THE IMPACT OF PRENATAL MATERNAL STRESS ON OFFSPRING COGNITIVE FUNCTION AND THE MODERATING ROLE OF POSTNATAL MATERNAL SENSITIVITY

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ABSTRACT

Studies investigating the association between prenatal maternal stress, positive postnatal rearing, and cognitive development report that positive postnatal rearing moderates the association between elevated levels of cortisol exposure in utero and impaired cognitive development in infancy and early childhood. However, few studies have examined the relevance of such findings to middle childhood, the period of 6-9 years of age. This study investigated the impact of prenatal maternal stress and maternal sensitivity on cognitive development—specifically working memory, response inhibition, and recognition memory—in middle childhood. Fifteen mother-child dyads were recruited from the longitudinal Maternal Adversity, Vulnerability, and Neurodevelopment project—saliva samples were used to measure maternal cortisol levels during late gestation, the Maternal Behaviour Q-Sort was used to obtain measures of maternal sensitivity at six months postpartum, and the Cambridge Neuropsychological Automated Test Battery was used to measure children’s cognitive development in middle childhood. The results showed that independent of sex, postnatal maternal sensitivity can moderate the association between cortisol exposure in utero and impaired working memory performance in middle childhood. However, a moderating influence of postnatal maternal sensitivity on the association between cortisol exposure and impairments in response inhibition development was seen in males only. The results highlight the importance of the perinatal period in shaping developmental cognitive trajectories.
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