Preschoolers' Use of Mutual Exclusivity for Mapping Individual Faces & Voices
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Introduction
Children don’t learn to recognize unfamiliar faces and voices at adult levels until 10 years of age, at least in a laboratory context.1,2 Yet, they form stable representations of the individuals they encounter in daily life.

Can preschool-aged children learn to map new faces and voices together to form stable representations?
What mechanism is available for forming these face / voice pairings?
How stable are these new representations?
Can they support further productive inferences?

Methods
Subjects: 48 - 66 months (N=16 for each exp)
Stimuli
Faces: static colour photographs of women's faces
Voices: recordings of women (age 20-26) saying “Can you touch my nose?” in varying intonations and prosodies (all child-directed speech)

General setup: Children seated in front of large screen with centralized speakers and given a wand with which to touch one of two faces

Two blocks:
1. Training (16 trials; 5-6 exposures / target):
   - learn 3 new face/voice pairs
   - given explicit feedback
   - incorrect trials repeated

2. Test (Exp1 14 trials; Exp2 18 trials):
   - no feedback
   - learned & novel faces

Exp 1: Can 4- & 5-year-olds learn new face / voice pairings? Can they make inferences based on this knowledge?

Exp 2: Are they learning the new pairings? Can these new representations support further inferences?

Conclusions
4- & 5-year-olds can:
- rapidly learn new face/voice pairs (Exp1)
- make productive inferences based on these newly learned mappings (Exp1)
- learn a new face/voice pair in a single trial (Exp2)
- make additional inferences based on just-learned pairs (Exp2)

References