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Maternal Insightfulness Protects Against the Detrimental Effects of Postpartum Stress on Positive Parenting Among at-risk Mother-Infant Dyads

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Abstract

The current study evaluated whether maternal insightfulness can buffer the negative influence of postpartum life stressors on maternal parenting behaviors. Participants were 125 mother-infant dyads (55% boys) who present a subsample of a larger longitudinal study on maternal maltreatment during childhood and its impact on peripartum maternal adjustment. Women were primarily white and middle class. At 4 months postpartum, mothers reported on the stressful life events experienced after the child's birth and current depressive symptoms. At 6 months postpartum, maternal parenting quality was videotaped during mother-infant interactions and maternal insightfulness was assessed using the Insightfulness Assessment (Koren-Karie, Oppenheim, Dolev, Sher, & Etzion-Carasso, 2002). Insightfulness significantly moderated the effect of stressful life events on maternal parenting behaviors. Mothers who were insightful displayed high levels of positive parenting during interactions with their infant regardless of the amount of stressful life events experienced. In contrast, mothers classified as non-insightful showed less positive parenting as they experienced more stressful life events. Findings highlight the protective role of maternal insightfulness in the face of postpartum stress, and suggest that efforts to enhance insightfulness during the early postpartum period may be particularly relevant for women in high-risk contexts.

Keywords

Insightfulness; stressful life events; parenting; sensitivity; mother-infant interaction

Introduction

Insightfulness refers to “parents’ capacity to consider the motives underlying their children’s behavior and emotional experiences in a complete, positive, and child focused manner, while taking into consideration their children’s perspectives” (Koren-Karie, Oppenheim, Dolev, Sher, & Etzion-Carasso, 2002, p. 534). This concept is based on the tenets of attachment theory, such that a mother’s ability to correctly read her child’s signals, that is, to understand the world from her child’s point of view, underlies the capacity to respond sensitively to the child (Ainsworth, Blehar, Waters, & Wall, 1978; Fonagy, Steele, Steele, Moran, & Higgit, 1991). For decades, insightfulness has been recognized as an important component of maternal representations of their children (George & Solomon, 1996; Zeanah & Benoit, 1995), but only more recently, with the development of the Insightfulness Assessment (IA; Koren-Karie et al., 2002), has it become a focus for research.

In the IA, parents’ are asked about their perceptions of their child’s thoughts and feelings, and their own thoughts and feelings during three previously recorded parent-child dyadic interactions, while watching a video of these exchanges (Koren-Karie et al., 2002). Their responses are evaluated using ratings reflecting multiple dimensions of insightfulness, including openness to new information about their child, coherence of thought, focus on the child during the discussion, complexity and richness in descriptions of the child, acceptance of the full range of the child’s behavior and a view of the child as a separate person, as well as expressions of anger or worry.

Based on these ratings, caregivers are classified as either positively insightful or non-insightful (one-sided, disengaged, or mixed). Positively insightful parents generally try to understand the motives that underlie their child’s behavior and are open to gaining new insights during the discussion of the video segments of dyadic interactions. Their descriptions are coherent and child-focused, conveying acceptance of their child. In contrast, parents classified as non-insightful (one-sided, disengaged, or mixed) may have rigid notions of their child’s motives and behavior, show difficulties maintaining the focus of the conversation on the child, provide descriptions that lack emotional involvement, or switch from one style to another during the interview (Oppenheim & Koren-Karie, 2009).

IA classifications are associated with observed maternal sensitivity during mother-infant interactions. In their study of 129 Israeli mothers and their healthy 12- to 17-month-old infants, Koren-Karie et al. (2002) report that women classified as positively insightful were more sensitive during free play in the laboratory and structured play at home, as compared to mothers classified as one sided or disengaged. This sample was relatively low risk, as all infants came from two parent families and were generally middle-class in socioeconomic status. Additional studies demonstrate similar results among mothers of children with neurodevelopmental concerns. For example, Oppenheim, Koren-Karie, Dolev, and Yirmiya (2012) and Hutman, Siller, and Sigman (2009) report links between positive insightfulness

and observed maternal sensitivity and synchronous communication during interactions among mothers of children with Autism Spectrum Disorder. Similarly, Oppenheim, Feniger-Shaal, and Koren-Karie (2017) identified the same association among mothers of children with an intellectual disability.

Although it is understood that mothers' representations of their child are influenced by a myriad of experiences, including their own early caregiving history as well as more recent adversity, such as trauma, stress, and mental health problems (Malone, Levendosky, Dayton, & Bogat, 2010; Trapolini, Ungerer, & McMahon, 2008), studies have rarely evaluated whether insightfulness can buffer some of the detrimental effects of these stressors on maternal parenting behaviors, and this was the goal of the current study.

Insightfulness as a Moderator of Postpartum Stressful Life Events

The postpartum period is a time of joy and excitement, but also a significant transition that brings about new demands and challenges. As such, it is also a period of increased vulnerability; many women describe high levels of stress associated with taking care of their young infant (Goldstein, Diener, & Mangelsdorf, 1996), and their high levels of stress can undermine their ability to care for and form a relationship with their child (Crnic, Greenberg, Robinson, & Ragozin, 1984). Additional stressful and traumatic events experienced postpartum may be particularly impactful to maternal caregiving behaviors; research has demonstrated that stressful life events, including financial and housing stress, health problems, victimization, and relationship conflict, during the first year postpartum predict decreased maternal sensitivity (LeCuyer-Mause, 2003; McFadden & Tamis-LeMonda, 2013; Pianta & Egeland, 1990). Notably, there is significant heterogeneity in the parenting capacities of women who experience high levels of stress during the postpartum period (Martinez-Torteya et al., 2014). Research has identified multiple factors that compound the effects of stress on parenting, including lack of social supports (Kotch et al., 1995; Simons, Lorenz, Conger, & Wu, 1992) and a history of negative childrearing experiences growing up (Hill, Stein, Keenan, Wakschlag, 2006), but maternal characteristics that promote positive parenting in the face of stress have been largely unexplored.

Maternal insightfulness may protect against the negative effects of postpartum stressful life events on maternal caregiving behaviors. Women who can hold their child in mind *separately* from their own stress-related distress are likely to better understand the child's needs and respond in a sensitive way. Similarly, *acceptance* of the child's behavioral motives and emotional responses, a key element of insightfulness, may also decrease anger and frustration during parent-child interactions, counteracting the effects of stress (Rodriguez & Green, 1997). No study to date has tested this hypothesis. However, Gray, Forbes, Briggs-Gowan, & Carter (2015) reported that maternal insightfulness moderated the association between child exposure to violence, a potent stressor for caregivers, and child internalizing and externalizing behaviors, such that trauma exposed children only experienced more internalizing and externalizing problems when their caregivers were not insightful. Although this study did not examine parenting behaviors, parenting is a likely mechanism of transmission for the joint effects of stress and insightfulness that were reported.

Present Study

The goal of the present study was to evaluate whether maternal insightfulness moderates the negative effects of postpartum stressful life events on maternal parenting behaviors during mother-infant interactions in a sample of women with heightened risk for parenting casualty based on their own adverse childhood histories. We hypothesized that stressful life events (e.g., divorce, money problems, harassment), would only be associated with decreased positive parenting among women who were *not* Positively Insightful, and women who were Positively Insightful would maintain high levels of positive parenting even if they encountered high levels of stressful life events. Demographic characteristics, including income, maternal education, maternal young age, and single parent status, as well as maternal postpartum depressive symptoms were used as covariates in the analyses due to their previously reported associations with maternal insightfulness (Quitmann et al., 2012) and parenting behaviors (Chaudhuri, Easterbrooks, & Davis, 2009; Field, 2010; McFadden & Tamis-LeMonda, 2013).

Method

Participants and Procedures

Participants were 125 women and their infants (54% boys, 46% girls), a subset of the participants of a larger longitudinal study ($N = 268$) that evaluated the effects of childhood maltreatment on postpartum psychosocial adaptation, entry to motherhood, parenting beliefs and behaviors, and ultimately, on the development of the mother-child relationship and subsequent child developmental trajectories (NIMH K23 MH080147). Participants completed a telephone interviews at 4 months postpartum, and two home visits when infants were about 6 to 7 months old.. Data were collected in the years 2007–2010. Written, informed consent was obtained from all participants. The study was approved by the Institutional Review Board of the local university. For this manuscript, we focus on women's reports of postpartum stressful life events assessed 4 months postpartum, and data from the 6-month postpartum home visit, including observed parenting and IA classification.

Women were recruited for the study in one of two ways: as postpartum follow-up to a study on the prenatal effects of PTSD on childbearing (previously reported in Seng, Low, Sperlich, Ronis, & Liberzon, 2009), or through community advertisement at 6–8 weeks postpartum (previously reported in Martinez-Torteya et al., 2014). Recruitment for the Seng et al. (2009) study accessed potential participants through direct invitation when women presented to their initial antenatal visit at three pregnancy clinics in a large Metropolitan Area. Recruitment in the community was conducted by posting flyers in childcare centers and pediatric offices within the same catchment area. In both recruitment strategies, we asked for participation of women who self-identified as having experienced a “challenging upbringing”, and interested women provided their contact information. Inclusion criteria for potential participants was English-speaking, maternal age 18 and older, free of psychosis or active substance use disorder within past 3 months, and baby born > 36 weeks gestation and free of any major medical or developmental condition. Potential participants underwent a screening phone call at 4 months postpartum to enter the study. During the phone interview, women also completed the Childhood Trauma Questionnaire (CTQ; Bernstein & Fink,

1998) to determine childhood maltreatment history. Overall, the project oversampled for childhood abuse/neglect experiences, and 70% of participants were positive for childhood maltreatment.

For the subsample evaluated in this study ($n = 125$), maternal age at intake ranged from 18 to 44 years ($M = 28.82$, $SD = 5.45$). Women were included in this subsample if they completed the Insightfulness Assessment and coded mother-infant interactions were available. From the parent sample, 76 women were lost to follow up after completing their initial 4-month phone interview. Nine women completed the 6-month interview, but parenting observations were unavailable due to technical problems. Fifty-eight women completed the 6-month interview but did not complete the IA because this assessment was added to the interview when data collection was in process or due to technical difficulties. Sixty-three percent of women self-identified as Caucasian, 24% as African American, 4% as Asian or Pacific Islander, 3% as Latina, 3% as Multiracial, and 3% as “other” regarding their race/ethnicity. The highest level of education achieved was high school or less for 15% of the women, some college, associates degree or vocational training for 28%, a college degree for 30% and post-bachelors education for 27% of the sample. Sixty-eight percent of women were married, 9% were living with their partner, and 23% were not living with a partner. Median annual household income was \$45,000 to \$49,000, with 29% of women reporting less than \$25,000 and 23% reporting more than \$100,000.

All participants completed the phone screening when their infants were about 4 months old and completed a number of self-report questionnaires (i.e., child maltreatment history, depression, and stressful life events) over the phone. Women also completed two dyadic home assessments when their baby was 6 to 7 months old. During the first home visit, mothers completed three mother-infant interaction tasks: free play, two teaching tasks and the Still Face Paradigm (SFP; Tronick, Als, Adamson, Wise, & Brazelton, 1978), and were left with a packet of self-report questionnaires to complete, which was retrieved at the second home visit (approximately 1–2 weeks later). These laboratory interactive tasks have good ecological (Goossens & Melhuish, 1996), concurrent (Clark, 1999) and predictive validity (Aoki, Zenah, Heller, & Bakshi, 2002).

During the 5-minute free play task, a standard set of age-appropriate toys provided by the study team was arranged on a quilt on the floor, and mothers were invited to play with their infant as they normally would. Following the free play session, dyads participated in two consecutive teaching tasks, each lasting about 3 minutes. In the first task, mothers were instructed to teach their infant how to put colorful plastic blocks into a bucket. In the second task, mothers were instructed to teach their infant how to stack a set of nesting cups and then knock them down. Both teaching tasks were designed to be beyond the infants’ developmental capacities and were used to provide an assessment of maternal parenting under more challenging circumstances than the free play context.

After these tasks, mothers and infants participated in the SFP. This paradigm has been described extensively elsewhere (Martinez-Torteya et al., 2014). For the current paper, we used only the “reunion” episode of the SFP, the 2-minute interaction following the maternal “still-face” episode, a period during which the mother held a neutral face and was

emotionally unresponsive to the infant. During the reunion episode, the mother was invited to re-engage with her infant in face-to-face play without the use of toys or pacifiers. At the end of the first home visit, following the interactive tasks, mothers completed the Insightfulness Assessment, using selected video clips from the free play task, teaching tasks, and the reunion episode from the SFP. The examiners who conducted the home visits were all trained Bachelor's- or Master's-level study team members.

Measures

Maternal parenting.—Trained coders masked to the study's hypotheses, maternal trauma history, and other study variables rated multiple dimensions of maternal, infant, and dyadic behavior from the videotapes of mother-infant interaction during the free play and teaching tasks using 5-point Likert scales from the Infant-Parent Coding System (*MIPCS*; Earls, Muzik, & Beeghly, 2009) used in the Martinez-Torteya et al. (2014) study. This rating system was developed specifically for this study based on previously validated scales such as the Parent-Child Early Relational Assessment (PCERA; Clark, 1985; 1999), or the Coding Interactive Behavior Manual (Feldman, 1998), as well as based on theoretical work by Ainsworth (1967; 1977; 1978), Lyons-Ruth (1999), Crittenden (2003), and Main and Hesse (1990). The rating scales included in this scoring system are designed for scoring qualitative dimensions of parent, infant, and dyadic behavior during parent-infant interactions in unstructured (free play) tasks and structured (parent teaching) tasks. Each scale ranged from 1 ("no" or "very little") to 5 ("very high"). In the present study, we evaluated five ratings of positive maternal behaviors in free play and the teaching task: behavioral sensitivity, engagement, warmth, affective sensitivity, and flexibility.

Following a conceptually driven principal-components factor analysis, a "Positive Parenting" composite score was computed for the free play context and the teaching tasks, separately. The composite scores in each context were created by averaging scores from the five interrelated positive behavior scales: behavioral sensitivity, engagement, warmth, affective sensitivity, and flexibility. The standardized Cronbach's alpha for the Positive Parenting composite during free play was .92, and scores ranged from 1.63 to 4.58 ($M = 3.36$, $SD = .67$). The standardized Cronbach's alpha for the positive parenting score during the teaching tasks was .92 and scores ranged from 1 to 4.75 ($M = 2.24$, $SD = .95$).

Intercoder reliability.—Intercoder reliability was evaluated based on 40 independently rescored, randomly selected videotapes. The intra-class correlations (ICCs) for the six maternal scales used in this study were generally well above .80, with one exception (see below), denoting very good inter-coder agreement: Maternal Behavioral Sensitivity (ICC free play = .85; ICC teaching tasks = .86); Maternal Engagement (ICC free play = .86; ICC teaching tasks = .71); Maternal Warmth (ICC free play = .84; ICC teaching tasks = .91); Maternal Affective Sensitivity (ICC free play = .86; ICC teaching tasks = .85; Maternal Flexibility (ICC free play = .82; ICC teaching tasks = .82)

Insightfulness classification.—The Insightfulness Assessment was completed at the end of the first 6-month home visit. Assessors used 3 standard video clips from the mother-infant interactive tasks (first 3 minutes of free play, first 3 minutes of the teaching tasks, and

the 2-minute SFP reunion episode) and observed them with the mother. After viewing each clip, the participant was asked about her child's thoughts and feelings, as well as her own thoughts and feelings using the semi-structured Insightfulness Assessment (IA) interview. The procedure was audio recorded and all participant responses were transcribed for later coding. The transcripts were scored by one of the co-authors, who co-developed the IA instrument (N. K-K). Scoring yielded ratings for 9 dimensions (insight, coherence, acceptance, richness, openness, separateness, focus, worry, and anger) and a classification for each mother as either positively insightful, one-sided, disengaged, or mixed. We utilized a dichotomous variable for IA classification (insightful = 0 vs. non-insightful = 1) for all statistical analyses.

Postpartum stressful life events.—During the 4-month telephone interview, mothers reported on their exposure to specific stressors and traumatic events during the time interval between 6 weeks and 4 months postpartum using a modified version of the Life Stressors Checklist (*LSC*; Wolfe, Kimerling, Wilson, & Keane, 1997). Items included common stressful or traumatic experiences, including environmental and interpersonal stressors (e.g., divorce, money problems, harassment). The total score ranged from 0 to 6, and 68 (54%) participants experienced at least one stressful life event.

Demographic risk index.—During the 6-month home visit, mothers reported on their current relationship status, race/ethnicity, age, education level, and their family's total annual income. A cumulative risk score was obtained for each mother by assigning a point for the presence of five demographic risk factors (single parent, minority status, annual income less than \$25,000, high school education or less, and age 22 or younger), and then summing the risk points. Scores in this sample ranged from 0 to 5 ($M = 1.12$, $SD = 1.42$); 49% of the women reported no demographic risk factors, 19% endorsed one category, 14% endorsed two, 7% experienced three, 8% experienced four, and 2% reported all five risks. A cumulative risk index was used because it is a powerful and widely used predictor of parenting (Trentacosta et al., 2008) and is especially recommended to account for variability in demographic risk in relatively small samples (Burchinal, Roberts, Hooper, & Zeisel, 2000).

Maternal depressive symptoms.—Mothers reported current depressive symptoms during the phone interview at 4 months postpartum using the Postpartum Depression Screening Scale (*PPDS*; Beck & Gable, 2000). The PPDS includes 35 items rated on a 5-point Likert scale (1=strongly disagree to 5=strongly agree). Scores are summed to yield a total symptom score, and a score of 80 or higher reflects clinically significant depression (Beck & Gable, 2000). In the present study, we utilized a dichotomous variable denoting the presence/absence of elevated depressive symptoms. The PPDS has good sensitivity and specificity (0.78 and 0.99, respectively) and is highly associated with a structured-interview (SCID) depression diagnosis. In prior research with postpartum women, internal consistency for the PPDS was very high ($\alpha = 0.97$; Beck & Gable, 2000). In the current sample, PPDS scores ranged from 35 to 155 ($M = 65.05$, $SD = 23.12$) and 20% of women reported clinically significant depression.

Data Analysis

Preliminary analyses.—The pattern of data missingness was evaluated using Little MCAR's statistic on SPSS 25. Descriptive statistics for each predictor were calculated for the full sample, as well as by insightfulness class, and mean scores for insightful and non-insightful women were compared using ANOVA. Bivariate correlations were estimated using all variables. Pearson's r was used for continuous variables and Kendall's tau to evaluate associations between one continuous and one dichotomous variable. Because the positive parenting composites for free play and teaching tasks were highly correlated ($r = .81$), the average of these two scores was used as our index of maternal positive parenting. Skewness and Kurtosis statistics indicated the total stressful life events score was not normally distributed (George & Mallery, 2010); the log transformation was used to address this issue.

Hypothesis testing.—Linear regression with bootstrapping (1000 samples) was used to explore whether *insightfulness moderated the link between postpartum stressful life events and maternal parenting*, controlling for demographic risk and maternal depressive symptoms. The dichotomous maternal insightfulness variable (insightful vs. non-insightful) and the mean centered, log transformed postpartum stressful life events score were included in the first step of the model. Demographic risk and total postpartum depressive symptoms were also included in the first step of the model as covariates. In the second step of the model, the interaction between insightfulness and mean centered, log transformed postpartum stressful life events was entered.

Results

Missing Data

Less than 3% of data points were missing completely at random (range 0% to 5% per variable), Little's MCAR Chi-Square = 26.23, $df = 34$, $p = .83$. Data was imputed using the Expectation Maximization method. Means and standard deviations for all variables remained within 1.7% of the original values in the imputed dataset and the imputed data were used for all statistical analyses.

Descriptive Statistics and Bivariate Correlations

Women reported experiencing an average of one stressful life event between 6 weeks and 4 months postpartum. Among the stressful life events reported, about 23% reported severe financial problems, 11% indicated that they had to take care of someone who was very sick, 9% experienced the death of a loved one, 8% experienced a serious illness, 4% experienced a serious accident, 4% experienced a separation or divorce, 4% went to jail or had a loved one go to jail, 3% was robbed or witnessed a robbery, and 2% reported sexual harassment. With regard to IA Classification, 73 of the participants (58.4%) were classified as Positively Insightful and 52 (41.6%) were classified as Non-Insightful. Among women in the Non-Insightful group, 13 (10.4%) were classified as One-Sided, 35 (28%) as Disengaged, and 4 (3.2%) as Mixed.

Descriptive statistics for the study variables are presented for the complete sample and for women in the two insightfulness groups in Table 1. Results of one-way ANOVAs comparing the insightful vs. non-insightful groups on the study variables are also provided in Table 1. Compared to women classified as Non-Insightful, women classified as Positively Insightful exhibited a higher level of observed positive parenting. They also reported a lower level of demographic risk and had marginally higher levels of postpartum depressive symptoms.

Bivariate correlations between the main study variables show positive parenting was associated with less stressful life events, less depressive symptoms, and less demographic risk (see Table 2).

Insightfulness as a Moderator of Maternal Postpartum Stressful Life Events

Tolerance statistics were within acceptable limits ($>.3$) for all variables in the model. The estimated model accounted for 38% of the variance in Positive Parenting scores (Adjusted $R^2 = .41$, $p = .00$), and the interaction term significantly enhanced model fit (F change = 15.99, $p = .00$). As hypothesized, the interaction between insightfulness classification and stressful life events was significant, $b = -.40$, $p = .04$. Preacher, Curran, & Bauer's (2006) method was used to calculate simple slopes for each group and plot the interaction. Figure 1 illustrates the association between stressful life events and positive parenting for insightful and non-insightful women.

For mothers classified as Positively Insightful, stressful life events were not associated with reductions in positive parenting ($b = -.039$, $p = .78$). However, women classified as Non-insightful showed less positive parenting during mother-infant interactions as they experienced more stressors ($b = -.442$, $p = .02$). Demographic risk was a significant predictor of less maternal positive parenting ($b = -.21$, $p = .00$), but depression status was not a significant predictor ($b = .00$, $p = .50$).

Discussion

In the present study, we examined the role of maternal insightfulness on observed parenting behaviors as a moderator of the effect of postpartum stressful life events. We predicted that women classified as positively insightful in the IA would be protected against the negative effects that postpartum life stressors exert on parenting. As expected, maternal insightfulness moderated the relationship between postpartum stressful events and positive parenting. That is, mothers who were classified as Positively Insightful did not show decreases in positive parenting behaviors associated with stressful life events. On the other hand, women who were Not Insightful showed less positive parenting as they experienced more stressful life events. The buffering effect of insightfulness was significant even after accounting for the impact of other potent determinants of maternal caregiving, including demographic risk and depressive symptoms.

The IA is a novel tool to evaluate caregivers' capacity to understand the world from their child's point of view (Koren-Karie et al., 2002). A growing body of research suggests that insightfulness as assessed with the IA is associated with relevant domains of parenting in both normative and at-risk populations (Huttman et al., 2012; Oppenheim et al., 2012). To

our knowledge, the present study is the first to date to use the IA with a sample of high risk women and evaluate their insightfulness very early in the developing parent-child relationship, when infants were 6 months old. Notably, more than half of the women (58%) in this sample were classified as Positively Insightful. This is remarkably similar to the rates reported by Koren-Karie et al. (2002) for mothers of 12 to 18 month-old infants in their low risk sample. Our study extends their findings to a higher risk sample of postpartum women of younger infants.

Our study also adds to the literature on the validity of the IA. In both bivariate and multivariable analyses controlling for demographic risk, insightfulness classification is associated with concurrent positive parenting behaviors as measured in multiple contexts, including both unstructured, low-demand, as well as structured and more challenging interactions. These results are consistent with findings from previous research, which document associations of maternal insightfulness with positive dimensions of parenting, such as sensitivity and synchronous communication (Koren-Karie et al., 2002; Oppenheim et al., 2010, 2011). The current findings are also consistent the tenets of attachment theory, and could be explained by the notion that that a mother's ability to understand the world from her child's point of view facilitates her capacity to engage in sensitive responsive caregiving (Fonagy, Steele, Steele, Moran, & Higgit, 1991).

Women classified as Positively Insightful were less likely to be young, a single parent, under educated, or poor, as compared with women classified as Non-Insightful. Others report that higher socioeconomic status (SES) and literacy are positively linked to women's insightfulness (Quitmann et al., 2002) and to other narrative-based instruments of mental representations (Tarabulsy et al., 2005). Similarly, in the present study, mothers' average postpartum depression symptom levels were marginally higher among women classified as Non-Insightful, compared to women classified as Positively Insightful, although this difference was not statistically significant. This trend is generally consistent with the findings of Quitmann et al. (2012), who reported that women seeking treatment for a depression diagnosis were less likely to be classified as Positively Insightful, and more likely to be classified as Non-Insightful (either One-sided or Disengaged), compared to women without a diagnosis of depression. The less pronounced effect of postpartum depression in the current study may be a result of the unique characteristics of our sample: Quitmann et al. (2012) evaluated a treatment-seeking sample, a group more likely to be impaired by their depressive symptoms than our community based sample.

As hypothesized, insightfulness moderated the effects of postpartum stressful life events on maternal positive parenting behaviors. That is, women who were classified as Positively Insightful who also experienced postpartum life stressors displayed similar levels of warmth, engagement, sensitivity, and flexibility during mother-infant interactions than women who did not experience life stressors in the postpartum period. On the other hand, women classified as Non-Insightful (One-sided, Disengaged, or Mixed) who also experienced postpartum life stressors exhibited a lower level of positive parenting. Although no other studies have looked at Insightfulness as a protective factor that can enhance maternal parenting, our findings are somewhat consistent with reports by Adam et al. (2004) that

balanced states of mind in the Adult Attachment Interview (Main, George, & Kaplan, 1985), a construct related to insightfulness, buffered the effects of maternal distress on parenting.

Our findings should be interpreted in light of the limitations of this study. First, women's life stressors were assessed using via self-report and subject to recollection biases. External corroboration of these reports would enhance the validity of our assessments. However, the study integrated multiple assessment methods, including observations mother-infant interactions in multiple interactive contexts in the home setting and interviews, supplemented with video, for the IA. A second limitation is that insightfulness and parenting behaviors were measured concurrently, making it impossible to ascertain the directionality of effects. Future studies using a longitudinal design are needed to help us understand the causal mechanisms that may underlie the associations between maternal insightfulness and parenting.

Lastly, this is the first study to our knowledge to document that maternal insightfulness may serve as a protective factor against the effects of postpartum stressors on maternal caregiving capacities. Although preliminary, our findings are promising and suggest that promoting insightfulness as part of prevention and intervention efforts may be particularly fruitful among mothers of young babies who report high levels of life stress during the postpartum period. More research is needed to develop, time, and guide clinical applications.

In conclusion, this study is one of the first to examine insightfulness among a relatively large sample of high risk mothers and their young babies using a multi-method (self-reports, interviews, observations) approach. Insightfulness was associated with positive parenting as observed during mother-infant interactions in both unstructured, low-demand, and structured more challenging contexts. In addition, insightfulness buffered the negative effects of postpartum stressful life events on positive parenting behaviors. Findings add to the literature to the validity of the IA as an instrument to better understand the determinants of early parent-child relationships and have the potential to inform prevention and intervention efforts with high risk mother-infant dyads.

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Figure 1. The IA-by-Postpartum Stressful Life Events Interaction Predicts Observed Maternal Positive Parenting

Note: FP = Free Play. TT = Teaching Task

Table 1.

Descriptive Statistics

	Total Sample (<i>n</i> = 125)		Positively Insightful (<i>n</i> = 73)		Non-Insightful (<i>n</i> = 52)		<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Demographic Risk	1.12	1.42	.64	.99	1.79	1.66	23.15 [*]
Depressive Symptoms	65.05	23.12	62.13	23.45	69.16	22.22	2.85 ⁺
Stressful Life Events	.79	.95	.78	1.03	.80	.83	.02
Maternal Positive Parenting (FP and TT average)	3.23	.68	3.46	.57	2.90	.70	23.33 [*]

^{*}
 $p < .05$;

⁺
 $p < .10$

Note: FP = Free Play. TT = Teaching Tasks.

Table 2.

Bivariate Correlations

	2	3	4	5
1. Maternal Positive Parenting (FP and TT average)	-.32 *	-.27 *	-.20 *	-.57 *
2. Insightfulness Class (0 = Insightful; 1 = Non-Insightful)		.05	.15	.34 *
3. Postpartum Stressful Life Events Total			.29 *	.27 *
4. Postpartum Depressive Symptoms				.22 *
5. Postpartum Demographic Risk				

*
 $p < .05$

Note: FP = Free Play. TT = Teaching Task