

Do infants compare ratios or use simpler heuristics in probabilistic inference?

Samantha Gualtieri

University of Waterloo, Waterloo, Ontario, Canada

Elizabeth Bonawitz

Rutgers University, Newark

Stephanie Denison

University of Waterloo, Waterloo, Ontario, Canada

Abstract: Empirical evidence suggests infants can make inferences about uncertain future events using probabilistic data (Denison & Xu, 2010; Teglas et al., 2007). However, it is unclear if infants are using information about proportions to make these decisions. Infants were presented with population jars that contained large distributions of objects, and were tasked with deciding which of the two jars was more likely to yield a desirable object on a single draw. In Experiment 1, most infants chose the jar that contained only preferred objects over a jar that contained a 3:1 ratio of preferred objects. Most infants also made the correct choice when presented with the reverse ratios (choosing a 1:3 over a 0:1 ratio). In Experiment 2, infants correctly chose the jar that contained a 4:1 ratio of preferred objects over a jar that contained a 1.5:1 ratio. However, infants performed at chance when presented with the reverse ratios.