Pronoun Resolution, Cue Frequency, and Cue Reliability

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Pronoun resolution is influenced, but not determined, by many contextual cues. Which factors matter most in acquisition?

cue frequency
cue reliability

First-Mention (Corbett & Chang, 1983; Gernsbacher & Hargreaves, 1988; Arnold et al., 2000)

(1) $Sally_1$ went to the store with $Mary_2$. She_1 bought candy.
(2) $Sally_1$ talked with $Mary_2$ on the phone. She_1 had lots to say.

Frequency: high
Reliability: low

Acquisition: Weak & slow at 4-6yo (Arnold et al., 2007; Song & Fisher, 2007)

Implicit Causality (Garvey & Caramazza, 1974)

(3) $Sally_1$ *frightens* $Mary_2$ because she_2 is from Cambridge.
(4) $Sally_1$ *fears* $Mary_2$ because she_2 is from Cambridge.

Implicit Consequentiality
(5) Because $Sally_1$ *frightens* $Mary_2$, she_2 is going to Cambridge.
(6) Because $Sally_1$ *fears* $Mary_2$, she_1 is going to Cambridge.

Modulated by verb class (Brown & Fish, 1983; Hartshorne & Snedeker, *under review*)

Frequency: low
Reliability: high

Acquisition: no prior data

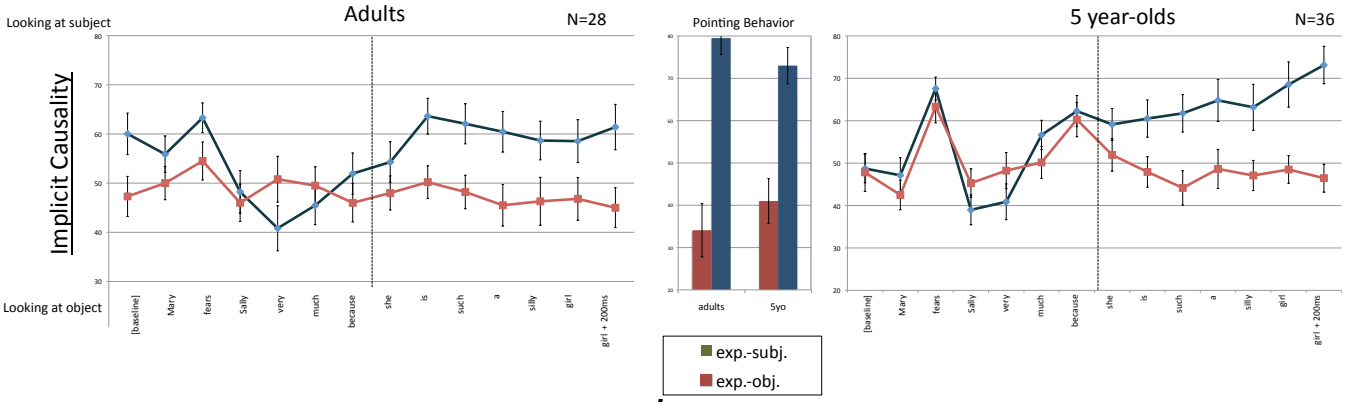
Experiments

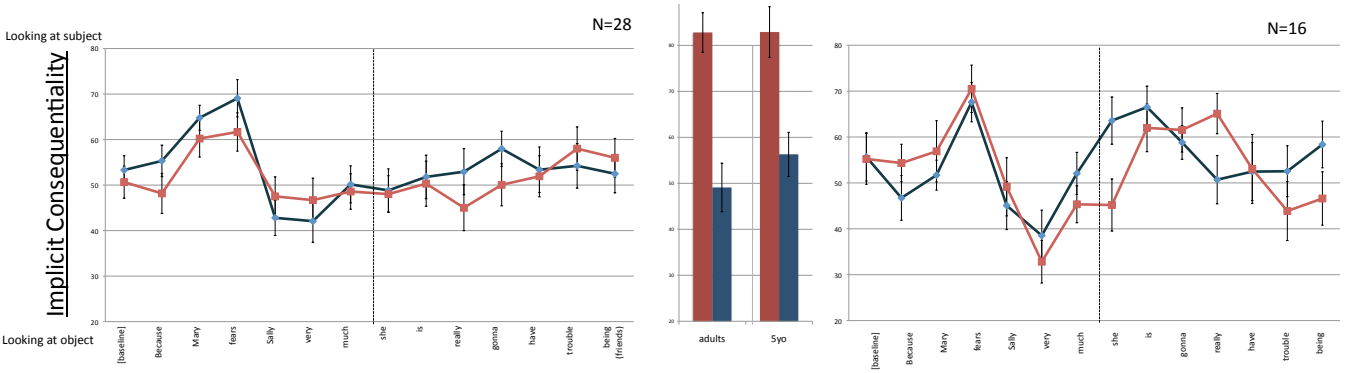
Visual world paradigm (Tanenhaus et al., 1995).

Experiencer-object (subject-biased) verbs
confuse, frighten, scare, surprise

Experiencer-subject (Object-biased) verbs:
admire, like, love, hate

Implicit Causality:
"Dora likes D.W. very much, because she is such a nice girl. Can you point to her?"
Implicit Consequentiality:
"Because Dora likes D.W. very much, she is really gonna want to be friends. Can you point to her?"





Discussion

- 5yos show adult-like processing of implicit causality and implicit consequentiality.
- Development of pronoun resolution may depend on
  - Cue frequency, not reliability, or
  - Driven by broader ability to infer coherence relations

- Rapid online pronoun resolution was seen only experiencer-object verbs, only in implicit causality sentences
  - Perhaps because of semantic roles? (Pesetsky, 1995)

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