

Infant looking-time preferences: does an information-theoretic model of infant looking behaviour scale up?

Alexis Black

The University of British Columbia, Vancouver, British Columbia, Canada

Janet Werker

University of British Columbia, Vancouver, British Columbia, Canada

Abstract

A systematic, predictable linking-hypothesis between infant attention and underlying cognitive state has remained elusive (Aslin, 2007). Kidd, Piantadosi, and Aslin (2012) propose that looking behaviour is a function of stimulus (information-theoretic) surprisal, such that stimuli that are not too predictable nor too unpredictable will garner infant looks. We extend this model to predict infant looking-time preferences from a previously collected dataset. 120 infants were familiarized to a statistically defined artificial language, and then tested on their knowledge of the words embedded in the language. We predict that better learning will lead to a preference for the less predictable (NOVEL) items at test, and worse learning to preference for the more predictable items. Learning is operationalized as frequency of look-aways during familiarization. That is, infants who demonstrate a period of sustained attention followed by a period of increased look-aways are learners, and will prefer NOVEL items at test. Analysis is on-going.