Interactions of depressed mothers and their infants: a review of the literature

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Abstract

This paper reviews various research conducted to understand the effect of maternal depression on mother-infant interactions. It begins by reviewing theories on infant behavior that focuses on self-regulation and theories on mothers' behavior, including the causes of depression following the birth of a child (i.e. postpartum depression). A review of published empirical results of mother/infant interactions are presented along with descriptions of the coding systems used in these studies. Evidence suggests that infant behavior and emotion is significantly affected by the emotional state of the mother.

Some researchers believe that the quality of social interaction, even in infants as young as two months of age, may have significant effects on subsequent development. Every experience is new and unfamiliar for a two month old infant. In order for the infant to avoid over-stimulation, he/she needs the help of a primary caregiver, usually the mother, to regulate his or her environment. The act of regulation requires the participation of both the mother and the infant in which each displays a variety of signals to which the other responds. Problems occur when attempts at regulations are not achieved. Recent studies have attempted to understand the failure of infant regulation during social interaction and have identified postpartum depression as a possible cause of inharmonious mother-infant relationships. By comparing mothers who have experienced postpartum depression with those who have not, researchers are trying to understand how infants' behavior is affected by the emotional state of their mother.

Infants have a variety of ways in which to cope with the primary caregiver's failure to help regulate their emotional state. As discussed by Tronick and Gianino (1986), infants possess "self-directed, regulatory" behaviors, which although helpful, alone do not provide for the infant's healthy emotional development. Physiological states such as hunger or pain and external stimuli need to be regulated by using these behaviors so that the infant's internal emotions and external environment become coherent. The mother's role in the regulating process is necessary because "when the mother accurately reads the message conveyed by the infant's regulatory behaviors and responds appropriately, she makes the infant's regulatory task easier and enables him or her to self-regulate" (p. 6). If the infant must depend only on his or her own self-directed, regulating behaviors, a decreased engagement with the external environment along with behaviors as rocking or sucking, would likely result.

Infants also use "other-directed regulatory" behaviors which function to help maintain the infants' engagement with their environment. By simply displaying an emotion or behavior that the infant hopes the other, in this case the mother, will respond to, the infant begins to learn what can be expected from his or her mother. The formation of these expectations of the external environment is what helps the infants to maintain engagement and achieve internal regulation. These behaviors may include fussiness if the infant needs to be changed or fed, or smiling if the infant is in the mood for play. For example, "when the mother responds appropriately to her infant's other-directed regulatory displays, the infant is able to maintain both self-regulation and regulation of the interaction, thus positive emotions are generated" (Tronick & Gianino, 1986, p. 7). In contrast, if the mother fails to respond, the infant will express negative emotions. As the infant learns which responses are desired from the mother and how his or her own behavior can induce a response, the infant utilizes other-directed regulatory behaviors in an effort to regulate the mother's behavior.
The problem arises when the mother is unable to respond appropriately to the infant's behavior. For example, a depressed mother might not be able to respond appropriately to her infant's signals for her to continue the action she is doing or to stop the action. If the mother repeatedly fails to respond to the infant's other-directed regulatory behaviors, the infant may soon feel unsuccessful. It seems that the reparations of these unsuccessful engagements play as much of an important role as the successfully regulated interaction itself. Because interactions normally are not well regulated, mothers need to spend most of their time repairing the interaction. Since a mother's behavior has a great influence on the infant's emotional state, these reparations during interaction have positive effects on the infant's development. Also, the reparation of negative engagements helps the infant to elaborate his or her regulatory capacities and to become more skillful in utilizing them (Tronick & Gianino, 1986).

There have been many speculations as to what actually causes a mother to experience postpartum depression. For instance, the difficult temperament of an infant may be a contributing factor which frustrates the mother in her task of child rearing (Trad, 1986). Also, there are certain "stressors" that have been associated with parental depression in the mother's and the baby's environment. These stressors include a "loss of social contacts, lack of an intimate, confiding relationship, marital discord, having three or more young children, and unemployment" (Brown & Harris 1977, 1988, cited in Dodge, 1990, p. 4). In the analysis of the behavior of infants whose mothers are depressed, researchers should bear in mind that it may not be the effects of the mother's actual depression, but a reaction to these elements in the shared environment.

During interactions of nondepressed mothers and their infants, Cohn, Campbell, Matias, and Hopkins (1990) described the following behavior: They found that nondepressed mothers and babies respond contingently to changes in the other's behavior, so that infants are most likely to display positive emotions after their mothers become positive, and that mothers remain positive until their infants look away. Therefore, it seems that both the quality and timing of the mother's affect influence the infant's response during interactions (Cohn et al., 1990). Also, nondepressed mothers are able to respond sensitively to the infant's needs and provide adequate stimulation which in return makes for a synchronized interaction with the infant (Field, Healy, Goldstein, & Guthertz, 1990).

Cohn et al. (1990), also discuss the quality of the relationship between postpartum depressed mothers, selected through a semi-structured interview process using a modified version of the Schedule for Affective Disorders and Schizophrenia (SADS: Endicott & Spitzer, 1978, cited in Cohn et al., 1990, p.17) that asked about major symptoms of depression and questions regarding their infants. First, postpartum depressed women are less positive and more negative with their infants. Secondly, during interactions with the depressed mothers, infants display similarly less positive behavior. Finally, both depressed and nondepressed mothers and babies match each other's level of affective expression; however, depressed mothers and babies are less responsive to the changes in each other's behavior. In general, depressed mothers appear to be emotionally unavailable, irritable, and have feelings of hopelessness and confusion (Cohn et al., 1990).

Similarly, the behavior of depressed infants has been described as showing "less attentiveness, fewer contented expressions, more fussiness, and lower activity levels" (Field et al., 1990, p. 7). Research suggests that face-to-face interactions are a primary way in which behavior and personality disorders may be transmitted from parent to infant (Cohn, Matias, Tronick, Connell, & Lyons-Ruth, 1986). Moreover, interaction studies have shown that infants of depressed mothers respond with helpless resolution to the experimentally induced still face condition by the mother, in contrast with infants of nondepressed
mothers who respond with protest. Therefore, it is thought that infants of depressed mothers have failed to acquire a sense of predictability in their mothers' behaviors and have over time, extinguished behaviors designed to control the environment (Field, 1984). Finally, the lack of the depressed mother's interest in her infant is mirrored in the depressed infant's lack of interest in his or her mother (Cohn et al., 1990).

In studies conducted by Cohn et al. (1986) and Field et al. (1990), the same coding systems for behavior states were used. For the mothers, these states are classified as follows: anger/poke, disengage, elicit, and play. Anger/poke refers to instances in which the mother is either speaking to or handling her infant in an angry way, or is roughly poking or pulling at her infant. Disengage refers to a mother who is neutral in affective expression and not interacting with her infant. There are diverse ways in which the mother may be uninvolved, such as leaning back and away from her infant, looking away, or passively watching her infant. The elicit state refers to actions that appear to be an effort to get the infant's attention by motions that are rapid or staccato in nature. For example, the mother may snap her fingers or bring her head quickly into the infant's line of vision. Finally, play includes all instances of positive affective expression, such as smiles and sing-song vocalizations (Field et al., 1990).

Behavior states for infants were coded as protest, look away, attend and play. Infants were considered in the protest state when negative affective expressions such as grimacing, fussing, or crying were displayed. The look away state refers to slightly negative affective expressions with gazes directed toward the mother. When infants are in the attend state, they show neutral affective expressions with gazes directed toward the mother. Lastly, play includes instances of positive facial expressions and gazes directed toward the mother (Field et al., 1990). These behavior characteristics were used in three minute videotaped face-to-face interactions of three month old babies in Field's 1990 study, and of two month old babies in Cohn's 1990 study.

In general, using these behavior state codes, Field's (1990) results showed that depressed mothers, classified as such by their Beck Depression Inventory (BDI: Beck, Ward, Mendelson, Mach, & Erbaugh, 1961, cited in Field et al., 1990, p. 8) score, spent more time in both the anger/poke state and the disengaged state, the same amount of time in the elicit state, and less time in the play state when compared to nondepressed mothers. Next, the infants of depressed mothers spent more time in the protest state, the same amount of time in both the look away state, and the attend state, and less time in the play state. Finally, for matched behavior states, the depressed mother/infant pairs versus the nondepressed pairs spent more time in both the anger-poke/protest state and the disengaged/look away state, the same amount of time in the elicit/attend state, and less time in the play/play state (Field et al., 1990). Perhaps the differences conclude that infants have different ways of coping with their mother's behavior. Tronick and Gianino (1986) provide additional evidence to support this claim with the following results: 50% of the infants of depressed mothers had a profile of protesting behavior, 21% disengaged, 13% had a mixed profile, 8% attentive, and 8% a playful profile. Cohn's et al. (1990) results were very similar to those of Field et al. (1990) with the exception that the mothers displayed higher rates of these behaviors when their infants were three months of age.

In the later stages of infancy and early childhood, earlier effects from negative experiences influence the child. If a child is always distressed, he/she is more likely to have more negative reactions to new situations. After state regulation is achieved, the next skill infants need to learn is social exchange in which they first focus on themselves and later on objects. This kind of social interaction leads to "prelinguistic and sensorimotor skills, such as turn taking and shared referencing that contribute to subsequent development" (Cohn, et al., 1986, p. 33). Since the
parent serves as a model for the child, in the case of a depressed mother, the child may acquire dysfunctional behaviors, either through imitation or through a complementary pattern of responding (Dodge, 1990). Also, a depressed parent, still being responsible for her child's social activities, may not be able to give her child the social opportunities to develop with his or her peers due to the mother's preoccupation with her own condition. In later childhood, the consequences of having a mother who experienced postpartum depression may be aggressive behavior problems, anxiety, behavior and somatic symptoms, attentional problems, emotional disruption, and social incompetence (Dodge, 1990).

Perhaps future research regarding postpartum depression and its effect on infants should examine the various environmental components involved with the mother's depression and the infant's emotional development. For example, an infant's interactions with other members of the family, which may happen more often if the mother is unavailable because of her postpartum depression, may help self-regulating processes if these interactions are positive. Also, a clearer distinction of the stressors that are characteristic of postpartum depression needs to be determined with a particular focus on infant-related stressors rather than social stressors such as unemployment associated to lower socioeconomic status and general diagnosis of clinical depression. Hopkins, Cambell and Marcus (1987) made the point that medical complications and maternal perceptions of infant temperament are infant-related stressors that need to be better understood. The observation of such factors would probably entail methods of observation different from video recordings of face-to-face interactions. In-home observations may be a more effective method.

Researchers are trying to demonstrate the connection between the depressed emotional state of mothers and the effect on their infants. Although an abundance of research in this area has not been discussed in this review, the studies included here have indicated that the mother's emotional unavailability may cause problems for the infant in his or her task of self-regulation and attachment. Infants of depressed mothers learn to respond to their mothers' negative behavior, while infants of nondepressed mothers learn to respond to positive behavior. The different range of responses seen in Field's 1984 study, such as protesting or looking away, would indicate that each infant had a different way of dealing with his or her mother's condition. In addition, there is the risk of later developmental problems for the child even after the mother's depressed condition has improved. A better understanding of the onset and course of postpartum depression along with possible treatment or prevention methods would also help to improve the relationship between mother and infant. In conclusion, more research should be conducted to understand infants' internal processes along with the onset and course of postpartum depression. Such understanding may provide a better picture of how infants and mothers cope with various elements of their social environment.

References


