

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

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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.* ∅ 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)

Background

The source of exhaustivity of structural focus I.

existential presupposition

+

maximality presupposition

(3) *It was Mary who solved the problem.*

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

- there is a set C of individuals
- there is an α in C with the property of having solved the problem
- α is the ‘largest’ individual from C with this property

(Bende-Farkas 2009: 330)

cf. Kenesei (1986), Szabolcsi (1994); clefts: Karttunen (1974)

Background

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)

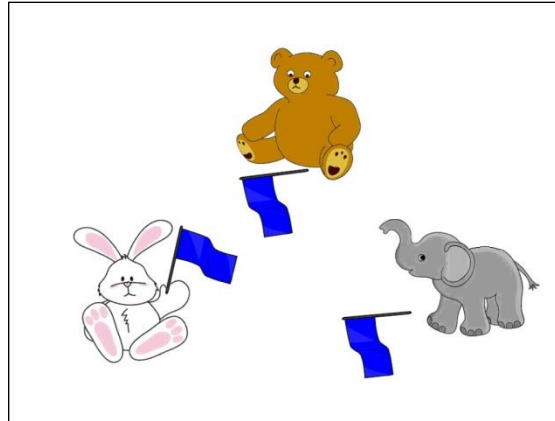
Experiment 1

Testing sentences with structural focus

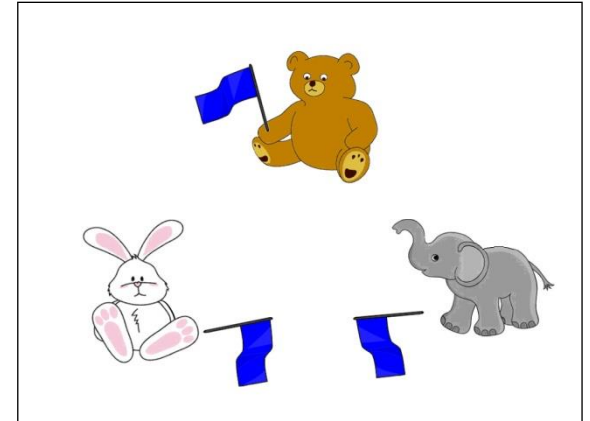
- (3) [A NYUSZI]_{FOC} *emelte fel a zászló-t.*
the rabbit raised up the flag-ACC
'It is the rabbit who has raised the flag.'

Experiment 1

Control conditions:

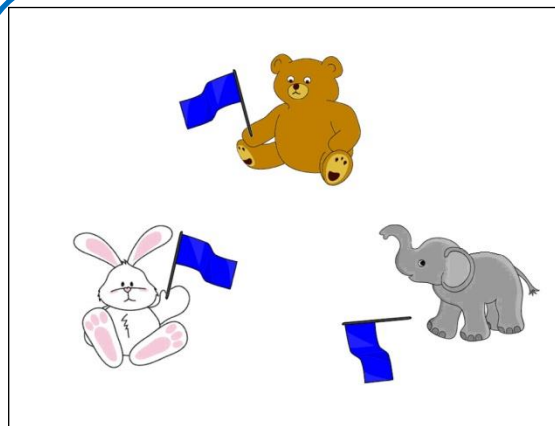


(i) true / exhaustive condition

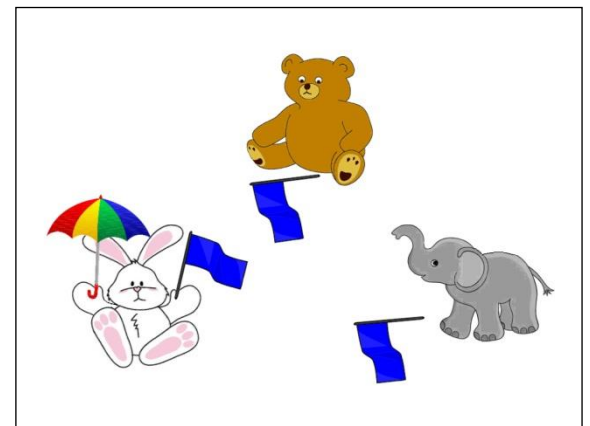


(ii) false condition

Critical conditions:






(iii) non-exhaustive condition



(iv) condition (i) with a distractor

Experiment 1

Procedure

- sentence–picture verification task
- three-point-scale   
cf. Katsos & Bishop (2011), Babarczy & Balázs (2014, 2016)
- 4 conditions x 8 items = **32** test sentence–picture pairs
+ 24 filler sentence–picture pairs
- randomized order, SR Research Experiment Builder
- 2 occasions

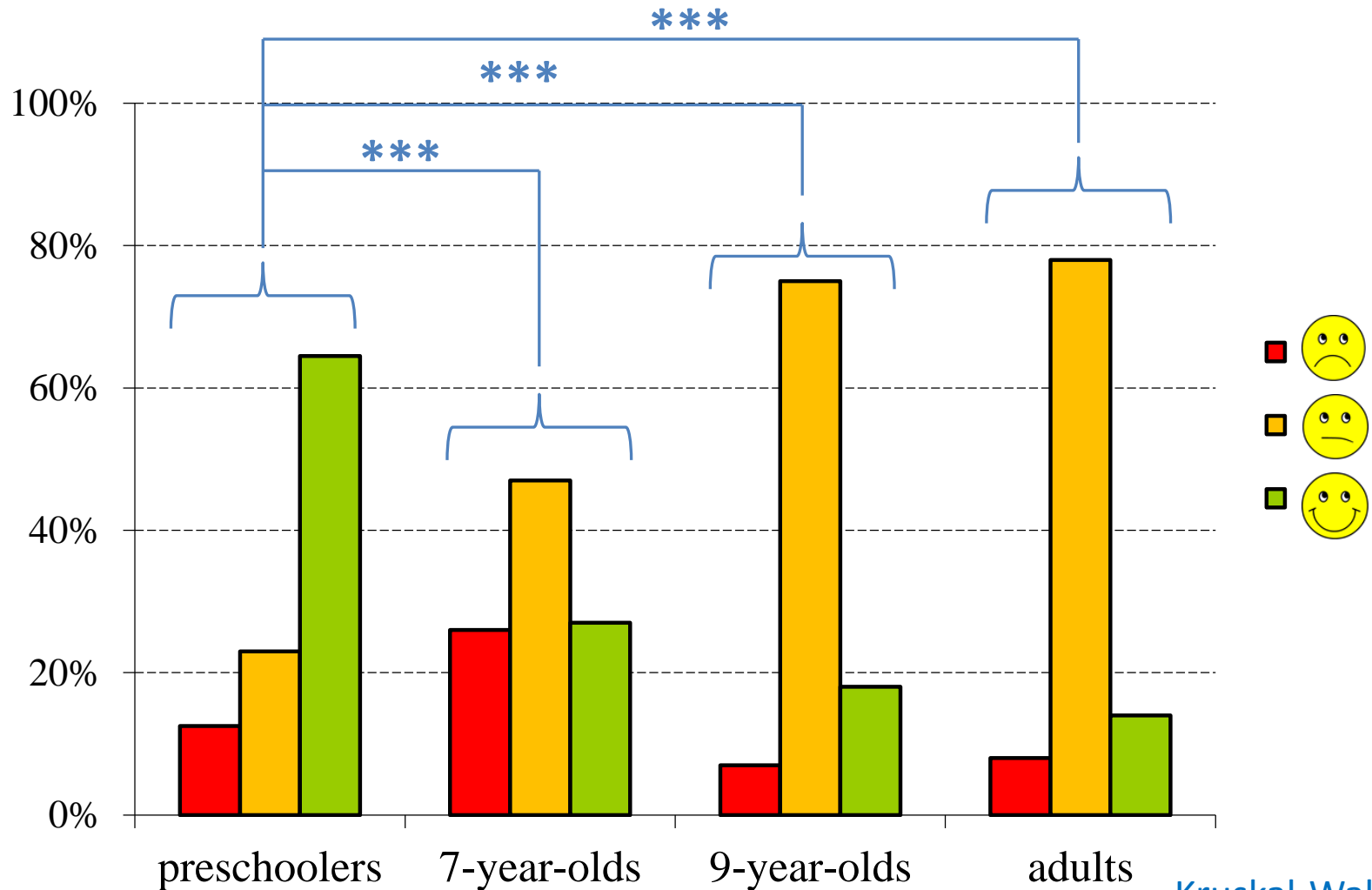
Experiment 1

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

***: $p < 0.001$

Experiment 1

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



Experiment 2

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:



Experiment 2

Filler trials:

- investigating the acquisition of the spatial meaning of *előtt* ‘in front of’ and *mögött* ‘behind’
(cf. Harmati-Pap 2016)

Experiment 2

Contextual factors that could support exhaustivity

- **Hide-and-Seek**: the importance of the order of finding the players
- the denotation of the focused object is **animate**
cf. Gualmini et al. (2003)
- **alternatives** are explicitly given in the context
cf. Müller et al. (2011)
- presence of a **preceding question**
cf. Geröcs 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

Experiment 2

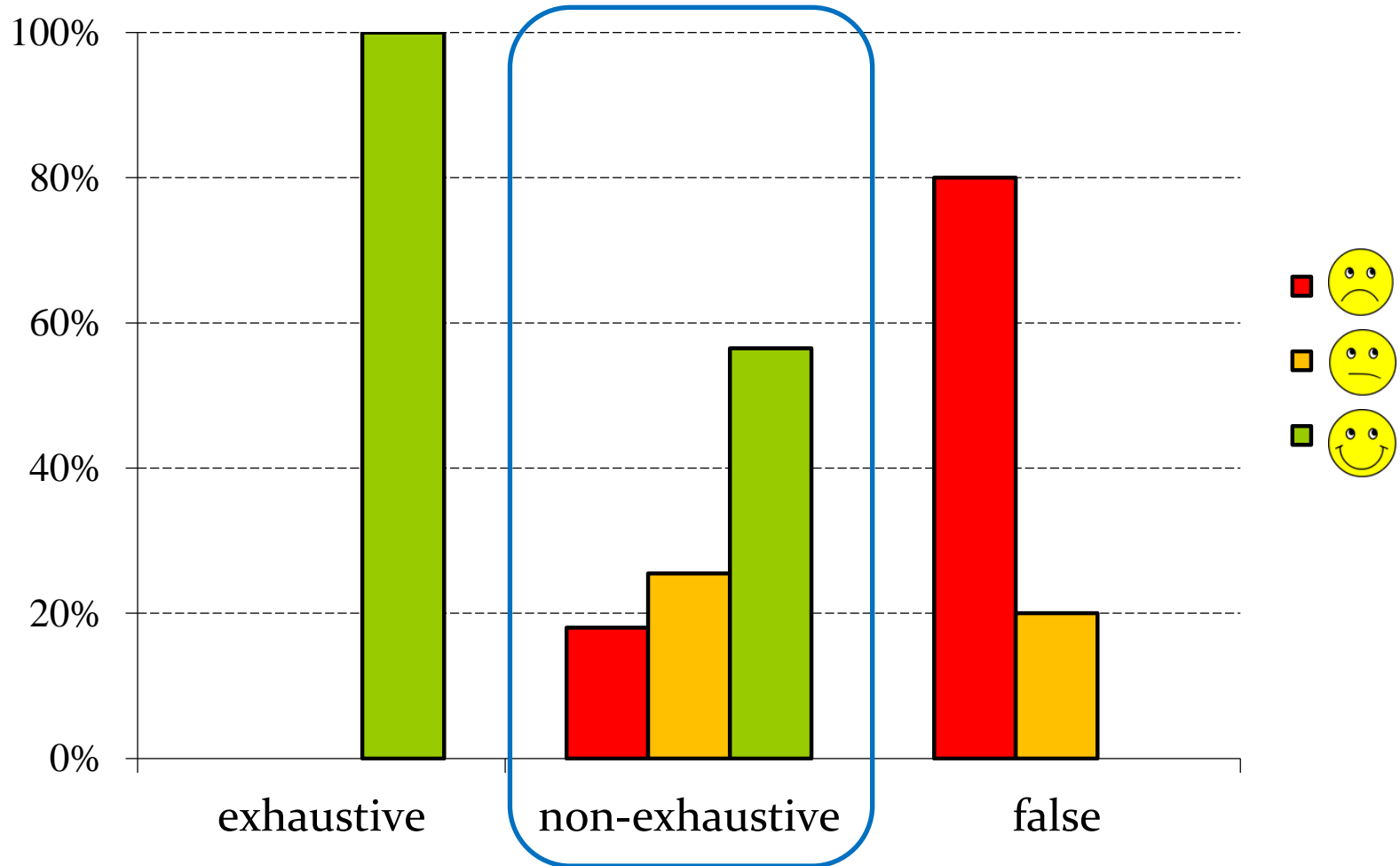
Participants

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



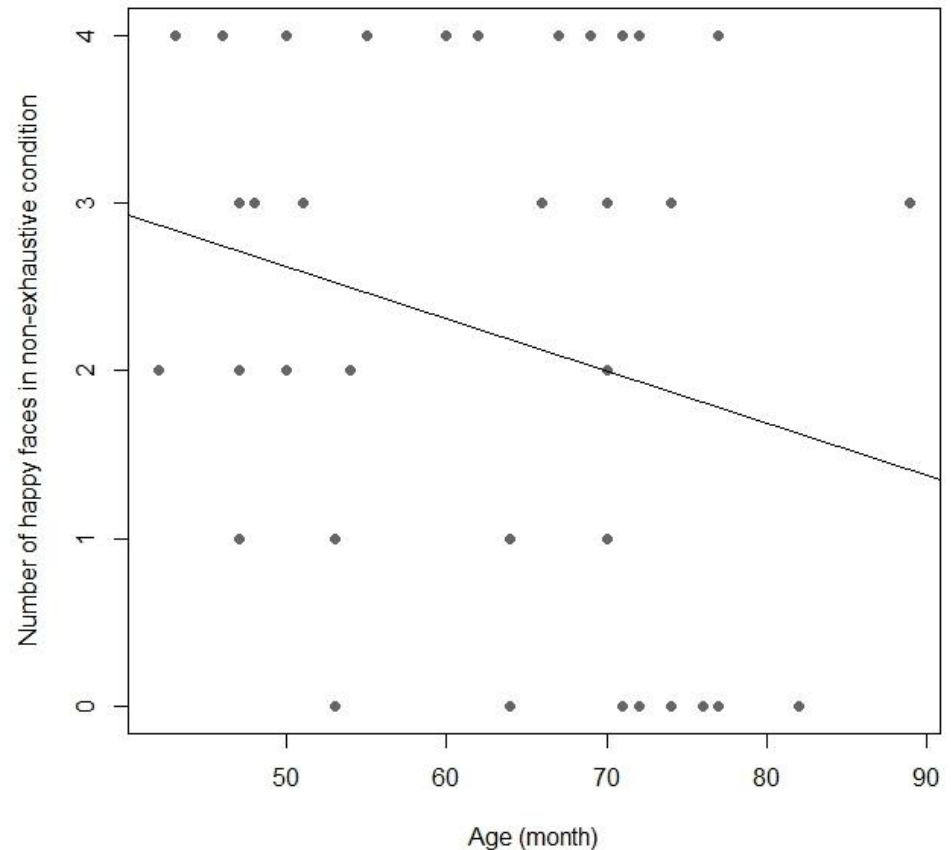
Experiment 2

Correlation between age and frequency of response types

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

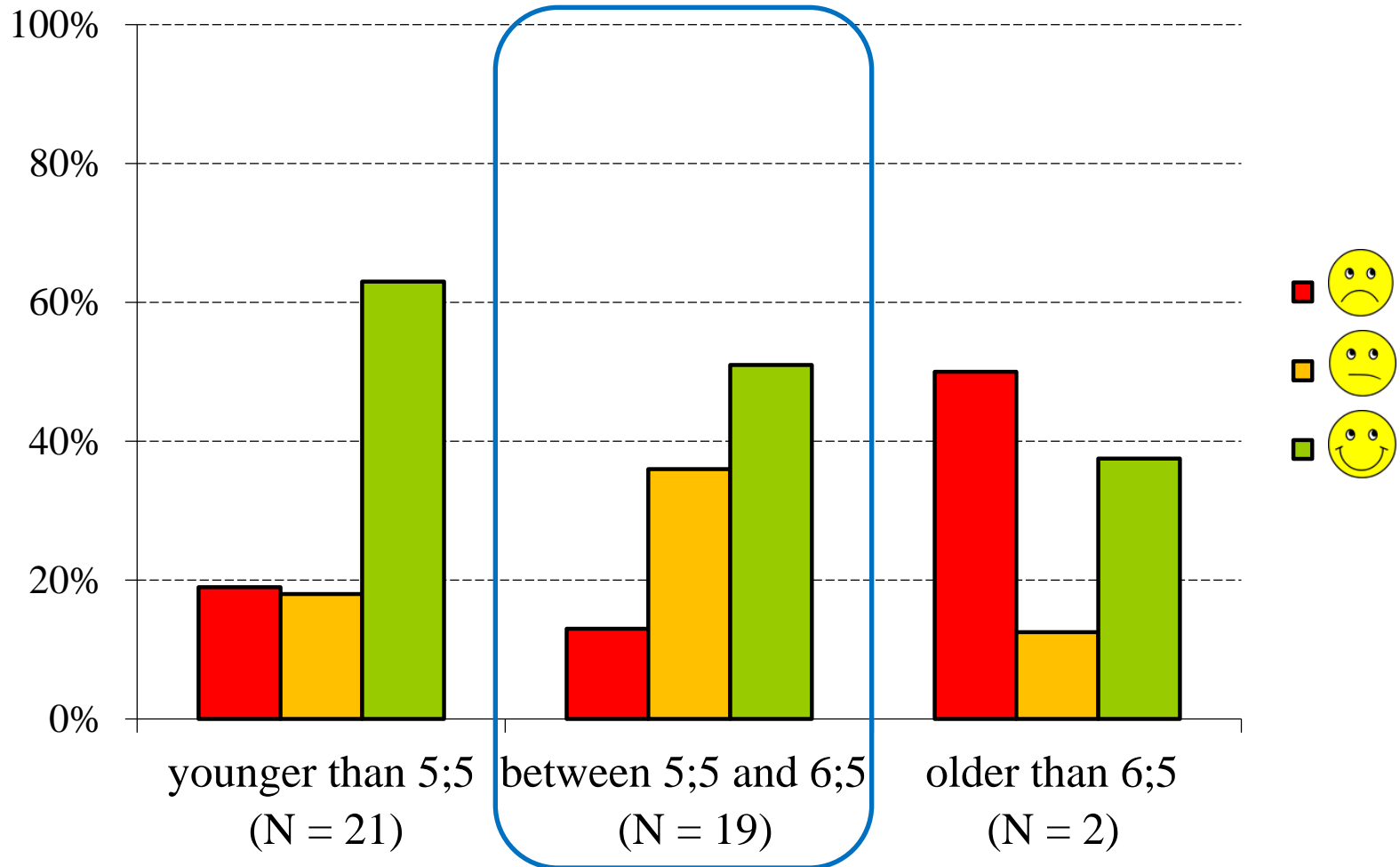
Kendall's rank correlation

$\tau = -0.2576$, $p = 0.09955$



Experiment 2

Results of the three age groups



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

- Babarczy, A. & Balázs, A. (2016). A kognitív kontroll és a preverbális fókusz értelmezése. In Kas Bence (ed), „*Szavad ne feledd!*” – *Tanulmányok Bánréti Zoltán tiszteletére*, 151–63. Budapest: Magyar Tudományos Akadémia Nyelvtudományi Intézet.
- Bende-Farkas, Á. (2009). Adverbs of quantification, it-clefts and Hungarian focus. In K. É. Kiss (ed), *Adverbs and adverbial adjuncts at the interfaces*, 317–48. Berlin: Mouton de Gruyter.
- É. Kiss, K. (1998). Identificational focus versus information focus. *Language* 74, 245–73.
- Gerőcs, M., Babarczy, A. & Surányi, B. (2014). Exhaustivity in Focus: Experimental Evidence from Hungarian. In J. Emonds & M. Janebová (eds), *Language Use and Linguistic Structure*, 181–94. Olomouc: Palacky University.
- Guasti, M. T., Chierchia, G., Crain, S., Foppolo, F., Gualmini, A. & Meroni, L. (2005). Why children and adults sometimes (but not always) compute implicatures. *Language and cognitive processes* 20(5): 667–96.
- Hackl, M., Sugawara, A. & Wexler, K. (2015). Question–Answer (in)congruence in the acquisition of only. In E. Grillo & K. Jepsen (eds.), *BUCLD 39: Proceedings of the 39th annual Boston University Conference on Language Development*, 204–17. Somerville, MA: Cascadilla Press.
- Katsos, N. & Bishop, D. V. M. (2011). Pragmatic Tolerance: Implications for the Acquisition of Informativeness and Implicature. *Cognition* 20: 67–81.
- Káldi, T. & Babarczy, A. (2016). A magyar fókusz és a skaláris implikatúrák: Egy szemmozgáskövetéses kutatás eredményei. In Kas Bence (ed), „*Szavad ne feledd!*” – *Tanulmányok Bánréti Zoltán tiszteletére*, 333–46. Budapest: RIL HAS.

References

- Kálmán, L. & van Leusen, N. (1993). *The semantics of free focus*. Amsterdam: ILLC.
- Kenesei, I. (1986). On the logic of Hungarian word order. In W. Abraham & S. de Meij (eds), *Topic, Focus and Configurationality*, 143–59. Amsterdam: John Benjamins.
- Müller, A., Schulz, P. & Höhle, B. (2011). Pragmatic children: How children interpret sentences with and without only. In J. Meibauer & M. Steinbach (eds.), *Experimental Pragmatics/Semantics*, 79–100. Amsterdam: Benjamins.
- Onea, E. & Beaver, D. (2011). Hungarian focus is not exhausted. In E. Cormany, S. Ito & D. Lutz (eds), *Proceedings of the 19th Semantics and Linguistic Theory Conference*, 342–59.
- Papafragou, A. & Musolino, J. (2003). Scalar implicatures: experiments at the semantics–pragmatics interface. *Cognition* 86: 253–82.
- Szabolcsi, A. (1981). Compositionality in focus. *Folia Linguistica* 15: 141–61.
- Szabolcsi, A. (1994). All quantifiers are not equal: The case of focus. *Acta Linguistica Hungarica* 42: 171–87.
- Tóth, E. & Csátár, P. (2016). *Preverbal focus and syntactically unmarked focus in Hungarian: A comparison*. Paper presented at the III. Olomouc Linguistics Colloquium (Olinco), Olomouc, Czech Republic.
- Wedgwood, D. (2005). *Shifting the Focus. From Static Structures to the Dynamics of Interpretation*. Amsterdam: Elsevier.

Thank you for your attention!

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