

# Inducing Amnesia through Cognitive Control: The Hippocampal Modulation (H.M.) Paradigm

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**Abstract:** People often try to control which memories enter awareness, and these efforts have been shown to have lasting consequences for the later accessibility of suppressed memories. In the Think/No-Think (TNT) procedure used to study such control, intentionally suppressing retrieval leads to a reduction, rather than an augmentation, in hippocampal activity. We hypothesized that this modulation would alter one's ability to encode and consolidate novel information presented between TNT trials. Specifically, attempts to suppress retrieval prior to an incidental-encoding task should disrupt encoding, whereas suppressing retrieval after incidental encoding should truncate ongoing consolidation.

In the current studies, participants confronted novel stimuli presented between TNT trials. Both source memory and cued-recall for items presented around suppression trials were significantly impaired. Thus, engaging cognitive control to suppress retrieval can be adaptive for preventing unwanted memories from entering awareness, but detrimental to the encoding or retention of experiences in the temporal surround.