

Cognitive

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Influence of avoidance behavior on extinction training during memory reconsolidation.

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Conditioned fear responses return even after standard extinction training, because it is not possible to affect the fear memory trace. However, post-retrieval extinction training can prevent the fear from coming back. It relates to a neural mechanism, called memory reconsolidation. Providing new information during reconsolidation may alter the original memory trace. When used during reconsolidation, the role of extinction training is not to establish extinction learning, but to integrate safety information into the fear memory. This study examined whether avoidance behaviors prevent receiving such information during reconsolidation. Avoidance CS+ (ACS+) and control CS+ (CCS+) were paired with US. When ACS+ was presented during post-retrieval extinction training, participants pressed the Enter-key to avoid US. There was a significant difference between fear responses to ACS+ and CCS+ after the extinction training. This study indicates that avoidance behaviors prevent a decrease in fear responses by post-retrieval extinction training.

