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MAPPING THE PSYCHOPHYSIOLOGY OF COMMITMENT

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Background: Human joint actions, ranging from mundane tasks to complex societal challenges, rely on a sense of commitment to persist despite fluctuating individual interests. Previous research highlights this commitment's dependence on cues signalling others' expectations and reliance (Sebanz et al., 2006; Tomasello, 2009; Melis & Semmann, 2010; Michael, 2022; Michael, Sebanz, & Knoblich, 2016a; Dana, 2006; Heintz et al., 2015; Sugden, 2000; MacCormick & Raz, 1972; Scanlon, 1998). However, the psychophysiological underpinnings of this commitment are less understood.

Aims: This project aims to bridge the gap in understanding the psychophysiological processes underpinning the sense of commitment in joint actions. It includes empirical studies and theoretical papers, exploring how perceptual cues of a partner's expectations affect psychophysiological activity and commitment.

Method: The study being currently run integrates EEG with behavioural measures and questionnaires. The study examines the influence of commitment on motivation to persist in joint action, specifically looking at 'gritted teeth' and 'engaged' forms of commitment (Michael, 2022; Baddeley, 1986; Christensen, Sutton, & McIlwain, 2016). In a coordination task, the readiness potential (RP) of participants is measured in response to temptations to defect from joint actions (Schurger et al., 2021; Trevena & Miller, 2010; Schultze-Kraft et al., 2016; Panasiti et al., 2014).

Preliminary results: Indications from the literature review and initial data suggest a complex relationship between sensory-motor signals, internal models of partners' actions, and the varying forms of commitment in joint actions (McEllin & Michael, 2022; Székely & Michael, 2018; Chennells & Michael, 2018; Bonalumi, Isella, & Michael, 2019). We predict that different types of commitment will show distinct psychophysiological profiles. 'Engaged' commitment is hypothesized to increase task salience and reduce the need for executive control, while 'gritted teeth' commitment might involve heightened executive control to maintain task focus.

Keywords: Joint action, Commitment, Psychophysiology, EEG, Readiness potential

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