

Invited Presenter

EAB;

Playing it Safe or Taking a Risk: The Role of Extreme Outcomes in Risky Choice and Memory

Chair: Eric S. Murphy (University of Alaska Anchorage)

MARCIA SPETCH (University of Alberta)



Marcia Spetch is a Professor in Psychology at the University of Alberta, Canada. She obtained her PhD from UBC 1981, was a postdoctoral fellowship at UCSD and an Assistant Professor at Dalhousie U. prior to joining U. Alberta in 1987. Her research spans many topics in behavior, learning and comparative cognition, including timing behavior, memory processes, spatial learning, navigation, choice behavior and gambling. Her lab studies are primarily conducted with pigeons and adult humans, but she has conducted collaborative research on ants, bees, fish, chickadees, rats, monkeys, apes and human

children. Her current research focuses primarily on spatial navigation and risky choice behavior. She has received uninterrupted grant support throughout her career from NSERC (Canada) and her research on risky decision making has been funded by the Alberta Gambling Research Institute. She has published well over 100 research articles and several book chapters. She has been consulting editor for several journals, was associate editor for *Animal Learning & Behavior* and is currently co-editor of *Comparative Cognition and Behavior Reviews*. She has supervised many students and postdoctoral fellows and she has collaborated with numerous researchers from Canada, USA, UK and Australia. She is a past president of the Comparative Cognition Society (CCS), recipient of the 2018 CCS Research Award, and in 2017 was inducted into the Royal Society of Canada.

Abstract: Life is full of choices between moderate-value rewards and risky higher-valued rewards (e.g., a decent restaurant that always has room versus a fabulous restaurant that is often full). One factor that influences risk preference is how these options are presented. When choices are described (common in behavioral economics), people are typically more risk seeking when choices involve losses (e.g., -\$20 vs a 50/50 chance of -\$40) than when they involve gains (e.g., +\$20 vs. a 50/50 chance of +\$40). In contrast, if outcomes are learned through experience (typical in operant research), people tend to be more risk seeking for relative gains than for relative losses. We proposed an extreme-outcome hypothesis, in which the best and worst outcomes have more impact than moderate outcomes on experience-based choices and on self-reported memory. In several studies, we have shown that outcomes at the ends of a distribution are weighted more, leading to biases in choice behavior and over-estimations in memory; moreover, these effects on choice and memory are correlated. The effects are also context dependent outcomes are overweighted only when they are the best or worst outcomes in the current context. The fluidity of risky choice has implications for understanding risky behaviors such as gambling.