Children Want to Access Every Interpretation Adults Do

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INTRODUCTION
Children must induce an underlying grammatical system from the surface structure of language. Often, the surface structure does not correlate with the abstract representations. Antecedent-Contained Deletion (ACD) is an example: it involves two invisible syntactic elements, Verb Phrase Ellipsis and Quantifier Raising (QR). The ellipsis site is contained in its antecedent, and so cannot be interpreted in situ.

1) Miss Piggy (every car that Kermit did)]
2) Miss Piggy (every car that Kermit did)]

Because there are two QR landing sites, there are two interpretations (Embedded: (drive), Matrix: (wanted to drive)). If children have limited QR, they should be limited in the interpretations they access. If they access both, we have evidence that they have an adult-like nature grammar with respect to quantification.

OBJECTIVES
The main purpose of this study was to determine whether children can access multiple interpretations of ambiguous sentences Antecedent-Contained Deletion, and therefore whether they have access to multiple landing sites in Quantifier Raising. A second purpose was to examine participants’ sentence processing (landing site) preferences with these sentences. Ultimately, we want to determine whether children and adults share the same grammatical knowledge and processing strategies.

METHODS
• Participants: 24 Children (12 LO 12 HI, 6M 6F each, 4;10 – 4;10;3, 30 Adults (15 LO 15 HI)
• Procedure: Truth Value Judgment Task (Crain and McKee 1985)
• Two Between-Subject Conditions: LO (Embedded reading T, Matrix reading F); HI (Embedded reading F, Matrix reading T)
• Stimuli: 4 Test ACD sentences (2 subject control: want/need, 2 object control: ask/invite); 3 Control Ellipsis sentences

Example:
3) Miss Piggy, wanted to PROi drive every car that Kermit did.

RESULTS
• The percentage of Matrix readings was measured.
• 2 x 2 ANOVA: Age (Child, Adult) x Condition (LO, HI). No Main Effects of Age (p = .920, F = .010) or Condition (p = .550, F = .362).
• Age*Condition Interaction approached statistical significance (p = .115, F = 2.576).
• Percentages were not categorical: LO (Adults 32%, Children 54%), HI (Adults 50%, Children 38%).
• Participants’ responses were analyzed and sorted into 3 Categories:

<table>
<thead>
<tr>
<th>Given</th>
<th>Children</th>
<th>Adults</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevant</td>
<td>98.7%</td>
<td>96.7%</td>
</tr>
<tr>
<td>Reliable</td>
<td>64.8%</td>
<td>80.0%</td>
</tr>
</tbody>
</table>

Embedded, Matrix 54%, 46%    61%, 39%

CONCLUSIONS
• Children accessed both the Embedded and Matrix interpretations of sentences with embedded ACD.
• Children have an adult-like grammar with respect to quantification.
• The response patterns observed in children and adults suggests differences in sentence processing. Adults employ an economical “Shortest Move” (Tunstall 1998) or “Least Restructuring” processing strategy.
• Overt wH-movement and covert quantifier raising are aspects of “Move α.” Similarities may play a role in learnability of ACD.
• Future research will address children’s resolution of ellipsis without quantification, and other grammatical constraints on quantification.

REFERENCES

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