
Self-motion fluency has a specific effect on episodic memory

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Abstract

Fluency is the relative ease and speed with which stimulus information is processed. It leads to an increase of recognition for items processed more fluently (Jacoby, Kelley, Dywan, 1989). Previous experiments using Remember-Know paradigm have shown an impact of perceptual fluency only on familiarity and not on episodic memory (Rajaram, 1993, Kurilla & Westerman, 2008). Recent episodic memory models have postulated a strong link between episodic memory and spatial processes (Burgess, 2008, Nadel & Moscovitch, 2001), especially with navigation and self-motion (Gomez et al, 2009). The present experiment was conducted to determine whether self-motion fluency affects recognition performance and particularly has an impact on "Remember" responses. Thirty participants learned a four-minute path movie as if they were really doing the track, and then had to recognize among short paths if they were part of the learned path, followed by a Remember-Know procedure for recognized items. Self-motion fluency was manipulated with the presence of nimble acceleration applied on a small part of the video recognition paths. Results show that the presence of a self-motion fluency increases significantly the proportion of remember responses on learned paths only. This study spotlights for the first time a specific fluency effect on recollection and indicates an implication of self-motion in episodic memory retrieval.

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