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The Influence of Social Exclusion on Self-Regulatory Control: Neuronal and Behavioral Activity Effects during Subsequent Cognitive Tasks

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THE INFLUENCE OF SOCIAL EXCLUSION ON SELF-REGULATORY CONTROL: NEURONAL AND BEHAVIORAL ACTIVITY EFFECTS DURING SUBSEQUENT COGNITIVE TASKS

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Research indicates that social exclusion has negative effects across behavioral and emotional domains. Recent studies extend these findings to the cognitive domain, such that neural activity and accuracy were diminished following exclusionary events. Their findings suggest that processes used for self-regulation during social events and cognitive tasks share a neural framework. The current study implements a time-estimation task as a cognitive performance outcome measure, providing insights as to how ongoing feedback affects one's ability to implement self-regulation during cognitive tasks. Recognizing that the Anterior Cingulate Cortex (ACC) is involved in self-regulation, this study examines two indices of ACC activation- the Feedback related negativity (FRN) and the N2- following a social event created by the Cyberball paradigm. Results found that social exclusion affected behavioral activity such that task accuracy and reaction times did not improve on the second cognitive task for excluded participants, whereas included participants improved. Excluded participants also exhibited neural sensitivity to positive feedback on the subsequent cognitive task. We also found a negative relationship between neural behavior during the social task and neural behavior on the subsequent cognitive task. These findings have implications in the broader domain of self-regulation, as they provide evidence of social exclusion's disruptive effect on self-regulatory resources.

