

Neural Correlates of Remembered Parental Acceptance-Rejection in Childhood

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Neuroimaging studies have examined the neural correlates of young adults' perceptions of social rejection. However, it is unknown at this point how neural correlates of young adults' current perceptions of social rejection are influenced by their remembrances of childhood rejection. This issue is significant because the effects of acceptance and rejection during childhood are long lived. In fact, the effects of social rejection typically extend into adulthood, and influence individuals' physical and psychological well-being throughout life. The current study used functional magnetic resonance imaging (fMRI) to investigate neural correlates of experimentally manipulated rejection during a computer-based ball-toss game (Cyberball). The study investigated neural activity among 40 (N=40) young adults. One group reported having been loved (accepted) by both parents in childhood, and self-reported being psychologically well-adjusted (AcceptedAdjusted, n=20). The other group reported having been rejected by both parents in childhood, and self-reported being psychologically maladjusted (RejectedMaladjusted, n=20). Findings showed that during social rejection (i.e., Exclusion conditions) in the Cyberball game, members of the RejectedMaladjusted group--as compared to members of the AcceptedAdjusted group--had increased activation of brain regions that critically support emotion processing and social pain. These regions include the posterior cingulate cortex (PCC) and anterior cingulate cortex (ACC), dorsolateral prefrontal cortex (dlPFC), medial prefrontal cortex (mPFC), insula, cuneus, precuneus, and amygdala. This study provides a foundation for understanding the neural mechanisms underlying emotion processing, as influenced by remembered parental acceptance-rejection in childhood. Findings such as these may help researchers, clinicians, and other practitioners better understand the negative developmental and psychological consequences of perceived interpersonal rejection.

Keywords: parental acceptance, parental rejection, social rejection, Cyberball, neuroimaging