Do Hungarian preschoolers understand number words exactly?
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Non-exact interpretation of numerically modified NPs (NumNPs)
(1) If anyone knocks down five pins, he will get a prize.
• those knocking down more than five pins will also get a prize
(Horn 1972)

Children's non-adult-like interpretation of NumNPs
• children prefer the 'exactly' reading of numerals
• they have difficulties with the 'at least' interpretation
(Musolino 2004)

Hungarian facts for adults
• In Hungarian word order greatly affects the interpretation of numerals.
  (2) János ot bábút talált el.  (3) János el- talált ot bábút.
  John five pins knocked down  János down knocked five pins
  John knocked down exactly five pins.  John knocked down at least five pins.
(É. Kiss 2010)

Experiment 1
How do Hungarian preschoolers interpret number words?
(4) Kapijanuk cukorkát azok a macik, ...
Those bears shall get a candy who...
(a) ... három málnát szedtek.  (b) ... szedtek három málnát.
three raspberries picked  picked three raspberries
OV → 'exactly three'

Results: Children overwhelmingly (100%) preferred the 'exactly' interpretation irrespective of word order.

Possible reasons for children's non-adult-like behaviour
(i) misinterpretation of the task
• children might have thought that they were tested on counting
• the did not consider the 'meaning' of the whole NumNP in the context
(ii) inability to decompose sets
• children might not be able to decompose a larger set into smaller subsets, though it is essential for solving the task

Experiment 2
Do Hungarian preschoolers always understand number words ‘exactly’?
• The context made it clear that the purpose of the game was completely unrelated to counting.

Participants:
36 children (19 girls, 17 boys), mean age: 5 years 4 months
Control group: 24 adults

Results
The proportion of ‘Yes’ responses in Group 1 and Group 2.

Discussion
• the option that children cannot decompose sets into smaller sets can be ruled out (they performed very well in Group 2)
• it is more likely that in children the mapping between the representation of numerals and the representation of sets is not yet complete
• they already know what amount each number word (at least up to 10) refers to but they do not yet recognize how these amounts are related to each other, i.e. having e.g. four apples entails having three, two, etc. apples, too

Stimuli:
Mickey needs three apples.

Group 1 – question with numeral
Van Donaldnak három almája?
Does Donald have three apples?
Group 2 – question with enough
Van Donaldnak eleg almája?
Does Donald have enough apples?

References

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