

Relative clauses that children understand: NP type effects on child processing

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Relative clauses (RCs) have been studied extensively in language acquisition and adult processing. Studies show that both children and adults find object relatives harder than subject relatives [1, 2]. Despite the similar pattern, adult difficulty is taken to reflect the increased processing demands of object relatives [1] while child difficulty is often interpreted as evidence for children's lack of adult-like knowledge of the structure, attributed to under-developed syntax [2] or to the use of non-adult processing heuristics which are abandoned as the parser develops [3]. In this paper, I suggest that children's difficulty reflects *similarity* between the child and the adult parser: children display adult-like processing preferences. The study focuses on the effect of the NP type appearing inside the relative clause. This factor was shown to influence adult processing: adult difficulty with object relatives is reduced when the embedded NP is a pronoun rather than a Lexical NP [4]. Two experiments demonstrate the influence of this factor on child performance. Together, the experiments show that just like adults children are better at comprehending what they (a) hear more frequently and (b) requires less processing resources. Furthermore, the results suggest that previous assessments of child performance have underestimated children's knowledge by testing them on relative clauses that are especially taxing even for adults.

The first experiment examined the distribution of NP types in child and child-directed speech in Hebrew. The results reveal a very similar distribution: both children and adults rarely produce object relatives with Lexical NPs. The second experiment manipulated the NP type in a comprehension task (full NP: *the monkey that **the girl** fed*, vs. pronoun: *the monkey that **I** fed*). 24 young Hebrew speakers (mean age 4;5) participated in a novel color-question task which required the child to answer questions about the colors of objects while looking at a picture. Questions contained a subject or an object relative clause in the two NP type conditions (Full NP vs. Pronoun), as can be seen in examples (1–4). The results showed a clear effect of NP type: Children's comprehension of object relatives is greatly improved when the object relative contained a subject pronoun (accuracy rises from 69% to 84%, see Table 1), demonstrating an effect of NP type on child processing and indicating previous assessments underestimated child knowledge. Moreover, performance on full NP object RCs was better than other studies testing the same age group in Hebrew, indicating the advantage of the novel task.

To conclude, the study reports similarity between child and adult processing of RCs with regard to NP type: Like adults, children produce more embedded pronouns and like adults, their comprehension improves in the pronoun condition. These similarities suggest the need to re-examine the null-hypothesis in language acquisition studies. Rather than postulating developmental stages (which undoubtedly exist) whenever we find difficulty in child speech, it is necessary to show that the observed difficulty can't be reduced to processing preferences/limitations that are common to children and adults. The discussion will include additional results demonstrating the effect of NP type on RC **production**.

Examples

- (1) What color is the hat of the girl that is feeding the monkey? Subject NP
- (2) What color is the hat of the girl that the monkey is feeding? Object NP
- (3) What color is the hat of the monkey that is feeding me? Subject Pro
- (4) What color is the hat of the girl that I am feeding? Object Pro

Table 1. Percentage correct performance by Extraction and NP type.

Subject Object
Full NP 90% 69%
Pronoun 96% 84%

References

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