

# The role of functional heads in Hungarian PP recursion



## Questions

- Do Hungarian children interpret recursive structures as direct recursion (conjunction) at first?
- Does a more salient functional head help interpret recursive PPs?
- Does word order influence the interpretation of recursion?

## Acquisition path of recursion

The broom is next to the oven next to the dustbin next to the table.

- Direct recursion (PP conjunction)
- Indirect recursion (PP embedding) (Roeper 2011)

An intervening overt functional element between the recurring phrases FACILITATES INTERPRETATION. (DiSciullo 2015)

## Hungarian recursive PP-s

embedded PP adjectivalized by -i

a. A *krokodil* [<sub>PP</sub> [<sub>AdjP</sub> [<sub>PP</sub> a *zsiráf* előtt] -i] *oroszlán*] előtt] áll.  
the crocodile the giraffe before-ADJ lion before stands  
'The crocodile stands before the lion before the giraffe.'

embedded PP in a *lévő* participle phrase

b. A *krokodil* [<sub>PP</sub> [<sub>PartP</sub> [<sub>PP</sub> a *zsiráf* előtt] *lévő*] *oroszlán*] előtt] áll.  
the crocodile the giraffe before being lion before stands  
'The crocodile stands before the lion (being) before the giraffe'

## Participants

	EXPERIMENT 1	EXPERIMENT 2
Preschoolers:	N = 19, mean age = 6;7	N = 17, mean age = 6;6
2nd graders:	N = 22, mean age = 8;5	N = 23, mean age = 8;5
Adults:	N = 20, mean age = 48	N = 27, mean age = 44

## Methods

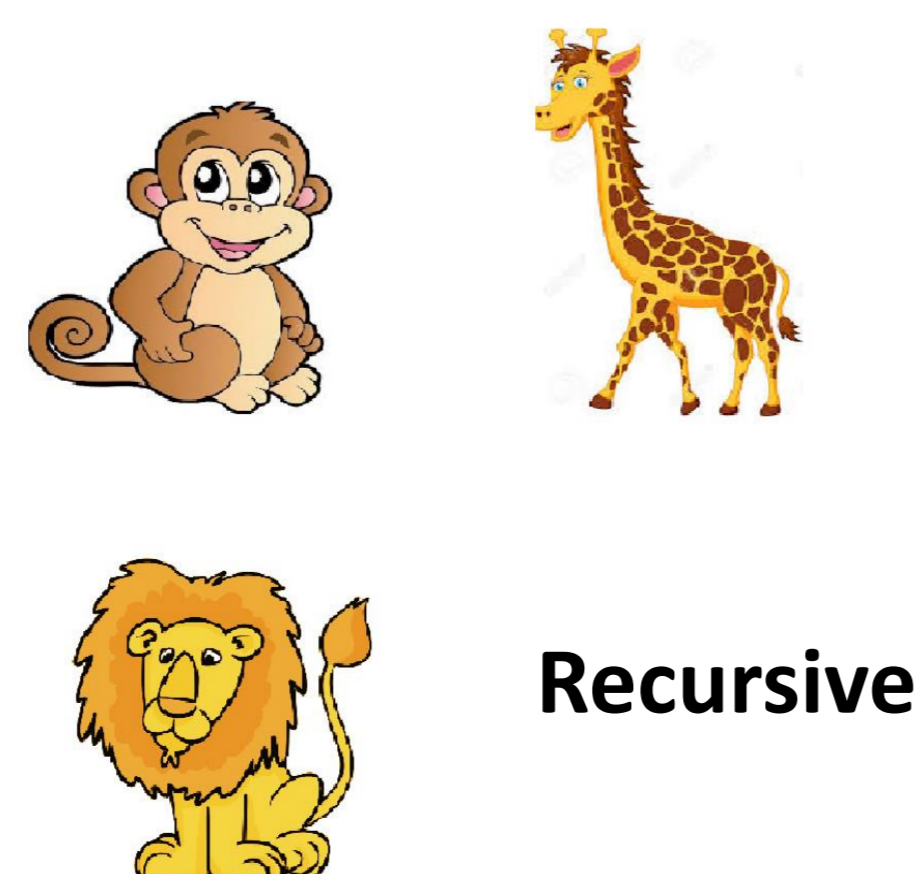
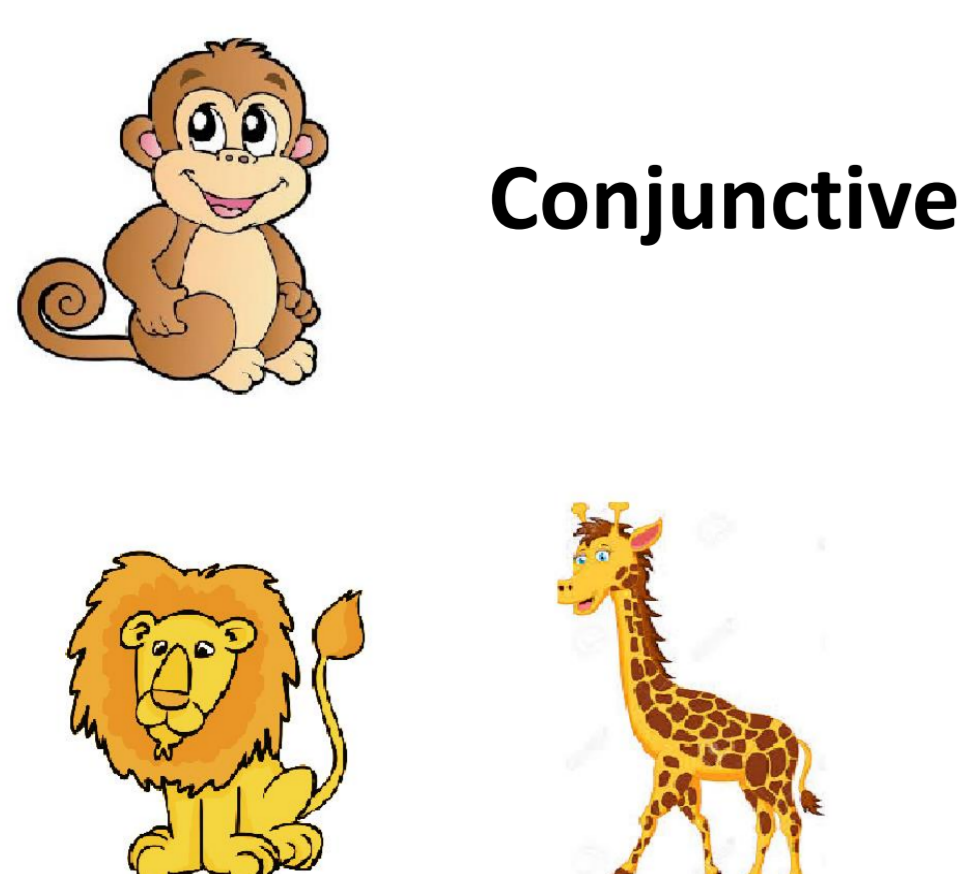
- Forced choice test
- PPs: under 'alatt', above 'fölött', before 'előtt', behind 'mögött'
- One of the pictures: recursive, the other one: conjunctive

## Two tested word orders

1. subject – PP – V order:  
A *krokodil* a *zsiráf* előtt -i/lévő *oroszlán* előtt áll.  
the crocodile the giraffe before-ADJ/being lion before stands  
'The crocodile stands before the lion before the giraffe.'

2. PP – subject – V order:  
A *zsiráf* előtt -i/lévő *oroszlán* előtt *krokodil* áll.  
the giraffe before-ADJ/being lion before crocodile stands.  
'Before the lion before the giraffe a crocodile stands.'

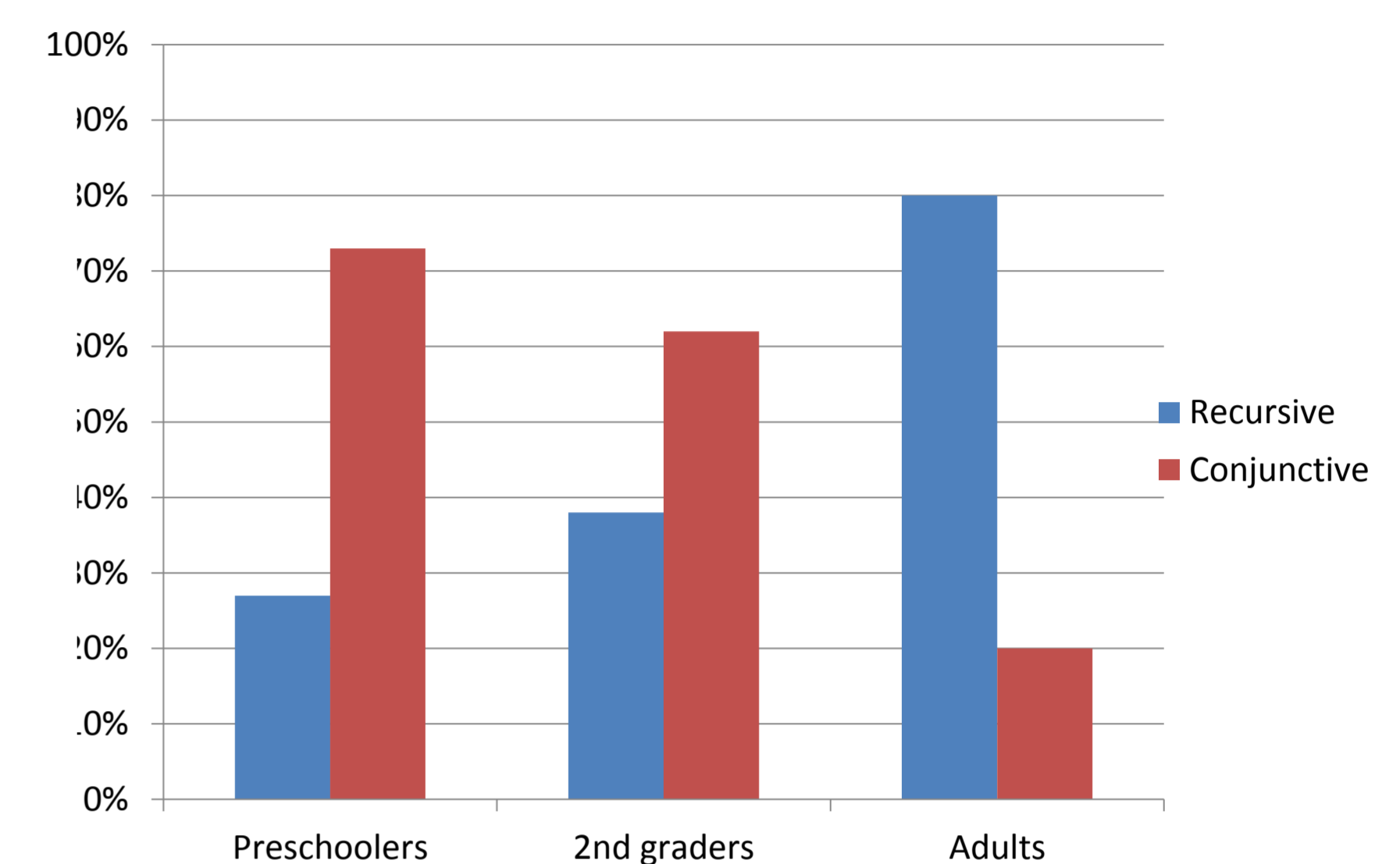
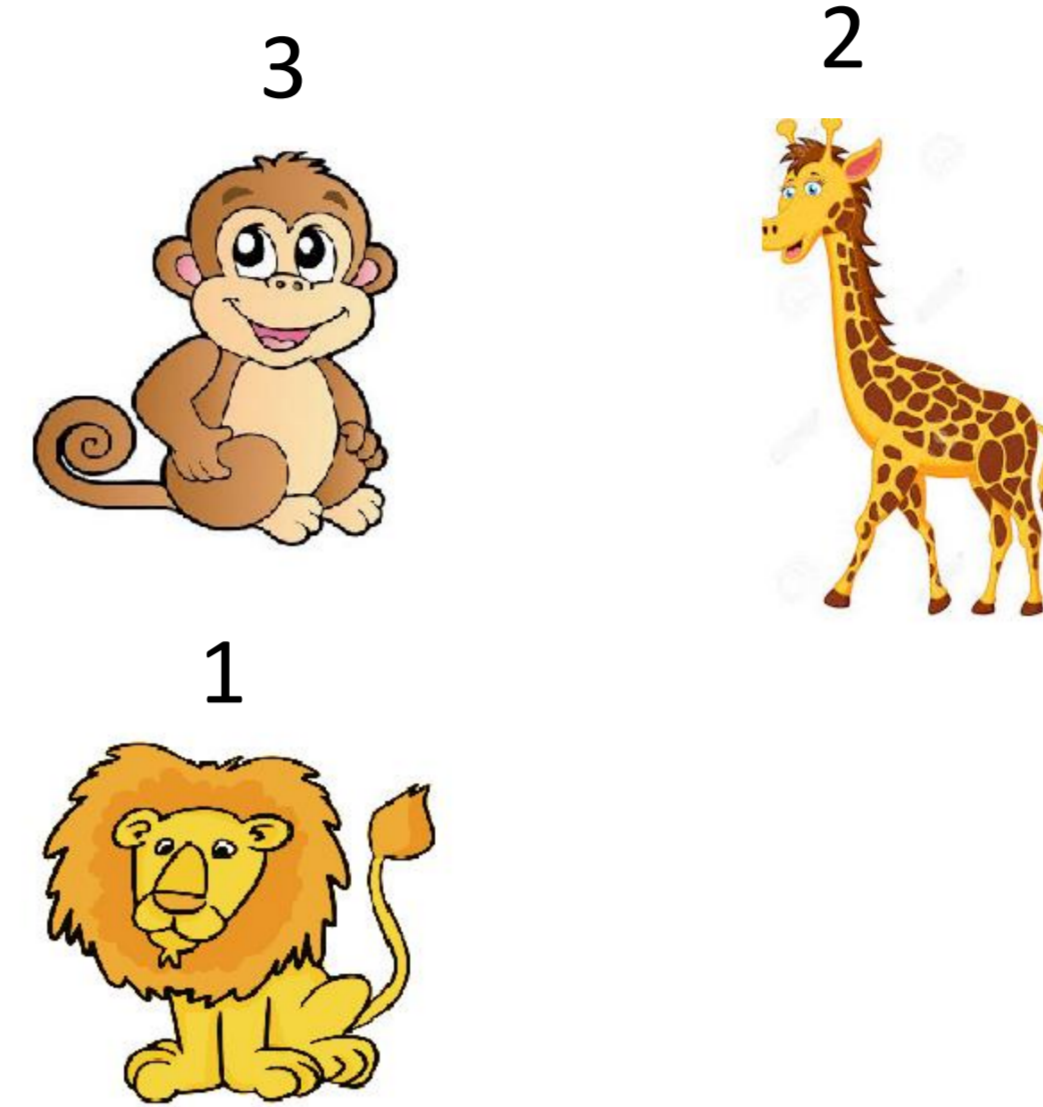
Example: The lion is sitting under the monkey before the giraffe.



## EXPERIMENT 1 Subject – PP – V order

The distance of visual stimuli doesn't match word order.

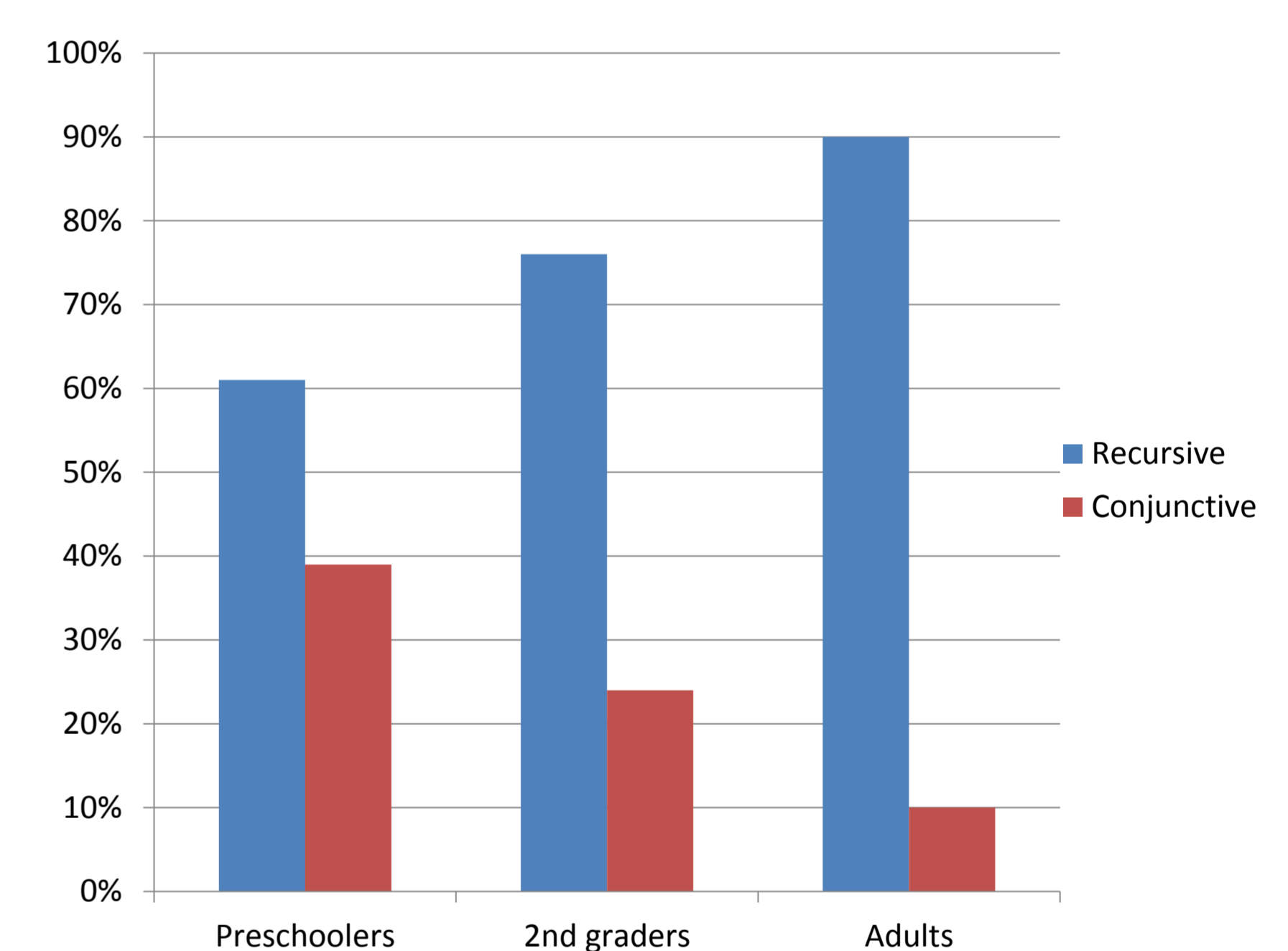
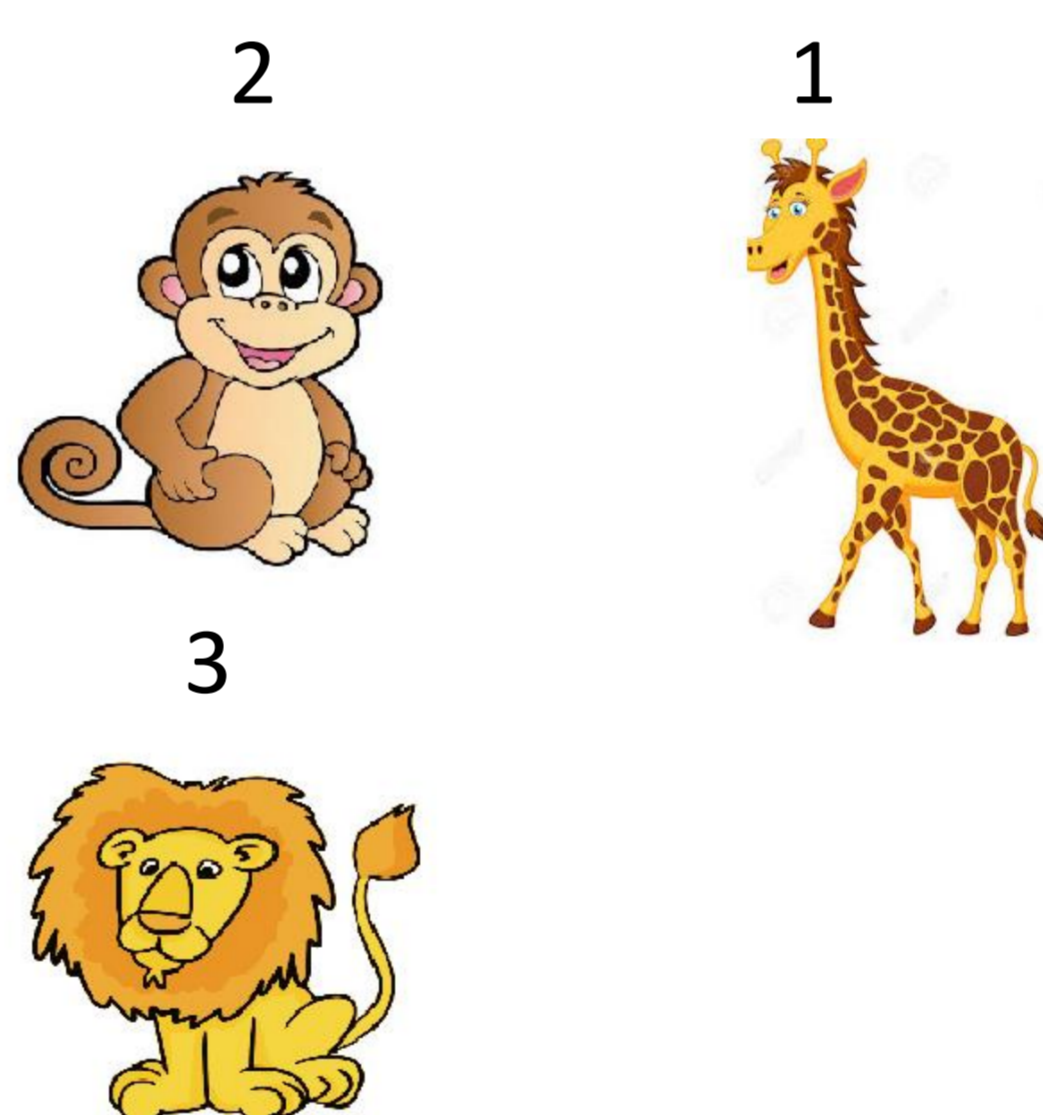
Az *oroszlán* a *zsiráf* előtt-i/lévő *majom* alatt *üldögél*.  
the lion the giraffe before monkey under sits  
'The lion is sitting under the monkey before the giraffe.'



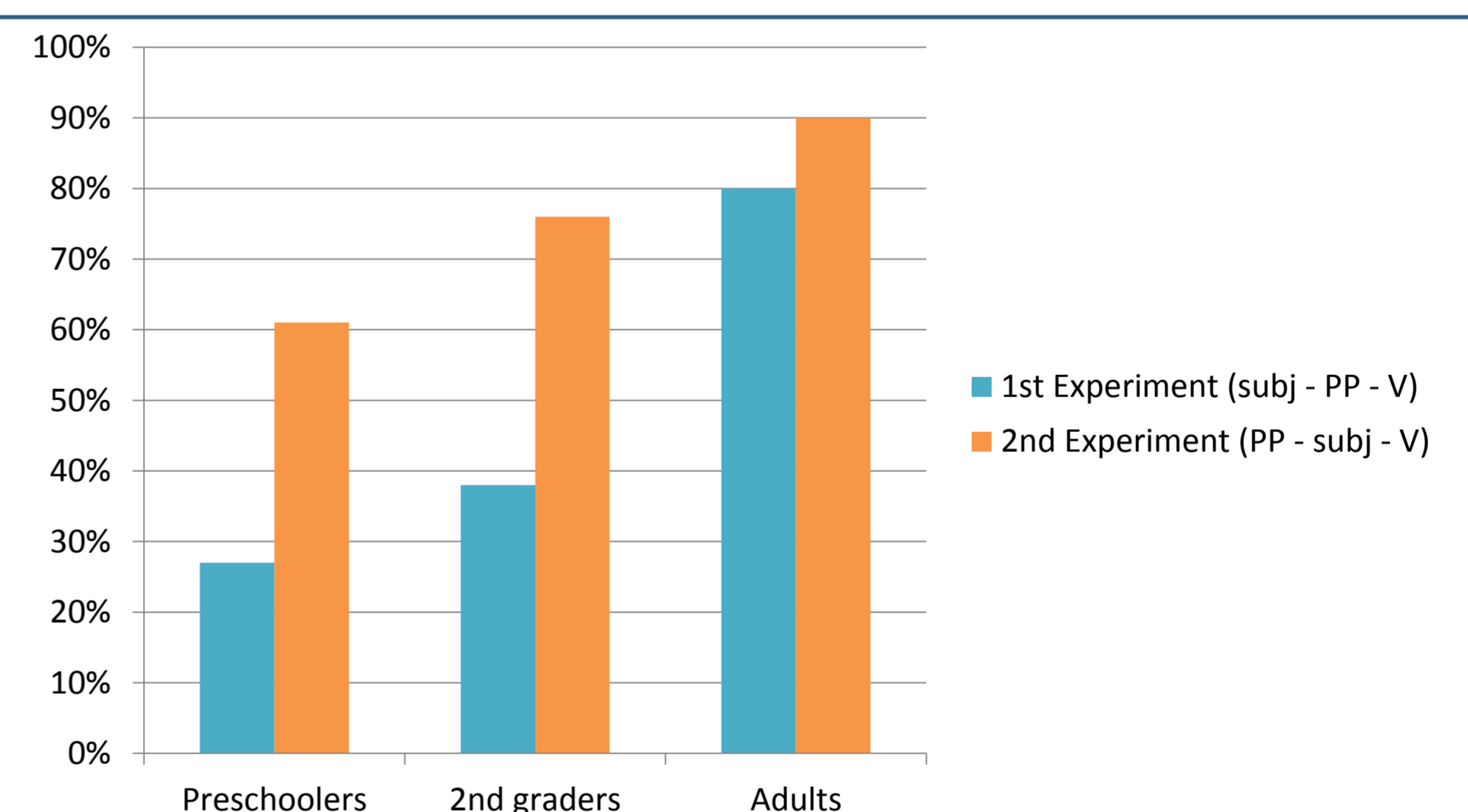
## EXPERIMENT 2 PP– Subject – V order

The distance of visual stimuli matches word order.

A *zsiráf* előtt-i/lévő *majom* alatt *oroszlán* *üldögél*.  
The giraffe before monkey under lion sits  
'There is a lion under the monkey before the giraffe.'

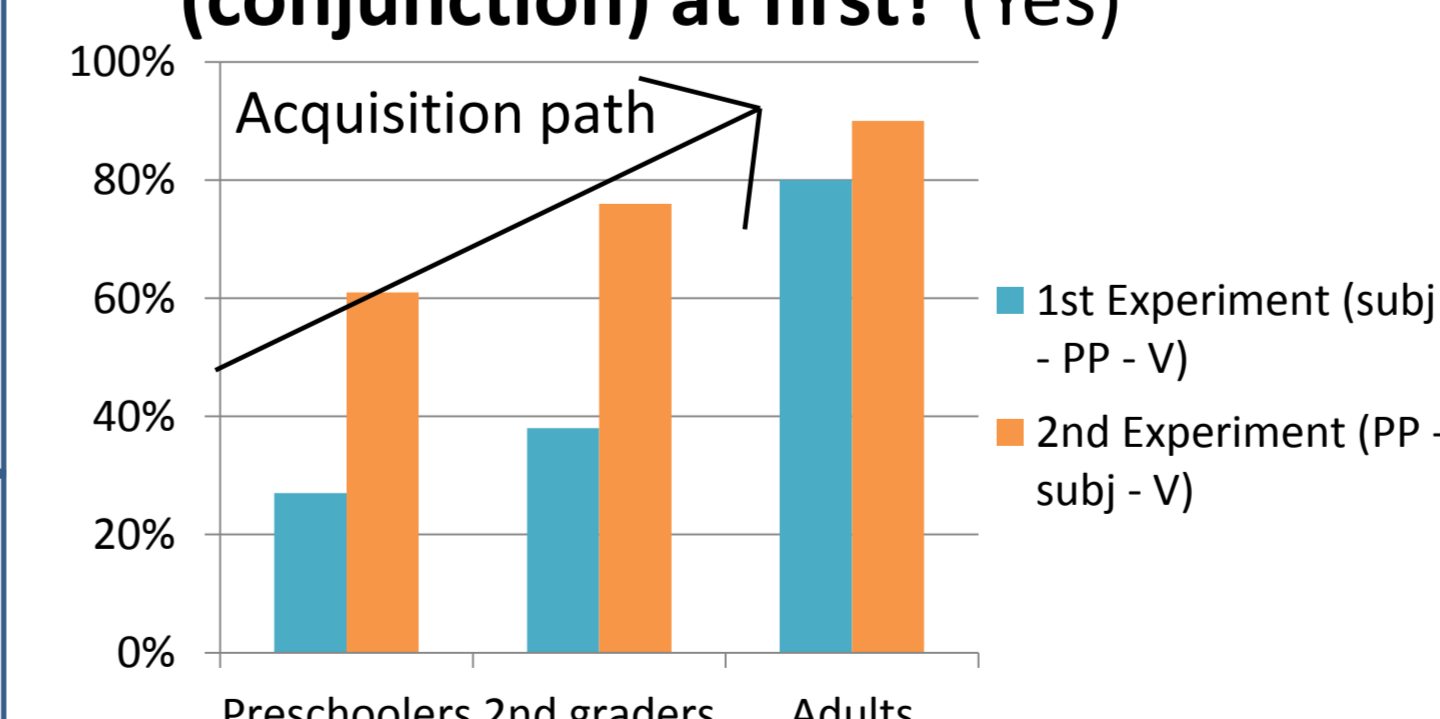


## EXPERIMENT 1 AND 2



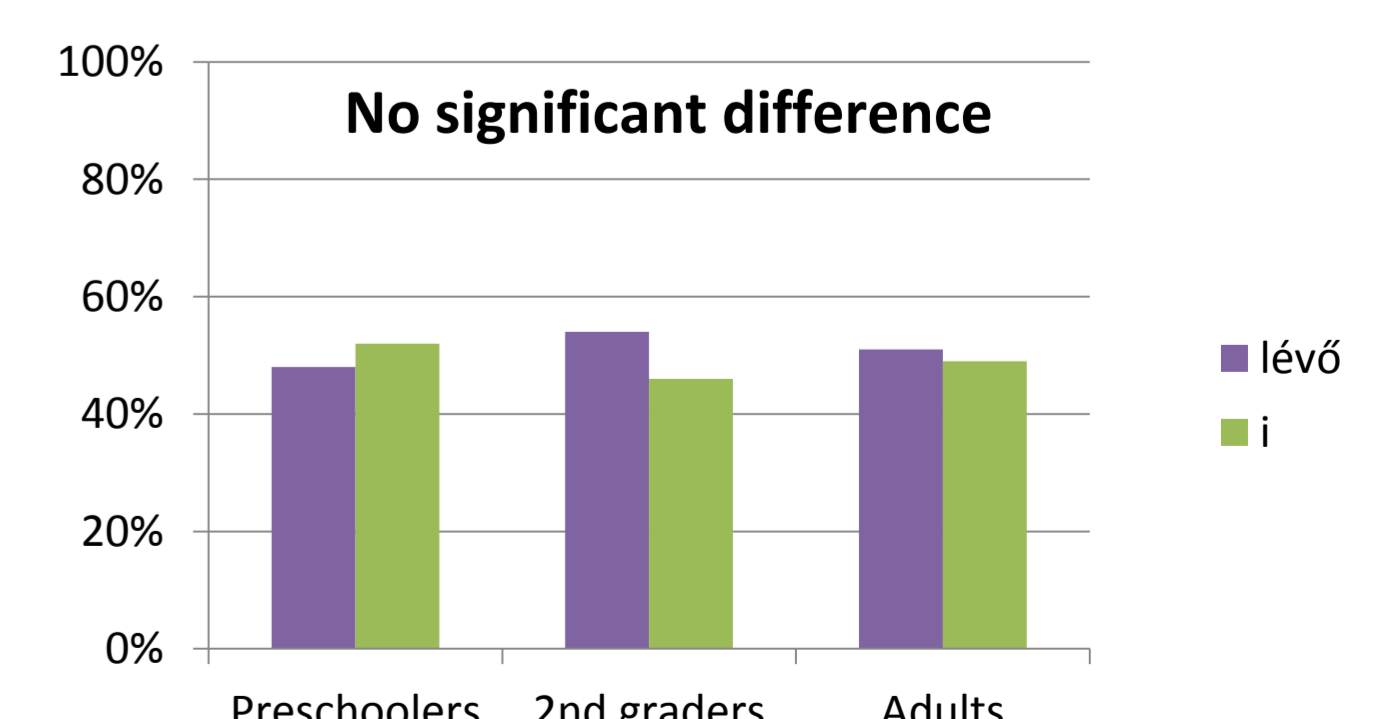
## Conclusion 1

1. Do Hungarian children interpret recursive structures as direct recursion (conjunction) at first? (Yes)



## Conclusion 2

2. Does a more salient functional head help interpret recursive PPs? (No)



## Conclusion 3

3. Does word order influence the interpretation of recursion? (Yes)

When the distance of visual stimuli matches word order structures are easier for children to interpret. PP – subject – V order was easier than subject – PP – V order.

## References

- DiSciullo, A. M. 2015. On the Domain Specificity of The Human Language Faculty and the Effects of Principles of Computational Efficiency: Contrasting Language And Mathematics. *RevistaLinguistica* 11/1: 28-53.
- Hauser, M.–Chomsky, N.–Fitch, T. 2002. The faculty of language: What is it, Who has it, and How did it evolve? *Science*, 298: 1569-1579.
- Hollebrandse, B.–Roeper, Tom 2014. Empirical Results and Formal Approaches to Recursion in Acquisition In: Tom Roeper– Margaret Spears (eds.) *Recursion: Complexity in Cognition*. Springer. Berlin. 179-220.
- Roeper, T. 2011. The Acquisition of Recursion: How Formalism Articulates the Child's Path, *Biolinguistics* 5/1–2: 57–86.