**Introduction**

What we prefer to eat, which products we decide to buy or even whether we take the metro or the bus to get to work today are all decisions that rely, in part, upon knowledge of outcomes of previous decisions without explicit knowledge of the outcomes and probabilities of each action. In contrast to risky decision-making from description, in which the probabilities of different outcomes associated with choices are explicitly known to decision-makers (Kahneman & Tversky, 1979), risky decision-making on the basis of trial-and-error experience involves drawing upon knowledge of past outcomes to guide decision-making (Hertwig & Erev, 2009). Indeed, a large body of research in the last decade has sought to understand how people make decisions under uncertainty using their previous experiences as a guide (\*citations to be added\*).

At the same time, mnemonic processes are critical to this sort of decision-making as our choices must draw upon previously stored memories of outcomes associated with actions in order (Hertwig & Erev, 2009; Madan, Ludvig, & Spetch, 2013; Murty, FeldmanHall, Hunter, Phelps, & Davachi, 2016). Underlining the consequences of biased memory representations, in risky decision-making from experience, Madan and colleagues (2013) posited an extreme-outcome rule where extreme outcomes in risky choice are overweighted in memory (Talarico & Rubin, 2003) and consequently are given more weight when choosing from experience. In a decision-from-experience task where the expected values between the certain and risky action were equal, the extreme outcome was most frequently reported to be the first “to come to mind." This memory salience for the extreme outcome was also associated with more risk-taking in decisions from experience (Madan et al., 2013).

More specifically, episodic memory, a form of declarative memory specific to the moment and place it was acquired (Tulving, 1983, 2002), has previously been shown to be involved in decision-making. The hippocampus has been shown to associate rewards to similar but previously unseen items (Wimmer & Shohamy, 2012), suggesting that episodic memory enhances the associations between events and rewards. Consistent with these findings, episodic memory has been shown to play an adaptive role in decision-making (Murty et al., 2016; Duncan & Shohamy, 2016).

Intriguingly, a recent body of memory research suggests that the extent to which individual focuses on specific details of a past experience can alter behavior on subsequent tasks believed to be dependent on episodic memory, such as divergent thinking (Madore et al., 2015) and solving of hypothetical social problems (Madore and Schacter, 2014). To this end, the episodic specificity induction procedure developed by these researchers allows affords direct experimental manipulation of an individual’s tendency to focus on specific details, taken in comparison to a control induction procedure.

Here we leverage the episodic specificity induction procedure to shed light upon the extreme-outcome effects observed by Madan et al. (2014) and probe the extent to which apparent risk preferences in decision-making depend on episodic memory. Since the hippocampus has been shown to spread positive value of rewards across associated memories (Wimmer & Shohamy, 2012), episodic memory might be at the root of the extreme-outcome effect. To investigate this, we designed an experiment where participants made risky choices from experience (following the procedure of Madan, Ludvig & Spetch, 2014) after having been exposed to the episodic specificity induction, an experimental procedure where participants are briefly trained in recollecting details of recent experiences.

In short, we hypothesized that the episodic specificity induction could potentiate the observed overweighting of extreme outcomes, in turn increasing apparent preference for the risky (as opposed to sure-thing) action. To further examine the effects of the episodic specificity induction upon learning, we fit a simple RL model that quantifies the extent to which an individual participant weighs positive versus negative prediction errors (PEs) in learning the values of the two actions.