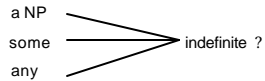


Children's Understanding of Polarity Items

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RESEARCH QUESTION

- How do children learn different types of indefinites that are masked by distinct morphology and syntactic distributions?



- Specifically, the three kinds of indefinites show different scope interpretations with respect to negation.

LINGUISTIC BACKGROUND

- All three forms are interpreted as an indefinite (the existential quantifier) at the logical form.
- But they have different scope interpretations with respect to negation
 - John didn't miss *a spelling error* in the paper.
 - It is not the case that John missed a spelling error in the paper. (Neg > ?)
 - There is a spelling error that John didn't miss in the paper. (Neg < ?)
 - John didn't miss *some spelling errors* in the paper. (*Neg > ?, Neg < ?) (PPI)
 - John didn't miss *any spelling errors* in the paper. (Neg > ?, *Neg < ?) (NPI)

Previous Research –Do children understand scope ambiguity?

Mixed results

- Isomorphic scope – children incorrectly interpret *some* in their surface syntactic position, namely, the narrow scope within negation. (Musolino, Crain & Thornton 2000)
- When the experimental design is felicitous for the wide scope interpretation of indefinites, children show adult behavior.
 - Gualmini 2004 – children are sensitive to the felicitous expectation of negation
 - Miller & Schmitt 2004 – children are sensitive to the implicit partitive interpretation of the wide scope meaning of indefinites

Evidence concerning “any” not conclusive

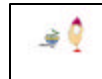
Previous studies are done on *some* and *a NP*, but we don't know if children understand *any* as a normal indefinite, or as a special one. Data from elicitation tasks (O'Leary & Stephen 1994) and grammaticality tasks (Zukowski 2001) show that children seem to understand *any*, but there aren't any comprehension studies.

Current Study

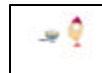
- A comprehensive study of all three kinds of indefinites. Do children understand the specific scope properties of these indefinites?
- Provide further evidence on children's understanding of indefinites and scope interpretations.

Experiment 1

Truth-Value Judgment Task



Hi, my name is Joe. I am eating dinner. My mom said I have to eat all my dinner before I can have dessert. I really don't like peas. But I guess they are healthy. Ok, I will try and eat them.



There, I did a pretty good job. There are only a few peas left, and those ones are mushy. I don't think I am supposed to eat the mushy peas. I will probably get my dessert!



I was listening to the story, and I know what happened!

Condition 1 Joe didn't eat *a* pea. (*the picture presentation was adjusted for the singular noun here)

Condition 2 Joe didn't eat *some* peas.

Condition 3 Joe didn't eat *any* peas.

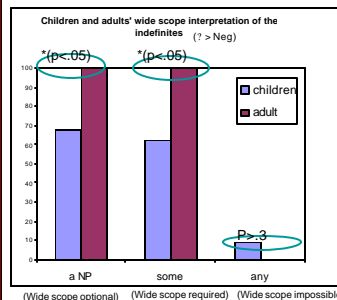
All logically possible outputs

Condition scope interaction and the correspondent answer for the TVJT

	Neg > ?	? > Neg
1 a-NP (wide scope optional)	No	Yes
2 some (wide scope required)	(No)	Yes
3 any (wide scope impossible)	No	(Yes)

- Answers in parentheses are grammatically unacceptable
- * 12 items, each with 3 conditions, Latin square design, 6 fillers. 3 stories are modified from Miller & Schmitt 2004

Expt1 Results (n=17, range 4:5-5:5, average 4:10)



- The expt. scenario successfully biased the wide scope interpretation of indefinites: for the ambiguous *a-NP* condition, all adult controls choose the wide scope reading.
- In this biased context, children still consistently interpret *any* in its narrow scope, just like adults
- Unlike adults, children only interpret a *NP* as wide scope *some* of the time
- Unlike adults, children also incorrectly interpret *some* as having wide scope *some* of the time

Two possibilities to interpret Expt. 1 results:

Children understand *any* as a NPI, but they treat *some* as a normal indefinite like *a-NP*, instead of a PPI.

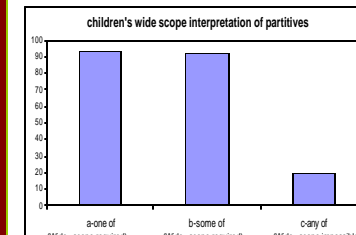
Or

Children don't really understand *any*, but they have difficulty accessing non-isomorphic scope. This leads to apparently adult-like behavior on *any*, but non-adult-like behavior on *some*.

Experiment 2—Explicit Partitivity

- To show that on independent grounds children have no *a priori* difficulty interpreting a noun phrase with non-isomorphic scope.
- Same stories, but the test conditions are all in partitive forms:
 - Joe didn't eat *one of the peas*. (wide scope required)
 - Joe didn't eat *some of the peas*. (wide scope required)
 - Joe didn't eat *any of the peas*. (wide scope impossible)

Expt2 Results (n=15, range 4:3-5:3, average 4:11)



- Compared to Expt. 1, children correctly interpret partitive forms *one-of-the-NP* and *some-of-the-NP* as having wide scope, and *any-of-the-NP* as having narrow scope.

This shows that children have no *a priori* difficulty with non-isomorphic interpretations.

Between experiment factor partitivity p<.01

Conclusions and Future Questions

- Children between 4 to 5 years old already understand *any* is a NPI, but they haven't mastered the PPI status of *some*.
- Children do have a tendency to interpret indefinites as having surface narrow scope
- Future questions:
 - Whether at some earlier stage of development children have ever considered *any* as a normal indefinite and performed scope errors.
 - At what point children will acquire the special property of *some*.

References [1] Miller, Karen & Cristina Schmitt (2004) Wide-scope Indefinites in English Child Language. In van Kampen, Jacqueline and Sergio Baauw (eds.) *Proceedings of GALA (Generative Approaches to Language Acquisition) 2003*. Utrecht: LOT p. 317-328.
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 [4] O'Leary, C. and Stephen Crain (1994) Negative polarity items (a positive result) positive polarity items (a negative result)'. Paper presented at the 1994 Boston University Conference on Language Development.
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