

IMPACTS OF DEPRESSION AND TRAUMA ON
PREDICTORS OF FUTURE INFANT-CAREGIVER
ATTACHMENT

by

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Mother-infant attachment has been linked to important social-emotional outcomes later in life. Disorganized attachment, a style where the caregiver is a source of fear, is particularly detrimental. The current study attempts to determine whether or not depression, childhood trauma, or the interaction of the two are predictive of two scales that in turn predict future attachment. We hypothesized that mothers who have experienced trauma and/or depression would label more infant faces as angry and fewer as sad and would also report more maternal helplessness and fear of their child. A sample of 44 new mothers was surveyed when their infants were 12 and 24 weeks as a part of a longitudinal study. Linear regression analyses revealed that postnatal depression, history of abuse or the interaction of the two were not predictive of maternal endorsements of fewer sad and more angry labels or maternal helplessness or fear. Implications for early identification and prevention of attachment disorganization are discussed.

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Table of Contents

Introduction	1
Patterns of Attachment	2
Early Predictors of Attachment	4
Depression and Trauma	6
Purpose of Study and Importance	9
Methods	10
Procedure	10
Participants	10
Measures	12
Results	14
Discussion	16
Limitations	17
Future directions	18
Tables	20
Bibliography	28
Appendices	21
Appendix 1: Edinburgh Postnatal Depression Scale	21
Appendix 2: Childhood Trauma Questionnaire	22
Appendix 3: Caregiving Helplessness Questionnaire (CHQ)	24
Appendix 4: IFEEL Picture Task (IFP)	24

List of Tables

Table 1: Descriptive Statistics and Item Correlations	20
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Introduction

Attachment

John Bowlby, the developer of Attachment theory, proposed that even though human behavior varies widely across cultures, the formation of an attachment relationship between an infant and his/her caregiver(s) is universal across the entire human race (Bowlby, 1982). This is because human infants are some of the most helpless creatures on earth. Most other mammals are able to walk and even run shortly after birth, and many have dens, nests, or burrows to which they can return when threatened. Humans, on the other hand, are completely at the mercy of the caregiver(s) to keep them safe from potential predators and the elements. As such, human infants have evolved an innate drive to form an attachment relationship to their caregiver(s), just as human parents have evolved a drive to protect and nurture their infant to ensure that his or her genes are passed down through the infant (Bowlby, 1982). Bowlby coined the term “secure base” to describe the caregiver (1982). The secure base is a safe place for the child to return to if fearful, but when the danger has passed, it serves as a jumping off point to explore the environment.

Attachment, broadly defined, is the effort to be close to a caregiver and the expectations humans form over time about their attachment figure’s ability to be available to them. Infants adopt a behavioral strategy, or pattern of attachment, that allows them to maintain proximity to their caregiver (Ainsworth, Bell, & Stayton, 1971). This definition is metaphorical and spatial in terms of how the individual feels

when physically close to the attachment figure as well as how figuratively close to the caregiver the individual feels (Holmes, 2014).

Patterns of Attachment

Attachment patterns can be conceptualized as the result of interactions between individuals and their social environment. In the case of the infant, this refers to the parental environment in which he or she is raised (Holmes, 2014). Infant attachment patterns are the quality of the relationship between the infant and the caregiver, and they represent the different strategies to remain attached to the caregiver. There are two main types of attachment: secure and insecure. In insecure attachment styles, there are three subgroups: avoidant, ambivalent, and disorganized (Ainsworth, Bell, & Stayton, 1971; Main & Solomon, 1990).

Mary Ainsworth developed the “Strange Situation,” a laboratory paradigm in which the researcher records how the child reacts when he or she separates from and then is reunited with their caregiver (Ainsworth, Belhar, Waters, & Wall, 1978). Infants can then be classified into one of four attachment patterns based on their behavior. A child who has a secure attachment initially protests the separation but is quickly calmed by the caregiver upon her return and begins to re-explore the environment when the caregiver provides support (Ainsworth, Bell, & Stayton, 1971). Around 62-68% of middle class children in the United States have secure attachment (van IJzendoorn, Schuengel & Barkermans-Kranenberg, 1999).

A child who has an avoidant attachment attempts to minimize the need for an attachment. The child has learned that their bids for attention from the caregiver are rejected (Ainsworth, Bell, & Stayton, 1971). For a child who is experiencing this

rejection, it is more advantageous for the child to not continue to seek attention. In the Strange Situation, an avoidant child will not react when the parent returns to the room. Approximately 15% of middle class children in the United States fall into the avoidant category (van Ijzendoorn et al., 1999).

A child with an ambivalent/resistant attachment is very clingy to the caregiver and does not explore the environment as much (Ainsworth, Bell, & Stayton, 1971). When the caregiver returns, the child is difficult to soothe and may arch away from the caregiver even though the return of the caregiver is what the infant wanted. This attachment style often happens when the caregiver is inconsistent in response to bids from the child, teaching the child to make many bids in hopes that their bids will be responded to some of the time. Around 9% of middle class children in the United States are categorized as ambivalent (van Ijzendoorn et al., 1999).

The last pattern is disorganized, which indicates a breakdown in attachment strategy. This pattern emerges when the caregiver is simultaneously a source of fear and of comfort and support. Hence, the child cannot rely on an organized behavioral strategy to make him or her feel safe and protected (Main & Solomon, 1990). For example, in the Strange Situation, the child might initially want to go to the caregiver for soothing but then stop and engage in somewhat bizarre behaviors, like freezing, head-banging, or hiding. Around 15% of middle class children in the United States are classified as disorganized (van Ijzendoorn et al., 1999).

For the purposes of this study, we will focus on the secure and disorganized patterns of infant-caregiver attachment, which have been linked to the most positive and most difficult developmental trajectories, respectively. Indeed, secure attachment has

been associated with positive outcomes later in life (e.g. Carlson, Sroufe, & Egeland, 2004; Collins, Hennighausen, Schmit, & Sroufe, 1997). Thompson (2000) suggested that secure attachment leads to healthy psychological wellbeing and resilience in the face of ordinary and extreme stress. Kastenbaum, Farber, and Sroufe (1989) proposed that secure attachment helps with the child's ability to empathize, regulate their own emotions, have healthier cognitive development and better control over their behaviors.

Disorganized attachment, on the other hand, has been linked to negative outcomes. Carlson (1998) found that attachment disorganization may have particular long-term implications for the development of future dissociative symptoms in adolescence. Carlson also found that children with disorganized attachment have lower emotional health and have a higher risk of externalizing problem behaviors. Other researchers (e.g. Hertsgaard, Gunnar, Erikson, and Nachmias, 1995) have found that disorganized attachment is predictive of poor stress regulation.

With all of this research linking attachment and developmental trajectories, it is important to identify early risk signs for disorganized attachment to enhance early prevention efforts which promote secure infant attachment, and in turn help children regulate their emotions and handle difficult situations.

Early Predictors of Attachment

Several early predictors of infant disorganized attachment have been identified, including the IFEEL picture task (IFP; Emde, Osofsky, & Butterfield, 1993), and the Caregiving Helplessness Questionnaire (CHQ; George & Solomon, 2007). Based on the idea that it is the mutual dysregulation of fear, anger, and sadness that lie at the root of disorganized infant-caregiver attachment (e.g. DeOliviera, Bailey, Moran, &

Pederson, 2004), Bernstein and colleagues (Bernstein, Tenedios, Laurent, Measelle, and Ablow, 2014) examined whether expectant mother's prenatal biases in identifying infant expressions using the IFEEL picture task (Emde, Osofsky, & Butterfield, 1993) predicted attachment at eighteen months. Based on the research by Lyons-Ruth, Bronfman, and Parsons (1999) and Solomon & George (1999), Bernstein et al. proposed that caregivers who themselves have an insecure attachment history and demonstrate frightened behaviors may be more likely to identify facial expressions as angry because this emotion elicits fear. They also suggested that frightening caregivers are insensitive to fear and sadness because these elicit comfort from the caregiver. Indeed, this study found that the pregnant women who went on to have disorganized 18 month olds identified more of the IFEEL faces as angry and less as sad during pregnancy. The researchers found that the identification of fear, on the other hand, did not predict later attachment classification.

The CHQ is another instrument that has been found to predict infant attachment disorganization. Comprised of three subscales, the CHQ taps dysregulated maternal behavior such as anger or fear, as well as helplessness and child caregiving. Solomon and George (2011) found that the maternal helplessness subscale was predictive of maternal disorganized caregiving, which in turn predicts infant disorganized attachment. They also found that the mother-child frightened scale was predictive of combative, frightened, or frightening behavior, which is linked to disorganized attachment.

While these early predictors of infant attachment disorganization are promising tools for use in prevention, the reason why some caregivers are at risk remains

unclear—i.e. why do some caregivers see more anger and less sadness in unfamiliar infant faces, and why do they feel more helplessness and fear towards their child? It could be that other established parent-level predictors of infant attachment, including parental depression and trauma history, help explain how and why caregivers differentially respond on the IFP and CHQ.

Depression and Trauma

While extensive research has shown that attachment is important to a child's development, certain factors such as parental depression can be a threat to secure attachment.

Depression. According to the World Health Organization (2012), more than 350 million people suffer from depression globally, and more women than men are affected by the disorder. Some of the symptoms of depression are feelings of worthlessness and hopeless, loss of pleasure in usual activities, trouble sleeping and eating, and a lack of energy (NLM, 2014). Women who develop postpartum depression experience the same symptoms as individuals who develop depression at other times, but the timing of the illness is specific to after birth. Symptoms generally emerge within the first six months after childbirth (Epperson & Ballew, 2006). There are more risks for babies with depressed mothers because these mothers might not be able to attend to their babies. McGrath, Records, and Rice (2008) found that babies of depressed mothers may be more irritable and difficult to soothe. Mothers with depression might also feel inadequate as a parent and/or perceive the baby as a bother (Sneddon, Kerry, & Bant, 1981). Depressed mothers have also been found to have worse quality interactions with their infants, as evidenced by less responsiveness and fewer demonstrations of

affectionate contact (Fleming, Ruble, Flett, & Shaul, 1988). Mothers also expose their infants to more angry behavior and sad or irritable emotions (Field, Healy, Goldstein, & Guthertz, 1990; Cohn, Campbell, Matias, & Hopkins, 1990).

In previous research conducted by Cummings and Davies (1994), maternal depression was found to be associated with higher probabilities of interactions that fail to facilitate the infant's competence and ability to adapt to new situations (1994). Mothers who were rated as even mildly depressed have been found to be less responsive as well as slower to respond to their infants (Bettes, 1998). Mothers who are less responsive or slower to respond are more likely to have infants that are insecurely attached. Seifer and Dickstein have also found that depressed mothers are unable to maintain the sensitive responsiveness that is necessary for optimal development (2000).

Bornstein et al. have found that mothers with higher levels of depression may be more likely to make negative attributions about their parenting, feel helpless to meet the needs of an infant, and perseverate on feelings of inadequacy (2003). These feelings of inability to take care of her infant could lead to her not responding at all or responding inconsistently. These are also indicators of greater likelihood that the infant will have an insecure attachment. George and Solomon (2008) found a relationship between maternal depression and maternal helplessness, indicating that the experience of depression increased the likelihood of maternal helplessness.

Trauma. Trauma—the experience of a deeply disturbing or distressing event—often co-occurs with depression. When a person has experienced a trauma, similar symptoms can arise as with depression. Two important symptoms relevant to attachment are avoidance and blunted affect, which refers to lack of emotional

reactivity. These are important because if a mother is avoidant or emotionally unresponsive to her child, her child is not receiving support. An example of how important these factors are in the baby's well being is shaken baby syndrome. The CDC reported that one of the risk factors is the caregiver feeling inadequate, depressed, or alone. Another risk factor is negative childhood experiences such as neglect or abuse or being a victim of intimate partner abuse. These experiences of the mother predict the type of environment in which the baby grows up and, in turn, the type of attachment her child will have.

Main and Hesse (1990) proposed that some mothers who experienced trauma may have an unresolved state of mind that makes it difficult for them to interact with their infant. Her behavior might be abusive or dissociative. These behaviors are especially frightening for the child because there are no environmental cues to explain the behavior (Main & Hesse, 1990). Through intergenerational transmission of trauma, infants develop disorganized attachments. They are simultaneously afraid of the caregiver and seeking comfort (Main & Hesse, 1990). Lyons-Ruth, Bronfman and Atwood (1999) proposed that an infant of a mother with frightening or frightened behavior would not be able to regulate affect in stressful situations. These authors also suggest that a traumatized mother's passive behaviors toward her child are perceived by the infant as unresponsiveness.

A study conducted by Karleen Lyons-Ruth and Deborah Block in 1996 looked at the mother's childhood experiences of trauma and maternal caregiving. The study found that as the trauma a mother experienced in childhood increased, her responsiveness to her infant decreased. Mothers' experience of trauma in childhood was

related to what type of insecure attachment style the infant displayed. A majority (88%) of the children with these mothers displayed a disorganized attachment style (Lyons-Ruth & Block, 1996).

Purpose of Study and Importance

The current study was designed to examine paths from maternal depression and trauma to early predictors of infant-mother attachment so as to further understand the source(s) of the differential risk captured by the IFP and CHQ. More specifically, we predicted that mothers who experienced trauma and/or depression would identify more infant facial expressions as expressing anger and fewer as expressing sadness. We also predicted that mothers who experienced trauma/depression would report higher levels of caregiver helplessness and being frightened by their baby. Thus, we expected that mothers who experienced depression or trauma would respond to IFP and CHQ in ways that are predictive of disorganized attachment. I expected that mothers experiencing these difficulties would be less able to provide consistency because they were dealing with their own difficult emotions. They would therefore not be able to provide as much consistent attention to their children.

Methods

Procedure

This study focuses on data gathered from time 1 and time 2. At the time 1 session, mothers were visited in their home when the infant was 12 weeks old. After giving informed consent and permission for their infant to participate in the study, mothers completed a series of questionnaires, including the Edinburgh Postpartum Depression Scale (EPDS; Cox, Holden, & Sagovsky, 1987) and the Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998), each described below.

The time 2 sessions were conducted at the University of Oregon. The mothers completed another round of questionnaires including the Caregiving Helplessness Questionnaire (CHQ; George & Solomon, 2007) and the IFEEL picture task (IFP; Emde, Osofsky, & Butterfield, 1993). In the IFEEL, mothers are shown 30 pictures of unfamiliar infant faces, one at a time. The mother is asked to write the feeling word that the baby is most strongly feeling, and is assured that there are no right or wrong responses.

Participants

The current analyses utilize an initial subset of 44 women from a larger ongoing study, “Early Calibration of Stress Systems” (target $n=95$) within in the University of Oregon’s Personal Relationships, Interpersonal Stress, and Mindfulness (PRISM) lab. Mothers were recruited for the study via flyers and presentations at the Eugene Women Infants Children office and from other clinics providing care to lower-income families. Mothers were required to be at least 18 years of age and have a 12-week-old infant to

participate in the study. The mothers gave their contact information for researchers to contact them or contact the researchers to set up the first meeting. Mothers returned to the lab for three follow-up assessments at 6 months, 12 months, and 18 months postnatal. The mothers were compensated a total of 120 dollars for completing all four times.

Participants at the first time point had a mean age of 27.95 with a standard deviation of 5.30. The ages ranged from 18 to 39. The majority (35) of the mothers identified as Caucasian (79.5%), three identified as Latina (6.8%), three identified as African American (6.8%), two identified as Native Americans (4.5%) and one identified as other (2.3%). When asked about household income, 20.4% had incomes less than 9,999 annually, 13.6% had incomes between \$10,000-\$19,999; 22.7% reported an income between \$20,000-\$29,999; 20.5% reported an income between \$30,000-\$39,000; 9.1% reported an income between \$40,000-\$49,999; 9.1% reported an income between \$50,000-\$74,999; and 4.5% reported an income between \$75,000-\$99,999.

Most of the mothers in this study (43%) had completed some college with 18.2% completing all four years and 18.2% having a high school or equivalent degree. Five women (11.4%) had completed a vocational or technical school. Two women had completed a Master's degree (4.5%) and 2 had responded with "other" (4.5%). Many of the mothers were also in relationships: 45.5% were married and 31.8% were living with someone. Only 4.6% were separated or divorced and 4.5% were single. The remaining 9.1% were dating. A little over half (54.4%) of the women responded that the pregnancy was planned while 47.6% said it was unplanned.

Measures

For the complete questionnaires, please refer to appendices at the end of this document.

Edinburgh Postnatal Depression Scale (EPDS). The EPDS (Cox, Holden, & Sagovsky, 1987) is a 10-question survey that asks about how the mother is coping with the responsibilities of being a new mom. Some of the questions ask about whether or not they have been happy, and if they have been self-blaming in the past 7 days. Women respond to each item according to a likert scale from 0 to 3. Items are then summed to create a total postpartum depression score, with a range from 0-30. A score of 10 or higher is an indicator of possible depression. The Cronbach's alpha for this sample was .78.

Childhood Trauma Questionnaire (CTQ). The CTQ (Bernstein & Fink, 1998) is a 25-item survey measuring participants' experience of maltreatment during childhood. The CTQ contains five subscales with five questions each: physical abuse, emotional abuse, sexual abuse, physical neglect and emotional neglect. Women rate the extent to which each experience applied to them on a 5-point likert scale from 1 "never" to 5 "very often". The current study focused on just the abuse subscales, as neglect may be more difficult for individuals to identify because of its' chronic nature (Hildyard & Wolfe, 2002). Cronbach's alpha for emotional abuse, sexual abuse, and physical abuse were .92, .96, and .83 respectively.

Caregiving Helplessness Questionnaire (CHQ). The CHQ (Solomon & George, 2011) is a 26-item questionnaire that assesses caregiving. The questions ask about how the mother feels in relation to her child. These include if the mother is frightened of the

child, how sensitive the child is, and questions about how she feels about her life. Responses are given according to a likert scale from 1 (“not characteristic at all”) to 5 (“very characteristic”). The caregiving helplessness questionnaire consists of three subscales: maternal helplessness (i.e. whether or not the mother feels helpless or unable to take care of her child), mother and child frightened (i.e. to what degree the mother is frightened while engaging with her child), and child caretaking (i.e. if the child likes to try and take care of others). Only the first two subscales were used in the current study, as those are the scales that have been previously tied to infant-caregiver disorganized attachment. Cronbach’s alpha for maternal helplessness was .57, and the mother and child frightened scale alpha was .53.

IFEEL Picture Task (IFP). The IFP (Emde, Osofsky, & Butterfield, 1993) asks participants to look at 30 pictures of unfamiliar infant faces. The mother is then asked to write the feeling word that the baby is most strongly feeling on a numbered sheet of paper. Many of these images are ambiguous, which forces the mother to make judgments about the baby’s emotions. A lexicon created by the developers is used to categorize women’s responses into 13 categories: surprise (A), interest (B), joy (C), content (D), passive (E), sad (F), caution/shy (G), shame/guilt (H), disgust/dislike (I), anger (J), distress (K), fear (L), and other (M). We created an “other” category (O) because there were 13 words that were not found in the lexicon.¹ The current analyses focused on number of sad and number of angry labels used, as these are the two IFP outcomes previously found to predict infant disorganization.

¹ These words were terrible, questionable, wondrous, glare, overwhelmed, desperate, better, giddy, chilling, cozy, dependency, oops, oh, forgetful, stoic, disengaged, needing comfort, blank, comfy, tantrum, pulling back, outgoing, and relayed.

Results

Prior to analyses, data missingness was addressed. Seven participants did not respond to one of the 25 CTQ items. To impute this missing value, the arithmetic mean of the other four items from the same subscale as the missing item was calculated. This imputed missing value was then used with the extant four values to create the five-item sum score. An additional five participants did not complete the EPDS and were therefore excluded from the analyses. Descriptive statistics and intercorrelations are presented in Table 1.

Next, a series of linear regressions was executed, using maternal depression, maternal abuse experience in childhood, and the interaction between them to predict (a) number of sad labels used in labeling the infant expressions, (b) number of angry labels used in labeling the infant expressions, (c) maternal helplessness, and (d) maternal fright of the child.

Number of Sad Labels, In our first model predicting number of “Sad” labels, we found that neither postpartum depression ($p = .32, ns$) nor sexual abuse ($p = .90, ns$) significantly predicted sadness. The depression by sexual abuse history interaction was also non-significant ($p = .80, ns$).

In a second model, again, neither emotional abuse history ($p = .41, ns$) nor postpartum depression ($p = .33, ns$), nor their interaction ($p = .16, ns$) predicted the number of sad labels women used.

In a third and final model, again, neither physical abuse history ($p = .45, ns$) nor postpartum depression ($p = .40, ns$), nor their interaction ($p = .26, ns$) predicted the number of sad labels women used.

Number of Angry Labels. In our first model predicting number of “Angry” labels, we found that neither postpartum depression ($p = .30, ns$) nor sexual abuse ($p = .76, ns$) significantly predicted sadness. The depression by sexual abuse history interaction was also non-significant ($p = .28, ns$).

In a second model, again, neither emotional abuse history ($p = .98, ns$) nor postpartum depression ($p = .26, ns$), nor their interaction ($p = .72, ns$) predicted the number of sad labels women used.

In a third and final model, we found that neither physical abuse history ($p = .79, ns$) nor postpartum depression ($p = .29, ns$) predicted the number of sad labels women used, and the interaction did not emerge as significant ($p = .13, ns$).

Caregiving Helplessness. The same procedure explained above was used to model maternal helplessness and maternal fear of her infant. None of the six regressions was significant, and parameter estimates revealed that none of the main effects or interactions reached significance.

Discussion

This study aimed to determine if established early predictors of infant-caregiver attachment disorganization (i.e. the IFP and CHQ) might be in part explained by maternal depression and early abuse history. We predicted that mothers who experienced depression and/or early childhood abuse would identify more infant facial expressions as angry and fewer as sad. We also predicted that mothers with experiences of depression and/or trauma would have higher levels of caregiver helplessness and be more frightened by their baby. None of our hypotheses was supported, as discussed further below.

We hypothesized that depression and/or trauma would predict more angry face ratings and fewer sadness ratings when using the IFP. Our models predicting the use of sad and angry emotion labels on the IFP revealed no significant effects. In this preliminary sample, the number of sad labels was not predicted by postnatal depression, sex abuse, emotional abuse, physical abuse, or any of the interactions between postnatal depression and abuse. Since these findings were non-significant, we cannot conclude that mothers who have experienced abuse and/or postnatal depression are less likely to perceive infants as sad. We also cannot conclude that mothers who have experienced abuse and/or postnatal depression are more likely to perceive infants as angry. Thus, the findings of this study cannot further explain the pattern of findings reported in Bernstein et al.'s article (2014). More specifically, we cannot explain the perceptual biases in interpreting infant facial expressions that predict later attachment as being rooted in early abuse experience and/or postnatal depression.

The results of this study also did not support our hypotheses about maternal helplessness and being frightened of her child, as the depression and trauma scales were not predictive of any outcome on the CHQ. This null result may be because the CHQ was administered so early (i.e. at 6 months postnatal). CHQ items include those that ask parents to rate their child according to how good of an actor/actress they are, how much they tend to others, and how difficult they are to discipline. At this early age, the child may not be demonstrating many caretaking behaviors or behaviors that make the mother feel out of control or that she would have to discipline the child. Indeed, the low alpha reliability scores for the three subscales may be reflective of the inappropriateness of this measure for this age group. If administered at an older age, the infant may display more of the behaviors that are indicated on the CHQ, which may be better predicted by maternal depression and abuse history.

Limitations

While the longitudinal design and mixed-method data collection approach are strengths of the current study, there are limitations that should be addressed. One of the major limitations of this study is the sample size. The current sample is a subset of a larger longitudinal study. At the time this study was conducted, the full sample was not available. It is important that a larger sample size be used in the future to analyze the associations between depression and childhood trauma and the IFP and CHQ.

Second, the small sample size is also homogenous. The sample was mostly comprised of Caucasian women who had some kind of higher education attainment.

These women also tended to have relatively low levels of depression.² This lack of variance may help explain why we detected no significant relationships. A more diverse sample is required confirm or disconfirm connections between these variables.

Future directions

Since this study was a part of a larger study, the analyses should be re-run using the full data set once it is collected. This sample may be more diverse and may have more mothers who represent the higher end of the trauma and depression scales. These new analyses may show that the regressions that were not significant in this study become significant with the larger, more diverse sample.

Another future study should administer the CHQ at a later time point. As mentioned previously, some of the questions may not be appropriate for an infant at 6 months. If the CHQ is administered later, the questions may be more applicable to the infant's behavior (i.e. caregiving or frightening behavior).

Research should also be conducted to identify further predictors of the IFP, CHQ, and other early precursors of attachment in an attempt to clarify the causal chains underlying these paths. Maybe using measures that analyze adult experiences of trauma might be more relevant because the trauma has occurred more recently. A measure that could be used is the Brief Betrayal Trauma Survey (BBTS; Goldberg & Freyd, 2006). This survey can assess adult experiences of trauma and whether or not a person that was close to the mother perpetrated the trauma. Mothers may have an unresolved state of mind from a more recent trauma experiences that are impacting their abilities to connect

² For example, in a community sample of first-time mothers in the United Kingdom, the average EPDS score at six months after birth was 6.20 ($SD=4.97$; Scott & Hill, 2001), which is higher than our sample's average of 4.26 ($SD=3.68$).

to their new infants. Anxiety may be another factor that could be impacting relationships between mothers and their infants. The Beck Anxiety Inventory (BAI; Beck & Steer, 1993) could be used to assess the relationship between anxiety and the outcome variables in this study. These very early predictors may also help fine-tune the way in which attachment risk is determined within mother-infant dyads. Because disorganized attachment has such negative effects on future outcomes, it is important that screening tools be as accurate as possible so that early support and prevention can be provided to mothers and infants who are at higher risk for developing disorganized attachment.

Tables

Variable	1. IFP Sadness	2. IFP Anger	3. CHQ MH	4. CHQ MCF	5. Emo. Abuse	6. Phys. Abuse	7. Sexual Abuse	8. EPDS total
1. IFP Sadness	-							
2. IFP Anger	.06	-						
3. CHQ MH	.13	-.1	-					
4. CHQ MCF	.17	-.23	.77**	-				
5. Emo. Abuse	-.20	-.01	-.05	.04	-			
6. Phys. Abuse	-.21	.02	-.23	-.08	.78**	-		
7. Sexual Abuse	.01	.07	.00	-.12	.54**	.35**	-	
8. EPDS total	.15	-.18	.07	-.13	.03	-.19	-.20	-
Mean	1.98	1.18	13.88	11.20	10.11	7.67	7.06	4.26
SD	2.23	1.65	4.02	3.57	5.18	3.17	4.18	3.68

** = $p < .01$

Table 1: Descriptive Statistics and Item Correlations

Note: IFP= IFEEL Picture Task (Emde, Osofsky, & Butterfield, 1993); CHQ=Caregiving Helplessness Questionnaire (Solomon & George, 2011); EPDS= Edinburgh Postnatal Depression Scale (Cox, Holden, & Sagovsky, 1987). Childhood Abuse experience measured by the Childhood Trauma Questionnaire (Bernstein & Fink, 1998).

Appendices

Appendix 1: Edinburgh Postnatal Depression Scale

Edinburgh Postnatal Depression Scale¹ (EPDS)

Name: _____ Address: _____

Your Date of Birth: _____

Baby's Date of Birth: _____ Phone: _____

As you are pregnant or have recently **had** a baby, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt **IN THE PAST 7 DAYS**, not just how you feel today.

Here is an example, already completed.

I have felt happy:

- ☐ Yes, all the time
- ☒ Yes, most of the time This would mean: "I have felt happy most of the time" during the past week.
- ☐ No, not very often Please complete the other questions in the same way.
- ☐ No, not at all

In the past 7 days:

- | | |
|---|---|
| 1. I have been able to laugh and see the funny side of things | *6. Things have been getting on top of me |
| <input type="checkbox"/> As much as I always could | <input type="checkbox"/> Yes, most of the time I haven't been able to cope at all |
| <input type="checkbox"/> Not quite so much now | <input type="checkbox"/> Yes, sometimes I haven't been coping as well as usual |
| <input type="checkbox"/> Definitely not so much now | <input type="checkbox"/> No, most of the time I have coped quite well |
| <input type="checkbox"/> Not at all | <input type="checkbox"/> No, I have been coping as well as ever |
| 2. I have looked forward with enjoyment to things | *7. I have been so unhappy that I have had difficulty sleeping |
| <input type="checkbox"/> As much as I ever did | <input type="checkbox"/> Yes, most of the time |
| <input type="checkbox"/> Rather less than I used to | <input type="checkbox"/> Yes, sometimes |
| <input type="checkbox"/> Definitely less than I used to | <input type="checkbox"/> Not very often |
| <input type="checkbox"/> Hardly at all | <input type="checkbox"/> No, not at all |
| *3. I have blamed myself unnecessarily when things went wrong | *8. I have felt sad or miserable |
| <input type="checkbox"/> Yes, most of the time | <input type="checkbox"/> Yes, most of the time |
| <input type="checkbox"/> Yes, some of the time | <input type="checkbox"/> Yes, quite often |
| <input type="checkbox"/> Not very often | <input type="checkbox"/> Not very often |
| <input type="checkbox"/> No, never | <input type="checkbox"/> No, not at all |
| 4. I have been anxious or worried for no good reason | *9. I have been so unhappy that I have been crying |
| <input type="checkbox"/> No, not at all | <input type="checkbox"/> Yes, most of the time |
| <input type="checkbox"/> Hardly ever | <input type="checkbox"/> Yes, quite often |
| <input type="checkbox"/> Yes, sometimes | <input type="checkbox"/> Only occasionally |
| <input type="checkbox"/> Yes, very often | <input type="checkbox"/> No, never |
| *5. I have felt scared or panicky for no very good reason | *10. The thought of harming myself has occurred to me |
| <input type="checkbox"/> Yes, quite a lot | <input type="checkbox"/> Yes, quite often |
| <input type="checkbox"/> Yes, sometimes | <input type="checkbox"/> Sometimes |
| <input type="checkbox"/> No, not much | <input type="checkbox"/> Hardly ever |
| <input type="checkbox"/> No, not at all | <input type="checkbox"/> Never |

Appendix 2: Childhood Trauma Questionnaire

Childhood Trauma Questionnaire

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This questionnaire seeks to determine the general atmosphere of your home when you were a child or teenager and how you felt you were treated by your parents or principal caretaker. We hope that you trust us to keep your responses in complete confidence and privacy; this again, is the reason we ask you not to include your name on any of our questionnaires.

Please circle the response that best indicates how often such an experience occurred in your childhood.

1 2 3 4 5
Never Rarely Sometimes Often Very Often

When you were a child:

1. I didn't have enough to eat.
2. I knew that there was someone to take care of me and protect me.
3. People in your family called you things like stupid, lazy or ugly.
4. My parents were too drunk or too high to take care of the family.
5. There was someone in my family who helped me feel that I was important or special.
6. I had to wear dirty clothes.
7. I felt loved.
8. You thought your parents wished you had never been born.
9. I got hit so hard by someone in my family that I had to see a doctor or go to the hospital.
10. People in my family hit me so hard that it left me with bruises or marks.
11. I was punished with a belt, a board, a cord, or some other hard objects.
12. People in my family looked out for each other.
13. People in my family said hurtful or insulting things to me.
14. I believe I was physically abused.
15. I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor.
16. I felt that someone in my family hated me.
17. People in my family felt close to each other.
18. Someone tried to touch me in a sexual way, or tried to make me touch them.
19. Someone threatened to hurt me or tell lies about me unless I did something sexual with them.
20. Someone tried to make me do sexual things or watch sexual things.

	1 Never	2 Rarely	3 Sometimes	4 Often	5 Very Often
1	1	2	3	4	5
2	1	2	3	4	5
3	1	2	3	4	5
4	1	2	3	4	5
5	1	2	3	4	5
6	1	2	3	4	5
7	1	2	3	4	5
8	1	2	3	4	5
9	1	2	3	4	5
10	1	2	3	4	5
11	1	2	3	4	5
12	1	2	3	4	5
13	1	2	3	4	5
14	1	2	3	4	5
15	1	2	3	4	5
16	1	2	3	4	5
17	1	2	3	4	5
18	1	2	3	4	5
19	1	2	3	4	5
20	1	2	3	4	5

Research Compliance
Services

21. Someone molested me.
22. I believe that I was emotionally abused.
23. There was someone to take me to the doctor if I needed it.
24. I believe that I was sexually abused.
25. My family was a source of strength and support.

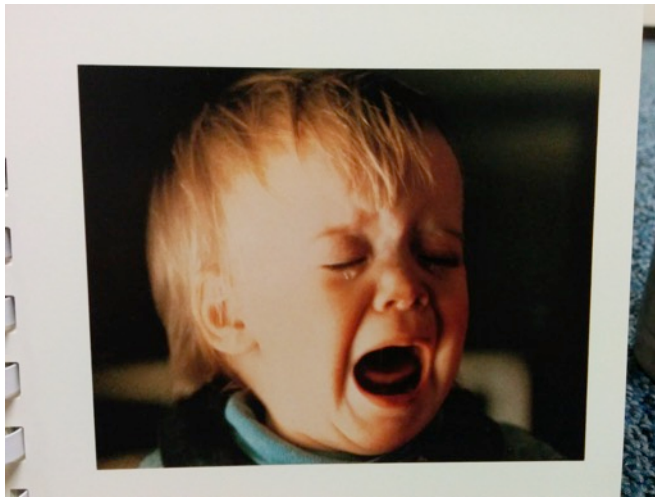
Never	Rarely	Sometimes	Often	Very Often
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1	2	3	4	5

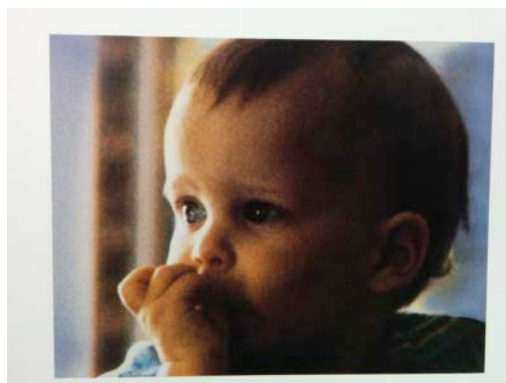
© Solomon, Judith; George, Carol, Mar 18, 2011, *Disorganized Attachment and Caregiving*
Guilford Publications, New York, ISBN: 9781609181291

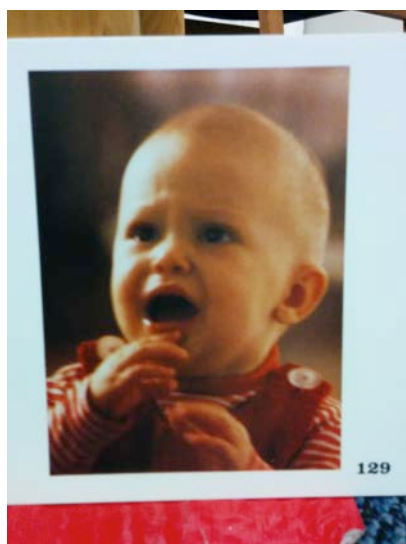
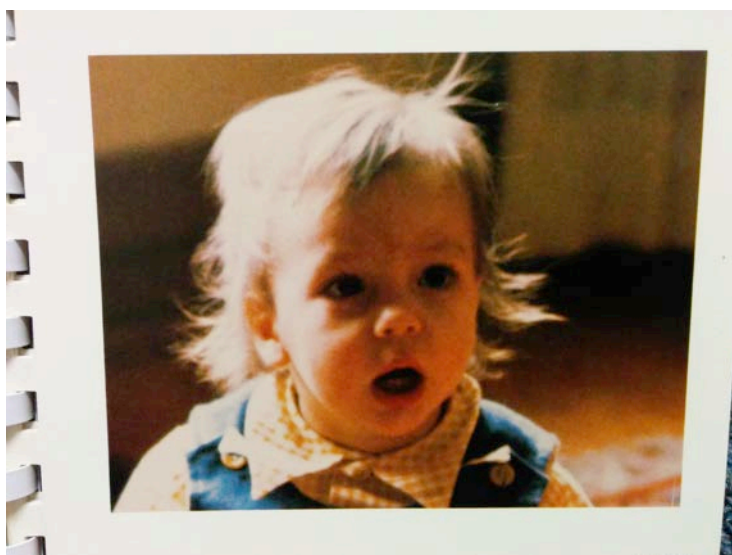
Directions: This section of questions will explore how it feels to be _____ [name of child]’s parent and, more specifically, how it feels when you and your child are together. The following statements describe how some parents feel about their relationships with their child. Read each statement carefully and circle the number that most clearly reflects your relationship with your child.

164

Appendix 4: IFEEL Picture Task (IFP)







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