Security-Priming in Trauma-Exposed Individuals: a Functional Magnetic Resonance

Imaging (fMRI) Study

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Abstract

Research shows a strong association between attentional bias to threat and emotional regulation difficulties, specifically heightened activation of neural areas known to be involved in emotional processing (amygdala) in individuals who report post-traumatic stress symptoms. Theoretical and research evidence suggests that the enhancing of felt attachment security through security-priming may grant an individual access to effective emotion regulation strategies, which in turn may reduce attentional bias and associated abnormal neural activations.

Trauma-survivors with elevated anxiety levels were randomised into an experimental group (secure attachment priming, n=16) where they were primed using positive attachment-related pictures, or a neutral control priming condition (n=18) where they viewed non-attachment pictures of people. Participants then completed a dot-probe task to measure attentional bias to threat, and an emotionally threatening face-matching task to probe amygdala activation.

No between groups differences were found on measures of attentional bias. Contrary to the hypothesis, participants in the security-priming group showed significantly greater amygdala activation in response to threatening faces. Attachment style was not found to moderate the impact of security-priming on attentional bias or neural activation.

Interpersonal trauma experiences make up the majority of the study sample. The impact of this is considered in the context of short-term single exposure to explicit attachment based security-priming interventions and the study paradigm employed to measure amygdala activation, which may act to initially dysregulate and contraindicate activation of a secure attachment representation, respectively.

Contents