Motivational modulation of strategy choice and memory formation during emotion regulation

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Abstract

Robust evidence suggests that motivation increases both cognitive effort and memory encoding. Despite growing recognition that emotion regulation may be a motivated process, motivational effects on the cognitive mechanisms underlying emotion regulation and subsequent memory for encountered stimuli remain largely uncharacterized. We manipulated extrinsic and intrinsic motivation to down-regulate negative affect in an emotion regulation paradigm including emotional and neutral stimuli. Participants were trained in two regulation strategies (cognitive reappraisal and distraction) and reported trial-by-trial strategy use. Both extrinsic and intrinsic motivation were associated with decreased negative affect and a shift in regulation strategy use. Specifically, use of reappraisal (a cognitively effortful strategy) increased with motivation. 24-hour recognition memory for presented stimuli was modulated by both emotional content and motivation condition. These findings suggest that interacting motivational and cognitive processes during emotion regulation can adaptively shape subsequent memory for the encountered stimuli, with implications for both cognitive and clinical science.