The Relation Between Infant Social Engagement and Maternal Behavior in Infants at High-Risk for Autism Spectrum Disorder

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Abstract

This study examined maternal and infant behavior in infants at high and low-risk for autism spectrum disorder (ASD) during a parent-child free play session. Maternal responsiveness and directiveness at 9 months were examined as predictors of growth in infant social smiling between 9-18 months. Both maternal responsiveness and directiveness predicted growth in infant social smiling. Higher levels of responsiveness at 9 months were associated with increased growth in social smiling for both groups. Conversely, higher levels of maternal directiveness were associated with slower growth in infant social smiling for both groups. At 9 months, mothers of high-risk infants displayed higher levels of maternal directiveness, but not responsiveness, relative to mothers of low-risk infants. No group differences were found for trajectory of growth in infant social smiling between 9-18 months. These findings provide further evidence that early maternal behaviors may play an important role in the social development of infants at high and low risk for ASD.

Method

**Sample**

- HR-infants (n = 30, male=18) had at least one older sibling with ASD, verified by the Autism Diagnostic Observation Schedule (ADOS). Autism Diagnostic Infant Test (ADI-I), and a no history of ASD in first, second, and third-degree relatives. (See Table 1).
- LR-infants (n=18, male=12) had at least one typically developing older sibling, verified through parental report and results on the Social Communication Questionnaire (SCQ), and no reported history of ASD in first, second, or third-degree relatives. (See Table 1).

**Background**

A strong body of research suggests that early parent-child interactions play an influential role in shaping a child's social and communicative development, and that the quality of these interactions may have an even greater impact on the development of children at high risk for developmental challenges (Landry et al., 2006). Two parenting behaviors that are particularly important for child development are maternal responsiveness and directiveness (Mahoney, 2008). Maternal responsiveness, defined as behavior that is contingent, immediate, appropriate, and supportive of the child's social, emotional, communicative, and play behavior (Bornstein et al., 2008; Mahoney, 2008), has been associated with positive cognitive, language, and social-emotional outcomes for typically developing children (Tamin-LeMonda et al., 2001) and children at high risk for developmental challenges (Landry et al., 2006). Maternal directiveness, defined as behavior with which the mother requests, commands, suggests, or physically prompts the child to direct his/her immediate attention or labeling of the child's interests and activities, and a "Very Low" score indicates a consistent lack of awareness of and response to the child's overt initiations.

For maternal responsiveness, a "Very High" score indicates consistent monitoring and labeling of the child's interests and activities, and a "Very Low" score indicates a consistent lack of awareness of and response to the child's overt initiations. For maternal directiveness, a "Very High" score indicates consistent directing of the child's play, e.g., instructing the child to play with a particular toy, and a "Very Low" score indicates consistent following of the child's lead in play (e.g., allowing the child to play without providing suggestions).

**Research Questions**

1. Does maternal responsiveness and/or directiveness at 9 months predict growth in infant social smiling between 9-18 months?
2. Does risk group status moderate these associations?

**Conclusion**

This study examined maternal and infant behavior in infants at high and low-risk for autism spectrum disorder (ASD) during a parent-child free play session. Maternal responsiveness and directiveness at 9 months were examined as predictors of growth in infant social smiling between 9-18 months. Both maternal responsiveness and directiveness predicted growth in infant social smiling. Higher levels of responsiveness at 9 months were associated with increased growth in social smiling for both groups. Conversely, higher levels of maternal directiveness were associated with slower growth in infant social smiling for both groups. At 9 months, mothers of high-risk infants displayed higher levels of maternal directiveness, but not responsiveness, relative to mothers of low-risk infants. No group differences were found for trajectory of growth in infant social smiling between 9-18 months. These findings provide further evidence that early maternal behaviors may play an important role in the social development of infants at high and low risk for ASD.