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Resilience As A Predictor Of Postpartum Quality Of Life In A Sample Of Women With A History Of Trauma

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RESILIENCE AS A PREDICTOR OF MATERNAL POSTPARTUM QUALITY OF LIFE IN A SAMPLE OF WOMEN WITH A HISTORY OF TRAUMA

by

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DEDICATION

This work is dedicated to Brandon for being the source of my happiness and wellbeing during this process and always. I would also like to dedicate this to my family for always listening and caring, and to Sammy for never failing to lift my spirits.

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CHAPTER 1: INTRODUCTION

Quality of Life

Pax maternum, ergo pax familiarum. This is an ancient Latin phrase meaning, "If the mother is peaceful, then the family is peaceful," which in the United States is roughly translated to, "If mama ain't happy, ain't nobody happy." Mothers are at the center of the familial universe, and as such, their subjective wellbeing is essential to the wellbeing of the entire family. With mothers playing such a vital role in the family, it is no surprise that researchers have worked to develop various instruments aimed at measuring the mother's perception of her quality of life. For the postpartum mother, quality of life can be defined as her perception of her role and position in life, within the context of her culture and values, and in relation to her goals and concerns (World Health Organization, 1998). Frisch (1992), however, defines positive quality of life or life satisfaction as an individual's subjective assessment of the degree to which one's most important needs, goals, and wishes have been fulfilled. Although there is not one single definition for "quality of life," researchers have stressed the need for a universal definition that is multidimensional in nature. As such, five components of quality of life have been identified: economic, physical, psychological, social, and spiritual (Grant & Dean, 2003).

Great emphasis has been placed on measuring postpartum mothers' quality of life in these domains, because postpartum women have to cope not only with bodily changes but also with their new role and responsibilities as a mother. Additionally, the postpartum period can lead to changes in family relationships, in the need for social support, and in economic status. Research on postpartum women's quality of life has found that pain (Schytt, Lindmark & Waldenstrom, 2005), inadequacy of social support (Saurel-Cubizolles, Romito, Lelong & Angel, 2000; Gjerdingen & Center, 2003), emotional and financial hardships, fatigue, lack of personal

time, and a heavy workload (Saurel-Cubizolles, Romito, Lelong & Angel, 2000; Petrou et al., 2004; Akyn et al., 2009) all have a negative impact on the mother's subjective quality of life. In general and clinical studies of quality of life, researchers have found that level of depressive symptoms, not necessarily a diagnosis of depression, predicts diminished quality of life (Rikhye et al., 2008), as do anxiety and family conflict (Michalak et al., 2004; Swan et al., 2009). From the aforementioned studies, it can be seen that the literature thus far has focused exclusively on the factors which undermine one's quality of life, and have neglected those that could possibly help these postpartum mothers improve their subjective wellbeing.

Maternal Depression

According to the *Diagnostic and Statistical Manual of Psychological Disorders, 4th edition, Text Revision,* clinically significant depression is defined as an episode that lasts at least two consecutive weeks wherein an individual experiences a loss of interest or pleasure not attributed to another medical condition, delusions or hallucinations. Some of the symptoms of depression include feelings of worthlessness, difficulty concentrating, difficulty sleeping or staying asleep, lack of energy, weight changes, and suicidal ideation. Greater clinical concern is afforded when these symptoms are severe and affect daily functioning (American Psychiatric Association [DSM-IV-TR], 2000). In terms of prevalence, women of childbearing age have been found to have the highest rates of depression, with rates ranging from 8-18% in community samples (Beck, 2001; Beeghly, Weinberg, Olson, & Tronick, 2002; Beeghly, Olson, Weinberg, Pierre, Downey, & Tronick, 2003) and reaching up to 51% during pregnancy (Bennett et al., 2004).

Although giving birth to a new baby is generally thought to be a positive or satisfactory experience, many mothers experience depressive symptoms during this period. Postpartum

depression is a major depressive disorder occurring within 4 to 6 weeks after childbirth that lasts for at least two consecutive weeks (American Psychiatric Association [DSM-IV-TR], 2000). The estimated prevalence of postpartum depression is between 13% and 19% of mothers (Goodman, 2007; O'Hara & McCabe, 2013), although previous studies have estimated that the rates are even higher for those experiencing economic hardship (Beeghly et al., 2003; Coiro, 2001; Segre, O'Hara, Arndt, & Stuart, 2007). Still, about half of all postpartum depression cases go unrecognized in routine practice (Thio et al., 2006).

Demographic, social, and biological risk factors may play a role in the development of postpartum depression (Jomeen, 2004). Cicchetti, Rogosch, and Toth (1998) found that depressed mothers report having less social support and marital satisfaction, as well as more negative life events and parenting struggles, than non-depressed mothers. Other researchers have similarly found that high perceived stress and a lack of social support are associated with postpartum depression (Leathers et al., 1997), whereas many others have concluded that mothers with postpartum depression are more likely to exhibit negative parenting behaviors (Boyd & Worley, 2007; Cicchetti & Toth, 1998; Cummings & Davies, 1994; Downey & Coyne, 1990; Cicchetti & Toth, 1998; Martinez-Torteya et al., 2014; Nylen et al., 2006). In addition, studies investigating quality of life have shown that the quality of life of those who are depressed is significantly lower than that of healthy individuals in the population or even that of individuals with chronic disease, such as hypertension, cancer, or chronic pain (Bonicatto et al., 2001; Doraiswamy, Khan, Doahue, & Richard, 2002; Saarijarvi, Salminen, Toikka, & Raitasalo, 2002; Papakostas et al., 2004).

Posttraumatic Stress Disorder

According to the *Diagnostic and Statistical Manual of Psychological Disorders, 4ᵗʰ edition, Text Revision,* a traumatic stressor is an event in which a person experiences an actual or perceived threat of death or serious injury, either to themselves or to another person. A traumatic stressor may also involve an individual learning about the threat of death or injury to a friend or family member as well as the actual death or injury of these individuals (American Psychiatric Association [DSM-IV-TR], 2000). Furthermore, the DSM-IV-TR indicates that in order for an individual to be diagnosed with posttraumatic stress disorder (PTSD), a person must respond to an extreme traumatic stressor with intense fear, horror, and helplessness, resulting in the individual reexperiencing the event, avoiding stimuli associated with the event, and exhibiting hyperarousal (American Psychiatric Association [DSM-IV-TR], 2000). The lifetime prevalence rates for trauma and PTSD in the general population are 58% and 8-12%, respectively (Kessler, Chiu, Dembler, & Walters, 2005; Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). For women, trauma symptoms and quality of life have not been consistently correlated over time across research studies. Although researchers have been interested in investigating women's quality of life following exposure to trauma, especially childhood trauma (Janssens et al., 2008), not all studies have uncovered strong correlations between traumatic experiences and subsequent quality of life (Ventegodt, 1998).

It is true, however, that research has demonstrated the importance of social support and resilience for those who have experienced a traumatic event. Although Boscarino's (1995) study was conducted with a sample of veterans, he found that those with high levels of social support were 180% less likely to develop posttraumatic stress disorder than those with low levels of social support. The type and nature of the provided social support has also been found to be important, as survivors of childhood sexual abuse have a decreased risk of developing

posttraumatic stress symptoms when they perceive that they are valued by others and that they have others available to offer help and advice in times of need (Hyman, Gold, & Cott, 2003).

Positive Parenting

Positive parenting involves exhibiting warmth, sensitivity, and contingent responsiveness towards the child during parent-child interaction (Kawabata et al., 2011). A wealth of studies have shown that positive parenting is associated with positive child outcomes in multiple developmental domains (Barber, 2002), including social competence, emotional security, self-esteem, internalized controls, prosocial behavior, and more advanced intellectual functioning (Belsky, 1984; Chen, Dong, & Zhou, 1997). In contrast, a negative parenting style has been associated with more adverse effects on the child's development (Kendziora & O'Leary, 1993), including problems with both internalizing and externalizing behaviors (see Berg-Nielsen, Vikan, & Dahl, 2002, for a review).

An important theoretical shift in how parenting is conceptualized has occurred during the past 30 years (Grusec & Hastings, 2007). Whereas psychologists, clinicians, and educators have traditionally viewed parenting as exerting a unidirectional (parent-to-child) influence on children, modern developmental theorists now view parenting and parent-child relationships in a more bidirectional or transactional framework (Kuczynski, 2003; Sameroff, 2010). According to Kuczynski, a dynamic transactional model in which parents and children both influence and are affected by their interactions with each other is a more accurate conceptual perspective of current parenting data. Thus, as adults build positive relationships with their children through positive parenting, their children experience more positive developmental outcomes while also cueing in on the presence of caring adults, which leads them to attend differentially and selectively to what adults say and do, and, finally, seek out ways to ensure even more positive attention from adults

(Joseph & Strain, 2004). To put it more simply, positive parenting leads to more child developmental competence, which in turn leads to more enriching parent-child experiences, impacting the parent's life satisfaction as well as the child's. Findings have even demonstrated the interaction of parenting with marital happiness (Twenge, Campbell, & Foster, 2008), marital conflict (Buehler & Gerard, 2002), and inter-parental consistency (Fletcher, Steinberg, & Sellers, 1999), further supporting the transactional view of parenting. Given these findings, it is plausible to hypothesize that positive parenting could impact the mother's subjective quality of life, although this has yet to be explicitly investigated in a prospective sample of women with a history of trauma.

Social Support

Social support is commonly defined as the interpersonal resources (social capital) that are accessed when individuals attempt to deal with everyday stressors (Chen et al., 1994). Social support involves both the number and quality of the relationships, and the quality of relationships has been demonstrated to be a better predictor of health than the quantity of relationships (Southwick et al., 2005). Similarly, researchers have found that one's perception of support is a better predictor of health outcomes than the actual receipt of support (Wethington & Kessler, 1986; Helgeson, 1993). Across studies, the presence of social support has been linked to many positive outcomes, including decreased stress levels and better overall health status (Hung & Chung, 2001), as well as to positive birth outcomes (Crockenberg, 1981). Parental social supports have also been found to moderate the influence of stress on parents and family cohesion (Crnic et al., 1983; Unger & Powell, 1980; Weinraub & Wolf, 1983). In addition, studies examining perceived social support have suggested that it is associated with fewer self-reported symptoms of psychopathology, and a lower likelihood of receiving a clinical diagnosis of

psychopathology (Procidano & Heller, 1983; Pierce et al., 2000). In one study that investigated social support and trauma as predictors of quality of life, individuals with more family support reported greater life satisfaction regardless of trauma exposure (Grills-Taquechel et al., 2011).

Resilience

Despite its known importance, the concept of resilience has not been clearly defined, resulting in the use of diverse definitions in resilience research. Resilience is usually defined as a way of overcoming adversity (Hegney et al., 2007), but it can also be defined as individuals not only successfully coping with adversity or crisis, but emerging from that adversity having developed skills which will allow the person to cope with future struggles (Linley & Joseph, 2005; McCubbin et al., 1997). Rutter's (2007) definition is similar, describing a phenomenon in which individuals exhibit relatively good outcomes given their exposure to adversity, whereas Wagnild and Young (1990) describe resilience as an ability to re-establish equilibrium following an adverse event. Bonanno (2004) describes resiliency as the ability to return to or continue with one's normal functioning following stress or loss.

Despite varying definitions, the concept of human potential in the face of adversity has been widely investigated for almost 50 years, yet why some individuals react positively in the face of struggles and others in similar circumstances do not is not fully understood (McCubbin & McCubbin, 1988; Walsh, 2002). Today, research studies in the area of resilience are growing in popularity as investigators discover a number of varying characteristics shared by people who seem to demonstrate resilience. One such characteristic is the tendency to exhibit positive emotions, such as optimism, humor, and hope, which have been demonstrated to help reduce psychological stress and the need for medical treatment following stressful life events (Haglund, Nestadt, Cooper, Southwick, & Charney, 2007). Positive emotions have also been found to be

associated with a reduction in autonomic arousal, which is important in preventing certain psychological disorders such as PTSD (Folkman & Moskowitz, 2002). According to Tugade and Frederickson (2007), resilient individuals have the ability to use positive emotions as coping resources when exposed to stressors, which helps to nullify the negative emotions that occur during these stressful events. Additionally, Tugade and Frederickson state that positive emotions broaden the individual's range of thought, which allows for more cognitive flexibility, another important facet of resilience. According to Haglund and colleagues (2007), cognitive flexibility refers to an individual's ability to accept that certain difficult situations are inevitable and to see problems as temporary and non-pervasive.

Family cohesion and positive social relationships also contribute to resilience following exposure to trauma (Agaibi & Wilson, 2005; Southwick et al., 2005; Wilson, 1995). Self-efficacy, which has been found to be positively correlated with social support, is another characteristic determined to be common in resilient individuals (Gillespie, Chaboyer, & Wallis, 2007). Self-efficacy involves one's perception of having control over his or her life, as well as having confidence in one's ability to persevere in a specific stressful situation (Bandura, 1977; Gillespie et al, 2007).

Researchers have also wondered whether resilience is different from recovery. Breedlove (2006) conducted a factor analysis on resilience and recovery measures to investigate the relationship between these two constructs. The results of this study indicated that although resilience and recovery do overlap in some ways, they also have unique characteristics. What resulted from the factor analysis was a four factor structure in which factors of both resilience and recovery were identified, suggesting that these constructs are psychometrically different from each other. Competence and managing negative affect were found to be associated with

resilience, while recovery activities and positive self-concept were associated with recovery. Thus, studies of resilience and recovery are not redundant and appear to be two separate constructs with unique characteristics.

The Current Study

This review of the literature demonstrates that the primary focus in prior studies of maternal adaptation has been placed on negative predictors of perceived wellbeing. What are the key factors that contribute to a better, as opposed to a worse, quality of life for postpartum women, particularly those with a childhood history of trauma? If a mother's subjective wellbeing is crucial to that of her child, it is imperative that we answer this question. The current study aims to do just that. In addition, it will determine whether certain risk factors, such as low income level, depressive symptoms, and posttraumatic stress symptoms, truly do have deleterious effects on postpartum mothers' quality of life. Could there be certain protective factors, such as high-quality parenting, a supportive and cohesive family unit, and resiliency, that can allow postpartum mothers to overcome some of the aforementioned barriers to quality of life? The current study hypotheses are as follows:

1) Annual household income, maternal depressive symptoms, and maternal posttraumatic stress symptoms during the first 18 months postpartum will each be related to, and uniquely contribute to, maternal quality of life.

2) Positive parenting, family functioning, and resiliency will each be related to, and uniquely contribute to, higher maternal quality of life when controlling for annual household income, depressive symptoms, and posttraumatic stress symptoms, but resiliency will contribute to quality of life above and beyond all other factors.

CHAPTER 2: METHODS

Procedure

Participants in this study make up a subsample of women and children participating in a larger research project called Maternal Anxiety during the Childbearing Years (MACY; Principal Investigator: Maria Muzik, M.D.). MACY is a longitudinal study in which researchers are investigating the effect of maternal posttraumatic stress and depressive symptoms during the perinatal period on mothers' caregiving capabilities and infants' biopsychological and social-developmental outcomes up to 18 months postpartum. MACY participants are either recruited: 1) from an earlier research project, Stress and Anxiety during the Childbearing Years (STACY; Principal Investigator: Julia Seng, Ph.D.), or 2) directly from Ann Arbor and Detroit Metropolitan areas. The MACY researchers sought to recruit women who have and have not been exposed to trauma in childhood, with depressive symptoms or diagnoses occurring concomitantly in some women as a matter of consequence. Inclusion criteria for women who have been exposed to trauma are as follows: 1) disclosure of personal childhood abuse and neglect during the screening interview, 2) no apparent evidence of psychosis or current substance dependence during the screening interview, and 3) no premature delivery of the target infant and no significant developmental delay or medical illness at delivery. Inclusion criteria for women who have not been exposed to trauma are simply 2) and 3).

Participants completed surveys over the telephone at 4-6 weeks postpartum, and again at 4, 12, 15, and 18 months postpartum. They also took part in two home visits with their infants at 7 months (administered within 2 weeks of each other) and one laboratory visit at 15 months postpartum. Mothers' psychosocial functioning was assessed at each time point and biological

samples (i.e., mucus and saliva) were collected from mothers and infants at each in-person protocol point. Participants were followed until their infants were 18 months old.

Participants

The current sample includes women who completed the measures of interest and for whom data were available on quality of life, as assessed using the Quality of Life Index given over the telephone. The sample size for the current study is 159 postpartum women. Preliminary descriptive analyses indicated that the participating mothers ranged in age from 18-45 years ($M = 28.74$, $SD = 5.54$) at the time of intake. The mothers' annual household income ranged from less than \$5,000 to above \$100,000. Just under two-thirds of the mothers self-reported as being Caucasian (64.3%, $n = 101$), 22.3% as African American ($n = 35$), 5.1% of mothers identified as Asian or Pacific Islander ($n = 8$), 3.2% as Latina ($n = 5$), 3.2% of mothers identified as biracial ($n = 5$), and 1.9% identified as "other" ($n = 3$).

Mother's self-report of their level of completed education varied. Nine mothers had less than a high school degree (5.7%), 14 mothers (8.9%) reported having a high school degree or GED, 32 mothers had some college (20.3%), 7 mothers earned an associate's degree (4.4%), 6 mothers earned a vocational or technical degree (3.8%), 52 mothers reported earning a bachelor's degree (32.9%), 27 mothers reported having earned a master's degree (17.1%), and 11 mothers reported earning a doctoral degree (7.0%).

The majority of mothers were married ($n = 108$, 67.9%) with 36 never having been married (22.6%) and one who was separated (0.6%). Among the non-married women, 13 mothers reported living with the birth father (8.2%), and one reported living with a partner who is not the birth father (0.6%).

Among the infants, 58.0% are Caucasian ($n = 91$), 21.7% are African American ($n = 34$),

11.5% are biracial (*n* = 18), 3.8% are Asian or Pacific Islander (*n* = 6), 3.2% are Latino/a (*n* = 5), and 1.9% were identified as "other" (*n* = 3). Additionally, two mothers did not report their own race/ethnicity, two did not report their child's race/ethnicity, and one did not report her education level.

Measures

Demographics. Demographic information was gathered at the first 7-month home visit via questionnaires filled out by the mother. Participants were asked about their race/ethnicity, age, education level, marital status, and total household income, as well as the infant's race/ethnicity and sex.

Postpartum Depression Screening Scale (PDSS). The Postpartum Depression Screening Scale (Beck & Gable, 2002) was used to assess postpartum depression. This 35-item scale evaluates depressive symptoms in mothers and is suitable for mothers with depressive symptomatology up to one year after childbirth. Mothers are asked to rate, on a scale of one to five, how much they agree or disagree with each given statement. Items fall into seven different dimensions, each tapping into a different aspect of the mother's experience with depression or depressive symptoms. The seven dimensions of the scale include: sleeping/eating disturbances (α =.83), anxiety/insecurity (α =.83), emotional lability (α =.89), cognitive impairment (α =.91), loss of guilt/shame (α =.89), and contemplating hurting oneself (α =.93).

Totals are calculated by summing responses for each scale; total scores range from 35-175. Cutoff scores above 80 are representative of major depressive disorder. Using a cutoff score of 80, the PDSS has 0.78 sensitivity, 0.99 specificity, and positive predictive value of 0.93 (Beck & Gable, 2001). In the MACY sample, this measure was administered at 6 weeks, 4 months, 6 months, 12 months, 15 months, and 18 months postpartum. For the current study, the number of

major depressive disorder symptoms mothers reported at each time point was averaged to create a composite variable (α =.88).

The National Women's Study PTSD Module. This instrument is a version of the Diagnostic Interview Schedule (DIS) that was modified for use in the largest epidemiological study of PTSD specific to women that was conducted via the National Crime Victim Center (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993). It was designed as a structured telephone diagnostic interview to be administered by layperson interviewers. It was validated in a primarily clinical sample of 528 women during the DSM-IV PTSD Field Trial in comparison with the face-to-face, clinician-administered Structured Clinical Interview for DSM-III-R. The kappa coefficient for agreement between the two instruments was 0.77. The NWS-PTSD module attained a sensitivity of 0.99 and specificity of 0.79.

The NWS-PTSD measures all 17 symptoms of PTSD for lifetime and current occurrence with follow-up items to assess greater than one-month duration of the syndrome of symptoms and impairment. It yields a dichotomous PTSD diagnosis and continuous PTSD symptom count. Mothers in the current study self-reported symptoms on this scale in pregnancy (during the STACY study) at 28 and 36 weeks gestation as well as at 6 weeks, 4 months, 6 months, 12 months, 15 months, and 18 months postpartum. In the present study, the number of PTSD symptoms at each time point was averaged to create a composite variable (α =.82).

Positive Parenting. The composite measure of positive parenting evaluated in this study was derived from videotapes of mother-infant interaction during two 5-minute mother-infant free play sessions. One free play session took place at the first home visit at 7 months, and the second took place at the second home visit, approximately two weeks later. At each visit, a standard set of toys were arranged on a quilt on the floor of the family's living room, and mothers were asked

to play with their infants as they normally would. Mother-infant free play tasks have been shown to have moderate ecological (Goossens & Melhuish, 1996), concurrent (Clark, 1999) and predictive validity (Aoki, Zenah, Heller, & Bakshi, 2002) for both maternal and infant coded behaviors.

Videotapes of maternal and infant behavior during the free play interactions at each home visit were scored by trained, reliable coders masked to maternal trauma history and other study variables using a single scoring system, the MACY Infant-Parent Coding System (MIPCS, Earls, Muzik, & Beeghly, 2009). This scoring system was grounded in attachment theory and research (Ainsworth, 1971, 1974; Ainsworth et al., 1978; Lyons-Ruth, 1983, 1999; Crittenden, 1981; Main & Hesse, 1990), and some scales were adapted from selected scales included in other parent-infant interaction coding systems, including scales by Beeghly (Parent-Toddler Social Interaction Coding System, 2006), Clark (Parent-Child Early Relational Assessment, 1985), Huth-Bocks and Dayton (Michigan State University Family Project, 2001), Feldman (Coding Interactive Behavior, 1998), and Miller (Michigan Family Study, 1998). Altogether, the MIPCS includes 14 maternal rating scales (7 measuring behavioral dimensions, 5 measuring affective dimensions) and 10 infant scales (5 measuring behavioral dimensions, 3 measuring affective dimensions).

The current study utilized the data collected from 5 intercorrelated maternal subscales scored from the videotapes of mother-infant free play interactions at each visit: Behavioral Sensitivity/Supportive Presence, Engagement, Flexibility, Affective Sensitivity, and Warmth. The average of these intercorrelated scales was used to create a positive parenting composite (α =.92). Below is a description of each subscale comprising this composite.

Behavioral sensitivity/supportive presence. This subscale represents the mother's ability to recognize the subtle cues from her infant and respond accordingly. This is exhibited within the

interaction in the form of sensitive responses and body language, and gentle physical handling from the mother. A behaviorally sensitive mother exhibits behaviors that serve to enhance the infant's security, comfort and development. Behavioral Sensitivity/Supportive Presence is coded on a Likert-type scale from 1 to 5, where 1 = No or Very Little Sensitivity, 2 = Some Sensitivity, 3 = Moderate Sensitivity, 4 = Much Sensitivity, and 5 = Very High Sensitivity.

Engagement. This subscale represents the degree to which the mother engages in play with her infant in an active, positive manner, versus being negatively engaged with the infant (e.g., intrusive or hostile) or disengaged from the infant (e.g., withdrawn or distracted by other things). This is exhibited within the interaction in the form of the mother's flexible turn-taking, appropriate body positioning, active commenting on and presence in the interaction, and facilitation of the activities within the interaction. Engagement is coded on a Likert-type scale from 1 to 5, where 1 = No or Very Little (positive) Engagement, 2 = Some Engagement, 3 = Moderate Engagement, 4 = Much Engagement, and 5 = Very High Engagement.

Flexibility. This subscale represents the degree to which the mother is flexible within the interaction, as manifested by the mother's use of resourceful and creative tactics to keep the infant engaged or to appropriately redirect her fussy infant. A flexible mother will not appear helpless or rigid. Flexibility is coded on a Likert-type scale from 1 to 5, where 1 = No Flexibility or Very High Helplessness or Rigidity, 2 = Some Flexibility or Much Helplessness or Rigidity, 3 = Moderate Flexibility or Moderate Helplessness or Rigidity, 4 = Much Flexibility or Some Helplessness or Rigidity, and 5 = Very High Flexibility or No Helplessness or Rigidity.

Affective sensitivity. This subscale represents the mother's ability to recognize the subtle affective cues from her infant and respond empathically. The affectively sensitive mother will comment about and share the infant's experience by echoing, gazing, mirroring, or affirming the

child's affective states, intentions, and wishes. Affective Sensitivity is coded on a Likert-type scale from 1 to 5, where 1 = No or Very Little Affective Sensitivity, 2 = Some Affective Sensitivity, 3 = Moderate Affective Sensitivity, 4 = Much Affective Sensitivity, and 5 = Very High Affective Sensitivity.

Warmth. This subscale represents the degree to which the mother displays affection toward her infant. The warm mother will exhibit positive facial expressions and body language, and will appear to be enjoying the interaction with her infant. Warmth is coded in terms of the degree of its intensity and frequency using a Likert-type scale from 1 to 5, where 1 = No or Very Little Warmth, 2 = Some Warmth, 3 = Moderate Warmth, 4 = Much Warmth, and 5 = Very High Warmth.

Inter-coder reliability. To assess inter-coder reliability, trained coders masked to maternal trauma history and other study variables independently rescored 40 randomly selected videotapes. The intraclass correlation coefficients for the five individual maternal scales evaluated in this study were all well above .80, denoting very good inter-coder agreement (range= .84 to .86).

Family Adaptation, Partnership, Growth, Affection, and Resolve Scale. The Family Adaptation, Partnership, Growth, Affection, and Resolve Scale (APGAR) is a five-item self-report questionnaire developed by Smilkstein (1978) which was designed to examine satisfaction with family functioning in five areas: Adaptation, Partnership, Growth, Affection, and Resolve. Adaptation is characterized by one's use of familial resources for the purpose of problem solving during a stressful moment or crisis. The item from the APGAR questionnaire that represents adaptation is: "I am satisfied that I can turn to my family for help when something is troubling me." Partnership is characterized by the sense that one is an integral part of the family network, with members sharing and discussing problems and feelings with the individual. The item from

the APGAR questionnaire that represents partnership is: "I am satisfied with the way my family talks things over with me and shares problems with me." Growth is characterized by one's belief that the family is maturing physically and emotionally through reciprocal support and guidance. The item from the APGAR questionnaire that represents growth is: "I am satisfied that my family accepts and supports my wishes to take on new activities and direction." Affection is thought to represent the compassionate or loving relationship among members of the family. The item from the APGAR questionnaire that represents affection is: "I am satisfied with the way my family expresses affection and responds to my emotions, such as anger, sorrow, or love." Finally, resolve is defined as one's commitment to supporting other members of the family emotionally and physically. The item from the APGAR questionnaire that represents resolve is: "I am satisfied with the way my family and I share time together." More generally, it assesses maternal perception and satisfaction with her relationships and support derived from family and those with whom she has the closest emotional ties.

Each item on the APGAR is scored on a 5-point Likert scale ranging from 0 (Never) to 4 (Always) with possible total scores ranging from 0-20. Higher total scores on this scale indicate higher social support satisfaction. Across studies using the APGAR, Cronbach's alpha values have ranged from .80 to .85, and item-total correlations have ranged from .50 to .65 (Smilkstein, 1978). In the current study, the total score at each time point (4 months, 6 months, 15 months, and 18 months postpartum) was averaged to create a composite variable (α =.86).

Connor-Davidson Resiliency Scale. Mothers completed this questionnaire at 4 months postpartum. The Connor-Davidson Resiliency Scale is a 25-item self-report questionnaire used to measure resiliency. Each item is rated on a 5-point Likert scale, ranging from 0 (not true at all) to 5 (true nearly all of the time). The questionnaire is then scored from 0 to 100, with higher scores

representing greater resilience. This score can also be broken down into 5 subscales: Competence, Instincts, Change, Control, and Spirituality. The CD-RISC has been shown to have high validity and reliability across diverse populations (Connor & Davidson, 2003).

Maternal Quality of Life Index. The literature has varied on how quality of life is defined and measured, and there are many different "quality of life" scales in existence (see Gladis et al., 1999, for a review). Some studies have utilized questionnaires that assess health-related quality of life (Ware & Sherbourne, 1992), which are mainly concerned with negative aspects of quality of life (i.e., mental and physical limitations and impairments) rather than the positive aspects (i.e., love and leisure). Consequently, these questionnaires tend to be highly correlated with symptomatology (Ware & Sherbourne). If positive quality of life is not simply the opposite of having negative symptoms, a questionnaire that is less highly correlated with symptomatology would be necessary. The Quality of Life Index (QOLI) is one such questionnaire that attempts to assess quality of life apart from symptoms (Frisch, Cornell, Villanueva, & Retzlaff, 1992). The QOLI accomplishes this by having participants rate satisfaction with positive aspects of life, rather than rate aspects of life involving impairment of functioning. Scales measuring various psychiatric symptoms have been found to have a correlation of 0.40 with the QOLI (Frisch et al., 1992).

In the current study, mothers self-reported their levels of satisfaction with various aspects of their lives on a modified version of the Quality of Life Index at 4, 6, 12, 15, and 18 months postpartum. The 9 items on this questionnaire assess quality of current life including questions regarding health, work and living arrangements, leisure time activities, love relationship, extended family relationships, neighborhood, and community. Short-term (2–3 week) test-retest reliabilities of 0.91 (clinical population) and 0.80 (undergraduate population) have been reported

for the QOLI (Frisch et al., 1992). Norms are available for clinical populations, undergraduates, and the U.S. population (Frisch et al., 1992; Frisch, 1994; Frisch et al., 2005). In the present study, the total Quality of Life score at each time point was averaged to create a composite variable (α =.91).

Statistical Plan

　　Power Analysis. The G*Power 3 computer program was used to estimate an appropriate sample size. With power set at 80% and a two-tailed significance level (α) of 0.05, a sample size of 77 will be needed to detect a significant effect. An effect size (f^2) of 0.15 was used in the calculations, which Cohen (1992) defined as a medium effect size. This indicates that the current study has ample power to evaluate the proposed hypotheses.

　　Hypothesis Testing. Pearson product-moment correlations were used to determine the basic associations among study variables and to verify that these correlations were in the expected direction. The following hypotheses were tested using hierarchical linear regression, with annual household income entered in the first block, depressive symptoms and posttraumatic stress symptoms in the second block, positive parenting and family functioning in the third block, and resilience in the fourth block predicting maternal quality of life.

　　1) Annual household income will contribute significantly to quality of life, such that greater income will be associated with better quality of life.

　　2) Depressive symptomatology and posttraumatic stress symptomatology will contribute significantly to quality of life above and beyond annual household income, such that greater depressive and posttraumatic stress symptoms will each be associated with worse quality of life.

3) Family functioning will contribute significantly to quality of life above and beyond depressive symptomatology, posttraumatic stress symptomatology, and annual household income, such that better family functioning will be associated with better quality of life.

4) Positive parenting will contribute significantly to quality of life above and beyond depressive symptomatology, posttraumatic stress symptomatology, and annual household income, such that more positive parenting will be associated with better quality of life.

5) Resilience will contribute significantly to quality of life above and beyond family functioning, positive parenting, depressive symptomatology, posttraumatic stress symptomatology, and annual household income, such that greater resilience will be associated with better quality of life.

CHAPTER 3: RESULTS

Data Screening

Data screening was undertaken according to the procedures outlined by Tabachnick and Fidell (2001). First, descriptive analyses were run in order to detect the presence of univariate outliers, which were defined as cases with very large standardized scores (exceeding ±3.30) that are also not in line with the distribution. Furthermore, a case was considered to be a multivariate outlier if its respective Mahalanobis Distance exceeded the critical χ^2 value of 24.32 (df =7, $p <$ .001). Neither significant univariate nor multivariate outliers were detected.

In addition to visual inspection of histogram plots, calculations for excessive skewness and kurtosis (skewness/standard error of skewness and kurtosis/standard error of kurtosis) were conducted to assess deviations from normality. If the resulting values were too large (exceeding ±3.30), transformations were used as a correction. Examination revealed that the depressive symptomatology, posttraumatic stress symptomatology, family functioning, and annual income variables significantly deviated from normality. Square root transformations corrected this problem for the depressive symptomatology, posttraumatic stress symptomatology, and family functioning variables, and a cube root transformation normalized the annual income variable. The original family functioning variable was then transformed via a square transformation, as the square root transformation unexpectedly reversed the direction of the correlation between family functioning and quality of life. According to Grissom (2000), when square root transformations are employed, the resulting means can sometimes reverse the difference of means of the original variables. Since a square transformation corrected the problem with skewness while also not affecting the direction or magnitude of the relationship between family functioning and quality of life, it was used in subsequent analyses.

Next, the variables were evaluated for multicollinearity and singularity by examining collinearity diagnostics and bivariate correlations. Multicollinearity was not evident, as there were not any condition indices above 30, tolerance levels less than 0.10, nor variance inflation factor (VIF) scores greater than 10. Additionally, the highest bivariate correlation was .68, indicating that there were not any redundant variables included in the analyses.

Finally, the distribution and pattern of missing data were evaluated using the Missing Values Analysis (MVA) function within *IBM SPSS Statistics*, Version 22. The analysis revealed that there was a substantial (>5%) amount of missing data and that there was a pattern to the missing data due to study variables of interest (e.g., annual income). Also, many missing data are known to be the result of examiner error, equipment failure, or participant scheduling conflicts. As such, the data at least met the definition of missing at random (Little & Rubin, 1987); therefore, it is acceptable to impute missing data using the multiple imputation method (provided by *SPSS* 22). Multiple imputation predicts missing values for a variable by using the available data from other variables, and does so using various methods that are deemed appropriate based on an analysis of the data. The resulting datasets are then pooled to create the ideal combination of each approach, and this pooled dataset is used for analyses. This method maintains the overall variability in the population while preserving the relationships between variables, which reduces bias that is common with other techniques for handling missing data, such as listwise deletion or mean substitution (Little & Rubin, 1989). As the data have a non-monotone missing pattern, the Markov Chain Monte Carlo (MCMC) method of multiple imputation was used and the resulting 5 datasets were combined to produce a pooled dataset, which was used in hypothesis testing.

Hypothesis Testing

Bivariate correlations were inspected to determine the basic relationships among study variables and to verify that the correlations were in the expected direction. Pearson product-moment correlations, as well as means and standard deviations, for study variables can be seen in Table 1. As expected, maternal quality of life was significantly positively correlated ($p < .001$) with income, positive parenting, family functioning, and resilience, and was significantly negatively correlated ($p < .001$) with depressive symptoms and posttraumatic stress symptoms.

All hypotheses were tested using hierarchical linear regression, with annual household income entered in the first step, depressive symptoms and posttraumatic stress symptoms in the second step, positive parenting and family functioning in the third step, and resilience in the fourth step predicting maternal quality of life. It was hypothesized that each model within the hierarchical linear regression would explain a significant amount of variance in quality of life, and that each variable would be a significant unique predictor with resilience contributing to quality of life above and beyond all other predictors.

As hypothesized, annual income, entered into the first step of the hierarchical regression, explained a statistically significant amount of variance in maternal quality of life. Also as predicted, income was significantly positively related to maternal quality of life, confirming that those with a higher income also report greater life satisfaction.

Depressive symptoms and posttraumatic stress symptoms were entered into the second step of the hierarchical regression and after controlling for income, this group of variables contributed a statistically significant amount of explained variance in quality of life. As expected, depressive symptomatology was significantly associated with quality of life, such that mothers with more depressive symptoms also reported a worse quality of life after controlling for income. Posttraumatic stress symptomatology was also a significant predictor of quality of life,

such that those with a greater number of posttraumatic stress symptoms reported a worse quality of life after controlling for income.

Positive parenting and family functioning were entered in the third step of the hierarchical regression, and this group of variables significantly contributed to the variance explained in quality of life after controlling for income, depressive symptoms and posttraumatic stress symptoms. Consistent with the proposed hypothesis, positive parenting was a significant unique predictor of quality of life, with more positive parenting being associated with greater reported life satisfaction. Also as predicted, family functioning was a significant unique predictor of quality of life, such that those who reported better family functioning also reported having a better quality of life.

Resilience was entered in the final step of the hierarchical regression and significantly contributed to the explained variance in quality of life after controlling for income, depressive symptoms, posttraumatic stress symptoms, positive parenting, and family functioning. Thus, this hypothesis was supported. Interestingly, however, depressive symptomatology was no longer a significant unique predictor of quality of life after the addition of resilience in the model. Results of the full hierarchical linear regression are presented in Table 2.

Table 1

Correlations among and Descriptive Statistics For Key Study Variables (N=159)

	M (SD)	1	2	3	4	5	6	7
1. Quality of Life	34.66 (5.07)		.41**	-.59**	-.58**	.28**	.63**	.50**
2. Income	11.28 (7.30)			-.24**	-.17*	.46**	.17*	.22**
3. MDD Symptoms	65.61 (20.40)				.68**	-.20*	-.50**	-.52**
4. PTSD Symptoms	3.65 (3.34)					-.02	-.55**	-.40**
5. Positive Parenting	3.41 (.66)						.09	.08
6. Family Functioning	15.35 (3.56)							.43**
7. Resilience	76.47 (13.09)							

Note. MDD=Major Depressive Disorder. PTSD=Posttraumatic Stress Disorder.

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

Table 2

Summary of Hierarchical Regression Analysis for Variables Predicting Quality of Life (N=266)

	Model 1			Model 2			Model 3			Model 4		
	B	SE(B)	β	B	SE(B)	β	B	SE(B)	β	B	SE(B)	β
Income	3.66	.59	.40**	2.75	.49	.30**	1.91	.49	.21**	1.77	.46	.19**
MDD Symptoms				-1.22	.27	-.30**	-.60	.26	-.15*	-.35	.27	-.09
PTSD Symptoms				-1.57	.31	-.31**	-1.29	.31	-.26**	-1.36	.31	-.27**
Positive Parenting							1.24	.45	.15**	1.30	.45	.16**
Family Functioning							.02	.00	.35**	.02	.00	.31**
Resilience										.06	.02	.16*
R^2		.18			.46			.57			.58	
ΔR^2		.18			.29			.11			.01	
F for ΔR^2		56.95**			69.38**			33.97**			6.26*	

Note. MDD=Major Depressive Disorder. PTSD=Posttraumatic Stress Disorder.

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

CHAPTER 4: DISCUSSION

Researchers have recognized the critical importance of a mother's subjective quality of life to the wellbeing of the family as a whole, and as such, great emphasis has been placed on how to measure and predict quality of life. This is especially true with regard to the quality of life of postpartum mothers, for whom life can be particularly challenging because of new responsibilities and changing economic and social situations. Studying postpartum mothers' quality of life is important because it can help clinicians, educators, and practitioners determine how best these lives could be improved. Despite this growing literature, a vast majority of studies in this area have focused on what *negatively* impacts maternal quality of life. Research on postpartum women's quality of life has found that pain (Schytt, Lindmark & Waldenstrom, 2005), inadequacy of social support (Saurel-Cubizolles, Romito, Lelong & Angel, 2000; Gjerdingen & Center, 2003), emotional and financial hardships, fatigue, lack of personal time, and a heavy workload (Saurel-Cubizolles, Romito, Lelong & Angel, 2000; Petrou et al., 2004; Akyn et al., 2009) all have a negative impact on the mother's subjective quality of life. As a result, women who are experiencing these stressors may feel unduly disadvantaged and unsatisfied. The current study sought to determine the *positive* predictors of maternal quality of life, such as positive parenting, family functioning, and resilience, that contribute to quality of life, and whether these factors contribute above and beyond negative predictors, such as inadequate annual household income, depressive symptomatology, and posttraumatic stress symptomatology.

As predicted, annual household income contributed to quality of life. This is not surprising, as the more able you are to meet your family's needs, both monetary and otherwise, the more likely you are to have greater life satisfaction. Research spanning decades and across

disciplines indicates that socioeconomic status is a key factor in determining the quality of life of postpartum women. Results of the current study also indicate that higher depressive symptoms and posttraumatic stress symptoms significantly undermine quality of life for postpartum women, even after controlling for annual household income. The link between depressive symptomatology and quality of life has been corroborated in many prior research studies. Many of these studies have found that the quality of life of those who are depressed is significantly lower than that of healthy individuals in the population, or even that of individuals struggling with chronic disease (Bonicatto et al., 2001; Doraiswamy, Khan, Doahue, & Richard, 2002; Saarijarvi, Salminen, Toikka, & Raitasalo, 2002; Papakostas et al., 2004). Although there has been great interest in investigating women's quality of life following exposure to trauma, not all studies have uncovered strong correlations between traumatic experiences and subsequent quality of life (Ventegodt, 1998). It is possible that previous studies were not able to capture this relationship because each used the number of traumatic events experienced or individuals' diagnostic status for PTSD, as opposed to the number of PTSD symptoms experienced, which was a more robust predictor in this study.

It was also found that positive parenting behaviors and family functioning contribute to mothers' quality of life after controlling for annual household income, depressive symptoms and posttraumatic stress symptoms. This signifies the importance of the proximal caregiving environment, as indexed by high-quality parenting and a well-functioning family climate, regardless of socioeconomic status or maternal mental health symptoms.

Most notably, maternal resilience was confirmed to be a predictor of quality of life, above and beyond annual household income, depressive symptoms, posttraumatic stress symptoms, positive parenting, and family functioning. Although the definition of resilience has varied across

studies, most researchers agree that it involves not only successfully coping with adversity or crisis, but emerging from that adversity having developed skills which will allow the person to cope with future struggles (Linley & Joseph, 2005; McCubbin et al., 1997). Research has demonstrated the importance of resilience and social support for those who have experienced a traumatic event, although much of the existing research has focused on trauma-exposed veterans (Boscarino, 1995) and not postpartum women with a history of trauma. The current study confirms the importance of maternal resilience for trauma-exposed women in the postpartum period. Another novel observation in the current study was that depressive symptomatology no longer significantly predicted quality of life with the addition of resilience. This implies that the negative effects of depressive symptoms on quality of life are mitigated to the point of nonsignificance when one is more resilient.

These results, taken together, underscore the need for interventions designed to help mothers with a history of trauma establish greater resiliency. Such interventions could reduce the deleterious effects of maternal mental health symptoms on parenting and family climate, and improve mothers' subjective quality of life in the postpartum period. The benefits of such interventions are likely to extend beyond mothers to their infants and the family as a whole.

There are also some inherent limitations associated with this study. First, this study was conducted through the use of secondary data, so there were restrictions as to what research questions could be asked and how they could be answered. The current study would have benefitted from having multiple time points in which the Connor-Davidson Resiliency Scale was administered, but evaluating resilience was not a primary objective of the larger study. However, the fact that resilience was measured at only one time point and managed to be a significant

unique predictor of maternal quality of life, above and beyond all other factors, speaks to its true importance to quality of life.

Another limitation is that except for positive parenting, which was derived from direct observations of mother-child interactions, mothers were the primary source of information, self-reporting their mental health symptoms, income, family functioning, resilience and quality of life. While an overemphasis on self-report is a well-documented and legitimate concern in research, the measures used in the current study have demonstrated sufficient reliability and validity in prior studies of their psychometric properties. Nevertheless, in addition to the subjective measures used in the current study, future studies would benefit from the use of more objective measures of mental health symptoms, family functioning, resilience and quality of life to corroborate these findings.

Finally, although this sample was overselected for a history of trauma exposure, participants were, on average, relatively at low risk with respect to their demographic characteristics. The current sample was made up of mostly adult, married, and well-educated women of the middle class, so these results are not necessarily generalizable to mothers from higher-risk populations, such as single parents or teen mothers living in poverty, or to women outside the postpartum period. Further research should bridge the social and income gap to replicate these results. It should be highlighted, however, that maternal mental health symptoms and annual household income were still strong negative predictors of quality of life despite the lower-risk demographic characteristics of women with a history of trauma in this particular sample.

In sum, while the hypotheses in this study were supported, the causal pathways should be investigated more clearly, ideally in studies utilizing a combination of subjective and objective

measures in more heterogeneous samples in terms of sociodemographic risk. The results do, however, suggest that resilience may be a critical, yet overlooked, predictor of quality of life for postpartum women, even those facing psychological or economic distress. The results also highlight the importance of family cohesion and positive parenting for promoting maternal life satisfaction.

Appendix A

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.

HOUSEHOLD TAB:
1. Who lives in the baby's household?
      …And how old are they?

	Age: (# of years)	Notes
Mother		
Father		
Grandfather (paternal)		
Grandmother (paternal)		
Grandfather (maternal)		
Grandmother (maternal)		
Other		

***if information not gathered from above table, **Ask questions 2, 3 and 4**

   2. How many adults currently living with the baby?_____
   3. How many children above the age of 4 are living with the baby?_____
   4. How many children below the age of 4 are living with the baby?_____

5. What is your current marital status?   (check all that apply)
   ____ (1)Married
   ____ (2)Living with birth father
   ____ (3)Living with partner (not biological father)
   ____ (4)Divorced
   ____ (5)Separated
   ____ (6)Widowed
   ____ (7)Never Married

   6. If you are in a relationship, how long have you and your partner been together?
         a)_____ Years   **b**) _____ Months
         Total # of months**:_____**

HOUSEHOLD-CAREGIVER TAB:
7. Is your baby cared for out of your home on a regular basis? (168hrs/week)
   Childcare center   Total hrs/week: _____   (0) No
   Child goes to someone else's home ("child care home," non-relative)
                                              Total hrs/week: _____   (0) No
   Private provider comes to my own home   Total hrs/week: _____   (0) No
   Other describe: _____ Total hrs/week: _____   (0) No

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

Self	Total hrs/week: _____	(0) No
Biological Father	Total hrs/week: _____	(0) No
Grandparent	Total hrs/week: _____	(0) No
Half/Stepsibling	Total hrs/week: _____	(0) No
Aunt/Uncle	Total hrs/week: _____	(0) No
Cousin	Total hrs/week: _____	(0) No
Great Grandparent	Total hrs/week: _____	(0) No
other extended family	Total hrs/week: _____	(0) No
non-family member	Total hrs/week: _____	(0) No

HOUSEHOLD-EARNINGS TAB:

9. Do you own or rent your current dwelling?

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

10. In what way do you receive your income? (HOUSEHOLD-ADDITIONAL EARNINGS TAB)

(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.

M	F
12. How many jobs do you currently hold? ___ (#jobs)	**13. How many jobs does the baby's father currently hold?** ___ (# jobs)
14. ___ (1)Employed full-time ___ (2)Employed part-time ___ (3)Staying home with the baby full-time	**15.** ___ (1)Employed full-time ___ (2)Employed part-time ___ (3)Staying home with the baby full-time
16. If unemployed, are you currently: ___ (1)Unable to work ___ (2)Looking for employment ___ (3)On temporary leave of absence	**17. If unemployed, is baby's father currently**: ___ (1)Unable to work ___ (2)Looking for employment ___ (3)On temporary leave of absence
18. What is your usual job? (be very specific) Hollingshead score: _____	**19. What is baby's father's usual job?** (be very specific) Hollingshead score: _____
20. Mother's job description:	**21. Father's job description:**
22. Do you supervise people at work?	**23. Does the father supervise people at work?**

MBHQ-CURRENTLY TAB: Maternal & Baby Health Questionnaire

In the next section we would like to ask you about your and your baby's health. Let's start with some questions about your health.

1. **Are you currently healthy?** Yes__(0)

High blood pressure (HTN) __ (1)
Diabetes (DM) __ (2)
Asthma __ (3)
Other Medical Problems _____(describe)

2. **Are you taking any medications now since baby was born?**

if yes: what? _____ dose? _____
_____ _____
_____ _____
_____ _____

Code as: (1) Yes (0) No	
Opiates	Norepi
Benzos	Steriods
SSRI	Vitamins
Mood Stabs	Herbal
BCP	

3. **Are you seeing any medical professional (PCP/nurse/therapist)**
___Y (1) ____N(0)

4.**What is your current height** :____ (inch)

5. **Current weight**:_____ (lbs)

6. **Do you recall your pre-pregnancy weight?** ____ (lbs)

8. **How old were you when you had your first period?**_____ (yrs)

9. **Are you currently pregnant?** Y(1)___   N____(0)

MBHQ-LAST PREGNANCY TAB:

10. **Were you sick during this last pregnancy?**   N___ (0)

if yes:
High blood pressure (HTN) __ (1)
Diabetes (DM) __ (2)
Asthma __ (3)
Eclampsia __ (4)
Accident/Injury __ (5)
Infections (e.g., UTI) __ (6)
Other: _____ (describe)

11. **Were you taking medications during that pregnancy**?

if yes: what? _____ dose? _____
_____ _____
_____ _____
_____ _____

Code as: (1) Yes (0) No	
Opiates	Norepi
Benzos	Steriods
SSRI	Vitamins
Mood Stabs	Herbal
BCP	

12. **Were there any complications at birth?**
Y___(1) N____(0)
If yes, description:_____

MBHQ-BABY TAB:

13. Was the baby ever in the NICU? Y (# of days_____) N (0)

15. Baby born with medical condition or disability? Y____   (1) N_____(0)

Does your baby current medical problem? (if no, skip to question **# 23**)
 related to:
16. stomach/digestive system (e.g., colic)   ___Y(1) ___N(0)
17. breathing/respiratory system (e.g., wheezing)   ___Y(1) ___N(0)
18. brain/nervous system (e.g., seizures)   ___Y(1) ___N(0)
19. frequent ear infections (>2)   ___Y(1) ___N(0)
20. developmental problem   ___Y(1) ___N(0)
21. other:_____   ___Y(1) ___N(0)
22. Ever hospitalized (except NICU)   _____Y(# of days)   __ N(0)

23. Is your baby on any medications currently?
     if yes: what?   _____   dose? _____
                          _____   _____
                          _____   _____
                          _____   _____

Code as: (1) Yes (0) No	
Opiates	**Norepi**
Benzos	**Steriods**
SSRI	**Vitamins**
Mood Stabs	**Herbal**
BCP	

24. Are you concerned about your baby's condition? Y___(1) N_____(0)

25. Are you finding your baby's condition to be a problem or upsetting? Y___(1) N_____(0)
     26. Does it affect how you feel about being a parent? Y___(1) N_____(0)

. Measurement of Baby:
23.length:_____ (inch)
24.weight: _____(lbs) (RA DONE)

Question # 24
Demographics-Income scale
Please indicate which number assigned to an income range best describes you.

1. **Less than $5,000**
2. **Between $5,000-9,999**
3. **Between $10,000-14,999**
4. **Between $15,000-19,999**
5. **Between $20,000-24,999**
6. **Between $25,000-29,999**
7. **Between $30,000-34,999**
8. **Between $35,000-39,999**
9. **Between $40,000-44,999**
10. **Between $45,000-49,999**
11. **Between $50,000-54,999**
12. **Between $55,000-59,999**
13. **Between $60,000-64,999**
14. **Between $65,000-69,999**
15. **Between $70,000-74,999**
16. **Between $75,000-79,999**
17. **Between $80,000-84,999**
18. **Between $85,000-89,999**
19. **Between $90,000-94,999**
20. **Between $95,000-99,999**
21. **More than $100,000**

Appendix B

PDSS TAB:

The next portion of the interview provides statements about how a mother may be feeling after the birth of her baby. The options for this questionnaire are Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree and I can repeat those options for you at any time.

Please tell me how much you agree or disagree with the following statements...

	During the past 2 weeks,	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	You had trouble sleeping even when your baby was asleep.	1	2	3	4	5
2.	You got anxious over even the littlest things that concerned your baby.	1	2	3	4	5
3.	You felt like your emotions were on a roller coaster.	1	2	3	4	5
4.	You felt like you were loosing your mind.	1	2	3	4	5
5.	You were afraid that you would never be your normal self again.	1	2	3	4	5
6.	You felt like you were not the mother you wanted to be	1	2	3	4	5
7.	You thought that death seemed like the only way out of this living nightmare.	1	2	3	4	5
8.	You lost your appetite.	1	2	3	4	5
9.	You felt really overwhelmed.	1	2	3	4	5
10.	You were scared that you would never be happy again.	1	2	3	4	5
11.	You could not concentrate on anything.	1	2	3	4	5
12.	You felt as though you had become a stranger to yourself.	1	2	3	4	5
13.	You felt like so many mothers were better than you.	1	2	3	4	5
14.	You started thinking that you would be better off dead.	1	2	3	4	5
15.	You woke up on your own in the middle of the night and had trouble getting back to sleep.	1	2	3	4	5
16.	You felt like you were jumping out of your skin.	1	2	3	4	5
17.	You cried a lot for no real reason	1	2	3	4	5
18.	You thought you were going crazy.	1	2	3	4	5
19.	You did not know who you were anymore.	1	2	3	4	5

		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
20.	You felt guilty because you could not feel as much love for your baby as you should.	1	2	3	4	5
21.	You wanted to hurt yourself.	1	2	3	4	5
22.	You tossed and turned for a long time at night trying to fall asleep.	1	2	3	4	5
23.	You felt all alone.	1	2	3	4	5
24.	You have been very irritable.	1	2	3	4	5
25.	You had a difficult time making even a simple decision	1	2	3	4	5
26.	You felt like you were not normal.	1	2	3	4	5
27.	You felt like you had to hide what you were thinking or feeling toward the baby.	1	2	3	4	5
28.	You felt that your baby would be better off without you.	1	2	3	4	5
29.	You knew you should eat but you could not.	1	2	3	4	5
30.	You felt like you had to keep moving or pacing.	1	2	3	4	5
31.	You felt full of anger ready to explode.	1	2	3	4	5
32.	You had difficulty focusing on a task.	1	2	3	4	5
33.	You did not feel real.	1	2	3	4	5
34.	You felt like a failure as a mother.	1	2	3	4	5
35.	You just wanted to leave this world.	1	2	3	4	5
	During the past 2 weeks,	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

 [IF Person marked 4 or 5 on shaded items, we must respond to this disclosure of risk for self-harm. Insert these questions: (If not, skip to CD-RISK TAB)

Are you getting help with those feelings about wanting to end your life?

Yes: **"Who is helping you?"** Write answer verbatim: _____(checkbox in coding)

No and Yes:

The principal investigator, Dr. Muzik, is interested in speaking with women like you who have answered the above questions like you. She may be able to connect you with specific help if you wish so. Could I get your phone number and the best time to call you? (Get a number or two and a best time.)

Number: _____ Best time: _____

Let me give you her phone number too so you can call Maria in case that's better for you or in case she has trouble reaching you. Her office phone is 734.846.8027. Can I give you her pager too? Dial 734.936-06266, enter pager #13575, and enter your dial back number.

Postpartum depression is a really serious problem, so I want to give you some hot line numbers too, okay?

Ann Arbor (UM Psych emergency service) = 734 936-5900

Detroit Receiving Hospital crisis line: 313-745-3546

[Then page Maria to let her know.]

Appendix C

PTSD TAB:

Now I'm going to ask you some more questions about moods and feelings. Please tell me if you have had any of these experiences <u>since the last interview.</u> These are just Yes or No type questions; however, if you answer "yes" I might ask you what you think the experience is about.

	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	0	1	2	3	4	5

happened to you in the past?						
20. Have you ever had a "flashback"--that is, have you ever had an experience in which you imagined that something that happened in the past was happening all over again?	0	1	2	3	4	5
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

[PTSD.E]

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]

PSYCHOSIS: **Now, I would like to ask you a question about your past mental health record.**

1.   **Have you ever been told that you suffer an illness called schizophrenia or bipolar disorder?**
                     YES(1)   NO(0)   (if yes, which? _____)

Appendix D

MACY Infant-Parent Coding System
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Note: The rating scales included in this scoring system were designed for scoring qualitative dimensions of parent, infant, and dyadic behavior during parent-infant interactions in unstructured (free play) tasks, structured (parent teaching) tasks, and the *Still Face* paradigm. Many of the scales were adapted from extant scales developed by: Beeghly (Parent-Toddler Social Interaction Coding system; 2006), Clark (PCERA; 1985), Huth-Bocks and Dayton (Michigan State University Family Project; 2001), Feldman (Coding Interactive Behavior; 1998), Miller (Michigan Family Study; 1998), as well as theoretical work by: Ainsworth (1971; 1974; 1978), Lyons-Ruth (1983; 1999), Crittenden, 1981, and Main and Hesse, 1990.

RATING SCALES
There are fourteen 5-point maternal scales (7 behavioral scales, and 5 affective scales), ten 5-point infant scales (5 behavioral scales, 3 affective scales), and two dyadic scales.

Maternal Rating Scales	Infant Rating Scales
Behavioral-all tasks except the SFP-SF	***Behavioral-all tasks***
Behavioral Sensitivity/Supportive Presence	Responsivity/Compliance (***use with all tasks except SFP-SF)
Engagement/Disengagement	Infant Initiation/Solicitation
Overcontrolling/Intrusive	Object Engagement
Frightened/Frightening	Infant Social Engagement
Hostile/Rejecting/Discrepant	
Flexibility/Helplessness/Rigidity	
Behavioral-SFP-PL 1 & PL2, Only)	***Behavioral-SFP Only***
Regulation of Distress	Soothability
Affective	*Affective*
Affective Sensitivity	Positive
Warmth	Negative
Anxiety	Withdrawn/Flat Affect
Positive Affect/Enthusiasm/Joy	
Flat/Negative Affect	
Dyadic-all tasks except the SFP-SF	***Dyadic-all tasks except the SFP-SF***
Reciprocity/Fluency	Reciprocity/Fluency
Shared Affective Valence	Shared Affective Valence

Mom's Behavioral Codes

Behavioral Sensitivity/Supportive *Presence* (Adapted from the MACY sample; Huth-Bocks & Dayton (2001), who used Ainsworth et al., 1971; 1974; 1978; & Lyons-Ruth, 1983; 1999); Beeghly, 2006)***:*** *Use this scale during all tasks**, except the Still Face Paradigm, Still Face.*** This is the mother's awareness of or ability to perceive even the most subtle communications, signals, wishes, and moods (cues) of her infant as manifested in sensitive vocalizations, facial expressions, and physical handling responses. Sensitive responses are well-timed, they reflect empathy with infant's needs and feelings, and they involve behavior that enhances infants' security, comfort, and development, such as praising, providing physical and emotional support, and redirecting sensitively.

1 = NO or VERY LITTLE Sensitivity

Mother's behavior is primarily guided by her own wishes, needs, moods, and she makes no attempt to follow her infant's lead (infant's needs, wishes, and moods). She may respond if her infant's signals are intense and prolonged after an inappropriately long delay (that allowed the infant to get to the intense and prolonged signals). This mother, in general, shows no or very little attempts to respond and/or no or very little awareness of her infant's cues. This mother may appear *disengaged.*

2. SOME Sensitivity

Mother's behavior is often guided by her own wishes, needs, moods, and she makes limited attempts to follow her infant's lead. This mother, in general, sometimes responds to her infants signals, although she misses the more subtle ones, or responds after a moderate delay. This mother shows some attempts to respond and/or limited awareness of her infant's cues (attempts to respond a few times and/or has awareness of her infant's cues a few of times).

3. MODERATE Sensitivity

Mother's behavior is moderately guided by her own wishes, needs, and moods, but she also makes attempts to follow her infant's lead *half* of the time. This mother, in general, responds about half the time to infant's signals, although she misses the other half of the signals, or responds after a short delay. This mother shows adequate attempts to respond and/or adequate awareness of her infant's cues (attempts to respond more than a few times and/or has awareness of her infant's cues more than a few times).

4. MUCH Sensitivity

Mother's behavior is guided mostly by her infant's wishes, needs, and moods. This mother, in general, responds more than half the time to infant's signal, although she misses some of them, or responds after a minor delay. This mother shows more than adequate attempts to respond and/or more than adequate awareness of her infant's cues.

5. VERY HIGH Sensitivity

Mother's behaviors are always guided by her infant's wishes, needs, and moods. This mother always responds to her infants signals in a timely manner. This mother shows exemplary attempts to respond and/or exemplary awareness of her infant's cues.

Engagement/Disengagement (Adapted from Huth-Bocks & Dayton, 2001; Beeghly, 2006; Miller, 1998). *Use this scale during all tasks, **except the Still Face Paradigm, Still Face.*** This is the degree to which the mother engages in play with her infant as manifested by:
Pacing-flexible turn-taking
body position - on continuums of toward or away; comfortable or awkward, close or distant
vocalizations –commentary regarding interactions and activities
and *involvement in/facilitation of interactions and activities*- or appropriate amounts of control and facilitation, meaning that mother allows infant to control /facilitate when s/he wants to
Also: the degree to which mother is distracted by other things in the environment (phone, pets, TV, radio, etc.), or by her own thoughts, or play that doesn't involve her infant.

1. NO ENGAGEMENT (DISENGAGED) or almost totally DISENGAGED
        Mother does not interact with infant interactions and activities as apparent by her seeming obliviousness or attention to other things (distractions). She does not position body appropriately, vocalize about, involve herself in, and/or facilitate interactions or activities with her infant. Mother and infant exist seemingly in "parallel." May position body appropriately, vocalize about, involve herself in, or facilitate interactions or activities one time, but in general, she is not involved in interaction or activity with her infant.

2. SOME Engagement
        Mother sometimes engages in infant interactions and activities. She sometimes positions body appropriately, vocalizes about, involves herself, or facilitates interactions or activities. Mother and infant exist sometimes in "parallel." In general, mother is somewhat involved in interaction and activity with her infant, and/or somewhat distracted.

3. MODERATE Engagement
        Mother engages in infant interactions and activities half of the time. She positions body appropriately, vocalizes about, involves herself in, and/or facilitates interactions and activities half of the time. In general, mother is involved in interaction and activity with her infant half of the time, and/or distracted half of the time. *Note: moderately engaged can mean mom is not appropriately engaged, just engaged half of the time.*

4. MUCH Engagement
        Mother engages in infant interactions and activities more than half of the time. She positions body appropriately, vocalizes about, involves herself in, and/or facilitates interactions and activities half of the time. In general, mother is involved in interaction and activity with her infant more than half of the time, and is distracted less than half of the time. ***Note:*** *to get a "4" or higher, mom must be appropriately engaged most of the time*.

5. VERY HIGH Engagement
        Mother engages in infant interactions and activities all of the time. She positions her body appropriately, vocalizes about, involves herself in, and/or facilitates interactions and activities all of the time. In general, mother is involved in interaction and activity with her infant all of the time, and distracted none of the time. ***Note:*** *to get a "5," mom must be appropriately engaged all of the time.*

Overcontrolling/Intrusive: (Adapted from Beeghly, 2006; Huth-Bocks & Dayton, 2001; Lyons-Ruth, 1983 based on Crittendon, 1981). *Use this scale for during all tasks, **except the Still Face Paradigm, Still Face**.* This scale measures the degree to which the mother's behavior *interferes with*, rather than *facilitates* the infant's goals. **Important:** *if the infant has a negative reaction to mother's behavior, score higher. Also important:* These behaviors are not the same as the supportive or engaged behaviors that have been described, because they override or disregard the infant's cues, and the infant's autonomy. Overcontrolling/intrusive behavior is manifested in the following areas:

Pacing: mother does not "match" the rhythms and/ or cues. Pacing is often too fast, but it doesn't have to be. Mothers also interrupt infants according to their own agendas to: have the infant play/not play with a particular toy, do something developmentally appropriate in their minds (crawl to a toy they want), etc.

Body Control: mother manipulates infant's limbs to accomplish something she wants. If caretaking, mother may be harsh and insensitive e.g., wipes nose excessively and roughly, "manhandles" infant; makes infant "dance."

Control of Interaction: mother controls choice and duration of activity whether infant appears to like it or not. Mother interferes with infant's play to change or correct an activity, or to limit infant's activity; mother keeps an interesting toy out of reach, or takes away an interesting toy and replaces it with another, or not.

Verbal: mother's tone, volume, and/or pacing of verbal communications can be considered intrusive if extreme. In addition, constant verbal instruction and/or quizzing can be considered intrusive.

Score interactions according to frequency, duration, and/or intensity.

1. NO to VERY LOW Intrusiveness

Mother does not exhibit overcontrolling/intrusive behavior. She respects her infant's autonomy, and views him/her as an individual with his/her own wishes and needs. She controls the interaction only to protect or to provide physical or emotional support to her infant should he/she need it.

2 SOME Intrusiveness

Mother sometimes exhibits some overcontrolling/intrusive behavior, though she mostly respects her infant's autonomy and views him/her as an individual with his/her own wishes and needs. She may exhibit a few of instances of inappropriate pacing, body control, control of interaction, and/or intrusive verbalization. She controls the interaction mostly to protect or to provide physical or emotional support to her infant should he/she need it, but sometimes to fulfill her own agenda.

3. MODERATE Intrusiveness

Mother exhibits moderate overcontrolling/intrusive behavior, or overcontrolling/intrusive behavior half of time, and respects her infant's autonomy and views him/her as an individual with his/her own wishes and needs half of the time. She exhibits instances of inappropriate pacing, body control, control of interaction, and/or intrusive verbalization half of the time. She controls the interaction in part to protect or to provide physical or emotional support to her infant should he/she need it, and in equal part to fulfill her own agenda.

4. MUCH Intrusiveness

-Mother takes in breath, clutches chest, and/or says: "ooooh!" or "aaaahhh" loudly or in a frightened-appearing manner in response to an action of her infant.

-Mother exhibits direct indications of fear of the infant (e.g., backing away as the infant approaches). She may or may not say something like: "Don't get me," or … "Don't follow me," in a frightened, fearful way.

1. NO instances of Frightened/Frightening Behaviors

2. ONE instance of Frightened/Frightening Behavior

3. TWO Instances of Frightened/Frightening Behaviors

4. A FEW Instances of Frightened/Frightening Behaviors

5. MANY Instances of Frightened/Frightening Behaviors

Hostile/Rejecting/Discrepant Communication: (As adapted from the MACY sample, Beeghly, 2006; Covert Hostility-Crittenden, 1981; Huth-Bocks & Dayton, 2001; & Miller, 1998). *Use this scale during all tasks*, **except the Still Face Paradigm, Still Face**. This scale measures the frequency, duration, and intensity of the mother's rejection, hostility, and/or ambivalence during interaction with her infant. Score if mother perceives rejection rather than disinterest. Manifestations include:

Vocal expressions: convey hostile content or bitterness (e.g.: "You don't want to play with mommy," or "You're mad at mommy," or "You're too big to pick up."). May also use exaggerated, fast paced, or artificial-sounding tone that does not match her demands (message is "mixed") (e.g., sweet tone with harsh hands; pleasant voice with hostile intent, gentle insistence combined with indications of disgust when infant doesn't comply). Also: Teasing or taunting, such as holding a toy out of reach ("Do you want that? Come get it!") to a baby who can't crawl yet. Negative or derogatory remarks. Can be said mildly or angrily (intensely). *Score lower if instances are more covert. Score higher if instances are angry or intense (overt).*

Prohibitions/Restrictions (Verbal "zaps"): such as: "No!" "Uh uh!" "You can't chew on that" "It doesn't go there!" *Score lower if instances are more covert. Score higher if instances angry or intense (overt).*

Facial expressions: exaggerated expressions, inappropriate happiness or glee when baby is unhappy or fussy or cannot see mother's face. Eye rolling. Can be mild or intense expressions. *Score lower if instances are more covert. Score higher if instances are angry or intense (overt).*

Physical restrictions (Nonverbal "zaps"): removes toy from infant's grasp or vision while infant is attending to it; prevents infant from moving away, shakes finger or head at infant, teases infant non-verbally (e.g. pretends to give infant toy, then takes it away). Can be mild "zaps," or more intense "zaps." *Score lower if instances are more covert. Score higher instances are angry or intense (overt).*

Expressions of Affection: pseudo-affectionate behavior that can appear similar to affectionate behavior, but which is irritating to the infant such as jabbing, poking, pinching, loud "kissing," and which produces startles, wincing, and withdrawal by the infant. Can look affectionate and playful, but in a sharp manner that is "out of sync" with the child. (e.g. using a puppet to "kiss" the baby on his/her face repeatedly while the child attempts to withdraw). Can be mild or more intense pseudo-affection. *Score lower if instances are more covert. Score higher if instances*

5. VERY HIGH Flexibility or NO Helplessness or Rigidity

Mother is resourceful, creative, and flexible in handling her infant's distress, lack of interest, or fussiness during the entire interaction OR mother creatively and flexibly engages her infant (who is not distressed, fussy, and/or disinterested). ***Note:*** *to get a "5," mother must be able to read even subtle cues of her infant.*

==***Regulation of Distress (Ability to Soothe):***== (Adapted from the MACY sample, Clark, 1985, Huth-Bocks & Dayton, 2001; Miller, 1998). Regulation of Distress is the extent to which the mother succeeds at calming her infant. *Note:* ***Use this on the Still Face Paradigm, Play 1 and Play 2, only.*** Also, if infant Negative Affect is coded 2 or higher, mother gets a score of 4.5 or lower.

1. NO attempts to regulate distress, or one unsuccessful attempt

that both cause her to sit back and appear helpless, uninvolved, or disengaged

2. UNSUCCESSFUL Regulation

Mother makes a few unsuccessful attempts to soothe infant that ultimately fail. Infant may calm him/herself down, or may remain upset, crying, and dysregulated. Mother does not attempt to change failing strategies for infant regulation; appears inflexible, helpless, or incompetent

3. SOME Successful Regulation

Mother is able to calm the infant, but only for short periods, and only some of the time. She is unable to get her infant re-engaged in play.

4. MUCH to HIGH Successful Regulation

Mother is able to calm her infant more often than not. She is able to keep the infant calmer for longer periods of time (than #3 mother). Her infant may be slightly fussy after mother's attempts, but will still engage with toys, exploration, mother.

5. NOT APPLICABLE; infant not upset

Mom's Affective Codes

==*Affective Sensitivity*==: (As adapted from the MACY sample, Clark, 1985; and *Affect Attunement* of Huth-Bocks & Dayton, 2001). *Use this scale during all tasks.* This is a mother's attunement with and empathy for her infant's subjective experience (the infant's affective states, intentions, motives, wishes, etc.) Importantly, attunement can be positive or negative. This is evidenced by the mother's comments about and sharing of the infant's experience. For example, mothers may reflect infant's affect or behavior primarily through vocalizations and/or through echoing, gazing, mirroring, or confirming the child's internal feeling state (e.g. "You love that toy," or "You're frustrated because you can't make that work."). Importantly, this scale rates the mother's attunement to the infant's affective experience, rather than her behavior, per se.

1. NO or VERY LITTLE Affective Sensitivity

Mother exhibits no understanding of or empathy for her infant's affective experience. Mother does not understand her infant's affect, intentions, motives, or wishes, and therefore cannot reflect or mirror them.

2. SOME Affective Sensitivity

Mother exhibits some understanding of or empathy for her infant's affective experience. Mother mostly does not understand her infant's affect, intentions, motives, or wishes, but may elicit a few instances of understanding or empathy.

3. MODERATE Affective Sensitivity

Mother exhibits moderate understanding of or empathy for her infant's affective experience, or understanding of or empathy for her infant's distress half of the time. Mother understands her infant's affect, intentions, motives, or wishes half of the time, and demonstrates instances of understanding or empathy half of the time.

4. MUCH Affective Sensitivity

Mother exhibits understanding of or empathy for her infant's affective experience more than half of the time. Mother understands her infant's affect, intentions, motives, or wishes more than half of the time, and elicits instances of understanding or empathy more than half of the time.

5. VERY HIGH Affective Sensitivity

Mother exhibits understanding of or empathy for her infant's affective experience all the time. Mother understands her infant's affect, intentions, motives, or wishes all the time, and demonstrates instances of understanding or empathy all the time.

Warmth: (Adapted from the MACY sample, Huth-Bocks & Dayton, 2001, who adapted it from Lyons-Ruth, 1983). *Use this scale during all tasks*. This is the degree to which mother expresses affection for her infant, as manifested in instances of warmth involving positive facial expressions, tone and/or content of verbalizations, gentle patting stroking, hugging, and kissing. The extent of warmth is measured in terms of degree of intensity and frequency.

1. NO or VERY LITTLE Warmth

Mother's behavior consistently fails to convey warmth; interactions lack maternal affection. Mother appears to not enjoy interaction with her infant. Mothers may exhibit one instance of warmth.

2. SOME Warmth

Mother's behavior occasionally exhibits warmth; interactions mostly lack maternal affection. Mother appears to occasionally enjoy interaction with her infant. Mothers may exhibit a few instances of warmth.

3. MODERATE Warmth

Mother's behavior exhibits moderate warmth, or warmth half of the time; interactions lack maternal affection half of the time. Mother appears to enjoy interaction with her infant half of the time. Mother exhibits instances of warmth half the time.

4. MUCH Warmth

Mother's behavior exhibits warmth more than half of the time; interactions are affectionate more than half of the time. Mother appears to enjoy interaction with her infant most of the time. Mother exhibits instances of warmth most of the time.

5. VERY HIGH Warmth

Mother's behavior exhibits warmth all the time; interactions are affectionate all the time. Mother appears to enjoy interaction with her infant all the time. Mother exhibits instances of warmth all the time.

Anxiety: (Adapted from the MACY sample, Huth-Bocks & Dayton, 2001, as taken from Miller, 1998). *Use this scale during all tasks*. This is the degree of maternal tension/anxiety as manifested in a range of signs/activities. Anxiety can manifest in different ways. Some mothers may display "performance anxiety" regarding their own performances ("Am I supposed to do this?" Some mothers may display performance anxiety in regard to her infant's behavior or abilities ("He doesn't usually do this," or "He should be sitting up better by now)" or display frenzied hyper tracking, or hypervigilance to their infants. Some mothers may be preoccupied with "fixing" the infant's clothing, or mouth (if infant spits up) Some mothers may appear "high strung," as evidenced by limited *or* excessive communications, nervous laughter and/or speech, or movements that are stiff, "quirky," tense, or hypervigilance. Some mothers may exhibit a consistent frenzied or agitated pace and/or abruptness. Some mothers may appear afraid to speak, or may speak in tones so low it is hard to hear them. In addition, some mothers may manifest anxiety with a deviation of some sort from a previous state (e.g. quiet to loud and abrupt and visa versa; loud to speaking in tones too quiet to hear, etc).

1. NO or VERY LITTLE Anxiety

Mother is generally calm and relaxed. She exhibits no or one behavior described.

2. SOME Anxiety

Mother is mostly calm and relaxed. She exhibits a few of the anxious behaviors described.

3. MODERATE Anxiety

Mother displays anxious behaviors about half the time.

4. MUCH Anxiety

Mother displays anxious behaviors more than half the time; she is infrequently calm and relaxed

5. VERY HIGH Anxiety

Mother is anxious all the time

PositiveAffect/Enthusiasm/Joy: (Adapted from the MACY sample; Beeghly, 2006; Huth-Bocks & Dayton, 2001; & Miller, 1998*). Use this scale during all tasks*. This is a graduated scale from positive affect, to enthusiasm, to joy, with positive affect on the low end and enthusiasm/joy on the high end. Each end refers to the degree and intensity of the mother's pleasure and enjoyment of her infant with Positive Affect representing the low degree of positive facial expressions and/or vocal tone, vocal remarks, and vocal excitement; enthusiasm representing more of these, including vocal excitement and some laughter, and joy representing the highest degree of these,

including much excitement and laughter, along with playfulness, glee, wonder, and amazement regarding her infant.

1. NO Positive Affect

Mother's interactions with her infant exhibit neutral, flat, or negative facial expressions, vocal tones, and remarks.

2. Positive Affect

Mother's interactions with her infant exhibit positive facial expressions (including consistent smiles), vocal tones, and remarks at least half the time.

3. Positive Affect AND Enthusiasm

In addition to meeting the positive affect criteria (positive facial expressions, vocal tones, and remarks), mother exhibits some (less than half the time) vocal enthusiasm and laughter.

4. SOME Enthusiasm

In addition to meeting the positive affect criteria (positive facial expressions, vocal tones, and remarks), mother exhibits moderate (half of the time) vocal excitement and laughter.

5. MUCH Enthusiasm/Joy

In addition to meeting the positive affect criteria (positive facial expressions, vocal tones, and remarks), mother must meet the enthusiasm criteria (vocal excitement and laugher), as well as exhibit more than one of the following: playfulness, glee, wonder, and amazement regarding her infant.

Negative Affect/Flat Affect: (Adapted from the MACY sample, Huth-Bocks & Dayton, 2001). *Use this scale during all tasks.* This is a graduated scale from neither flat or negative affect to much negative affect with neither flat or negative affect on the low end and much negative affect on the high end. The ends differentiate sadness/depression from very little flat affect, with the middle point being a combination of the two (moderate sadness and/or much flat affect). The points of the scale differentiate types facial responses including sad, wistful, or blank gazing and facial responses, and flat, monotone, slowed, and/or mechanical types of vocal expression and speech.

1. NEITHER Flat OR Negative Affect

Mother's interactions with her infant exhibit positive facial expressions, vocal tones, and remarks.

2. SOME Flat Affect

Mother is slightly flat. She gazes off infrequently, smiles occasionally, and she may speak in flat tones or monotone.

3. Negative AND Flat Affect

Mother appears alternately sad and flat. Flatness is manifested as expressionless gazing, while sadness is manifested as wistful, sad gazing. Both are manifested as infrequent smiles, and slowed and/or limited speech and/or monotone and/or mechanical speech.

4. Negative Affect

Mother is sad and/or flat more than half of the time. Sadness is manifested by sad, wistful gazing, infrequent smiles, limited speech, and limited speech and/or monotone and/or mechanical speech.

5. MUCH Negative Affect

 Mother is despondent as manifested by sad gazing, no smiling, and limited and/or monotone and/or mechanical and/or slowed speech. Mother may look as if she will cry.

Infant Behavioral Codes

Responsivity/Compliance: (As adapted from the MACY sample, Beeghly, 2006; Clark, 1985; and Miller, 1998). *Use this scale during all tasks **except the Still Face Paradigm, Still Face.*** This is a graduated scale from resistance or non-responsivity to very high compliance; compliance being the degree to which the infant complies with (responds to, follows) the structure and or bids provided by the mother in a reasonable manner, and resistance or non-responsivity being the infant's behaviors including: disinterest (non-responsivity), which is unintentional, or fussing, squirming or increased protest (resistance), which is intentional, in response to mother's structure and/or bids. This can look one way (disinterest or non-responsivity) to structure mom attempts to provide, for example, when she offers a toy in the free play task, and another way (resistance) when mom trys to soothe her infant in the Still Face Paradigm, Play 2. Specific behaviors include: looking away or at another object when mom offers a toy in free play, or pulling away from a touch. If *resistant*, the infant will appear to be rejecting or avoiding the structure or bids of the mother. If *non-responsive*, the infant will appear to be disinterested in the structure or bids of the mother.

1. Resistance OR Non-Responsivity

 Infant demonstrates no evidence of compliant behavior; infant rejects, avoids, or is disinterested in all structure and bids of mother

2. SOME Resistance/Non-Responsivity/MINIMAL Compliance

 Infant demonstrates one or two instances or one prolonged instance of compliant behavior, but otherwise all resistant/non-responsive behavior

3. MODERATE Resistance/Non-Responsivity/MODERATE Compliance

 Infant demonstrates moderate resistant/non-responsive and compliant behaviors, or these behaviors half each half the time.

4. MUCH Compliance

 Infant demonstrates one or two instances or one prolonged instance of resistant/non-compliant behavior, but otherwise all compliant behavior.

5. VERY HIGH Compliance

 Infant shows compliance or is responsive to all structure and bids of the mother

Infant Initiation/Solicitation: (Adapted from MACY sample, Beeghly, 2006, and Feldman, 1998). *Use this scale during all tasks*. This is the degree to which the infant initiates spontaneous social bids that are clearly directed at the mother, and that are *not* a direct response

of the mother's prior behavior. These bids solicit maternal responses, validation, physical help, and/or proximity, as manifested by behaviors such as: nonverbal gestures directed toward the mother, a big smile directed at mom, reaching for mom, gesturing to be picked up, anticipatory gazes (but not as a response to mother's behaviors); verbal utterances or vocalizations directed at the mother; verbal utterances in the form of questions directed toward the mother, or otherwise attempting to solicit or draw mom's attention. ***During the Still Face Paradigm***, Infant Initiation/Solicitation will often manifest as looks plus "eyebrow flashes," (raising/lowering eyebrows quickly) verbal utterances in the form of questions directed the mother, smiles at the mother, and anticipatory gazes. Infant initiations/solicitations can also be positive, neutral, or negative. ***Scores are assigned based on frequency of infant initiations/solicitations-or looks at mother or looks <u>plus</u> facial expressions, vocal expressions, or gestures at mother that are not in response to the mother's vocalizations or behaviors. For SFP-SF, Scores will be assessed on <u>two</u> scales. The code on the second scale (Complex Initiations/Solicitations) will be based on the instances obtained in Table 1. on page 25 of the Coding Sheets.***

First Scale: Simple Initiations/Solicitations~ use for all tasks
1. **NO instances of Initiating/Soliciting Social Interactions with Mother**

2. SOME instances (1 or 2) of Initiating/Soliciting Social Interactions with Mother

3. MODERATE instances (3 or 4) of Initiating/Soliciting Social Interactions with Mother

4. MANY instances (5 or 6) of Initiating/Soliciting Social Interactions with Mother

5. VERY HIGH (7 or more) instances of Initiating/Soliciting Social Interactions with Mother

Second Scale: Complex Initiations/Solicitations~ use for STP-SF <u>only</u>
1. NO looks at mother and NO facial or vocal expressions or gestures to mom.

2. Infant looks at mother and also exhibits 1-2 facial or vocal expressions or gestures to mom

3. Infant looks at mother and also exhibits 3-4 facial or vocal expressions or gestures to mom,

4. Infant looks at mother and also exhibits 5-6 facial or vocal expressions or gestures to mom

5. Infant looks at mother and also exhibits 7+ facial or vocal expressions or gestures to mom

Object Engagement: (adapted from the MACY sample; Beeghley, 2006; Clark, 1985; Tronick & Weinburg, 1999). Use this scale during all tasks. This is the degree to which the infant is able to initiate and/or sustain active interest in and engagement with objects. "Active" refers here to intent toward focused attention and/or manual inspection/examination of objects. At seven months, this includes reaching for an object, banging, shaking, or mouthing objects, in addition to rudimentary attempts to sort and manipulate objects. In the Still Face Paradigm, "objects"

refer to car seat straps, clothing, parts of body (e.g., fingers, toes), the person filming/camera, or self (reflection) in the mirror. *Note:* infants may engage with objects alone, or with mom; joint attention to objects will *also* be addressed in *Infant Social Engagement.* **Scores are assigned based on frequency and duration of Object Engagement.**

1. **NO instances of Object Engagement**

2. **SOME instances (1 or 2) of Object Engagement, or one moderate instance of Object Engagement**

3. **MODERATE instances (3 or 4) instances of Object Engagement, or two moderate or prolonged instances of Object Engagement (infant is engaged half of the time).**

4. **MANY instances (5 or 6) of Object Engagement, 3 or 4 instances of moderate or prolonged Object Engagement (the infant is engaged more than half of the time).**

5. **VERY HIGH (7 or more) instances of Object Engagement, or many moderate or prolonged instances of object engagement (the infant is engaged almost all/all the time).**

==Infant Social Engagement:== (adapted from the MACY sample; and Beeghley, 2006). *Use this scale with all tasks.* This scale measures the extent to which the infant participates with the mother for sustained amounts of time in social activities and social games (with or without toys). At this age, activities will usually be mother-initiated. This includes joint attention to toys, during mastery or pretend tasks, social games such as hide and seek, peek-a-boo, tickling games, and any social game involving turn-taking, all count as social engagement. In coding, consider nonverbal cues that signal social engagement. For example, the degree to which the infant is physically oriented to the mother (e.g., does the infant face the mother? Or is the infant's body oriented toward the mother? Does the infant seek proximity to the mother?). *Note:* An infant whose attempts to engage are ignored, unnoticed, or rebuked by the mother should be given credit for his/her attempts (desire to engage with the mother). ***Note: in the Still Face Paradigm Still Face, scores are assigned based on the percentage of time the infant <u>looks at</u> mom.***

1. **NO instances of Infant Social Engagement**. No social engagement or joint object play with the mother is observed. The infant primarily explores toys alone or engages in negative social interactions with the mother.

2. **SOME instances of Infant Social Engagement** Infant is engaged infrequently in social interaction with the mother. The infant rarely exhibits any active, sustained effort to include the mother in play activities or social interaction. In the SFP, Infant infrequently looks at mom.

3. **MODERATE instances of Infant Social Engagement.** Infant engages in social interaction with the mother or in joint attention to objects about half the time. Or there are a few periods of sustained, active social engagement. In the SFP, infant *looks at* mom about half of the time.

4. **MANY instances of Infant Social Engagement.** Infant is actively engaged with the mother more than half the time. This includes many brief periods of social interaction, and/or more than

a few periods of sustained, active positive social engagement. In the SFP, infant *looks at* mom more than half of the time.

5. VERY HIGH instances of Infant Social Engagement. The infant is almost all or always engaged in social interactions or joint object play with the mother. His/her active involvement and persistence may wax and wane to some extent, but this occurs infrequently and does not characterize the interaction. In the SFP, infant *looks a*t mom almost all/all the time.

Soothability: (Adapted from the MACY sample, Clark, 1985; Huth-Bocks & Dayton, 2001; Miller, 1998; Tronick & Weinberg, 1999). Of note: ***Use this scale during the Still Face Paradigm only***. For Infant, soothability is the extent to which the infant can regulate distress. Signs of distress include: <u>subtle</u>: brief negative facial expressions (pouts, frowns), negative vocalizations (whining, fussing), autonomic stress indicators (hiccups, spit ups, sneezing); <u>moderate</u>: clear-cut or sustained negative facial expressions or vocalizations, or frequent autonomic indicators (including postural collapse) or intermittent crying; <u>high</u>: full blown crying bouts with or without anger.

1. NO Regulation or ESCALATING regulation
      Infant may be dysregulated, or infant may be calm or nearly calm initially, escalating over time. Attempts to soothe by mother and/or to self-soothe don't work (or are absent). Infant demonstrates moderate to high instances of distress, and may even be more upset by mother's attempts to soothe

2. SOME Regulation
      Infa2 1 (vs. 1), infant must show at least 2 calm periods, and also have 2 bouts of distress moderate or subtle distress. This infant can be occasionally calmed by mother, or by self-soothing

3. QUICK Regulation
      Infant is clearly distressed (any form of distress) at some point, but calms quickly and stays calm. To receive a 3 (vs. a 2) this infant should be able to reengage in self-soothing, or with mother

4. GOOD Regulation
      Infant is not at all, or subtly or fleetingly distressed, but maintains a predominantly regulated state. There are no moderate or high instances of distress

5. NOT APPLICABLE
      Infant is not distressed, or infant is well-regulated (there are no signs of self-soothing or autonomic indicators)

Infant Affective Codes

Positive Affect: (Adapted from the MACY sample, Beeghly, 2006; Clark, 1985; Miller, 1998). *Use this scale during all tasks.* This is the extent to which the infant expresses pleasure and enjoyment in general; not only toward the mother or when engaged in a task. Instances of positive affect include

subtler, milder signs, such as: smiles, face-brightening, "chipper, upbeat" vocal tones, positive utterances
enthusiastic positive affect includes: laughter, excitement, interest, expressions of pleasant surprise; vocal excitement and/or enthusiasm; and
very high (joyful) positive affect includes: clapping, arm-waving, exhuberant vocal utterances (squeals of pleasure). Ratings are based on these instances, as well as on frequency, duration and intensity of (subtle to joyful) positive affect.

1. NO Positive Affect
Infant exhibits negative or flat affect or a combination of the two the entire time.

2. SOME Positive Affect
Infant exhibits occasional subtle instances of positive affect, or one instance of enthusiastic positive affect, but no instances of very high (joyful) positive affect.

3. MODERATE Positive Affect
Infant exhibits subtle positive affect for about half of the time, and/or shows enthusiastic positive affect occasionally.

4. MUCH Positive Affect
Infant exhibits subtle positive affect for more than half of the time, and/or exhibits enthusiastic or joyful affect more than a few times.

5. VERY HIGH Positive Affect
Infant exhibits subtle mixed positive affect, enthusiasm, and joy the entire time.

==**Negative Affect:**== (Adapted from MACY sample; Clark, 1985; Feldman, 1998). *Use this scale during all tasks.* This is a graduated scale from no negative affect to high negative affect. Instances of negative affect are: *(subtle):* brief or mild facial expressions of sadness or anger, negative vocalizations (fussing, whining); *(moderate):* clear-cut and frequent negative facial expressions, more sustained negative vocalizations (fussing), marked nonverbal indices of frustration or agitation (limb flailing), irritability; or intermittent crying; *(high):* full-blown sustained crying, clear-cut sustained indices of anger (e.g., rejection of parents while angry) Ratings are based on type of instance, as well as on frequency, duration and intensity.

1. NO Negative Affect
Infant exhibits positive or flat affect or a combination of the two the entire time.

2. SOME Negative Affect
Infant exhibits some instances of subtle negative affect, or one moderate or prolonged instance of subtle negative affect.

3. MODERATE Negative Affect
Infant exhibits subtle or moderate negative affect half of the time.

4. MUCH Negative Affect
Infant exhibits some moderate instances of negative affect along with a few high instances of negative affect, or are one prolonged instance of moderate negative affect.

5. VERY HIGH Negative Affect

Infant exhibits many instances of moderate to high negative affect or one long instance (e.g. inconsolable crying) of negative affect.

==*Withdrawn/Flat Affect.*== (Adapted from the MACY sample; Clark, 1985; and Feldman, 1998). *Use this scale during all tasks*. This is a graduated scale that assesses the infant's degree of withdrawal or disinterest in the joint activity, the bids of the mother, and the environment. *Instances of withdrawn/flat affect include*: listlessness, appearance of helplessness, lack of facial animation, a vacant or unfocused gaze, disengagement, visual scanning (without sustained visual engagement), and little or slowed movement. Both activity level and affect should be taken into account. *Note*: absence of withdrawal/flat affect can be due to positive, negative, or interest affect. Ratings are based on type of instance, as well as on frequency, duration and intensity.

1. NO Withdrawn/Flat Affect

Infant exhibits negative, positive, or interest affect or a combination of the three the entire time.

2. SOME Withdrawn/Flat Affect

Infant exhibits some instances of withdrawn/flat affect, or one prolonged instance of withdrawn/flat affect.

3. MODERATE Withdrawn/Flat Affect

Infant exhibits withdrawn/flat affect half of the time.

4. MUCH Withdrawn/Flat Affect

Infant exhibits many instances of withdrawn/flat affect or are one prolonged instance of withdrawn flat affect.

5. VERY HIGH Withdrawn/Flat Affect

Infant exhibits many instances of withdrawn/flat affect or one long instance (e.g., lack of responsiveness during the entire interaction) of withdrawn/flat affect.

Dyadic Codes

==*Reciprocity/Fluency:*== (Adapted from MACY sample, Clark, 1985; and Feldman, 1998). Use *this scale with all tasks* **except the Still Face Paradigm, Still Face**. This scale assesses the degree of similarity or "goodness of fit," or rhythm and flow, or matching of mother's and infants' energy levels, interest levels, engagement, emotional states. Interactions with high reciprocity/fluency flow smoothly with no sharp turns or changes in levels of affect, rhythm, activity level, or dyadic involvement. Bouts of interaction, and turn-taking are characterized by contingent responsivity and engagement on the parts of both mother and infant, rather than the mother overriding the interest, engagement, or emotional states of the infant. This goodness of fit can apply to both negative and positive states. For example, dyads can be similar in positive ways (happy/enthusiastic or positive/active), or in more negative ways (tense/anxious, flat/constricted, overstimulated). In addition, dyads can be complementary, rather than similar. For example, the mother may be soothing while the child is fussing, but the dyad will exhibit the same "goodness of fit" as dyads that are similar in that their interactions are fluid and smooth.

Complementary dyads will be less common than similar dyads. *Note*: if a dyad does not fit into a type of similar or complementary interaction mentioned, they may fit into another, or into none at all.

1. NO Reciprocity/Fluency
Interaction is not reciprocal or fluent. There are frequent changes in rhythm, or in matching of dyad's energy levels, interest levels, engagement, and emotional states. The dyad appears disconnected, as if they are engaged in parallel, not shared activities, and in at different emotional and engagement levels. Or, the mother overrides the infant's interest levels, engagement, or emotional state.

2. SOME Reciprocity/ Fluency
Interaction is somewhat reciprocal/fluent. These is a consistent flow and rhythm in the dyads' energy and interest levels, engagement, and emotional states some of the time.

3. MODERATE Reciprocity/ Fluency
Interaction is moderately reciprocal/fluent. There is a consistent flow and rhythm in the dyads' energy and interest levels, engagement, and emotional states half of the time.

4. MUCH RECIPROCITY/ Fluency
Interaction is reciprocal/fluent more than half of the time. There is a consistent flow and rhythm in the dyads' energy and interest levels, engagement, and emotional states more than half of the time.

5. VERY HIGH Reciprocity/ Fluency
Entire interaction is reciprocal and fluent. There is a consistent flow and rhythm in the dyads' energy and interest levels, engagement, and emotional almost all or all of the time.

Shared Affective Valence (Clark, 1985). *Use this scale for with all tasks **except the Still Face Paradigm, Still Face***. This scale assesses the degree of similarity or goodness of fit between the mother's and the infant's arousal, activity levels, and/or affective states. Rate positive, neutral, and negative shared affective valences separately.

Positive:

1. None

2. There is positive shared valence during 25% of the interaction

3. There is positive shared valence during half of the interaction

4. There is positive shared valence during 75% of the interaction

5. There is shared positive valence during the entire interaction

Neutral:

1. None

2. There is neutral shared valence during 25% of the interaction

3. There is neutral shared valence during half of the interaction

4. There is neutral shared valence during 75% of the interaction

5. There is shared neutral valence during the entire interaction

Negative:

1. None

2. There is negative shared valence during 25% of the interaction

3. There is negative shared valence during half of the interaction

4. There is negative shared valence during 75% of the interaction

5. There is shared negative valence during the entire interaction

Appendix E

APGAR-SATISFACTION TAB:

The following questions have been designed to help us better understand you and your family. Family is defined as the individual(s) you usually live with. If you live alone, your 'family' consists of persons you now have the strongest emotional ties to.

How often are the following statements true for you? You may answer on a 0- 4 scale. 0 = never, 1= hardly ever, 2= some of the time, 3 = almost always, and 4 = always. If at any time you would like me to repeat this, please ask. *INTERVIEWER: It may help to read all of the options after each question.*

	Never	Hardly ever	Some of the time	Almost always	Always
a. You are satisfied that you can turn to your family for help when something is troubling you.	0	1	2	3	4
b. You are satisfied with the way your family talks over things with you and shares problems with you.	0	1	2	3	4
c. You are satisfied that your family accepts and supports your wishes to take on new activities or directions.	0	1	2	3	4
d. You are satisfied with the way your family expresses affection and responds to your emotions, such as anger, sorrow and love.	0	1	2	3	4
e. You are satisfied with the way you and your family share time together.	0	1	2	3	4
	Never	Hardly ever	Some of the time	Almost always	Always

Appendix F

CD-RISC TAB:

This last portion of the interview will be asking you some questions about how you see yourself and how you handle changes in your life…The options for this questionnaire are Not True at all, Rarely True, Sometime True, Often True, True nearly all of the time and I can repeat those options at any time. INTERVIEWER: If the subject gets confused, you may omit the word "True" from the options

CD-RISC	Not true at all	Rarely true	Sometimes true	Often true	True nearly all of the time
I am able to adapt when changes occur.	0	1	2	3	4
I have at least one close and secure relationship which helps me when I am stressed.	0	1	2	3	4
When there are no clear solutions to my problems, sometimes fate or God can help.	0	1	2	3	4
I can deal with whatever comes my way.	0	1	2	3	4
Past successes give me confidence in dealing with new challenges and difficulties.	0	1	2	3	4
I try to see the humorous side of things when I am faced with problems.	0	1	2	3	4
Having to cope with stress can make me stronger.	0	1	2	3	4
I tend to bounce back after illness, injury, or other hardships.	0	1	2	3	4
Good or bad, I believe that most things happen for a reason.	0	1	2	3	4
I give my best effort no matter what the outcome might be.	0	1	2	3	4
I believe I can achieve my goals, even if there are obstacles.	0	1	2	3	4
Even when things look hopeless, I don't give up.	0	1	2	3	4
During times of stress/crisis, I know where to turn for help.	0	1	2	3	4

	Not true at all	Rarely true	Sometimes true	Often true	True nearly all of the time
Under pressure I stay focused and think clearly.	0	1	2	3	4
I prefer to take the lead in problem solving, rather than letting others make all the decisions.	0	1	2	3	4
I am not easily discouraged by failure.	0	1	2	3	4
I think of myself as a strong person when dealing with life's challenges and difficulties.	0	1	2	3	4
I can make unpopular or difficult decisions that affect other people, if it is necessary.	0	1	2	3	4
I am able to handle unpleasant or painful feelings like sadness, fear and anger.	0	1	2	3	4
In dealing with life's problems, sometimes you have to act on a hunch, without knowing why.	0	1	2	3	4
I have a strong sense of purpose in life.	0	1	2	3	4
I feel in control of my life.	0	1	2	3	4
I like challenges	0	1	2	3	4
I work to attain my goals, no matter what roadblocks I encounter along the way.	0	1	2	3	4
I take pride in my achievements.	0	1	2	3	4

Appendix G

QOL [QOLI]

The next things we want to ask are about your quality of life overall. How satisfied are you with the following aspects of your life? You can respond on a 1- 5 scale of "very dissatisfied" to "very satisfied". 1= very dissatisfied, 2=dissatisfied, 3=neutral, 4 = satisfied, and 5= very satisfied.

How satisfied are you with….	VERY DISSATISFIED	DISSATISFIED	NEUTRAL	SATISFIED	VERY SATISFIED
a) **Your health**	1	2	3	4	5
b) **Your standard of living**	1	2	3	4	5
c) **Your work in a job, at school, or at home**	1	2	3	4	5
d) **Your leisure time activities**	1	2	3	4	5
e) **Your love relationship**	1	2	3	4	5
f) **Your extended family relationships**	1	2	3	4	5
g) **Your friendships**	1	2	3	4	5
h) **Your house or apartment**	1	2	3	4	5
i) **Your community**	1	2	3	4	5
	VERY DISSATISFIED	DISSATISFIED	NEUTRAL	SATISFIED	VERY SATISFIED

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ABSTRACT

**RESILIENCE AS A PREDICTOR OF MATERNAL POSTPARTUM QUALITY
OF LIFE IN A SAMPLE OF WOMEN WITH A HISTORY OF TRAUMA**

by

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Changes in economic, social, and living situations make the postpartum period especially challenging. Despite the growing need to study postpartum mothers' quality of life to determine how to buffer against risk, a vast majority of studies in this area have focused on what *negatively* impacts quality of life. The current study sought to determine whether factors such as positive parenting, family functioning and resilience positively predict quality of life when controlling for annual household income, depressive symptomatology and posttraumatic stress symptomatology. Using hierarchical regression, it was confirmed that positive parenting and family functioning significantly contribute to quality of life, but resilience contributes above and beyond these factors, all while controlling for annual household income, depressive symptomatology and posttraumatic stress symptomatology**.** Results indicate that fostering resilience in postpartum mothers may be essential to promoting greater life satisfaction, especially in the face of maternal mental health symptoms. Limitations and implications are discussed.

AUTOBIOGRAPHICAL STATEMENT

Jessica Irwin graduated from the University of Michigan, Ann Arbor, in 2010 with a B.A. in Psychology. She is now a doctoral student at Wayne State University working toward a degree in Developmental Psychology with a minor in Quantitative Methods.