Modelling the Effect of Monetary Incentives on Recognition Memory

Kevin da Silva-Castanheira
McGill University, Montreal, Quebec, Canada

Azara Lalla
McGill University, Montreal, Quebec, Canada

A. Ross Otto
McGill University, Montral, Quebec, Canada

Signy Sheldon
McGill University, Montreal, Quebec, Canada

Abstract

While anticipated rewards have been shown to impart enhancements on memory performance, it remains unclear whether these benefits reflect improved encoding or more cautious decision-making. In two experiments, participants (N=47, each) encoded complex videos depicting everyday episodes and were tested for their memory of various details. Importantly, participants were informed that each video was associated with either high (25 cents) or low (1 cent) reward at either encoding or retrieval. We found participants were more accurate for questions relating to high reward videos only when reward information was presented at encoding. Memory performance and response-times were modeled using a drift diffusion model to assess the effects of reward on decision parameters. The drift rate was found to be significantly larger for high reward videos when compared to low reward videos, only when reward was presented at encoding. These results suggest that reward at encoding enhances memory selectivity for detailed episodic information.