

**THE TEMPORAL DYNAMICS OF MOTIVATED COGNITIVE CONTROL:  
RELATIONSHIPS TO SOCIAL ANHEDONIA**

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Recent evidence emerges that reward incentives improve cognitive control function in motivationally salient situations, potentially via enhancing internal representation of goal supported by the dorsolateral prefrontal cortex (DLPFC) (e.g., Jimura et al., 2010). This effect is referred to as motivated cognitive control. It is, however, relatively little known as to what individual characteristics optimize this effect. Here we examined the hypothesis that variability in reward-related trait such as anhedonia (reduced pleasure from potentially rewarding social or physical stimuli) would modulate either or both sustained and/or cue-related transient aspects of motivated cognitive control. 27 individuals performed a response conflict task developed by Padmala et al. (2011) during scanning, where participants were asked to categorize images as either houses or buildings with either congruent or incongruent overlaid words. Participants perform a baseline condition without knowledge of monetary incentives, followed by reward blocks with monetary incentives on some cued trials (reward cues) for fast and correct responses. Using a state-item design, we examined the temporal dynamics of motivated cognitive control through both the sustained context-dependent and transient cue-related components of reward processing. We replicated previous work by showing both increased sustained activity during reward vs. baseline blocks in the bilateral DLPFC and transient cue-related activity in the striatum. Importantly, individuals with higher social anhedonia showed less of an increase in transient trial-by-trial activity as a function of reward in the putamen. Together, our results suggest that reduced social hedonic experience may be related to abnormality of transient reward cue-related activity in the striatum.