Children’s Understanding of Polarity Items
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LINGUISTIC BACKGROUND

1 All three forms are interpreted as an indefinite (the existential quantifier) at the logical respect to negation.
2 But they have different scope interpretations with respect to negation.
3 Specifically, the three kinds of indefinites show different scope interpretations with morphology and syntactic distributions.

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.

RESEARCH QUESTION

• How do children learn different types of indefinites that are masked by distinct morphology and syntactic distributions?
• Do children have different scope interpretations with respect to negation?

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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!

Condition 1: Joe didn’t eat a pea. (This 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 possibly outputs

Condition

Neg > ?
Neg > ?

1 a-NP (wide scope optional)
2 some (wide scope required)
3 any (wide scope impossible)

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)

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

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.

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.
• Joe didn’t eat any of the peas.

Expt2 Results (n=15, range 4.2-5.3, average 4.11)

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.

Conclusions and Future Questions

Children between 4 to 5 years old already understand any as 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.