

# Preschoolers' Interpretation of Presupposed and Pragmatically Implied Exhaustivity

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# Research questions

- Could **contextual factors** help preschoolers accessing the exhaustive interpretation of sentences with structural focus?
- Is the exhaustivity of structural focus indeed a context-dependent **implicature**  
or  
is it context-independently **presupposed**?

- **Background**
- Experiment 1
- Experiment 2
- Conclusion

# Background

## Structural 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

How do sentences containing structural focus express this exhaustive meaning?

## 1. [+exhaustive] semantic feature

Szabolcsi (1981), É. Kiss (1998)

## 2. presupposition

Kenesei (1986), van Leusen & Kálmán (1993), Szabolcsi (1994), Bende-Farkas (2009), É. Kiss (2011)

## 3. implicature

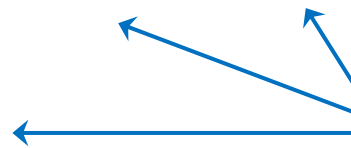
- conversational implicature

Wedgwood (2005), Onea & Beaver (2011), Káldy & Babarczy (2016)

- conventional implicature

Gerőcs, Babarczy & Surányi (2014)

Experimental studies



# 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)

- Background
- **Experiment 1**
- Experiment 2
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# Experiment 1

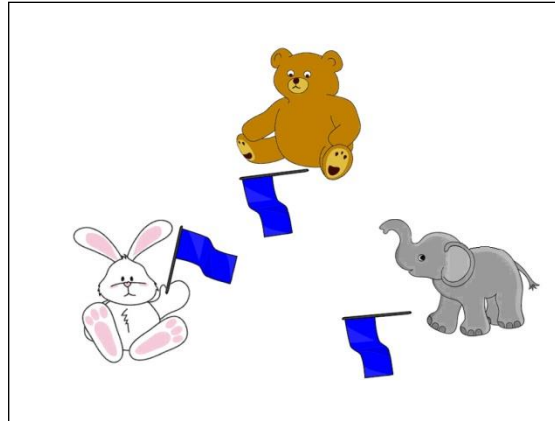
## Testing sentences with structural focus

- (3) [A NYUSZI]<sub>FOC</sub> *emelte fel a zászló-t.*  
the rabbit raised up the flag-ACC  
'It is the rabbit who has raised the flag.'

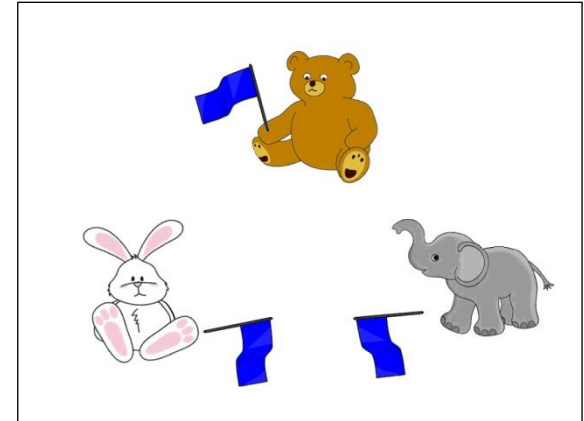


# Experiment 1

**Control conditions:**

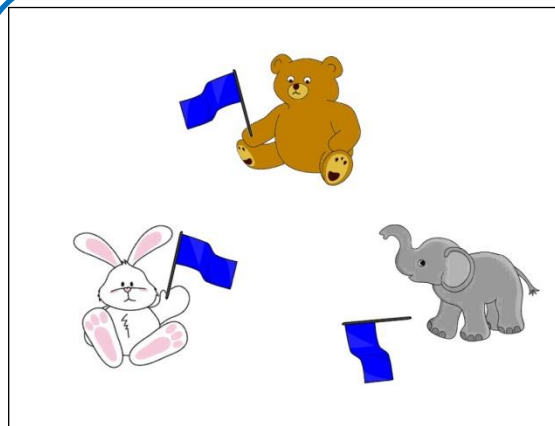


(i) true / exhaustive condition

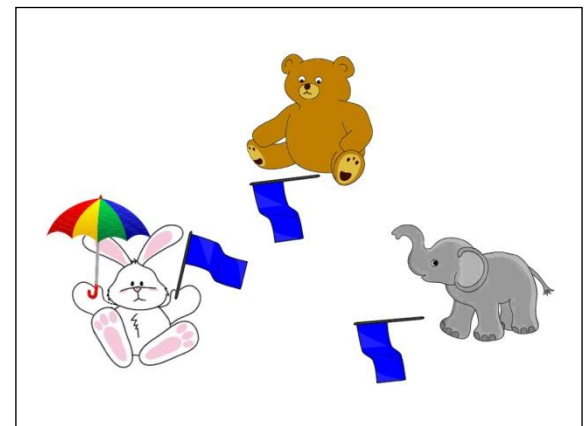


(ii) false condition

**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

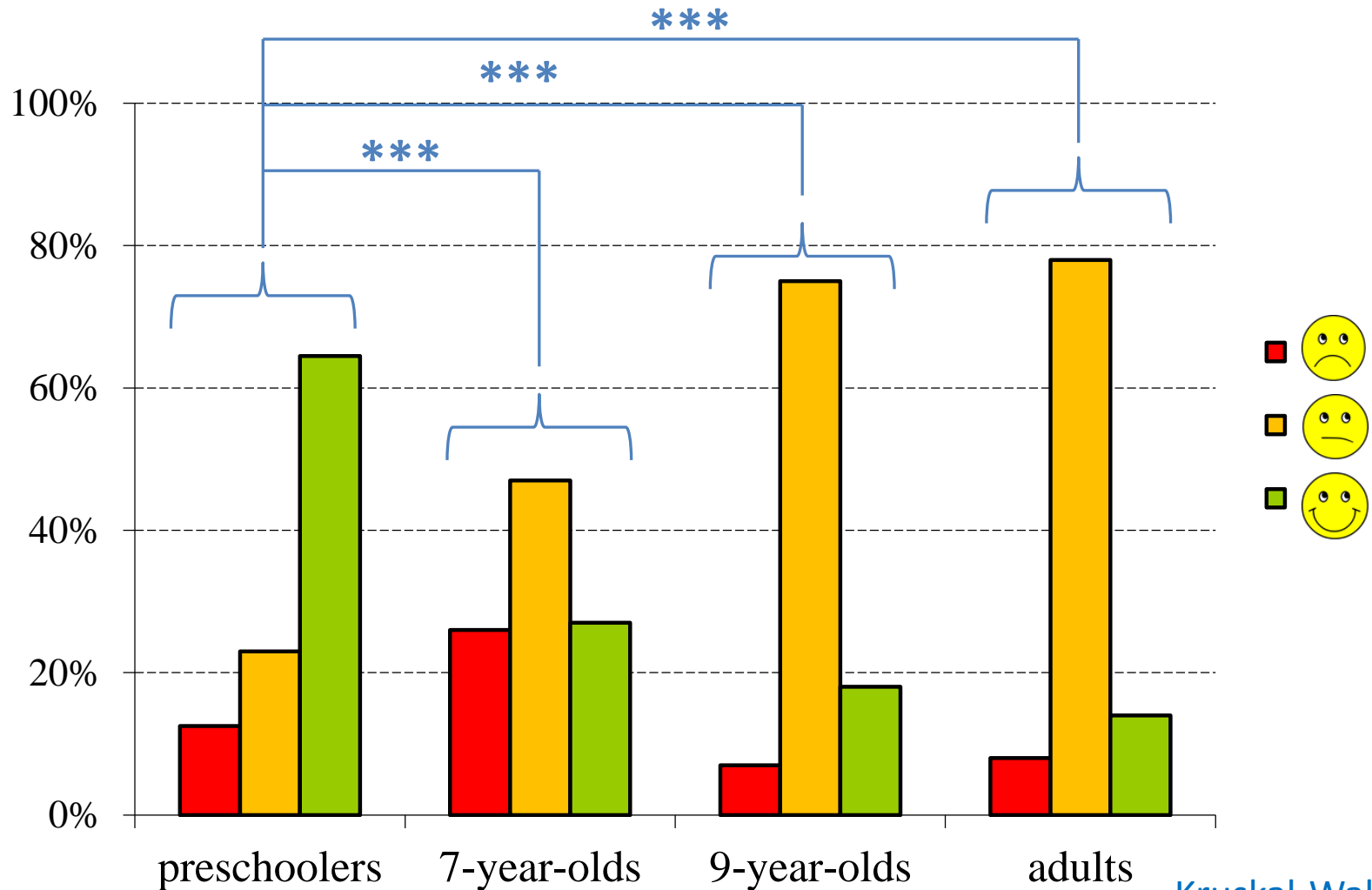
# Experiment 1

## 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?

- Background
- Experiment 1
- **Experiment 2**
- Conclusion

# Experiment 2

## Playing Hide and Seek in a Dollhouse



# Experiment 2

**Experimenter:** *Who did the wolf find?*

**Hedgehog:** *A farkas [A CICÁT]<sub>FOC</sub> találta meg.*  
the wolf the cat found PRT  
'It is the cat that the wolf has found.'

**Child:** 

**Non-exhaustive scenario:**





# 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)

## Filler trials:

- investigating the acquisition of the spatial meaning of *előtt* ‘in front of’ and *mögött* ‘behind’  
(see Veronika Harmati-Pap’s poster presentation)

# 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

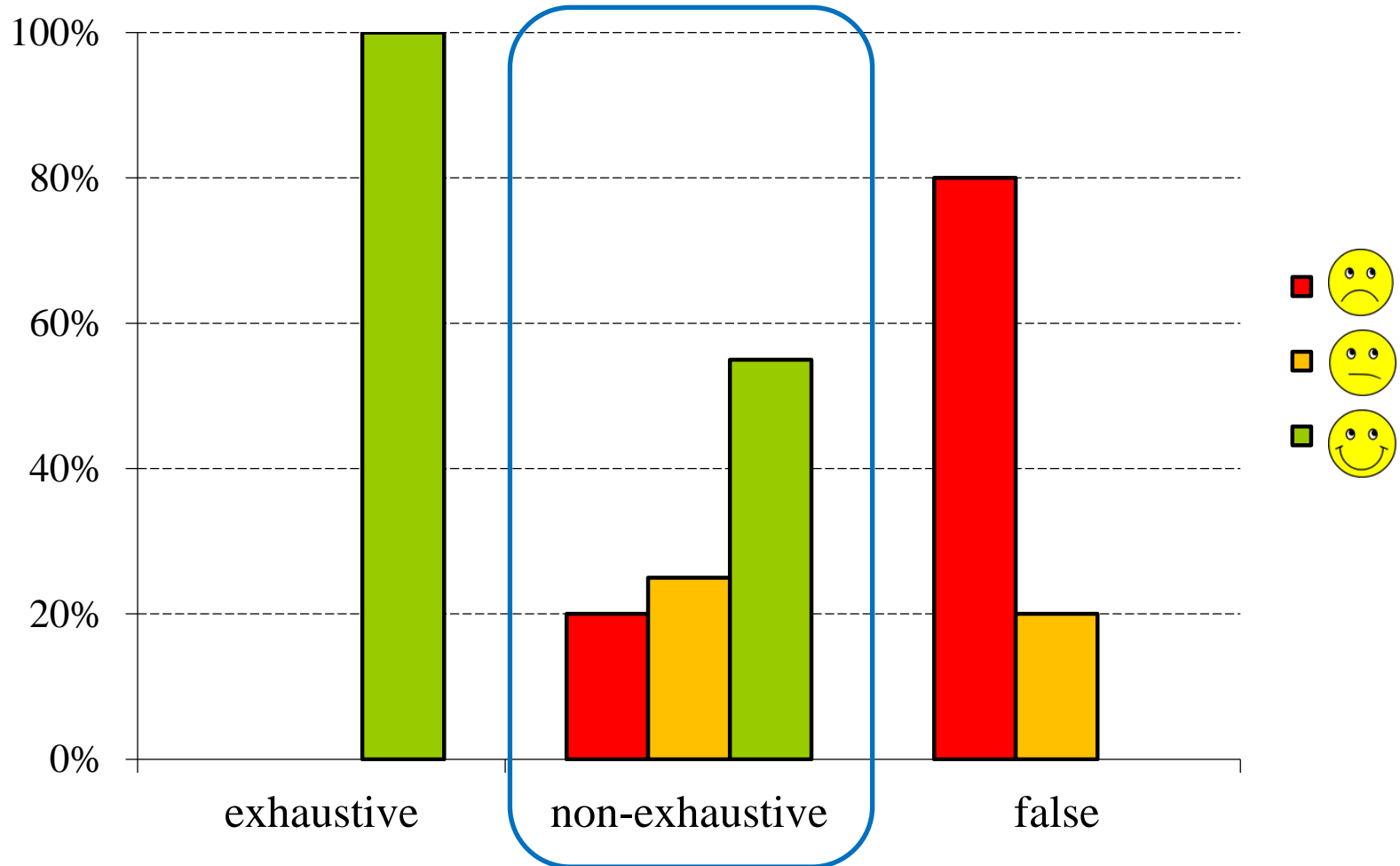
## Participants

30 preschoolers

- 18 girls and 12 boys
- age range: 3;6–7;5
- mean age: 5;7

# Experiment 2

Proportion of responses given by all 30 participants



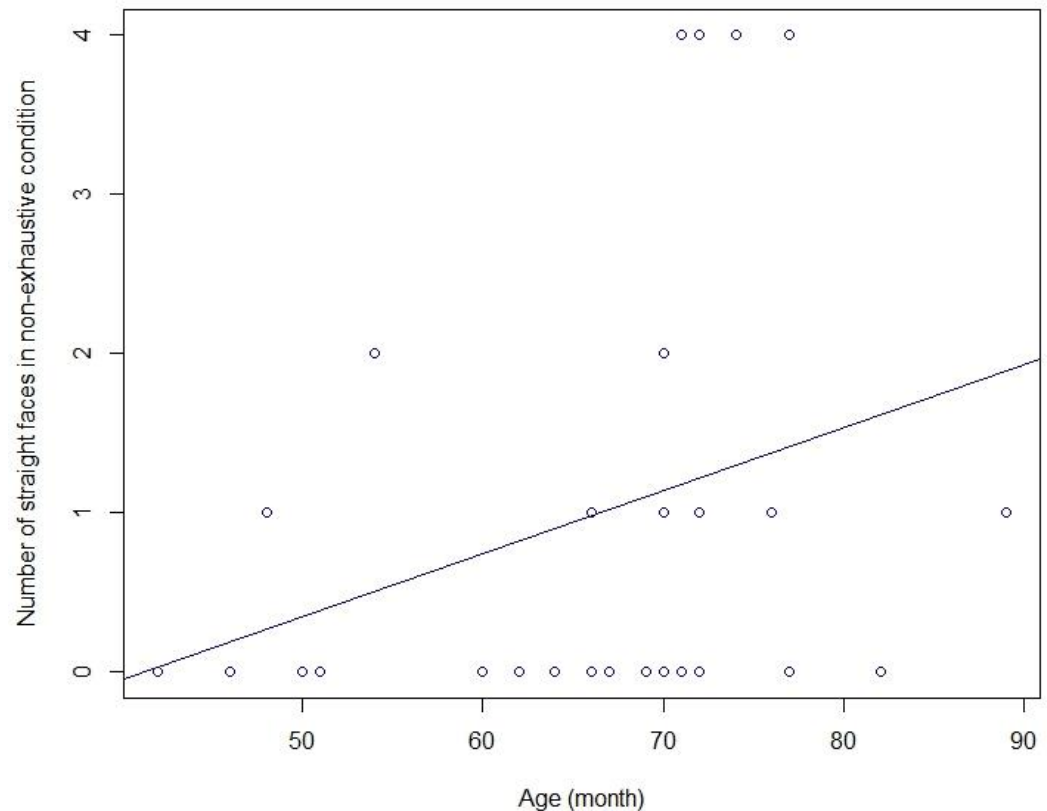
# Experiment 2

## Correlation between age and frequency of response types

There is a **weak positive correlation** between the age and the frequency of 😞 faces

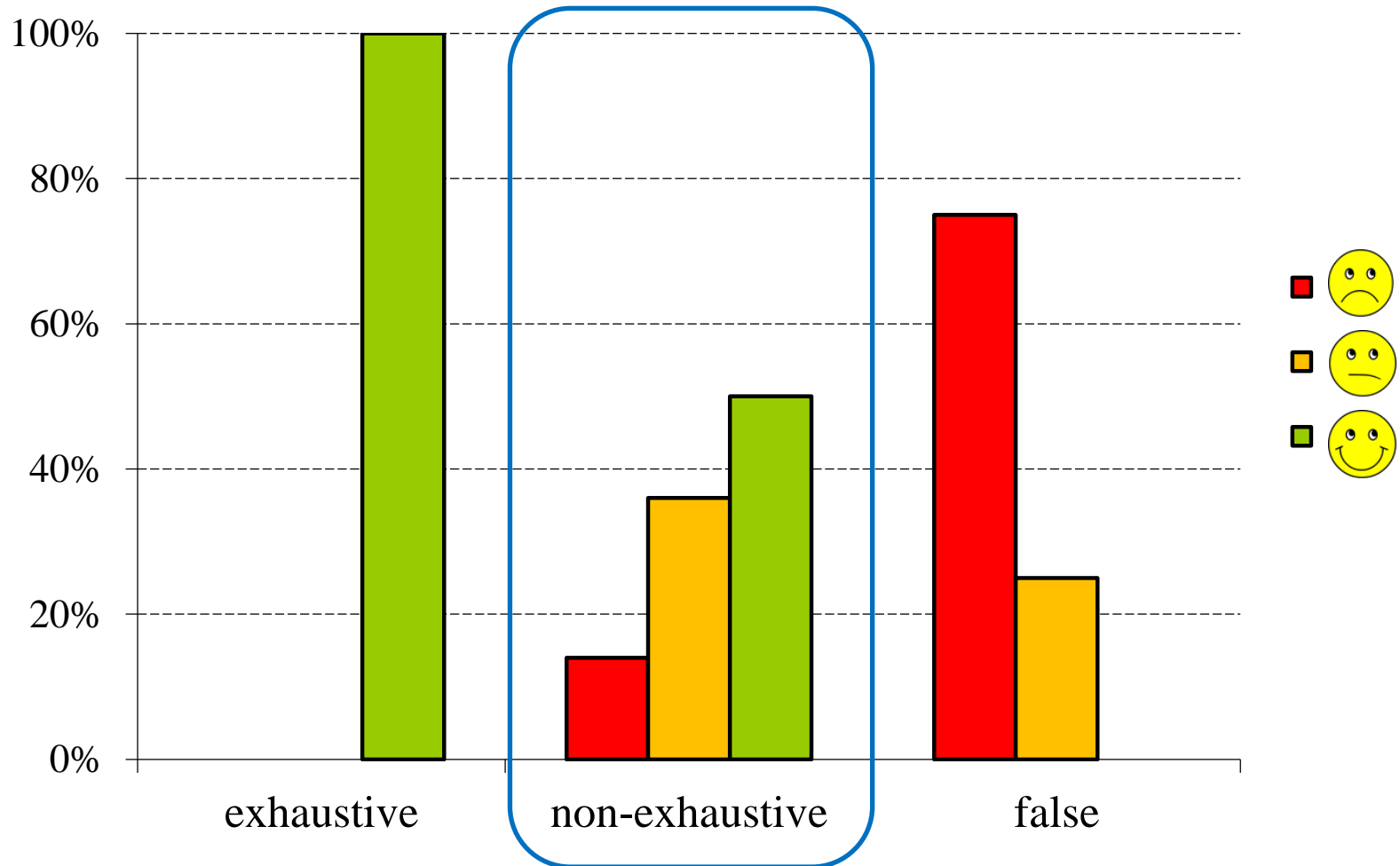
Kendall's rank correlation

$\tau = 0.2989$ ,  $p < 0.05$



# Experiment 2

Results of 6-year-olds (N = 18, 5;6–6;5, mean age: 5;11)



# Experiment 2

## Discussion

- **acceptance rates** of structural focus constructions in *non-exhaustive* contexts **slightly decreased** compared to Experiment 1 (**64% vs. 50%**) 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**

- Background
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- **Conclusion**



# 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 **scalar 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

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**Thank you for your attention!**

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