Fear & Loathing in Discourse Coherence: Children use Argument Structure in Pronoun Interpretation
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Introduction
Intersentential pronominal reference is underdetermined syntax and the pronoun’s own lexical semantics and must be fixed by context. Pronouns often refer to the subject/first-mentioned entity of the previous sentence (Corbett & Chang, 1983; Gernsbacher & Hargreaves, 1988; Arnold et al., 2000).

Inconsistent evidence that 3-5 y.o. children are sensitive to this bias (Arnold, Brown-Schmidt & Trueswell, 2007; Song & Fisher, 2007).

Because the first-mention bias is an epiphenomenon of discourse relations? (Kehler, Kertz, Rohde & Elman, 2008)

Question
Are children more sensitive to the first-mention bias if supported by coherence relations?

Implicit Causality (Garvey & Caramazza, 1974):
1) Sally frightens Mary because she’s from Cambridge.
2) Sally fears Mary because she’s from Cambridge.

In an explanation coherence relation, pronouns refer to the subjects of stimulus-subject (SS) verbs but the objects of stimulus-object (SO) verbs. (Brown & Fish, 1984).

Experiment 1
Visual world paradigm (Tanenhaus et al., 1995).
Task
Listen to stories while viewing scenes containing the mentioned characters
Eye movements recorded (Tobii system)
Active sentences (passive sentences used in a separate experiment and reported elsewhere).

SS verbs: confuse, frighten, scare, surprise
SO verbs: admire, like, love, hate
Other: beat, bite, catch, find, hear, help, smell, thank

References

Off-line Results: Ambiguous Condition

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<tr>
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<th>Adults</th>
<th>Kids</th>
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<tbody>
<tr>
<td>SS</td>
<td>79% (4%)**</td>
<td>68% (6%)**</td>
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<tr>
<td>SO</td>
<td>38% (5%)*</td>
<td>40% (6%)</td>
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Percent choosing grammatical subject, with standard errors.

Ambiguous Pronouns: Adults

Ambiguous Pronouns: Kids

Discussion
Kids, like adults, show a first-mention bias both off-line and on-line for SS (frighten) verbs.
Suggests children in Arnold et al. may have had difficulty with discourse contexts used.

Why don’t adults or kids show fast resolution of bias for SO (fear) verbs?
Perhaps because lack of a CAUSE? (Hartshorne, Pogue & Snedeker, 2009; Pesetsky, 1995)

What other discourse relations can support pronoun reference in children?