, and overall IQ. Further, there was a non-significant trend, suggesting that children of mixed mothers scored lower than children of resolved and children of secure mothers in these same domains. In terms of child attachment security, a similar pattern emerged. Children of mixed mothers were significantly more insecure than children of resolved mothers on the Spilled Juice story. Further, although the means were not statistically significant, children of mixed mothers were rated as more insecure than children of secure mothers and more secure than children of insecure mothers on this scale. Similarly, on the Hurt Knee story, children of mixed mothers were rated as significantly more secure than children of insecure mothers. Once again, although the means were not significantly different, they were higher than the means for children of resolved and secure mothers. Finally, with respect to their overall security score, children of mixed mothers were mid-way between children of resolved/secure mothers and children of insecure mothers, although these differences only approached significance.

Summary of Results

Overall, the data supported the predicted model. With regard to replication processes, women who had experienced painful and unloving parenting in childhood but had resolved these early experiences were similar to women who had experienced loving and secure childhood relationships with respect to parenting in adulthood. While self-report data suggested some residual effects of childhood experiences on adult intrapersonal functioning and interpersonal

Table 19

Parent-Child Interaction Patterns by Combined Secure and Combined Insecure Maternal Attachment

	CHILD DIRECTED PLAY					PARENT DIRECTED PLAY					CLEAN UP				
	Comb. Sec		Comb. Insec		F Ratio	Comb. Sec		Comb. Insec		F Ratio	Comb. Sec		Comb. Insec		F Ratio
	Mean	SD	Mean	SD		Mean	SD	Mean	SD		Mean	SD	Mean	SD	
<u>PARENT</u>															
Pos. Affect	2.79	.33	2.66	.37	1.51	3.03	.30	2.77	.40	5.56 ^b	2.86	.03	2.67	.40	3.19 ^a
Neg. Affect	1.00	.00	1.01	.29	2.00	1.01	.02	1.08	.15	4.56 ^b	1.01	.03	1.05	.14	1.50
Pos. Feed.	2.41	.34	2.27	.29	2.04	2.53	.33	2.33	.34	3.86 ^b	2.28	.25	2.08	.20	8.97 ^c
Self-Reg.	3.37	.27	3.22	.39	2.19	3.54	.26	3.41	.24	3.04 ^a	3.28	.25	3.12	.30	3.57 ^a
Intrusive	1.02	.09	1.05	.13	.25	1.06	.18	1.30	.55	3.60 ^a	1.03	.08	1.06	.19	.23
Undercon.	1.01	.03	1.05	.02	.40	1.01	.02	1.01	.03	.30	1.01	.02	1.00	.02	.02
Self-Rel.	1.22	.19	1.11	.13	4.71 ^b	1.38	.27	1.24	.26	2.73	1.08	.10	1.03	.05	4.19 ^b
Compliance	2.99	.07	3.00	.00	1.05	3.00	.00	2.98	.06	2.89 ^a	2.87	.38	2.68	.57	1.68
Parallel Play	1.00	.00	1.00	.00	---	1.00	.00	1.03	.89	2.65	Scale not coded in CU				

Combined Secure (n=21) and Combined Insecure (n=22)

Means based on a 5 point scale (except for Parent Compliance and Parallel Play which are based on a 3 point scale), with 1 = not at all (df = 1,41)

^ap < .10, ^bp < .05, ^cp < .001

	CHILD DIRECTED PLAY					PARENT DIRECTED PLAY					CLEAN UP				
	Comb. Sec		Comb. Insec		F Ratio	Comb. Sec		Comb. Insec		F Ratio	Comb. Sec		Comb. Insec		F Ratio
	Mean	SD	Mean	SD		Mean	SD	Mean	SD		Mean	SD	Mean	SD	
<u>CHILD</u>															
Pos. Affect	3.05	.19	3.03	.22	.06	3.11	.35	3.08	.18	.19	2.87	.27	2.95	.28	.97
Neg. Affect	1.01	.02	1.03	.06	3.05^a	1.02	.09	1.06	.09	1.25	1.08	.24	1.08	.15	.00
Distress	1.00	.00	1.04	.09	3.41^a	1.02	.04	1.05	.11	1.37	1.14	.52	1.12	.19	.03
Proximity	3.56	.47	3.43	.33	1.02	3.47	.42	3.49	.32	.03	3.31	.49	3.28	.42	.04
Compliance	1.17	.18	1.11	.12	1.86	1.39	.25	1.31	.23	1.07	4.02	.99	3.06	1.45	6.42^c
Disobed.	1.01	.03	1.01	.02	.40	1.01	.02	1.03	.05	4.20^b	1.07	.21	1.09	.11	.06
Dependency	1.03	.07	1.01	.05	1.12	1.03	.06	1.03	.06	.04	1.01	.04	1.01	.02	.08
<u>GLOBALS</u>															
Engage	2.95	.57	2.59	1.01	1.90	3.67	.66	3.43	.81	1.09	3.57	.93	3.27	1.08	.95
Parent Like	3.14	.73	2.50	.96	6.05^c	3.38	.67	2.81	.93	5.24^b	3.38	.74	2.82	1.10	4.33^b
Child Like	3.38	.59	2.86	.77	6.03^c	3.33	.73	2.95	.87	2.38	3.43	.60	2.96	1.05	3.29^a
Active	2.86	.57	2.91	.81	.06	3.00	.55	3.10	.94	.16	3.14	.36	2.68	.78	6.10^c
P-C Synch	3.38	.67	2.45	.74	18.53^d	3.38	.67	2.67	.58	13.72^d	3.24	.83	2.55	.91	6.76^c

Combined Secure (n=21) and Combined Insecure (n=22)

Means based on a 5 point scale, with 1=not at all

(df=1,41)

^ap<.10, ^bp<.05, ^cp<.01, ^dp<.001

Table 20

Child Intellectual Functioning and Attachment Security by Maternal Attachment Security

	RESOLVED			SECURE			INSECURE			MIXED			F Ratio	P Value	SNK ¹
	Mean	SD		Mean	SD		Mean	SD		Mean	SD				
Verbal ²	122.18	8.55		110.40	13.50		97.80	13.75		110.00	15.32		7.50	.001	R>S,I M>I
Abstract	113.09	9.09		111.20	9.81		98.28	11.86		101.20	5.18		4.08	.01	R,S>I
Quant.	110.80	10.25		111.78	10.70		100.73	12.97		104.89	8.25		2.34	.09	
Memory	120.09	10.20		112.90	111.20		99.67	13.39		109.80	12.20		6.51	.001	R,S,M>I
IQ	119.73	6.97		113.60	9.64		98.33	11.86		107.30	9.55		10.92	.001	R,S,M>I R>M
Spilled Juice ³	1.63	.81		2.60	.97		2.87	.52		2.44	1.13		4.77	.01	R<S,I,M
Hurt Knee	2.00	.63		2.30	1.06		3.20	.68		2.44	.88		5.31	.01	R,S,M<I
Monster	2.64	1.02		2.40	1.17		2.53	.99		2.33	1.12		.17	.92	
Separation	2.27	.79		2.60	.97		2.87	.83		2.56	1.13		.90	.45	
Reunion	2.27	1.01		2.40	1.17		2.73	.59		2.67	.87		.69	.57	
Attachment	2.18	.75		2.60	.84		2.93	.46		2.33	1.00		2.46	.08	R,S,M>I R>M

Resolved (n=11) Secure (n=10) Insecure (n=15) Mixed (n=9) (df=3,41)

¹SNK=Student-Newman-Keuls²Means reflect Stanford-Binet Composite Standard Area Scores. IQ derived from scoring manual.³ASCT stories based on a 4 point scale, with 1,2=secure attachment and 3,4=insecure attachment

relationships, these data were speculative. In addition, observational data indicated no residual effects from the parenting experienced to the parenting provided for the resolved mothers. Resolved and secure mothers expressed more warmth, affection and enjoyment when playing with their children and they encouraged more self-reliant behavior from their children than insecure mothers. In turn, children of these mothers were more compliant during clean-up and were rated as more likeable than children of insecure mothers. Finally, these dyads engaged in more synchronous interactions than insecure dyads during both play and clean-up conditions. Conversely, insecure mothers were more hostile, negative and sarcastic in their affect. They were more intrusive, manipulative and overcontrolling in their play, and were more likely to engage in emotionally disconnected, parallel play. The children of these mothers expressed more anger, dislike and/or hostility toward their mothers, demonstrated more emotional distress, and were more disobedient than children of combined secure mothers. A variation on this theme was the quality of parenting demonstrated by mothers with mixed attachment representations. These mothers seemed to reenact their experiences of adequate parenting, as evidenced by the absence of the positive parenting qualities characteristic of the secure mothers and the negative parenting qualities associated with the insecure mothers.

Also in terms of replication patterns, child attachment security and intellectual functioning were associated with maternal attachment security. Children of resolved and secure mothers were more likely to demonstrate secure representational models of attachment compared to children of insecure mothers

and both groups scored higher across several intellectual skill areas compared to children of insecure mothers. It is interesting that children of resolved mothers demonstrated higher intellectual functioning than children of secure mothers, despite the fact that resolved mothers did not demonstrate higher intellectual functioning than secure mothers. Since child IQ was strongly related to parent-child synchrony, this suggests that resolved mothers, in an effort to provide experiences for their children that they themselves did not receive, engaged in even more positive interchanges with their children than mothers who had loving relationships with their parents. This finding also poses provocative implications regarding the role of psychological and social factors in intellectual development.

With regard to the reorganization process, the experience of a secure alternate attachment figure at some point in the early developmental history was strongly related to resolving the pain stemming from unloving parent-child relationships. Individual psychotherapy in adulthood was also related to this process, with two years representing the average length of this therapy, and intelligence was unrelated to psychotherapy experiences. Although maternal IQ was related to maternal attachment security, resolved mothers did not demonstrate higher intellectual functioning than insecure mothers. These findings suggest that above average intelligence is not requisite for benefiting from psychotherapy and/or resolving issues from one's past. Finally, given that the majority of resolved mothers who participated in this study had female children, it suggests that having a daughter may facilitate the process of resolution.

In any event, it is clear that mothers who have not resolved the past, go on to recreate dysfunctional parent-child relationships as they embark on parenting. This relation between unresolved conflicts from childhood, current parenting, and child attachment security is consistent with established theoretical models and other research. The connection between maternal resolution of the past and subsequent child intellectual functioning is an intriguing finding that represents new territory.

CHAPTER FOUR

Discussion

This study provided meaningful data about the replication of dysfunctional parent-child relationships, experiences underlying discontinuity in developmental trajectories within and across generations, and the impact of maternal functioning on child outcome. It also identified several methodological issues for further investigation in this field of inquiry. An interpretive discussion of the major issues and implications posed in this study is organized around the following topics: methodological considerations; replication processes; reorganizational processes and residual effects; and intelligence. Finally, limitations of the study and directions for future research conclude the discussion.

Methodological Considerations

The findings of this study highlight four major methodological issues related to the study of attachment security throughout development. The first issue involves the validity of the AAQ as a viable research alternative to the AAI for classifying adults broadly as either secure or insecure with respect to their representational models of attachment. The inter-rater reliabilities reported in this study and in Adams (1992) suggest that the modified scoring system demonstrates adequate reliability for screening purposes. Although the modified version still requires intensive training, it is much less than that involved with the AAI and original scoring system. The current study indicates that this training can be successfully accomplished by following the manual and within a reasonable

period of time once coders are familiar with generic issues of attachment theory and defensive processes in psychological functioning.

The discriminant validity of the AAQ is not as straightforward, as there was some relation between intelligence and attachment security classifications. This finding is in contrast to that reported by Bakermans-Kranenburg & van Ijzendoorn (1993) who found that adult attachment security, as assessed with the AAI, was independent of intelligence. There are a number of possibilities accounting for the discrepancy in these findings. Perhaps the written descriptions of one's history offered by the AAQ are more dependent upon verbal ability and overall intelligence than the oral presentations provided by the AAI. Alternatively, it may be that the modified scoring system is not as discrete in identifying attachment status as the original scoring system. It is also possible that without formal training in the original scoring system, nuances and subtleties are overshadowed by the more global constructs of verbal expressiveness and general reasoning ability. Also, Bakermans-Kranenburg & van Ijzendoorn utilized different measures of intelligence and sampled subjects from a different culture than the current study so it is difficult to make comparisons. Finally, the sample size of this study was relatively small so the relation between IQ and attachment security may reflect a sampling bias. Future studies are needed to clarify these issues. In particular, it would be helpful to use the AAQ with the original scoring system and the AAI with the modified scoring system with larger and more culturally diverse samples.

There are additional limitations of the AAQ and questions that need to be addressed. For example, it is not clear whether the AAQ provides enough detailed information to classify individuals by type of insecure attachment (i.e., dismissing, preoccupied). This may represent a significant limitation, depending on the nature of the research question. In addition, there are potentially numerous variations to the method of administration and it is not clear what the impact of these variations might be on the quality of responses. For example, in the current study, subjects were mailed the AAQ to complete in their homes whereas Adams (1992) employed a group administration on a university campus. On the one hand, the group setting afforded more control over the manner in which the subjects progressed through the questionnaire but it also may have created an impersonal, public atmosphere that inhibited subjects' responses. Having subjects complete the questionnaire in their own home is more efficient from a practical standpoint and it may increase their level of ease and comfort in responding to items. However, there is no way to monitor whether subjects answer the questions in sequence or within one sitting. This may be important as the AAI was designed to probe subjects' attachment representations with unexpected and progressively difficult questions. Yet, the results from the current study suggest that the responses subjects provided reflected their representational models of attachment, despite not being able to control for these variables. Finally, subjects in the current study and in Adams (1992) were predominately middle to upper-middle class, Caucasian women. It is unknown how much these results can be generalized to other samples varying on these demographic

variables. Additional research is needed with the AAQ to address some of these questions and provide further validation for its continued use in research.

Despite these limitations and cautions, classifications of adult attachment security derived from the AAQ were meaningfully related to parenting behavior, child behavior, child attachment security, and child intellectual functioning. Furthermore, these relationships were uniquely related to maternal attachment security independent of maternal age, education, SES or IQ. As such, this study provides preliminary data about the potential contribution of the AAQ for future research efforts.

The second methodological issue relates to the use of self-report measures in studies involving adult attachment security. The fact that mothers with insecure attachment representations did not differ significantly from mothers with secure attachment representations on a self-report measure of distressed parent-child relationships but demonstrated more distressed parent-child relationships on the observational measure indicates that individuals with insecure attachment security are not accurate reporters of problems. This is consistent with other research that has reported similar discrepancies for individuals with insecure attachment, particularly of the dismissing type (Cohn et al., 1991; Kobak & Sceery, 1988; Spieker & Booth, 1988). This is likely due to the pattern of denial and failure to attend to painful and/or negative affect that are hallmark features of the avoidant/dismissing attachment style. This element is inherent in the scoring system devised by Main & Goldwyn (1989) who note that dismissing adults characteristically have idealized and defensive presentations of attachment

relationships. The current study provides additional evidence that individuals with insecure attachment representations lack an awareness of the difficulty present in their lives and as such, do not identify problems on self-report measures of distress. An alternative explanation for this finding is that the AAQ misclassified individuals with respect to their attachment security but given the theoretically consistent relations among maternal attachment security, parenting behaviors, and child functioning, this is not a likely possibility. Aside from the implications this finding has for research, it is particularly relevant from a clinical point of view. Resolved mothers, who demonstrated very positive parenting behaviors, tended to report concern and stress about their parenting abilities whereas insecure mothers reported as much confidence in their parenting abilities as secure mothers. Therefore, the parents most in need of intervention were the least likely to identify themselves as such. This provides empirical support for the theoretical assumption that insecure attachment representations are highly organized internal models that operate outside of awareness and thus perpetuate dysfunctional parent-child relationships. This speaks to the difficulties inherent in intervention efforts. Helping these individuals recognize the usefulness of therapy would be a major task and the course of treatment would necessarily be an in-depth process as the presenting model would need to be slowly challenged and dissembled while gradually reconstructing a more adaptive one.

In light of the discrepancies between self-report and observational measures of distressed parent-child relationships, the third methodological issue raised in this study is the need for behavioral observations in identifying

disturbances in parent-child dyads. With respect to research, the modified version (Whipple et al., 1993) of the Belsky Parent-Child Interaction Coding System (Belsky et al., 1990) is effective and practical for categorizing adaptive and maladaptive parent-child interaction patterns. However, there was a curious finding regarding the Self-Reliant scale on this measure as it relates to parenting behavior. In both scoring manuals, the Self-Reliant and Self-Regulatory scales reflect parental behavior that is directed toward promoting child autonomous behavior. The difference is that the Self-Reliant scale lacks the element of facilitation or "scaffolding" to support the child's efforts. Given that parents who scored high on the Self-Reliant scale also scored high on parent-child synchrony, it appears as though this difference was not incorporated into the coding in the current study. Consequently, the Self-Reliant and Self-Regulatory scales appear to have tapped similar parental behaviors. This should be addressed in future studies by giving additional emphasis to the difference between these two scales in the coding manual and in training. Finally, since child behaviors were predominant during the child directed play activity and parent behaviors were predominant during the parent directed play and clean-up activities, the study provides empirical justification for this task differentiation in assessments of parent-child interactions. This finding also suggests that parents provide a more influential force in parent-child interactions for goal-directed activities. This is consistent with the findings discussed by Crowell & Feldman (1988), who suggest that issues involving child anger/aggression, disobedience, and compliance result from parenting behaviors rather than the obverse. This raises implications

regarding the initial impetus in coercive interactional cycles in parent-child relationships.

Finally, the fourth methodological issue relates to assessing child attachment security on a representational level in pre-school age children. In general, the present study suggests that the ASCT is an internally consistent measure of representational models of attachment and that child attachment security is meaningfully related to maternal attachment security and child intellectual functioning. However, there were problems identified with this measure. While the overall attachment score was significantly related to maternal attachment security, only two of the five stories independently demonstrated this relation. These stories involved themes of discipline and injury as elicitors of attachment dynamics. This finding was surprising given that Bretherton et al., (1990) state that the stories involving separation and reunion with parents should carry more weight than the other stories. There are several possibilities for this finding. Without specific training and/or a detailed scoring manual, it was very difficult to know to what extent my interpretation and administration of this measure was consistent with the intent of the authors. Bretherton (1994, personal communication) has commented on the preliminary nature of the instrument in its present form and is currently working on a revised and more detailed scoring manual. This will undoubtedly facilitate future research efforts. In addition, since 94% of the children in this study were living in two-parent families, it is quite conceivable that paternal attachment security exerts a significant influence on child attachment security in ways that may either be cumulative or

contradictory to maternal attachment security. Without this information, it is difficult to know to what extent the absence of a more significant effect between child and maternal attachment security reflects measurement error and/or missing data. These questions need to be pursued in additional validation studies of the ASCT.

Another interesting facet of the ASCT involved maternal presence. As stated earlier, the ASCT was typically administered immediately following maternal separation from the child in the playroom and the majority of the children in this study did not have difficulty separating from their mothers for this assessment. However some children could not tolerate the separation and required that their mothers remain present during the entire assessment. Although there were no significant differences in the children as a function of maternal attachment security, the descriptive data revealed that only children of insecure mothers required maternal presence during the ASCT. Thus, the only children who had problems separating belonged to mothers who had difficulties in their own attachment security. This finding may have implications for children with Separation Anxiety Disorder.

Replication Processes

The major thrust of this study provides empirical evidence for the role of adult attachment representations in the transmission of dysfunctional parent-child relationships across generations. Specifically, it suggests that the manner in which childhood histories are mentally organized and integrated in adulthood impart a

profound influence on parent-child behavior patterns in the next generation. This link is manifested in the quality of parental affect and style of relating. In combination, these two dimensions of parental behavior create two distinct behavioral patterns. Mothers who had experienced loving and secure relationships with their parents in childhood, or who had come to terms with unloving and painful relationships, expressed warmth, affection and enjoyment when playing with their children. Further, their style of relating was to provide more positive feedback, and to facilitate more self-regulatory and self-reliant behavior from their children. In addition, mothers and children in these secure dyads engaged in more synchronous interactions during play and clean-up activities. Conversely, mothers who had experienced unloving and painful relationships with their parents during childhood and had not resolved these issues demonstrated hostile, negative and/or sarcastic affect when playing with their children. Additionally, their style of relating was intrusive, overcontrolling, and/or emotionally disconnected. In turn, their children expressed anger, dislike and hostility toward them, emotional distress, and disobedience during play and clean-up tasks. The fact that these patterns were evident in a community-based sample, during a videotaped, low-stress condition of free-play at a university campus is of enormous significance. One can imagine how these patterns may become more pronounced in conditions of high stress and/or low visibility that is more characteristic of home settings.

While these data provide compelling evidence for the role of adult attachment representations in parent-child interactions, there were complex

relations among this variable and specific demographic variables. Adult attachment security was highly correlated with maternal age, education, and socioeconomic status and secure mothers were significantly higher on these variables than insecure mothers. These results are somewhat similar to those reported by Bakermans-Kranenburg & van Ijzendoorn (1993) who found that secure mothers were significantly older than preoccupied and dismissing mothers, and that unresolved mothers had the lowest levels of education. One explanation for this pattern of results is that individuals with secure attachment in adulthood demonstrate higher levels of competency than insecure adults in the developmentally equivalent tasks of intimate relationships, education and career pursuits, just as attachment security is strongly associated with competency in childhood (Erickson, Sroufe & Egeland, 1985; Grossman, Loher, Grossman, Scheuerer-Englisch, Schildbach, Spangler, Wensauer & Zimmerman, 1993; Sroufe, 1983) and adolescence (Kobak & Sceery, 1988). Thus, secure adults may pursue higher levels of education that would lead to more advanced occupational achievements and postpone the life cycle stages of marriage and child-bearing. With more emotional, interpersonal and financial resources, their lives are less stressful and they demonstrate more positive emotions and behaviors when interacting with their children than mothers without these benefits. In addition to this general pattern, the manner in which mothers have internally organized their childhood experiences of being parented imparts a particular influence on a triad of parent-child behaviors involving parental expectations for child self-regulatory behavior, child compliance, and the degree of parent-child synchrony.

The question remains as to how the quality and nature of parent-child interactions are involved in the replication of relationship patterns across generations. In the present study, the strongest and most consistent difference between mothers of secure and insecure attachment representations was the degree of synchrony in the mother-child dyads. That is, despite the fact that secure mothers elicited more self-regulatory and self-reliant behavior on the part of their children than insecure mothers, and children of secure mothers were more active, the secure mother-child dyads consistently engaged in more synchronous interactions across play and clean-up conditions than insecure dyads. The proposal advanced in this study is that this experience of dyadic synchrony is the core element underlying the continuity of relationship patterns across generations.

The notion of parent-child synchrony is implicated in numerous other studies and theoretical models of development (Emde, 1983; Fonagy, 1993; Fonagy, Steele, Steele, Moran & Higgitt, 1991; Murray, 1991; Osofsky, 1993; Stern, 1985), with varying interpretations as to the specific nature of its influence. Murray (1991) comments on the caregiver's capacity for "entering the dyadic circle of engagement and meeting the infant's communication" (p. 222), and the impact of this process on the infant's capacity for internal affect regulation. Emde (1983) posits that as the child's affective core becomes organized, the process of self awareness and development evolve through experiences of "behavioral synchrony" and "communicative connectedness" which are rooted in the emotional availability and responsivity of the primary caregiver. Fonagy

(1993) and Fonagy, et al., (1991) argue that the "reflective-self function," a crucial self structure underlying representational models, is embedded in the infant-caregiver relationship and evolves from experiences of attunement in infancy to "empathic sensing and responding" in early childhood, and that this structure is meaningfully related to attachment security across generations. Osofsky (1993) discusses the implications of "dyadic regulation and dysregulation" for the child's ego development, whereas Stern (1985) has written extensively on the quality of affective exchange or "attunement" between parent and child and its impact on the child's development of self.

These theoretical models and previous work on parent-infant interactions indicate that optimal development entails emotional interchanges between parent and child whereby the parent shares in the process of experiencing, expressing, and responding to affective cues within herself and in relation to the child that creates a climate of shared emotional experience between them. Data from the current study suggest that parental ability to engage in this process is meaningfully related to representational models of attachment. Parents with insecure attachment representations, by virtue of their distorted, repressed and defensive strategies, project these qualities into the behavioral transactions with their children. This subsequently restricts and binds their ability to acknowledge and respond to particular affective expressions and behavior on the part of their children. This was especially evident in the child-directed play condition where mothers were required to follow their child's lead. The scores on parent-child synchrony indicate that insecure mothers had the most difficulty in this condition.

Therefore, to the extent that mothers must employ a defensive organization of thought with respect to their own childhood histories, they create disjointed and dysynchronous patterns of interaction with their children. In turn, the children are prohibited from integrating certain affective experiences and behaviors as their self organization evolves, and they learn to employ similar defensive strategies.

The interaction patterns that emerged in this study provide support for this model. However, it should be noted that while these patterns were distinct and statistically significant, they were subtle from an observational standpoint. An untrained observer would most likely be unable to identify behavioral differences between secure and insecure parent-child dyads. Thus, it may not typically be the case that parents with insecure attachment representations commit blatant and atrocious actions that violate, denigrate or invalidate their childrens' sense of being and experiencing. Rather they emit low-level, chronic and pervasive behaviors that convey negative messages to and about the child, intrude upon and/or dismiss crucial affective experiences, and thus distort the interactive structure. It is suggested that this deficit in interactive regulation becomes internalized and incorporated into the child's sense of self and other and the interplay between these two core psychological structures is carried forward in subsequent relationships.

One of the most discouraging aspects of this type of repetition process is the powerlessness of intent. Many of the insecure mothers in this study were cognitively aware of the problems they experienced with their own parents but

were split off from the affect associated with these memories. They provided rational comments about how they vowed not to repeat the mistakes in parenting their children that they experienced. Often with great pride, they discussed how they had broken out of the cycles from their families or origin. While it remains a distinct possibility that there was significant improvement from the parenting they received to the parenting they provided, they were still engaged in destructive interaction patterns with their children, despite their earnest intent not to recreate the past. This provides further evidence that accessing and integrating childhood pain is a deterrent against repetition in parenting, while repression, isolation, or absorption in painful affect are linked with reiteration of these patterns with one's own children. Thus, cognitive awareness and intent, in the absence of integrated affect, are insufficient coping strategies for breaking free from the patterns of the past. This has profound implications for intervention efforts.

Reorganizational Processes and Residual Effects

One of the most inspiring aspects of this study is the degree to which individuals can redirect the course of their lives. Many of the resolved mothers had experienced severe physical, emotional and/or sexual abuse, physical and emotional abandonment, parental alcoholism and depression. Despite these adverse experiences, there were no residual effects of the parenting they experienced on the quality of parenting they provided. In fact, they demonstrated positive parenting behaviors equal to and above those of parents who came from

loving and secure backgrounds. This discontinuous trajectory from childhood to adulthood is a fascinating issue that is addressed by others authors (Egeland, Jacobvitz & Sroufe, 1988; Quinton & Rutter, 1988) and speaks to issues of change, self-righting tendencies, recovery, and resiliency in human development.

In the current study, the most significant experience related to the reorganizational process in adulthood was the presence of a secure alternate attachment figure in childhood or late adolescence. The overwhelming majority of resolved mothers had experienced this kind of relationship compared to almost none of the insecure mothers. In terms of impacting the reorganization of attachment representations, it did not seem to matter whether this relationship occurred in childhood or adolescence, suggesting that the consolidation of representational models remains malleable at least until early adulthood. However, since more than half of the resolved mothers experienced an alternate attachment relationship in childhood, it is not known whether the intensity and/or duration of this relationship must increase dramatically as development progresses in order to achieve a similar influence. What is clear is that the experience of being genuinely loved and nurtured has an enormous impact on one's sense of self and contributes powerfully to the capacity for subsequent caregiving. It suggests that from the experience of being nurtured evolves the capacity for nurturing.

Individual psychotherapy also appears to play a significant role in the process of reorganization. It may be that this experience provides a context for integrating the affect associated with the past, as well as creating a sense of being

respected, cared for, and tended to that serves to challenge the representations of self and other that developed in response to negative parent-child relationships. It is interesting that engaging in psychotherapy in adulthood was not related to one's representational model of attachment, but that the duration of the therapeutic relationship was. Resolved mothers were involved in individual psychotherapy for an average of two years, compared to insecure mothers who participated in therapy for an average of three to six months. As noted in other studies, individuals with insecure attachment representations are typically involved in interpersonal relationships marked by intense emotional conflict, distrust and dissatisfaction. This suggests that their difficulty to engage successfully with others may extend to therapeutic relationships, precluding the opportunity for them to encounter a "corrective emotional experience". Resolved mothers, on the other hand, because of their alternate attachment relationships have a positive relationship experience to draw from as they engage in therapeutic relationships, thus enabling them to sustain the level of intimacy requisite for altering their representational models. While this sequence may represent the modal process, it is also clear that one can achieve a similar outcome without the experience of a previous alternate attachment figure. However, in those cases, the duration of the therapeutic relationship appears to increase significantly.

Another intriguing finding of this study involved child gender. It was quite unusual that almost all of the resolved mothers had a female child. This raises the possibility of the child's role in the reorganization of maternal attachment representations, perhaps through the process of projective identification.

Goldstein (1991) provides an overview of the concept of projective identification as it was initially conceived and how the meaning and application of this construct have evolved over time. The basic model of projective identification involves three stages. In the first stage, a rejected aspect of oneself is projected onto another person. The second stage involves interpersonal interactions as the projector attempts to make the recipient act, think, and feel in accordance with the projection. Throughout the course of these interactions, the projector is provided with opportunities to psychologically process the rejected material. This leads to the third stage whereby the projector reinternalizes the self representation. Goldstein distinguishes between a severely pathological form of projective identification and a more benign, commonplace one. In the first case, there is blurring of the boundaries between the projector and recipient as internalized drives are projected. In the second case, the individual projects object representations that do not involve this kind of psychological merging. It is the latter process that Goldstein argues is ubiquitous in interpersonal relationships. Also, Goldstein notes that in stage three, the degree of psychological processing and reinternalization can range from primitive to sophisticated and adaptive forms, depending on the maturational level of the projector. In this way, the process of projective identification offers the potential for attaining new ways of handling threatening feelings and fantasies and this mastery enables the individual to integrate the previously rejected aspects of the self. Although projective identification has typically been related to the process of psychoanalytic psychotherapy, Goldstein affirms that it is being expanded to

incorporate the dynamics underlying other interpersonal relationships, including parent-child relationships.

In the context of the current study, the process of projective identification may offer further insight about the reorganization of attachment representations. Although all children can be potent elicitors of unresolved issues for adults, female children may play a particular role for mothers attempting to come to terms with their past. In other words, perhaps the potential for projective identification is enhanced in mother-daughter relationships because of the gender replication. In this manner, mothers may project their attachment issues (i.e., emotional and physical dependency) onto their infant daughters. Since these experiences are syntonetic to the needs of the infant, it does not necessarily involve overriding the needs of their children that would otherwise create distorted interactions. In the course of confronting the issues within this framework, mothers may be able to process and reinternalize them in a more adaptive form. However, as Goldstein pointed out, this outcome is dependent upon the level of psychological maturation in the projector. Given that resolved mothers had experienced an average of two years of therapy prior to having had their children, they may have been prepared to engage in this process in a way that was not possible for insecure mothers.

Although the presence of an alternate attachment figure, individual psychotherapy, and having a daughter all seem to be tied into the reorganization of attachment representations, it is still not clear to what extent these experiences represent independent pathways or work in tandem to help individuals resolve the

past. Further, although psychotherapy in adolescence was not directly related to adult attachment security, it was significantly related to engaging in and the duration of individual therapy in adulthood. Larger sample sizes are needed to map the specific trajectories related to alternate attachment figures, psychotherapy, and child rearing.

Finally, although maternal IQ was associated with attachment security, resolved mothers were not significantly more intelligent than insecure mothers and intelligence was not related to the type or duration of psychotherapy. Therefore, the ability to engage in the process of resolution does not appear to be limited by the level of intellectual functioning.

These are promising findings which highlight the powerful impact that siblings, extended family members, teachers, and psychotherapists can have on the course of individual lives throughout development. They also underscore the importance of creating alternate experiences and providing substantive intervention for families who are at risk for problematic parent-child relationships. In addition, they are suggestive of the potential for supplemental experiences such as, Big Brother and Big Sister programs.

While it is encouraging to know that there is the possibility for this level of plasticity in development, there is also a significant toll associated with the work of reparation. The resolved mothers described years of intense turmoil and emotional pain as they struggled to come to terms with their childhood experiences. Despite their progress in this regard, they often continued to be haunted by feelings of doubt about their parenting skills, feelings of depression,

and a sense of alienation from others. What is heartening is that their children have flourished in spite of these concerns. Emotionally, these children were open and engaging, interacting smoothly with their mothers, myself, and the assistants in this study. Their attachment stories reflected responsive, nurturing caregiving from parents and confident, contented children. Intellectually, they exceeded even the children of secure mothers. Clearly, the loving experiences that the resolved mothers were deprived of in their childhoods, they created for their own children.

With respect to parental intellectual functioning, it is interesting that resolved mothers scored average to above average on three of the subtests of the WAIS-R but were below average on Picture Arrangement (PA), thus depressing their overall IQ scores compared to secure mothers. The PA subtest is comprised of scenes depicting interpersonal exchanges. This raises the possibility that the poor performance of resolved mothers on this task reflects remnants of their emotional discomfort regarding interpersonal relationships which interfered with their cognitive functioning. These findings pose provocative ideas about the nature of intelligence.

Intelligence

There is no known research linking maternal attachment security to child intellectual functioning so the relation between these variables in this study is an intriguing finding which suggests that psychological and social variables play a significant role in intellectual development. Theoretically, this is consistent with the underlying assumption of attachment theory which posits that as children

develop a secure attachment relationship with their caregiver(s), the experience of this "safe base" creates a context for exploration and learning. The data from this study support this position. Children of resolved and children of secure mothers consistently performed higher across multiple areas of cognitive functioning compared to children of insecure mothers. In particular, children of resolved mothers scored 22 points higher on overall IQ scores compared to children of insecure mothers, despite the fact that resolved and insecure mothers were within the Average range of intellectual functioning. These differences among children of resolved, secure, and insecure mothers could not be completely accounted for by parental IQ, education, age or SES. They were uniquely related to the quality of parent-child interactions. In particular, child IQ was strongly related to the degree of parent-child synchrony, independent of the influence of maternal IQ. Collectively, these results provide empirical evidence for the impact of parent-child interactions on childrens' cognitive development. Whether these differences will continue to be present at later points in development is not known but it is of major significance that they are apparent at this juncture.

Limitations of the Study and Directions for Future Research

The limitations and cautions posed by the characteristics and size of the sample in this study cannot be underestimated. The subjects were a very homogeneous group of Caucasian, middle-class, married, well-educated, intelligent women in their thirties. This presents several interesting considerations. On the one hand, it is remarkable that differences in parenting behavior and child

outcome emerged as strongly as they did given the size and similarity of the subject pool. Further, it provides evidence that these differences are not due to the influences associated with age, intelligence, education, socioeconomic, or marital status. On the other hand, it is not known to what extent these results can be generalized to samples varying on these dimensions. In addition, the small sample size precluded path analyses that would have helped clarify mediating and moderating effects and interactions among the variables delineated in the theoretical model.

From a conceptual point of view, there are many remaining questions. For instance, the current study does not address the role of significant adult attachments and relationships in the reorganizational process. As Quinton & Rutter (1988) and Ricks (1985) have discussed, spouses and significant relationships in adulthood may be crucial in redirecting the course of one's life. Thus, it is not known how adult relationship experiences may be related to alternate attachment figures at earlier points in development and psychotherapy. Similarly, it is not known to what extent fathers may play a mediating role in child outcome. There is no reason to believe that the mother-child relationship is the sole source of child attachment security, particularly in light of changes in the nuclear family whereby fathers and daycare workers are consistently providing more child care. Finally, the patterns delineated in the current study provide data about parent-child relationships at a particular point in time. It will be necessary to follow how these patterns track over time to identify the variables and experiences associated with changes in developmental trajectories.

Despite these limitations, the current study adds to the growing body of literature pertaining to attachment security and the replication of problematic parent-child relationships across generations. It points to core experiences underlying emotional and psychological recovery and resiliency. As such, it holds promise for future researchers, clinicians, and parents who are invested in creating a healthier emotional climate for children and families.

APPENDIX A

APPENDIX A

Adult Attachment Questionnaire

1. Starting from as far back as you can remember, please describe your relationships with both of your parents. (Please try to provide specific examples).
2. If you had to choose four adjectives that reflect your childhood relationship with your mother, which four would you choose?

3. Now, for each adjective say why you think that particular adjective is a good descriptor of your childhood relationship with your mother. Why did you choose that adjective? (Try to give a specific example of a time when she did or said a certain thing or acted in a particular way. Remember that detail is important).

First adjective:

Second adjective:

Third adjective:

Fourth adjective:

4. If you had to pick four adjectives to describe the most important emotional reactions you had to your mother (the most important ways she made you feel or affected your feelings), which four would you choose?

5. If you had to choose four adjectives that reflect your childhood relationship with your father, which four would you choose?

6. Now for each adjective, please describe why you think that particular adjective is a good descriptor of your childhood relationship with your father. Why did you choose that adjective? (Please give a specific example of a time when he did or said a certain thing or acted in a particular way. Remember that detail is important).

First adjective:

Second adjective:

Third adjective:

Fourth adjective:

7. If you had to pick four adjectives to describe the most important emotional reactions you had to your father (the most important ways he made you feel or affected your feelings), which four would you choose?

8. During your childhood, it is very likely that you felt closer to either your mother or your father. To which parent did you feel the closest to and why? Why wasn't there this feeling with the other parent?

The next three questions relate to how you got comforted as a child. Searching back in your memory as far as you can, please describe in detail what you would typically do if you were in need of comforting. For each question, please say whether you would tell anyone, and if you did, whom did you tell, and how would that person typically respond (e.g., hold you, talk to you, tell you a joke, play a game, ignore you, tease, you, etc)?

- 9a. When you were emotionally upset as a child what would you do? Where there typical events or things that made you emotionally upset (e.g., hurt feelings, disappointments, bad dreams, being scared, problems with friends, etc)? Please describe a specific incident or example that you remember. If you did turn to your parents when you were upset, how did they respond?
- 9b. What would happen when you were physically hurt or injured? Please describe a specific example (e.g., What happened? Did you tell anyone? Whom did you tell? How did they respond)?
- 9c. Finally, what would happen when you were ill as a child? Again, please provide a specific example. How did your parents respond?
10. Please describe the first time you remember being separated from your parents. How old were you? What was the reason for the separation? How did they respond? How did you feel about it at the time? Are there any other separations that stand out in your mind?
11. Did you ever feel rejected as a child? Looking back on it now, you may realize it was not really rejection but as a child, do you remember feeling rejected? How often did you feel rejected? What were the circumstances? How old were you and what did you do?
12. When you were a child, were your parents ever threatening to you in any way -- maybe because they were angry, or for discipline, or maybe just jokingly? For example, did your parents ever threaten to hurt you, to leave you, or send you away?
- Did they ever call you names and/or say that you were a bad child? Did this happen frequently?
13. How did you go about getting attention as a child? How did you get your parents respond to and/or attend to you and your needs? Please provide a specific example.

14. Did your parents take an interest in your activities and accomplishments? How much importance was placed on your activities and achievements?

Did your parents seem to take more of an interest in your activities and accomplishments than in your emotional needs or was there a balance between the two?

15. At this point, you have probably shared a lot of childhood memories regarding your relationships with your parents. In your opinion, why did your parents behave the way they did toward you when you were a child?

16. What effect, if any, did your early experiences and relationships with your parents have on your adult personality?

On your adult relationships with friends and lovers?

17. What effect, if any, did your early experiences and relationships with your parents have on your relationship(s) with your child(ren)?

18. Have there been many changes in your relationships with your parents since childhood?

In what ways have these relationships changed over the years?

In what ways have they remained the same?

19. Describe your current relationship with each of your parents. What is the relationship like for you now as an adult?

20. For most of us, there were some aspects of our childhood relationships with our parents that were, to varying degrees, troublesome, conflictual and/or problematic. Do these issues remain unresolved and still active? Or, have these troublesome aspects of your childhood relationships with your parents been resolved and/or put to rest?

Please describe in detail the process of how you have dealt with these troublesome or problematic aspects of your childhood relationships with your parents.

21. Is there any particular thing which you feel you have learned above all from your own childhood experiences?

What would you hope your child might have learned (or will learn) from his/her experience of being parented?

22. How do you respond now, in terms of feelings, when you separate from your own child?

The next four questions relate to loss of a parent or a significant other. If this does not pertain to you, please skip to question 24.

- 23a. Did you experience the loss of a parent or other close loved one (sibling or close family member) while you were a young child?

Please describe the circumstances (e.g., How old were you? How did the death occur? How did you respond? Did you attend the funeral?)

- 23b. Have your feelings regarding this death changed much over time? If so, please state how.

- 23c. Have you had any other important losses in your adulthood? If so, please describe using the same questions as in number 24a.

- 23d. How have these losses affected your adult personality? Do they affect your approach to your own child?

24. Is there anything else you would like to add?

If for any reason you feel upset or unsettled and would like to talk about your reactions to these questions, please feel free to call me at (517) 337-0581. If I am not available, please leave your name and phone number and I will return your call as soon as possible.

If I need you to participate in Phase II of this study, I will call you to arrange an appointment. If you are not called to participate in Phase II, I will still keep your name and address on file and will send you the results of this study once it is completed. It will probably be sometime between the Fall of 1993 and the Spring of 1994.

I would like to thank you for your time and thoughtful effort in completing these questionnaires. Through the contribution of individuals like yourself, who volunteer their time and share part of their personal experiences, we are able to gain a greater understanding of family relationships and the impact they have on our lives. Thank you.

APPENDIX B

APPENDIX B

Attachment Relationships Interview

Childhood

1. I'd like you to think back to early childhood. When you were upset, in trouble or needing help, who did you turn to? (If subject says no one, proceed with questions a, b and c. Otherwise, go to question #2).
 - a. Can you give me a couple of examples of times when you handled something yourself?
 - b. Why do you think it was that there wasn't anyone for you?
 - c. What do you think you learned from this?
2.
 - a. How did s/he usually respond?
 - b. Can you give me a specific example?
3. Why did you choose this person to turn to?
4. What did you do if s/he was not available?
Can you give me a specific example?
5. When and how did this relationship begin?
How did it change over time?
How do you account for those changes?
6. When and how did this relationship end?
How did you feel about it ending?
7. How did this relationship compare to the relationship you had with either of your parents?
8. What did/have you learn(ed) from this relationship?

Adolescence

1. **Now I'd like you to think back to your adolescent years. When you were upset, in trouble or needing help, who did you turn to? (If same person from childhood, go on to adulthood. If still no one there to turn to, ask for a couple of examples of handling something herself, why this was and what she learned).**
2. **How did s/he usually respond?**
Can you give me a specific example?
3. **Why did you choose this person to turn to?**
4. **What did you do if s/he was not available?**
Can you give me a specific example?
5. **When and how did this relationship begin?**
How did it change over time?
How do you account for those changes?
6. **When and how did this relationship end?**
How did you feel about it ending?
7. **How did this relationship compare to the relationship you had with either of your parents?**
8. **What did/have you learn(ed) from this relationship?**

Adulthood

1. Now I'd like you to describe the closest relationship you've ever had in your adult life.
2. What is/was it about this relationship that allows(ed) you to be as close as you are/were to this person?
3. Do you wish it were less or more intimate? Why?
What prevents or prevented this from happening?
4. What is/was the most fulfilling aspect of this relationship?
What is/was the most disappointing?
5. When and how did this relationship begin?
How did it change over time?
How do you account for those changes?
6. When and how did this relationship end?
How did you feel about it ending?
7. How does/did this relationship compare to other relationships you have had in the past?
8. How did/does it affect your relationships with other people?
9. What did/have you learn(ed) from this relationship?

Current Life

1. **Finally, I'd like you to describe your closest relationship at this point in your life. (If same person from adulthood, ask subject to describe second closest relationship in their current life).**
2. **What is it about this relationship that allows you to be as close as you are to this person?**
3. **Do you wish it were less or more intimate? Why?**
What prevents this from happening?
4. **What is the most fulfilling aspect of this relationship?**
What is the most disappointing?
5. **When and how did this relationship begin?**
Do you think it will continue? Why or why not?
6. **Has this relationship changed over time?**
How do you account for those changes?
7. **How does this relationship compare to other relationships you have had in the past?**
8. **How does it affect your relationships with other people?**
9. **What have you learned from this relationship?**

Concluding Questions

1. **Have you ever been involved in any counseling or psychotherapy? If yes, can you tell me when and what you learned from this experience?**
2. **Do you have any questions for me about this study or your participation in this study?**

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