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Enhancing Effects of Post-Learning Stress on Memory

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ABSTRACT

To investigate the enhancing effect of post-learning stress on memory, we requested 38 Japanese undergraduates to perform a learning task that involved positive, negative, and neutral words with controlled arousal and subsequently assigned them to a stress group (exposed to acute white noise) or a control group. After a 10-min filler task, we administered a delayed free recall test and a recognition test. We found that exposure to acute stress after learning significantly enhanced recognition memory of words, but found no differences in memory scores for stimuli of varying valence. We accordingly propose that post-learning stress, though enhancing memory performance, may not depend on word valence when stimulus arousal is controlled. This is the first study to find that post-learning stress enhances memory after a short delay, and it has several implications with regard to traumatic memories in stress-related disorders.

KEYWORDS

Post-Learning Stress; Memory; Valence; Arousal

Cite this paper

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