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Trajectories of parenting behavior and maternal depression

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ABSTRACT

This study investigated trajectories of maternal parenting behavior across the infants' first 18 months of life in relation to maternal depression. Furthermore, predictors of the quality of the mother–infant relationship at 18 months were examined. Participants consisted of three types of mother–infant dyads: mothers with comorbid depression and anxiety ($n = 19$), mothers with depression ($n = 7$) and nondepressed mothers ($n = 24$). Maternal behaviors and the quality of relationship were rated on a global scale (NICHD) from videotaped mother–infant interactions. Maternal behaviors rated at six, 12 and 18 months were collapsed into a composite variable *maternal style*. The quality of the relationship captured as *dyadic mutuality* was rated at 18 months. Comorbid and depressed mothers showed lower quality in maternal style compared with the nondepressed mothers at six months. Over the follow-up the comorbid mothers were lower in maternal style compared to the nondepressed mothers, but the comorbid mothers increased significantly in maternal style despite elevated depression symptoms. Mean maternal style and infant cognitive skills predicted the quality in relationship at 18 months suggesting that the mother–toddler relationship depends on contributions from the mother and the child. Higher growth in maternal style despite of depression symptoms among comorbid mothers was interpreted against the background that the majority of the comorbid mother–infant dyads received several treatments.

1. Effects of depression on maternal parenting and child outcome

Research has shown that children exposed to maternal depression are in risk for a wide range of negative cognitive, emotional and behavioral outcomes (Goodman & Gotlib, 1999; Hay et al., 2001; Murray et al., 2011). Several studies have demonstrated that distal and proximal factors operate jointly over time in linking maternal depression to different developmental pathways in offspring (Cicchetti, Rogosch, & Toth, 1998; Dawson et al., 2003; Downey & Coyne, 1990; Goodman & Gotlib, 1999). Many studies have focused on the proximal factor maternal parenting behavior. Compared to nondepressed mothers, depressed mothers tend to be less sensitive, more withdrawn and self-occupied (Field, 1984; Tronick & Cohn, 1989). This type of parenting, after controlling for demographic variables such as income and maternal education, was related to lower scores on cognitive and verbal development (Murray, 1992; NICHD Early Child Care Research Network, 1999), insecure attachment (Lundy, 2002; Mills-Koonce, Gariepy, Sutton, & Cox, 2008; NICHD Early Child Care Research Network, 1999), child behavior problems (Ghodsian, Zajicek, & Wolkind, 1984), and reduced left frontal brain activity (Dawson et al., 2003). The relations between maternal depression, parenting, and child outcomes are complex since neither depression nor maternal parenting are static entities but are likely to change over time. To understand the development of mother–infant

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interactions in the context of maternal depression is important due to the potential implications for the long-term development of the child (Campbell, Matestic, von Stauffenberg, Mohan, & Kirchner, 2007; Goodman, 2007). Levels of depression symptoms among clinically depressed mothers may change. This could in turn influence the trajectories of mother–infant interaction (Campbell et al., 2007; NICHD Early Child Care Research Network, 1999) since short-lived postpartum depression is not interfering with maternal behavior in the same way as chronic and recurrent depression which are associated with less positive and engaged mother–infant interactions (Campbell, Cohn, & Meyers, 1995). Besides, comorbid depression and anxiety disorder could influence parenting behavior in a different way than depression-only (Feldman, 2007a; Field et al., 2010; Henderson & Jennings, 2003). Some mothers evince adequate parenting despite of high levels of depression symptoms (Carter, Garrity-Rokous, Chazan-Cohen, Little, & Briggs-Gowan, 2001; Mills-Koonce et al., 2008).

Furthermore, infants play an active role in the parent–infant relationship which underscores the bidirectional nature in the process of developmental psychopathology (Cutrona & Troutman, 1986; Feng, Shaw, Skuban, & Lane, 2007; Kochanska & Aksan, 2004). Children with depressed mothers are assumed to be more difficult partners to accomplish joint engagement, since they are less likely maintaining the interactions and they tend to be more temperamentally difficult and to show more negative affect compared to children of nondepressed mothers (Cutrona & Troutman, 1986; Jameson, Gelfand, Kulcsar, & Teti, 1997; Tronick & Reck, 2009). In early stages of development, when children are less socially competent, parents play the primary role in organizing mutual responsiveness in the mother–infant dyad (Feldman, 2007b; Tronick & Reck, 2009). Infants who are temperamentally difficult or have poor cognitive development could possibly challenge the dyad in accomplishing mutual responsiveness especially in the context of maternal depression (Pauli-Pott, Mertesacker, Bade, Bauer, & Beckmann, 2000).

The relative impact of maternal comorbid depression and anxiety, maternal parenting style, and infant characteristics such as temperamental negative reactivity and cognitive development on toddler–mother dyads is not well understood. In addition, knowledge about how maternal depression disorder is related to change in maternal parenting is still sparse. The present study therefore aimed to shed light on how change in maternal parenting behavior and the mother–toddler relationship are related to mothers' depression disorder. We investigated trajectories of parenting behavior over the child's first 18 months of life among three types of mothers: depressed only, comorbid depression and anxiety and nondepressed mothers. We also analyzed whether maternal depression, child's negative reactivity, infant cognitive development, and maternal parenting style predict the quality of the infant-parent relationship at 18 months of age.

1.1. Maternal depression, change in maternal parenting behavior and dyadic mutuality

Maternal parenting behavior is influenced by several contextual factors which often co-occur with parental depression (Downey & Coyne, 1990) such as financial stress (NICHD Early Child Care Research Network, 1999; Yeung, Linver, & Brooks-Gunn, 2002), low partner support (Hammen, 2002), and psychosocial functioning in general (Ammaniti et al., 2006). Research on maternal depression and parenting behavior has attempted to explore whether specific maternal behaviors are characteristic of depressed mothers or whether a more global reduction of quality in the mothers' parenting style generally apply to women experiencing contextual or emotional distress. Low joint engagement and low reciprocity between depressed mothers and their infant seems to be specific for maternal depression (Feldman, 2007a). Studies with low risks samples reported that clinical maternal depression is associated with low reciprocity in early social relationships (Jameson et al., 1997; Murray & Cooper, 1997; Weinberg & Tronick, 1998). In comparison to mothers high on anxiety symptoms and comorbid depression symptoms, dyads with mothers high on depressive symptoms were rated lowest in reciprocity (Feldman, 2007a). Moments of joint engagement between depressed mothers and their infants tend to be short, and few are turning to the partner for joint activity or shared affect (Gianino & Tronick, 1986; Jameson et al., 1997). The ability to repair interactive shortcomings seems to be more difficult since depressed mothers and their infants are less able to reach a matched state or reciprocal exchange following after states of mismatch (Cohn & Tronick, 1989; Jameson et al., 1997).

Depressed mothers with high levels of anxiety symptoms smile less, imitate less and show more intrusive behavior as compared to depressed mothers low on anxiety and nondepressed mothers (Field et al., 2005). In addition, infants with depressed mothers high on anxiety smile less and express more distress (Field et al., 2005). This implies that comorbid depression and anxiety as well as depression are associated with less optimal parenting as compared to nondepressed mothers. Furthermore, there may be different styles of parenting depending on the mother's diagnosis: depressed only or comorbid anxiety disorders.

Maternal behavior, maternal depression, and the child's social capacities are subject to change over time. Murray, Halligan, Goodyer, and Herbert (2010) studied a low risk sample of clinically depressed mothers and compared their parenting behavior to nondepressed mothers. Their study showed that the depressed mothers were significantly less sensitive and more withdrawn when the infant was two to four months old. The majority of the mothers continued to be depressed as diagnosed in retrospect when the child was 18 months old (Halligan, Herbert, Goodyer, & Murray, 2004) but the depressed and the nondepressed mothers approached one another in sensitivity in the second half of the first year. This may partly be due to the infant's increased social capacities and interests in objects that evoke more engaged and sensitive parenting from the depressed mother. The mothers' level of depressive symptoms may also change over time and result in different trajectories of parenting behaviors. Population studies have shown that mothers follow different trajectories of maternal parenting behavior, depending on levels and development in depression symptoms (Campbell et al., 2007; NICHD Early Child Care