

8-16-2010

The Relationship Between Adult Attachment and Trauma

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The Relationship between Adult Attachment and Trauma

by

Lauren Earls

Dissertation

Submitted to the Department of Psychology

Eastern Michigan University

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY IN PSYCHOLOGY

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August 16, 2010

Ypsilanti, Michigan

Dedication

To my husband, Scott, for supporting this journey, and to Cameron and Alexa, my two secure children.

Acknowledgements

I would like to thank my mentor, Dr. Alissa Huth-Bocks, for her guidance and support during this project. I would also like to thank my committee members, Dr. Carol (Ketl) Freedman Doan, Dr. John Knapp, and Dr. Maria Muzik.

Abstract

Prior research has suggested a complex relationship between childhood interpersonal traumas perpetrated by attachment figures and the experience of trauma in adulthood. Very little is known, however, about how various forms of childhood interpersonal abuse and neglect affect trauma sequelae and adult romantic attachment in women during the childbearing years. Using a sample of postpartum women ($N = 104$), this study examined the associations between a history of attachment-related traumas (operationalized as childhood interpersonal abuse and neglect) and complex trauma sequelae believed to be unique to victims of interpersonal traumas; the possible role that adult romantic attachment anxiety and avoidance (i.e., insecurity-security) may have in understanding these associations was also investigated. This study also examined the associations between secure base scripts, or cognitive structures thought to underlie internal working models of attachment established early in life, and attachment-related traumas, the adult romantic attachment dimensions of anxiety and avoidance, and complex trauma outcomes. Results of this study indicated that attachment-related traumas were associated with adult romantic attachment anxiety and avoidance and complex trauma outcomes, and that adult romantic attachment insecurity-security may be an important mechanism by which early attachment-related traumas influence later complex trauma outcomes. In addition, while results indicated a significant relationship between the two types of secure base scripts, findings revealed no relationship between secure base scriptedness and attachment-related traumas or adult romantic attachment insecurity-security. Finally, both types of secure base scriptedness were related to a self-report measure of trauma-related cognitions. Implications of study findings are discussed in light of previous literature and attachment and trauma theories.

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Introduction

Attachment Theory

Bowlby's attachment theory.

John Bowlby (1969/1982; 1978; 1980) developed attachment theory after observing infants' emotional distress following separation from, or loss of, a primary caregiver. These infants typically progressed through a series of emotional reactions: *protest*, characterized by crying, actively searching for the caregiver, and resisting others' efforts to soothe; *despair*, characterized by passivity and sadness; and *detachment*, characterized by defensive disregard and avoidance upon the caregiver's return.

Borrowing from evolutionary psychology, Bowlby posited that infants' behaviors had important evolutionary significance in that they increased the likelihood that caregivers would attend to infants' needs which would subsequently increase the chances of infants' survival. Based on his observations, Bowlby proposed an attachment motivational and behavioral system hypothesized to promote the survival of infants/children by ensuring that they maintain proximity to a caregiver (the attachment figure), especially under conditions of threat (Bowlby, 1973, 1980). Bowlby also proposed that how well the attachment motivational and behavioral system fulfilled its function of protection depended upon the mutually responsive quality of interactions between infants and caregivers (Bretherton & Munholland, 1999). Through interactions with their caregivers, infants developed internal working models, or representations, made up of beliefs, feelings, and expectations of themselves and caregivers in the attachment relationship, which eventually generalize to other relationships. The function of internal working models is to help the individual interpret and anticipate others' behaviors in order to guide his/her own behaviors in relationships. Although certain life events may modify internal

working models, they generally tend to show stability and resistance to change over time (Fraley, 2002).

Bowlby's (1969/1980; 1973) internal working models concept was also influenced by prominent psychoanalysts, including objects relations theorists, cognitive psychologists, and developmental psychologists. The psychoanalytic influence originated with Freud (1940/1963), who presupposed an "inner world" that is essentially a representation created by one's senses and perceptions of connections and relationships in the external world, reproduced or reflected in an internal world, that enables one to understand, predict, and alter future connections and relationships. Psychoanalytic object relations theorists also espoused a representational world or, more specifically, the concept of infants' internalizations of aspects of themselves and their parents. For example, Sullivan (1953) posited "personifications of mother and me," and Fairbairn (1952) posited the idea of internal love objects associated with different portions of the ego. And it was Craik (1943), a pioneer in what was later called "artificial intelligence," a branch of cognitive psychology, who was first to coin the term "internal working model." Bowlby applied Craik's terminology, as well as his definition, which resembled Freud's concept of an inner world, to his attachment theory:

By [internal working] model, we thus mean any physical or chemical system which has a similar relations-structure to the process it imitates...it is a physical working model which works in the same way as the process it parallels...a small scale model of external reality (Craik, 1943, as cited by Bretherton & Munholland, 1999, p. 90).

Craik (1943) did not consider the ways in which internal working models might change during development, as his theories did not apply to children, so Bowlby looked to Piaget (1951; 1952; 1954), a developmental psychologist whose writings on the sensorimotor period in infancy had recently been published in English. Piaget's notion of infants' development of object permanence, or the utilization of recall memory for objects (attachment figures) even when they

are not present, allowed Bowlby to posit that internal working models operate more and more frequently as children continue to develop more independently of their caregivers into adolescents and then adults. Internal working models of attachment, Bowlby realized, are also complementary. In other words, one's identity in her attachment relationship is a function of how acceptable or unacceptable she is to his attachment figures. Individual differences in the quality of internal working models of early attachment, therefore, appear to depend largely upon the history of interactions between infants and their primary caregivers. In other words, healthy, secure attachment provides individuals with a sense of stability (a secure base) that enables them to explore their environments freely and develop interests and skills more readily than individuals whose relationships are troubled or threatening in some way (Morgan & Shaver, 1999).

Ainsworth's strange situation procedure and the infant attachment categories.

Looking to operationalize Bowlby's concept of internal working models and the secure base concept, Ainsworth, Blehar, Waters, and Wall (1978) developed a laboratory procedure called the Strange Situation designed to measure attachment behaviors in infants under conditions of stress. The procedure consists of several separations and reunions between a mother and her infant, and the infant's behavioral and emotional reactions to the mother's return are viewed as indicators of the infant's attachment pattern. Using this procedure, Ainsworth et al. (1978) identified three distinct patterns of attachment based on infants' responses thought to represent infants' internal working models of attachment: *Secure*, *Avoidant*, and *Ambivalent*.

Secure infants are able to use their attachment figures as an effective "secure base" from which to explore the world because experience tells them they can rely on the availability of their caregivers. Parents of secure infants tend to be emotionally available, perceptive, and responsive

to their infants (Ainsworth et al., 1978; Weinfield, Sroufe, Egeland, & Carlson, 1999). When moderately stressed, these infants signal to and reunite with their mothers with little or no masked anger and then resume exploration or play. Secure infants possess internal working models of themselves as valued and competent and of others as emotionally available and supportive (Bretherton & Munholland, 1999). The majority of infants in the general population are classified as secure.

Avoidant infants are hypothesized to be covertly anxious about their attachment figure's responsiveness. Parents of avoidant infants tend to be emotionally unavailable, aloof, and rejecting (Ainsworth et al., 1978; Weinfield et al., 1999). These infants have, therefore, developed strategies for managing their anxiety, namely, by defensively inhibiting their attachment needs and behaviors. Avoidant infants possess internal working models of themselves as devalued and of others as rejecting and unsupportive (Bretherton & Munholland, 1999).

Ambivalent infants have anxiety and mixed emotions regarding their attachment figures because they have experienced inconsistent availability from their caregivers. Parents of these infants are generally less sensitive and more interfering when they actually are available (Ainsworth et al. 1978; Weinfield et al., 1999). Ambivalent infants possess internal working models of themselves as incompetent and of others as inconsistent and unreliable.

Main and Solomon (1986) identified a fourth infant attachment category utilizing the Strange Situation, *Disorganized/Disoriented*, which is characterized by an inability to maintain one coherent attachment strategy; these infants exhibit conflicted or disoriented behaviors during interactions with the attachment figure. For example, in some cases these infants appear depressed, and in other cases, they mix avoidant and openly angry attachment behaviors. Parents

of these infants show frightened, frightening, or disoriented caregiving styles. These parents have often experienced trauma in their own histories (Main, Kaplan, & Cassidy, 1985).

Stability of attachment.

Based on early attachment patterns, Bowlby proposed that attachment representations (or internal working models of self and others) are significantly stable across time yet amenable to change with important attachment-related experiences (Waters, Merrick, Treboux, Crowell, & Albersheim, 2000). Indeed, longitudinal research has shown that infant attachment classifications are significantly related to adolescents' and adults' states of mind with respect to early attachment experiences with caregivers, as measured by the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1985; 1996; Hamilton, 2000; Waters et al., 2000). While these studies demonstrated stability of attachment, they also found that certain experiences such as stressful life events, maternal-child separations, and parental drug use may alter attachment representations (e.g., moving from secure to insecure or vice versa). Other studies (Allen, McElhaney, Kupermine, & Jodl, 2004; Lewis, Feiring, & Rosenthal; 2000; Weinfield, Sroufe, & Egeland, 2000) have also supported the notion that while attachment is predominantly stable over time, changes may occur due to the impact of significant life events.

Finally, based on a meta-analysis of longitudinal studies examining attachment stability, Fraley (2002) found attachment security to be moderately stable across the first 19 years of life, with results being more consistent with the *prototype perspective*, i.e., representations of early experiences are retained over time, continuing to play an influential role in attachment behavior, rather than the *revisionist perspective*, i.e., early attachment representations are modified with new experiences. Thus, overall, quality of attachment appears to be stable from infancy to adolescence and adulthood, with notable exceptions occurring with stressful life experiences and

chaotic family environments. In these instances, significant, attachment-related life experiences can alter internal working models at any given time, which may or may not be permanent.

Adult Attachment

The study of adult attachment emerged simultaneously in two different research traditions during the 1980s and 1990s. Researchers in the clinical/developmental tradition utilize the Adult Attachment Interview (AAI; George, Kaplan, & Main, 1984; 1985; 1986; Goldwyn, 1994a; 1998a) to evaluate mothers' retrospective states of mind with regard to early attachment experiences with their own caregivers. These states of mind are believed to reflect internal working models, or representations, of attachment to childhood caregivers measured during adulthood; numerous studies have shown that these states of mind are related to parents' own infants' attachment classifications, demonstrating an intergenerational transmission of attachment quality (e.g., George et al., 1985; Main et al., 1985). More recently, some researchers (Bretherton, 1987; 1990; Waters & Rodrigues-Doolabh, 2001; 2004; Waters & Waters, 2006) have incorporated ideas from cognitive psychology (Schank, 1982; 1999; Nelson, 1986) to better conceptualize the cognitive architecture or mechanisms of internal working models of attachment. These researchers posit that internal working models of attachment are represented as cognitive structures in the forms of scripts that generate expectations about relationships, and prepare, organize, and motivate behavior in relationships (Waters & Waters, 2006). They have developed a narrative measure that assesses variations in individuals' "secure base scripts."

Researchers in the personality/social psychology tradition utilize self-report measures to assess attachment with romantic partners and peers during adulthood, operating on the premise that internal working models of attachment derived from early interactions with caregivers generalize to other relationships during adulthood (Bartholomew & Shaver, 1998; Feeney &

Noller, 1991; 1996; Hazan & Shaver, 1987; Kobak & Sceery, 1988; Shaver & Hazan, 1988; 1994).

Adult states of mind regarding attachment.

The AAI was a very important development in the field of attachment because it moved Bowlby's (1969/1982) internal working models notion and Ainsworth et al.'s (1978) infant attachment categories to "the level of representation" during adulthood (Main et al., 1985), by demonstrating that parents' narratives about their childhood caregivers reflected different "states of mind" regarding attachment. Until the development of the AAI, attachment research had relied almost exclusively upon the assessment of infants' behavior in the Strange Situation procedure (Hesse, 1999). With the AAI, states of mind regarding attachment, or internal working models of attachment, were recognized as the likely mediators of individual differences in caregiving behavior and infant attachment categories (Hesse, 1999).

The AAI is a semi-structured interview protocol that consists of 18 open-ended questions. Respondents (usually parents) are asked to provide general descriptions of their relationships with their caregivers, and five adjectives that represent each attachment relationship. Individuals describe specific memories to illustrate and support adjectives they assign to their caregivers. They also describe what they did when they were emotionally upset, physically hurt, or ill, and how their parents responded to them, as well as salient separations and possible rejections by caregivers, threats regarding discipline, experiences of abuse, and current relationships with caregivers. If relevant, individuals also describe experiences of loss through death. While the content divulged by AAI respondents is important, more important are the ways in which individuals discuss their responses. AAI respondents are asked to produce and reflect upon early attachment experiences while simultaneously maintaining coherent discourse, which is defined

by Grice (1975) as both consistent and collaborative (Hesse, 1999). In other words, it is not only important to consider what childhood experiences were like, but how the adult can process, remember, reflect upon, and express these experiences to another person.

The three main AAI classifications are *Secure/Autonomous (F)* (henceforth called *Autonomous*), *Dismissing (D)*, and *Preoccupied (E)*. Autonomous individuals are valuing yet objective regarding their early attachment experiences; they maintain coherence in discourse and appear to have mentally reflected upon their experiences. Dismissing individuals appear to be indifferent about their attachment-related experiences, while Preoccupied individuals are confused by, unobjective about, and/or overwhelmed by attachment-related experiences (Cassidy & Shaver, 1999; Main, 1995; Main et al., 1985). Autonomous, Dismissing, and Preoccupied mothers, in particular, represent approximately 58%, 24%, and 18% of non-clinical mothers, respectively, and 8%, 26%, 25%, respectively, in clinical and at-risk populations (Bakermans-Kranenburg & van IJzendoorn, 1993; van IJzendoorn & Bakermans-Kranenburg, 1996). Individuals who demonstrate “lapses in the monitoring of reasoning and discourse” (Lyons-Ruth & Jacobvitz, 1999), as evidenced by sudden shifts or alterations in the quality of discussion of memories of trauma and/or loss are classified Unresolved (U), including subtypes of Unresolved for Trauma (U_{tr}) or Unresolved for loss (U_l) in addition to one of the three main classifications. About 20% of non-clinical mothers are Unresolved with respect to loss (U_l), trauma (U_{tr}), or both ($U_{tr/l}$) (van IJzendoorn & Bakermans-Kranenburg, 1996). Individuals whose transcripts do not fit one of the three main classifications receive a “Cannot Classify” (CC) code. For a more thorough review of the three main AAI adult attachment classifications, the U classification, and their corresponding infant attachment categories, see Table 1.

While the AAI is considered the preferred measure of states of mind, or internal working models of adult attachment, becoming reliable at administering and scoring it requires extensive training and financial investment (Crowell, Fraley, & Shaver, 1999). For this reason, among others, some attachment researchers in the clinical/developmental tradition have developed a brief narrative measure that they posit assesses security in attachment relationships by

Table 1.

AAI Classifications and Corresponding Patterns of Strange Situation Behavior

Adult States of Mind with Regard to Attachment	Infant Strange Situation Behavior
<p><u>Secure/Autonomous (F)</u> Coherent, collaborative discourse. Valuing of attachment, but seems objective regarding any particular event/relationship. Description and evaluation of attachment-related experiences is consistent, whether experiences are favorable or unfavorable. Discourse does not notably violate any of Grice’s maxims.</p>	<p><u>Secure (B)</u> Explores room and toys with interest in pre separation episodes. Shows signs of missing parent during separation, often crying by the second separation. Obvious preference for parent over stranger. Greets parent actively, usually initiating physical contact. Usually some contact maintaining by second reunion but then settles and returns to play.</p>
<p><u>Dismissing (D)</u> Not coherent. Dismissing of attachment-related experiences and relationships. Normalizing or idealizing (“excellent, very normal mother”), with generalized representations of history unsupported or actively contradicted by episodes recounted, thus violating Grice’s maxim of quality. Transcripts also tend to be excessively brief, violating the maxim of quantity.</p>	<p><u>Avoidant (A)</u> Fails to cry on separation from parent. Actively avoids and ignores parent on reunion. Little or no proximity or contact-seeking, no distress, and no anger. Response to parent appears unemotional. Focuses on toys or environment throughout procedure.</p>
<p><u>Preoccupied (E)</u> Not coherent. Preoccupied with or by past attachment relationships/experiences, speaker appears angry, passive, or fearful. Sentences often long, grammatically entangled, or filled with vague usages, thus violating Grice’s maxims of manner and relevance. Transcripts often excessively long, violating the maxim of quantity.</p>	<p><u>Resistant or Ambivalent (C)</u> May be wary or distressed even prior to separation with little exploration. Preoccupied with parent throughout procedure; may seem angry or passive. Fails to settle and take comfort in parent on reunion and usually continues to focus on parent and cry. Fails to return to exploration after reunion.</p>
<p><u>Unresolved/disorganized (U)</u> During discussions of loss or abuse, individual shows striking lapse in the monitoring or</p>	<p><u>Disorganized/disoriented (D)</u> Infant displays disorganized and/or disoriented behaviors in the parent’s presence, suggesting a temporary collapse of behavioral strategy. For example, the infant may freeze with a trance-like expression, hands in air; may rise at</p>

reasoning or discourse. For example, individual may briefly indicate a belief that a dead person is still alive in the physical sense, or that this person was killed by a childhood thought. Individual may lapse into prolonged silence or eulogistic speech. The speaker will ordinarily otherwise fit D, E, or F categories.

parent's entrance, then fall prone and huddled on the floor; or may cling while crying hard and leaning away with gaze averted. Infant will ordinarily otherwise fit A, B, or C categories.

Note. From Main, Kaplan, and Cassidy (1985), and Main and Goldwyn (1984a, 1998a) as cited in Cassidy and Shaver (1999).

ascertaining whether individuals have access to (in varying degrees) cognitive structures in the form of scripts, or “operational” internal working models regarding the behavior of self and others in attachment relationships, that are reflected in narrative communication.

The secure base script concept.

Bretherton (1987; 1990), in thinking about mental representations or internal working models in attachment relationships, was the first to identify the relevant research of Schank and Abelson (1977), Schank (1982; 1999), and Nelson (1986) on event schemas and scripts, which are enduring cognitive structures that summarize common themes across a class of events (Waters & Waters, 2006). Schank and Abelson (1977), for example, suggested that experience visiting restaurants results in the acquisition of a cognitive structure in the form of a “restaurant script,” that guides individuals regarding the proper behavior in the proper sequence in restaurants; namely, looking at the menu, ordering food, eating, paying, and leaving. This script functions to generate expectations and to help prepare individuals for organized behavior.

Following Bretherton (1987; 1990), Waters, Rodrigues, and Ridgeway (1998) examined whether children develop “secure base scripts,” and whether such scripts are linked to the quality of attachment to their mothers, by examining children's responses regarding endings to a story (e.g., a child climbing a rock with his parents hurts his knee) from a previous study (Bretherton, Ridgeway, & Cassidy, 1990). The researchers coded children's story endings for variations in secure base scripts (e.g., elaborate and prototypical versus detailed and context dependent

scripts) based on the way in which the participant described how the distressed child in the story seeks and receives care from the parents in the story (Dykas, Woodhouse, Cassidy, & Waters, 2006). Results demonstrated that many children possess a secure base script, and the tendency to possess a secure base script, or one's "secure base scriptedness" was related to individual differences in mother-child attachment. Specifically, greater attachment security at 25 months was related to greater knowledge and access to secure base scripts at ages 37 and 54 months, respectively (Dykas et al., 2006).

Waters and Rodrigues-Doolabh (2001; 2004) then developed a measure to assess adults' access to secure base scripts, called the *Word-List Prompt Measure for Secure Base Scriptedness*, for two primary reasons. First, they wanted to develop a measure that was accessible to more researchers (as opposed to the AAI) who were interested in examining internal working models of attachment, and second, they contended that secure base scripts may be the cognitive underpinnings of internal working models of attachment, and thus, very critical to understanding variations in working models. For example, if one has experienced a sensitive caregiver who has served as a secure base in a consistent and coherent way, one should possess a script that is "complete, well consolidated, and readily accessible in relevant situations" (Waters & Waters, 2006, p. 188).

Their narrative measure was designed to evaluate the organization of secure base knowledge and behavior using narratives or stories produced by adolescents and adults in response to a set of word prompt lists that elicit stories about different dyadic relationships (Verissimo & Salvaterra, 2006). Individuals are presented with 12 word prompts printed on an index card for each story and are told to "think of the best story they can" using the prompts. Unlike the AAI, this narrative measure is less directive and more ambiguous because it does not

probe individuals specifically for descriptions of, or information regarding, their own past relationships with early caregivers. Waters and Rodrigues-Doolabh (2001; 2004) suggest that adults who have access to a secure base script (or who are more secure along a continuum) will elaborate stories about relationships in a particular sequence. In their stories, more secure individuals describe a constructive interaction between members of an attached dyad followed by a situation in which one member (adult or child) solicits help from the other member after an obstacle is encountered. The detection of the partner's signal is then followed by an offer and acceptance of effective help, a reassuring feeling on the part of the partner who experienced the obstacle, and resolution of or return to constructive interaction (see Waters & Waters, 2006). For example, the content of one such story might be (for "Doctor's Office,") a boy named Tommy has an accident on his new bicycle, and his mother takes him to the doctor. Depending upon the story teller, the mother in the story elicits varying levels of attentiveness to and soothing of Tommy's distress while they wait for the examination, while Tommy is examined by the doctor, and while Tommy's prognosis is given. Also depending upon the story-teller, the mother in the story is able, to varying degrees, to help resolve Tommy's distress. Adults whose stories contain a solicitation and detection of a signal for help, a feeling of having been responded to, and a subsequent effective resolution and constructive interaction are said to have a high degree of secure base scriptedness, while adults whose stories contain few of the elements are thought to have a low degree of secure base scriptedness. The secure base script is believed to reflect an individual's history with a sensitive caregiver (or lack thereof), who has detected and responded effectively to the individual's communicative signals.

Results of studies examining adults' access to secure base scripts. Only a few studies have examined adults' access to secure base scripts using Waters and Rodrigues-Doolabh's

(2001; 2004) secure base script measure, with two additional studies using slight adaptations of this measure; these studies examined the secure base script construct in a variety of samples including mother/infant and mother/child samples (including mother/adopted child dyads and mother-child dyads from three different cultures), an adolescent sample, and a sample of married women.

In one study of 31 Italian mother-infant dyads, Coppola, Vaughn, Cassibba, and Constantini (2006) found significant correlations between mothers' secure base scripts and the AAI coherence and security scales, suggesting that secure base scripts are related to attachment states of mind, as one would expect. Results also indicated that mothers who demonstrate secure base scriptedness, or have access to rich and detailed secure base scripts, tended to be more sensitive to infants' communicative signals during interactions with them. Thus, this study indicated that secure base scripts and AAI coherence both reflect variations in internal working models of attachment, and secure base scripts can predict the quality of caregiving behavior towards infants.

In another study of 90 mother-child dyads from the same research group (Bost, Shin, McBride, Brown, Vaughn, Coppola, et al., 2006), mothers' and children's secure base scripts were found to be significantly associated. Furthermore, mothers' access to secure base scripts was positively associated with more references to emotions made by both mothers and children during mother-child conversations about memories of emotion-laden events. Mothers' secure base scripts were also related to their children's overall participation in this "memory talk" procedure. In another study of 106 mother-adopted child dyads by this group (Verissimo & Salvaterra, 2006), mothers' secure base scripts predicted adopted children's attachment security, regardless of the age of the child at adoption. In addition, they found that the concordance rate

of the presence or absence of secure base scriptedness between mothers and their adopted children was similar to the concordance rate of attachment security found in a study by Dozier, Stovall, Albus, and Bates (2001) of mothers and their biological children. Similarly, a cross-cultural study of 25 Columbian mother-child dyads, 58 Portuguese mother-child dyads, and 47 mother-child dyads from the United States, conducted by this research group (Vaughn, Coppola, Verissimo, Monteiro, Santos, Posada et al , 2007) found that mothers' access to secure base scripts predicted their children's attachment security in all three samples. All of these studies indicate that mothers with access to secure base scripts tend to have secure children with access to their own secure base scripts, and the transmission of secure base scripts from mother to child may be due, in part, to greater shared collaboration and openness to emotion during mother-child interactions.

In a study of 44 high school juniors, using an adaptation of the secure base script measure for adolescents, Dykas et al. (2006) found that adolescents have access to separate, but related, secure base scripts in regard to their mothers and fathers; however, only secure base scripts regarding mothers were related to adolescents' secure base scripts for "non-specific others" (i.e., people in their environments with whom they do not have romantic relationships). Thus, only secure base scripts based on the mother-adolescent relationship seemed to generalize to secure base scripts regarding other relationships. Adolescents' secure base scripts for mothers were also the strongest predictors of their AAI coherence of mind scores, while secure base script scores for fathers and non-specific others were not significant predictors, again suggesting that working models of the relationship with the mother are particularly critical to adolescent states of mind with respect to attachment. Finally, results demonstrated that adolescents with greater attachment avoidance, as assessed by a self-report measure of adult romantic attachment, had

lower secure base scores regarding mothers, but not fathers and non-specific others, and adolescents with greater attachment anxiety had lower secure base script scores for non-significant others, but not for mothers and fathers. The results of this study seem to suggest that dimensions underlying working models of attachment are differentially related to secure base scripts for relationships with different people (mother, father, others). Thus, while working models tend to generalize across types of relationships, there appear to be somewhat different scripts for different types of relationships. In romantic relationships, early attachment experiences with mothers may be more related to one's degree of attachment avoidance. This is consistent with previous research that suggests that people high on attachment avoidance tend to report childhood memories of mothers who were cold and rejecting (Feeney, 1999). Attachment anxiety, however, may be a more general construct that is less influenced by secure base scripts from early attachment experiences. More research is needed to clarify these specific associations.

Finally, in a study of 48 married women recruited from an ongoing longitudinal study about relationships, Wais (2003) found that secure base scripts regarding attachment relationships with parents and secure base scripts for partner relationships, assessed by a slightly modified version of Waters and Rodrigues-Doolabh's (2001; 2004) measure, were significantly related. Wais also found significant correlations between partner-specific secure base scripts during women's ninth year of marriage and their AAI coherence scores assessed 3 months prior to marriage, providing more support that states of mind with respect to early attachment relationships may be carried forward into adult romantic relationships, as Hazen and Shaver (1987) and Fraley (2000; 2002) originally speculated.

Summary of findings of secure base script studies. Taken together, findings from these studies have several important implications. First, mothers who have high degrees of secure base scriptedness appear to have children who are more securely attached and who also have high degrees of secure base scriptedness. This holds true for non-biological children who are adopted at various ages and appears to be true cross-culturally. Importantly, these studies suggest that mothers' secure base scripts are transmitted intergenerationally to their children, quite possibly through the quality of interactions with their children. That is, individuals with high degrees of secure base scriptedness tend to readily communicate in an open and collaborative manner about emotional states. Indeed, previous findings have linked attachment security in children to open, collaborative communication of emotional states by their mothers (e.g., Bretherton, 1993; Etzion-Carasso & Oppenheim, 2000; Laible & Thompson, 1999). These findings are also consistent with previous studies showing associations between mothers' states of mind with respect to attachment (from the AAI), maternal communication styles and maternal sensitivity, and infant/child attachment security (Bretherton, 1990; Main, Kaplan, & Cassidy, 1985).

Second, it appears that individuals' access somewhat specific secure base scripts for different people, including mothers, fathers, non-specific others, and romantic partners, although they tend to be related as well, and secure base scripts regarding mothers may be particularly salient in the development of secure base scripts for other relationships. This notion is consistent with the prototype perspective mentioned earlier (Fraley, 2002), which holds that representations of early attachment experiences are retained over time, continuing to play an influential role in attachment behavior in later significant relationships. All of these findings point to the importance of an individual's earliest relationship with his/her mother as being the primary

relationship that largely sets the stage for degrees of attachment security in subsequent relationships (Bowlby, 1969/1980; 1973; 1982; Stern, 1977).

While these results are indeed important and demonstrate the usefulness of assessing individuals' secure base scripts regarding different types of relationships, it is important to note that this is a relatively new area of research, and thus, findings are preliminary. Future studies should replicate and further explore these associations in different types of samples along with other areas of human functioning.

Attachment states of mind and links with psychopathology.

Although no studies to date have looked at associations between individuals' secure base scripts and adult psychopathology, several studies have demonstrated associations between adult states of mind with regard to attachment (as measured by the AAI) and Axis I and II disorders utilizing the three main attachment classifications (Autonomous, Dismissing, and Preoccupied) and sometimes, additionally, the Unresolved category. These studies have all used psychiatric inpatients, with one exception (Cole-Detke & Kobak, 1996); the latter study used a college sample.

Findings from these studies indicate that Preoccupied attachment is highly associated with unipolar depression (Rosenstein & Horowitz, 1996), dysthymia (Patrick, Hobson, Castle, Howard & Maughan, 1994), mixed affective disorder, anxiety disorders, substance abuse, and eating disorders (Fonagy, Leigh, Steele, Steele, Kennedy, Mattoon et al., 1996), as well as eating disorders comorbid with depression (Cole-Detke & Kobak, 1996; Fonagy et al., 1996).

Dismissing attachment is associated with unipolar depression and conduct disorder comorbid with depression (Rosenstein & Horowitz, 1996), bipolar disorder, and schizophrenia (Tyrell & Dozier, 1997), and mixed affective disorder and eating disorders (Fonagy et al., 1996). In

addition, Unresolved states of mind with regard to attachment is highly linked to unipolar depression (Cole Detke & Kobak, 1996; Tyrell & Dozier, 1997), bipolar disorder (Fonagy et al., 1996; Tyrell & Dozier, 1997), anxiety disorders and substance abuse (Fonagy et al., 1996), schizophrenia (Tyrell & Dozier, 1997), and conduct disorders comorbid with depression (Rosenstein & Horowitz, 1996).

Findings from studies examining states of mind with regard to attachment and Axis II disorders indicate that both Preoccupied and Dismissing attachment are associated with borderline personality disorder (BPD; Fonagy et al, 1996; Patrick et al., 1994) and antisocial personality disorder (ASPD; Fonagy et al., 1996). In general, individuals with Preoccupied, Dismissing, and Unresolved states of mind are also overrepresented in psychiatric populations (Dozier, Stovall, & Albus, 1999; van IJzendoorn & Bakermans-Kranenburg, 1996), particularly in adults diagnosed with BPD (Fonagy et al., 1996; Patrick et al., 1994). Some researchers have posited that Preoccupied attachment might be the “prototypical attachment classification” for BPD patients and that “variations in attachment classifications may discriminate among subtypes of BPD” (Diamond, Clarkin, Levine, Levy, Foelsch, & Yeomans, 1999, p. 840), due to the fact that many of the same developmental mechanisms apply to both, namely, preoccupation with, and disruption in, relationships based on early attachment experiences (i.e., unpredictable caregivers).

Findings from these studies demonstrate that insecure and Unresolved states of mind regarding attachment, which are associated with less than optimal early attachment experiences and relationships with caregivers, are related to adult psychopathology. Though no studies have examined individuals’ access to secure base scripts and psychopathology, one would expect that

low degrees of secure base scriptedness regarding early attachment experiences would also be related to adult psychopathology.

Adult romantic attachment.

Some researchers in the social/personality tradition posit that relationships between committed adults elicit some of the same features present in infant-caregiver relationships; namely, people derive comfort and security from a partner, seek proximity/closeness to a partner (especially in times of stress), and protest at the prospect of the partner becoming unavailable (Weiss, 1982; 1986; 1991). In addition, some attachment researchers propose that internal working models of self and others, derived from early interactions with caregivers, generalize to other relationships during adulthood (Feeney & Noller, 1996; Hazan & Shaver, 1987; Shaver, 1994). In fact, at least one known study has found substantial convergence between adult attachment states of mind and adult romantic attachment assessed at the same point in time (Bartholomew & Shaver, 1998), and at least one recent study has found a similar association between secure base scripts regarding parents and romantic attachment avoidance (Dykas et al., 2006).

The study of adult relationships from an attachment perspective did not become an active area of research until Hazan and Shaver undertook their seminal studies of romantic love (Hazan & Shaver, 1987; Shaver & Hazan, 1988; Shaver, Hazan & Bradshaw, 1988). Hazan and Shaver (1987) were among the first researchers to extend the childhood attachment paradigm to adult love relationships, positing that behavior in adult romantic relationships might be a result of early childhood attachment experiences. Many studies conceptualizing romantic love and attachment followed (Feeney & Noller, 1990; Kobak & Sceery, 1988; Levy & Davis, 1988).

Unfortunately, no existing longitudinal studies have looked at associations between infant attachment and peer/romantic attachment.

Paralleling the original infant attachment patterns and their respective underlying internal working models, Hazan and Shaver (1987) posited that *Secure* adults are able to trust and get close to others with minimal anxiety, *Ambivalent* (or Preoccupied) adults are anxious and over-dependent in relationships due to a lack of uncertainty about others, and *Avoidant* adults are distrustful of others and tend to avoid closeness in relationships. They identified this as their *Three-Category Model* of adult attachment. Interestingly, Hazan and Shaver (1987) found that the relative frequencies of Secure, Ambivalent, and Avoidant adults mirrored the frequencies observed with infant attachment categories. They also found that people with different attachment orientations with regard to other adults possess different beliefs about the course of romantic love, the availability and trustworthiness of love partners, and their own love-worthiness.

The two-dimensional four-category model of adult attachment. A few years after Hazan and Shaver developed their Three-Category Model, Bartholomew and Horowitz (1991) developed a model that split Hazan and Shaver's avoidant attachment type into two distinct types of avoidance: *Fearful* and *Dismissing*, thus identifying four adult attachment patterns. These patterns were defined in terms of the intersection of two underlying dimensions: the positivity (or negativity) of self and the positivity (or negativity) of other, which are consistent with Bowlby's original (1969/1980; 1982) notion of internal working models of self and other. Each combination of self and other models comprises an adult attachment pattern (see Figure 1).

Individuals who possess a positive self model generally feel self-confident and secure, rather than anxious (as do those with negative self models), in close relationships. Individuals

with positive other models expect that others will be available and supportive in relationships, while those with negative other models have a tendency to withdraw from (or avoid) close relationships because they do not have those same expectations. Thus, the self model dimension can be conceptualized in terms of *attachment anxiety*, while the other model dimension can be conceptualized in terms of *attachment avoidance* (Bartholomew & Horowitz, 1991).

Secure individuals are those characterized by a positive view of self and others. They are thought to have experienced consistent and responsive caretaking which fostered the development of an internalized sense of self-worth and trust that others are generally available and supportive (Bartholomew & Horowitz, 1991). Preoccupied individuals are characterized as having a negative self model and a positive other model and are thought to have experienced inconsistent and insensitive caretaking. They tend to be preoccupied with attachment needs, hypervigilant to potential sources of stress or threat, and sometimes manipulative in their

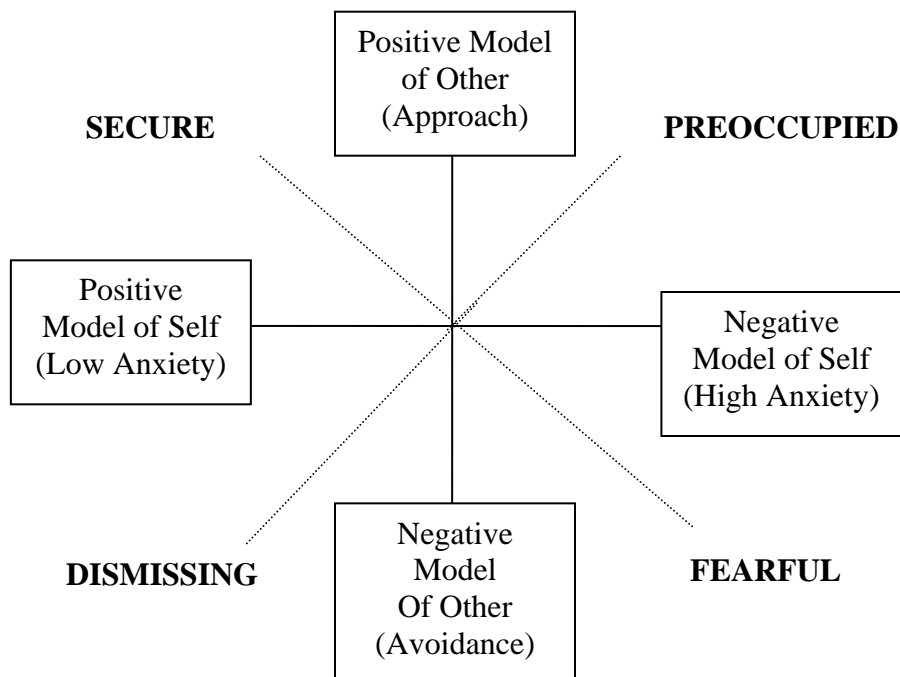


Figure 1. Two-dimensional, four-category model of Attachment (Bartholomew & Horowitz, 1991)

attempts to have their attachment needs fulfilled. Fearful-avoidant individuals are characterized by negative self and other models. These individuals are thought to view others as unavailable and themselves as unlovable. They, therefore, do not seek acceptance and love, but experience much subjective distress. Dismissing-avoidant individuals are characterized by a positive self view and negative other view. These individuals are thought to have maintained a positive self-image by distancing themselves from others who they believe will not meet their attachment needs. Consequently, they are thought to experience lower levels of subjective distress than are Fearful-avoidant individuals (Bartholomew & Horowitz, 1991). It should be noted that, in contrast to this conceptualization, researchers (and their respective measures) from the clinical/developmental tradition who measure adult attachment with respect to childhood relationships with caregivers do not divide the Avoidant/Dismissing group into two different conceptual groups.

Positing that dimensions of adult romantic attachment (anxiety and avoidance) garner crucial information missed by conceptualizing attachment solely as categorical, Brennan, Clark, and Shaver (1998) and Fraley, Waller, and Brennan (2000) have recently developed several adult attachment measures that incorporate items from previous measures in order to fully capture these dimensions of adult attachment. Indeed, there is substantial evidence demonstrating that the two dimensions of anxiety and avoidance should be the focus of romantic attachment-related assessments in adult populations (Brennan et al., 1998; Fraley et al., 2000).

Adult romantic attachment and psychopathology.

Unlike the literature assessing adult states of mind with regard to attachment, only a few studies have linked adult romantic attachment styles with psychopathology, using a variety of the existing adult romantic attachment self-report measures. Berry, Weardon, Barrowclough, and Liversidge (2006) found that attachment anxiety was associated with positive psychotic phenomena (hallucinations and paranoia), while attachment avoidance was associated with social anhedonia in a college student sample. Muller, Lemieux, and Sicoli (2001) found that the Fearful-avoidant and Preoccupied attachment categories, as well as the attachment anxiety dimension, predicted higher anxiety and depression, and lower self-esteem than the Secure and Dismissing-avoidant categories, or the attachment avoidance dimension, in a sample of survivors of childhood abuse. Alexander (1993) found that insecure attachment in general was associated with avoidant, dependent, self-defeating, and borderline personality disorders in a community sample, while Secure attachment was negatively associated with difficulties in functioning.

Overall, these studies indicate that insecure romantic attachment styles and/or high romantic attachment avoidance and/or anxiety are related to a variety of psychopathologies in various samples, which is similar to findings regarding adult states of mind with regard to attachment and psychopathology. Specifically, Secure (Autonomous) attachment appears to be a protective or resiliency factor, as it is associated with a lack of psychopathology, while insecure attachment styles including Unresolved states of mind with regard to attachment may be risk or vulnerability factors for psychopathology.

Insecure attachment styles, high romantic attachment avoidance and/or anxiety, and Unresolved states of mind with regard to attachment have also been shown to be related to psychopathology associated with experiencing various types of trauma. In fact, to be considered Unresolved with regard to attachment on the AAI, one must have experienced trauma in the form

of loss or abuse. What follows is a review of the diagnostic definition of trauma, as well as expanded definitions of trauma and trauma sequelae relating to interpersonal traumas, including their relationship to attachment.

Post-Traumatic Stress Disorder and other Conceptualizations of Trauma

Trauma is a form of psychopathology that requires a traumatizing event to have taken place. A traumatizing event is considered one that involves the direct personal experience or witnessing of actual or threatened death, serious injury, or integrity, or the learning of unexpected or violent death, harm, or threat experienced by someone with whom one has a close relationship (APA; 2000). Individuals exposed to traumatizing events experience a range of responses from no symptoms to a full-blown clinical syndrome. The current most accepted diagnostic definition of trauma is Post-Traumatic Stress Disorder (PTSD). PTSD was added to the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM III)*: APA, 1980) in partial response to veterans' groups and mental health professionals rallying for the recognition of a "post-Vietnam syndrome" (Helzer, Robins, & McEvoy, 1987). PTSD is conceptualized as a distinctive group of symptoms that emerges following personal exposure to, or witnessing of, an extreme stressor that is threatening to the physical or psychological integrity of oneself or another and is accompanied by intense fear, helplessness, or horror (APA; 2000). The hallmark symptoms of PTSD are intrusive recollections and re-experiencing of the traumatic event, avoidance or numbing symptoms, and increased hypersensitivity and arousal. To receive a diagnosis of PTSD, one must endorse the presence of one intrusive symptom, three avoidance symptoms, and two arousal symptoms for a period of at least one month following a traumatic event (APA; 2000).

The introduction of the PTSD diagnosis was important because it contextualized human suffering (van der Kolk & McFarlane, 1996), by viewing the consistent pattern of symptoms seen in Vietnam veterans as related to personal experiences with the atrocities of war, rather than purely psychological or biological disorders (van der Kolk & McFarlane, 1996). Despite limitations inherent in using the limited knowledge of trauma at that time, PTSD has proven to be an “enormously useful diagnostic construct” (van der Kolk & McFarlane, 1996). However, posttraumatic trauma syndromes such as *rape trauma syndrome* (Burgess & Holstrom, 1974) and *battered women’s syndrome* (Walker, 1984), which take into account other trauma outcomes, such as the effects of assault on victims’ sense of safety, trust and self worth, revictimization, and loss of a coherent sense of self, were lost upon acceptance of PTSD as a diagnostic entity.

Exposure to various traumatic events is widespread, with prevalence rates in community samples ranging from 39%-90% (Breslau, Davis, Andreski, & Peterson, 1991; Breslau, Kessler, Chilcoat, Schultz, Davis, & Andreski, 1998; Elliot & Briere, 1995; Kessler, Sonnega, Bromet, & Hughes et al., 1995); however, relatively few of those exposed go on to develop PTSD, which affects an estimated 7.8% of all adults (Kessler et al., 1995). There are many factors that affect one’s propensity to develop PTSD, including gender and the experience of previous traumas, to name a few (Breslau et al., 1991; Kessler et al., 1995; Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993; Yehuda, Marshall, Penkower, & Wong, 2002). In fact, PTSD is much more prevalent among women than men (10.4%-12.3% versus 5%-6%; Breslau et al., 1991; Kessler, et al., 1995; Resnick et al., 1993), possibly because women experience more interpersonal traumas than men, even though women, in general, experience fewer potentially traumatic events (Kessler, et al., 1995; Tolin & Foa, 2006). Specifically, 17-33% of women in the general population, and 35-50% of women in mental health settings, report childhood physical and/or

child sexual abuse (CSA; Cloitre, Cohen, Han, & Edelman, 2001; Finkelhor, Hotaling, Lewis, & Smith, 1990; Kessler, et al., 1995). In addition, women are also more likely to experience chronic abuse, as well as abuse perpetrated by a family member (Fischer, 1992). Importantly, abuse committed by significant others have been shown to be particularly deleterious to victims (Herman, 1992a/1997; Kobak, Cassidy, & Zir, 2004).

Victims of chronic abuse by significant others, however, are often not diagnosed with PTSD. Instead, they are often misdiagnosed with other psychological disorders, such as dissociative identity disorder (DID), and more frequently, borderline personality disorder (BPD). These victims of chronic abuse, usually women, often display trauma symptoms not captured by the PTSD diagnosis, including affect and behaviors that mirror the “deformations of relatedness and identity” seen in those with BPD (Herman, 1992a/1997, p. 119). In fact, Classen, Pain, Field, and Woods (2006) recently advanced the relationship between PTSD, BPD, and attachment, by proposing two new diagnostic categories, *Posttraumatic Personality Disorder-Disorganized* and *Posttraumatic Personality Disorder-Organized* to account for the differential attachment styles and the subsequent symptomatology displayed by those who have experienced chronic traumatization. Clearly, insecure and Unresolved attachment states of mind and attachment styles and dimensions are associated with PTSD, as well as with other psychological disturbances not encompassed by PTSD. The concept of *attachment-related traumas*, which follows, has also established a link between attachment and trauma, as well as broadened the concept of trauma itself.

A conceptualization of attachment-related traumas.

As previously mentioned, a major finding in attachment research was Main and Hesse’s (1990) discovery of a relationship between parents’ Unresolved states of mind regarding

attachment and their infants' Disorganized attachment status. This research provided evidence of a second-generation effect, or the intergenerational transmission of attachment representations. Important subsequent research of parents' Unresolved states of mind regarding attachment and their infants' Disorganized classifications has demonstrated that both also produce phenomena indicative of dissociation, namely, deficits of integrative functions of memory, consciousness, and identity that are often related to traumatic experiences (Hesse & Main, 2000; Liotti, 1992; 1999; 2004; Main & Morgan, 1996). This discovery spawned a proliferation of research that established the link between adults' Unresolved states of mind regarding attachment and dissociation, and related experiences and consequences of psychological trauma (Beck & van der Kolk, 1987; Herman, 1992a; Warshaw, Fierman, Pratt, Hunt, Massion, & Keller, 1993). In fact, Liotti (1992) hypothesized that Disorganized infant attachment is "the first step in many developmental pathways (provided they include traumatic experiences during childhood and adolescence) that progressively leads to increased vulnerability to dissociative disorders and to dissociative reactions to later traumas" (p. 476). A similar hypothesis was advanced by Main and Morgan (1996).

Several studies have supported this hypothesis; for example, Carlson (1998) demonstrated that infant Disorganization was associated with dissociative behaviors and experiences in adolescence, and Pasquini, Liotti, Mazzotti, Fassone, and Picardi (2002) showed that severe traumatic events experienced by mothers were significant risk factors for the development of their children's later dissociative disorders. Thus, there seems to be accumulating evidence from the empirical literature that trauma and trauma symptoms are related to certain types of attachment, and that the two may be intimately intertwined.

Attachment-related traumas and their link to trauma symptomatology. While attachment researchers have clearly recognized the importance of trauma on attachment and attachment on trauma, Kobak et al. (2004) took the relationship between the two a step further with their conceptualization of “attachment-related traumas.” Attachment-related traumas occur when “a frightening experience is accompanied by, or results from, the appraisal of loss, rejection, or abandonment by an attachment figure” (p. 391). These may include actual losses of the caregiver physically or psychologically or “extreme forms” of separations from caregivers, which feel like threats to survival, as children’s survival is often dependent upon their parents’ availability and protection. In adulthood, though not experienced as threats to survival per se, attachment-related traumas are particularly deleterious because the threat to self is accompanied by the threat of loss or abandonment by an attachment figure.

Kobak et al. (2004) recognize four types of attachment-related traumas. The first is *attachment disruptions*, or unanticipated and/or prolonged separations that involve little communication and no joint plan for reunion. Attachment disruptions are particularly deleterious to infants and young children who lack the cognitive capacity to communicate regarding the reasons for separation or plans for reunion. This type of trauma may indeed be what Bowlby observed in his hospitalized infants when they protested and despaired when their parents left them for long periods of time, only to detach and avoid their caregivers upon their caregiver’s return. A second type is *physical and sexual abuse of a child* by an attachment figure. This type of abuse is particularly deleterious because the abused child faces the impossible dilemma of both needing (for survival) and fearing the attachment figure, which is an ongoing source of trauma. The third type is loss of an attachment figure. The fourth is *attachment injuries*, or “wounds that arise from abandonment by a present attachment figure in a

situation of urgent need” (Johnson 2002, as cited by Kobak et al., 2004, p. 394). Attachment injuries are also experienced by adults and are particularly deleterious because they elicit fears of abandonment and lead to uncertainty about a partner’s availability.

Attachment-related traumas differ from single-event traumas, or the types of traumas typically recognized by the PTSD diagnosis, in several important ways. First, attachment-related traumas are not generally one specific event, although they can be. Rather, they are usually chronic and always, by definition, interpersonal. Second, children who experience attachment-related traumas appear to be at particular risk compared to adults, given that they depend on attachment figures for survival. While distressing to adults, attachment-related traumas are not generally perceived by adults as threats to survival. Attachment-related traumas, to children, may often be perceived this way. In addition, attachment-related traumas put children in the impossible dilemma of needing support from another who is unavailable or, worse, the actual source of danger. For example, in the case of child abuse by a caregiver, a child’s sense of safety and survival is threatened by the very person responsible for providing safety and protection to the child. For these reasons, attachment-related traumas experienced during childhood put individuals at significant risk, as they severely disrupt their psychological development, contributing to significant impairment in their ability to develop adaptive internal working models of attachment. Internal working models of attachment are, in turn, thought to be critical throughout life in the regulation of emotion, cognition, behavior, and affect. Though not examined in the literature thus far, one would also expect that given their inability to develop secure internal working models of attachment, children who experience attachment-related traumas would also have less access to secure base scripts.

Evidence for this comes from both social cognitive and schema theories of PTSD and attachment theory, which have, in common, conceptualizations regarding the reasons attachment-related traumas can disrupt one's schema of the world, and one's working models of attachment, and by extension, one's secure base script. The former theories of PTSD, for example, posit that PTSD emerges following a trauma because the trauma fundamentally alters or destroys one or more of four core beliefs including that the world is safe, the world has meaning, the individual is worthy, and people can be trusted (Foa & Rothbaum, 1998; Herman, 1992a/1997; Janoff-Bulman, 1989; Resick & Calhoun, 2001). This conceptualization is consistent with core beliefs from attachment theory, which posits that disruptions in attachment may fundamentally alter one's internal working models of attachment regarding self and others, and by extension (though not explored as of yet), one's secure base script.

Attachment-related traumas and associated sequelae are also related to trauma sequelae included in the PTSD diagnosis in other ways. For example, the lapses in monitoring of discourse and reason characteristic of Unresolved states of mind regarding attachment and symptoms of PTSD share three features: failure to integrate memories of traumatic experiences, avoidance of painful emotions associated with traumatic memories, and increased stress reactivity (Kobak et al., 2004). However, while the trauma symptoms included in the PTSD diagnosis capture much of the trauma sequelae of those who have experienced attachment-related traumas, they do not fully capture this experience. As already presented, the diagnosis does not, for example, include the dissociation experienced by those who have a history of unresolved traumas and losses, such as those assessed by the AAI, nor does it account for altered belief systems about the self and the world. What follows next is a broader description of trauma

sequelae that can result after attachment-related traumas, put forth by experts in the field of interpersonal trauma.

Complex PTSD (CP)/disorders of extreme stress (DESNOS).

Herman (1992a/1997) formulated the concept of Complex PTSD (CP) to describe the trauma sequelae of survivors of prolonged and repeated trauma reported in the literature, and observed in clinical practice, but not encompassed by the narrow diagnostic criteria of PTSD. From her work, the American Psychiatric Association organized the DSM-IV field trial for PTSD to propose changes in the definition of exposure to a traumatic event and to explore whether victims of chronic interpersonal abuse (children, concentration camp victims, and victims of domestic violence) met diagnostic criteria for PTSD, or whether the trauma sequelae were better explained by CP, also called the Disorders of Extreme Stress (DESNOS; Pelcovitz, van der Kolk, Roth, Mandel, Kaplan, & Resick, 1997; Roth, Newman, Pelcovitz, van der Kolk, & Mandel 1997; van der Kolk, Roth, Pelcovitz, Sunday, and Spinazzola, 2005). Survivors of prolonged and repeated trauma who develop CP/DESNOS often behave in ways that are similar to behaviors of those diagnosed with personality disorders, such as the “deformations of relatedness and identity” mentioned previously. In addition, they develop other characteristic constellations of symptoms, encompassed by CP/DESNOS subcategories (See Table 2).

Two studies conducted by the same research group for the DSM-IV field trial for PTSD demonstrated that interpersonal abuse, especially interpersonal abuse experienced early in life, produced symptoms of DSM-IV PTSD *and* the CP/DESNOS symptom constellations presented in Table 2. In the first of these studies, which evaluated the utility of a CP/DESNOS diagnosis for CSA survivors in a treatment-seeking sample ($N = 395$) and a community sample ($N = 128$), Roth et al. (1997) found that 50% of participants met criteria for lifetime CP/DESNOS as

assessed by the *Structured Interview for Disorders of Extreme Stress* (van der Kolk, Pelcovitz, Herman, Roth, Kaplan & Spitzer, 1992), and 72% of participants with a lifetime diagnosis of PTSD [as assessed by the *Structured Clinical Interview for DSM-III-R (SCID)*; Spitzer, Williams, Gibbon, & First, 1990)] also met lifetime criteria for CP/DESNOS. Results also demonstrated

Table 2.

CP/DESNOS Subcategories

<ul style="list-style-type: none"> 1. Alterations in Regulation of Affect and Impulses <ul style="list-style-type: none"> A. Affect Regulation B. Modulation of Anger C. Self-Destructive II. Alterations in Attention or Consciousness <ul style="list-style-type: none"> A. Amnesia B. Transient Dissociative Episodes and Depersonalization III. Somatization <ul style="list-style-type: none"> A. Digestive System B. Chronic Pain C. Cardiopulmonary Symptoms IV. Alterations in Self-Perception <ul style="list-style-type: none"> A. Ineffectiveness B. Permanent Damage C. Guilt and Responsibility V. Alterations in Perception of the Perpetrator <ul style="list-style-type: none"> A. Adopting Distorted Beliefs B. Idealization of the Perpetrator C. Preoccupation with Hurting the Perpetrator VI. Alterations in Relations with Others <ul style="list-style-type: none"> A. Inability to Trust B. Revictimization C. Victimizing Others VII. Alterations in Systems of Meaning <ul style="list-style-type: none"> A. Despair and Hopelessness B. Loss of Previously Sustaining Beliefs 	<ul style="list-style-type: none"> D. Suicidal Preoccupation E. Difficulty Modulating Sexual Involvement F. Excessive Risktaking <ul style="list-style-type: none"> D. Conversion Symptoms E. Sexual Symptoms <ul style="list-style-type: none"> D. Shame E. Nobody Can Understand F. Minimizing
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Note. From van der Kolk, Roth, Pelcovitz, Sunday, and Spinazzola (2005), p. 391, as adapted from Herman (1992a).

that a diagnosis of both CP/DESNOS and PTSD was especially high in CSA survivors (76%), as compared with physical abuse survivors (53%). In addition, chronicity, onset, and type of abuse did not predict the development of CP/DESNOS in men (though the number of men who reported abuse was very small), but they did in women. Finally, participants with both CSA and physical abuse were 14.5 times more likely to have a diagnosis of CP/DESNOS than those with no history of abuse, while those with CSA alone were 4.4 times more likely to develop CP/DESNOS than those with no history of abuse. This study suggests that CSA survivors, in particular, display trauma sequelae encompassed not only by PTSD, but also by the diffuse and persistent sequelae of CP/DESNOS, and that a history of physical and sexual abuse is highly predictive of CP/DESNOS trauma sequelae.

Using the same sample divided into 3 groups (victims of interpersonal violence before age 14; early onset interpersonal abuse group, victims of interpersonal violence after age 14; late onset interpersonal abuse group, and victims of natural disasters with no history of interpersonal violence; disaster group), the second study (van der Kolk, Roth, Pelcovitz, Sunday, & Spinazzola, 2005) found significant differences between the 3 groups with regard to PTSD and CP/DESNOS diagnosis. In the early onset interpersonal abuse group, 61% of participants met criteria for both PTSD and CP/DESNOS, while only 16% met criteria for PTSD alone; in the late onset interpersonal abuse group, 33% of participants met criteria for both diagnoses, while 26% met criteria for PTSD alone; and in the disaster group, 8% met criteria for both diagnoses, while 15% met criteria for PTSD only (Roth et al., 1997; van der Kolk et al., 2005). This study suggests that early interpersonal abuse, in particular, may predispose victims to the diffuse and persistent trauma sequelae encompassed by CP/DESNOS, in addition to PTSD trauma sequelae;

the former proposed diagnostic category may more comprehensively capture the trauma sequelae from early interpersonal traumas. This study also suggests that different types of traumas may produce differential trauma sequelae. The early interpersonal traumas assessed in the DSM-IV field trials, then, could theoretically be conceptualized as attachment-related traumas, as these traumas threaten both the victim and the availability of an adequate attachment figure.

Henceforth, various types of abuse including CSA and physical abuse and neglect will be referred to as attachment-related traumas in this paper.

Attachment-related traumas are likely related to the particularly deleterious CP/DESNOS trauma sequelae (encompassed by the CP/DESNOS subcategories) for several reasons. First, attachment-related traumas and the resultant CP/DESNOS trauma sequelae impair one's ability to trust oneself and others, and therefore, to utilize interpersonal and social support in the aftermath of trauma; this may perpetuate the trauma and impede the post-trauma healing process. Second, both attachment-related traumas and CP/DESNOS symptoms alter one's ability to regulate affect, impulses, consciousness and attention, or internal states, which can also impede the post-trauma healing process, as well as put the survivor at risk of experiencing subsequent traumas. Third, they produce trauma sequelae that are often more diffuse and persistent than symptoms subsequent to single-event traumas, and that are accompanied by noticeable and often pathological personality changes.

States of mind regarding attachment and adult romantic attachment styles (based on internal working models of attachment that are represented by secure base scripts) established during development also appear to predispose human beings to differential abilities regarding the regulation of internal states, and an individual's response to traumatic events depends heavily on his/her capacity to regulate internal states (Mikulincer, Shaver, & Horesh, 2006; van der Kolk &

Courtois, 2005). States of mind regarding attachment and adult romantic attachment styles and dimensions also appear to differentially predispose individuals to ways of thinking about themselves, others, and the world, and to differential beliefs regarding the availability of others, especially in times of stress (Fearon & Mansell; 2001; Foa, Tolin, Ehlers, Clark, & Orsillo, 1999). Adult attachment, then, by extension, must be related to the experience of early interpersonal trauma.

Thus far, the work reviewed here regarding the relationship between adult attachment and trauma has largely been conceptual in nature. There are, however, a handful of studies that have empirically examined the associations between adult attachment and trauma. This research includes some studies linking adult states of mind with regard to attachment to dissociation and other trauma sequelae, studies linking adult romantic attachment to the PTSD diagnosis and other trauma sequelae, and studies examining whether adult attachment mediates the relationship between attachment-related traumas and trauma sequelae. It is believed that research such as the studies discussed next, as well as future research linking adult attachment and trauma, may justify the inclusion of CP/DESNOS as its own diagnostic category, rather than just an “Associated Features and Disorders” subsection under the PTSD diagnostic category, the place to which it was relegated in the DSM-IV-TR (APA, 2000).

Adult Attachment and Trauma

Studies linking unresolved states of mind to PTSD and other trauma sequelae.

There are several studies that have established a link between attachment-related traumas, Unresolved states of mind regarding attachment (according to the AAI), and dissociation, PTSD, and other general trauma symptomatology. For example, one study of adolescents in psychiatric treatment found that those with Unresolved or Cannot Classify states of mind ($N = 70$) reported

significantly more dissociative symptoms on the *Youth Self Report (YSR)* (Achenbach, 1991) compared to those who were not Unresolved or CC ($N = 63$; West, Adams, Spreng & Rose, 2001). In this study, females also reported significantly more dissociative symptoms than males. These results provide evidence for a relationship between Unresolved states of mind and dissociative symptomatology, as would be expected based on theoretical reports.

Similarly, another study of 112 females who had experienced an attachment-related trauma (incest; Anderson & Alexander, 1996) revealed high rates of dissociation and a significant relationship between Fearful-avoidant attachment, as measured by the *Family Attachment Interview* (Bartholomew & Horowitz, 1991), and dissociation, as assessed by the *Dissociative Experiences Scale (DES)* (Bernstein & Putnam, 1986; Carlson & Putnam, 1992; 1993a). Of a subset identified with Dissociative Identity Disorder (DID), the most pathological of the dissociative disorders, all but one had Unresolved states of mind in addition to their main classification (which was predominantly Fearful-avoidant). In addition, the DID subset experienced earlier age of onset of abuse, significantly greater severity of abuse, significantly greater maternal neglect, and more physical abuse than those without DID, indicating that severity of attachment-related trauma is linked with severity of trauma symptomatology, in this case, dissociation.

In another study of 60 female childhood abuse survivors, Stovall-McClough and Cloitre (2006) found an inordinate number of Unresolved participants according to the AAI (57%), as compared with Secure (22%), Dismissing (13%), and Preoccupied (8%) participants, again demonstrating the link between early attachment-related traumas and adult Unresolved states of mind with regard to attachment. Furthermore, results demonstrated that those with U_{tr} were significantly more likely to be diagnosed with PTSD, as assessed by the *Clinician Administered*

Posttraumatic Scale for DSM-IV (CAPS; Blake, Weathers, Nagy, Kaloupek, Gusman, Charney, & Keane, 1990) compared with Dismissing and Secure participants. In fact, 71% of participants classified as Unresolved had PTSD, suggesting a strong link between Unresolved states of mind and a PTSD diagnosis. U_{tr} status was also associated with more severe PTSD avoidance symptoms, as well as higher PTSD total symptoms compared with symptoms reported for Dismissing participants. In contrast to the studies described above, U_{tr} *did not* predict severity of dissociative symptoms in this sample nor did U_1 predict PTSD or dissociative symptoms. This study suggests that Unresolved attachment states of mind with respect to trauma, and possibly Preoccupied states of mind, are related to early attachment-related traumas and to both the diagnosis of PTSD and PTSD symptom severity.

Studies linking adult romantic attachment to PTSD and other trauma sequelae.

The first study linking adult romantic attachment to trauma was a study of 140 Israeli students living in close proximity to the site of an Iraqi missile attack during the Gulf War (Mikulincer, Florian, & Weller, 1993). Results from this study revealed that Ambivalent attachment, as assessed by Hazan and Shaver's (1987) original romantic attachment measure, was associated with more posttraumatic distress, including depression, hostility, and anxiety, as assessed by the *Symptom Checklist-90 (SCL-90*; Derogatis, 1979), and the *Impact of Event Scale (IES*; Horowitz, Wilner, & Alvarez, 1979), and Avoidant attachment was associated with higher levels of somatization and hostility. These results suggest that insecure adult romantic attachment styles are related to the development of trauma sequelae, similar to what has been found with insecure states of mind and trauma symptomatology.

In a study of 66 adult survivors of CSA, Muller, Sicoli, and Lemieux (2000) found that the majority of their sample had an insecure romantic attachment style (42% Dismissing, 24%

Fearful-avoidant, and 21% Preoccupied), as assessed by the *Relationships Scales Questionnaire* (RSQ; Griffin & Bartholomew, 1994). In addition, there was a significant main effect for attachment style on PTSD symptoms as assessed by the *PTSD Checklist* (Southwick, Morgan, Nagy, Bremner, Nicolau, & Johnson et al, 1993). Specifically, participants with a Fearful-avoidant or Preoccupied classification (styles incorporating a negative model-of-self) had significantly higher levels of PTSD symptoms than participants with a Secure or Dismissing (styles incorporating a positive model-of-self) classification. PTSD symptoms were highest for Fearful-avoidant participants. Thus, insecure romantic attachment styles, particularly those representing a negative view-of-self, were predictive of PTSD symptomatology, even after accounting for severity of childhood physical and psychological abuse, CSA, and domestic violence. This study also suggests that Fearful-avoidant and Preoccupied attachment, in particular, may be vulnerability factors in the development of PTSD sequelae, perhaps because they are both forms of insecure attachment that involve negative views of the self within relationships.

Studies that examine adult attachment (states of mind or romantic attachment) as a mediator between attachment-related traumas and trauma symptomatology.

Several additional studies have further explored the relationship between attachment-related traumas, adult attachment, and trauma sequelae by examining attachment as a possible mediator between attachment-related traumas and trauma symptoms, with differential results. For example, one study first documented the association between childhood abuse history, as assessed by both the *Childhood Trauma Interview* (CTI; Fink, Bernstein, Foote, Lovejoy, Ruggiero, & Handelsman, 1994) and the *Childhood Trauma Questionnaire* (CTQ; Bernstein et al., 1994) and Unresolved states of mind in a sample of 62 low-income, predominantly single

mothers (Bailey, Moran, & Pederson, 2007). More specifically, 71% of participants who reported CSA and 55% of participants who reported childhood physical abuse were classified as Unresolved. General maltreatment (emotional, physical, and sexual abuse, and emotional and physical neglect) scores were also strongly associated with U_{tr} , while sexual abuse history, but not physical abuse history, uniquely predicted U_1 . Results also demonstrated a link between abuse history, Unresolved states of mind, CP symptoms, as assessed by the *Borderline Features Scale of the Personality Assessment Inventory* (Morey, 1991), and DSM-IV PTSD symptoms, as assessed by the *Trauma Symptom Inventory (TSI)* (Briere, 1995). Specifically, CSA history was associated with higher levels of dissociation, identity confusion, identity problems, affective instability, and relationship difficulties in the form of intense and conflictual interpersonal relationships. $U_{tr/1}$ was associated with higher dissociative symptoms, relationship difficulties, and identity confusion. In addition, though abuse history predicted general PTSD symptoms, no form of Unresolved status did. Finally, although $U_{tr/1}$ did not mediate the relationship between sexual abuse history and dissociative symptoms, identity confusion, or impaired self-reference, Unresolved status did mediate the relationship between CSA history and intense and conflictual relationship difficulties, which were conceptualized as a CP/DESNOS symptom. This study suggests that Unresolved states of mind with regard to attachment are related to attachment-related traumas, and in particular CSA, and that Unresolved states of mind may mediate the relationship between attachment-related traumas and at least one form of complex trauma.

Four additional studies examined adult romantic attachment as a possible mediator between attachment-related traumas and trauma symptoms. In a study using 219 college students, Browne and Winkelman (2007) found no direct relationship between the adult attachment dimensions of anxiety (model-of-self) or avoidance (model-of-other) and general

trauma symptoms, although trauma-related cognitive distortions regarding self-criticism, self-blame, helplessness, hopelessness, and preoccupation with danger mediated the relationship between attachment-related trauma (childhood abuse) and trauma symptoms. In addition, attachment anxiety mediated the relationship between attachment-related traumas and cognitive distortions, which in turn, were significantly related to general trauma symptoms, as tested through a structural equation model.

In a study of 309 female college students (Roche, Runtz, & Hunter, 1999), multiple regression analyses revealed that romantic attachment mediated the relationship between CSA and general trauma symptoms. In addition, when participants were collapsed into No Abuse, Intrafamilial Abuse, and Extrafamilial Abuse groups, results indicated that those with Intrafamilial Abuse had significantly more trauma symptoms and were more insecurely attached to partners than participants in either of the other groups, suggesting that traumas perpetrated by family members (i.e., attachment figures) have more deleterious consequences than other types of traumas. In another study of 224 female college students, Sandberg, Suess, and Heaton's (2010) path analysis revealed that adult romantic attachment anxiety partially mediated the relationship between adolescent (before age 18) or adult sexual victimization and PTSD symptomatology, while romantic attachment avoidance, although associated with PTSD symptomatology, did not mediate this relationship.

Finally, in a study of 284 adults recruited from public locations in a metropolitan area, Twaite and Rodrigues-Srednicki's (2004) multiple regression analyses revealed that adult romantic attachment and dissociation mediated the relationship between CSA and/or childhood physical abuse (CPA) and severity of PTSD symptomatology.

Overall, these empirical studies suggest that attachment-related traumas, especially those experienced early in development and at the hands of attachment figures, contribute to deleterious forms of trauma sequelae. These studies further suggest that having Autonomous states of mind regarding attachment and/or secure adult romantic attachment styles and dimensions may mitigate against the impact of attachment-related traumas on at least some types of trauma symptoms, while insecure states of mind regarding attachment (particularly the Unresolved kind) and insecure adult romantic attachment styles and dimensions may exacerbate certain trauma symptoms in response to traumatic events. In addition, preliminary studies suggest that Unresolved states of mind regarding attachment and certain adult romantic attachment styles and dimensions may even help explain the relationship between attachment-related traumas (namely, childhood abuse) and at least some trauma sequelae. Clearly, adult attachment has a role in the experience and expression of trauma; however, the dearth of research and differential findings thus far demonstrate a need for more empirical research on the nature of the relationship between attachment-related traumas, adult attachment, and the experience of trauma, including expressions of CP/DESNOS.

The Present Study

Previous literature has provided evidence that individuals have varying degrees of access to secure base scripts, or cognitive structures established early in life as a result of relationships with caregivers. Previous literature has also provided evidence that attachment-related traumas are particularly deleterious forms of trauma, as they are interpersonal and chronic, and they put individuals in a bind because they must solicit help from the very individuals who abuse them. In addition, previous literature has provided evidence that attachment-related traumas are related to adult romantic attachment insecurity, PTSD, and complex trauma outcomes. Last, previous

literature has demonstrated that levels of attachment insecurity-security may partially influence levels of PTSD and/or complex trauma outcomes, or whether one manifests PTSD and/or complex trauma outcomes at all.

One major aim of this study was to examine the associations between secure base scriptedness based on early attachment experiences and based on adult romantic relationships, as well as the association between adult-adult scripts and self-reported adult romantic attachment dimensions. Secure base scripts are believed to underlie internal working models of attachment regarding self and others, which are also reflected through one's state of mind regarding attachment in childhood and adolescence. These states of mind and their underlying secure base scripts appear to be carried forward or generalized to some extent to one's romantic attachment style in adulthood. Although a fair amount of research exists on attachment states of mind and adult romantic attachment, very little research has examined adults' secure base scripts, with most of the existing research generated by one group of researchers.

Furthermore, no existing studies have examined secure base scripts in relation to attachment-related traumas or psychopathology, including trauma symptoms, despite the fact that certain states of mind with regard to attachment are known to be strongly related to traumatic events and their sequelae, as both are linked to one's ability to regulate affect and emotions, and both are known to affect one's core perceptions of the self and the world. Thus, another primary aim of this study was to ascertain more information regarding the associations between a history of attachment-related traumas and trauma sequelae, including the possible role that adult secure base scripts and adult romantic attachment dimensions may have in helping to explain the former associations. This study also specifically examined trauma sequelae that were more consistent with the conceptual dimensions underlying CP/DESNOS, as the DSM-IV PTSD diagnostic

symptoms do not appear to adequately capture the diffuse and persistent outcomes of attachment-related traumas as compared to other types of traumas.

Last, this study furthered the existing literature on adult attachment and trauma by examining adult romantic attachment and trauma in a sample of postpartum women rather than college students, as most existing studies examining these constructs have done. In addition, it examined multiple forms of attachment-related traumas in relation to the CP/DESNOS trauma sequelae; existing studies have examined only certain forms of attachment-related traumas, namely CSA and/or physical abuse in relation to trauma outcomes.

Hypotheses

1a. It was hypothesized that childhood interpersonal abuse and neglect (this study's operationalization of attachment-related trauma) would be related to CP/DESNOS trauma sequelae, such that greater severity of overall childhood physical, sexual, and emotional abuse and physical and emotional neglect (i.e., total maltreatment) would predict higher levels of trauma sequelae.

1b. Due to the scarcity of past research on sequelae of individual types of childhood maltreatment, exploratory analyses examined the relationships between individual types of childhood interpersonal abuse and neglect, including childhood physical, sexual, and emotional abuse, and physical and emotional neglect, and CP/DESNOS trauma sequelae.

2. It was hypothesized that severity of childhood interpersonal abuse and neglect would be related to the adult romantic attachment dimensions, such that greater severity of overall abuse would be related to greater adult romantic attachment anxiety and avoidance.

3. It was hypothesized that adult romantic attachment anxiety and attachment avoidance would be related to CP/DESNOS trauma sequelae, such that greater anxiety and avoidance would be related to higher levels of trauma sequelae.

4. Because there appears to be a fairly complex inter-relationship between the study variables (childhood interpersonal abuse and neglect, adult romantic attachment dimensions, and CP/DESNOS trauma sequelae), and because there is some preliminary evidence to support a mediation model, it was hypothesized that adult romantic attachment insecurity-security would mediate the relationship between attachment-related trauma severity and CP/DESNOS trauma sequelae, such that the relationship between childhood interpersonal abuse and neglect and CP/DESNOS sequelae would no longer be significant once romantic attachment insecurity-security was accounted for.

5. Additionally, adult romantic attachment security-insecurity was examined as a possible moderator of the association between childhood interpersonal abuse and neglect and CP/DESNOS trauma sequelae. Though no moderation models have been examined in the existing literature, for theoretical reasons, it was speculated that adult romantic attachment security-insecurity would alter the strength of the relationship between attachment-related traumas in childhood and CP/DESNOS sequelae in adulthood. More specifically, low levels of adult romantic attachment anxiety and avoidance would mitigate, or protect individuals from, the effects of attachment-related traumas, whereas high levels of anxiety and avoidance would exacerbate the effects of attachment-related traumas on trauma sequelae.

6. It was hypothesized that partner specific (adult-adult) and parent-child (adult-child) secure base scriptedness would be moderately correlated ($\sim .30-.40$), indicating that, while the

two are related, presumably because early parent-child scripts generalize into scripts for adult romantic attachment relationships, attachment scripts are also somewhat relationship-specific.

7. It was hypothesized that both types of secure base scripts (adult-adult and adult-child) would be significantly and negatively correlated with self-reported adult romantic attachment anxiety and avoidance, such that greater secure base scriptedness would be related to lower adult romantic anxiety and avoidance.

8. It was hypothesized that childhood interpersonal abuse and neglect would be significantly correlated with both types of secure base scripts, such that greater severity of overall childhood interpersonal abuse and neglect would be related to lower levels of both types of secure base scriptedness.

9a. It was hypothesized that both types of secure base scripts would be significantly and negatively correlated with CP/DESNOS trauma sequelae, such that greater secure base scriptedness would be related to lower levels of trauma sequelae, while lower secure base scriptedness would be related to higher levels of trauma sequelae.

9b. Because secure base scripts and trauma cognitions both purport to measure cognitions specifically, an exploratory analysis was conducted to examine the relationship between the two variables.

Method

Participants.

Participants in this study were 104 postpartum women 18 years or older with available data drawn from an ongoing larger study of women exposed to childhood interpersonal trauma with and without Post Traumatic Stress Disorder (PTSD), and women not exposed to childhood interpersonal trauma. Women for the larger study were recruited from the Ann Arbor and

Detroit Metropolitan areas. Participants included in this subsample were based on who completed the measures of interest between August 2007 and May 2010, which was the time frame allotted for completion of the present study. Participant demographic information at study entry is presented in Table 3. In general, participants included in this study were significantly older [$t(205) = -2.03, p < .05$], more educated [$t(204) = -3.51, p < .01$], and had significantly higher family income [$t(218) = -3.88, p < .001$] than the participants in the larger study who were not part of this subsample.

The larger study, which is ongoing, is called the Maternal Anxiety during the Childbearing Years study (MACY- II; Principal Investigator: Maria, Muzik, M.D.) It is taking place at the University of Michigan Health System. MACY-II is a longitudinal study investigating the mechanisms by which PTSD during the perinatal period influences women's and infants' psychobiological and psychosocial outcomes up to 18 months postpartum. MACY-II participants are recruited from two sources: 1) a previous study called Stress and Anxiety during the Childbearing Years (STACY; Principal Investigator: Julia Seng, Ph.D.), which investigated the mechanisms by which PTSD is associated with adverse outcomes from early pregnancy through the early postpartum period, and 2) direct recruitment of postpartum women from the community. Inclusion criteria for enrollment in the MACY-II study for trauma-exposed women are: 1) endorsement of childhood intra-familial abuse and neglect on the screening interview, 2) absence of overt psychosis and current substance dependence in the screening interview, and 3) absence of significant developmental delay or medical illness or premature delivery in the target infant at delivery. Inclusion criteria for non-trauma-exposed women are 2) and 3) above. MACY-II was approved by the University of Michigan Human Subjects

Table 3.

Demographic Characteristics of the Sample

		Total (<i>N</i> = 104)
Age (in years)		Mean = 29 (<i>SD</i> = 5.3)
Ethnicity		% (<i>n</i>)
	Caucasian	68.3 (71)
	African-American	18.3 (19)
	Latino-American/Hispanic	3.8 (4)
	Native-American	0 (0)
	Asian-American	4.8 (5)
	Biracial	1.0 (1)
	Other	3.8 (4)
Marital Status		
	Single (Never Married)	18.3 (19)
	Married	75.0 (78)
	Living with Significant Other	5.8 (6)
	Separated	1.0 (1)
	Divorced	0 (0)
Education		
	< High School	3.9 (4)
	High School/GED	9.6 (10)
	Some College	12.6 (13)
	Associates Degree	7.8 (8)
	Vocational or Technical Degree	3.9 (4)
	Bachelor's Degree	35.9 (37)
	Master's Degree	18.4 (19)
	Doctoral Degree	8.7 (9)
Annual Income		
	< 15,000	12.5 (13)
	15,000-24,999	10.6 (11)
	25,000-49,999	18.3 (19)
	50,000+	58.6 (61)

Committee, including all measures being used for the current study. All participants are treated ethically per the American Psychological Association (APA) Standards (APA, 2002) throughout the duration of the study.

Procedures.

Verbal informed consent was obtained during the initial telephone interview at 4 months postpartum, the time at which most participants entered MACY-II, as a waiver of written informed consent was in place until participants were seen in person. Subsequently, a written informed consent was obtained at the first home visit at 7 months postpartum (see Appendix A). The oral and written informed consent states the intent, risks, and benefits of the study; that participants have the right to withdraw from the study at any time; what participant data are confidential; what may be shared and with whom; that information obtained is kept in a secure location; information regarding financial compensation for participation; and principal investigator and research assistants' contact information. Participants who stayed through the duration of the study completed a debriefing interview, during which they gave feedback about their experience of the study and its procedures and asked any remaining questions they had. Participants who dropped out were questioned regarding their decisions to do so for the purpose of improving the study. Data collected for these participants were kept; however, these participants were not contacted further.

Participants were followed from their original recruitment date, either during their pregnancy or postpartum, depending on whether they came from STACY or directly from the community, until their infants were 18 months old. Participants completed a telephone survey at 4-6 weeks, and 4, 12, 15, and 18 months postpartum, and completed two home visits at 7 months and one laboratory visit (or home visit if unable to travel to the research office) at 18 months

postpartum with their infants. In general, psychosocial functioning was assessed at every interview, and biological samples (e.g., saliva) were obtained at each in-person interview for purposes of the larger MACY-II study. The 104 postpartum women in this study followed the procedures described in subsequent paragraphs.

Telephone screening interview (0-6 months postpartum). After women called the office regarding MACY-II, a screening interview was completed; this interview included a brief description of the purpose of MACY-II and two questions about premature birth and significant infant health problems to determine eligibility. Women deemed eligible were provided with a more detailed description of the research protocol. Contact information was also obtained for recruitment purposes. The entire telephone screening took about 15 minutes.

Telephone interview (6 weeks postpartum). This interview included questions regarding situations mothers may have experienced, recent stress or trauma, mothers' moods and feelings, and everyday life. Participants were also given more brief information about MACY-II, and asked for permission to be contacted by phone at 4-6 months postpartum by the research assistants. This interview was done at the same time as the screening interview if a woman was recruited into the study at 6 weeks postpartum or later. This telephone interview lasted about 15 minutes.

4-6-month telephone interview. Participants were given a detailed description of the study protocol, which included information regarding number and length of home visits and video-taped interactions between mothers and infants at the 7 month home visits. This telephone follow-up was done up to 6 months postpartum, if necessary, depending on when women were recruited into the study. Participants were asked to provide verbal phone consent for continued study participation. Participants were then interviewed about their current level of anxiety and

depression, current and past life stressors and how they cope with them, current living situation and satisfaction with social support, parenting stress, and their infant's current behavior.

Participants who did not endorse childhood interpersonal abuse or neglect upon initial recruitment into the study were given another opportunity to possibly disclose whether they experienced any type of abuse or neglect before the age of 16 for the purposes of this study.

Participants were reminded that they would be contacted again at 7 months postpartum for the purpose of arranging a time for the first home visit. Participants who expressed discomfort regarding a home visit and who refused participation for that reason were documented and offered participation through study visits in the lab/clinic. Participants were compensated \$10 for this telephone follow-up, and it lasted anywhere from 45-60 minutes.

7-8-month home visits. Participants underwent two home visits with two research staff members at each visit; these visits were done at up to 8 months postpartum, if necessary. The order of assessments during each home visit was specified prior to administration, but was subject to change depending upon mother and infant needs, and the mother's comfort level and infant's well-being and/or sleep patterns. If it was necessary, home visits were discontinued and an additional third home visit was scheduled. During the first visit, the MACY-II study protocol was reviewed in detail, written informed consent was obtained, participants filled out a demographic questionnaire (see Appendix B), and participants' questions and/or concerns were addressed. Following this, biological and psychosocial data were collected including video-taped episodes of mothers interacting in various tasks with their infants. At the end of the visit, participants were given several self-report questionnaires, including questionnaires assessing adult romantic relationships, and for dissociative experiences and cognitions related to PTSD, and they were asked to fill them out before the next home visit the following week. A second

home visit was then scheduled. Participants were paid \$20 for the first home visit, which lasted approximately 1 hour and 45 minutes. The second home visit began with an assessment of mothers' and infants' well-being, followed by biological and psychosocial data collection including videotaping and several short debriefing questions regarding participants' experiences in the study. At that time, participants were also asked about their willingness to be recontacted via telephone and/or mail to participate in follow-up assessments. Participants were paid \$30 for the second home visit, and were also given a small gift for their infant. The visit lasted approximately 1 hour and 20 minutes.

12-15-month telephone interviews. These interviews included administration of self-report questionnaires regarding recent traumatic experiences, PTSD symptoms, current depression status, parental bonding/competency, adult romantic relationships, and social support. General demographic information was also updated. Participants were paid \$10 for these telephone interviews, and they each lasted between 10-20 minutes.

18-month telephone interview. This interview, completed prior to the 18-month laboratory visit for the purpose of decreasing the mother-infant dyad's time in the laboratory, included self-report questionnaires regarding recent traumatic experiences and PTSD symptoms, participants' current depression status, parental bonding/competency, and social support. Demographic information was also updated. In addition, participants were asked about feelings regarding motherhood and their infants. Participants were paid \$15 for this interview, and it lasted between 10-20 minutes.

18-month laboratory visit. Participants reviewed the study protocol in detail, and questions and/or concerns were addressed at the start of this visit. Written consent was obtained for participants who did not sign the most updated informed consent form at the 7-month visit.

Questionnaires not completed at the 7-month home visit that were not time-dependent (e.g., a questionnaire about childhood trauma) were completed at this visit, if time permitted. During this visit, mother-infant attachment quality was assessed, mother-infant interactions were video-taped, and mothers completed several questionnaires and an interview about their child. If women were unable to travel to the lab for some reason, efforts were made to complete assessments in the home and/or on the phone. The laboratory visit finished with a brief debriefing inquiring about the participants' experience and feedback about the visit. Participants were paid \$20 for this visit, and it lasted approximately 2 hours.

Tracking procedures. As a means of staying in contact with participants and to minimize attrition, participants were asked to provide an alternate contact person at each time point in the study sequence. Research assistants also made "check-up" calls to participants after the 7-month home visits to inquire regarding the status of participants and their infants, to offer resources in the community, and to update contact information. In addition, research assistants made repeated (if necessary) efforts to schedule the next telephone survey/visit in the sequence to ensure minimal participant attrition.

Measures

Childhood Trauma Questionnaire (CTQ): Bernstein et al., 1994; Bernstein & Fink, 1993; see Appendix C). The CTQ is a 28-item, retrospective self-report questionnaire that assesses frequency and severity of different types of maltreatment (attachment-related traumas) in childhood and adolescence by family members. The questionnaire consists of five clinical scales (with five items each): physical, sexual, and emotional abuse, and physical and emotional neglect, as well as three validity items assessing minimization/denial. Respondents rate

frequency of items on a 5-point Likert scale ranging from 1 (*Never*) to 5 (*Very Often*). The measure also yields a total maltreatment score that ranges from 25-125.

Adequate to good internal consistency has been reported for the CTQ, with Cronbach's alphas ranging from .60-.95 for the total maltreatment score (Bernstein et al., 1994; Fink, Bernstein, Handelsman, Foote, & Lovejoy, 1995). Consistent with previous studies, Cronbach's alpha for the total maltreatment score was .83 in this subsample. Good test-retest reliabilities have been reported ranging from .79 to .86. Convergent validity for the CTQ has been established by Fink et al. (1995), who found significant correlations between the CTQ and four measures of trauma sequelae, as well as highly convergent ratings of physical and sexual abuse on the CTQ and the *Childhood Trauma Interview (CTI)*; Fink et al., 1995). The CTQ was used in this study to establish the presence and severity of all types of attachment-related traumas.

National Women's Study PTSD Module (NWS-PTSD); Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993; see Appendix D). This measure is a modified (self-report) version of the Diagnostic Interview Schedule (DIS) used in the largest epidemiological study of PTSD specific to women conducted at the National Crime Victim Center. Convergent validity between it and the Structured Clinical Interview for DSM-II-R (SCID) was established in a primarily clinical sample of 528 women during the DSM-IV PTSD Field Trial. The kappa coefficient for agreement between the two instruments was .77. The NWS-PTSD module also attained a sensitivity of .99 and specificity of .79 compared with the SCID. The NWS-PTSD measures all 17 DSM-IV symptoms of PTSD for lifetime and current occurrence, with follow-up items to assess greater than 1-month duration of the syndrome of symptoms and impairment. It yields a dichotomous diagnosis and continuous symptom count. In the current study, research assistants had participants fill out this measure between the first and second home visits at 7 months. The

NWS-PTSD demonstrated very good internal reliability in this study, with a Cronbach's alpha for the symptom count scale of .90. The NWS-PTSD was used in this study to assess DSM-IV PTSD symptomatology.

Dissociative Experiences Scale-Taxonomic Version (DES-T; Waller, Carlson, & Putnam, 1996; see Appendix E). This is an 8-item version of the *Dissociative Experiences Scale (DES*; Bernstein & Putnam, 1986; Carlson & Putnam, 1993 a; 1993b), a 28-item self-report questionnaire that assesses frequency of dissociative experiences. Each item of the DES-T is rated on a 5-point Likert scale ranging from 1 (*Never*) to 5 (*All the Time*), with higher scores indicating greater levels of dissociation. The scores from each item are summed for a total score.

Good test-retest reliabilities for the DES ranging from .84-.96 have been reported, and the DES has demonstrated diagnostic specificity with its ability to differentiate patients with dissociation from patients in other psychiatric groups (Kihlstrom, Glisky, & Angiulo, 1994; Ross, Heber, Norton, & Anderson, 1989). The DES, though widely used and clinically useful, has been criticized for its inability to differentiate between normal and pathological dissociation (Leavitt, 1999; Orsillo, 2001), which led to the development of the DES-T. The DES-T was compared with the DES in 11 clinical and non-clinical samples (Waller et al., 1996), and it was concluded that it is a sensitive measure of dissociation, as it identified more pathological individuals such as those with Dissociative Identity Disorder (DID), PTSD, and Dissociative Disorders Not Otherwise Specified (NOS). The DES-T was chosen for this study for the purpose of assessing levels of pathological dissociation, which is believed to be one form of trauma sequelae experienced by individuals who have developed CP/DESNOS. The DES-T demonstrated good internal reliability in this study, with a Cronbach's alpha of .77.

Posttraumatic Cognitions Inventory (PTCI) (Foa, Tolin, Ehlers, Clark, & Orsillo, 1999; see Appendix F). The PTCI is a 36-item self-report questionnaire that assesses specific trauma-related cognitions about the self, self-efficacy and mastery, and trust in other relationships that have been commonly identified in individuals with a PTSD diagnosis. Each item is rated on a 7-point Likert scale ranging from 1 (*totally disagree*) to 7 (*totally agree*), with higher scale scores indicating stronger endorsement of negative traumatic cognitions. The instrument yields three subscales: Negative Cognitions about the Self (21 items), Negative Cognitions about the World (7 items), and Self-Blame (5 items), and a total score ranging from 33 to 231. Three items on the PTCI are considered experimental and are not included in the subscales.

Good internal consistency has been reported for the PTCI, with Cronbach's alphas of .97 for the total score, and .97, .88, and .86, respectively, for Negative Cognitions about the Self, Negative Cognitions about the World, and Self-Blame (Foa et al., 1999). Consistent with previous studies, Cronbach's alpha was good, but slightly lower, for the PTCI total scale at .69. Good test-retest reliability has been reported for the total score (.74) and .75, .89, and .89, respectively, for Negative Cognitions about the Self, Negative Cognitions about the World, and Self-Blame. In addition, Foa et al. (1999) reported sensitivity of .78 and specificity of .93 for discriminating individuals with and without PTSD. The PTCI has demonstrated convergent validity for all three subscales through significant associations with other measures assessing beliefs about the self and other people (*World Assumptions Scale*; Janoff-Bulman, 1989; 1992 and *Personal Beliefs and Reactions Scale*; Resick, Schnicke, & Markway, 1991). The PTCI total scale was used in this study to assess the severity of maladaptive trauma-related cognitions, which are considered an important aspect of CP/DESNOS.

Experiences in Close Relationships Questionnaire: Revised (ECR-R; Fraley, Waller, & Brennan, 2000; see Appendix G). The ECR-R is a shortened, revised version of Brennan, Clark, and Shaver's (1998) *Experiences in Close Relationships (ECR)* questionnaire. The ECR-R consists of 36 items designed to measure the adult attachment dimensions of anxiety and avoidance with regard to romantic relationships. Each dimension consists of 18 items, which are rated on a Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Each dimension score can be calculated by averaging or summing the items within the domain. Scores in this study were summed, thus, scores ranged from 18 to 126, with higher scores reflecting higher anxiety and higher avoidance. Scale items were taken from several other existing self-report inventories, including the original ECR (Brennan et al., 1998), the *Adult Attachment Scale (AAS*; Collins & Read, 1990), and the *Relationship Styles Questionnaire (RSQ*; Bartholomew, 1994). Support for the hypothesized two-factor model has been documented (Fairchild & Finney, 2006; Sibley & Liu, 2004).

Internal consistency has been reported to be .90 or higher for the two subscales (Fairchild & Finney, 2006; Sibley & Liu, 2004). Consistent with previous studies, the subscales in this study had good internal reliability with a Cronbach's alpha of .95 for both subscales. Test-retest reliabilities of .94 for the anxiety subscale and .95 for the avoidance subscale have been reported (Fraley et al., 2000); Fraley et al. posit the subscales are so consistent across time because the underlying constructs are believed to be the result of early attachment experiences with caregivers, which become generalized to adult romantic attachment experiences. The measure's convergent validity was demonstrated in a recent study by Sibley, Fischer, and Liu (2005), in which the ECR-R attachment anxiety and avoidance subscales were significantly correlated with similar adult attachment dimensions on the *Relationship Questionnaire (RQ*; Bartholomew &

Horowitz, 1991). Also, Fairchild and Finney (2006) found expected positive relationships between scores from the ECR-R anxiety and avoidance subscales and the *UCLA Loneliness Scale* (Russell, 1996), a scale that measures a unidimensional construct of loneliness, and *The Penn State Worry Questionnaire (PSWQ)* (Meyer et al., 1990), as well as an expected negative relationship between ECR-R scores and the *Social Provisions Scale (SPS)* (Cutrona & Russell, 1987), a scale which measures perceived degree of social support.

The ECR-R was used in this study to assess levels of anxiety and avoidance in adult romantic attachment relationships. Participants originally completed the ECR-R at the 18-month laboratory visit; forty-seven participants filled it out at this time point. Project coordinators then made a decision to administer the ECR-R during the 12-15-month telephone interview for the purpose of obtaining the information earlier in the study to accommodate this investigator with obtaining data more quickly; seventeen participants completed the ECR-R over the telephone at this point. Subsequently, project coordinators made a decision to have participants complete the ECR-R during the first home visit at 7-8-months; forty participants filled it out at this point. Administering this measure at different points in the study was not determined to be problematic, as Fraley found the ECR-R subscales to be highly consistent over time due to the trait-like nature of the construct.

The Word-List Prompt Measure for Secure Base Scriptedness (Waters & Rodrigues-Doolabh, 2001; 2004; see Appendix H) is a narrative technique designed to obtain attachment-relevant stories from adults, that measures an individual's representations of secure base behavior, or secure base scriptedness. The interview takes approximately 15 minutes and is audio-recorded, transcribed, and later coded. Participants are presented with four word-prompt attachment lists, two mother-child and two adult-adult scenarios, plus two neutral, non-

attachment word-prompt lists, and they are asked to tell a story using the words from each list as a guide. The stories elicited by the attachment-related word prompt scripts are coded and given a single score from 1 (*low secure base*) to 7 (*high secure base*); high secure base scripts typically include characters (mom/partner) assisting another individual with distress with attempts at resolving the difficult scenario. Low scores (<4) generally indicate lower levels of secure-base scriptedness (i.e., representing insecure attachment), while higher scores (4-7) generally indicate moderate to higher levels of secure-base scriptedness (i.e., secure attachment). Examples of a “high” and a “low” secure base script story from the current sample are included in Appendix I.

This measure can be coded dichotomously (presence/absence of secure base scripts) or dimensionally (using mean scores for secure base script stories); composite adult-adult and adult-child scales are scored by averaging the relevant scores across stories. For this study, 72 participants completed this task; stories were coded dimensionally, and both composite scores were used (adult-adult and adult-child). As required by the first author of the secure base scripts measure, Dr. Harriet Waters, the principal investigator traveled to Dr. Waters’ laboratory at the State University of New York (SUNY) and spent 2 1/2 days learning the coding system. A percentage of secure base script stories from the current sample (24%; 17 participants) were coded by both the principal investigator and Dr. Waters for the purpose of achieving adequate inter-rater reliability. A single measure intra-class correlation (ICC) was then used to determine consistency between the two raters; an ICC of .87 was obtained for the adult-adult composite, and an ICC of .83 was obtained for the adult-child composite. Both ICCs indicate very good inter-rater reliability and were significant at the $p < .001$ level.

Composite scores of adult-adult and adult-child secure base scriptedness have demonstrated high correlations among diverse cultural groups (Vaughn et al., 2007), providing

preliminary evidence of the measure’s construct validity. Within theme (adult-adult and adult-child) correlations have ranged from .45 to .70, with Cronbach’s alpha estimates for the composite scores all above .80 (Rodrigues-Doolabh, Zevallos, Turan, & Green 2003; Vaughn et al., 2007). Consistent with previous studies, both composites in this study had good internal reliability; Cronbach’s alpha was .79 for the adult-adult composite and .84 for the adult-child composite. The secure base script has also demonstrated convergent validity with the Adult Attachment Interview through significant correlations with the coherence and security scales. The measure has also demonstrated discriminant validity; one study found that partner-specific secure base scripts did not correlate with IQ test scores or a test of narrative ability, establishing that the measure assesses the construct of interest rather than verbal intelligence per se. This secure base script measure was used in the present study to assess the cognitive structure presumed to underlie internal working models of attachment, otherwise known as secure base scriptedness.

See Table 4 below for a summary list of study measures and their order of administration.

Table 4.

Measures Used and Times of Administration

Assessments	6 wk phone	4-6 mo phone	7 mo visit 1	7-8 mo visit 2	12 mo phone	15 mo phone	18 mo phone or visit
Childhood Trauma Questionnaire (CTQ; Bernstein Fink, Handelsman, Foote et al., 1994; Bernstein & Fink, 1993)		x					x Participants who did not endorse child abuse or neglect upon initial recruitment or at the 4 month telephone interview were given another

opportunity to disclose the experience of abuse or neglect before the age of 16 at this time

National Women's Study PTSD Module (NWS-PTSD; Kilpatrick et al., 1989).	x		
Dissociative Experiences Scale-Taxonomic Version (DES-T; Waller, Carlson, & Putnam, 1996).	x		
Posttraumatic Cognitions Inventory (PTCI; Foa, Tolin, Ehlers, Clark, & Orsillo, 1999).	x		
Experience in Close Relationships-Questionnaire-Revised (ECR-R; Fraley, Waller, & Brennan, 2000)	x (<i>n</i> = 40)	x (<i>n</i> = 17)	x (<i>n</i> = 47)
The Word-List Prompt Measure for Secure Base Scriptedness (Waters & Rodrigues-Doolabh, 2001, 2004)			x

Results

Missing Data.

Two participants neglected to answer several items on the ECR-R, and one neglected to answer several items on the CTQ. In these cases, responses were pro-rated by substituting the mean value of the completed responses from the relevant subscale. In some cases, participants did not complete entire measures; five participants each did not complete the CTQ, DES-T, and NWS-PTSD, and 19 participants did not complete the PTCI. Missing subscale and scale totals were imputed using the SPSS Estimation Method (EM, also known as single imputation). This method produces a single data set with non-missing values for all observations on all variables from the original data set. Imputation proceeds by developing initial estimates for all missing values that are consistent with multivariate trends in all data included in the imputation step and then adds some random variability to these substitute values so that the data will reflect the uncertainty in relations among variables present in the non-missing values (McCartney, Burchinal, & Bub, 2006).

Scale Development.

A CP/DESNOS composite variable was constructed to use in analyses as a comprehensive measure of trauma sequelae consistent with CP/DESNOS, as correlations between the total scales and subscales of all trauma measures were all significant (see Appendices J and K). Additionally, an exploratory principal components factor analysis was conducted utilizing total scores for the PTCI, DES-T, and NWS-PTSD scales to determine whether it made sense to combine the measures into a composite variable for the purpose of capturing a wide range of complex trauma sequelae in a single complex trauma variable. One latent variable emerged that accounted for 70.76% of the variance, and factor loadings were .78,

.63, and .72, respectively. Z-scores were then computed for each total scale, and the three transformed total scale scores were added together. This total comprised the CP/DESNOS composite variable for this study; higher scores indicate higher trauma sequelae.

Descriptive Statistics.

Before hypotheses 1-9 were tested, descriptive statistics were calculated for all scales and subscales used in the study; they are presented in Table 5. Means for the CTQ subscales ranged from 6.47 to 9.89, and the mean for the CTQ total scale was 40.24. The means for the scales that comprised the CP/DESNOS composite variable, the NWS-PTSD, DES-T, and PTCI, were 3.95, 9.90, and 72.39, respectively. The NWS-PTSD and DES-T were not used in analyses other than the principle components factor analysis to create the CP/DESNOS composite variable; the PTCI was used in the principle components factor analysis and one additional exploratory analysis (see Table 5 for details regarding the use of all scales and subscales). The mean for the CP/DESNOS composite variable was .00, as it is comprised of transformed (Z-scores) scales. The means for the ECR-R Anxiety and Avoidance subscales were 41.44 and 41.39, respectively. The mean for the Secure Base Script adult-adult composite was 3.39, and the mean for the adult-child composite mean was 3.34. Skew statistic values were examined, and all but one subscale, the CTQ Physical Neglect subscale, fell at or within the acceptable limits of ± 2 . Kurtosis statistic values were examined, and all but two subscales, The CTQ Physical Abuse Subscale and the CTQ Sexual Abuse Subscale, fell within the acceptable limits of ± 3 . A decision was made not to transform the three subscales that did not fall within acceptable skew and kurtosis limits, as the untransformed subscales would attenuate rather than strengthen any relationships between study variables. Additionally, subscales were only included in exploratory analyses.

Hypotheses 1-3.

Bivariate (Pearson) correlations were conducted between study variables to test hypotheses 1-3; results are presented in Table 6. All hypotheses were supported. As hypothesized, greater severity of overall childhood abuse and neglect predicted higher levels of CP/DESNOS trauma sequelae. The shared variance between the CTQ total scale and the CP/DESNOS composite variable was 26.11%; thus, a medium to large effect size was obtained for this relationship. Bivariate (Pearson) correlations were also conducted to examine potential relationships between the five specific types of childhood interpersonal abuse and neglect and CP/DESNOS trauma sequelae (hypothesis 1b); these results are also presented in Table 6. All relationships were significant. Shared variances between the CTQ subscales and the CP/DESNOS variable were 27.35%, 12.53%, 5.62%, 27.67%, and 13.18% for CTQ Emotional Abuse, Physical Abuse, Sexual Abuse, Emotional Neglect, and Physical Neglect, respectively. Thus, medium to large effect sizes were obtained for the relationships between CTQ Emotional Abuse and Emotional Neglect and CP/DESNOS trauma sequelae, medium effect sizes were obtained for the relationships between CTQ Physical Abuse and Physical Neglect and CP/DESNOS sequelae, and a small effect size was obtained for the relationship between CTQ Sexual Abuse and CP/DESNOS trauma sequelae. Also as hypothesized, greater severity of childhood interpersonal abuse and neglect was significantly positively related to adult romantic attachment anxiety and avoidance (see Table 6). Shared variances between the CTQ total scale and the ECR-R subscales were 19.01% and 15.44%, respectively; thus, medium effect sizes were obtained for these relationships. In addition, as hypothesized, adult romantic attachment anxiety and avoidance were significantly positively related to CP/DESNOS trauma sequelae, such that

Table 5.

Descriptive Statistics of Subscales and Scales

	Std.		Possible				
	Mean	Deviation	Min	Max	Range	Skew	Kurtosis
CTQ Emo Abuse	9.89	5.01	5.00	23.00	5-25	1.07	.29
CTQ Phys Abuse	7.72	4.18	5.00	24.00	5-25	2.11	4.18
CTQ Sex Abuse	7.50	4.53	5.00	25.00	5-25	2.11	4.05
CTQ Emo Neg	8.88	4.34	5.00	21.00	5-25	1.10	.23
CTQ Phys Neg	6.50	3.22	5.00	21.00	5-25	2.90	8.50
CTQ Total	40.41	16.78	25.00	100.00	25-125	1.63	2.48
NWS-PTSD	3.95	4.08	.00	16.00	0-20	1.03	.15
DES-T	9.90	2.61	8.00	20.00	8-40	1.63	2.38
PTCI	72.39	28.95	36.00	149.00	33-231	.61	-.53
CP/DESNOS	.00	2.52	-3.06	9.12	~-3~3	1.06	.92
ECR-R Anx	41.14	23.28	18.00	112.00	18-126	1.27	.91
ECR-R Avoid	41.39	22.08	18.00	113.00	18-126	1.05	.62
SBS A-A Comp	3.39	1.17	1.00	6.25	1-7	.07	.02
(<i>n</i> = 72)							
SBS A-C Comp	3.34	1.11	1.00	5.75	1-7	.000	-.48
(<i>n</i> = 72)							

greater anxiety and avoidance were related to higher levels of trauma sequelae (see Table 6). Shared variance between the ECR-R Anxiety subscale and CP/DESNOS composite variable was 36.48%, thus, a large effect size was obtained for this relationship. Shared variance between the ECR-R Avoidance subscale and the CP/DESNOS composite variable was 22.47%; thus, a medium effect size was obtained for this relationship.

Hypotheses 4 and 5.

Because the correlation between adult romantic attachment anxiety and avoidance was very high, a composite variable combining the subscales was created to simplify and reduce the number of regressions needed to test Hypotheses 4 and 5. Next, a series of multiple regressions were conducted to examine whether adult romantic attachment insecurity-security mediated the relationship between childhood interpersonal abuse and neglect and CP/DESNOS trauma sequelae such that the relationship between childhood interpersonal abuse and neglect and CP/DESNOS sequelae would no longer be significant once adult romantic attachment insecurity-security was accounted for. The regression analyses revealed that each of Baron and Kenny's (1986) required conditions to establish mediation was met. First, childhood interpersonal abuse and neglect was significantly associated with adult romantic attachment (mediator), $\beta = .45, p < .001$. Second, childhood interpersonal abuse and neglect was significantly associated with CP/DESNOS trauma sequelae (dependent variable), $\beta = .51, p < .001$. Finally, when childhood interpersonal abuse and neglect and adult romantic attachment were entered simultaneously to predict CP/DESNOS trauma sequelae, adult romantic attachment was significantly related to CP/DESNOS trauma sequelae, $\beta = .28, p < .001$. A final multiple regression analysis was conducted to examine Hypothesis 5; adult romantic attachment insecurity-security was examined as a possible moderator of the

Table 6.

Correlations between Childhood Interpersonal Abuse and Neglect, Complex Trauma Sequelae, and Adult Romantic Attachment

	CTQ Total	CTQ Emo Abuse	CTQ Phys Abuse	CTQ Sex Abuse	CTQ Emo Neg	CTQ Phys Neg	CP/DESNOS	ECR-R Anxiety	ECR-R Avoid
CTQ Total	1								
CTQ Emo Abuse	.91**	1							
CTQ Phys Abuse	.85**	.79**	1						
CTQ Sex Abuse	.55**	.31**	.23*	1					
CTQ Emo Neg	.85**	.80**	.64**	.28**	1				
CTQ Phys Neg	.79**	.64**	.71**	.31**	.60**	1			
CP/DESNOS	.51**	.52**	.35**	.24*	.53**	.36**	1		
ECR-R Anxiety	.44**	.39**	.32**	.19	.44**	.37**	.60**	1	
ECR-R Avoid	.39**	.38**	.35**	.08	.38**	.37**	.47**	.73**	1

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

CP/DESNOS sequelae, $\beta = .44, p < .001$. Although the association between childhood interpersonal trauma and CP/DESNOS sequelae was still significant, the regression coefficient decreased from the original β value of .51 to .31. This drop in β value was significant ($z = 3.01, p < .01$) using Sobel's (1982) approximate significance test. Thus, adult romantic attachment partially mediated the association between childhood interpersonal abuse and neglect and CP/DESNOS trauma sequelae. A summary of the mediation analyses is presented in Table 7.

relationship between overall childhood interpersonal abuse and neglect severity and trauma sequelae, and it was expected that there would be a stronger relationship between childhood interpersonal abuse and neglect and CP/DESNOS trauma sequelae for those with attachment insecurity, while the former association would be smaller or non-significant for those with adult romantic attachment security. The total childhood interpersonal abuse and neglect score (IV) and adult romantic attachment score (Moderator) were centered by converting individual scores to deviation scores, as recommended by Aiken and West (1991), Baron and Kenny (1986); and Holmbeck (1997; 2002), for the purpose of reducing multicollinearity.

Next, a multiple regression was conducted to determine whether adult romantic attachment moderated the relationship between childhood interpersonal abuse and neglect and complex trauma sequelae. The main effect and interaction terms were entered simultaneously. Regression results indicated that childhood interpersonal abuse and neglect and adult romantic attachment both significantly predicted CP/DESNOS trauma sequelae, $R^2 = .42$, $R^2 \text{ adj} = .40$, $F(3, 100) = 24.24$, $p < .001$. A medium effect size was achieved for both main effects (see Table 8). Results also indicated that adult romantic attachment did not moderate the relationship between childhood interpersonal abuse and neglect and complex trauma sequelae, as the interaction term was not significant (see Table 8).

Table 7.

Summary of Mediation Analyses

Variable	Adult Attachment			CP/DESNOS		
	<i>B</i>	<i>SE B</i>	β	<i>B</i>	<i>SE B</i>	β
First Regression						
Step 1: CTQ Total	1.12	.22	.45*			
Adjusted R^2			.19*			
<i>F</i> Value			25.45*			
Second Regression						
Step 1: CTQ Total				.08	.01	.51*
Adjusted R^2						.25*
<i>F</i> Value						36.04*
Third Regression						
Step 1: CTQ Total				.05	.01	.31*
ECR-R Comp				.03	.01	.44*
Adjusted R^2						.41*
<i>F</i> Value						36.21*

* $p < .001$.

Hypotheses 6-9.

Bivariate (Pearson) correlations were conducted between the pertinent study variables to

Table 8.

Summary of Regression Analyses of Variables Predicting CP/DESNOS Trauma Sequelae

Variable	<i>B</i>	<i>SE B</i>	β
CTQ Total	.05	.01	.33*
Adult Attachment	.03	.01	.47*
CTQ x Adult Attachment	.00	.00	-.07
R^2		.42	
F			24.24*

* $p < .001$.

test hypotheses 6-9; results are presented in Table 9. Hypothesis 6 stated that partner-specific (adult-adult) and parent-child (adult-child) secure base scriptedness would be moderately correlated. Results revealed that the two types of secure base scripts were highly, rather than moderately, correlated; shared variance between the two composite scores was 49.99%, thus, a large effect size was obtained for this association.

Hypothesis 7 stated that both types of secure base scripts would be significantly and negatively correlated with self-reported adult romantic attachment anxiety and avoidance, such that greater secure base scriptedness would be related to lower anxiety and avoidance. This hypothesis was not supported as the relationships did not approach significance. Hypothesis 8 stated that childhood interpersonal abuse and neglect would be significantly correlated with both types of secure base scripts, such that greater severity of overall childhood abuse and neglect would be related to lower levels of both types of secure base scriptedness. This hypothesis was also not supported as the relationships between variables did not approach significance.

Finally, Hypothesis 9a stated that both types of secure base scripts would be significantly negatively correlated with CP/DESNOS trauma sequelae, such that lower secure base scriptedness would be related to higher levels CP/DESNOS trauma sequelae. This hypothesis was not supported, although the relationship between adult-child secure base scriptedness and CP/DESNOS trauma sequelae approached significance ($p < .10$); the shared variance was 4.04%, indicating a small effect size for this relationship. Exploratory analyses were conducted to examine the associations between secure base scriptedness and trauma cognitions, as both measure cognitive components specifically of the constructs of interest (Hypothesis 9b). Results revealed that adult-child secure base scriptedness was significantly negatively related to trauma cognitions; the shared variance was 8.29%, indicating a small to medium effect size for this relationship. In addition, the relationship between adult-adult secure base scriptedness and trauma cognitions approached significance ($p < .10$); the shared variance was 4.12%, indicating a small effect size.

Table 9.

Correlations between Adult-Adult and Adult-Child Secure Base Scriptedness, Adult Romantic Attachment Anxiety and Avoidance, Childhood Interpersonal Abuse and Neglect, and Trauma Sequelae

	SBS A-A	SBS A-C	ECR-R Anx	ECR-R Av	CTQ Total	CP/ DESNOS	PTCI Total
SBS A-A	1						
SBS A-C	.71**	1					
ECR-R Anx	-.11	-.17	1				
ECR-R Av	-.19	-.14	.81**	1			
CTQ Total	-.12	-.07	.61**	.58**	1		
CP/DESNOS	-.14	-.20	.66**	.51**	.56**	1	
PTCI Total	-.20	-.29*	.59**	.42**	.50**	.87**	1

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

Discussion

This study examined the relationships between attachment-related traumas in childhood (operationalized as childhood interpersonal abuse and neglect), the adult romantic attachment dimensions of anxiety (positivity/negativity of self) and avoidance (positivity/negativity of others), and complex trauma outcomes in a diverse sample of postpartum women with and without exposure to trauma or PTSD from a Midwestern community.

This study had several primary aims. First, it sought to examine the relationship between attachment-related traumas and complex trauma outcomes in adulthood using a well-established measure of childhood interpersonal abuse and neglect and a composite variable developed for this study; the latter was composed of well-established measures of complex trauma sequelae, including pathological dissociation, maladaptive or altered trauma-related cognitions regarding self, self-efficacy and mastery, and maladaptive or altered perceptions of others. These complex trauma sequelae are included in the conceptualization of Complex Trauma/Disorders of Extreme Stress (CP/DESNOS) by van der Kolk et al. (2005). The complex trauma variable developed for this study also included DSM-IV-TR (APA; 2000) PTSD symptomatology, including the hallmark symptom clusters of re-experiencing, avoidance, and hyperarousal. Some researchers, including this researcher, argue for the utility of creating a complex trauma diagnosis separate from the PTSD diagnosis, rather than including complex trauma in the “Associated Features and Descriptive Features” section of PTSD in the DSM-IV-TR (Roth et al., 1997; van der Kolk, et al., 2005) in order to better inform treatment. However, symptomatology of CP/DESNOS and PTSD are generally co-morbid because they are highly related; in fact, van der Kolk (2005) posited that the presence of CP/DESNOS implies the presence of PTSD. From this perspective, it made conceptual sense to combine complex trauma sequelae with PTSD symptomatology in

this study to capture all possible adult complex trauma outcomes associated with childhood interpersonal abuse and neglect; this manner of assessing trauma sequelae is more comprehensive than most prior literature and, therefore, makes an important contribution to the trauma field.

This study also examined the relationship between attachment-related traumas and adult romantic attachment anxiety (negativity of self) and avoidance (negativity of others) using the gold standard self-report measure of adult romantic attachment. In addition, this study examined the relationship between adult romantic attachment anxiety and avoidance and complex trauma outcomes. Further, it explored whether one's level of adult romantic attachment (i.e., security-insecurity) helped explain the relationship between childhood interpersonal abuse and neglect and complex trauma outcomes. Last, this study sought to explore relationships between two types (adult-adult and adult-child) of secure base scriptedness, a relatively new construct based on attachment theory, using a recently developed narrative measure; associations between secure base scriptedness and childhood interpersonal abuse and neglect, adult romantic attachment, complex trauma outcomes, and trauma-related cognitions were examined specifically.

Associations between Childhood Interpersonal Abuse and Neglect, Adult Romantic Attachment Security-Insecurity, and Complex Trauma Outcomes

First, as expected, results of the current study confirmed that severity of attachment-related trauma (child interpersonal abuse and neglect) was significantly positively related to complex trauma outcomes. These results are consistent with prior studies, which found that childhood interpersonal abuse and neglect are related to complex trauma sequelae and PTSD symptoms in samples of community women (Alexander & Alexander, 1996; Stovall-McClough & Cloitre, 2006), mixed gender community samples (Muller et al., 2000; Twaite & Rodrigues-

Srednicki, 2004), mixed gender treatment-seeking samples and community members (van der Kolk et al., 2005; Roth et al., 1997), undergraduate students (Browne & Winkelman, 2007; Roche et al., 1999), and adolescent mothers (Bailey et al., 2007). Additionally, it makes conceptual sense that individuals who have experienced childhood interpersonal abuse and neglect may be more predisposed to complex trauma outcomes.

Children who experience abusive and neglecting environments may become intolerably distressed in ways that are difficult to regulate and may experience their environments as unsafe. Because their caregivers are largely unwilling and/or unable to help modulate their arousal, these children are unable to organize themselves physiologically or psychologically and are further unable to process their experiences in a coherent fashion (van der Kolk & Courtois, 2005). Subsequently, children who experience abusive and neglecting environments may also fail to fully process trauma experiences in the moment, which could leave them vulnerable to subsequent intrusive images, heightened feelings of arousal, and avoidance of situations and people, which are also hallmark characteristics of PTSD; these sequelae often last well into adulthood.

Besides symptoms encompassed by the traditional PTSD conceptualization, children who experience interpersonal abuse and neglect may develop the more profound deficits of character and identity associated with complex trauma, such as altered trauma-related cognitions regarding self, others, and mastery of the world. Again, because they are typically unable to verbalize and process their traumatic experiences, these experiences do not become integrated and, in fact, may become pathologically dissociated. Thus, these children may develop deficits of integrative functions of memory, consciousness, and identity that continue into adulthood (Hesse & Main, 2000; Liotti, 1992; 1999; 2004; Main & Morgan, 1996). Because childhood interpersonal abuse

and neglect creates a double-bind in which children depend on and expect to receive nurturance from the very people who abuse them (Kobak et al., 2004), children may be forced to utilize disorganized strategies, such as dissociation, in order to remain attached to an abusive caregiver. Liotti (1992) and Main and Morgan (1996) hypothesized that traumatic experiences during childhood and adolescence, along with associated Disorganized attachment, lead to increased vulnerability to dissociative disorders and to dissociative reactions to traumas later in life.

In addition to altered trauma-related cognitions regarding self, others, and the world, these children may develop altered perceptions of others and, subsequently, avoidance of others, as a consequence of inherent distrust. It has been suggested that one of the reasons children who experience childhood interpersonal abuse and neglect later develop complex trauma outcomes is that these children fail to develop secure attachments that promote a positive self-image and competence in one's abilities, as well as trust in others (Browne & Finkelhor, 1986; Finkelhor & Browne, 1985; Herman, 1992; McFarlane, 1986). As a result, they are less likely than those with secure attachment relationships to trust themselves or to seek help and support from others in times of stress.

Results of the current study also found that all types of childhood interpersonal abuse and neglect were significantly correlated with complex trauma outcomes, but that childhood emotional abuse and emotional neglect had the largest associations with complex trauma outcomes. Only a few studies have looked at types of childhood interpersonal abuse and neglect separately; most of these have established associations between childhood sexual abuse and trauma outcomes (Bailey et al, 2007; Muller et al., 2000; Roche et al., 1999; van der Kolk et al., 2005). A few more recent studies have looked at individual or combined types of childhood abuse and neglect. For example, in a sample from the National Comorbidity Survey (NCS:

Kessler et al., 1994), Borger, Cox, Gordon, and Asmundson (2005) found PTSD was much more prevalent in adult participants with a history of childhood physical abuse and neglect than in those with no trauma history. Dorahy, Corry, Shannon, MacSherry, Hamilton, McRobert et al. (2009) found childhood emotional neglect was uniquely associated with a current diagnosis of CP/DESNOS in a treatment-seeking sample in Northern Ireland; Vogel, Spitzer, Kuwert, Moller, Freyberger, and Grabe (2009) found childhood physical neglect, but not physical abuse, was associated with high dissociation in a clinical sample, and Brunner, Parzer, Schuld, and Resch (2000) found childhood physical neglect was a risk factor for dissociation in adolescent psychiatric patients. Finally, Sar, Islam, and Ozturk (2009) found childhood emotional abuse was a unique predictor of dissociation in a Turkish clinical outpatient sample beyond other types of attachment-related traumas.

While it is difficult to examine “pure” forms of childhood abuse and neglect, as different forms of childhood interpersonal abuse and neglect rarely occur in isolation (Kessler et al., 1997; Ney et al., 1993), preliminary research has begun to demonstrate that there are important differences in outcomes for individuals who experience different types of childhood abuse and neglect. In this study, emotional abuse and neglect were the types most highly associated with complex trauma outcomes.

Childhood emotional neglect may be more strongly associated with complex trauma outcomes because it is more associated than other types of attachment-related traumas with several variables that may prolong complex trauma adaptation well into adulthood, including increased psychopathology, heightened self-destructive behaviors, difficulties with peer and social interactions, and deficits in self-perception (Erickson & Egeland, 2002; Ney et al., 1993). For instance, children who experience childhood emotional neglect are more susceptible and

more vulnerable to childhood emotional abuse; it is possible that emotionally neglected children are taken advantage of easily because they are more easily seduced by even the suggestion of care by adults who mistreat them (Ney et al., 1993). This may further mean that individuals who are emotionally neglected as children may be more easily and more frequently re-victimized in adulthood. Indeed, emotional neglect has been associated with depression (Harkness, Monroe, Simons, & Thase 1997) and Borderline Personality Disorder (Singer, Linares, Nitri, Henry, & Minnes, 2004) in adults. Yet emotional neglect is less studied than other forms of childhood interpersonal abuse and neglect and therefore is a “neglected” type of attachment-related trauma (Ney et al., 1993). Ney et al. suggest that other researchers may feel it is too difficult to measure properly, or that neglect does not occur in more affluent societies. However, the results from the present study indicate an important need to further examine and consider the long-term sequelae of emotional forms of interpersonal abuse.

Second, as expected, results in the current study confirmed that severity of childhood interpersonal abuse and neglect was significantly related to higher levels of romantic attachment anxiety (i.e., more negative models of self) and higher levels of adult romantic attachment avoidance (i.e., more negative models of others). These results are consistent with prior studies, which have found significant relationships between these constructs (Muller et al., 2000), as well as between childhood interpersonal abuse and neglect and related adult attachment constructs (Anderson & Anderson, 1996; Bailey, et al., 2007; Sandberg, Suess, & Heaton, 2010; Twaite & Rodrigues-Srednicki, 2004). Childhood interpersonal abuse and neglect puts individuals at significant risk for attachment insecurity as it severely disrupts psychological development including the development of positive internal working models of self and other. It makes conceptual sense, from an attachment perspective, that children who have experienced

interpersonal abuse and neglect grow up with more negative self-models and greater levels of attachment anxiety and more negative other-models and higher levels of attachment avoidance (i.e., a reduced propensity to approach significant others). These children have likely internalized views of themselves as being unworthy of love and respect, and of others as untrustworthy and rejecting, as opposed to children who grow up with caring and responsive caregivers who subsequently internalize views of themselves as being worthy of love and respect.

As expected, results of the current study also confirmed that adult romantic attachment anxiety and avoidance were significantly related to greater severity of complex trauma outcomes. These results are also consistent with prior studies, which have found that greater romantic attachment anxiety and avoidance, as well as other conceptualizations of adult attachment insecurity (e.g., Unresolved attachment), were significantly related to PTSD (Muller et al., 2000; Sandberg, Suess, & Heaton, 2010; Stovall-McClough & Cloitre, 2006; Twaite & Rodrigues-Srednicki, 2004), dissociation (Anderson & Anderson; Calamari & Pini, 2003), and general complex trauma symptoms or diagnosis (Bailey et al., 2007; Browne & Winkelman, 2007; Muller et al., 2000; Roche et al., 1999; Roth et al., 1997).

From an attachment perspective, it makes conceptual sense that individuals who have positive self-models and who are not anxious in adult romantic relationships, and individuals who have positive other-models and who are not avoidant in adult romantic attachment relationships, are more likely to feel more competent regarding their ability to work through stressful experiences; securely attached adults are also more likely to seek out the support of their partners. Conversely, individuals who are anxious and avoidant in their adult romantic

attachment relationships may feel incompetent and also unwilling to trust in others in times of stress.

Therefore, it is possible that mothers with greater attachment insecurity in this study, like insecurely attached adults in general from prior research, may be less likely to draw from personal strengths, as they feel less competent and secure in handling their emotional distress, and are less likely to seek support, as they feel less trusting of others. As a result, unlike secure adults who tend to regulate their arousal in times of stress by seeking the support of others, insecure mothers may become emotionally dysregulated when exposed to stressors and, subsequently, avoid others who could lend help and support. This vicious cycle would not only maintain attachment insecurity, but also emotional dysregulation and erroneous beliefs about self, others, and the world, as well as other trauma sequelae.

As expected, results of the current study indicated that adult romantic attachment partially mediated the relationship between attachment-related traumas and complex trauma outcomes. These results are consistent with some prior studies, which have found that adult romantic attachment anxiety and/or avoidance, or related attachment constructs (e.g., Unresolved attachment) have mediated the relationship between childhood interpersonal abuse and neglect and complex trauma outcomes. For instance, in several samples of college women, attachment anxiety has been found to mediate or partially mediate the relationship between childhood interpersonal abuse and neglect and cognitive distortions about the self and others, such as self-blame and preoccupation with danger, and other trauma symptomatology (Browne & Winkelman, 2007; Roche et al., 1999; Sandberg et al., 2010). Additionally, in a community sample, adult attachment (and dissociation) mediated the relationship between childhood interpersonal abuse and PTSD severity (Twaite & Rodrigues-Srednicki, 2010), and in a sample

of adolescent mothers, Unresolved attachment mediated the relationship between childhood sexual abuse and conflictual relationship difficulties, which were conceptualized as CP/DESNOS sequelae (Bailey et al., 2007). These findings appear to support the idea that having less positive self and other models, and consequently more attachment anxiety and avoidance in adult romantic relationships, may explain, to some extent, the association between childhood interpersonal abuse and neglect and complex trauma outcomes. In other words, adult romantic attachment insecurity-security may be an important mechanism through which early attachment-related traumas influence adult trauma sequelae.

Although partial mediation was found, this study also explored the role of attachment insecurity-security as a possible moderator of the association between childhood interpersonal abuse and neglect and trauma outcomes; results revealed that adult romantic attachment did not moderate this relationship. That is, the association between childhood trauma severity and complex trauma outcomes did not differ according to participants' levels of attachment insecurity-security. While moderation was examined based on theoretical reasons, there have actually been no prior studies in the literature that examined a moderation model with these variables (or those that did remain unpublished). Thus, these preliminary results appear to demonstrate that while both childhood interpersonal abuse and neglect and adult romantic attachment insecurity-security are directly related to complex trauma outcomes, adult attachment does not alter the strength of the association between the other variables.

Secure Base Scripts: Relationships between Different Types of Scripts, Childhood Interpersonal Abuse and Neglect, Adult Romantic Attachment, Complex Trauma Outcomes, and Trauma-Related Cognitions

Secure base scripts, like other cognitive scripts, function to generate expectations based on previous experiences that help prepare individuals for organized behavior (Bretherton, 1987; 1990, Nelson, 1986, Schank & Abelson, 1977). Secure base scripts are also thought to reflect the cognitive underpinnings of mental representations or internal working models of attachment relationships based on previous experiences with caregivers, as the Adult Attachment Interview (AAI) purports to do. Individuals possess differing levels of secure base scriptedness based upon the quality of early attachment relationships; adults who have experienced a sensitive caregiver who has served as a secure base in childhood are thought to possess secure base scripts that are “complete, well consolidated, and readily accessible in relevant situations” (Waters & Waters, 2006, p. 188), while individuals who have experienced insensitive and/or inconsistent caregiving may possess secure base scripts that are incomplete and/or inaccessible. Thus, individuals with high levels of secure base scriptedness should, theoretically, have access to similar secure base scripts regardless of the person with whom they interact, while those with low levels may not.

Results from the present study revealed that adult-adult and adult-child secure base scriptedness were highly, significantly related to each other, despite the fact that only moderate correlations were expected. These results, however, are consistent with prior studies that have found fairly large correlations between adult-adult and adult-child secure base scripts, ranging from .45 to .70 (Vaughn et al., 2007; Verissimo & Salvaterra, 2006; Wais, 2003). Collectively, these results support the idea that individuals, including mothers in the current study, may have generalized secure base scripts across specific types of relationships.

Although secure base scriptedness appears to be generalized across relationship types, individuals may also maintain separate scripts for different types of relationships and thus somewhat different levels of secure base scriptedness. For example, in one study, Dykas et al. (2006) examined adolescents' secure base scriptedness using separate modified story prompts for mothers, fathers, and non-specific others. These researchers found that mother secure base scriptedness was highly correlated with both father and non-specific other secure base scriptedness, but that father secure base scriptedness was only moderately correlated with secure base script scores for non-specific others. Thus, the level of secure base scriptedness varied in similarity across relationships in the Dykas et al. sample, whereas similarity in scriptedness in the present study was very high. It is possible these differences are a result of the age of participants in the samples; adolescents' secure base scriptedness may not be as generalized across relationship types as adults. For whatever reason(s), the finding that the two types of secure base scripts were highly related in this sample of postpartum women does appear to largely support the idea that one's degree of secure base scriptedness may be fairly consistent across different types of relationships and contexts, at least in adulthood.

Unexpectedly, results of the current study did not reveal a significant relationship between secure base scriptedness and levels of adult romantic attachment anxiety and avoidance. Only one prior study (Dykas et al., 2006) has compared secure base scriptedness with romantic attachment anxiety and avoidance, and they included adolescents only, and these researchers found that greater attachment anxiety was related to lower secure base script scores for non-specific others, but not for mothers and fathers. Greater attachment avoidance was also related to lower secure base scriptedness for mothers, but not fathers and non-specific others. Thus,

different types of secure base scripts were differentially related to adult romantic attachment anxiety and avoidance in the study.

One reason that results from the current study did not reveal a relationship between secure base scriptedness and adult romantic attachment may have to do with the ways in which secure base scriptedness and adult romantic attachment anxiety and avoidance were measured. More specifically, secure base scriptedness was measured via narrative assessment (coded later by trained observers), and adult romantic attachment anxiety and avoidance were measured via self-report. Self-report measures of attachment styles and dimensions, while shown to be reliable and valid (Costa & McCrae, 1992b; Fraley 2000; Funder, 1993; Shrauger & Osberg, 1981), access only conscious beliefs people possess regarding their behavior in relationships. However, these beliefs may be inaccurate due to defensiveness (e.g., people report that they are not anxious when they actually are) or lack of insight (Crowell, Fraley, & Shaver, 1999). Semi-structured interviews or narrative assessments of attachment constructs, in contrast, are thought to access implicit or automatic processes operating out of awareness, which make them more accurate measures of attachment according to some researchers (Greenwald & Banaji, 1995; Kihlstrom, 1990). Thus, these two different types of measures, though both measures of attachment constructs, may access very different aspects of attachment. Indeed, past studies have found small, or non-significant, associations between the Adult Attachment Interview and self-reports of attachment (Crowell, Fraley, & Shaver, 1999). Another characteristic of the secure base script narrative measure may have contributed to the lack of convergence between the measures. Specifically, the secure base script narrative measure is less directive and more ambiguous than other measures such as the AAI because it does not probe individuals specifically for descriptions of, or information regarding, past relationships with early caregivers. Thus, the

secure base script measure may have activated more of women's current experiences as mothers of infants rather than their own early attachment experiences.

Another possible reason that no relationship was found between mothers' secure base scriptedness and their levels of adult romantic attachment anxiety and avoidance in the current study may have had to do with the fact that the variability of secure base scriptedness in this sample was constrained. Although the possible range in composite scores for both types of secure base scripts is from 1 to 7, the range in the current sample fell between 1 and 6.25, and scores were generally in the low to middle range. This probably had to do with the fact that the current sample was made up largely of mothers who experienced childhood interpersonal abuse and neglect. Given the lack of variability in scores, it may have been more difficult to obtain significant correlations between secure base scriptedness and the adult romantic attachment dimensions.

An additional and very plausible reason that no relationship was found between mothers' secure base scriptedness and their levels of adult romantic attachment anxiety and avoidance in the current study may have to do with characteristics of the participants in the current study. The Dykas et al. (2006) study, which is the only other known study to have examined secure base scripts and self-reported adult attachment, used an adolescent sample; adolescents, due to their developmental level, may possess different types of mental representations than adults. The Dykas et al. (2006) sample was also made up of generally low-risk adolescents based on the description of their sample. In addition, while participants in most prior studies in this area have been mothers (Bost et al., 2006; Coppola et al., 2006; Vaughn et al., 2006; Verissimo & Salvaterra, 2006), as in the current study, prior studies have generally included low-risk or "normal" samples as well. Low-risk individuals, in general, are thought to function better

emotionally than higher-risk individuals, who are thought to employ maladaptive psychological defenses (Cramer, 2000) when self-reporting; thus, the low-risk adolescents in the Dykas et al. (2006) study were probably able to accurately self-disclose, to a large extent, their experiences in relationships.

Mothers' levels of secure base scriptedness in the current study were low in general. Secure base scripts that earn scores between 4 and 7 are considered "secure" by the developer of the secure base scripts measure, whereas secure base scripts that earn scores between 1 and 3 are considered "insecure." Mean scores for mothers' secure base scripts in the current study were 3.39 and 3.34 for adult-adult and adult-child secure base scripts, respectively, indicating that, on average, mothers in the current study had low levels of secure base scriptedness. Conversely, these mothers reported high levels of adult romantic attachment security (low levels of anxiety and avoidance); summed means were 41.14 and 41.39 for anxiety and avoidance, respectively, out of a possible range of 18 to 126. These apparently contradictory findings do not initially make sense, as noted above; however, they do provide some empirical support for the possibility that mothers in the current, higher-risk sample responded defensively when self-reporting their experiences in romantic relationships, and that more accurate data may have been obtained by the secure base script (coded narrative) measure, presumably because the latter measure accessed conscious and unconscious processes regarding attachment experiences. The sample used in the current study was composed of many women who were recruited into the study due to their exposure to childhood interpersonal trauma. As higher-risk individuals are known to employ more maladaptive psychological defenses than lower-risk individuals (Cramer, 2000), the lack of convergence between the two different measures of attachment in this study may reflect a higher

level of defensiveness on the part of participants in the current study as compared to participants in prior samples.

Results of this study also revealed no significant relationship between severity of childhood interpersonal abuse and either type of secure base scriptedness. While no prior studies have examined this relationship specifically, these results are in contrast to what would be expected based on attachment theory. That is, given that the secure base script stories are thought to access the cognitive underpinnings of internal working models of attachment regarding self and others, and childhood interpersonal abuse and neglect is believed to interfere with the development of positive internal working models of self and others, it is hard to reconcile that participants' secure base scriptedness was not associated in this study with childhood interpersonal abuse and neglect.

As was the case with the previous finding, the lack of a relationship between these constructs could have had something to do with the limited variability of the scores in the current sample. Alternatively, as was the case with the previous finding, one construct (childhood interpersonal abuse and neglect) was measured via self-report, while secure base scriptedness was assessed via a coded narrative measure. When consciously reporting about their childhood experiences, mothers in the current study may have again consciously or unconsciously defensively denied the severity of their experiences. In fact, mean scores for the five types of childhood interpersonal abuse and neglect were low overall, ranging from 6.50 to 9.89 on scales that ranged from 5 to 25, and the total average score was also low (40.41; range 25-125). Overall, these scores indicate that mothers in the current study reported few incidents of all types of childhood interpersonal abuse and neglect, which is surprising given the characteristics of the sample. Furthermore, these scores appear to conflict with the finding, reported earlier, that

mothers in the current study possess lower levels of secure base scriptedness on average; again, it is speculated that more accurate data were obtained from the coded narrative measure that assesses both conscious and unconscious processes.

Similarly, results of the current study indicated no significant relationship between adult-adult or adult-child secure base scriptedness and complex trauma outcomes; however, the association between lower adult-child secure base scriptedness and higher complex trauma sequelae did approach significance. This particular finding is interesting. Like the Adult Attachment Interview (AAI), secure base script stories are thought to access scripts (representations) that originate from one's early childhood experiences with caregivers. Thus, it is believed that when narrating secure base script stories regarding interactions between adults and children, mothers' cognitions regarding their own attachment experiences from childhood are triggered. As a result, when narrating stories pertaining to adults offering help to children in particular, these mothers may have identified with the child character, feeling less secure and less likely to receive help and support. This might help explain the specific association between adult-child secure base scriptedness and trauma outcomes, as those outcomes were associated with childhood experiences in this study.

However, it is also possible that mothers in the current study, when narrating secure base script stories pertaining to adults offering help to children in particular, identified with the mother character instead, as was suggested earlier. In this case the sample average indicates that women generally felt compromised in their abilities to provide help and support to their own children. Indeed, research has shown that motherhood triggers feelings of incompetency in women who have experienced attachment-related traumas (Koren-Karie, Oppenheim, & Getzler-Yosef, 2004; Williams & Vines, 1999, Yehuda, Bell, Bierer, & Schmeidler, 2008) and in women

who exhibit complex trauma outcomes. Therefore, it is also possible that mothers identified with the adult character in the adult-child stories, rather than the child character, presumably because they were all postpartum women. These feelings of incompetency in the motherhood role may then be related to mental distress (higher trauma symptoms), in particular, because of the importance of this role at the time of data collection (postpartum). It is important to remember that the relationship between adult-child secure base scripts and complex trauma outcomes only approached significance in this study, and further research is needed in this area.

Last, this study examined the relationship between secure base scriptedness and trauma-related cognitions, as both purport to measure cognitive components regarding belief systems about the self, others, and mastery of the world. Results revealed that adult-child secure base scriptedness was significantly related to trauma cognitions, such that higher levels of secure base scriptedness were related to fewer trauma cognitions. Similarly, the relationship between higher levels of adult-adult secure base scriptedness and fewer trauma cognitions approached significance.

These findings make conceptual sense from both attachment and trauma theory perspectives. According to trauma theory, trauma sequelae emerge because trauma fundamentally alters or destroys one or more of four core beliefs including that the world is safe, the world has meaning, the individual is worthy, and people can be trusted (Foa & Rothbaum, 1998; Herman, 1992a/1997; Janoff-Bulman, 1989; Resick & Calhoun, 2001). This conceptualization is also consistent with core beliefs from attachment theory, which posit that disruptions in early attachment relationships may fundamentally alter one's internal working models of attachment regarding self and others and, by extension, cognitive scripts regarding important relationships. Thus, because both secure base scripts and trauma cognitions appear to

access one's cognitions regarding competency and worthiness of self and availability and trustworthiness of others, individuals who possess lower levels of secure base scriptedness should tend to have cognitions regarding incompetency and worthlessness of self and untrustworthiness of others. In contrast, individuals who possess higher levels of secure base scriptedness should tend to have cognitions regarding competence and worthiness of self and trustworthiness of others.

In addition, although trauma cognitions and secure base scriptedness were measured in different ways (self-report versus coded narratives), and the importance of these measurement differences has been discussed above in relation to unexpected non-significant findings, it is possible there was some convergence between the variables here because both types of measures tap into specific cognitions regarding self, others, and the world.

Another possible reason for these associations is that the self-report measure assessing trauma-related cognitions specifically prompted participants to think about a past or recent traumatic experience. For example, instructions explicitly stated, "Please refer to the trauma that you think most influences your thinking." It is possible that prompting mothers in this way reduced their propensity to defensively deny their experiences, possibly because it was difficult to deny such thoughts when "forced" to reflect on a traumatic or stressful experience, and possibly because they may have attributed the negative thoughts and feelings they reported less to inherently negative personal characteristics, and more to situational responses to trauma, which made them more acceptable.

Limitations

The current study had several noteworthy limitations. First, the use of self-report measures for certain constructs can be viewed as problematic, as stated previously. Self-report

measures, while shown to be reliable and somewhat valid (Fraley, 2000; Funder, 2003), are considered inherently problematic by some researchers who refute the presumption of human rationality, focusing instead on the importance of intrinsic or automatic processes operating out of awareness (Greenwald & Banaji, 1995; Kihlstrom, 1990). Likewise, attachment researchers maintain that the most reliable and valid results regarding attachment are obtained through use of semi-structured interviews coded by trained observers (Crowell, Treboux, & Waters, 1999; Hesse, 1999; Main & Goldwyn, 1998). These researchers question the validity of self-report measures and posit that, in some cases, beliefs people hold regarding their behavior in relationships are inaccurate due to defensiveness or lack of insight (Crowell, Fraley, & Shaver, 1999).

A second limitation was that childhood interpersonal traumas were assessed retrospectively, which requires one to accurately recall past events. Selective recall and inaccurate recall may interfere with drawing conclusions regarding past events. Memory is “a recoding rather than a recording of events” (Roediger & McDermott, 2000, as cited by Kazdin, 2003, p. 238), and the accuracy of retrospective reports regarding difficulties in childhood, in particular, are thought to be poor (Kazdin, 2003).

Another limitation was that participants in this sample, while specifically recruited for exposure to trauma, comprised a fairly homogenous sample. They were, on average, relatively young, middle-class, married, and educated women. As such, findings from this sample can not necessarily be generalized to higher-risk clinical populations, women in general, or individuals outside of the postpartum period. In addition, the sample size in this study was fairly small, especially the sub-sample used in analyses pertaining to the secure base scripts. Future studies

should aim to utilize larger samples for the purpose of obtaining greater statistical power and overall generalizability.

Strengths

On the other hand, this study had several noteworthy strengths. First, it utilized the ECR-R, a measure drawn from several existing adult romantic attachment questionnaires and currently regarded as the “gold standard” self-report for measuring adult romantic attachment. Self-reports such as the ECR-R were developed by adult attachment researchers (e.g., Fraley, Waller, & Brennan, 2000) from the social and personality psychology field. While researchers in the developmental psychology field generally prefer interview methods over self-reports as noted previously, personality and social psychologists regard self-report measures as acceptable because they are primarily interested in assessing conscious appraisals and evaluations of relationships rather than unconscious states of mind (Roisman et al., 2007). For this reason, some attachment researchers in the social personality area posit that self-report measures of attachment such as ECR-R should be adequate predictors of the quality of individuals’ romantic relationships (Bernier & Dozier, 2002). It appears then that recent research is making a case for the utilization of self-reports alone or in conjunction with coded interviews due to the fact that each assesses different aspects of attachment (Roisman et al., 2007).

This study also utilized the CTQ, which is the most referenced self-report measure of childhood interpersonal abuse and neglect in the literature, with at least 141 references, as compared to other self-report measures of childhood interpersonal abuse and neglect, which have been referenced at the most 15 times (Thrombs, Bernstein, Lobbestael, & Arntz, 2009). The CTQ also been translated into 8 languages in addition to English and has adequate to good

internal consistency and good test-retest reliabilities, which speaks to its temporal stability (Bernstein et al., 1994; Fink et al., 1995).

This study also examined a relatively new and promising brief narrative measure of secure base representations, or secure base scriptedness. This measure has demonstrated good internal reliability for both composites (Rodrigues-Doolabh et al., 2003) and convergent validity with the Adult Attachment Interview (AAI) through significant correlations with the coherence and security scales. Prior to this study, the only studies to examine this measure came from members of the developer's own research laboratory. This study took the research further by examining relationships between secure base scriptedness and childhood interpersonal abuse and neglect, complex trauma outcomes, and trauma-related cognitions in a postpartum sample. Future studies should continue to examine secure base scriptedness in normal and clinical samples to further clarify the current results; it seems this will be more feasible than using other narrative measures such as the AAI given the greater simplicity of administration and scoring of the secure base stories.

In addition, this study developed a composite variable of complex trauma sequelae, consistent with CP/DESNOS, constructed especially for the study, instead of the more narrow and traditional view of PTSD. No prior study in the literature has created a variable that specifically captured a broad range of CP/DESNOS trauma sequelae and PTSD symptomatology; future studies should continue to examine all components of complex trauma in order to better inform decisions about new diagnoses and interventions.

Further, although the sample was relatively homogenous, associations between the variables of interest have not been examined in samples of postpartum women. It may be that the findings from this study pertain only to postpartum mothers; this remains to be seen via

replication in future studies. If this is true, it is still of utmost importance to continue to examine the effects of early childhood interpersonal traumas on secure base scripts, adult attachment, and complex trauma outcomes in postpartum mothers for the purpose of developing specific preventive interventions for this population. These interventions could help postpartum mothers develop more adaptive emotion regulation and feelings of competency and, subsequently, more secure attachment relationships with their children and partners. Interventions that help mothers establish more secure attachment relationships could reduce the deleterious effects of childhood interpersonal abuse and neglect and prevent the intergenerational transmission of insecure attachment.

Implications of Findings and Conclusions

Overall, results of the current study make several important contributions to the literature. First, findings provide further evidence, along with some prior studies (e.g., Alexander & Alexander, 1996; Bailey et al., 2007; Browne & Winkelman, 2007; Muller et al., 2000; Roche et al., 1997; Stovall-McClough & Cloitre, 2006; Twaite & Rodrigues-Srednicki, 2004; van der Kolk et al., 2005) that early attachment-related traumas are associated with complex trauma outcomes including PTSD symptomatology, dissociation, and altered trauma-related cognitions in adulthood. Also, along with a few prior studies (Borger et al., 2005; Dorahy et al., 2009; Kessler et al., 1994; Ney et al., 2003; Brunner et al., 2000; Sar et al., 2009; Vogel et al., 2009), the results of this study highlight the importance of continuing to examine the ways in which individual types of childhood interpersonal abuse and neglect (in particular, emotional abuse and emotional neglect) influence specific aspects of complex trauma sequelae.

In addition, the results of this study provide further evidence of a complex relationship between childhood interpersonal abuse and neglect, adult romantic attachment anxiety and

avoidance, and complex trauma outcomes; namely, attachment insecurity-security appears to be one mechanism through which early attachment-related traumas influence later complex trauma sequelae. Overall, these results emphasize the need to consider and possibly adopt a new diagnosis that provides a clear delineation of the enduring developmental effects of attachment-related traumas (van der Kolk, 2005; van der Kolk & Courtois, 2005). The proposed diagnosis, called *Developmental Trauma Disorder* (van der Kolk, 2005), would help to clarify the complex adaptations made by individuals to attachment-related traumas perpetrated by attachment figures, over and above the consequences of single event and/or non-interpersonal traumas.

This study also makes an important contribution to the literature by examining individuals' secure base scriptedness, a relatively new construct, in relation to attachment-related traumas, adult romantic attachment anxiety and avoidance, complex trauma outcomes and trauma-related cognitions. Only a few studies conducted from one research laboratory (Bost et al., 2006; Coppola et al., 2006; Dykas et al., 2006; Vaughn et al., 2006; Verissimo & Salvaterra, 2006; Wais, 2003) have examined secure base scriptedness, and only one of them examined the relationship between secure base scriptedness and another attachment construct.

The finding that both types of secure base scripts were highly significantly related to each other supports the notion that secure base scripts developed in childhood are fairly consistent across different types of relationships and contexts in adulthood, and, therefore, early attachment relationships between children and caregivers are important because scripts from these relationships tend to generalize to other domains in life.

The unexpected finding that secure base scriptedness was not related to adult romantic attachment anxiety and avoidance ran counter to the only other study in the literature to examine this relationship in adolescents (Dykas et al., 2006). The current finding likely has to do with

measurement issues and the possibility that mothers in the current study defensively denied some of their experiences in romantic relationships and attachment-related trauma experiences; it is thought that self-reports and coded narrative measures utilized in normal samples demonstrate more convergence (Cramer, 2000; Crowell, Fraley, & Shaver, 1999). Thus, it is important that researchers in the future continue to use heterogeneous samples and include multi-method assessments to examine constructs of interest.

The finding that adult-child secure base scriptedness tended to be related to complex trauma outcomes, while adult-adult secure base scriptedness did not, could indicate that mothers were identifying with the child, the mother, or both in the adult-child stories when narrating secure base stories. While secure base scripts are believed to access attachment representations that originate from one's early childhood experiences with caregivers, it is possible that this measure actually assesses mothers' scripts related to being a mother (not a child). This may be especially true in postpartum women, who may have only recently become mothers, and for whom feelings of incompetency may be more salient, as compared to mothers or adults in general. Future research should continue to investigate whether the adult-child stories are triggering individuals' attachment scripts from childhood or scripts related to parenting. Future studies may also want to compare secure base scriptedness of women at different stages of motherhood for the purpose of determining if their scripts change or stay the same at various stages of motherhood, as well as secure base scripts of fathers, to see if similar results are obtained.

Finally, the finding that both types of secure base scriptedness were related to self-reported trauma cognitions, which appeared to run counter to all other findings related to the self-report and narrative measures, may have had to do with the similarity between types of

cognitions and/or with the explicit instructions of the self-report measure. These findings suggest that even women with less adaptive psychological functioning may be able to self-report in accurate ways when given more explicit prompts. Future studies should continue to examine specific cognitive components in attachment and trauma representations, as well as the affective components of representations. Future studies should also examine the relationships between these measures in more heterogeneous samples, as well as in mixed gender samples.

In conclusion, the results of this study highlight the importance of continuing to examine the effects of early childhood interpersonal traumas on secure base scripts, adult attachment, and complex trauma outcomes in postpartum mothers, or those largely responsible for shaping of future generations. Only by understanding the components of each construct and the relationships among them can we develop specific, effective interventions for this population. More well developed interventions informed by this study, for example, may include helping individuals develop more adaptive and supportive interpersonal and romantic relationships, which can function as safe havens or secure bases in times of stress. These relationships may subsequently alter, in positive ways that promote love-worthiness and trust in others, individuals' own personal cognitive scripts regarding attachment security. In addition, well-developed interventions which identify all forms of interpersonal abuse and neglect, especially emotional and physical neglect, which are often ignored or considered less deleterious, will promote healing. Importantly, these interventions may help reduce or prevent problems in mother-infant relationships, and subsequently reduce the deleterious effects of childhood interpersonal abuse and neglect, and the intergenerational transmission of insecure attachment and complex trauma in future generations.

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Appendices

Appendix A: Informed Consent

Appendix B: Demographic Questionnaire

Appendix C: Childhood Trauma Questionnaire

Appendix D: National Women's Study PTSD Module

Appendix E: Dissociative Experiences Scale-Taxonomic Version

Appendix F: Posttraumatic Cognitions Inventory

Appendix G: Experiences in Close Relationships Questionnaire-Revised

Appendix H: The Word-List Prompt Measure for Secure Base Scriptedness

Appendix I: Examples of a "High" and a "Low" Secure Base Script from the Current Sample

Appendix J: Correlations: Childhood Trauma Questionnaire and Trauma Measures

Appendix J: Correlations: Childhood Trauma Questionnaire and Posttraumatic Cognitions

Inventory Subscales

Appendix A

**UNIVERSITY OF MICHIGAN
CONSENT TO BE PART OF A RESEARCH STUDY**

Information about this form

You, or your child, may be eligible to take part in a research study. This form gives you important information about the study. It describes the purpose of the study, and the risks and possible benefits of participating in the study. Parents or legal guardians who are giving permission for a child, please note: in the sections that follow the word ‘you’ refers to ‘your child.’

Please take time to review this information carefully. After you have finished, you should talk to the researchers about the study and ask them any questions you have. You may also wish to talk to others (for example, your friends, family, or other doctors) about your participation in this study. If you decide to take part in the study, you will be asked to sign this form. Before you sign this form, be sure you understand what the study is about, including the risks and possible benefits to you.

1. General Information about This Study AND the RESEARCHERS

1.1 Study title: *Maternal Anxiety during the Childbearing Years II (MACY II)*

1.2 Company or agency sponsoring the study: *Psychiatric Research Committee, Department of Psychiatry, University of Michigan.*

1.3 Names, degrees, and affiliations of the researchers conducting the study:

Principal Investigator: Maria Muzik, M.D., Department of Psychiatry, University of Michigan

Co-Investigator: Israel Liberzon, M.D., Department of Psychiatry, University of Michigan

Katherine Rosenblum, Ph.D., Assistant Research Scientist, Center for Human Growth & Development, University of Michigan

Hedieh Briggs, ACSW, Department of Psychiatry, Project Manager, University of Michigan

Julia Seng, Ph.D., Assistant Research Scientist, Institute for Research on Women and Gender, University of Michigan

Valerie Simon, Ph.D., Department of Psychology, Wayne State University

Ann Stacks, Ph.D., Department of Psychology, Wayne State University

Alissa Huth-Bocks, Ph.D., Department of Psychology, Eastern Michigan University

2. PURPOSE OF THIS STUDY

2.1 Study purpose:

You are being asked to take part in a research study of mothers who have experienced trauma. The first year of parenthood often provides both joys and challenges, and it is not uncommon for mothers to feel more sadness or stress during this time. We do not know how being a trauma survivor influences mothers feelings about parenting, or their ways of coping with stress. Being a trauma survivor may add to the challenges some mothers experience when they are coping with the day-to-day stresses of parenthood. We are also interested in collecting genetic (DNA) samples from women and their infants. We will use this information to identify differences in genes related to stress in the body. These gene differences may be related to increased risk for physical and mental health problems following stress and trauma. We are interested in understanding how mothers who have had trauma experiences cope with new stresses, and how stress and trauma may affect their parenting, the mother and infant biology, and infant development.

3. Information about STUDY participants (SUBJECTS)

Taking part in this study is completely **voluntary**. You do not have to participate if you don't want to. If you decide you do not want to answer some of the questions, or participate in any of the saliva or genetic collections, you do not have to. You may also leave the study at any time. If you leave the study before it is finished, there will be no penalty to you, and you will not lose any benefits to which you are otherwise entitled.

3.1 Who can take part in this study?

Women ages of 18 and older who participated in the STACY project, agreed to be contacted for further research past the 6 week postpartum interview, and who have a 4-7 month old infant may participate in this study. This is a study of trauma exposure and parenting, so women who have been exposed to some type of significant trauma will be included. Women who have not been exposed to a trauma will be recruited as well to serve as comparison group for the trauma exposed women. Because of the specific focus on trauma in our study, women with current substance abuse problems or with chronic severe psychiatric illnesses (such as psychosis) are not eligible for participation. Similarly, infants with severe developmental delays or medical illness will not be eligible to participate.

3.2 How many people (subjects) are expected to take part in this study?

We are inviting mothers to take part in this study until 250 eligible mothers (100 with Post Traumatic Stress Disorder (PTSD), 100 who have had trauma-exposure but do not have PTSD, and 50 who have not been exposed to a trauma, and who do not have PTSD) and their infants agree to participate.

4. Information about study participation

4.1 What will happen to me in this study?

Phone Interview (4 months):

This interview will be completed over the telephone four months postpartum. It will include questions on your relationship to your family and baby, your baby's temperament, recent medication usage, situations you may experience, recent stress or trauma, your mood and feelings, and your satisfaction with parenting. The interview should take approximately 45 minutes.

Home Visit #1 (6 months):

A research assistant will schedule a home visit. During the initial home visit, you will be provided with an additional opportunity to ask any other questions you might have. If you consent to participate, you will sign these forms and the first home visit will begin. During this home visit you will be asked questions regarding health, and your current life situation. You and your baby will be videotaped while playing together, and while you are asked to teach your baby to stack objects and toss objects into a container. We will also ask you to do a special activity with your baby that will be taped. The baby will sit across from you in a car-seat that we will bring along, and you will be asked to play with your baby without toys. At some point we will ask you to hold a still face and not respond to your baby even if he/she signals to you. We want to know how your baby and babies in general react when mothers are unresponsive. Some babies get distressed during this activity, some babies do not. After 2 minutes of holding a still face you can reconnect and if necessary soothe your baby by playing again while sitting across from each other. After this activity you and your baby can play freely again. Then we will do an audio-taped interview focusing on your experience as a parent, and your thoughts and feelings about your baby. During this interview you will have the opportunity to watch your baby on the videotape and to tell us how typical the behavior is of your child more generally. In addition, we will collect 4 samples of you and your baby's saliva in order to measure the human stress hormone, cortisol. This will help us to understand how mothers and babies respond biologically to different kinds of activities that range from easy to more difficult. You will be asked to provide a saliva sample three times. You will also be asked to collect the saliva from your child by putting a cotton "LOG" in his/her mouth, and have it stay there for 60 seconds so it is sufficiently saturated. The "LOG" has a piece of dental floss securely attached to it for you to hold on to and to prevent your infant from swallowing it. You will remove the cotton "LOG" from your child's mouth and place it into a salivette. Throughout the home visit you and your infant will wear a vest that will measure heart and breathing rates. The vests can be worn under clothing and will have a sticky dot that is placed on the skin at different positions to measure heart rate. At the end of the visit, we will leave some self-report questionnaires with you to complete sometime before our next visit.

Self-Report Questionnaires (6 months):

These questionnaires will ask about a variety of topics related to your past and current life. You will be asked about life stressors through your entire life, your emotional wellbeing and whether you experience some difficulties with sadness, thoughts about dying, as well as difficulties with your concentration and thinking clearly. Some questions ask about your feelings towards your baby and your family and work life since the birth of your baby. We will also ask about the types of media activities your infant takes part in and about your religious and spiritual experiences. Finally, you will be asked

to complete a brief developmental survey about your child and a questionnaire about your baby's temperament, your baby's likes and dislikes, sleep habits, feeding schedules and crying behavior.

Home Visit #2 (6 months):

The second home visit will take place approximately one to two weeks after the first home visit, whenever is convenient for you, and will be conducted by the same person who visited the first time. This visit will start with you and your baby playing together while being video-taped. Next we will review your answers to the questionnaires that we had left with you and answer any questions that you may have or fill in any blanks. We will next complete an interview regarding your infants' typical behavior. If you have experienced a trauma, we will complete an interview about your trauma and your feelings about the trauma. We then ask some questions on your needs and health care utilization as a survivor. If you have not experienced a trauma, we will discuss your infant's food preferences with you. Also, to help improve our procedures, we will ask you about your experience as a participant in this research study and if you would be willing to be contacted by us in the future to continue participation. Throughout the visit we will collect 2 samples of you and your baby's saliva to measure the human stress hormone cortisol in a similar fashion as in the first visit and you and your infant will wear a vest to measure your heart and breathing rates. While we can get genetic information from your adult saliva samples (if you give permission to do so), we cannot do so from the saliva of your infant. The genetic portion of the study is voluntary. If you chose to allow your infant to participate in the genetic portion of the study, during one of the two 6 month home visits, we will ask you to gently brush and twirl a small non-harmful brush for 30 seconds over the left inner and right inner cheek regions of the mouth of your infant to collect mucus for the genetic portion of the study.

Phone Interviews (12- and 15- months):

These interviews will be completed over the telephone. They will include questions on situations you may have experienced, recent stress or trauma, your moods and feelings, and about your everyday life. The interviews should take 15 minutes at each time point.

Lab Visit (18 months):

During this visit we will review the study protocol in detail, address any questions or concerns with you, particularly any concerns about the interaction video-taping, the saliva collection, and the genetic component, and heart rate measurement, and obtain written consent for study participation. You will be asked to put on a similar vest as worn in the 6 month home visits. You and your baby will be videotaped while playing together, during a period you teach task(s), and during a clean-up and separation task. Cortisol saliva samples from both the mothers and toddlers will be obtained before and after the interactive tasks (20, 40, and 60 minutes after separation). The genetic portion of the study is voluntary. If you chose to allow your infant to participate in the genetic portion of the study, and did not do so at the 6 month home visit, we will ask you to at the 18 month visit. We will ask you to gently brush and twirl a small non-harmful brush for 30 seconds over the left inner and right inner cheek regions of the mouth of your infant to collect mucus for the genetic portion of the study. Then you and your child will go into

two separate rooms. Your child will complete a 60 minute developmental measurement. At this time, you will be asked about your toddler's personality, behavior, and health. We will also ask again about your daily experiences, recent stress or trauma, your moods and feelings, your feelings towards your baby and parenting, your adult relationships, and about your everyday life. We will finish by discussing your experience in this study.

4.2 How much of my time will be needed to take part in this study?

Participation in this study includes several telephone interview and three home visits. The 4 month post partum interview during the initial phone call will last approximately 30-45 minutes. If you wish to continue participation, we will schedule two home visits. Each visit will last approximately 1 ½ to 2 hours. We expect the self report questionnaires to take approximately 60 minutes. The 12, 15 and 18 month post partum interviews will last approximately 10-20 minutes. The 18 month post partum lab or home visit will last approximately 2 hours.

4.3 When will my participation in the study be over?

Your participation will be over at the completion of the 18 month lab or home visit. The total estimated time commitment is 8 1/2 to 9 hours over 18 months. You can also choose to end your participation at any time.

5. Information about RISKS and benefits

5.1 What risks will I face by taking part in the study? What will the researchers do to protect me against these risks?

The known or expected risks are:

- During the study we ask very personal questions including questions about life stress and trauma experiences, and about possible emotional difficulties; all these questions could make you feel uncomfortable, you could become upset or even reveal to us that you feel suicidal.
- Possible emotional discomfort participating in some of the video-or audiotaped activities.
- Possible inconvenience with respect to scheduling and attending research appointments.
- Privacy of information provided to research staff.
- Your baby may feel uncomfortable with or dislike the process of the saliva collection and the vest, (heart and breathing rate measurements).
- Your baby may develop a rash from the vest or sticky pads.
- Possible unforeseen and unintentional breach of confidentiality about your genetic information. While unlikely, if your genetic information were seen by an employer or insurance company, it could potentially have an impact on your ability to acquire or maintain life, health, or long-term care insurance.

The researchers will try to minimize these risks by:

- If during the interview process it is revealed to us that you are experiencing suicidal feelings or thoughts you would immediately be put in touch with our on-call psychiatrist, and you would receive referrals for psychiatric help and to the Psychiatric Emergency Services.

- Being sensitive to the feelings of the mothers and babies at all times. The staff will be also available to you to further discuss any uncomfortable feelings that might have been brought out by the interview and taping process. The interview and taping can be stopped at any time you wish. You may also choose not to answer questions you don't feel comfortable answering.
- Making all possible efforts to fit into the families' schedules.

We have listed below the ways we keep private the information provided by mothers in the study. If there is not enough privacy at home, it will be possible for mothers to choose to schedule the appointments at a university clinic instead. The researchers have obtained a Certificate of Confidentiality from the federal Government, which will help them protect your privacy, unless you consent in writing to the release of research information. However, if they learn that you or someone else is in serious danger of harm (such as in case of child abuse) they may make disclosures to protect you and /or the other persons. Your DNA sample will be identified only by a code number. Personally identifying information which we use to contact you and send reimbursement for your efforts is kept separate from your research data and the DNA samples, and no one in the laboratory and DNA repository (storage bank) has any access to personally identifying information. These measures thereby reduce the possibility of psychological or social risks that could arise from knowledge of this genetic information, such as risk to your employability or insurability or the risk of discrimination.

- To ease the process of saliva collection for your child, you have the option to obtain the sample yourself from your child in order to increase his or her comfort. If the infant is too uncomfortable in the vest, you have the option to remove the vest from the infant.
- We have acquired sticky pads specifically for infant use, and if the infant develops a rash you may remove the pads and vest from the infant.

As with any research study, there may be additional risks that are unknown or unexpected.

5.2 What happens if I get hurt, become sick, or have other problems as a result of this research?

The researchers have taken steps to minimize the risks of this study. Even so, you and/or your baby may still have problems or side effects, even when the researchers are careful to avoid them. Please tell the researchers listed in Section 10 about any injuries, side effects, or other problems that you have during this study. You should also tell your regular doctors.

Please note: It is important that you tell the researchers about any injuries, side effects, or other problems that you experience during this study.

5.3 If I take part in this study, can I also participate in other studies?

Being in more than one research study at the same time, or even at different times, may increase the risks to you and/or your baby. It may also affect the results of the studies. You and/or your baby should not take part in more than one study without approval from the researchers involved in each study.

5.4 How could I benefit if I take part in this study? How could others benefit?

You and/or your baby may not receive any personal benefits from being in this study. However, some participants may find it helpful to talk with another person about the joys and challenges of parenting a young child. Possible benefits of the research for society include a better understanding of how trauma experiences can impact parent and child well-being, and the need to support mothers with trauma history in coping with the challenges and stresses of parenting during the infants first year of life. Additional benefits to society include helping us to better understand biological factors that may be involved in risk and resilience to stress-related mental health and pregnancy problems. This could lead in the future to early detection of vulnerable persons, and possibly improved therapies.

5.5 *Will the researchers tell me if they learn of new information that could change my willingness to stay in this study?*

Yes, the researchers will tell you if they learn of important new information that may change your willingness to stay in this study. If new information is provided to you after you have joined the study, it is possible that you may be asked to sign a new consent form that includes the new information. It is important to note that we will not inform participants of the results of the genetic tests on their individual DNA. At this time, individual genetic patterns related to stress regulation do not provide clinically useful information. This data is being collected for research purposes only.

6. Other options

6.1 *If I decide not to take part in this study, what other options do I have?*

Your participation in this study is entirely voluntary; you and/or your baby have the option to not participate. If you and/or your baby choose not to participate, there is no penalty and it will not affect any medical care you might later seek from the University of Michigan. Ask the researchers about other options you and/or your baby may have.

7. ENDING THE STUDY

7.1 *If I want to stop participating in the study, what should I do?*

You and/or your baby are free to leave the study at any time. If you and/or your baby leave the study before it is finished, there will be no penalty to you and/or your baby. You and/or your baby will not lose any benefits to which you may otherwise be entitled. If you choose to tell the researchers why you and/or your baby are leaving the study, your reasons for leaving may be kept as part of the study record. If you and/or your baby decide to leave the study before it is finished, please notify one of the persons listed in Section 10 “Contact Information” (below).

Your active participation in the genetics part is complete once you complete the sample collection. If you provide a saliva sample and then change your mind, you can contact the study office at the address or phone below to request that your saliva sample and any stored DNA be destroyed. If analysis has not yet been conducted, you may also request that your genetic data be deleted from the study database. Once analysis has begun, it may no longer be possible to delete your data.

7.2 Could there be any harm to me if I decide to leave the study before it is finished?

There is no known or anticipated harm to you and/or your baby for leaving the study before it is finished. If you and/or your baby decide to leave the study early, we may ask you to discuss why you made your decision, so that we will be aware of any problems in our study that we should correct for the benefit of other families participating in the project.

7.3 Could the researchers take me out of the study even if I want to continue to participate?

Yes. There are many reasons why the researchers may need to end your and/or your baby's participation in the study. Some examples are:

- ✓ The researcher believes that it is not in your best interest to stay in the study.
- ✓ You become ineligible to participate.
- ✓ Your condition changes and you and/or your baby need treatment that is not allowed while you are taking part in the study.
- ✓ You do not follow instructions from the researchers.
- ✓ The study is suspended or canceled.

7.4 Permission for additional use of my DNA.

Parents or legal guardians who are giving permission for a child, please note: in the sections that follow the word 'you' refers to 'your child.' Your DNA sample will not be used in studies other than the one described here without your permission. To indicate your desired level of use, please initial one of the following options:

I allow my child's genetic sample and linked data from this study to be used...

- _____ for this study now and for future stress or pregnancy research by Dr. Muzik's team. It may also be used for secondary use in other women's health research if it is de-identified (i.e., anonymous).
- _____ for this study now and for future stress or pregnancy research by Dr. Muzik's team and their collaborators only (further contact is not necessary).
- _____ for this study now. I may also consent to future stress or pregnancy research by Dr. Muzik's team and their collaborators, but I want to be contacted and give specific consent again.
- _____ I do not wish the genetic samples and linked data to be used in any studies other than the one described in this consent form.

8. Financial Information**8.1 Who will pay for the costs of the study? Will I or my health plan be billed for any costs of the study?**

There are no costs or billing for this study.

By signing this form, you do not give up your right to seek payment if you are harmed as a result of being in this study.

8.2 Will I be paid or given anything for taking part in this study?

Yes, you will be paid for participating in this study. You will receive \$10 for the four-month postpartum phone interview, \$20 for completing the first home visit, and an additional \$30 for completing the second home visit (for a total of \$60). In addition we will provide a small gift for the baby at the second home visit. You will receive \$10 for each phone interview at 12- and 15-months postpartum if you complete the interview.

At the 18-month postpartum assessment, if you come to the lab at UM or WSU, you will receive \$40 for your participation. If you are unable to come and we go to your home at 18-months, you will receive \$20. If the 18-month assessment is only completed by phone, then you will receive \$15. Upon completion of the study, you may receive up to \$120 for participating.

8.3 Who could profit or financially benefit from the study results?

No person or organization has a financial interest in the outcome of this study.

9. Confidentiality of subject records and authorization to release your protected health information

The information below describes how your privacy and the confidentiality of your research records will be protected in this study.

9.1 How will the researchers protect my privacy?

“Confidentiality” means not sharing what you tell us or what we learn about you. To help ensure your privacy, we have obtained “Certificate of Confidentiality” from the federal government. This means that we cannot be forced to give information about you to anyone outside the study, including courts and police.

Unless you agree in writing, we will not tell authorities:

- that you are a subject in this study
- any of your answers to any of the questions we ask you

If this ever happens, the University of Michigan could no longer guarantee the certificate of Confidentiality for the information that was shared.

There are some situations we must give information even when you do not agree. We must tell police or other authorities when we believe that someone is at risk for severe injury. An example is risk of harm by way of physical or sexual abuse. If we learn something like this, the law says we must tell family members and others who could help. Others who could help might be the police or a community agency. For example, if we learn a child is being abused we must call an agency like Children’s Services. If something like this happens, we would tell you that what was told would need to be shared. We would explain who we must tell and why. We would encourage you to take part in the disclosure process. We would also refer you to others who could help.

The information you provided for the STACY project will be linked to the MACY project data. The STACY dataset included contact information, as well as the data collected for the parent study's aims. This includes information from surveys, medical records review, and hormone assays. If you did not participate in STACY, this does not apply to you.

As additional steps to protect your privacy, your research information will be stored in a locked cabinet in our research office and will not be made a part of your regular medical record. Research records from the phone interviews and home visits will be kept in a separate research files that do not include names, registration numbers, or other information that is likely to allow someone other than the researchers to link the information to you. The audio and videotapes will also be stored in locked cabinets in a locked room. They will be accessed for analysis only by the project staff, who has received approval for this activity by the principal investigator or study coordinator. Audio and video recordings will not be removed from the private research laboratory room where the data are stored; project staff will only view or listen to these tapes in this private research room. The audio and video recordings will be destroyed after the study analyses are completed. The genetic sample and other saliva samples go to the laboratory and have only your study ID number on them.

9.2 *What information about me could be seen by the researchers or by other people? Why? Who might see it?*

There are many reasons why information about you may be used or seen by the researchers or others during or after this study. Examples include:

- The researchers may need the information to make sure you can take part in the study.
- University, Food and Drug Administration (FDA), and/or other government officials may need the information to make sure that the study is done in a safe and proper manner.
- Study sponsors or funders, or safety monitors or committees, may need the information to:
 - Make sure the study is done safely and properly
 - Analyze the results of the study
- The researchers may need to use the information to create a databank of information about your condition or its treatment.
- If you receive any payments for taking part in this study, the University of Michigan accounting department may need your name, address, social security number, payment amount, and related information for tax reporting purposes.
- Federal or State law may require the study team to give information to government agencies. For example, to prevent harm to you or others, or for public health reasons.

The results of this study could be published in an article, but would not include any information that would let others know who you are. If your name and recordings will be used in any publications or presentations, the researchers will ask for your separate written permission.

9.3 What happens to information about me after the study is over or if I cancel my permission?

As a rule, the researchers will not continue to use or disclose information about you, but will keep it secure until it is destroyed. Sometimes, it may be necessary for information about you to continue to be used or disclosed, even after you have canceled your permission or the study is over. Examples of reasons for this include:

- To avoid losing study results that have already included your information
- To provide limited information for research, education, or other activities (This information would not include your name, social security number, or anything else that could let others know who you are.)
- To help University and government officials make sure that the study was conducted properly

As long as your information is kept within the University of Michigan Health System, it is protected by the Health System's privacy policies. For more information about these policies, ask for a copy of the University of Michigan Notice of Privacy Practices. This information is also available on the web at <http://www.med.umich.edu/hipaa/npp.htm>. Note that once your information has been shared with others as described under Question 9.2, it may no longer be protected by the privacy regulations of the federal Health Insurance Portability and Accountability Act of 1996 (HIPAA).

9.4 When does my permission expire?

Your permission will not expire unless you cancel it. You may cancel your permission at any time by writing to the researchers listed in Section 10 "Contact Information" (below).

10. Contact Information

10.1 Who can I contact about this study?

Please contact the researchers listed below to:

- Obtain more information about the study
- Ask a question about the study procedures or treatments
- Talk about study-related costs to you or your health plan
- Report an illness, injury, or other problem (you may also need to tell your regular doctors)
- Leave the study before it is finished
- Express a concern about the study

Principal Investigator: Maria Muzik, MD
 Mailing Address: Dept. of Psychiatry
 4250 Plymouth Rd.
 Ann Arbor, MI 48109
 Telephone: (734) 232-0206

Study Coordinator: Heather Cameron, BS
Mailing Address: Dept. of Psychiatry
4250 Plymouth Rd.
Ann Arbor, MI 48109
Telephone: (734) 232-0205

Study Coordinator: Amanda Fezzey, BS
Mailing Address: Dept. of Psychiatry
4250 Plymouth Rd.
Ann Arbor, MI 48109
Telephone: (734) 232-0205

Co-Investigator: Ann M. Stacks, Ph.D.
Mailing Address: Merrill-Palmer Institute
71 East Ferry St.
Detroit, MI 48202
Telephone: (313) 872-1790

You may also express a concern about a study by contacting the Institutional Review Board listed below, or by calling the University of Michigan Compliance Help Line at 1-888-296-2481.

University of Michigan Medical School Institutional Review Board (IRBMED)
Argus I
517 W. William
Ann Arbor, MI 48103-4943

Telephone: 734-763-4768
Fax: 734-615-1622
e-mail: irbmed@umich.edu

If you are concerned about a possible violation of your privacy, contact the University of Michigan Health System Privacy Officer at 1-888-296-2481.

When you call or write about a concern, please provide as much information as possible, including the name of the researcher, the IRBMED number (at the top of this form), and details about the problem. This will help University officials to look into your concern. When reporting a concern, you do not have to give your name unless you want to.

11. Record of Information provided

11.1 What documents will be given to me?

Your signature in the next section means that you have received copies of all of the following documents:

This "Consent to be Part of a Research Study" document. *(Note: In addition to the copy you receive, copies of this document will be stored in a separate confidential research file and may be entered into your regular University of Michigan medical record.)*

12. SIGNATURES

Research Subject:

I understand the information printed on this form. I have discussed this study, its risks and potential benefits, and my other choices with _____. My questions so far have been answered. I understand that if I have more questions or concerns about the study or my participation as a research subject, I may contact one of the people listed in Section 10 (above). I understand that I will receive a copy of this form at the time I sign it and later upon request. I understand that if my ability to consent for myself changes, either I or my legal representative may be asked to re-consent prior to my continued participation in this study.

Signature of Subject: _____ *Date:* _____

Name (Print legal name): _____

Patient ID: _____ *Date of Birth:* _____

Parental Consent for a Minor Child to Participate in the Study:

Name of Child (Print Legal Name):

Signature of Person Legally

Authorized to Give Consent _____ *Date:* _____

Name (Print legal name): _____ *Phone:* _____

Address: _____

Check Relationship to Subject:

Parent Spouse Child Sibling Legal Guardian Other:

If this consent is for a child who is a ward of the state (for example a foster child), please tell the study team immediately. The researchers may need to contact the IRBMED.

Reason subject is unable to sign for self: _____

Principal Investigator (or Designee):

I have given this research subject (or his/her legally authorized representative, if applicable) information about this study that I believe is accurate and complete. The subject has indicated that he or she understands the nature of the study and the risks and benefits of participating.

<i>Name:</i> _____	<i>Title:</i> _____
<i>Signature:</i> _____	<i>Date of Signature:</i> _____

**UNIVERSITY OF MICHIGAN CONSENT TO BE PART OF A RESEARCH STUDY
AND AUTHORIZATION FOR THE RELEASE OF PROTECTED HEALTH INFORMATION MATERNAL
ANXIETY DURING THE CHILDBEARING YEARS (MACY) CONSENT FOR USE OF VIDEO AND
AUDIO IN TRAININGS**

Information about this DOCUMENT

You are currently enrolled in the research study “Maternal Anxiety during the Childbearing Years II (MACY II). We will be using information about you and your baby to help us learn more about increasing positive parent-infant relationships, infant development, and about women’s lives. Videotape, DVD, and audio recordings are used in this study in order to understand how babies behave and develop over time. They are also used so we can learn about your story. All of the information you provide us with is confidential and is kept in the strictest of confidence. The recording will be held in a locked file cabinet and destroyed after 8 years. **You and your infant will never be identified in any way.** The researchers involved with this study are experts in child development and psychiatry. At times they are called upon to train other professionals who are working with infants, young children and their families. With prior permission they sometimes use videos for these trainings. Your signature below authorizes us to use the video information in one of three ways.

SIGNATURES

- 1. I agree to have the video and audio recordings used for training purposes. (Initial beside the options you would like used for training purposes).**

_____ *Mother Infant Interactions (play, teaching, still face paradigm, and others)*
 _____ **Mother Interviews (Trauma Interview, Maternal Interview, and others)**

Signature of Subject: _____ *Date:* _____

Name (Print legal name): _____

Patient ID: _____ *Date of Birth:* _____

– OR –

- 2. I agree to have the following video and audio recordings used for training inside the University of Michigan only (initial beside the options you would like used within the University of Michigan only).**

_____ *Mother Infant Interactions (play, teaching, still face paradigm, and others)*
 _____ **Mother Interviews (Trauma Interview, Maternal Interview, and others)**

Signature of Subject: _____ Date: _____

Name (Print legal name): _____

Patient ID: _____ Date of Birth: _____

- OR -

3. I Do Not Agree to have any of the video or audio tapes used for training.

Signature of Subject: _____ Date: _____

Name (Print legal name): _____

Patient ID: _____ Date of Birth: _____

Principal Investigator (or Designee):

Name: _____ Role on Study: _____

Signature: _____ Date of Signature: _____

**UNIVERSITY OF MICHIGAN
CONSENT TO BE PART OF A RESEARCH STUDY
AND AUTHORIZATION FOR THE RELEASE OF PROTECTED HEALTH INFORMATION
v.5.10.07
CONSENT FOR FUTURE CONTACT WITH MOTHER AND BABY
FOR FUTURE RESEARCH**

Information about this DOCUMENT

You are currently or were recently enrolled in the research study “Maternal Anxiety during the Childbearing Years” (MACY) Project. This document is the consent to allow us to keep your contact information on file once you and your baby have completed the study. We would like to keep your contact information on file after the 18 month visit in order to keep you updated on the progress of the study and to contact you for recruitment in future phases of the study as your child gets older. Your contact information will be maintained by the MACY study and stored in a password protected computer database. It will only be available to the Investigators and research staff of the MACY study and its future phases. You may choose to withdraw your permission at any time. All of the information you provide us with is confidential and is kept in the strictest of confidence.

SIGNATURES

4. I give MACY permission to keep my contact information on file so as to contact me for involvement in future phases of the study.

Signature of Subject: _____ *Date:* _____

Name (Print legal name): _____

Patient ID: _____ *Date of Birth:* _____

– OR –

5. I DO NOT give MACY permission to keep my contact information on file so as to contact me for involvement in future phases of the study.

Signature of Subject: _____ *Date:* _____

Name (Print legal name): _____

Patient ID: _____ *Date of Birth:* _____

Principal Investigator (or Designee):

Name: _____ *Role on Study:* _____

Signature: _____ *Date of Signature:* _____

Copies of This Document: In addition to the copy you receive, copies of this document will be stored in a separate research file.

Appendix B

Demographic Questionnaire

Demographics Survey for Home Visit

I would like to start out the visit by asking you a few questions about you and your baby’s everyday lives.

1. Who lives in the baby’s household? Circle and fill #

	Age: (# of years)	Sex: Female=1 /Male=2
1= Mother		
2= Father		
3= Grandparent		
4= Half/Stepsibling		
5= Aunt/Uncle		
6=Cousin		
7=Great Grandparent		
8=other extended family who?		
9=non-family member who?		

4. What is your current marital status? (check all that apply) NOTES:

- (1)Married
- (2)Living with birth father
- (3)Living with partner (not biological father)
- (4)Divorced
- (5)Separated
- (6)Widowed
- (7)Never Married

5. If you are in a relationship, how long have you and your partner been together?

a) _____ Years b) _____ Months

Total # of months: _____

6. Mother’s Age: _____

7. Father’s Age: _____

8. Is your baby cared for out of your home on a regular basis?

- (0) No
- (1) childcare center (Total hrs/week: _____)
- (2) child goes to someone else’s home (“child care home”) (non-relative)
(Total hrs/week: _____)
- (3) private provider comes to my own home (Total hrs/week: _____)
- (4)other (describe: _____)

9. Who does childcare during a typical week in your home?

- | | |
|--|-----------------------|
| <input type="checkbox"/> (1) Self | Total hrs/week: _____ |
| <input type="checkbox"/> (2) Biological Father | Total hrs/week: _____ |
| <input type="checkbox"/> (3) Grandparent | Total hrs/week: _____ |
| <input type="checkbox"/> (4) Half/Stepsibling | Total hrs/week: _____ |
| <input type="checkbox"/> (5) Aunt/Uncle | Total hrs/week: _____ |
| <input type="checkbox"/> (6) Cousin | Total hrs/week: _____ |
| <input type="checkbox"/> (7) Great Grandparent | Total hrs/week: _____ |
| <input type="checkbox"/> (8) other extended family | Total hrs/week: _____ |
| <input type="checkbox"/> (9) non-family member | Total hrs/week: _____ |

10. Do you own or rent your current dwelling?

- (1) Own
- (2) Rent
- (3) Section 8 or Public Housing
- (4) Other (Describe: _____)

11. In what way do you receive your income? NOTES:

- (1) Employment
- (2) Unemployment compensation
- (3) Disability (workman's compensation)
- (4) Social Security or SSI
- (5) Aid to Families with Dependent Children (AFDC)
- (6) Child support or alimony
- (7) Food stamps
- (8) Medicaid or Medicare
- (9) WIC or Women Infants and Children
- (10) Investments or Rent

Answer the following questions for the current job for both parents. If either parent is unemployed, ask about her/his usual job held prior to unemployment.

<p>12. How many jobs do you currently hold? ___ (#jobs)</p> <p>14. ___ (1)Employed full-time ___ (2)Employed part-time ___ (3)Staying home with the baby full-time</p>	<p>13. How many jobs does the baby's father currently hold? ___ (# jobs)</p> <p>15. ___ (1)Employed full-time ___ (2)Employed part-time ___ (3)Staying home with the baby full-time</p>
<p>16. If unemployed, are you currently: ___ (1)Unable to work ___ (2)Looking for employment ___ (3)On temporary leave of absence</p>	<p>17. If unemployed, is baby's father currently: ___ (1)Unable to work ___ (2)Looking for employment ___ (3)On temporary leave of absence</p>
<p>18. Mom: What is your usual job? (be very specific)</p> <p>Hollingshead score: _____</p>	<p>19. Dad: What is baby's father's usual job? (be very specific)</p> <p>Hollingshead score: _____</p>
<p>Main activities of mother's job?</p>	<p>Main activities of father's job?</p>
<p>Do you supervise people at work? Yes___ No _____ if yes, how many? _____</p>	<p>Does father supervise people at work? Yes___ No _____ if yes, how many? _____</p>
<p>What industry is this in? (prompt: What does the employer sell or make?)</p>	<p>What industry is this in? (prompt: What does the employer sell or make?)</p>

Think of all the income from people who live in your home. Include sources of income listed above, such as employment, child support, AFDC, SSI. I am going to give you a list of incomes. Please indicate the number of the category you fall into.

20. Which category on this list is closest to your household income last year?

Category (1-21)_____

Answer the following questions for EDUCATIONAL background for both parents.

<p>21. How much education have you (mother) gotten? ___(1)Less than HS degree</p>	<p>22. How much education has the baby's father gotten? ___(1)Less than HS degree</p>
---	---

<input type="checkbox"/> (2)HS degree or GED	<input type="checkbox"/> (2)HS degree or GED
<input type="checkbox"/> (3)Some College	<input type="checkbox"/> (3)Some College
<input type="checkbox"/> (4)AA Degree	<input type="checkbox"/> (4)AA Degree
<input type="checkbox"/> (5)Voc. or Technical Degree	<input type="checkbox"/> (5)Voc. or Technical Degree
<input type="checkbox"/> (6)Bachelor's Degree	<input type="checkbox"/> (6)Bachelor's Degree
<input type="checkbox"/> (7)Master's Degree	<input type="checkbox"/> (7)Master's Degree
<input type="checkbox"/> (8)Doctoral Degrees	<input type="checkbox"/> (8)Doctoral Degrees
23. Are you currently in school? <input type="checkbox"/> (0)No <input type="checkbox"/> (1)Yes	24. Is the baby's father currently in school? <input type="checkbox"/> (0)No <input type="checkbox"/> (1)Yes
25. If yes: <input type="checkbox"/> (1)High school <input type="checkbox"/> (2)GED program <input type="checkbox"/> (3)Community college (AA) <input type="checkbox"/> (4)Vocational/technical program <input type="checkbox"/> (5)Job training program (specify: _____) <input type="checkbox"/> (6)College (BA, BS program) <input type="checkbox"/> (7)Graduate school	26. If yes: <input type="checkbox"/> (1)High school <input type="checkbox"/> (2)GED program <input type="checkbox"/> (3)Community college (AA) <input type="checkbox"/> (4)Vocational/technical program <input type="checkbox"/> (5)Job training program (specify: _____) <input type="checkbox"/> (6)College (BA, BS program) <input type="checkbox"/> (7)Graduate school

Race or Ethnicity for Mother and BABY:

27. Mother's race or ethnicity: <input type="checkbox"/> (1)Caucasian <input type="checkbox"/> (2)African-American <input type="checkbox"/> (3)Latino <input type="checkbox"/> (4)Native American <input type="checkbox"/> (5)Asian-Pacific <input type="checkbox"/> (6)Bi-racial:(_____) <input type="checkbox"/> (7)Other:(_____)	28. Baby's race or ethnicity: <input type="checkbox"/> (1)Caucasian <input type="checkbox"/> (2)African-American <input type="checkbox"/> (3)Latino <input type="checkbox"/> (4)Native American <input type="checkbox"/> (5)Asian-Pacific <input type="checkbox"/> (6)Bi-racial:(_____) <input type="checkbox"/> (7)Other:(_____)
---	---

Question # 20

Demographics-Income scale

Please indicate which number assigned to an income range best describes you.

- 1. Less than \$15,000**
- 2. Between \$15,000-24,999**
- 3. Between \$25,000-50,000**
- 4. > \$50,000**

Appendix C

Childhood Trauma Questionnaire (CTQ)

CTQ

ID #:

Date:

The next set of questions asks about some possible experiences while growing up. I know that these questions are very personal, and may make you feel somewhat uncomfortable, but please try to answer as honestly as you can. For each question, tell me the response that best describes your feelings and experiences while growing up as a child and a teenager.

WHEN I WAS GROWING UP...

1. I didn't have enough to eat.

Never True Rarely True Sometimes True Often True Very Often True

2. I knew that there was someone to take care of me and protect me.

Never True Rarely True *Sometimes True* *Often True* *Very Often True*

3. People in my family called me things like "stupid," "lazy," or "ugly."

Never True Rarely True Sometimes True Often True Very Often True

4. My parent(s) were too drunk or high to take care of the family.

Never True Rarely True Sometimes True Often True Very Often True

5. There was someone in my family who helped me feel that I was important or special.

Never True Rarely True Sometimes True Often True Very Often True

6. I had to wear dirty clothes.

Never True Rarely True Sometimes True Often True Very Often True

7. I felt loved.

Never True Rarely True Sometimes True Often True Very Often True

8. I thought that my parent(s) wished I had never been born.

Never True Rarely True Sometimes True Often True Very Often True

WHEN I WAS GROWING UP...

9. I got hit so hard by someone in my family that I had to see a doctor or go to the hospital.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

10. There was nothing I wanted to change about my family.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

11. People in my family hit me so hard that it left me with bruises or marks.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

12. I was punished with a belt, a board, a cord, or some other hard object.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

13. People in my family looked out for each other.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

14. People in my family said hurtful or insulting things to me.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

15. I believe that I was physically abused.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

16. I had the perfect childhood.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

17. I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

18. I felt that someone in my family hated me.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

19. People in my family felt close to each other.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

20. Someone tried to touch me in a sexual way, or tried to make me touch them.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

21. Someone threatened to hurt me or tell lies about me unless I did something sexual with them.

Never True **Rarely True** **Sometimes True** **Often True** **Very Often True**

WHEN I WAS GROWING UP...

22. I had the best family in the world.

Never True Rarely True Sometimes True Often True Very Often True

23. Someone tried to make me do sexual things or watch sexual things.

Never True **Rarely True Sometimes True Often True Very Often True**

24. Someone molested me.

Never True **Rarely True Sometimes True Often True Very Often True**

25. I believe that I was emotionally abused.

Never True **Rarely True Sometimes True Often True Very Often True**

26. There was someone to take me to the doctor if I needed it.

Never True Rarely True Sometimes True Often True Very Often True

27. I believe that I was sexually abused.

Never True **Rarely True Sometimes True Often True Very Often True**

28. My family was a source of strength and support.

Never True Rarely True Sometimes True Often True Very Often True

Appendix D
NWS-PTSD

	No	Is that about birth?	Is that about the new traumatic event?	...or (and) about your childhood experience?	Combination Of 1,2,3,5	...or something else?
1. You had trouble concentrating or keeping your mind on what you were doing, even when you tried to concentrate?	0	1	2	3	4	5
2. You lost interest in activities which usually meant a lot to you?	0	1	2	3	4	5
3. You felt you had to stay on guard much of the time?	0	1	2	3	4	5
4. You deliberately tried very hard not to think about something that had happened to you?	0	1	2	3	4	5
5. You had difficulty falling asleep or staying asleep?	0	1	2	3	4	5
6. You stopped caring about activities in your life that used to be important to you?	0	1	2	3	4	5
7. Unexpected noises startled you more than usual?	0	1	2	3	4	5
8. You kept having unpleasant memories or seeing them in your mind?	0	1	2	3	4	5
9. You had repeated bad dreams or nightmares?	0	1	2	3	4	5
10. You went out of your way to avoid certain places or activities which might remind you of something that happened to you in the past?	0	1	2	3	4	5
11. You deliberately tried to avoid having feelings about something that happened to you in the past?	0	1	2	3	4	5
12. You felt cut off from other people or found it difficult to feel close to other people?	0	1	2	3	4	5
13. It seemed you could not feel things anymore or that you had much less emotion than you used to?	0	1	2	3	4	5
14. You found yourself suddenly feeling very anxious, fearful, or panicky?	0	1	2	3	4	5
15. Little things bothered you a lot or could make you very angry?	0	1	2	3	4	5
16. Disturbing memories kept coming into your mind whether you wanted to think of them or not?	0	1	2	3	4	5
17. You felt a lot worse when you were in a situation that reminded you of something that had happened to you in the past?	0	1	2	3	4	5
18. You found yourself reacting physically to things that remind you of something that had happened to you in the past?	0	1	2	3	4	5
19. The way you think about or plan for the future was changed by something that happened to you in the past?	0	1	2	3	4	5
20. Have you ever had a "flashback"--that is, have you ever had an experience in which you imagined	0	1	2	3	4	5

that something that happened in the past was happening all over again?						
Q. PTSD. B. We've been talking about distressing experiences that you may have had. Have you ever felt that there were parts of any such experiences that you couldn't remember?	0	1	2	3	4	5
	No	Is that about birth?	Is that about the new traumatic event?	...or (and) about your childhood experience?	Combination	...or something else?

Did any of those traumatic events or the emotions cause...

A. "Problems with your schoolwork/job? (IF NEEDED, CONTINUE: including bad grades, having to drop out of school, getting in trouble with your teachers, or having to work harder to make the same grades?/ including not being able to do as well as you could before, having to quit, trouble with your boss or coworkers, or being fired?)"

- 1. YES
- 0. NO
- Leave blank. NOT APPLICABLE/DK/REFUSAL/NOT ASCERTAINED

B. "Problems with your physical health? (IF NEEDED, CONTINUE: including backaches, headaches...)"

- 1. YES
- 0. NO
- Leave blank. NOT APPLICABLE/DK/REFUSAL/NOT ASCERTAINED

C. "Problems with family members or friends? (IF NEEDED, CONTINUE:...including getting into more arguments or fights you did before, not feeling you could trust them as much, or not feeling as close to them as you did before?)"

- 1. YES
- 0. NO
- Leave blank. NOT APPLICABLE/DK/REFUSAL/NOT ASCERTAINED

a) How distressing have all these symptoms and problems been to you?

- 1. VERY DISTRESSING
- 2. A LITTLE DISTRESSING
- 3. NOT AT ALL DISTRESSING
- Leave blank. [not sure]/[not applicable since did not have any]

Appendix E

**Sensations and Experiences
Dissociative Experiences Scale-Taxonomic Version (DES-T)**

ID# _____ Date: _____

What follows are descriptions of sensations or reactions that some people experience. Please circle how often these things have happened to you.

1. Some people have the experience of finding themselves in a place and having no idea how they got there. How often has this happened to you?

- 1. NEVER
- 2. RARELY
- 3. SOMETIMES
- 4. OFTEN
- 5. ALL THE TIME

2. Some people have the experience of finding new things among their belongings that they do not remember buying. How often has this happened to you?

- 1. NEVER
- 2. RARELY
- 3. SOMETIMES
- 4. OFTEN
- 5. ALL THE TIME

3. Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something and they actually see themselves as if they were looking at another person. How often has this happened to you?

- 1. NEVER
- 2. RARELY
- 3. SOMETIMES
- 4. OFTEN
- 5. ALL THE TIME

4. Some people are told that they sometimes do not recognize friends or family members. How often has this happened to you?

- 1. NEVER
- 2. RARELY
- 3. SOMETIMES
- 4. OFTEN

5. ALL THE TIME

5. Some people sometimes have the experience of feeling that other people, objects, and the world around them are not real. How often has this happened to you?

1. NEVER
2. RARELY
3. SOMETIMES
4. OFTEN
5. ALL THE TIME

6. Some people sometimes have the experience of feeling that their body does not seem to belong to them. How often has this happened to you?

1. NEVER
2. RARELY
3. SOMETIMES
4. OFTEN
5. ALL THE TIME

7. Some people find that in one situation they may act so differently compared with another situation that they feel almost as if they were two different people. How often has this happened to you?

1. NEVER
2. RARELY
3. SOMETIMES
4. OFTEN
5. ALL THE TIME

8. Some people sometimes find that they hear voices inside their head that tell them to do things or comment on things that they are doing. How often has this happened to you?

1. NEVER
2. RARELY
3. SOMETIMES
4. OFTEN
5. ALL THE TIME

Appendix F

PTCI

PTCI ID # _____ Date Completed _____

We are interested in the kind of thoughts which you may have had after a traumatic experience. This could be recent or in the past. Below are a number of statements that may or may not be representative of your thinking. Please listen to each statement carefully and tell us how much you AGREE or DISAGREE with each statement. People react to traumatic events in many different ways. There are no right or wrong answers to these statements. Please refer to the trauma that you think most influences your thinking. What trauma most influences your thinking? (Please write it here.)

	Totally Disagree	Disagree Very Much	Disagree Slightly	Neutral	Agree Slightly	Agree Very Much	Totally Agree
1. The event happened because of the way I acted.	1	2	3	4	5	6	7
2. I can't trust that I will do the right thing.	1	2	3	4	5	6	7
3. I am a weak person.	1	2	3	4	5	6	7
4. I will not be able to control my anger and will do something terrible.	1	2	3	4	5	6	7
5. I can't deal with even the slightest upset.	1	2	3	4	5	6	7
6. I used to be a happy person but now I am always miserable.	1	2	3	4	5	6	7
7. People can't be trusted.	1	2	3	4	5	6	7
8. I have to be on guard all the time.	1	2	3	4	5	6	7
9. I feel dead inside.	1	2	3	4	5	6	7
10. You can never know who will harm you.	1	2	3	4	5	6	7
11. I have to be especially careful because you never know what can happen next.	1	2	3	4	5	6	7
12. I am inadequate.	1	2	3	4	5	6	7
13. I will not be able to control my emotions, and something terrible will	1	2	3	4	5	6	7

happen.							
14. If I think about the event, I will not be able to handle it.	1	2	3	4	5	6	7
15. The event happened to me because of the sort of person I am.	1	2	3	4	5	6	7
16. My reactions since the event mean that I am going crazy.	1	2	3	4	5	6	7
17. I will never be able to feel normal emotions again.	1	2	3	4	5	6	7
18. The world is a dangerous place.	1	2	3	4	5	6	7
19. Somebody else would have stopped the event from happening	1	2	3	4	5	6	7
20. I have permanently changed for the worse.	1	2	3	4	5	6	7
21. I feel like an object, not like a person.	1	2	3	4	5	6	7
22. Somebody else would not have gotten into this situation.	1	2	3	4	5	6	7
23. I can't rely on other people.	1	2	3	4	5	6	7
24. I feel isolated and set apart from others.	1	2	3	4	5	6	7
25. I have no future.	1	2	3	4	5	6	7
26. I can't stop bad things from happening to me.	1	2	3	4	5	6	7
27. People are not what they seem.	1	2	3	4	5	6	7
28. My life has been destroyed by the trauma.	1	2	3	4	5	6	7
29. There is something wrong with me as a person.	1	2	3	4	5	6	7
30. My reactions since the event show that I am a lousy copier	1	2	3	4	5	6	7
31. There is something about me that made the event happen.	1	2	3	4	5	6	7

32. I will not be able to tolerate my thoughts about the event, and I will all apart.	1	2	3	4	5	6	7
33. I feel like I don't know myself anymore.	1	2	3	4	5	6	7
34. You never know when something terrible will happen.	1	2	3	4	5	6	7
35. I can't rely on myself.	1	2	3	4	5	6	7
36. Nothing good can happen to me anymore.	1	2	3	4	5	6	7

Appendix G

Experiences in Close Relationships Questionnaire-Revised

Instructions: The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided using the following rating scale:

Disagree Strongly

Neutral/Mixed

Agree Strongly

1

2

3

4

5

6

7

- _____ 1. I'm afraid that I will lose my partner's love.
- _____ 2. I often worry that my partner will not want to stay with me.
- _____ 3. I often worry that my partner doesn't really love me.
- _____ 4. I worry that romantic partners won't care about me as much as I care about them.
- _____ 5. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
- _____ 6. I worry a lot about my relationships.
- _____ 7. When my partner is out of sight, I worry that s/he will become interested in someone else.
- _____ 8. When I show my feelings for romantic partners, I'm afraid they will not feel the same about me.
- _____ 9. I rarely worry about my partner leaving me.
- _____ 10. My romantic partner makes me doubt myself.
- _____ 11. I do not often worry about being abandoned.
- _____ 12. I find that my partner(s) don't want to get as close as I would like
- _____ 13. Sometimes romantic partners change their feelings about me for no apparent reason.
- _____ 14. My desire to be very close sometimes scares people away.

- _____ 15. I'm afraid that once a romantic partner gets to know me, he or she won't like who I really am.
- _____ 16. It makes me mad that I don't get the affection and support I need from my partner.
- _____ 17. I worry that I won't measure up to other people.
- _____ 18. My partner only seems to notice me when I'm angry.
- _____ 19. I prefer not to show a partner how I feel deep down.
- _____ 20. I feel comfortable sharing my private thoughts and feelings with my partner.
- _____ 21. I find it difficult to allow myself to depend on romantic partners.
- _____ 22. I am very comfortable being close to romantic partners.
- _____ 23. I don't feel comfortable opening up to romantic partners.
- _____ 24. I prefer not to be too close to romantic partners.
- _____ 25. I get uncomfortable when a romantic partner wants to be very close.
- _____ 26. I find it relatively easy to get close to my partner.
- _____ 27. It's not difficult for me to get close to my partner.
- _____ 28. I usually discuss my problems and concerns with my partner.
- _____ 29. It helps to turn to my romantic partner in times of need.
- _____ 30. I tell my partner just about everything.
- _____ 31. I talk things over with my partner.
- _____ 32. I am nervous when partners get too close to me.
- _____ 33. I feel comfortable depending on romantic partners.
- _____ 34. I find it easy to depend on romantic partners.
- _____ 35. It's easy for me to be affectionate with my partner.
- _____ 36. My partner really understands me and my needs.

Appendix H

Secure Base Script Word Prompts**Secure Base Script Word Prompts for Early Attachment Relationships**

A. Baby's Morning

mother	hug	teddy bear
baby	smile	lost
play	story	found
blanket	pretend	nap

B. The Doctor's Office

Tommy	hurry	mother
bike	doctor	toy
hurt	cry	stop
mother	shot	hold

Secure Base Script Word Prompts for Adult Romantic Attachment Relationships

C. Jane and Bob's Camping Trip

Jane	tent	campfire
Bob	wind	shadow
bags	collapse	sounds
hurry	upset	hug

D. The Accident

Sue	wait	home
road	Mike	dinner

accident

tears

bed

hospital

doctor

hug

Neutral Word Prompts

E. Trip to Park

Susie

swings

tired

bike

sandbox

bench

park

game

comics

friend

run

coke

F. An Afternoon Shopping

Emily

browse

hungry

car

buy

food

mall

money

talk

friend

gift

home

Appendix I

Examples of a “High” and a “Low” Secure Base Script from the Current Sample

High Secure Base Scriptedness

Little Tommy was riding his bike, his new tricycle that he was so excited about. And, being a new bike, and him not having been on a bike very often, his little legs got somehow entangled in those quickly moving pedals. And, those quickly moving pedals quickly knocked him quickly knocked him off the bike and he ended up next to the bike crying and being hurt. Mom was, you know, was not far away. And she heard, you know, and saw, actually, the whole thing happen and then she heard him cry, and she hurried over to see what's, you know, what happened with little Tommy, and she noticed that, you know, his leg was starting to swell up really bad. So, um, she thought that this was probably a case for the doctor, and she quickly, you know, went in the room and called her husband and told him that she was going to go to the doctor with Tommy because he hurt himself and you know, his leg wa swelling up and it might need a little, you know, some medical attention. And, so, she got in the car with Tommy and Tommy was crying and wasn't very happy to be sitting in the car seat like that, but the trip to the doctor was not very long. And uh, they didn't have to wait very long and they got in. The doctor had, you know, had to do some x-rays, and of course that's never a nice thing for a baby, but mom was right there holding him (even though he was crying), and uh, and then she realized that, you know, probably the other reason you're crying is because you know that usually when you come here you get a shot; you get a little poke in your, your little thigh, and it hurts. Well, don't worry little Tommy, because this time you are not going to get a shot. So after the x-rays were taken and uh, after the doctor looked at it and everything looked fine and it was probably just a, you know,

somehow he got his leg stuck in between two bars, and it just gave him, uh, just a little too much pressure causing swelling and it will probably go down. Then after a while, Tommy stopped crying, he saw, you know, that there were lots of toys at the doctor's office, and uh, even started playing with the toys even though his leg was still hurting, and uh, then when mom had talked to the doctor about everything, she saw how sweet her little son was playing there even though he was, you know, he had hurt himself, picked him up and held him really tight, and was glad that nothing happened, and they left.

Low Secure Base Scriptedness

Ok, Tommy was riding his bike. He fell down and hurt himself, so they had to call his mother to hurry him to the doctor. So, we got to the doctor and they gave him a shot. He started to cry and his mother held him and gave him a toy so he can stop.

Appendix J

Correlations: Childhood Trauma Questionnaire and Trauma Measures

	Child Emo Abuse	Child Phys Abuse	Child Sex Abuse	Child Emo Neglect	Child Phys Neglect	CTQ Total	PTCI	DES-T	NWS- PTSD
Child Emo Abuse	1								
Child Phys Abuse	.789**	1							
Child Sex Abuse	.309**	.229*	1						
Child Emo Neglect	.799**	.643**	.282**	1					
Child Phys Neglect	.638**	.706**	.308**	.601**	1				
CTQ Total	.905**	.847**	.550**	.847**	.794**	1			
PTCI	.508**	.318**	.164	.555**	.372**	.487**	1		
DES-T	.344**	.238*	.164	.316**	.317**	.351**	.547**	1	
NWS-PTSD	.467**	.336**	.270**	.457**	.227*	.450**	.654**	.478**	1

* $p < .05$. ** $p < .001$.

Appendix K

Correlations: Childhood Trauma Questionnaire and Posttraumatic Cognitions

Inventory Subscales

	Child Abuse	Child Abuse	Child Abuse	Child Neglect	Child Neglect	CTQ Total	PTCI Neg Self	PTCI Neg World	PTCI Self Blame
Child Abuse	1								
Child Abuse	.789**	1							
Child Abuse	.309**	.229*	1						
Child Neglect	.799**	.643**	.282**	1					
Child Neglect	.638**	.706**	.308**	.601**	1				
CTQ Total	.905**	.847**	.550**	.847**	.794**	1			
PTCI Neg Self	.460**	.246*	.128	.457**	.274**	.399**	1		
PTCI Neg World	.277**	.238*	-.007	.421**	.226*	.293**	.628**	1	
PTCI Self Blame	.169	-.040	.006	.215*	.006	.101	.465**	.340**	1

* $p < .05$. ** $p < .001$.

