“Sleep increases negative emotional false memories”

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Sleep actively contributes to the retention of learned information and, in particular, for emotional material. We explored the influence of sleep on the consolidation of negative emotional and neutral false memories. Participants completed a DRM false memory task for emotionally neutral and negative word lists, either at 9am (wake group, N=32) or 9pm (sleep group, n=37) and faced a free recall task twelve hours later. A significant interaction between list type (neutral/negative) and condition (sleep/wake) was demonstrated for the false recall of critical lures, whereby recall was higher for negative compared to neutral ($p<.05$) words in the sleep group. No such effect was demonstrated in the wake group. Whilst sleep-dependent memory processing has previously been shown to enhance veridical recall of emotionally salient information, these findings are the first to demonstrate that sleep, compared to a similar period of wakefulness, can promote false recall of negative-emotional over neutral materials. We propose that sleep, comprising both non-rapid eye movement (REM) and REM stages, decontextualises a memory trace, extracts the gist and selectively enhances recall for information with an emotional component.