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**ADULT ATTACHMENT: ITS RELATIONSHIP TO PARENTING, INFANT  
HEALTH AND DEVELOPMENT, AND HELPING RELATIONSHIPS**

**By**

**Janelle Cayo Ettema**

**A DISSERTATION**

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## ABSTRACT

### ADULT ATTACHMENT: ITS RELATIONSHIP TO PARENTING, INFANT HEALTH AND DEVELOPMENT, AND HELPING RELATIONSHIPS

By

Janelle Cayo Ettema

Multiple regression techniques were employed to examine attachment styles of 75 mothers assigned to home visitors in a family intervention program, their perceptions of the helping relationship, and the effects of each of these variables on parenting and infant health and development. Results suggested that persons with a dismissive style (positive self, negative other) and persons with a preoccupied style (negative self, positive other) may have unique problems in developing a strong helping relationship. Although attachment style and the helping relationship were related, their impact on outcome variables was largely independent. Helping relationship quality was negatively related to parenting stress ( $R^2 = .11$ ) and withdrawn behavior ( $R^2 = .09$ ). The mothers' attachment style had a broader effect across a number of variables. The self model was negatively related to parenting stress ( $R^2 = .08$ ), child abuse potential ( $R^2 = .30$ ), child behavior problems ( $R^2 = .06$  to  $.09$ ), mother's depression ( $R^2 = .11$ ), mothers' sense of incompetence ( $R^2 = .12$ ), and mothers' health problems ( $R^2 = .09$ ). The other model was negatively related to parenting stress ( $R^2 = .13$ ), child abuse potential ( $R^2 = .11$ ), child behavior problems ( $R^2 = .05$  to  $.07$ ), mothers' depression ( $R^2 = .13$ ), mothers' sense of incompetence ( $R^2 = .12$ ), and problems of attachment to the child ( $R^2 = .13$ ). In cases in which there was a significant interaction between the self and other models, one can

distinguish the effects of different attachment styles with different combinations of self and other models. Consistent with previous attachment research, mothers with secure attachment styles (positive self, positive other) showed the least degree of parenting problems and least degree of child problems. In the case of several parenting outcomes, a dismissing style (positive self, negative other) appeared to be particularly problematic. This study lends support to the idea that both attachment style and the quality of helping relationships are important to parenting and the well-being of children, and to the effectiveness of interventions designed to promote good parenting and healthy children.

**To Roger**  
**with love and gratitude**

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## **CHAPTER 1**

### **INTRODUCTION**

This study was designed to examine the relationship between the attachment styles of mothers assigned to home visitors in a family intervention program, their perceptions of the helping relationships, and selected variables that might either reflect the effectiveness of the relationship or be directly affected by the mothers' attachment styles. To provide the rationale for the study, it was necessary to examine attachment theory, adult attachment, its measurement, and research linking adult attachment styles to the variables of interest in this study.

It is universally accepted that parents have a profound impact on the physical and psychological health and development of their children. Most parents promote their children's health by being available and responsive, keeping them safe, and providing for their physical and emotional needs. The quality of parenting, however, varies widely, ranging from excellent care, to generally adequate care tinged with occasional problems, to various degrees of abuse and neglect. Poor parenting is often puzzling because, while some parents may be blatantly malicious, most people care about their children and want to be good parents. It often seems that forces beyond their control are preventing them from having the kind of relationship with their children that they would like. They may

find themselves repeating negative behaviors of their own parents, for example, sometimes despite conscious efforts to avoid repetition. Or they may lack insight as to how their childhood experiences have affected them, and be similarly oblivious to their effect on their children.

Attachment theory may shed light on this puzzle. According to this theory, patterns of relating established in one's childhood profoundly affect interactions with others, even though the person may be unaware of the connection. Parent-child interactions may be especially susceptible to this influence, since the current relationship is so similar to the original one, the adult having learned both sides of the relationship (Sroufe & Fleeson, 1986). Unconscious models of self and other in relationships established in early childhood affect parenting behavior, which in turn influences the child's physical and emotional health and development.

Because of its potential impact on helping relationships, adult attachment style may also be related to the differential effectiveness of programs to promote good parenting. Mothers who have developed a schema for others as trustworthy and dependable are likely to react differently to an intervening person than would a mother whose childhood experience leads her to expect abandonment or degradation. Furthermore, both theory and research support the notion that the effectiveness of an intervention is dependent on the quality of the relationship between the helping agent and the recipient (Bordin, 1979; Gelso & Carter, 1985; Greenberg & Pinsof, 1986; Marziali, 1984; Rogers, 1957). The quality of the helping relationship has been found to be related to both dropout rates (Mohl, Martinez, Kicknos, Huang, & Cordell, 1991; Tryon & Kane, 1990) and outcomes of interventions.

For the purposes of this study, the quality of the relationship is defined as the degree to which a positive emotional bond is formed between the recipient of help and the helping agent. Aspects of a high quality helping relationship that have been found to be related to positive outcomes in helping relationships include trust (Bordin, 1979; Whiston & Sexton, 1993), perceived empathy, understanding, affiliation, and respect (Alexander, 1991; Keijsers, Hoogduin, & Schaap, 1994; Luborsky, Crits-Christoph, Alexander, Margolis, & Cohen, 1983; Luborsky, McLellan, Woody, O'Brien, & Auerbach, 1985; Mohl, Martinez, Ticknor, Huang, & Cordell, 1991; Morgan, Luborsky, Crits-Christoph, Curtis, & Solomon, 1982; Priebe & Gruyters, 1993; Safran & Wallner, 1991; Saunders, Howard, & Orlinsky, 1989; Tryon & Kane, 1990; Whiston & Sexton, 1993; ), as well as the perception that one is being helped (Alexander, 1991; Eltz & Shirk, 1994; Luborsky, et al., 1983; Luborsky et al., 1985; Morgan et al, 1982; Mohl, et al., 1991; Tryon & Kane, 1990). Although this bond can be measured in a number of ways, from the perspective of the client, the helping agent, or a third-party observer, the present study focused on mothers' perspectives since previous research has demonstrated that the client's perceptions are most closely related to outcome (Bachelor, 1991; Gelso & Carter, 1985; Keijsers, et al., 1994; Marziali, 1984).

This study took place in the context of Kent County Healthy Start (KCHS), a program designed to promote the healthy development of children and families and prevent parenting problems, including child abuse and neglect. Depending on the family's need, it was offered either volunteer services or Family Support Worker (FSW) services. When parents had a minimal need for support, they were offered services by volunteers intended to increase awareness of community resources, link parents to

community services, and provide emotional support and parenting information to parents as needed. This service included a minimum of two phone calls, a phone support number, resource packet, and assistance in making connections with existing community services. The present study employed data from the group receiving FSW services. When parents had a moderate to high level of need for support, they were offered paraprofessional, in-home visitor services intended to promote positive relationships between parents and their children, link families to appropriate resources, and promote family self-sufficiency. The support provided by FSW's included counseling and assistance in obtaining necessary community resources such as housing, financial assistance, education, medical aid, nutrition, respite care, employment, and transportation.

This program is the product of an evolutionary process in the field of child abuse prevention which seems to have settled on home visitor programs as a prominent model for prevention services (Culbertson & Schellenbach, 1992; Garabino, 1986; Holden, Willis, & Corcoran, 1992; Roberts & Wasik, 1990). Early evaluation of these programs have suggested generally favorable, but variable, outcome for participants (Bernard, Morriset, & Spieker, 1993; Caruso, 1989; Emde, 1988; Holden, Willis & Corcoran, 1992; Huxley, & Warner, 1993). A possible reason for the variability is the variable quality of relationships between clients and home visitors. This notion is supported by research indicating the importance of the relationship for the success of helping interventions in general, as described above. Although research on the importance of the helping relationship in parenting/child abuse prevention programs is scant, ample anecdotal evidence ensures that it is routinely emphasized by program developers (Fenza, 1993; Greenspan, 1987; Ware, Osofsky, Eberhart-Wright, & Leichtman, 1987). Finally, in a

review of studies on interventions with infants and their mothers, Emde (1988) reported that the effectiveness of the intervention depended on the quality of the relationship between the parent and the home visitor and emphasized the importance of assessing relationship quality as a moderator variable of program effectiveness. If the program's effectiveness depends on the quality of the helping relationship, and the quality of the relationship depends, in turn, on differences in attachment style, then attachment style may explain the differential effectiveness of interventions designed to prevent child maltreatment. In summary, adult attachment style may affect parenting and child health and development both directly and through its impact on the helping relationship. Understanding attachment styles may lead to a better understanding of parenting and helping relationships, and ultimately to the promotion of better parenting and healthier children.

#### Attachment: Development of the Concept

John Bowlby (1969/1982, 1973, 1980) developed attachment theory to explain the apparent bond between infants and their parents and to account for problems that arise when this bond is disrupted. Bowlby postulated that infants are born with emotional and behavioral systems which impel them to establish proximity to caretakers. According to this theory, attachment is a fundamental need that drives human behavior. The child's treatment by the primary caretaker in response to this need is thought to have a powerful influence on a child's development. A secure attachment to an accessible and responsive adult figure is necessary for the infant to develop a sense of being lovable and confidence in the availability of others. This gives the child a "secure base" from which to explore the world. When the parent's care is inadequate, the infant develops problematic feelings

about self and others which can have far-reaching consequences, especially for the individuals' subjective experience of self and others in relationships.

The patterns of ongoing interactions between parent and child are internalized by the child to form the child's internal working model of relationships. The internal working model is defined as a mental representation of self and others which works largely out of awareness to guide the person's reactions and behavior with important others (Bowlby, 1980). Information is selected, interpreted, and acted upon on the basis of the internal working model. In addition to filtering and coloring perceptions, however, working models seem to compel one to recreate relationships that are congruent with one's history. The self model determines expectations of one's own role in relationships, while the other model determines expectations as to how others will behave. These expectations may serve as self-fulfilling prophecies that can lead to the perpetuation of similar relationships across time. Bowlby believed that the construction of such models begins in the latter part of the infant's first year. The working model is thought to be malleable at first, but as experiences accumulate, it becomes more and more resistant to change.

Mary Ainsworth developed a classification system for the quality of internal working models of infants based on infants' behavior toward their parents after a brief separation in unfamiliar surroundings. Three distinct styles of attachment were identified (secure, anxious resistant, and anxious avoidant) and consistent with Bowlby's theory, were closely associated the degree of caretaker warmth and responsiveness (Ainsworth et al., 1978; Egeland & Farber, 1984). This categorization of attachment styles laid the

foundation for a large body of research on the effects of parenting and on the implications of attachment style for children's future behavior and adjustment.

In the Strange Situation Test, in which infants are briefly separated from, and then reunited with their mothers, secure babies immediately seek proximity and close bodily contact with the mother upon her return. They are soothed relatively quickly, and maintain contact with their mothers for several minutes before returning to exploration of the environment. The secure child is confident that the caregiver will be available and responsive if needed, and therefore is able to explore the world boldly. Parents of such children are readily available, sensitive to the child's signals, and lovingly responsive when the child seeks protection, comfort, and assistance.

Anxious resistant babies are slower to be soothed. They are angry upon their mother's return, especially if she does not pick them up immediately. Even when held, however, they may mingle clinging behavior with angry resistant behavior. These children are uncertain as to the availability of their caregiver, and are therefore prone to separation anxiety, and tend to be clingy and anxious about exploring the world. Parents who are inconsistently available and responsive facilitate the development of this pattern.

Anxious avoidant infants avoid the mother upon her return. They may completely ignore her or they may greet her, making brief eye contact, and then turn abruptly away to discourage further interaction. These children expect rejection rather than help from the caregiver, and they try to live without the love and support of others. This pattern results from repeated rejection from the caretaker when the child seeks comfort or protection.

Attachment styles continue to be correlated with differences in behavior throughout early childhood, with securely attached babies maintaining many advantages



over the insecurely attached (Belsky, Garduque, & Hrncir, 1984; Kotler, Buzwell, & Bowland, 1994; Lewis, Feiring, McGuffog, & Jaskir, 1984; Main, 1983; Main, Kaplan, & Cassidy, 1985; Matas, Arend, & Stroufe, 1978; Slade, 1987). Presumably differences in attachment styles persist into adulthood as well, although intervening experiences, including important relationships, may substantially alter attachment style over the course of development. But although Bowlby believed that human attachment is a lifelong phenomenon, until the 1980's very little research on adult attachment had been conducted. Since that time, attention to adult attachment patterns has increased dramatically and evidence is accumulating that, while attachment behavior, per se, is not as salient in adults as it is in children, adults' internal working models continue to guide their interpersonal behavior.

In order for this work to be done, it was first necessary to develop the concept of adult attachment and measures of the concept. Main (George, Kaplan, & Main, 1987; Main & Goldwyn, 1988) developed the Adult Attachment Interview to explore adult attachment in terms of mental representations of childhood experiences. Depending on the manner in which they describe childhood experiences, mothers are classified into three groups that parallel Ainsworth's childhood attachment patterns. These patterns are predictive of the quality of the mother's parenting and the child's attachment to her.

The AAI is a semistructured interview which probes for general descriptions of relationships, specific supporting and contradicting memories, and descriptions of current relationships and feelings. The scoring of verbatim transcripts, however, goes beyond the content of the person's memories to consider how the adult organizes memories, thoughts, and feelings related to attachment. The focus is not on whether the adult had

good or bad experiences as a child, but rather on whether the adult is able to integrate and organize past experiences, as reflected in having access to memories and feelings related to attachment figures, being able to describe these experiences coherently, and being able to evaluate their effects. It is possible, therefore, that the interview will reflect a secure internal working model of attachment even though the adult may have had bad experiences and insecure attachments as a child.

Scoring the AAI yields one of three main classifications: Autonomous, dismissing, or preoccupied. Adults are classified as autonomous or secure if they are able to recall childhood attachment experiences, and their discussion of them is coherent and consistent, with clear, relevant, succinct responses to questions. Adults are classified as dismissing when they describe parents very positively, but their descriptions are unsupported or contradicted by the specific examples they offer. Persons in the dismissing category also often report being unable to remember childhood attachment experiences, although interestingly they appear not to have difficulty remembering experiences that are not related to attachment (Bakermans-Kranenberg & van Ijzendoorn, 1993; Sagi et al., 1994). Dismissing adults seek to minimize the importance of attachment experiences. Adults classified as preoccupied demonstrate a confused and often angry preoccupation with attachment figures. They can recall numerous childhood experiences, but their presentation of such experiences is disorganized and difficult to follow, often including jargon and nonsense words and long, grammatically problematic sentences. Finally, although not one of the primary categories, the person may also be classified as unresolved/disorganized in terms of a significant loss or traumatic experience, as reflected in momentary lapses in reasoning or thought organization when

discussing such events. If this classification is given, one of the three main classifications must also be given.

Also among the first to systematically explore adult attachment were Hazan and Shaver (1987) who developed a self-rating instrument focusing on adult-adult relationships. Hazan and Shaver began by translating Ainsworth's typology into terms appropriate for adult relationships, and devised the following descriptions:

Secure: I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't often worry about being abandoned or about someone getting too close to me.

Avoidant: I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, love partners want me to be more intimate than I feel comfortable being.

Anxious/Ambivalent: I find that others are reluctant to get as close as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to merge completely with another person, and this desire sometimes scares people away.

Participants then chose the description which best characterized them, classifying themselves as secure, anxious, or avoidant. The authors found that attachment style was related to the subjective experience of love, to differences in reports on the quality of their relationships with parents, and to beliefs about oneself and social relationships. Similar measures, such as the Adult Attachment Scale (Collins & Read, 1990) have offered elaborations and refinements of Hazan and Shaver's approach, changing the categorical approach to continuous ratings, for example.

Kim Bartholomew (1990) has proposed a reformulation of adult attachment styles that is more in accord with Bowlby's theory of internal models of self and other. No

approach before hers involved all the categories derivable from Bowlby's theory of self and other models. Making all possible combinations of positive versus negative self model with positive versus negative other model, one derives four possible attachment styles, not three. She pointed out that, whereas the AAI identified avoidant individuals as people who deny distress and downplay the importance of relationships, the self-report method identified avoidant individuals as people who report distress and discomfort when they get close to others. She suggested that a single avoidant category may obscure two patterns of avoidance in adulthood-- a dismissive avoidant style, characterized by a positive self model and negative other model; and a fearful avoidant style, characterized by negative models of both self and other.

The Relationship Questionnaire (RQ) developed by Bartholomew (1990; Bartholomew & Horowitz, 1991) is similar to the Hazan and Shaver (1987) measure, but contains four descriptions rather than three. On the basis of Bowlby's assertion that early attachment experiences are internalized by the child to form working models of self and others, Bartholomew has proposed a 2 x 2 matrix of attachment styles. She has suggested that working models of the self can be dichotomized as positive or negative, as can working models of others, the four possible combinations of which reflect four interpersonal styles: secure, preoccupied, dismissing, and fearful (see Figure 1).

		Model of Self	
		positive	negative
Model of Other	positive	secure	preoccupied
	negative	dismissing	fearful

Figure 1. Bartholomew's attachment styles.

Cell 1 is labeled secure and indicates an evaluation of the self as worthy and an expectation that others will be accepting and responsive. Such persons are characterized by an internalized sense of self-worth and comfort with intimacy. Cell 2 is labeled preoccupied and indicates a sense of unworthiness combined with a positive evaluation of others. This combination would lead the person to strive for the acceptance of valued others in order to enhance their precarious self-worth, leaving them vulnerable to extreme distress when their intimacy needs are not met. Cell 3 is labeled fearful and indicates feelings of unworthiness combined with an expectation that others will be untrustworthy and rejecting. This style leads to avoidance of close involvement with others in order to protect oneself from rejection. Finally, Cell 4, labeled dismissing, indicates a positive sense of self combined with a negative evaluation of others. People in this group view relationships as unimportant and emphasize the importance of independence in order to protect themselves from vulnerability and disappointment.

The RQ presents a short paragraph describing each of the four attachment style prototypes. Participants are asked to choose the description that best fits them, and then

to rate on a seven-point scale the extent to which each description fits. Dimensional scores for the positivity of the self and other models implied by the ratings can then be calculated. The positivity of the self model is derived by adding together ratings of the patterns defined by positive self models (secure and dismissing) and subtracting the ratings of the patterns defined by negative self models (fearful and preoccupied). The positivity of the other model is derived by adding together ratings of the patterns defined by positive other models (secure and preoccupied) and subtracting the ratings of the patterns defined by negative other models (fearful and dismissing). Bartholomew and Horowitz (1991) found that data from the RQ fit the theoretical two-dimensional model. The correlations of the patterns was also consistent with the relationship of attachment styles predicted by the model, with cells in adjacent quadrants being more highly correlated than those in opposite quadrants. The Relationship Scales Questionnaire (RSQ), employed in the present study, is an adaptation of the RQ in which participants rate the applicability of each separate statement from the RQ descriptions. This allows the person to respond specifically to each separate idea, rather than rating descriptions that may contain contradictory ideas.

Of the available measures of adult attachment, Bartholomew's two-dimensional approach has several advantages for the present study. As mentioned above, a four-group model with two underlying dimensions is more consistent with Bowlby's theory. It also makes sense intuitively that dismissing persons (those with positive self models and negative other models) would behave and feel differently in relationships than fearful persons (those with negative self and other models). Secondly, besides being easier to administer than the AAI, the continuous measure of self and other dimensions allows for

the comparison of individual differences within groups, whereas the AAI, being a categorical measure, restricts comparisons to those between categories. While it may be useful and convenient to think of attachment styles in terms of categories, a continuous approach in which there are degrees of positivity of both the self and other models better reflects true individual differences. The use of Bartholomew's dimensions also allows for examining the relationship of each dimension (self and other models) to a third variable and the possible interaction between self and other models in relation to that variable. A final advantage of Bartholomew's approach is that it offers a common basis for many measures of adult attachment in that several have been found to have two underlying dimensions that can be conceptualized as a model of self and a model of others (Brennan, Shaver & Toby, 1991; Feeney, Noller, & Callan, 1994; Griffin & Bartholomew, 1993; Simpson, 1990; Simpson, Rholes, & Nelligan, 1992; Strahan, 1991). Thinking of adult attachment in terms of the underlying dimensions of self and other may give some unity to a diverse and often confused body of research involving different measures and different ways of thinking about adult attachment.

### Hypothesized Relationships of Adult Attachment to Selected Variables

#### Relationship with Home Visitor

The receptiveness of an individual to a home visitor who offers practical help as well as emotional support is likely to be related to that individual's internal working model, especially the "other" dimension. West, Livesley, Reiffer, and Sheldon (1986) were among the first to speculate that adult attachment styles might be related to the ability to establish and utilize supportive social networks. They argued that social support is not merely a property of the environment, but is also a function of the

individual's personality. Flaherty and Richman (1986) argued in a similar vein that "the degree to which social supports will in fact be perceived as supportive may depend in part on the unconscious internal representations (helpful or detrimental) of objects from earlier childhood" (p. 854). They found that perceived parental affectivity in childhood, particularly that of the mother, was significantly related to adult support levels.

Securely attached persons (those with positive self and other models) have been found to be more trusting, less fearful of closeness, and more inclined to believe that other people are basically good-hearted than insecurely attached persons (Hazan & Shaver, 1987). Persons with positive self models are likely to be more receptive than persons with negative self models, although no studies in the literature directly address this question. The hypothesized connection between internal working models and receptiveness to the home visitor is supported, however, by studies that have demonstrated that persons with negative models of other were less support seeking (Mikulincer & Florian, 1995), reported lower social support and greater loneliness (Kobak & Sceery, 1988), and were low on the capacity to rely on others, to use others as a secure base, and to self-disclose (Bartholomew & Horowitz, 1991). Studies focusing on the working relationship of clients to professional helpers indicated that those with negative working models of others were less likely to evaluate the working alliance in positive terms (Satterfield & Lyddon, 1995), were less likely to comply with treatment, were more likely to reject treatment providers, were less inclined to self-disclose, and made poorer use of treatment (Dozier, 1990). In the present study, mothers' working models of self and other were predicted to be positively related to receptiveness to the home visitor.



### **Parenting Stress**

Related to one's ability to establish and utilize supportive relationships is the ability to cope with stress. In fact, perceived stress is likely to be much greater for insecurely attached persons in part because of their relative difficulty in establishing and maintaining supportive relationships. West et al. (1986) suggested that attachment style is related to stress in three ways, one of which is the effect of internal working models on the development and maintenance of social support. He also suggested having low self-esteem and/or a negative view of others in relationships may give rise to a general vulnerability to stress and that internal working models may affect the way that individuals perceive and react to life events. Mikulincer and Florian (1995) lend support to the latter notion in that both ambivalently and avoidantly attached persons perceived their military training as more threatening than securely attached persons, and ambivalently attached persons also saw themselves as less capable of handling the situation. In terms of parenting, negative models of other may compound the stress of parenting situations, and negative models of self may lead to feelings of helplessness or desperation. In the present study, mothers' working models of self and other were expected to associate negatively with parenting stress.

### **Attitudes Indicative of Child Abuse**

Adult attachment style may be related to attitudes indicative of child abuse. Zeanah and Zeanah (1989) have suggested conceptualizing the intergenerational transmission of abuse not in terms of the passing on of abusive behavior, but in terms of the passing on of internal working models for relationships. They suggested that the overall nurturance one received as a child may be more important to the mother's

working model and subsequent parenting behavior than whether abuse occurred.

Interestingly, some evidence suggests that psychological unavailability may be more damaging to the child's security of attachment than physical abuse (Egeland & Stroufe, 1981). This supports the notion that internal working models of self and others in relationships may have more impact on a mother's abusive tendencies than does physical abuse in her family of origin. Further evidence for the intergenerational transmission of attachment styles, rather than of abusive behavior per se, is offered by the high concordance of attachment styles between generations (Benoit & Parker, 1994; Van Ijzendoorn, 1995; Zeanah et al., 1993). Models of self and other developed in one's childhood may affect the degree of abusive attitudes towards one's children, establishing a vulnerability to abusiveness. Whether or not outright abuse occurs, the parent's treatment of the child would affect the child's attachment style and the legacy of abusive attitudes would continue. Ainsworth (1980) has suggested that abusive parenting may be an expression of an extremely dismissive/ avoidant parenting style, but perhaps the dismissive style results only in a propensity toward child abuse. Attitudes, then, might be more central to this intergenerational process than overt behavior, creating a vulnerability to abusiveness that may or may not be realized depending on other factors. In this study, mothers' working models of self and other were predicted to be negatively related to attitudes indicative of a potential for child abuse.

### **Parenting Behavior**

Attachment style is thought to affect parenting through the operation of internal working models as the patterns of early relationships that are the basis of adult attachment style form a template for parent-child interactions as well (Paterson & Moran, 1988).

Parental attachment style has been found to be related to parenting behavior in a number of studies (Crowell & Feldman, 1991; Crowell et al., 1992; Cohn et al., 1992; Main & Goldwyn, 1984; Zeanah, et al., 1993). For example, parents classified as insecure were more rejecting of their infants (Main & Goldwyn, 1984), were less warm and provided less structure in interactions with their preschool children (Cohn, Cowan, Cowan, & Pearson, 1992), and were less warm, supportive, and organized when interacting with older children (Crowell, O'Connor, Wollmers, Sprafkin, & Rao, U. 1991) than parents classified as secure. Parents may also interpret the behavior of their children differently depending on their internal working models. Zeanah et al. (1993) found that ratings and explanations of a videotaped child's crying during a separation and reunion episode with the mother varied by adult attachment style, with dismissive mothers giving less positive attributions for the baby's crying than either autonomous or preoccupied mothers and giving more negative attributions than the autonomous mothers. Finally, the profiles of interpersonal problems of individuals with different attachment styles (Bartholomew & Horowitz, 1991) suggest that different combinations of positions on self and other dimensions may lead to particular patterns of relating that would affect parenting. In the present study, mothers' working models of self and other were predicted to be negatively related to the home visitors' assessment of parenting problems.

### **Child Behavior Problems**

The mother's attachment style may also affect her child's behavior, in part through the intergenerational transmission of attachment styles (Benoit & Parker, 1994; Zeanah & Zeanah, 1989). By this reasoning, the mother's attachment style influences her interactions with her infant, thereby influencing the development of the infant's

attachment style. Once established in infancy and early childhood, the child's style may affect the child's behavior for years to come. Securely attached infants have been found more sociable than insecurely attached infants (Lamb, Hwang, Frodi, & Frodi, 1982; Main, 1983; Main & Weston, 1981), and at three years, readiness to interact with a stranger was lower for avoidant children (negative other model) than for secure and ambivalently attached children (both groups having a positive other model) (Lutkenhaus, Grossman, & Grossman, 1985). Waters, Wippman, and Stroufe (1979) observed preschool children who had been classified for attachment at 12 months and found advantages for securely attached children on 5 of 12 measures of confidence and effectiveness and on 11 of 12 measures of social competence with peers. In a later study, Stroufe, Fox, and Pancake (1983) also found secure preschoolers to have more positive affect, better social skills, more empathy, and less dependency than anxiously attached infants. Infants securely attached in infancy also retained many advantages at 6 years in overall functioning, emotional openness, warmth, and enthusiasm (Main, Kaplan, & Cassidy, 1985).

Other studies have directly linked the mother's behavior and/or attachment style to child behaviors. Egeland and Stroufe (1981) reported that infants of psychologically unavailable mothers who were lively and responsive at 3 months began to show marked deterioration even as early as 6 months. Maternal behavior at three months, and not infant irritability or temperament, predicted the amount of infant crying at 12 months (Bell & Ainsworth, 1972; Crockenberg & McCluskey, 1986). Cohn et al. (1992) found that preschool children of insecurely attached parents were less warm with their parents, this relationship being particularly pronounced when both parents were insecurely

attached. Van Ijzendoorn et al. (1991) reported that preschool children of insecure mothers were less inclined to be flexible but persistent in their problem-solving than children of securely attached mothers. The children of insecure mothers also tended to be more undercontrolled, that is, unable to repress impulses and emotions. In a study of behaviorally disturbed children, aged 5-11, Crowell, O'Conner, Wollmers, Sprafkin, and Rao (1991) found that children of secure mothers reported low levels of anxiety and depression and were described as competent and relatively low on symptomatology. The children of dismissing mothers displayed more oppositional and aggressive symptoms, greater symptomatology overall, and reported greater distress. In this study mothers' models of self and other were predicted to be negatively related to the frequency of their children's behavior problems.

### Child Health and Development

The mother's attachment style is likely to affect the health and development of her child in two ways: Directly, through the provision of appropriate care, and indirectly, through the establishment of the child's attachment style. In terms of parents' provision of appropriate health care for their children, we can speculate that those with positive models of both self and other will be more likely to do so than those with negative models of others, who may dismiss the importance of health care for significant others, or those with negative self models, who may see themselves as incapable of providing such care. This will perhaps be particularly true for those with negative other models, since they have been found to be less inclined to seek health care for themselves, and also reported the lowest level of parental response to their complaints of ill-health when

children (Feeney & Ryan, 1994), a pattern that they will perhaps be inclined to repeat with their own children.

Benoit and Parker (1994) found a high degree of correlation between attachment styles of mothers and infants as well as mothers and their own mothers. Hence, securely attached mothers, that is those with positive self and other models, are likely to have securely attached children (Benoit & Parker, 1994; Levine, Tuber, Slade, & Ward, 1991; Main & Goldwyn, 1984; Van Ijzendoorn, 1995; Zeanah et al., 1993), an attachment style with many apparent advantages for health and development. Consistent with the notion of the use of an attachment figure as a secure base from which to explore (Bowlby, 1969), Ainsworth and colleagues (1978) found that securely attached babies displayed more exploratory behavior and more interest in and attention to their surroundings than did ambivalently attached babies. Main (1983) found that securely attached infants had higher developmental quotients at 12 months than did insecurely attached infants, although in some cases this finding has not been replicated (Matas, Arend, & Stroufe, 1978; Pastor, 1981). Some researchers have reported better performance by securely attached infants on object permanence tasks (Ahmad & Worobey, 1984; Bell, 1970) although others have found no difference (Levitt, Antonucci, & Clark, 1984). Frodi, Bridges, and Grolnick (1985) found that ambivalently attached 1-year-olds were less persistent on a problem-solving task than securely attached infants, and that dismissive infants were less competent than securely attached babies. It has also been reported that securely attached infants exhibit more sophisticated, enthusiastic, spontaneous play than do insecurely attached infants (Belsky, Garduque, & Hrncir, 1984; Matas, Arend, & Stroufe, 1978; Slade, 1987).

The child's attachment style, developed through interaction with the mother, may also be related to long-term health because of how children of different attachment styles come to manage emotions. Kennedy, Kiecolt-Glaser, and Glaser (1998) suggested that high quality personal relationships may serve to attenuate adverse immunological changes associated with psychological distress, which may have consequences for disease susceptibility and health. Similarly, Kotler, Buzwell, and Bowland (1994) suggested that the suppression of negative emotions and the avoidance of support seeking characteristic of avoidantly attached individuals (those with a negative model of other) leads to the perpetuation of distress and vulnerability to illness. Evidence of this can be found at different stages of development, with avoidant infants at 24 months showing less positive affect than securely attached infants (Matas, Arend, & Stroufe, 1978), boys insecurely attached at 12 months showing more somatic complaints at 6 years (Lewis, Feiring, McGuffog, & Jaskir, 1984), and insecurely attached adults reporting more psychosomatic illness and physical illness than securely attached adults (Hazan & Shaver, 1987, 1990). In the present study, mothers' working models of self and other were expected to correlate negatively with delays in their children's development, lapses in the provision of health care for their children, and the number of their children's health problems.

#### Interaction of Self and Other Model in Predicting Outcomes

For outcomes dealing most directly with parenting attitudes and behaviors, an interaction between the self and other models was predicted such that mothers with low other models would demonstrate the greatest degree of parenting problems, mothers with high self and high other models would show the least degree of problems, and those with low self and high other models would demonstrate an intermediate degree of problems.

The expected interaction is illustrated in Figure 2. This expectation was based on the literature with direct evidence that secure parents tend to have the fewest parenting problems and those with low other models (dismissing and fearful styles) tend to have the greatest problems. No distinction between these latter two groups could be made because the bulk of the literature has addressed only three categories, with no discrimination between fearful and dismissing styles.

### **The Importance of the Client-Home Visitor Relationship**

Since there is evidence to suggest that the effectiveness of the intervention will depend on the quality of the relationship between the home visitor and the mother, this relationship is expected to be related to the degree to which program goals are attained. Mothers' ratings of the relationship are expected to correlate negatively with parenting stress, attitudes indicative of child abuse potential, and mother-reported child behavior problems. The quality of the relationship is expected to be positively related to provision of health care and the child's health. However, since the quality of the relationship will be largely dependent on the mother's attachment style, substantial overlap is expected between the quality of the relationship and the positivity of self and other models in predicting outcome variables.

Based on the preceding considerations, the following hypotheses were formulated.

Hypothesis 1: a. Mothers' self model scores will be positively related to receptiveness to the home visitor. b. Mothers' other model scores will be positively related to receptiveness to the home visitor.



Hypothesis 2: a. Mothers' self model scores will be negatively related to parenting stress. b. Mothers' other model scores will be negatively related to parenting stress.

Concerning Hypotheses 3-8, both negative self models and negative other models were expected to be related to problems in parenting and child outcomes. An interaction was expected as illustrated in Figure 2.

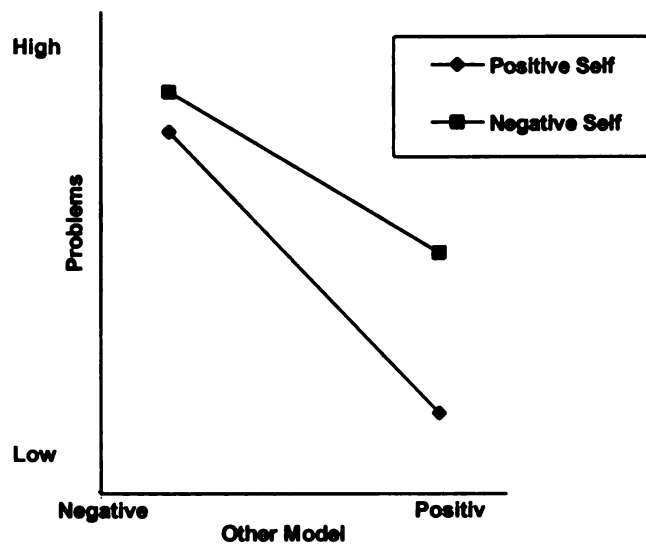


Figure 2. Hypothesized interaction between self and other models in predicting parenting and child outcome problems.

**Hypothesis 3:** a. Mothers' other model scores will be negatively related to attitudes indicative of child abuse potential. b. Mothers' self model scores will be negatively related to attitudes indicative of child abuse potential. c. There will be an interaction of the two models as illustrated in Figure 2.

**Hypothesis 4:** a. Mothers' other model scores will be negatively related to Family Support Workers' evaluations of the degree of mothers' parenting problems. b. Mothers' self model scores will be negatively related to Family Support Workers' evaluations of the degree of mothers' parenting problems. c. There will be an interaction of the two models as illustrated in Figure 2.

**Hypothesis 5:** a. Mothers' other model scores will be negatively related to mother-reported frequency of child behavior problems. b. Mothers' self model scores will be negatively related to mother-reported frequency of child behavior problems. c. There will be an interaction of the two models as illustrated in Figure 2.

**Hypothesis 6:** a. Mothers' other model scores will be negatively related to delays in their children's development. b. Mothers' self model scores will be negatively related to delays in their children's development. c. There will be an interaction of the two models as described in Figure 2.

**Hypothesis 7:** a. Mothers' other model scores will be negatively related to lapses in the provision of health care for their children. b. Mothers' self model scores will be negatively related to lapses in the provision of health care for their children. c. There will be an interaction of the two models as illustrated in Figure 2.

**Hypothesis 8:** a. Mothers' other model scores will be negatively related to their children's health problems (illnesses, emergency medical visits, accidents,

hospitalizations). b. Mothers' self model scores will be negatively related to their children's health problems (illnesses, emergency medical visits, accidents, hospitalizations). c. There will be an interaction of the two models as illustrated in Figure 2.

Since the quality of the helping relationship is probably crucial to the effectiveness of the intervention, reported satisfaction with that relationship will also be related to outcome variables as follows:

Hypothesis 9: Mothers' evaluations of their relationship with the home visitor will be negatively related to parenting stress.

Hypothesis 10: Mothers' evaluations of their relationship with the home visitor will be negatively related to attitudes indicative of child abuse potential.

Hypothesis 11: Mothers' evaluations of their relationship with the home visitor will be negatively related to mother-reported child behavior problems.

Hypothesis 12: Mothers' evaluations of their relationship with the home visitor will be negatively related to lapses in the provision of health care for their children.

Hypothesis 13: Mothers' evaluations of their relationship with the home visitor will be negatively related to their children's health problems (illnesses, emergency medical visits, accidents, hospitalizations).

Finally, although both self and other models, on the one hand, and the quality of the relationship on the other, are expected to be related to outcome variables, the quality of the relationship will be largely dependent on the mother's self and other models. Therefore there will be substantial overlap between the two in predicting outcome variables.

**Hypothesis 14: The quality of the helping relationship will overlap substantially with self and other models in predicting outcome variables so that the helping relationship will not be able to account for variance beyond that accounted for by self and other models.**

## CHAPTER 2

### METHOD

#### Subjects

Data collected for the Kent County Healthy Start Evaluation Project were used for this study. Participants were mothers with children, most of whom were one to three years of age, with 2 children less than one year old in the sample and one that had just turned four. These were mothers in the Healthy Start program who were offered and accepted home visitor services, and did not include families judged to be very low risk.. Descriptive data on demographic variables are shown in Tables 1 and 2.

Table 1. Descriptive Statistics for Continuous Demographic Variables

Variable	N	Min.	Max.	M	SD
Child's age in years	53	.12	4.05	1.73	.60
Mother's age in years	58	16	39	24.29	5.62
Mother's education in years	63	1	18	10.73	2.55
Number of children	70	1	9	2.31	1.46
Number of occupants in home	56	2	9	4.79	1.80

**Table 2. Descriptive Statistics for Categorical Demographic Variables Expressed in Percentages**

Variable	N	%
Gender of child	75	
Female		52.0
Male		48.0
Mother citizen of USA	71	
Yes		87.3
No		11.3
Unknown		1.4
Mother's employment	66	
Employed		30.3
Unemployed		68.2
Unknown		1.4
Mother's race/ethnicity	56	
American Indian		3.6
Asian/ Pacific islander		1.8
African-American		21.4
Hispanic/ Latino		19.6
Caucasian		42.9
Other		10.7
Mother's marital status	70	
Married		34.3
Single		60.0
Divorced		2.9
Separated		1.4
Other		1.4
Estimated household income	67	
Under \$15,000		46.3
\$15, 000-24,999		28.4
\$25,000-34,999		6.0
\$50,000+		3.0
Unknown		16.4
Where family lives	70	
House		41.4
Apartment		51.4
Trailer		5.7
None of the above		1.4

To guide the choice of sample size, effect sizes from a total of 37 studies were examined. The determination of small, medium, and large effect sizes followed Cohen's (1992) definitions, the effect size (ES) values varying depending on the statistic used. For example, for tests of the significance of product-moment  $r$ , the ES index is  $r$  itself and the values for small, medium, and large effect sizes are .10, .30, and .50, respectively. For multiple and multiple partial correlations, the effect size (ES) index is defined as  $f^2 = R^2/(1-R^2)$  and small, medium, and large effect sizes are .02, .15., and .35, respectively. In the 11 studies from the attachment literature having to do with the relationship of adult attachment to outcomes similar to those addressed in this research, the 87 effect sizes that could be calculated ranged from small to large. Of the 11 studies, 8 contained at least 1 large effect size and several of the studies contained several large effect sizes. The studies that contained more than one large effect size were those that focused on adult attachment related to the quality of parent-child interactions and/or the child's behavior, both of which are foci of this study as well.

Ninety-eight effect sizes from 25 studies on the helping alliance were calculated. Again, the effect sizes ranged from small to large, and again most studies contained at least a few large effect sizes. In a meta-analysis of helping alliance studies (Horvath & Symonds, 1991) in which an average effect size (ES) was calculated for each of the studies, using  $ES = 0$  for nonsignificant results not otherwise specified, 9 of the 20 studies had average effect sizes that were moderate to large in size. Of the 10 individual studies examined, 7 contained many large effect sizes. These were more similar to the present study than the other 3 in terms of the severity of pathology (persons with a relatively normal range of problems in living rather than hospitalized psychiatric

patients), measure of the helping alliance (self-report measures rather than tracking spontaneous remarks relevant to the alliance in therapy sessions), and outcome measures (intervention goals rather than dropout rates).

It therefore seemed reasonable to expect at least some large effect sizes in the present study. Using the guidelines described by Cohen (1977), for power of .80 and for a sample  $r$  at  $\alpha = .05$  when the population  $r$  is large, a sample size of 28 is required. For a multiple regression with three independent variables, a sample size of 34 is required to detect large effect sizes at  $\alpha = .05$ . I therefore proposed to gather data from at least 34 participants, with the intention of increasing the sample size as far as possible within the limits of practical considerations in order to increase the likelihood of detecting some medium effect sizes as well. It was expected that a sample size of at least 50 would be attainable. The final sample size was 75, which was very close to Cohen's (1992) guideline of  $N = 76$  as the sample size needed for multiple regression analyses with three independent variables to detect medium effect sizes for power of .80 at  $\alpha = .05$ ., but short of the recommended sample size of 84 to detect medium effect sizes for the few multiple regression analyses in which there were four independent variables.

### Materials

The archival data used in this study involve a variety of instruments. Some are standardized instruments and some were created for the KCHS Evaluation Project and the present study. The instruments are: the Relationship Scales Questionnaire (RSQ), the Child Abuse Potential Inventory (CAP-I), the Parenting Stress Index (PSI), the Denver II, the KCHS Clinical Judgments Form, the KCHS Child Behavior Frequency Checklist



(CBFC), KCHS Pediatric Record Review, and the KCHS Participant Satisfaction Form.

The latter four measures, which are unpublished measures designed for the KCHS evaluation and the present study, are presented in the appendices.

### **Relationships Scales Questionnaire**

Scores for the positivity of Self and Other models were calculated on the basis of responses to the RSQ. The 17 items of this measure are extracted from the RQ.

Responses on a Likert scale yield scores for each of the four categories and allow for determining scores on the underlying self and other dimensions. The positivity of the self model is derived by adding together ratings of the scales defined by positive self models (secure and dismissing scales) and subtracting the ratings of the scales defined by negative self models (fearful and preoccupied scales). The positivity of the other model is derived by adding together ratings of the scales defined by positive other models (secure and preoccupied scales) and subtracting the ratings of the scales defined by negative other models (fearful and dismissing scales). Siegert (1995) has confirmed through factor analysis the two dimensions of the RSQ and found that classification of attachment styles along these two dimensions yielded four categories that were synonymous with Bartholomew's attachment styles.

Working with the RQ on which the RSQ is based, Griffin and Bartholomew (1994b) have demonstrated the convergent validity of the two dimensions across methods in that self-reports, peer reports, partner reports, and expert raters' judgments of the dimensions intercorrelated highly. They also demonstrated the discriminant validity of the two dimensions in that correlations between the two different dimensions rated by the same method were relatively low. Further evidence for the construct validity of the

dimensions was found in that the self model dimension was highly related to measures of self-concept and the other model dimension was highly related to the measures of the positivity of one's interpersonal orientation (all  $p$ 's < .01). Griffin and Bartholomew argue, however, that attachment styles are more than simply the sum of the underlying dimensions, but are characterized by distinct strategies for maintaining felt security. For example, each attachment style is associated with a unique pattern of interpersonal problems (Bartholomew & Horowitz, 1991) so that persons with different styles operate in qualitatively different ways that cannot be captured by the linear combination of their respective self model and other model scores. Sharfe and Bartholomew (1995) examined the stability of the two dimensions by using multiple raters of the Peer Attachment Interview 8 months apart and found high stability (.72 to .85) over this period.

#### Child Abuse Potential Inventory

The Abuse scale of the CAP-I was used to measure attitudes indicative of child abuse. The CAP Inventory (Form VI) is a 160-item self-report questionnaire that is answered in an agree/disagree forced choice format (Milner, 1986). The current version contains a 77-item physical child abuse scale with six subscales: Distress, Rigidity, Unhappiness, Problems with Child and Self, Problems with Family, and Problems from Others. The CAP also contains three validity scales (lie scale, random response scale, and inconsistency scale) and two special scales for ego strength and loneliness.

Internal consistency. Reliability coefficients for internal consistency range from .75 to .94, with the majority of studies reporting reliability estimates in the .90 to .94 range. Internal consistency estimates for the Spanish version are comparable.

**Temporal stability.** Test-retest reliabilities of .91, .90, .83, and .75 for the general population were reported for 1 day, one week, 1 month, and three months, respectively (Milner, 1986). Using a population of military personnel, Mollerstrom (1993) reported a test-retest reliability coefficient of .86 for the physical abuse scale across a 6-month interval.

**Construct validity.** A plethora of studies have addressed the link between the CAP physical abuse scale and a number of risk factors mentioned in the family violence literature. The relationship to some risk factors, including childhood history of abuse, self-esteem and ego strength, life stress and distress, perceptions of children's behavior, negative affect, and harsh discipline strategies has been found in an overwhelming number of the studies addressing each. More mixed, but still impressive results have been found for other risk factors as well.

**Predictive validity.** In terms of concurrent prediction, initial classification rates reported for the abuse scale based on discriminant analysis for physical child abusers and matched comparisons subjects were in the 90% range. In subsequent studies examining more diverse populations, classification rates have been in the mid-80% to low 90% range (Milner, 1994).

Milner (1994) also reported two studies of future predictive validity. Milner, Gold, Ayoub, and Jacewitz (1984) reported a study of at-risk parents who were followed to determine subsequent child maltreatment. Of the 200 participants, confirmed reports of maltreatment were made on 42. A significant relationship was found between abuse scores and subsequent abuse; a significant, but modest relationship was found for physical neglect; and no relationship was found for failure to thrive children. Although

all later abusers scored above the cut-off, the majority of those above the cut-off at pretreatment did not abuse. This may be confounded, however, by the failure to discover all cases of abuse within the sample, and also by changes in child abuse potential due to treatment. Ayoub and Milner (1985) reported predictive validity in a study of parents of failure-to-thrive children. While abuse scores were not associated with failure to thrive, they were associated with neglect among parents of failure-to-thrive children.

### **Parenting Stress Index**

The Parenting Stress Index is a measure designed to assess the relative magnitude of stress in a parent-child dyad. Its 101 items yield scores in two domains, child characteristics and parent characteristics, and a series of subscales in each domain. The Total Stress score, combining both the Child Domain and the Parent Domain, was used to determine the degree of parenting stress for each mother. Loyd and Abidin (1985) reported a high degree of internal consistency, with an alpha reliability coefficient of .95 for the Total Stress score, .93 and .89 for Parent and Child domains, respectively, and alpha reliability coefficients ranging from .55 to .80 for subscales. Test-retest reliabilities for the Parent and Child domains were .71 and .82, respectively, after an interval of 3 weeks (Burke, 1978), and .70 and .55, respectively after 1 year (Hamilton, 1980). Factor analyses have provided evidence for the distinct nature of the subscales, although the traits measured by the subscales are moderately and significantly correlated (Loyd & Abidin, 1985).

### **Denver II**

The Denver II was used to provide an index of child development. The Denver II is a 1990 revision of the Denver Developmental Screening Test designed to screen infants

and young children for possible developmental problems or delays in four areas of development: Fine motor, gross motor, personal-social, and language. Age norms at which 25%, 50%, 75%, and 90% of the sample performed each item were updated from the 1967 norms of the original test. An Advance is defined as an item passed by the child that was passed by less than 25% of the children in the standardization sample by that age. A Delay results when a child fails an item that was passed by 90% of the children at an earlier age. A Caution results when a child fails an item that was passed by more than 75% of the standardization sample at an earlier age.

**Reliability.** The mean interrater reliability between trained examiners and trained observers was 98.7%. Test-retest reliability scores were obtained twice: once 5-10 minutes after the first test with different examiners; once 7-10 days later with the same examiner. The mean score for the short interval was 91%, and for the longer interval, 89% (Mirenda, 1996).

**Validity.** No concurrent validity scores are provided, the authors providing three main arguments against the appropriateness of validity measures for the test: 1) Some of the tasks are in areas for which there are no well-standardized measures for comparison; 2) no single diagnostic test taps all the areas covered by the Denver II, so obtaining correlations with existing tests is impossible; 3) the Denver II does not propose unitary constructs in individual areas. The authors argue that face validity is adequate for the purposes of the test, along with determining the test's value in identifying children who need further diagnostic study, assessment and intervention (Mirenda, 1996). It is an adequate instrument for making comparisons of developmental progress for research purposes.

**KCHS Clinical Judgments Form**

This measure (see Appendix A) was used to assess the Family Support Worker's impressions of potential problems in parent functioning, such as lack of knowledge of child development, inappropriate expectations that the child provide emotional support for the mother, and the inability to manage anger appropriately. Using a five-point Likert scale, the FSW rated the degree to which each item (Items 1-12) was a problem for her client. The FSW also rated on a four-point Likert scale the likelihood of abusive or neglectful behaviors (Items 13-18), such as the excessive use of corporal punishment, lack of adequate supervision, and failure to provide adequate food, clothing, or shelter. The Likert scale scores for Items 1-12 were summed to provide an index of potential parenting problems as judged by the home visitor. Alpha reliability for the Parenting Problems scale was .92. The Likert scores for Items 13-18 were summed to provide an index of the likelihood of parental abuse and neglect. Alpha reliability for the Abuse/Neglect scale was .77, but increased to .86 when Item 13, regarding excessive use of corporal punishment, was removed. The Abuse/Neglect scale was therefore used without Item 13. The relationship of Item 13 to predictor variables was examined separately although the range of responses for Item 13 was very small, with 70% of participants being judged "very unlikely" to engage in this behavior.

**KCHS Child Behavior Frequency Checklist**

This measure (see Appendix B) assessed the mother's perceptions of the frequency of her child's behavior problems in a two-week period. Behaviors of interest included crying for more than 3 minutes, refusing to eat something, awakening at night, refusing to go to bed, and withdrawal. The alpha reliability for the five items of this

measure was very low ( $\alpha = .38$ ), so analyses were performed separately for each item.

For Item 5 regarding withdrawn behavior there was a restricted range of responses, with 74% of mothers reporting no evidence of this behavior.

#### **KCHS Pediatric Record Review**

The Pediatric Record Review (see Appendix C) addressed preventive medical care provided to the child, including the number of well-child visits in the last year and whether immunizations were up to date. The immunizations involved a restricted range of responses, with 86% of mothers reporting that their child was up-to-date on immunizations.

Medical problems in the last year were also recorded, including illnesses, emergency room visits, hospitalizations, and accidents. Analyses for hospitalizations and accidents involved a restricted range of responses, with 80% of mothers reporting no hospitalizations and 86% of mothers reporting no accidents in the last year.

#### **KCHS Participant Satisfaction Form**

KCHS participants used this form to evaluate the program and their relationship with the FSW. Items used to determine the quality of the helping relationship are listed in Appendix D. Mothers indicated on a five-point Likert scale the degree to which they agreed or disagreed with evaluative statements about their FSW. Scores for the quality of the relationship were calculated by summing the mother's Likert scale ratings of aspects of her relationship with the home visitor. The final item listed in parentheses in Appendix D was intended to be included in this scale, but was eliminated because doing so raised the alpha reliability of the scale from .71 to .88

### Procedure

This study utilized data from the evaluation project of Kent County Healthy Start (KCHS). KCHS participants entered the program either through screening at Butterworth Hospital in Grand Rapids, Michigan or through referral by a Kent County Health Department worker. In the present study, data from all available Time 2 Evaluation Packets of the high/moderate need participants were examined. Data were collected by the FSW assigned to that family at the one-year anniversary of the family's entry into the program. The Participant Satisfaction Form was left with the participant and was mailed in by the participant to minimize demand characteristics.



## **CHAPTER 3**

### **RESULTS**

The purpose of the present study was to examine the impact of adult attachment style on parenting and on the health and development of children in two ways: 1) directly and 2) through the impact of attachment style on the helping relationship, which was also expected to predict parenting and child health and development outcomes. Where both the helping relationship and the attachment measures were found to be significantly related to outcomes, the helping relationship was not expected to account for any variance beyond that accounted for by the attachment dimensions. Several series of regression analyses were performed to test the hypotheses of this study. Descriptive statistics for all measures are listed in Table 3. For several of the outcome measures (number of accidents, number of hospitalizations, immunizations, withdrawn behavior, developmental delays, excessive use of corporal punishment) the range of responses was very restricted so that there was very little variance to be accounted for by a predictor variable. Even though a significant relationship with predictor variables was not likely to be found, these variables were retained in the study since they are of considerable importance. Post hoc analyses were performed to explore possible relationships not revealed in the original analyses.

Table 3. Descriptive Statistics for Independent and Dependent Variables

Variable	N	Min.	Max.	M	SD
RSQ Self Model	75	-3.50	3.75	.50	1.54
RSQ Other Model	75	-4.60	3.70	-.75	1.68
Quality of Helping Relationship	60	1.20	5.00	4.47	.71
PSI Total	74	136.50	364.75	249.86	46.19
Child Domain					
Adaptability	74	16.00	44.00	29.86	6.48
Demandingness	74	11.57	35.00	21.24	5.60
Mood	74	5.00	21.00	11.12	3.30
Distractibility	74	16.00	77.00	27.94	7.59
Acceptability	74	7.00	28.00	13.68	5.24
Reinforces Parent	74	6.00	22.00	10.60	3.86
Parent Domain					
Depression	73	9.00	36.00	22.38	5.82
Sense of Competence	74	18.00	51.00	31.42	7.34
Parental Attachment	73	7.00	26.00	13.31	4.30
Relationship w/ Spouse	71	7.00	29.00	20.02	4.94
Social Isolation	73	6.00	55.00	15.98	6.31
Parental Health	73	5.00	23.00	13.45	3.68
Restrictions of Role	73	11.00	32.00	20.84	4.58
CAP-I	75	37.49	354.00	186.67	83.61
Distress	75	23.00	224.00	116.99	58.91
Rigidity	75	.00	67.85	20.49	17.17
Unhappiness	75	.00	56.22	16.09	12.04
Problems w/ Child & Self	75	.00	25.20	4.72	6.47
Problems w/ Family	74	.00	38.00	13.14	13.41
Problems from Others	75	.00	24.00	14.69	7.09
FSW Judg. of Parenting Problems	70	1.00	3.88	2.14	.75
FSW Judgments of Abuse/Neglect	65	1.00	3.80	1.48	.62
BPFC Crying	73	1.00	6.00	2.97	1.62
BPFC Eating	73	1.00	6.00	2.70	1.74
BPFC Awakening at night	73	1.00	6.00	3.05	1.93
BPFC Refusal to go to bed	73	1.00	6.00	2.97	1.83
BPFC Withdrawn	73	1.00	6.00	1.47	1.06
Denver II Delays	70	.00	7.00	.44	1.24
Immunizations	70	1.00	2.00	1.14	.35
Number of Well Child Visits	53	.00	8.00	3.51	1.80
Number of Accidents	59	.00	9.00	.29	1.22
Number of ER visits	61	.00	15	1.44	2.43
Number of Hospitalizations	60	.00	9.00	.40	1.28
Number of Illnesses	59	.00	16.00	3.15	3.59

### Predicting Parenting Outcomes

#### Attachment variables.

To test the predictive significance of the attachment models of self and other, the outcome variable was entered as the dependent variable, with self model, other model, and the interaction term (Self Model x Other Model) entered as the independent variables. Beta weights and the change in R-squared are reported for the self model when entered first, the other model when entered first, and the interaction term when entered after the self model and other model.

In cases in which a significant interaction between the self model and the other model was found in predicting the outcome variable, the interaction was graphed to illustrate the nature of the interaction. The sample was divided into two groups (high self and low self) at the median of the self model. Regression analyses were performed separately for the high self and low self groups. Regression equations for each group were plotted using Microsoft Excel, and were displayed together on the same graph to illustrate the interaction.

Table 4 shows the results of multiple regression analyses run to test the first eight hypotheses in which attachment dimensions predicted parenting outcomes.

Hypothesis 1: a. Mothers' self model scores will be positively related to receptiveness to the home visitor. b. Mothers' other model scores will be positively related to receptiveness to the home visitor. This hypothesis was not supported.

Table 4. Hierarchical Multiple Regression Analyses: Attachment Style Dimensions Related to Outcomes

Predictor variable	beta	t	$\Delta R^2$
<b>Predicting quality of helping relationship</b>			
Self model alone	-.03	-.24	.00
Other model alone	.06	.46	.00
Interaction term (Self Model x Other Model) entered after self model and other model	.32	2.11*	.07
<b>Predicting parenting stress</b>			
Self model alone	-.28	-2.47*	.08
Other model alone	-.35	-3.22**	.13
Interaction term (Self Model x Other Model) entered after self model and other model	-.23	-1.91	.04
<b>Predicting child abuse potential</b>			
Self model alone	-.55	-5.64***	.30
Other model alone	-.34	-3.07**	.11
Interaction term (Self Model x Other Model) entered after self model and other model	-.22	-2.03*	.04
<b>Predicting FSW judgments of parenting problems</b>			
Self model alone	-.15	-1.24	.02
Other model alone	-.23	-1.93	.05
Interaction term (Self Model x Other Model) entered after self model and other model	-.27	-2.07*	.06
<b>Predicting FSW judgments of abuse/neglect</b>			
Self model alone	.05	.35	.00
Other model alone	.00	-.02	.00
Interaction term (Self Model x Other Model) entered after self model and other model	-.16	-1.10	.02

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

Table 4 (cont'd)

Predictor variable	beta	t	$\Delta R^2$
<b>Predicting infant crying</b>			
Self model alone	.02	.15	.00
Other model alone	-.06	-.47	.00
Interaction term (Self Model x Other Model) entered after self model and other model	-.28	-2.09*	.06
<b>Predicting eating problems</b>			
Self model alone	-.16	-1.33	.02
Other model alone	-.02	-.13	.00
Interaction term (Self Model x Other Model) entered after self model and other model	.26	1.97	.05
<b>Predicting sleep problems</b>			
Self model alone	-.12	-1.03	.02
Other model alone	-.09	-.76	.01
Interaction term (Self Model x Other Model) entered after self model and other model	.11	.77	.01
<b>Predicting refusal to go to bed</b>			
Self model alone	-.26	-2.24*	.07
Other model alone	.06	.50	.00
Interaction term (Self Model x Other Model) entered after self model and other model	-.02	-.12	.00
<b>Predicting child withdrawal</b>			
Self model alone	-.14	-1.16	.02
Other model alone	.00	.01	.00
Interaction term (Self Model x Other Model) entered after self model and other model	-.15	-1.12	.02
<b>Predicting child developmental delays</b>			
Self model alone	-.20	-1.72	.04
Other model alone	.01	.04	.00
Interaction term (Self Model x Other Model) entered after self model and other model	-.19	-1.39	.03

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

Table 4 (cont'd)

Predictor variable	beta	t	$\Delta R^2$
<b>Predicting immunizations</b>			
Self model alone	.03	.28	.00
Other model alone	.02	.13	.00
Interaction term (Self Model x Other Model) entered after self model and other model	-.02	-.12	.00
<b>Predicting # of well child visits</b>			
Self model alone	-.30	-2.23*	.09
Other model alone	-.14	-.98	.02
Interaction term (Self Model x Other Model) entered after self model and other model	-.13	-.79	.01
<b>Predicting # of accidents</b>			
Self model alone	-.19	-1.44	.04
Other model alone	.04	.28	.00
Interaction term (Self Model x Other Model) entered after self model and other model	-.05	-.33	.00
<b>Predicting # of ER visits</b>			
Self model alone	.02	.17	.00
Other model alone	-.10	-.80	.01
Interaction term (Self Model x Other Model) entered after self model and other model	-.32	-2.03*	.07
<b>Predicting # of hospitalizations</b>			
Self model alone	-.14	-1.08	.02
Other model alone	.06	.47	.00
Interaction term (Self Model x Other Model) entered after self model and other model	-.12	-.81	.01
<b>Predicting # of illnesses</b>			
Self model alone	-.19	-1.47	.04
Other model alone	.04	.33	.00
Interaction term (Self Model x Other Model) entered after self model and other model	.04	.26	.00

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

Hypothesis 2: a. Mothers' self model scores will be negatively related to parenting stress. b. Mothers' other model scores will be negatively related to parenting stress.

Both the self model and other model significantly predicted parenting stress,  $t_s (72) = -2.47$  and  $-3.22$ , respectively,  $p_s < .05$  and  $.01$ , respectively. Taken separately, the self and other models accounted for 8% and 13%, respectively, of the variance in parenting stress. Hypothesis 2 was supported.

Hypothesis 3: a. Mothers' other model scores will be negatively related to attitudes indicative of child abuse potential. b. Mothers' self model scores will be negatively related to attitudes indicative of child abuse potential. c. There will be an interaction of the two models as illustrated in Figure 2.

The self model and the other model both significantly predicted child abuse potential,  $t_s (73) = -5.64$  and  $-3.07$ , respectively,  $p_s < .001$  and  $.01$ , respectively. The self model accounted for 30% of the variance in child abuse potential, whereas the other model accounted for 11%. The interaction term also significantly predicted child abuse potential, and accounted for an additional 4% of the variance,  $t (73) = -2.03$ ,  $p < .05$ .

Figure 3 shows that for the low self group, child abuse potential was quite high and did not vary much with differences in the other model ( $r = -.05$ ). For the high self group, however, there was a strong negative relationship ( $r = -.44$ ). Hypothesis 3 was supported.

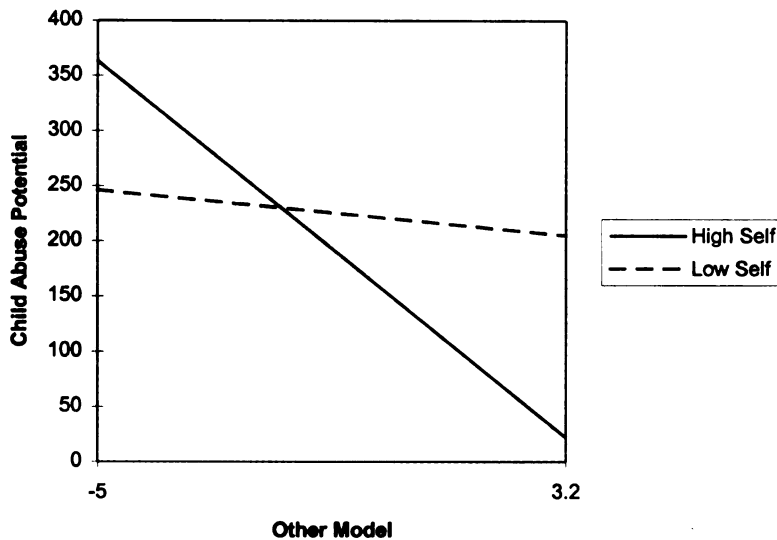


Figure 3. Interaction of self model and other model in predicting child abuse potential.

Hypothesis 4: a. Mothers' other model scores will be negatively related to Family Support Workers' evaluations of the degree of mothers' parenting problems. b. Mothers' self model scores will be negatively related to Family Support Workers' evaluations of the degree of mothers' parenting problems. c. There will be an interaction of the two models as illustrated in Figure 2.

The alpha reliability for the entire Clinical Judgments scale was rather low ( $\alpha = .79$ ). Dividing the scale into two increased the alpha reliability of the first part (Items 1-12), having to do with parent functioning, to .92. The alpha reliability for the second part (Items 13-18) having to do with mothers' abusive or neglectful behavior was still quite low ( $\alpha = .77$ ), but increased to .86 when Item 13, having to do with excessive use of corporal punishment, was removed. Analyses were therefore performed with the two separate Clinical Judgments scales (Parenting Problems and Abuse/Neglect) and for Item 13 separately.



Only the interaction term significantly predicted FSW judgments of parenting problems,  $t(68) = -2.07, p < .05$ . Figure 4 shows that for the low self group, the other model contributed very little to the prediction of FSW judgments of parenting problems ( $r = .05$ ). For the high self group, however, there was a strong negative relationship ( $r = -.44$ ).

Neither the self or other model nor the interaction term predicted FSW judgments of the likelihood of abusive or neglectful behaviors. Keeping in mind that the range of responses for Item 13 was very small, with 70% of participants being judged “very unlikely” to use excessive corporal punishment, neither the self model, the other model,

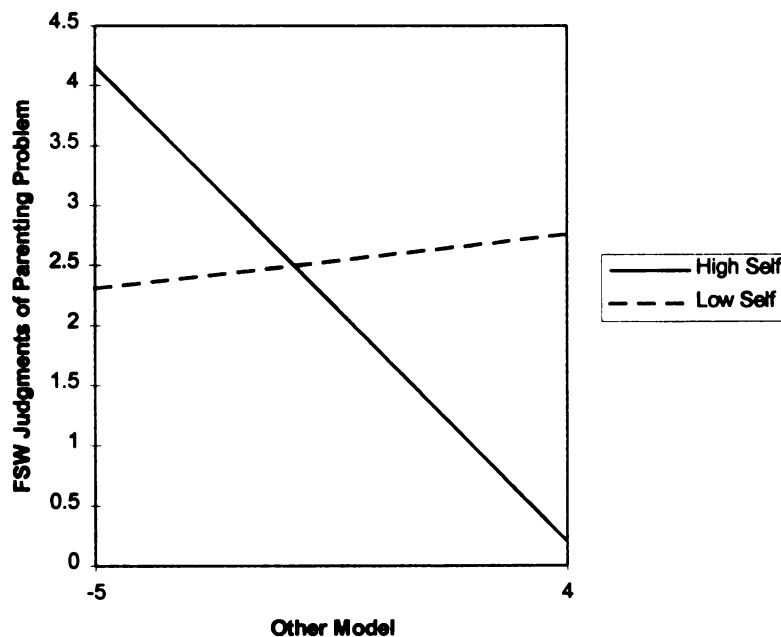


Figure 4. Interaction of self model and other model in predicting FSW judgments of parenting problems.

nor the interaction term significantly predicted this outcome variable. Hypothesis 4 was partially supported.

Hypothesis 5: a. Mothers' other model scores will be negatively related to mother-reported frequency of child behavior problems. b. Mothers' self model scores will be negatively related to mother-reported frequency of child behavior problems. c. There will be an interaction of the two models as illustrated in Figure 2.

The alpha reliability for the five items of the Behavior Problem Frequency Checklist was very low ( $\alpha = .38$ ), so analyses were performed separately for each item. Only the interaction term was significantly related to the number of times in a two-week period that the child reportedly cried for more than 3 minutes,  $t(71) = -2.09, p < .05$ . Figure 5 shows that for the high self group, the other model was negatively related to crying ( $r = -.22$ ), but for the low self group, the other model was positively related to crying ( $r = .14$ ).

Neither the self model nor the other model significantly predicted refusal to eat something the mother wanted the child to eat, but the interaction term was nearly significant, accounting for 5% of the variance,  $t(71) = 1.97, p = .05$ . Figure 6 illustrates this nearly significant interaction. For the high self group, the relationship between the other model and refusal to eat something is a positive one ( $r = .18$ ), whereas for the low self group, the relationship is negative ( $r = -.16$ ).

Neither the self model nor other model nor their interaction significantly predicted sleep problems. Only the self model significantly predicted the child's refusal to go to bed, accounting for 7% of the variance in this behavior  $t(71) = -2.24, p < .05$ . The range

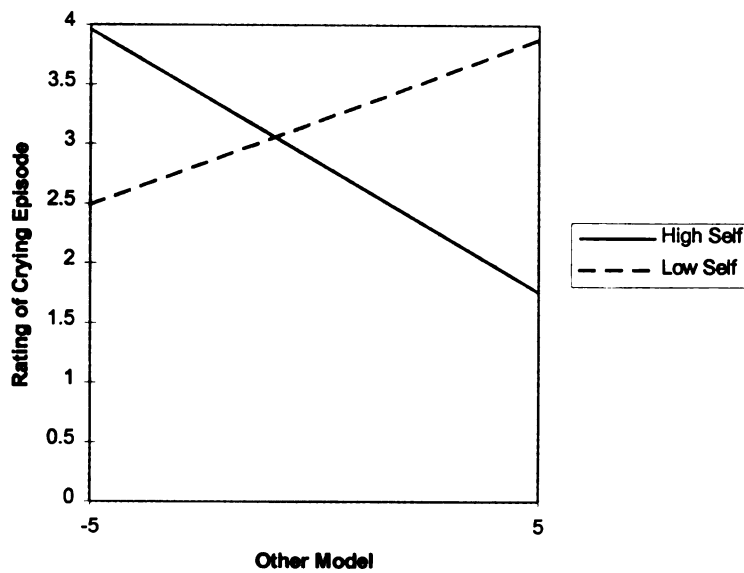


Figure 5. Interaction of self model and other model in predicting number of times the child cried for more than three minutes in a two-week period.

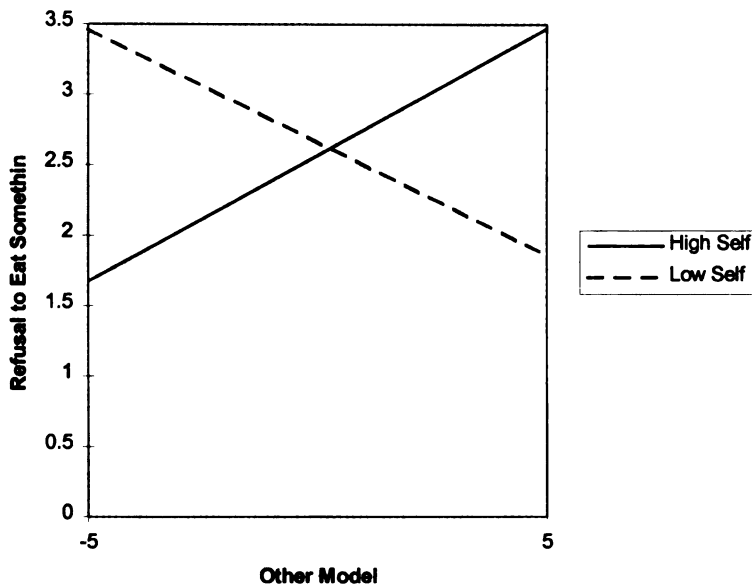


Figure 6. Interaction of self model and other model in predicting the number of times in a two-week period that the child refused to eat something.

of responses for Item 5 regarding withdrawn behavior was very restricted, with 74% of mothers reporting no evidence of this behavior. Neither the self model nor other model nor their interaction significantly predicted withdrawn behavior. Hypothesis 5 was partially supported.

Hypothesis 6: a. Mothers' other model scores will be negatively related to delays in their children's development. b. Mothers' self model scores will be negatively related to delays in their children's development. c. There will be an interaction of the two models as described in Figure 2.

Neither the self model nor other model nor their interaction was significantly related to delays in development. The range of responses was very restricted for this variable with 80% of children exhibiting no delays in development. The self model was nearly significantly related to developmental delays, accounting for 9% of the variance,  $t(68) = -1.72, p < .10$ . Hypothesis 6 was not supported.

Hypothesis 7: a. Mothers' other model scores will be negatively related to lapses in the provision of health care for their children. b. Mothers' self model scores will be negatively related to lapses in the provision of health care for their children. c. There will be an interaction of the two models as illustrated in Figure 2.

The range of responses for immunizations was very restricted, with 86% of mothers reporting that their child was up-to-date on immunizations. Neither the self model, the other model, nor their interaction was significantly related to immunizations. The self model was the only attachment dimension related to the number of well child visits in the first year, accounting for 9% of the variance,  $t(51) = -2.23, p < .05$ . However, the self model predicted well child visits in the direction opposite to that

expected, with higher scores on the self dimension being related to fewer well child visits. This hypothesis was not supported.

Hypothesis 8: a. Mothers' other model scores will be negatively related to their children's health problems (illnesses, emergency medical visits, accidents, hospitalizations). b. Mothers' self model scores will be negatively related to their children's health problems (illnesses, emergency medical visits, accidents, hospitalizations). c. There will be an interaction of the two models as illustrated in Figure 2.

Because the alpha reliability for the measure combining these outcomes was low ( $\alpha = .54$ ), separate analyses were performed for separate components. The range of responses for number of accidents was very restricted, with 86% of participants reporting no accidents in the last year. Neither the self model nor the other model nor their interaction was significantly related to the number of accidents.

Only the interaction term significantly predicted the number of Emergency Room (ER) visits in the last year,  $t(1, 59) = -2.03, p < .05$ . Figure 7 shows that for the high self group, the other model was negatively related to ER visits ( $r = -.30$ ). For the low self group, however, the other model was positively related to ER visits ( $r = .26$ ). The range of responses for hospitalizations was very restricted, with 80% of participants reporting no hospitalizations in the last year. None of the attachment variables predicted the number of hospitalizations in the last year. None of the attachment variables significantly predicted number of child illnesses in the last year as reported by the mother. This hypothesis was partially supported.

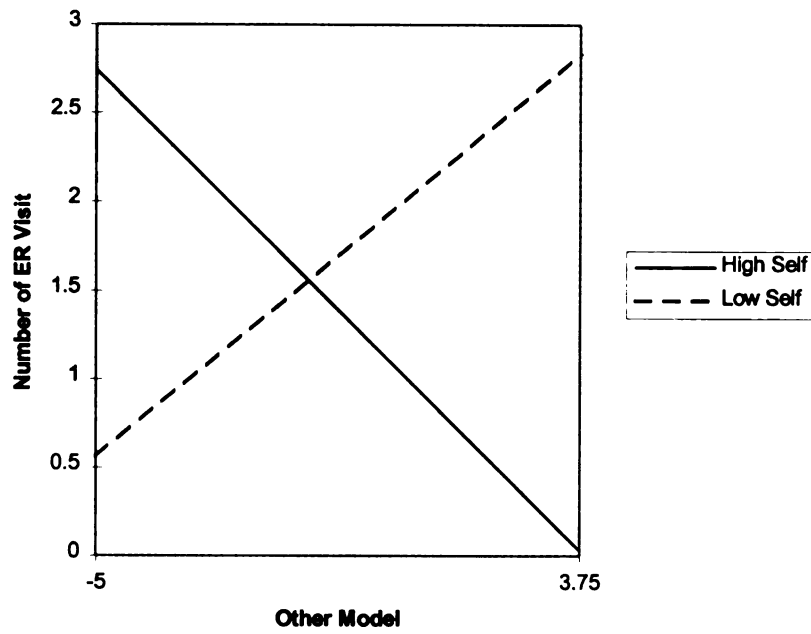


Figure 7. Interaction of self model and other model in predicting number of emergency room (ER) visits in the last year.

Helping relationship.

Table 5 shows that the quality of the helping relationship was significantly related to only two of the variables it was hypothesized to predict. These two were parenting stress and withdrawn behavior on the part of the child.

Table 5. Regression Analyses: Helping Relationship Related to Outcomes

	beta	t	$\Delta R^2$
Predicting parenting stress	-.34	-2.72**	.11
Predicting child abuse potential	.04	.32	.00
Predicting crying	-.19	-1.42	.04
Predicting refusal to eat something	-.09	-.69	.01
Predicting awakening at night	-.04	-.33	.00
Predicting refusal to go to bed	-.04	-.32	.00
Predicting child withdrawal	-.30	-2.34*	.09
Predicting immunizations	.10	.75	.01
Predicting number of well child visits	-.14	-.90	.02
Predicting number of accidents	-.10	-.68	.01
Predicting number of ER visits	-.08	-.52	.01
Predicting number of hospitalizations	-.10	-.70	.01
Predicting number of illnesses	.01	.05	.00

\* $p < .05$ . \*\* $p < .01$ .

Hypothesis 9: Mothers' evaluations of their relationship with the home visitor will be negatively related to parenting stress.

The helping relationship significantly predicted parenting stress, accounting for 11 % of the variance,  $t(58) = -2.72, p < .01$ . Hypothesis 9 was supported.

Hypothesis 11: Mothers' evaluations of their relationship with the home visitor will be negatively related to mother-reported child behavior problems.

Of the five items regarding child behavior problems, the helping relationship was significantly related only to withdrawn behavior, accounting for 9% of the variance,  $t(56) = -2.34, p < .05$ . Hypothesis 11 was partially supported.

Hypotheses 10, 12, and 13: Mothers' evaluations of their relationship with the home visitor will be: negatively related to attitudes indicative of child abuse potential (H10), lapses in the provision of health care for their children (H12), and children's health problems (H13).

None of these hypotheses were supported.

Hypothesis 14: The quality of the helping relationship will overlap substantially with self and other models in predicting outcome variables so that the helping relationship will not be able to account for variance beyond that accounted for by self and other models.

Table 6 shows that the quality of the helping relationship remains significant in predicting parenting stress when entered in the multiple regression analysis after the attachment variables, accounting for an additional 8% of the variance in parenting stress beyond that accounted for by the self model, the other model and their interaction,  $t(58) = -2.49$ . The quality of the helping relationship also remains significant in predicting



withdrawn behavior when entered in the multiple regression analysis after the attachment variables, accounting for 7% of the variance in withdrawn behavior beyond that accounted for by the self model, the other model, and their interaction. Similarly the self and other models remain significant predictors of parenting stress when entered after the quality of the helping relationship, accounting for 8 and 13 percent, respectively, of the variance beyond that accounted for by the helping relationship  $t(72) = -3.07$  and  $-2.38$ , respectively,  $.ps < .01$  and  $.05$ , respectively.

Hypothesis 14 was not supported.

**Table 6. Hierarchical Multiple Regression Analyses: Significance of Helping Relationship Beyond Attachment Style Dimensions in Predicting Parenting Stress and Child Withdrawal**

	beta	t	$\Delta R^2$
<b>Parenting Stress</b>			
Self model	-.34	-2.79**	.11
Other model	-.22	-1.76	.08
Interaction term (Self Model x Other Model)	-.26	-1.89.	.05
Quality of FSW Relationship	-.30	-2.49*	.08
<b>Child Withdrawal</b>			
Self model	-.12	-.89	.01
Other model	-.02	-.13	.00
Interaction term (Self Model x Other Model)	-.19	-1.24	.03
Quality of FSW Relationship	-.28	-2.08*	.07

\* $p < .05$ . \*\* $p < .01$ .

### Additional Analyses

While neither the self model nor the other model alone predicted the quality of the helping relationship as predicted in Hypothesis 1, the interaction term (Self Model x Other Model) was significant,  $t(58) = 2.11, p > .05$ . Figure 8 shows that for the high self group, there was a positive relationship of the other model with the quality of the helping relationship ( $r = .22$ ). For the low self group, however, there was a negative relationship between the other model and the quality of the helping relationship ( $r = -.18$ ).

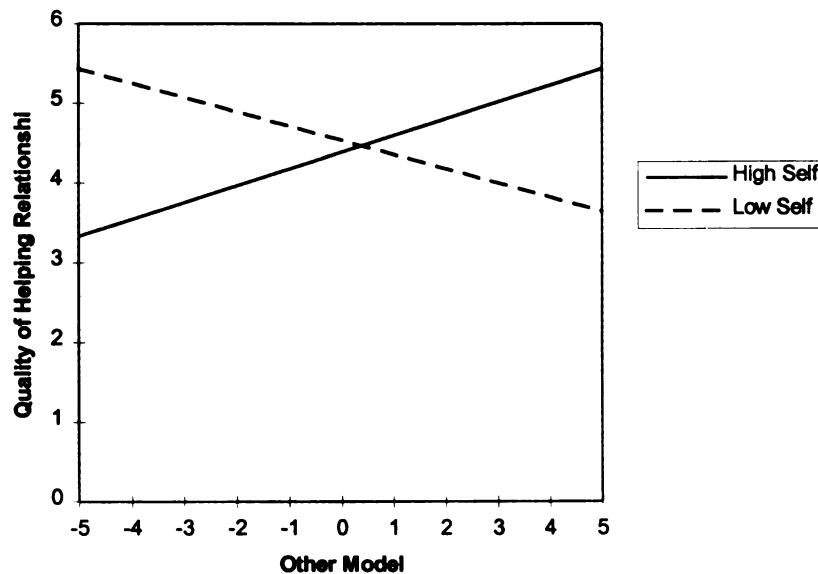


Figure 8. Interaction of self model and other model in predicting quality of the helping relationship.

The self and other model did predict parenting stress as expected in Hypothesis 2, and the interaction term accounted for an additional 4% of the variance beyond that accounted for by the self and other models, and was nearly significant,  $t(72) = -1.91$ ,  $p = .06$ . Figure 9 illustrates this nearly significant trend, showing that for both groups there was a negative relationship between the other model and parenting stress, but for the high self group, the negative relationship is stronger ( $r = -.47$ ) than for the low self group ( $r = -.12$ ).

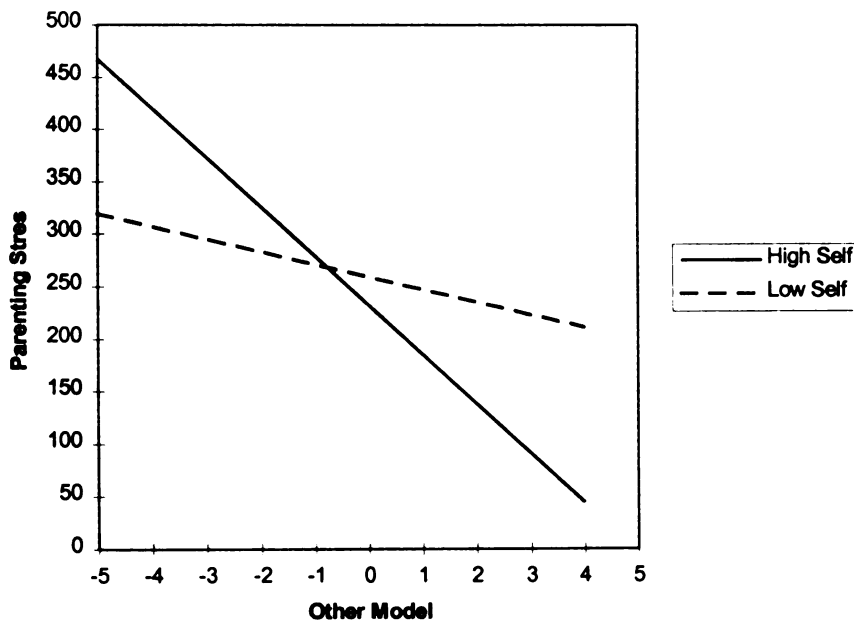


Figure 9. Interaction of self model and other model in predicting parenting stress

### Variables with Restricted Ranges

Several of the outcome variables had a very restricted range of responses with 70% or more of participants indicating one particular response. Exploratory analyses were performed in an attempt to elucidate any relationships between predictor variables and outcomes that might have been overlooked.

Eighty percent of children in this study had no delays in development. There was, however, a nearly significant trend for the self model in relation to delays  $t(68) = -1.72, p < .10$ . A post hoc analysis indicated a similar trend in the relationship between the self model and Denver II cautions,  $t(68) = -1.84, p < .10$ . Also, when participants with any delays are examined separately (eliminating those participants with no delays), there is a nearly significant relationship between the self model and the number of delays,  $t(12) = -2.13, p = .06$ . Although not quite significant because of the low sample size for this group ( $N = 14$ ), the correlation between the self model and number of delays was quite strong ( $r = -.53$ ). It was hypothesized that a moderator variable might put some children at greater risk for having delays, and for that group the mother's self model might have a greater impact on the number of delays. The mother's intelligence might act as such a moderator variable. While this study includes no measure of intelligence, the closest approximation that was available was education. Dividing the sample into a group that had less than 12 years of education and another that had 12 or more, no significant difference was found in the number of developmental delays of children in each group.

On a four-point scale, seventy-two percent of participants were judged by FSWs as being "very unlikely" to engage in excessive corporal punishment. Looking separately at the group of participants who were judged to have any likelihood of excessive corporal

punishment, no significant relationships were found between likelihood of corporal punishment and any of the predictor variables.

Seventy-four percent of participants reported that their child had not been withdrawn or unresponsive in the two weeks. Looking separately at the group that did report any withdrawn behavior, no significant relationships were found between the number of incidences of withdrawn behavior and any of the attachment variables.

Eighty-six percent of participants reported that their children were up-to-date on immunizations. No differences in means for self model, other model, or helping relationship were found between the up-to-date group and the group that was not up-to-date.

Eighty-six percent of participants reported no accidents for their children in the last year. Looking separately at the group that did report any accidents, there was a significant relationship between the helping relationship and the number of accidents reported,  $t = -2.93$ ,  $p < .05$ . The attachment variables were not significantly related to number of accidents within this subgroup.

Eighty percent of participants reported no hospitalizations of their children in the last year. Looking separately at the group that did report any hospitalizations, no significant relationships were found between number of hospitalizations and any of the predictor variables.

### Predicting Parenting Stress Index Subscales

Attachment variables. While a significant relationship with parenting stress was found for the self and other models and the helping relationship, additional analyses were performed to elucidate which subscales carried the effects and which were superfluous.

Table 7 shows the results of multiple regression analyses in which attachment dimensions predicted Parenting Stress Index subscales. In predicting problems with child adaptability, both the self model and the other model were significant, accounting for 9% and 6% of the variance, respectively,  $t_s(72) = -2.64$  and  $-2.09$ , respectively,  $p_s < .05$ .

Although the self model did not significantly predict child demandingness, the parent's other model did, accounting for 5% of the variance,  $t(72) = -2.01$ ,  $p < .05$ . The interaction term accounted for an additional 9% of the variance,  $t(72) = -2.77$ ,  $p < .01$ . Figure 10 shows that for the low self group, the other model contributed very little to the prediction of child demandingness ( $r = .04$ ). For the high self group, however, there was a strong negative relationship ( $r = -.42$ ).

Only the self model significantly predicted child mood, accounting for 6% of the variance,  $t(72) = -2.09$ ,  $p < .05$ . Only the other model significantly predicted child distractibility, accounting for 7% of the variance,  $t(72) = -2.38$ ,  $p < .05$ .

The self model significantly predicted problems accepting the child, and while the other model was not significant, the interaction term was, accounting for an additional 7% of the variance beyond that accounted for by the self and other models,  $t_s(72) = -2.38$  and  $-2.33$ , respectively,  $p_s < .05$ . Figure 11 shows that for the low self group, the other model contributed very little to the prediction of problems accepting the child ( $r = .08$ ). For the high self group, however, there was a strong negative relationship ( $r = -.30$ ).

**Table 7 Hierarchical Multiple Regression Analyses: Attachment Style Dimensions Related to Parenting Stress Subscales**

Predictor variable	beta	t	$\Delta R^2$
<b>Predicting problems with child adaptability</b>			
Self model alone	-.30	-2.64*	.09
Other model alone	-.24	-2.09*	.06
Interaction term (Self Model x Other Model) entered after self model and other model	-.22	-1.73	.04
<b>Predicting child demandingness</b>			
Self model alone	-.22	-1.87	.05
Other model alone	-.23	-2.01*	.05
Interaction term (Self Model x Other Model) entered after self model and other model	-.35	-2.77**	.09
<b>Predicting child mood problems</b>			
Self model alone	-.24	-2.09*	.06
Other model alone	-.21	-1.84	.05
Interaction term (Self Model x Other Model) entered after self model and other model	-.06	-.48	.00
<b>Predicting child distractibility</b>			
Self model alone	-.21	-1.82	.04
Other model alone	-.27	-2.38*	.07
Interaction term (Self Model x Other Model) entered after self model and other model	.00	.05	.00
<b>Predicting problems accepting child</b>			
Self model alone	-.27	-2.38*	.07
Other model alone	-.17	-1.42	.03
Interaction term (Self Model x Other Model) entered after self model and other model	-.30	-2.33*	.07
<b>Predicting lack of reinforcement of mother</b>			
Self model alone	-.26	-2.28*	.07
Other model alone	-.24	-2.12*	.06
Interaction term (Self Model x Other Model) entered after self model and other model	-.30	-2.42*	.07

\* $p < .05$ . \*\* $p < .01$ .

Table 7 (cont'd)

Predictor variable	beta	t	$\Delta R^2$
<b>Predicting parent depression</b>			
Self model alone	-.34	-3.02**	.11
Other model alone	-.35	-3.19**	.13
Interaction term (Self Model x Other Model) entered after self model and other model	-.32	-2.66*	.07
<b>Predicting parent's sense of incompetence</b>			
Self model alone	-.35	-3.20**	.12
Other model alone	-.36	-3.27**	.13
Interaction term (Self Model x Other Model) entered after self model and other model	-.16	-1.31	.02
<b>Predicting problems with parent attachment</b>			
Self model alone	-.17	-1.47	.03
Other model alone	-.36	-3.21**	.13
Interaction term (Self Model x Other Model) entered after self model and other model	-.18	-1.40	.02
<b>Predicting relationship problems with spouse</b>			
Self model alone	-.13	-1.10	.02
Other model alone	-.08	-.70	.01
Interaction term (Self Model x Other Model) entered after self model and other model	.22	1.62	.04
<b>Predicting parent isolation</b>			
Self model alone	-.13	-1.09	.02
Other model alone	-.24	-2.04*	.06
Interaction term (Self Model x Other Model) entered after self model and other model	.10	.78	.01
<b>Predicting parent health problems</b>			
Self model alone	-.30	-2.65*	.09
Other model alone	-.17	-1.46	.03
Interaction term (Self Model x Other Model) entered after self model and other model	-.09	-.70	.01
<b>Predicting restriction of role</b>			
Self model alone	-.04	-.34	.00
Other model alone	-.19	-1.61	.04
Interaction term (Self Model x Other Model) entered after self model and other model	-.28	-2.10*	.06

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$



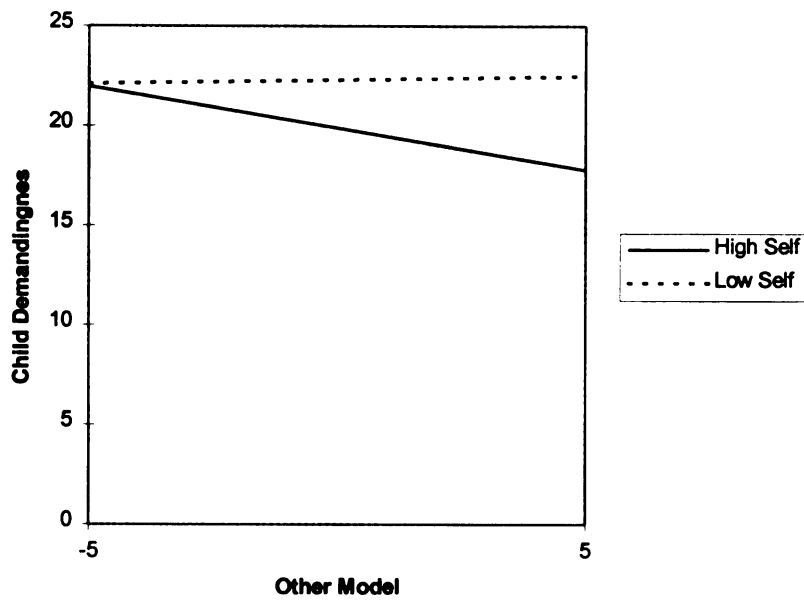


Figure 10. Interaction of self model and other model in predicting child demandingness.

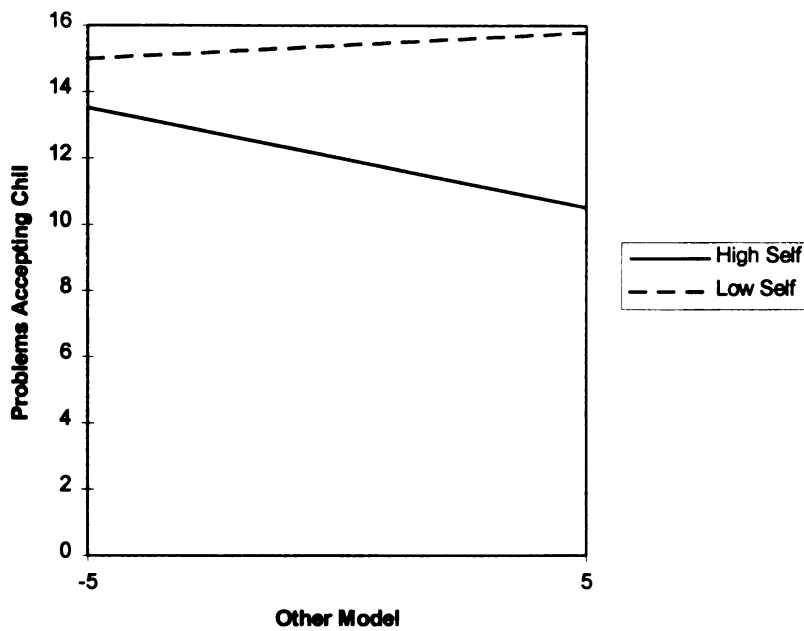


Figure 11. Interaction of self model and other model in predicting problems accepting the child.

The self model, the other model, and the interaction term all significantly predicted lack of reinforcement of the parent by the child,  $t_s(72) = -2.28, -2.12$ , and  $-2.42$ , respectively,  $p_s < .05$ . Figure 12 shows that for the low self group, the other model contributed very little to the prediction of lack of reinforcement of the mother ( $r = .03$ ). For the high self group, however, there was a strong negative relationship ( $r = -.40$ ).

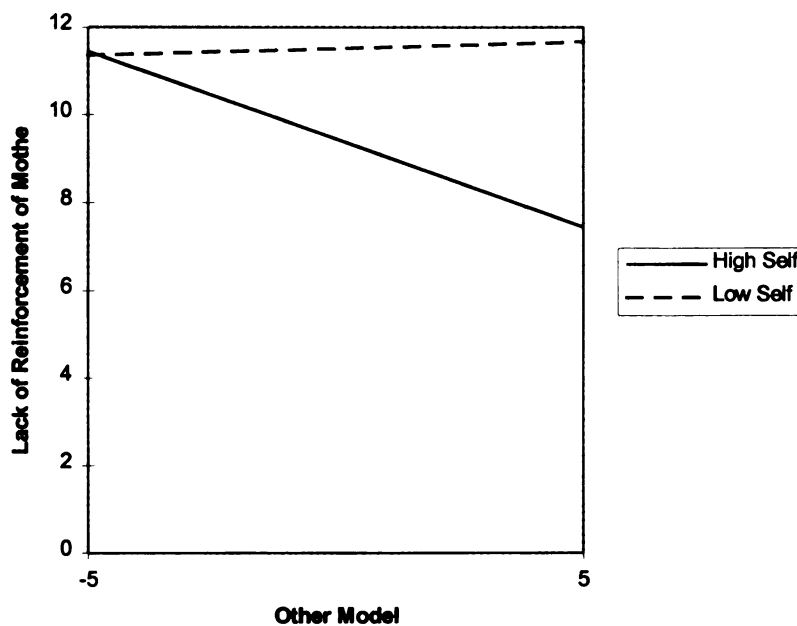


Figure 12. Interaction of self model and other model in predicting lack of reinforcement of the mother by the child.

The self model and the other model significantly predicted mothers' depression, accounting for 12% and 13% of the variance, respectively,  $t_s(72) = -3.20$  and  $-3.27$ , respectively,  $p_s < .01$ . The interaction term was also significant, accounting for an additional 7% of the variance,  $t(72) = -2.66, p < .05$ . Figure 13 shows that that for the low self group, the other model contributed very little to the prediction of mothers'

depression ( $r = -.03$ ). For the high self group, however, there was a strong negative relationship ( $r = -.50$ ).

Both the self model and the other model significantly predicted mothers' sense of incompetence, accounting for 12% and 13% of the variance, respectively,  $t_s(72) = -3.2$  and  $-3.27$ , respectively,  $p_s < .01$ . The interaction term did not significantly predict this variable.

Only the other model predicted problems with parent attachment, accounting for 13% of the variance,  $t(72) = -3.21$ ,  $p < .01$ . None of the attachment variables significantly predicted relationship problems with one's spouse. Only the other model predicted parent isolation, accounting for 6% of the variance,  $t(72) = -2.04$ ,  $p < .05$ . Only the self model predicted parent health problems, accounting for 9% of the variance,  $t(72) = -2.65$ ,  $p < .05$ .

Only the interaction term significantly predicted mothers' restriction of role,  $t(72) = -2.10$ ,  $p < .05$ . Figure 14 shows that for the low self group, the other model contributed very little to the prediction of restriction of role ( $r = -.01$ ). For the high self group, however, there was a strong negative relationship ( $r = -.30$ ).

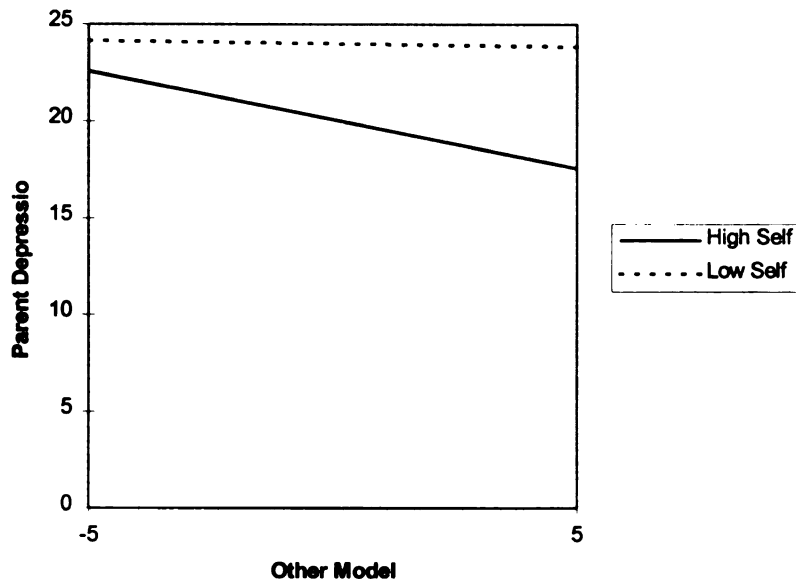


Figure 13. Interaction of self model and other model in predicting parent depression.

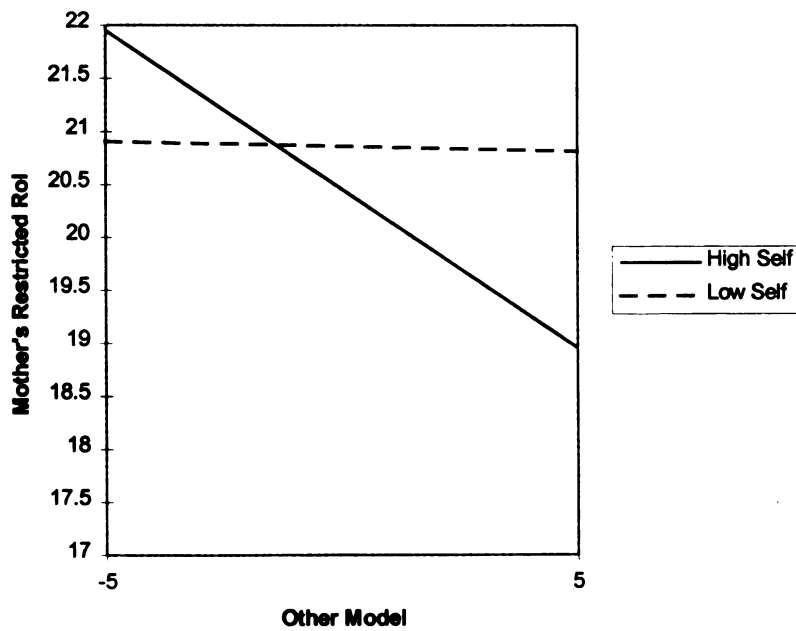


Figure 14. Interaction of self model and other model in predicting mother's restricted role.

**Helping relationship.** Of the 13 PSI subscales, the quality of the helping relationship significantly predicted four (See Table 8). Of the PSI variables from the Child Domain, the helping relationship significantly predicted problems accepting the child, accounting for 13% of the variance, and lack of reinforcement by the mother, accounting for 15% of the variance,  $t_s(58) = -2.95$  and  $-3.17$ , respectively,  $p_s < .01$ . Of the PSI variables from the Parent Domain, the helping relationship significantly predicted mothers' sense of incompetence, accounting for 15% of the variance, and mothers' attachment problems, accounting for 14% of the variance,  $t_s(58) = -3.13$  and  $-3.00$ , respectively,  $p_s < .01$ . Table 9 shows that the helping relationship remains a significant predictor of each of the four variables when entered into the hierarchical multiple regression after all attachment variables.

Table 10 shows that the self model when entered after the helping relationship remains a significant predictor of problems accepting the child,  $t(72) = -2.98$ ,  $p < .01$ , but the interaction term does not. The self model and interaction term remain significant predictors of lack of reinforcement of the mother when entered after the helping relationship, but the other model does not, significant  $t_s = -2.86$  and  $-2.30$ , respectively,  $p_s < .05$ . Both the self model and other model remain significant predictors of mothers' sense of incompetence when entered after the helping relationship,  $t_s = -3.03$  and  $-2.68$ , respectively,  $p_s < .01$  and  $.05$ , respectively. The other model remains a significant predictor of parent attachment problems when entered after the helping relationship,  $t(72) = -3.00$ ,  $p < .01$ .

**Table 8. Regression Analyses: Helping Relationship Related to Parenting Stress Subscales**

	beta	t	$\Delta R^2$
Predicting problems with child adaptability	-.24	-1.89	.06
Predicting child demandingness	-.24	-1.88	.06
Predicting child mood problems	-.23	-1.76	.05
Predicting child distractibility	-.16	-1.24	.03
Predicting problems accepting child	-.36	-2.95**	.13
Predicting lack of reinforcement of mother	-.38	-3.17**	.15
Predicting mother's depression	-.14	-1.09	.02
Predicting parent's sense of incompetence	-.38	-3.13**	.15
Predicting parent attachment problems	-.37	-3.00**	.14
Predicting relationship problems with spouse	-.12	-.92	.02
Predicting social isolation	.05	.39	.00
Predicting parental health problems	-.08	-.57	.01
Predicting restriction of role	-.21	-1.65	.05

\* $p < .05$ . \*\* $p < .01$ .

**Table 9. Hierarchical Multiple Regression Analyses: Significance of Helping Relationship Beyond Attachment Style Dimensions in Predicting Parenting Stress Subscales**

	beta	t	$\Delta R^2$
<b>Predicting problems accepting child</b>			
Self model	-.33	-2.66*	.11
Other model	.00	.00	.00
Interaction term (Self Model x Other Model)	-.24	-1.63	.04
Quality of FSW Relationship	-.35	-2.85**	.11
<b>Predicting lack of reinforcement of mother</b>			
Self model	-.31	-2.53*	.10
Other model	-.13	-.98	.02
Interaction term (Self Model x Other Model)	-.41	-2.99**	.12
Quality of FSW Relationship	-.32	-2.74**	.09
<b>Predicting parent's sense of incompetence</b>			
Self model	-.33	-2.69**	.11
Other model	-.26	-2.05*	.06
Interaction term (Self Model x Other Model)	-.22	-1.59	.04
Quality of FSW Relationship	-.35	-3.02**	.11
<b>Predicting parent attachment problems</b>			
Self model	-.22	-1.71	.05
Other model	-.33	-2.58*	.10
Interaction term (Self Model x Other Model)	-.36	-2.58*	.09
Quality of FSW Relationship	-.30	-2.52*	.08

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

Table 10. Hierarchical Multiple Regression Analyses: Significance of Attachment Variables Beyond Helping Relationship in Predicting Parenting Stress Subscales

	beta	t	$\Delta R^2$
<b>Predicting problems accepting child</b>			
Quality of FSW Relationship	-.36	-2.95**	.13
Self model entered second	-.34	-2.98**	.12
Other model entered second	-.08	-.59	.08
Interaction term (Self Model x Other Model) entered fourth	-.13	-.89	.01
<b>Predicting lack of reinforcement of mother</b>			
Quality of FSW Relationship	-.38	-3.17**	.15
Self model entered second	-.33	-2.86**	.11
Other model entered second	-.19	-1.54	.03
Interaction term (Self Model x Other Model) entered fourth	-.31	-2.30*	.06
<b>Predicting parent's sense of incompetence</b>			
Quality of FSW Relationship	-.38	-3.13**	.15
Self model entered second	-.35	-3.03**	.12
Other model entered second	-.31	-2.68*	.10
Interaction term (Self Model x Other Model) entered fourth	-.11	-.81	.01
<b>Predicting parent attachment problems</b>			
Quality of FSW Relationship	-.37	-3.00**	.14
Self model entered second	-.23	-1.95	.06
Other model entered second	-.35	-3.00**	.12
Interaction term (Self Model x Other Model) entered fourth	-.26	-1.91	.05

\* $p < .05$ . \*\* $p < .01$ .



### Predicting CAP-I Subscales

Attachment variables. While all attachment variables were significantly related to child abuse potential, additional analyses were performed to elucidate which subscales of the total score carried the effects and which were superfluous. Table 11 shows the results of multiple regression analyses in which attachment dimensions predicted CAP-I subscales.

Both the self model and the other model significantly predicted distress, accounting for 32% and 11% of the variance, respectively,  $t_s(73) = -5.81$  and  $-2.94$ , respectively,  $p_s < .001$  and  $.01$ , respectively. The interaction term was not a significant predictor of distress. No attachment variable predicted rigidity. Only the self model significantly predicted unhappiness, accounting for 8% of the variance,  $t(73) = -2.54$ ,  $p < .05$ . Only the self model significantly predicted problems with child and self, accounting for 6% of the variance,  $t(72) = -2.12$ ,  $p < .05$ . Both the self and other models predicted problems with family, accounting for 16% and 6% of the variability, respectively,  $t_s(73) = -3.51$  and  $-2.08$ , respectively,  $p_s < .01$  and  $.05$ , respectively.

Both the self and other models significantly predicted problems from others, accounting for 18% and 10% of the variability, respectively,  $t_s(73) = -3.99$  and  $-2.79$ , respectively,  $p_s < .001$  and  $.01$ , respectively. The interaction term was nearly significant,  $t(73) = -1.87$ ,  $p = .07$ . Figure 15 illustrates this nearly significant trend. For the low self group problems from others were quite extensive and the other model contributed very little to the prediction of problems from others ( $r = -.08$ ). For the high self group, however, the degree of problems from others was lower and there was a negative relationship between the other model and problems from others ( $r = -.38$ ).

Table 11. Hierarchical Multiple Regression Analyses: Attachment Style Dimensions Related to Child Abuse Potential Subscales

Predictor variable	beta	t	$\Delta R^2$
<b>Predicting distress</b>			
Self model alone	-.56	-5.81***	.32
Other model alone	-.33	-2.94**	.11
Interaction term (Self Model x Other Model) entered after self model and other model	-.19	-1.77	.03
<b>Predicting rigidity</b>			
Self model alone	.04	.37	.00
Other model alone	-.06	-.52	.00
Interaction term (Self Model x Other Model) entered after self model and other model	-.17	-1.28	.02
<b>Predicting unhappiness</b>			
Self model alone	-.29	-2.54*	.08
Other model alone	-.12	-1.04	.02
Interaction term (Self Model x Other Model) entered after self model and other model	-.06	-.47	.00
<b>Predicting problems with child and self</b>			
Self model alone	-.24	-2.13*	.06
Other model alone	-.11	-.98	.01
Interaction term (Self Model x Other Model) entered after self model and other model	-.07	-.56	.00
<b>Predicting problems with family</b>			
Self model alone	-.41	-3.76***	.16
Other model alone	-.25	-2.16*	.06
Interaction term (Self Model x Other Model) entered after self model and other model	-.10	-.79	.01
<b>Predicting problems from others</b>			
Self model alone	-.42	-3.99***	.18
Other model alone	-.31	-2.79**	.10
Interaction term (Self Model x Other Model) entered after self model and other model	-.22	-1.87	.04

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$

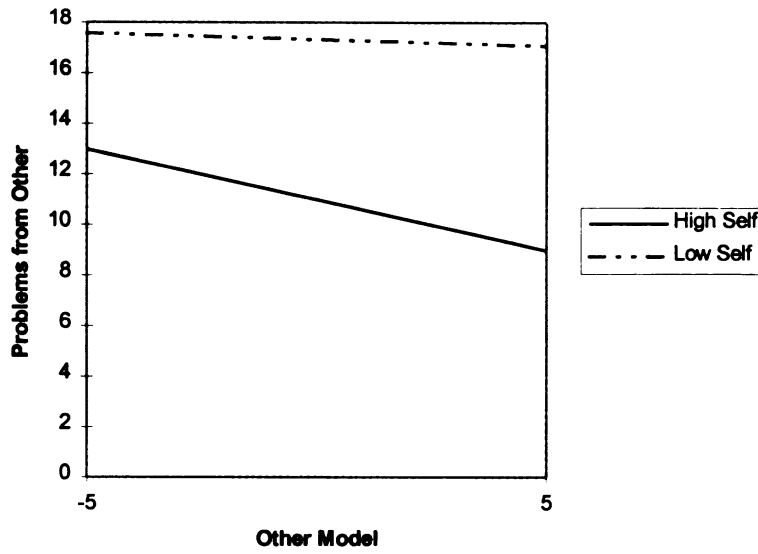


Figure 15. Interaction of self model and other model in predicting problems from others.

**Helping relationship.** Although the helping relationship was not related to the total Abuse score of the CAP-I, additional analyses were performed to see if the helping relationship was related to any aspect of child abuse potential. Table 12 shows that quality of the helping relationship did not significantly predict any of the CAP-I subscales.

**Table 12. Regression Analyses: Helping Relationship Related to Child Abuse Potential Subscales**

	beta	t	$\Delta R^2$
Predicting distress	.16	1.20	.02
Predicting rigidity	-.22	-1.73	.05
Predicting unhappiness	-.12	-.92	.01
Predicting problems with child and self	-.12	-.92	.01
Predicting problems with family	.08	.59	.01
Predicting problems from others	-.04	-.27	.00

### **Attachment Categories**

In order to make comparisons with other studies regarding the distribution of participants across attachment categories, calculations were performed to determine each participant's location in one of the four quadrants based on the intersection of the self and other dimensions. These four quadrants represent each of the attachment styles: Secure, Preoccupied, Dismissing, or Fearful. In this study, 24.0% of participants were classified

as Secure, 14.7% were classified as Preoccupied, 34.7% were classified as Dismissing, and 26.7% were classified as Fearful.

## **CHAPTER 4**

### **DISCUSSION**

Since this is a complex study with many analyses, one is naturally concerned about the possibility of capitalizing on chance findings. Sixty of the 178 analyses performed for this study were significant. That is, 34% of the analyses were significant, a number far greater than the 5% to be expected by chance. Furthermore, the 178 analyses performed included 43 involving dependent variables so restricted in range that it was very unlikely that a significant result would be found, with 70% or more of the participants indicating the same response. If these are eliminated, the percentage of significant results increases to 43%. Looking only at analyses directly testing the original hypotheses, 15 of the 66 analyses (23%) were significant. If the analyses involving dependent variables with very restricted ranges are eliminated, 32% were significant. Bonferroni adjustments therefore seemed unnecessary.

As stated previously, the purpose of this study was to examine the impact of adult attachment style on parenting and on the health and development of children in two ways: 1) directly, and 2) through the impact of adult attachment style on the helping relationship, which was also expected to predict parenting and child health and development outcomes. The present study builds on the extant literature which suggests

a relationship between adult attachment style and several parenting and child health and development outcomes. This study also extends that literature to include aspects of parenting and child health and development not previously examined and by directly examining relationships that have been indirectly suggested by previous findings. The separate examination of self and other attachment dimensions in this study allows for the exploration of the effects of each of these models in relation to outcomes, as well as their interaction. The quality of the helping relationship was also expected to be related to outcome variables. It was hypothesized, however, that the quality of the relationship would be determined largely by the participant's attachment style. Mothers with more positive self and other models were expected to be more receptive to the intervening person and therefore to make better use of that person's help and show fewer parenting problems and fewer problems with their child's health and development.

#### Maternal Attachment Style and the Helping Relationship

Neither the self model nor the other model was related to the quality of the helping relationship. This was surprising because of the intuitive link between attachment style and receptiveness to a helping professional, as well as previous research which supports such a link, especially for the other model. One possible reason for this discrepancy was that most participants were either satisfied or very satisfied with their home visitor, leaving relatively little variation to be accounted for by a predictor variable. It could be that women judged by the program to be of moderate to high level need for services were likely to be receptive and grateful for parenting help, regardless of their attachment style. On further examination, however, the attachment dimensions were related to the helping

relationship, but an interaction of the self and other models masked the individual effects of each.

Although no interaction of the self and other models was expected, a post hoc analysis found a significant interaction, illustrated in Figure 8. For persons with a more positive self model, there was a positive relationship between the other model and the helping relationship, as expected. For those with a more negative self model, however, a negative relationship between the other model and the helping relationship was found. This was particularly surprising in light of Bartholomew and Horowitz's (1991) finding that persons with a negative self model and positive other model (preoccupied style) scored high on measures which would seem to indicate receptiveness to others. On closer inspection, however, the interview used by Bartholomew and Horowitz appeared to focus on a need for others, with persons of preoccupied style receiving high ratings on dimensions such as self-disclosure (with a tendency to disclose inappropriately), emotional expressiveness, reliance on others, going to others when upset, having a high level of romantic involvement, and having less control than their partners in friendships. The measure of the helping relationship in the present study, on the other hand, focused on the participant's satisfaction with the helping relationship. It could be that for persons with a negative self model, a positive other model reflects the degree of need for and expectation of others in relationships, but as the expectation increases, their satisfaction with a particular other decreases. For persons with a negative self model, then, a negative model of others would reflect low expectations of others in relationships and their actual relationship with the home visitor would have been a pleasant surprise, resulting in a higher rating of the relationship. For persons with a negative self model and more



positive other model, on the other hand, the need and the expectation would be high, but the actual relationship would perhaps be a disappointment, resulting in a lower rating of the actual relationship.

This would imply that the intervening person in a helping relationship would have particular relationship concerns not only about persons with a positive self and negative other model, as expected, but also about persons with negative self and positive other models. For this latter group, efforts to focus on the individual's own strengths and cultivate her independence might be particularly important in developing a positive relationship and furthering the goals of the program. With persons in the former group, on the other hand, one might focus more on the importance of relationships and the ability to depend on others for help. With fearful persons (negative self, negative other) receptiveness is likely to be high once the relationship is initiated and expectations of rejection from others are repeatedly disconfirmed. Finally, as expected, secure persons with a positive model of both self and others are likely to be receptive to the home visitor from the outset.

Future studies should directly address the apparently different meaning of a positive other model depending on one's position on the self dimension; that is, between need for and expectations of others, on the one hand, and satisfaction and appreciation of relationships on the other. Further research might also address whether the present finding is generalizable to populations beyond the present one which involves only mothers of families judged to be of moderate to high need for services. Even if applicable only to higher need groups, however, this finding is of practical significance for helping relationships in which individuals are generally in need of services. If this

pattern holds in future studies regarding attachment dimensions and the quality of particular relationships, a person's position on both the self model and other model will have to be known in order to predict the person's assessment of the quality of the relationship and understand how that relationship might be enhanced.

### Attachment

#### Maternal Attachment Style and Parenting Stress

Models of self and other were both negatively related to mothers' reported levels of parenting stress. Apparently one's view of self and others in relationships is related to the degree of stress one experiences in the parenting role, presumably due to varying degrees of conflict the mother experiences in relationships, and in the mother-child relationship in particular. Another implication of this finding may be that those with positive models of self and other are better able to reduce stress by finding and making use of social supports, consistent with the speculations of West et al. (1986) on this topic. A third possible implication is that internal working models affect the way individuals perceive and react to life events, creating greater or lesser degrees of stress through their perceptions. This interpretation is consistent with Mikulincer and Florian's (1995) finding that insecurely attached persons perceived their military training as more threatening and saw themselves as less capable of handling stressful situations than did securely attached persons. Any of these interpretations would lead to the conclusion that parents who are experiencing extreme stress in their parenting role may benefit not only from practical assistance with parenting, but also by interventions that directly address their views of self and others in relationships, and particularly their views of the mother-child relationship. Such interventions might focus on enhancing and building upon

positive feelings about their child and about themselves in the parenting role, on the ability to find and accept support from others, and on cognitive interventions to address perceptions of their child's behavior and other life events.

Since attachment models of self and other were not manipulated, causation of parenting stress by attachment style cannot be assumed. It could be, for instance, that having a child of a particular temperament influences both one's attachment models and one's level of parenting stress. While it is impossible to experimentally manipulate the attachment dimensions, longitudinal studies indicating the stability or lack of stability of internal working models over time, including measurements before and after the parent had children, would help elucidate the issue of causation to some extent. If parents whose self and other models were more negative after having children also had more negative self and other models before having children, one could at least rule out the possibility that having the child determined their position on the attachment dimensions, making it more likely that the attachment dimensions caused their reported degree of stress.

A post hoc analysis revealed a nearly significant interaction between self and other models related to parenting stress (Figure 9). This trend indicates that persons with positive self and positive other models experienced the least amount of stress, whereas persons with positive self models and negative other models experienced the greatest amount. Persons with negative self models experienced relatively high amount of stress, regardless of whether the other model was positive or negative, but the amount of stress for this group was not as high as for those with a positive self model and negative other model. This implies that a positive sense of self in relationships is only a protective

factor in terms of parenting stress when the other model is also positive, but that it may be a liability if the other model is negative. It must be remembered, of course, that this was not a significant finding. It raises an interesting question, however, that could be addressed in a similar study with a larger sample size.

To address which aspects of parenting stress accounted for the significant findings above and which were superfluous, post hoc analyses were conducted with attachment variables predicting Parenting Stress Index subscales (Table 7). The effects were found to be spread among most of the subscales with at least one attachment variable significantly related to every subscale except the one regarding relationship problems with one's spouse. All significant relationships were in the expected direction, with higher self and other models indicating lesser problems. Particularly strong negative relationships were found between both self and other models and parent depression and the parent's sense of incompetence, and between the other model and problems with parent attachment. Both self and other models were significantly related to the following variables: child adaptability, lack of reinforcement of the mother, parent depression, and parent's sense of incompetence. The self model only was significantly related to: child mood problems, problems accepting the child, and parent health problems. The other model only was related to: child demandingness, child distractibility, problems with parent attachment, and parent isolation. The interaction term was significant for five of the subscales (Figures 10-14). The pattern for each interaction was quite similar, indicating that for these aspects of parenting stress a negative self model was associated with greater stress regardless of the status of the other model, whereas for those with a high self model, the other model was negatively related to the degree of parenting stress.

These findings support the notion that attachment style is related to one's subjective experience of parenting stress and elucidate some of the aspects of parenting stress that are more strongly related than others. As mentioned above, parents may benefit from interventions that directly address their views of self and others in relationships. Since the attachment dimensions seem to have the most powerful relationships with mothers' depression, the mother's sense of competence, and mother's attachment to her child, these are areas where the greatest benefits of such interventions are likely to accrue.

#### Maternal Attachment Style and Child Abuse Potential

Both the self model and other model were negatively related to child abuse potential and there was a significant interaction between the two models. The finding that models of self and others in relationships were negatively related to attitudes indicative of child abuse potential is consistent with the Zeanah and Zeanah's (1989) conceptualization of the intergenerational transmission of abuse in terms of passing on internal working models of relationships and related attitudes. This model of intergenerational transmission is also consistent with findings of high concordance rates of attachment styles between generations (Benoit & Parker, 1994; Van Ijzendoorn, 1995; Zeanah et al., 1993). According to this line of thinking, models of self and other in relationships are established in one's childhood and affect the degree of abusive attitudes towards one's children. The resulting treatment of the child, whether or not it involves outright abuse, affects the child's working models of self and other, and the legacy of abusive attitudes is thus passed on from generation to generation along with the related attachment styles. What is passed on is a vulnerability to abuse which may or may not be realized depending on other factors. To break the cycle of abuse, then, the parent's abusive attitudes have to

change in order to avoid passing them on to her children. It is likely that in order for these attitudes to change, one's model of self and others in relationships would also need to change. Interventions designed to help the mother develop positive feelings about herself and her child might facilitate such changes.

As was the case with parenting stress, causation of child abuse potential by attachment style cannot be assumed since models of self and other were not manipulated, and there could be a third variable that influences both the attachment dimensions and child abuse potential. Again, while it is impossible to experimentally manipulate the attachment dimensions, longitudinal studies indicating the stability or lack of stability of internal working models over time, including measurements before and after the parent had children, would help elucidate the issue of causation.

The significant interaction of self and other models related to child abuse potential is illustrated in Figure 3. This interaction indicates that persons with positive self and positive other models show the least child abuse potential, whereas persons with positive self models and negative other models show the greatest degree of child abuse potential. Persons with negative self models show a relatively high degree of child abuse potential, regardless of whether the other model is positive or negative, but the degree of child abuse potential for this group is not as high as for those with a positive self model and negative other model. This implies that a positive sense of self in relationships is only a protective factor in terms of child abuse potential when the other model is also positive, but that it may be a liability if the other model is negative. This pattern is very similar to the nearly significant interaction of the self and other model in relation to parenting

stress, indicating that persons with a positive self model and negative other model may be at particular risk for a number of parenting problems.

To address which aspects of child abuse potential accounted for the significant findings above and which were superfluous, post hoc analyses were conducted with attachment variables predicting CAP-I subscales (Table 11). The effects were found to be spread among most of the subscales with at least one attachment variable significantly related to every subscale except the one regarding rigidity. All relationships were in the expected direction, with higher self and other models indicating lesser problems. Particularly strong negative relationships were found between both self and other models and distress and problems from others, and between the self model and problems with family. Both self and other models were significantly related to the following variables: distress, problems with family, and problems from others. The self model only was significantly related to unhappiness and problems with child and self. The interaction term was not significantly related to any of the subscales. There was a nearly significant interaction, however, in predicting problems from others (Figure 15). The low self group reported a large degree of problems from others regardless of their position on the other dimension. For the high self group, however, there were fewer reported problems and the other model was negatively related to reported problems.

These findings support the notion that attachment style is related to child abuse potential and elucidate some of the aspects of child abuse potential that are more strongly related to attachment style than others. If interventions are designed to directly address mothers' views of self and others in relationships, the greatest benefits are likely to

accrue in the areas of distress, problems with family, and problems from others because the attachment dimensions seem to have the most powerful effects in these areas.

### Maternal Attachment Style and Home Visitor Evaluation of Parenting Problems

The items of the Clinical Judgments form devised to measure parenting problems were divided into two separate scales: FSW judgments of participants' general parenting problems and FSW judgments of abusive/neglectful behavior. A final item involving corporal punishment was analyzed separately since it did not fit well with either of the two scales. The self and other models alone were not significantly related to FSW judgments of parenting problems, although the interaction of the self and other models was (Figure 4). The parenting problems on which home visitors rated the mothers involved areas such as nurturance, attunement, and the ability to manage anger and stress. Persons with a positive self model and positive other model were judged to have the least parenting problems, whereas persons with a positive self model and negative other model were judged to have the greatest parenting problems. Persons with negative self models were judged to have some degree of parenting problems, regardless of whether the other model was positive or negative, but the level of parenting problems for this group was not as high as for those with a positive self model and negative other model. This implies that a positive sense of self in relationships is only a protective factor in terms of parenting problems when the other model is also positive, but that it may be a liability if the other model is negative. This pattern is very similar to the nearly significant interaction of the self and other model in relation to parenting stress as well as the significant interaction for the two models in relation to child abuse potential. Because this measure does not rely on self-report and yet yields an interaction so similar to that



found with the self-report measures, this finding strengthens the findings regarding the interactions considerably, indicating that persons with a positive self model and negative other model may be at particular risk for a number of parenting problems.

Again it would appear that a positive view of self and others is protective against parenting problems. This finding is consistent with the literature that indicates that parents with secure attachment styles have fewer parenting problems than those with insecure attachment styles. It also helps elucidate which attachment styles, or which combinations of self and other models, are likely to yield the greatest parenting problems. The interactions of self and other models in relation to parenting stress, child abuse potential, and home visitors' judgments of parenting problems all point toward the dismissive style (positive self, negative other) as demonstrating the greatest parenting problems. Interventions should therefore focus on cultivating positive self and other models, with particular attention paid to the development of a more positive other model with individuals who have a dismissive style.

No relationship was found between the attachment variables and judgments of abusive and neglectful behavior or the item addressing excessive use of corporal punishment. There are several possible reasons for this. One possibility is that the FSW was not in a position to make accurate judgments of abusive/neglectful behavior. Mothers who engage in such behavior may not be inclined to do so in front of others or even admit to such behavior if asked about it. Also, no clear definitions were provided FSWs for the concepts used in the measure, including such problematic concepts as "excessive corporal punishment" and "adequate supervision." The findings involving parenting problems as judged by FSWs could be elucidated by future studies that employ

more specific measures of parenting problems from a number of sources. The clinical judgments of home visitors are a valuable source of information, but may involve bias or oversights, especially since time with the participant is limited to an hour or two per week and involves global impressions rather than carefully structured observations. In the case of the corporal punishment item, the range of responses was very restricted, making it unlikely that a significant relationship with the attachment variables would be found. Also, subcultural definitions of what constitutes “excessive” corporal punishment may vary quite widely from family to family and from FSW to FSW. A final possibility is that there is no relationship between adult attachment style and abusive/neglectful parenting behavior. This finding is not consistent with the literature which suggests a link between attachment styles and abusive and neglectful parenting behavior. Before this conclusion is reached, therefore, future studies should address the potential measurement and statistical problems described above.

#### Maternal Attachment Style and Child Behavior Problems

While neither the self nor the other model was related to the number of times in a two-week period that a child cried for more than three minutes, the interaction term was significant and is illustrated in Figure 5. For the high self group, the other model is negatively related to the number of crying incidents, as expected. According to attachment theory, a mother with a positive self and other model would be available and responsive to her infant, leading to the development of a secure attachment style of the child, and hence less crying. For the low self group, however, there is a positive relationship between the other model and the number of crying incidents. Perhaps for persons with a negative self model, a positive other model reflects a need for or

expectation of others in relationships. A mother with a negative self model and positive other model, then, might be more angry toward a crying infant, and therefore less comforting, than a mother with a negative self model who also expects little of others in relationships. The child who is the recipient of such anger might be expected to have a less secure attachment style and to cry more often.

This finding is consistent with the previous literature in that the children of mothers with secure attachment styles (positive self and other models) have generally been found to have fewer behavior problems, and a maternal dismissive style (positive self, negative other model) has been found to be particularly problematic in some cases. While no previous study has examined the separate dimensions of self and other and their interaction in relation to child behavior, the positive relationship between the other model and child crying in the low self group was surprising. As with the interaction in relation to the quality of the helping relationship, this finding may indicate that for persons with a negative self model, a positive other model reflects needs and expectations of others rather than satisfaction from others in relationships. The raised expectations, then, for persons with a negative self model might be a source of disappointment that leads to greater problems in relationships than would be experienced by persons with low self and other models. Future research is needed to replicate this finding and establish for which variables a positive other model, when combined with a negative self model, is likely to yield negative outcomes, perhaps due to disappointment in relation to a strong need for others to compensate for a negative sense of self.

Neither the self nor the other model was related to the number of times in a two-week period that the child refused to eat something the mother wanted the child to eat.

However there was a nearly significant interaction between the two models illustrated in Figure 6. For the low self group, the other model is negatively related to refusal to eat something, as expected. For the high self group, however, there is a positive relationship between the other model and refusal to eat something. This pattern does not fit the previous attachment literature in that children of mothers with a secure attachment style (positive self and other models) did not show the least degree of the problem. It could be, however, that the difference lies in whether such child behavior is perceived as a problem and securely attached mothers are less likely to view refusal to eat something as problematic. Future research could clarify this finding by addressing respondents' views of this behavior and how problematic they perceive it to be.

None of the attachment variables was related to the number of times children awakened at night. Children of mothers with a more positive self model, however, were significantly less likely to refuse to go to bed. Perhaps mothers with a positive view of self in relationships were more confident of their ability to enforce rules and more consistent in doing so, resulting in greater compliance from their children than experienced by mothers with negative self models.

None of the attachment variables was related to withdrawn behavior on the part of the child, but this may have been due to the fact that 74% of respondents reported that such behavior had not occurred in the last 2 weeks. Future studies with a clinical population of children with a greater incidence of withdrawn behavior might be more likely to reveal such relationships. Alternatively, a continuous measure of the degree of withdrawn behavior may yield greater variance than the measure used which asked parents to report the number of incidences of the behavior in a two-week period.

The questionnaire used to measure child behavior problems in this study was not a standardized measure and may have had statistical problems that limited its usefulness. First, although intended to be used as a single measure of five items, alpha reliabilities for the five items were low and analyses on each item had to be performed separately. Second, test-retest reliability was not evaluated and may have been particularly problematic since the measure asked for parent reports of behavior within one two-week period. General impressions of child behavior may have been more stable over time and more reflective of the child's general behavior and disposition. Finally, validity was not measured and may also have been a problem. This possibility is supported by the fact that the attachment variables were generally not related to the items of this measure in expected ways, whereas they were related in expected ways to subtests of the Parenting Stress Index which address child behavior problems.

Post hoc analyses of these subtests indicated that at least one of the attachment variables was related to each of the subtests in the Child Domain. Both the self and other models were negatively related to problems with child adaptability. That is, children of mothers with a positive self model were less likely to become easily upset and had fewer problems adapting to changes, as reported by their mothers. Similarly children of mothers with positive other models reportedly had fewer such problems than children of mothers with more negative other models.

Children of mothers with positive other models were judged by their mothers to be less demanding than children of mothers with negative other models. Such behaviors included crying for long periods of time, bothering the mother, and being difficult to care for. An interaction between the self and other models in relation to child demandingness

is illustrated in Figure 10. This interaction shows that for the low self group, the child's demandingness was perceived to be high regardless of the other model, whereas for the high self group, the other model was negatively related to child demandingness.

Children of mothers with a more positive self model were less likely to display mood problems, according to the mother's report. These behaviors included crying and fussing, being moody and easily upset, and not smiling or giggling much. Children of mothers with a more positive other model were less likely to have problems with distractibility than children of mothers with a more negative other model.

These findings support the notion that a parent's attachment style affects child behavior problems, including adaptability, demandingness, mood problems, and distractibility. These findings are consistent with the literature which indicates that attachment style and related behaviors of mothers influence the behavior of their children such that children of insecurely attached parents exhibit more behavior problems than do children of securely attached parents.

Interestingly, the self and other model appear to be differentially related to different aspects of child behavior. Future research with a larger sample is needed before firm conclusions can be drawn, however, since both models may have been significantly related to child behavior had the sample size been larger. A further limitation is the use of parent report since attachment style might influence the parent's perceptions of child behavior as well as influencing the behavior itself. Previous studies using other measures of child behavior have, however, found similar results. Also, the mother's perception of child behavior may be particularly relevant in situations that specifically address parent-child interactions. Still, the mother's perception of the child's behavior should not be

confused with the child's actual behavior, and the mother-report measure used in this study does not allow for such distinctions.

### **Maternal Attachment Style and Child Development**

Since 80% of children in this study had no delays in development, there was not much variance to be accounted for by a predictor variable. There was, however, a nearly significant trend for the mother's self model in relation to the child's developmental delays, and a post hoc analysis indicated a similar trend for the self model in relation to Denver II cautions. Furthermore when the 14 children with any delays were examined separately, the mother's self model was quite strongly related to delays ( $r = -.53$ ), although the relationship was not quite significant because this group was so small. It was hypothesized that a moderator variable might put some children at greater risk for having delays, and for that group the mother's self model might be particularly important in determining the number of delays. One possible moderator variable was considered to be the mother's intelligence, but because the present study did not include a measure of intelligence, the mother's level of education was used as the closest approximation available. However, no significant difference in the number of delays was found between the group having completed less than 12 years of education and the group completing twelve years or more.

The attachment literature to date does not address the impact of mothers' attachment style on infant development. One might argue that evidence regarding the developmental advantages of securely attached infants is related to those infants' experience with securely attached mothers. Even these findings are, however, equivocal, with some studies demonstrating such an advantage and others failing to do so. This

trend is therefore of particular interest. Future studies involving greater numbers of at-risk infants that have at least one developmental delay may help elucidate this possible relationship. Studies comparing children with and without delays on a variety of risk factors could determine what puts infants at risk for delays and lead to hypotheses as to why the mother's self model would be particularly relevant for that group.

### Maternal Attachment Style and Provision of Health Care for Children

Eighty-six percent of respondents indicated that their children were up-to-date on immunizations, leaving little variation to be accounted for by predictor variables. The self model was related to the number of well child visits, but in the direction opposite that expected. That is, mothers with a less positive self model took their child to more well child visits than mothers with a more positive self model. The number of well child visits for this sample ranged from 0 to 8. Four to 5 well child visits in the first year are generally recommended, so it may be that persons with a negative self model are more inclined to make more well child visits than necessary, perhaps because they feel particularly insecure regarding their ability to provide for the child's health. When the participants who made more than five well child visits were eliminated from the analysis, the self model was no longer significantly related to the number of well child visits. A mother's attachment style may therefore have implications for the overuse of services, and interventions addressing attitudes regarding self and other in relationships might help reduce such overuse.

No previous research has been done on parent attachment styles and the provision of health care for their children. Measures yielding greater variation and a wider variety



of factors may yet yield results along the expected lines. Measures regarding nutrition and provisions for child safety could, for example, be explored in future studies.

### Maternal Attachment Style and Children's Health Problems

Of the children's health measures, which included number of illnesses, accidents, ER visits, and hospitalizations, none of the attachment variables was significantly related to any of the outcome measures, with the exception of ER visits. In this case there was a significant interaction of the self model and other model as illustrated in Figure 7. The figure shows that for the high self group, there is a negative relationship between the other model and ER visits, as expected. For the low self group, however, the relationship between the other model and number of ER visits is positive. That mothers with a positive self model and positive other model are able to keep their children healthy and safe and do not need to make ER visits as often fits with the predictions of attachment theory. It would also be consistent with the theory that mothers with high self, but low other models might be less invested in making the necessary health and safety provisions to keep medical emergencies from occurring. We can speculate that persons with a negative self model and negative other model might be less inclined to bring a child to the ER, even when necessary, since their more negative view of self and others might leave them feeling particularly helpless and apathetic. Finally, persons with negative self models and positive other models might feel less competent, and therefore do less in terms of prevention, whereas in the case of an emergency they would have the wherewithal to bring the child to the ER and the expectation that others can help, whereas a fearful style person (negative self and other models) might not.

The lack of relationship between the attachment dimensions and the other measures of child health, including the number of illnesses, might be explained by the possibility of “sleepers effects.” It is possible that while the mother’s parenting style influences the child’s vulnerability to illness, the effects of this are not seen until later when the child has had a chance over time to internalize the mother’s attitudes toward the child which might either boost the child’s immune system through the child’s own view of self and others, or might influence the immune system in a negative way if the child is burdened by low self-esteem and a lack of trust of others. One possible limitation in regard to health measures in this study was that only parent report was used. Longitudinal studies employing physician’s records or the direct tracking of children’s health through periodic check-ups and physical examinations may clarify the relationship of mother attachment variables with their children’s health.

### **Helping Relationship**

#### **Helping Relationship Quality and Parenting Stress**

Mothers who evaluated their relationship with their family support worker more positively reported less parenting stress than mothers who evaluated the relationship more negatively. This was to be expected since an intervention designed to alleviate parenting stress is likely to depend on the quality of the helping relationship. Mothers who have a positive view of the relationship are likely to make better use of the support being offered than those who view the relationship in a negative light. This finding is consistent with previous research findings that the effectiveness of interventions is dependent on the quality of the helping relationship. The present study extends these findings to include

the relationship of home visitors with participants in a program designed to enhance family life and positive parenting skills.

Post hoc analyses of the subscales of the Parenting Stress Index were performed to reveal what aspects of parenting stress were particularly affected by the quality of the helping relationship. Table 8 shows that the four aspects that were significantly related to the quality of the relationship were problems accepting the child, lack of reinforcement of the mother by the child, the parent's sense of incompetence, and parent attachment problems. Apparently the mother's relationship with the home visitor was most helpful in alleviating problems in these four areas, so a positive relationship with the home visitor helped the mother to be more accepting of the child, to feel rewarded and appreciated by the child, to feel more competent in the parenting role, and to feel more attached to her child. Families with problems in these areas may therefore benefit most from home visitor interventions. The sense of competence and parent attachment are areas in which attachment variables also have significant impact. The effectiveness of the home visitor intervention is likely to be maximized in these areas by combining the effects of the helping relationship with interventions directly addressing attachment style.

Improvement in these areas could go a long way toward improving the mother-child relationship and preventing further problems over the course of the child's development.

#### Helping Relationship Quality and Child Abuse Potential, Child Behavior Problems, and Child Health

Of the remaining hypotheses regarding the quality of the helping relationship in relation to outcome measures, there was partial support only for the expectation that the quality of the helping relationship would be negatively related to child behavior

problems. Mothers with a positive view of the helping relationship were less likely to report withdrawn behavior of their children. Perhaps the improved mother-child relationship that resulted from a positive helping relationship protected the child from the need to withdraw. This finding is consistent with the literature which supports the increased effectiveness of interventions when the relationship between helper and recipient is a positive one. A post-hoc analysis revealed that for the very small group of participants for whom accidents were reported, the number of accidents was inversely related to the quality of the helping relationship. That is, within the small group that reported any accidents, mothers who evaluated the helping relationship more positively reported fewer accidents for their child in the last year. Perhaps while most children are not at risk for accidents, the helping person is able to ameliorate the risk for at-risk children to the extent that the helping relationship is positively viewed by the mother.

The helping relationship did not predict any of the other measures of child behavior problems designed for this study, although as previously stated, problems with the measure itself may account for this lack of relationship. There was a trend, however, for the prediction of crying and for several of the PSI subscales regarding child behavior, including child adaptability, demandingness, and mood problems. With a larger sample size these relationships, while not strong, may have been significant both statistically and practically. If there is a threshold of problems beyond which a propensity toward child abuse is realized, small differences in the perception of the child's behavior might be of practical importance for the mother-child relationship and the prevention of negative parenting behaviors.

It was surprising that the quality of the helping relationship was unrelated to child abuse potential. Perhaps such attitudes, established in one's own childhood, are not easily influenced by an intervening person, even if the relationship with that person is a positive one that alleviates stress and promotes more positive perceptions of one's children. In that case, interventions designed to directly address the mother's internal working model of self and other might be more effective in changing attitudes than are general interactions with the home visitor.

Finally, the quality of the helping relationship was not related to the provision of health care by the mother or to the health of the child. Perhaps with encouragement and prompting by the FSW, all mothers were inclined to provide for the health of their children, regardless of how they felt about the helping relationship. It is also possible that the effect of parenting behaviors on a child's health may not be realized in the first year of the child's life, but may take effect later as the child internalizes the mother's attitudes toward that child. In that case, the FSW's impact on the child's health by way of her influence on the mother-child relationship may not be seen for several years. Longitudinal research involving more carefully monitored measures of child health may greater light on this subject.

#### Independence of Helping Relationship Quality from Attachment Variables in Predicting

#### Outcomes

The quality of the helping relationship was expected to overlap substantially with self and other models in predicting outcome variables so that the helping relationship would not be able to account for variance beyond that accounted for by self and other models. Surprisingly, this hypothesis was not supported. There was very little overlap

between the attachment variables and the helping relationship in predicting outcome variables, and in each case in which the helping relationship was significantly related to an outcome variable, it retained its significance even after partailing out the effects of the attachment variables in predicting that outcome. This shows that the effects of the helping relationship are not accounted for by the person's model of self and other. Therefore other factors must contribute to the quality of the helping relationship and its effect on outcomes. While previous research has demonstrated a strong link between attachment style and the quality of personal relationships, it is possible that the helping relationship is unique in that effective alliances can be formed even with persons who do not generally feel good about themselves and/or others in relationships. The fact that it is a professional, rather than a personal, relationship may make it possible for mothers to use the helping person's support and advice, at least in some areas, even if the mother is not generally open to personal relationships.

### General Conclusions and Future Directions

The present study was based on the premise that a mother's attachment style affects her parenting and the health and development of her child. The results of this study largely support this premise in that the mother's attachment style was related to her perceived level of stress, the degree to which her attitudes were indicative of child abuse potential, the extent of parenting problems as judged by a helping professional, and her perception of the degree of behavior problems of her child.

A second premise of this study was that the quality of the helping relationship would be related to parenting and child health and development outcomes, and that helping relationship quality would be largely dependent on the mother's attachment style.

This study lends only partial support to this hypothesis. Attachment style was related to the helping relationship, and the helping relationship did predict some outcomes, including parenting stress, withdrawn behavior on the part of the child, and for the small group of children who had had any accidents in the last year, the number of accidents. There was little overlap, however, between the helping relationship and attachment style in predicting these outcomes, and in each case, the helping relationship remained a significant predictor beyond the attachment dimensions. This has positive implications for interventions in that the helping relationship can have an impact, at least in some areas, regardless of the individual's attachment style. It is notable that nearly all participants in this study had a good relationship with their home visitor, indicating that persons of any attachment style may be receptive to an intervening person when their need for services is relatively high. The attachment dimensions were related to the quality of the helping relationship in a way that suggested particular need for attention to the relationship with regard to persons who have a dismissive style and those who have a preoccupied attachment style. Perhaps the helping relationship would have a greater effect on outcomes if an effort were made to use the relationship and the intervention to directly address attachment style, bolstering the individual's sense of self and trust and appreciation of others.

This study employed continuous measures of the attachment dimensions, allowing for analysis of the separate impact of the self model the other model and their interactions. Previous research has focused mostly on discrete attachment styles that obscure the separate contribution of each attachment dimension to the prediction of outcomes. Furthermore, many researchers have limited their exploration to only 3

attachment styles, failing to distinguish between the fearful and dismissive styles, both of which have negative other models, but which differ on their model of self.

In some cases, the separate models seemed to work independently of each other, but where they did interact, one can begin to distinguish the effects of different attachment styles with different combinations of self and other models. The present study is consistent with previous research in that in nearly every case in which significant results were found, mothers with secure attachment styles (positive self, positive other) had the least degree of parenting problems and the least degree of child problems. This study also allows for comparisons among the three “insecure” styles to reveal under what circumstances a particular style might be especially problematic.

One pattern, found with regard to parenting stress, child abuse potential, FSW judgments of parenting problems, and the mother’s perception of role restriction, indicated that for these variables, a dismissive style (positive self, negative other) was the most problematic. This was surprising because one often assumes that a positive model of self is necessarily related to positive outcomes, but here we see that when combined with a negative other model, a positive self model may be a liability. This may be especially true in the case of parenting relationships where a dismissing style might preclude the mother’s capacity for empathy or “attunement” which is deemed necessary for a positive mother-child relationship and the healthy development of the child (Stern, 1985). Although a dismissive style has been found to be particularly problematic for some parenting outcomes in previous studies (Crowell et al., 1991; Zeanah, et al., 1993), direct comparisons cannot be made since these studies employed only three attachment styles. A study examining the interpersonal problems of persons of Bartholomew’s four



attachment styles (Bartholomew & Horowitz, 1995), however, indicated that the dismissing group was lacking in nurturance and was rated very high on coldness as compared to the other three attachment styles, a dimension that may be particularly important for effective parenting.

In the case of other outcome variables in the present study, including child demandingness, acceptance of the child, lack of reinforcement by the child, and parent depression, each of the insecure styles appeared to be about equally problematic and each was more problematic than the secure style.

Finally in predicting the quality of the helping relationship and the amount of crying by the child, the other model appears to have a different meaning depending on the self model. When the individual has a positive self model the other model may indicate acceptance and appreciation of others, whereas when the individual has a negative self model, a positive other model may indicate a need for or expectation of others. This may also explain why for some outcomes (demandingness, acceptance, lack of reinforcement, depression), the other model makes little difference in predicting the outcome if the self model is low. For these individuals, the high self model is not protective but indicates only higher expectations of others, which in the case of particular outcomes (e.g., helping relationship, crying by child) might be especially keenly felt. Future research is needed to firmly establish which outcome measures are likely to yield which patterns and to further explore the possibly different meanings of a positive other model depending on the self model.

Since attachment style is clearly related to parenting and to child behavior outcomes, parenting programs should include interventions designed to change mothers'

views of self and others in relationships. The quality of the helping relationship is also apparently important for the achievement of some program goals. Although the attachment dimensions and the helping relationship appeared to be quite independent in their effects on parenting, the helping relationship may be useful in changing attachment styles, especially if particular efforts are made, since the helping relationship tended to be quite positive regardless of attachment style. Special efforts to cultivate the helping relationship may be required for persons of dismissive and preoccupied attachment styles. The influence of both the attachment dimensions and the helping relationship may be important since even small differences in stress, attitudes, parenting problems, and particularly perceptions of child behavior problems might make a difference in whether the threshold toward abusive and neglectful behaviors is crossed. Future studies should address both the attachment dimensions and the helping relationship in relation to abuse rates. Although the relationships between attachment and the helping relationship in predicting health outcomes was not strongly supported, future studies employing more rigorous health measures may yet reveal such relationships.

It must be acknowledged that this study has several limitations that should also be addressed in future research. First, the sample was not randomly selected but was a group of relatively low income mothers with relatively little education selected on the basis of “moderate to high need for services” for a home visitor parenting program. Furthermore, the distribution of participants across attachment categories was not typical of non-clinical populations, having fewer securely attached persons and more persons with a dismissing style than found in other studies. Although this population was of particular interest in the present study, generalizability of the findings to groups not

similar to this one is not possible without further research using a random sample of mothers. A further limitation regarding the sample is that it involves only mothers. While there is no theoretical reason to believe that the results would be different with fathers, resolution of this question is left to future studies. A second limitation is the use of a correlational model in which the direction of causality for significant relationships between variables cannot be determined. Finally, most of the measures of this study relied on self report without the possibility for correction by multiple measures of a given variable.

This study lends support to the idea that both attachment style and the quality of helping relationships are important to parenting and the well-being of children and to the effectiveness of interventions designed to affect these outcomes. Obviously parenting and parenting interventions are complex processes and cannot be accounted for by attachment or helping relationships alone. Still, by helping us understand how these factors impact parenting and child-well-being, this study increases our understanding of attachment theory, the areas in which attachment and the helping relationship are likely to be most important, and the differential ways in which the attachment dimensions interact in relation to different outcomes. Such understanding also promises to facilitate stronger interventions that use the power of the helping relationship to improve parenting as individuals are helped to develop a more positive sense of self and others and to interact with their children in more positive ways. If the mother's attachment style can be changed for the better, there is good reason to believe that the well-being of her child will be improved as well.

## APPENDICES

## **APPENDIX A**

### **KCHS CLINICAL JUDGMENTS FORM**

#### **Parenting Problems Scale**

Home visitor indicated the extent to which each of the following areas was a problem for the mother.

Anchors were 1= not a problem; 3 = moderate; 5 = severe.

1. Lack of knowledge regarding child development
2. Inaccurate sense of child's needs
3. Inappropriate interpretation of child's behavior
4. Excessive need for child to obey or comply
5. Lack of interest in child
6. Inappropriate expectations that child provide emotional support for adult
7. Not handling routine child-related household responsibilities
8. Not managing anger appropriately
9. Not managing stress appropriately
10. Low self-esteem
11. Social isolation
12. Inability to solicit and use community resources/public support systems

### **Abuse/Neglect Scale**

**FSW indicated how likely the mother was to commit the following behaviors.**

**Anchors were 1 = very likely; 2 = somewhat likely; 3 = somewhat unlikely; 4 = very unlikely.**

**13. Excessive use of corporal punishment**

**14. Lack of adequate supervision**

**15. Lack of emotional involvement**

**16. Fails to provide adequate food, clothing, or shelter**

**17. Fails to secure necessary and regular medical services for children**

**18. Fails to protect child from abuse by others**

## **APPENDIX B**

### **KCHS BEHAVIOR PROBLEM FREQUENCY CHECKLIST**

1. Crying: Within the past two weeks, how often has your child cried for more than 3 minutes?

- (1) Didn't happen
- (2) About once or twice a week
- (3) Three or four times a week
- (4) Every day, or almost every day
- (5) About twice a day
- (6) More than twice a day

2. Eating: Within the past two weeks, how often has your child not wanted to eat something you wanted him/her to?

- (1) Didn't happen at all
- (2) Less than one meal per week
- (3) About 3-4 meals per week
- (4) About one meal per day
- (5) About two meals per day
- (6) Every day

3. Sleep: In the past two weeks, how often has your child awoken at night after everyone was asleep?

- (1) Didn't happen at all
- (2) Less than once a week
- (3) About once a week
- (4) About 2 or 3 times a week
- (5) About once a night
- (6) 2 or more times a night

4. Sleep: In the past two weeks, how often has your child not wanted to go to bed when you wanted him/her to?

- (1) Didn't happen
- (2) Less than once a week
- (3) About once a week
- (4) About 3 or 4 times a week
- (5) Almost every night
- (6) Every night

**5. Withdrawal: In the past two weeks, how many times has your child seemed withdrawn/ nonresponsive when you tried to interact with him/her?**

- (1) Didn't happen**
- (2) About once or twice a week**
- (3) Three or four times a week**
- (4) Every day, or almost every day**
- (5) About twice a day**
- (6) More than twice a day**



## APPENDIX C

### KCHS PEDIATRIC RECORD REVIEW

Child's Name: \_\_\_\_\_ ID # (mo): \_\_\_\_\_

Date of Review: \_\_\_\_\_

#### Preventive Medical Care

##### Immunizations:

1. Number of DPTS ..... \_\_\_\_\_
2. Number of Polio..... \_\_\_\_\_
3. Number of Measles ..... \_\_\_\_\_
4. Number of Rubella..... \_\_\_\_\_
5. Number of mumps ..... \_\_\_\_\_
6. Child up to date? ..... \_\_\_\_\_  
1 = yes    2 = no

Year 1: 3 DPTS & 2 or 3 Polio

Year 2: 4 DPTS & 3 or 4 Polio  
Plus Measles, rubella, mumps

7. TB test during first year?..... \_\_\_\_\_  
1 = yes    2 = no

##### Number of well-child visits

Year 1: ..... \_\_\_\_\_

Year 2:..... \_\_\_\_\_

Year 3:..... \_\_\_\_\_

Year 4:..... \_\_\_\_\_

**Medical Problems**

Number of Illnesses..... \_\_\_\_\_

Type

Date

Number of emergency room visits ..... \_\_\_\_\_

Reason

Date

Number of hospitalizations..... \_\_\_\_\_

Reason

Date

Number of accidents or ingestions ..... \_\_\_\_\_

Type

Date

## **APPENDIX D**

### **ITEMS USED FOR RATING OF HELPING RELATIONSHIP**

Anchors were 1 = strongly agree; 2 = agree; 3 = not sure; 4 = disagree; 5 = strongly disagree

My Family Support Worker cared about me.

I felt comfortable talking with my Family Support Worker about my concerns.

I liked my Family Support Worker.

I felt I could trust my Family Support Worker.

I could always depend on my Family Support Worker.

(My family support worker was critical of me.)\*

\*This item was intended to be included in the scale, but was eliminated because doing so increased the alpha reliability of the scale from .71 to .88.

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