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Memory reconsolidation: Exploring how to reactivate and modulate episodic memories

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Abstract

According to reconsolidation hypothesis, consolidated memories can be reactivated and become labile for a period of time, followed by a re-stabilization process that allows them to be strengthened, weakened, or updated. Novel research has begun to investigate if music-based interventions (MBI) could modulate memory reconsolidation. The present study aimed to address this issue through two experiments. First, Experiment 1 aimed to test a paradigm for reactivating episodic emotional memories by comparing different reactivation tasks. It was found that a reactivation task with incomplete reminders was able to reactivate emotional memories and to strengthen them by reconsolidation. Experiment 2 assessed if a MBI after the reactivation of such memories was able to modulate its reconsolidation. We found that listening to arousing music after memory reactivation interfered the reconsolidation process, reducing retrieval. Possible underlying mechanisms are discussed to continue the path toward application of the findings in clinical and educational settings.