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**MEETING ABSTRACT**

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The modulation of left frontal activity and dopamine activity by induced positive mood: the role of appetitive motivation

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Greater left frontal asymmetry (LFA) has been proposed as a neural marker of positive affect. However, findings are inconsistent. An alternative account of LFA, as an index of approach motivation, suggests the association between LFA and positive affect might be dependent on an appetitive (reward-related) component of positive affect. To date, this has not been directly tested. Furthermore, LFA has been linked to activity in the mesocorticolimbic dopamine system that is known to play a key role in appetitive motivation. Therefore, the present study examined the moderating role of appetitive motivation in relation to the influence of positive mood on LFA and dopaminergic activity.

Participants (n = 42) underwent a neutral mood induction and either an appetitive or pleasant (non-appetitive) positive mood induction using mental imagery and music. Positive affect (activated and deactivated) was reported before and after mood inductions. Electroencephalogram (EEG) and spontaneous eye blink rate (EBR)—a putative psychophysiological measure of dopaminergic activity—were recorded during the 8-minute mood induction sessions. Results showed an increase in deactivated affect only for the pleasant condition, and an increase in activated affect only for the appetitive condition, indicating that the mood induction method was effective. LFA and spontaneous EBR were both found to be greater for the appetitive compared to neutral induction, whereas no such difference was observed between the pleasant compared to neutral induction. This suggests that, in the context of induced positive mood states, modulation of LFA and related dopamine activity is contingent upon appetitive motivation.

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