The interplay between affective disposition and cognitive processing in dysphoria: a time-frequency EEG study

THE INTERPLAY BETWEEN AFFECTIVE DISPOSITION AND COGNITIVE PROCESSING IN DYSPHORIA: A TIME-FREQUENCY EEG STUDY

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The interplay between dysregulated affective disposition, indexed by reduced emotional responding to pleasant stimuli, and the increased cognitive processing of unpleasant stimuli in individuals with depressed mood is still unclear. Time-frequency analysis of electroencephalographic activity allows disentangling the brain's parallel processing of information. Therefore, the present study employed a time-frequency approach to simultaneously examine affective disposition and cognitive processing during the viewing of emotional stimuli in dysphoria. Time-frequency event-related changes were examined during the viewing of pleasant, neutral, and unpleasant pictures in 24 individuals with dysphoria and in 24 controls. Affective disposition was indexed by delta and alpha power, whereas theta power was employed as a correlate of cognitive elaboration of the stimuli. Cluster-based statistics revealed a centro-parietal reduction in delta power for pleasant stimuli in individuals with dysphoria than controls. Also, dysphoria was characterized by an early (0-666ms) fronto-central increase in theta power for unpleasant stimuli relative to neutral and pleasant. Instead, controls were characterized by a late (836-1400ms) fronto-central and occipital reduction in theta power for unpleasant stimuli relative to neutral and pleasant. The present study granted novel insights on the interrelated facets of affective elaboration in dysphoria, mainly characterized by a hypoactivation of the approach-related motivational system and a sustained facilitated cognitive processing of unpleasant stimuli.