The Role of Contextual Factors in Preschoolers’ Interpretation of Presupposed Exhaustivity

Lilla Pintér

Theoretical and Experimental Approaches to Presuppositions

3–5 March 2017, Genoa
Aims

• to reveal the **acquisition path** of the exhaustivity of structural focus in Hungarian

• to investigate whether **contextual cues** can help children accessing the exhaustive interpretation
• Background
• Experiment 1
• Experiment 2
• Conclusion
Background

Structural /preverbal focus in Hungarian

• **syntactically** and **prosodically** marked

  (1) *Péter meg-vette a ház-at.*  \[Ø focus\]
  Peter  PRT-bought the house-ACC
  ‘Peter bought the house.’

  (2) *A HÁZ-AT vette meg Péter.*  \[object focus\]
  the house-ACC bought PRT  Peter
  ‘It was the house that Peter bought.’

• express **exhaustive identification** (É. Kiss 1998)
The source of exhaustivity of structural focus I.

existential presupposition

+ maximality presupposition

(3) It was Mary who solved the problem.

\[ \partial (\exists \alpha, C. [C(\alpha) \land \text{solved-pb}(\alpha) \land \alpha = \Sigma \alpha'. [C(\alpha') \land \text{solved-pb}(\alpha')])] \land \alpha = m) \]

• there is a set C of individuals
• there is an \( \alpha \) in C with the property of having solved the problem
• \( \alpha \) is the ‘largest’ individual from C with this property

(Bende-Farkas 2009: 330)

The source of exhaustivity of structural focus II.

conversational implicature

- Wedgwood (2005), Horn (2016); clefts: Horn (1981) cancellable, context-dependent meaning component
- Káldi & Babarczy (2016): scalar implicature
Background

The status of exhaustivity of structural focus

not-at-issue

- In contrast with the at-issue exhaustivity of sentences with the focus particle *csak* 'only'.
  see Destruel, Velleman, Onea, Bumford, Xue & Beaver (2015)

- Experimental studies also revealed a difference between structural focus and *csak* 'only'.
  see Onea & Beaver (2011)
    Gerőcs, Babarczy & Surányi (2014)
    Káldi & Babarczy (2016)
Aims of the present study

- to test the interpretation of *sentences with structural focus* in four different age groups
- to test the role of *contextual manipulations* in the group of preschoolers
- to determine *the source of exhaustivity* (presupposition or implicature)
Testing sentences with structural focus

(3) \[ A_{\text{NYUSZI}}^{\text{FOC}} \text{ emelte fel a } \text{ zászló-t.} \]
the rabbit raised up the flag-ACC
‘It is the rabbit who has raised the flag.’
Experiment 1

Control conditions:

(i) true / exhaustive condition

(ii) false condition

Critical conditions:

(iii) non-exhaustive condition

(iv) condition (i) with a distractor
Experiment 1

Procedure

• sentence–picture verification task

• three-point-scale 😞 😐 😊


• 4 conditions x 8 items = 32 test sentence–picture pairs + 24 filler sentence–picture pairs

• randomized order, SR Research Experiment Builder

• 2 occasions
Participants

- 15 preschoolers (mean age: 6;2)
- 15 7-year-olds (mean age: 7;5)
- 15 9-year olds (mean age: 9;7)
- 15 adults (mean age: 42;7)
Experiment 1
Proportion of responses of the non-exhaustive condition

Kruskal-Wallis test

***: p < 0.001
Discussion

• In the case of structural focus, there is an increase of exhaustive interpretation with age.

• In contrast with other age groups, preschoolers did not interpret sentences with structural focus exhaustively in a sentence–picture matching task. (cf. Kas & Lukács 2013, Babarczy & Balázs 2014)

Open question

• Is it easier for preschoolers to access the exhaustive reading of structural focus constructions if the context strongly supports this interpretation?
Experiment 2

Playing Hide and Seek in a Dollhouse
**Experimenter:** Who did the wolf find?

**Hedgehog:** A farkas [A CICÁT]_{FOC} találta meg.

the wolf the cat found PRT

‘It is the cat that the wolf has found.’

**Child:** ☹️ 😐 😊
Experiment 2

3 conditions:
• exhaustive (e.g. the wolf finds the cat)
• non-exhaustive (e.g. the wolf finds both players)
• false (e.g. the wolf finds the dinosaur)

Non-exhaustive scenario:
Filler trials:

- investigating the acquisition of the spatial meaning of előtt ‘in front of’ and mögött ‘behind’
  (cf. Harmati-Pap 2016)
Contextual factors that could support exhaustivity

- **Hide-and-Seek**: the importance of the order of finding the players

- **alternatives** are explicitly given in the context
  - cf. Müller et al. (2011)

- presence of a **preceding question**
  - cf. Gerőcs et al. (2014); Tóth and Csatár (2016) – increase of exhaustive answers in the case of adult participants
  - cf. Hackl et al. (2015) – role of congruent questions when associating the exhaustivity of *only* with focus
Participans

45 preschoolers (3 of them has to be excluded)
• 28 girls and 17 boys
• age range: 2;11–7;5
• mean age: 5;0
Experiment 2
Proportion of responses given by all 42 participants

![Bar chart showing the proportion of responses given by all 42 participants. The bars are color-coded and labeled as "exhaustive", "non-exhaustive", and "false".](image)

- **Exhaustive**: The majority of responses are given to this category, with a significant proportion of responses falling within the range of 60% to 100%.
- **Non-exhaustive**: A smaller proportion of responses are given to this category, with some responses falling within the range of 20% to 40%.
- **False**: A significant proportion of responses are given to this category, with a large number of responses falling within the range of 80% to 100%.
Experiment 2
Correlation between age and frequency of response types

There is **no correlation** between the age of children and the frequency of 😊 faces

Kendall's rank correlation

\[ \tau = -0.2576, \ p = 0.09955 \]
Experiment 2
Results of the three age groups

- Younger than 5;5 (N = 21)
- Between 5;5 and 6;5 (N = 19)
- Older than 6;5 (N = 2)
Experiment 2

Discussion

• **acceptance rates** of structural focus constructions in *non-exhaustive* contexts **slightly decreased** compared to Experiment 1 (64% vs. 51%) in the case of 6-year-olds

• children at around the age of 6 seemed to be able to **make use of contextual factors** to some extent

• however, their performance is still **far from adult-like**
Conclusion

• exhaustivity of structural focus also arises without any broader context, except in the case of preschoolers
• results of Experiment 1 and 2 did not differ considerably
• the fact that such a major change of the experimental setting did not influence children’s performance is against the hypothesis that exhaustivity expressed by structural focus is a conversational implicature w.r.t. the alternation of the processing of scalar terms like some, cf. Papafragou & Musolino (2003), Guasti et al. (2005)
• Exhaustivity of structural focus is presupposed, and the majority of children is not sensitive to it until the age of 7
References


References


Thank you for your attention!

This research was supported by grant 108951 of OTKA, the Hungarian Scientific Research Fund.