

Neuropsychological Correlates of Emotion Regulation in Women With HIV: An ERP Study

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In case you missed it, Roger C. McIntosh presented his research at the APS 24th Annual Convention in Chicago, Illinois, USA.

HIV-positive women are shown to demonstrate emotional deficit. The regulation of emotions is thought to require some executive function (EF) capacity. Since HIV/AIDS affects cortical areas which sub-serve EF, this study aimed to (1) use event related potentials (ERP) to determine whether HIV-positive women exhibit attenuated cortical responses while reappraising unpleasant stimuli, and (2) determine if this electrocortical activity was related to various forms of executive function. Fifty-nine women ($M_{age} = 34.62$, 29 HIV-positive, 81% African-American) were recruited from a comprehensive family AIDS prevention program in South Florida. During the experiment, participants are presented with a cue word for 2 seconds before being given instructions to view or reappraise emotional pictures presented for 4 seconds. Numerous relationships were found between early (P2: 200- to 300ms) and late (LPP: 400- to 1500ms after presentation of image) visual-ERPs with various measures of executive functioning (WCST & Go/No-go task). This study supports previous electrophysiology research which has suggested HIV-infection is associated with an emotional deficit. In particular, the study found both early (P2) and late (LPP) measures of emotion attention and processing were lower in HIV-positive women compared to age- and education-matched HIV-negative controls. Consistent with previous literature, this study also suggests the increase and decrease of emotions during cognitive reappraisal is cognitively taxing, especially in seropositive women who may be impacted by HIV-associated neurocognitive disorder. Despite similar performance between groups on various measures of executive function, our study provides evidence that this HIV-related emotional deficit may be task- and domain-specific, whereby the ability to inhibit response predicts brain activity during the decrease of negative emotions in contrast to ability to switch between cognitive sets which was associated with the increase of negative emotions. Further research is needed to tease apart the cortical and subcortical areas which sub-serve emotion regulation in HIV/AIDS.

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