Children’s Use of Logical Inference in Mapping Novel Voices to Novel Characters

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Abstract

- We use a preferential pointing task to show that 4-6 year olds uniformly succeed at indirectly learning new identities in a manner similar to fast-mapping.

Introduction

- Prior research has shown that children tend to rely on the logical inference of disjunctive syllogism (i.e. process of elimination) when fast-mapping novel object/label pairs¹.
- However, the question remains whether word- learning strategies such as fast-mapping are domain specific or domain general².
- Do children learn to pair voices with faces the same way they pair labels with objects?
  - Rapidly
  - Indirectly
  - Single exposure
- Do children use disjunctive syllogism to fast-map identity?

Methods

- Subjects: 48-72 month old children (N=35)
- Stimuli: 4 familiar and 12 novel cartoons
- Design: 6 novel voice/novel face pairings over 24 trials

Results & Discussion

- Children rapidly pair a novel voice to a novel face during a single, ambiguous exposure
- This ability closely resembles the rapid novel word-learning process depicted by fast-mapping
- Preliminary analyses suggest children are using the same underlying strategy (disjunctive syllogism) that has been shown to support fast-mapping

Future Directions

- Strong novelty pref. prior to voice onset prevents a frame by frame eye gaze analysis
- Eliminating this bias will allow us to more definitively say whether disjunctive syllogism supports identity learning in the same way it supports fast-mapping

References