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SENSE OF AGENCY IN THE OUIJA BOARD EXPERIENCE

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Background: For over 100 years, the Ouija board has been used as a way to communicate with spirits. Players hold a heart shaped “planchette” over a board marked with letters and numbers, while taking turns to ask questions. Although players control the movement of the planchette themselves, they experience reduced sense of agency, and therefore attribute the movements to spirits.

Aims: The first experiment aimed to investigate the neural correlates of sense of agency in the Ouija board game. The second experiment assessed the role of physiological arousal in the sense of agency during Ouija board use.

Method: Participants were paired with a confederate, with the two players holding a wooden planchette attached to a single computer mouse that was used to navigate around a computerised Ouija board. In study 1, the colour that they landed on determined whether a sound was played or not. In study 2, different colours were associated with different possibility of reward. Agency was manipulated by having the confederate contribute more to the movements of the planchette in some conditions. Sense of agency was measured by asking participants to report how much control they had over the outcome (study 1) or their action (study 2). In study 1 we also recorded EEG data to measure N1(70-130ms at FCz), P2 (160-190ms at Cz), and P3 (270-330ms) ERP components. In study 2 we measured heart rate deceleration and electrodermal activity.

Results: We found no modulation of N1 dependent on the degree to which participants had agency over the planchette. However, later (P2 and P3) components were increased for self-agency conditions. In experiment 2, we found increased agency ratings when participants landed on risky quadrants in the Ouija task. Increased physiological arousal was associated with greater sense of agency.

Conclusions: Findings from Study 1 show that sense of agency in the Ouija board task is not modulated by sensory differences (sensory attenuation/suppression), that have previously been associated with agency processing. Findings from study 2 suggest that sense of agency in the Ouija board task is modulated by risk-related physiological arousal.

Keywords: Agency, EEG, Arousal, Risk, Joint action

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