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Offline states and memory retention of true and false memories

Saturday, September 13, 2025 2:10 PM (20 minutes)

Sleep is well known to boost memory consolidation—but it can also increase false memories, especially for semantically related content. Recent research suggests that other offline states, like quiet wakefulness and mind-wandering, might offer similar memory benefits without the need for sleep. To explore this, we first conducted a meta-analysis comparing memory retention following quiet wakefulness versus active cognitive tasks. We found that tasks involving memory retrieval were particularly disruptive to consolidation. Next, in an online study, we showed that mind-wandering does not impact associative memory. Finally, across two additional online experiments using the DRM paradigm, we found that engaging in a retrieval-based task after learning significantly increased false memories compared to quiet rest. Taken together, these results highlight the potential of waking offline states to support memory consolidation and suggest that the type of post-learning activity plays a critical role in determining whether we retain accurate or distorted memories.

If you're submitting a symposium talk, what's the symposium title?

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