Pronoun interpretation in direct and indirect speech

Franziska Köder
University of Groningen

SPE6, Saint Petersburg, June 14, 2013

Overview

1. Introduction
2. Experimental design
3. Results
4. Conclusions

1. Introduction to direct and indirect speech

Direct speech	Aap zei "Ik krijg de auto". Monkey said, "I get the car".
Indirect speech	Aap zei dat hij de auto krijgt. Monkey said that he gets the car.

<u>Syntactic cues:</u>

- Direct speech: verb-second word order
- Indirect speech: dat-complementizer, verb-final word order

<u>Phonetic cues:</u>

- Direct speech: pause between reporting clause and report, change of voice

1. Introduction to direct and indirect speech

Direct speech	Aap zei “Ik krijg de auto”. Monkey said, “I get the car”.
Indirect speech	Aap zei dat hij de auto krijgt. Monkey said that he gets the car.

<u>Perspective</u>

- Direct speech: shift from actual to original speaker's perspective (context shift)
- Indirect speech: modal/intensional operator, actual speaker's perspective

2. Experimental design

Experimental subjects must interpret the deictic pronouns *ik* ('I'), *jij* ('you') and *hij* ('he'). Pronouns are either not embedded (no report baseline) or embedded in direct or indirect speech.

<u>Independent variables:</u>

1. reporting type (no report, direct speech, indirect speech)
2. type of pronoun (1p, 2p, 3p singular pronouns)

<u>Dependent variables:</u>

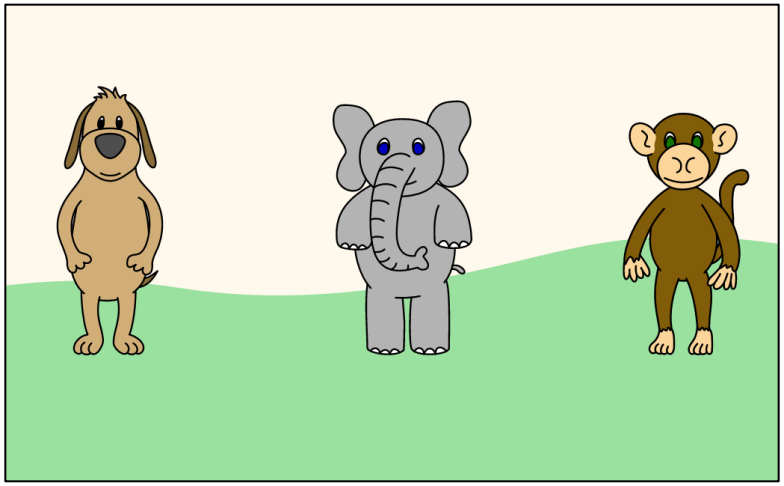
1. accuracy
2. reaction time

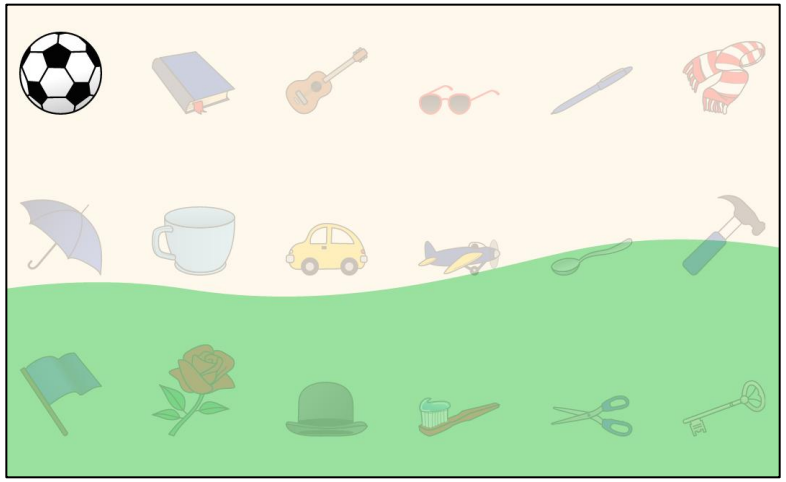
Test items

For test materials see following link:
http://test.jelmervanderlinde.nl/franziska/

(Google Chrome or Chromium browser required)

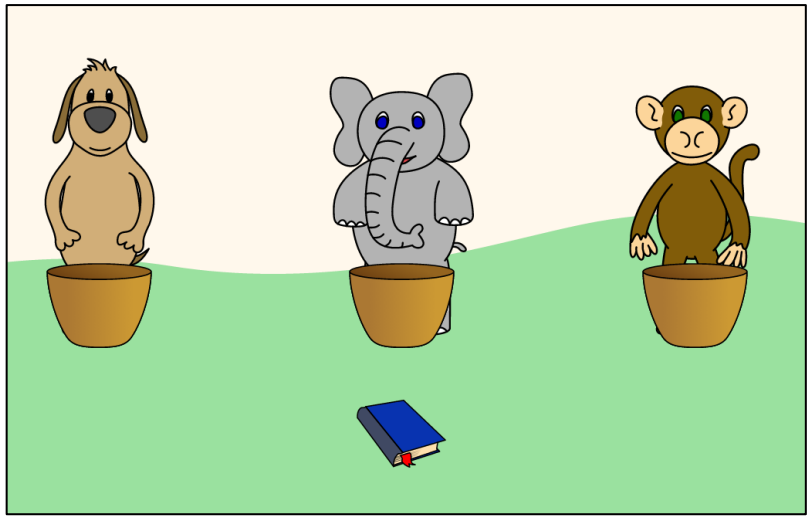
Introduction of protagonists and objects

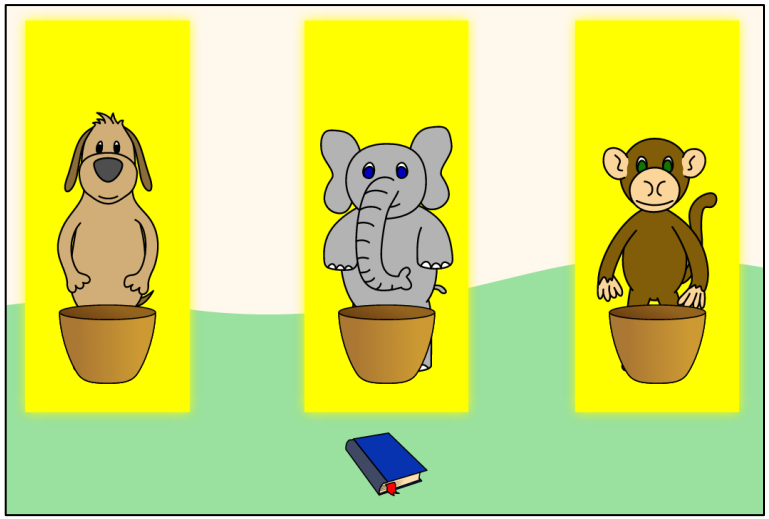




- The protagonists (Dog, Elephant and Monkey) introduce themselves
- Test, whether subjects know the names of the protagonists
- 18 objects are named

Practice items

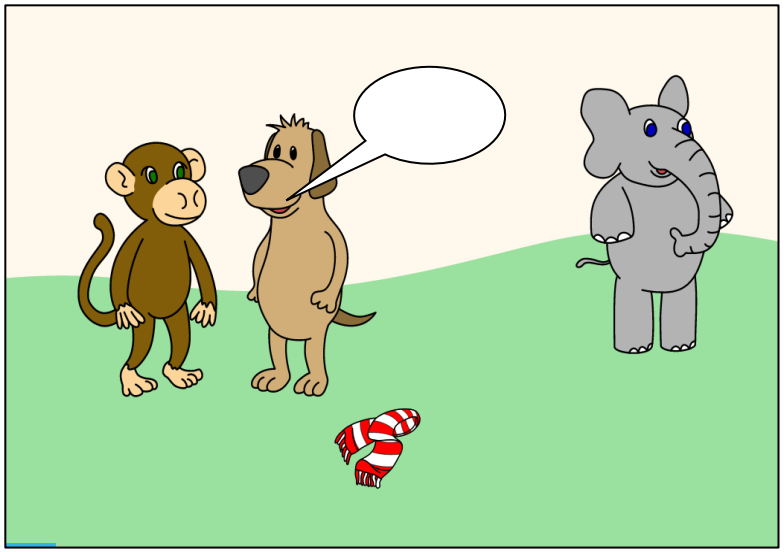


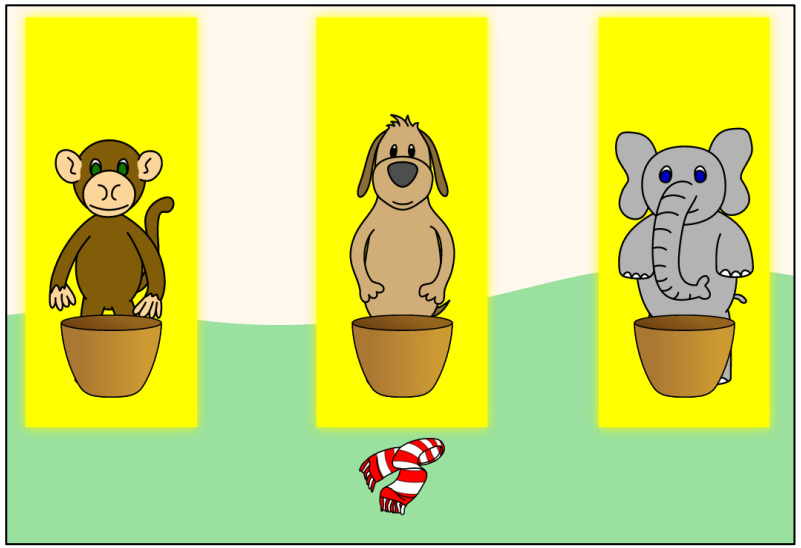


Example: Olifant: Hond krijgt het boek.
Elephant: Dog gets the book.

- With proper names instead of pronouns
- Purpose: familiarize subjects with procedure

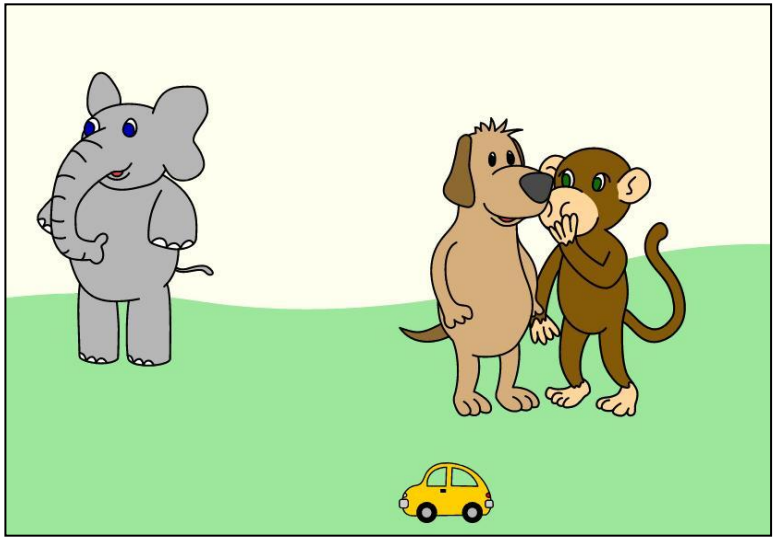
Part 1: no-report condition

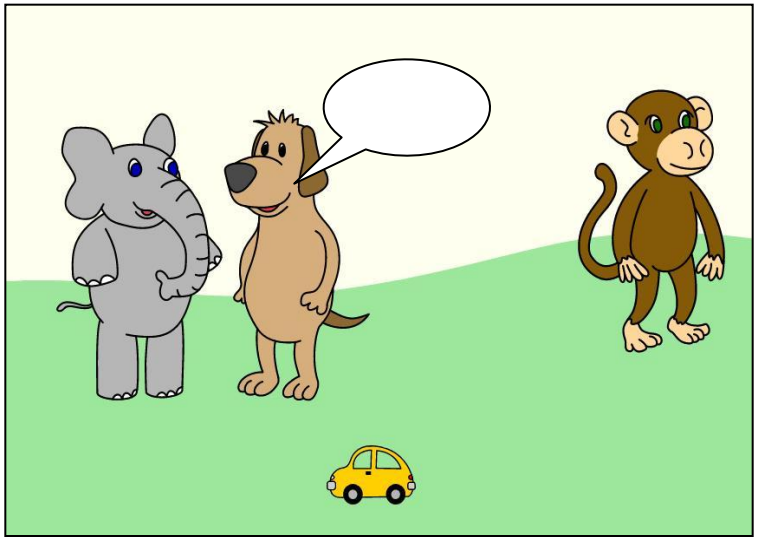




Example: Hond: Ik/ Jij/ Hij krijg(t) de sjaal.
Dog: I/ You/ He get(s) the scarf.

Part 2: Direct and indirect speech condition





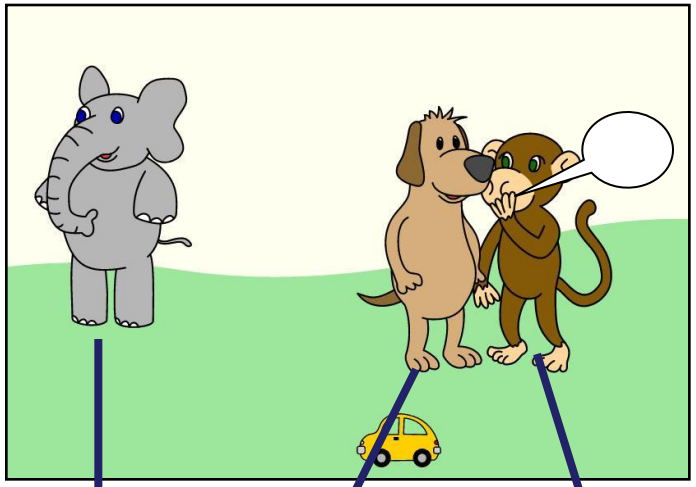
Direct speech	Hond:	Aap zei “Ik/ Jij/ Hij krijg(t) de auto”.
	Dog:	Monkey said, “I/ You/ He get(s) the car”.
Indir. speech:	Hond:	Aap zei dat ik/ jij/ hij de auto krijg(t).
	Dog:	Monkey said that I/ you/ he get(s) the car.

Overview of test items

- Number of test items: 45, presented in random order
- Counterbalanced:
  - Participant roles of protagonists
  - Sentence type a protagonist utters
  - Spatial position of protagonists (left, right, middle)
  - Association of 18 objects to scenes

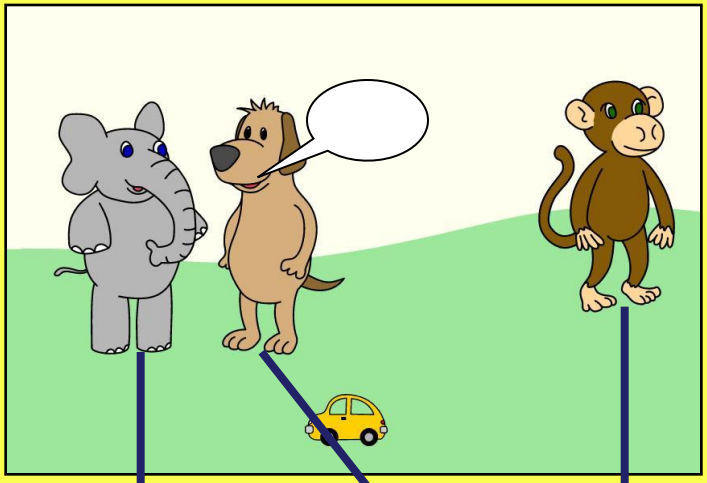
	No-report	**Direct speech**	**Indirect speech**
1p	5	5	5
2p	5	5	5
3p	5	5	5

Original speech context (whispering)



Other | Addressee | Speaker

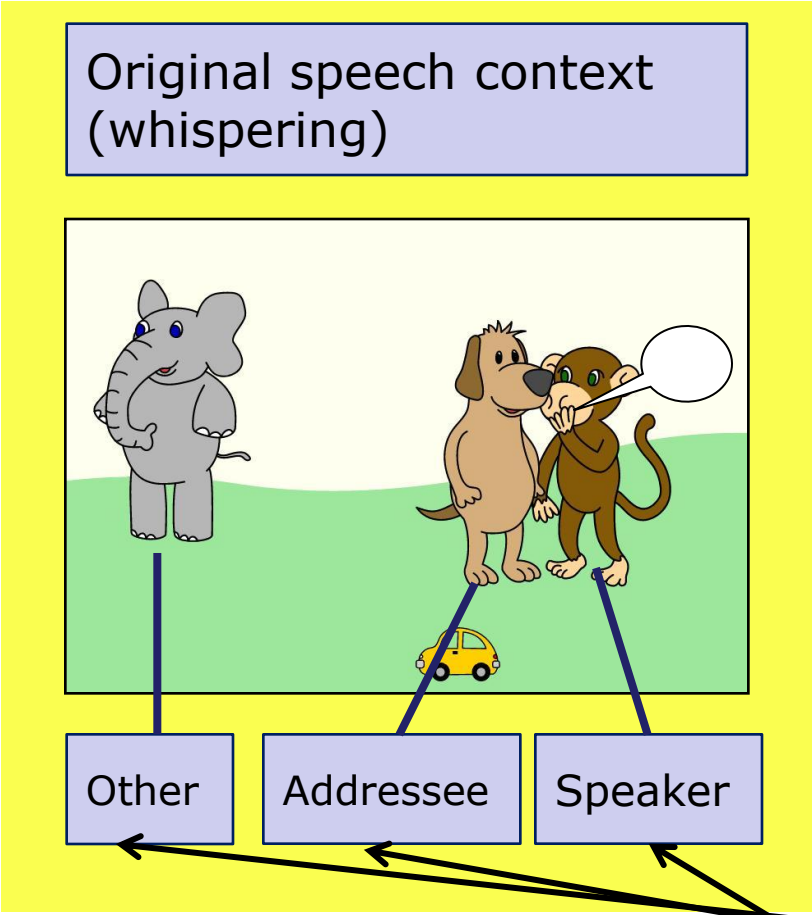
Actual speech context (report)

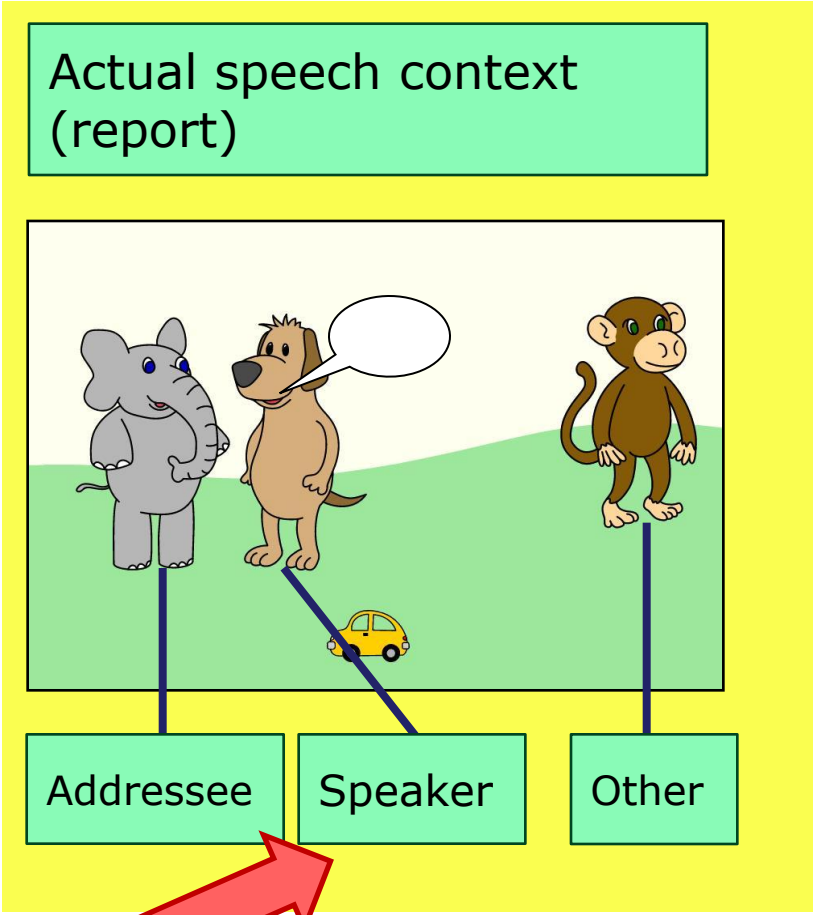


Addressee | Speaker | Other

Indirect speech: Aap zei dat **ik** **jij** **hij** de auto krijgt(t).

Monkey said that I/ you/ he get(s) the car.





Direct speech: Aap zei “ **ik** **jij** **hij** krijg(t) de auto”.

Monkey said, “I/ You/ He get(s) the car”.

Hypotheses

1. Increasing difficulty: no report < indirect speech < direct speech
    a. more mistakes
    b. longer reaction times

2. Systematic mistakes: Choice of indirect speech interpretation of pronouns in direct speech.

3. Increasing difficulty: 1p < 2p < 3p
    a. more mistakes
    b. longer reaction times

Experimental subjects

Current study

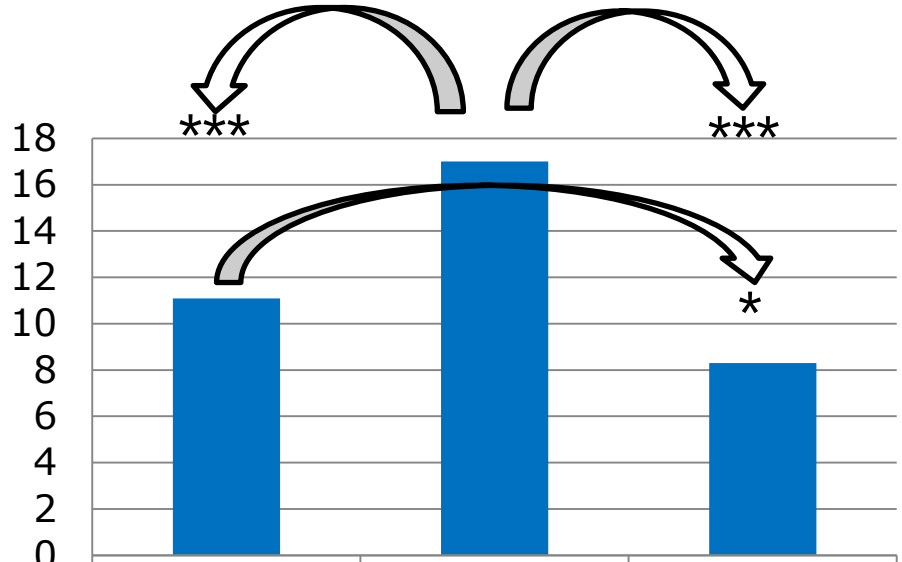
- Adult native speakers of Dutch (*N*=98)
  - Direct speech change of voice (*N*=77)
  - Direct speech no change of voice (*N*=21)
  - ➢ Collapsed because no significant difference was found

Prospective studies

- Typically developing Dutch learning children, age: 4-7
- Dutch-Frisian bilinguals vs. Dutch monolinguals

3. Results

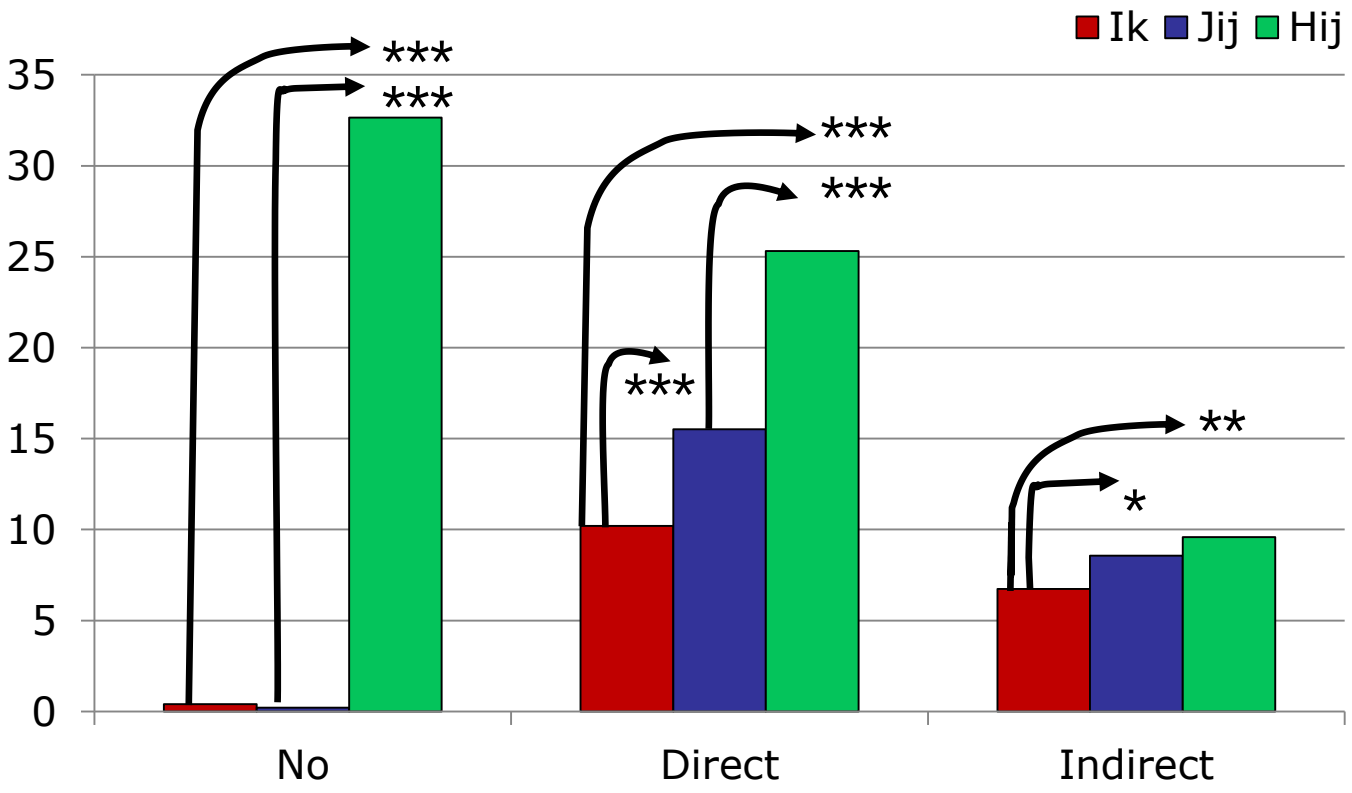
Effect of condition on accuracy



	No report	Direct	Indirect
Mistakes (%)	11.08844	17.0068	8.29932

Significance codes
'***' $p < 0.001$
'**' $p < 0.01$
'*' $p < 0.05$

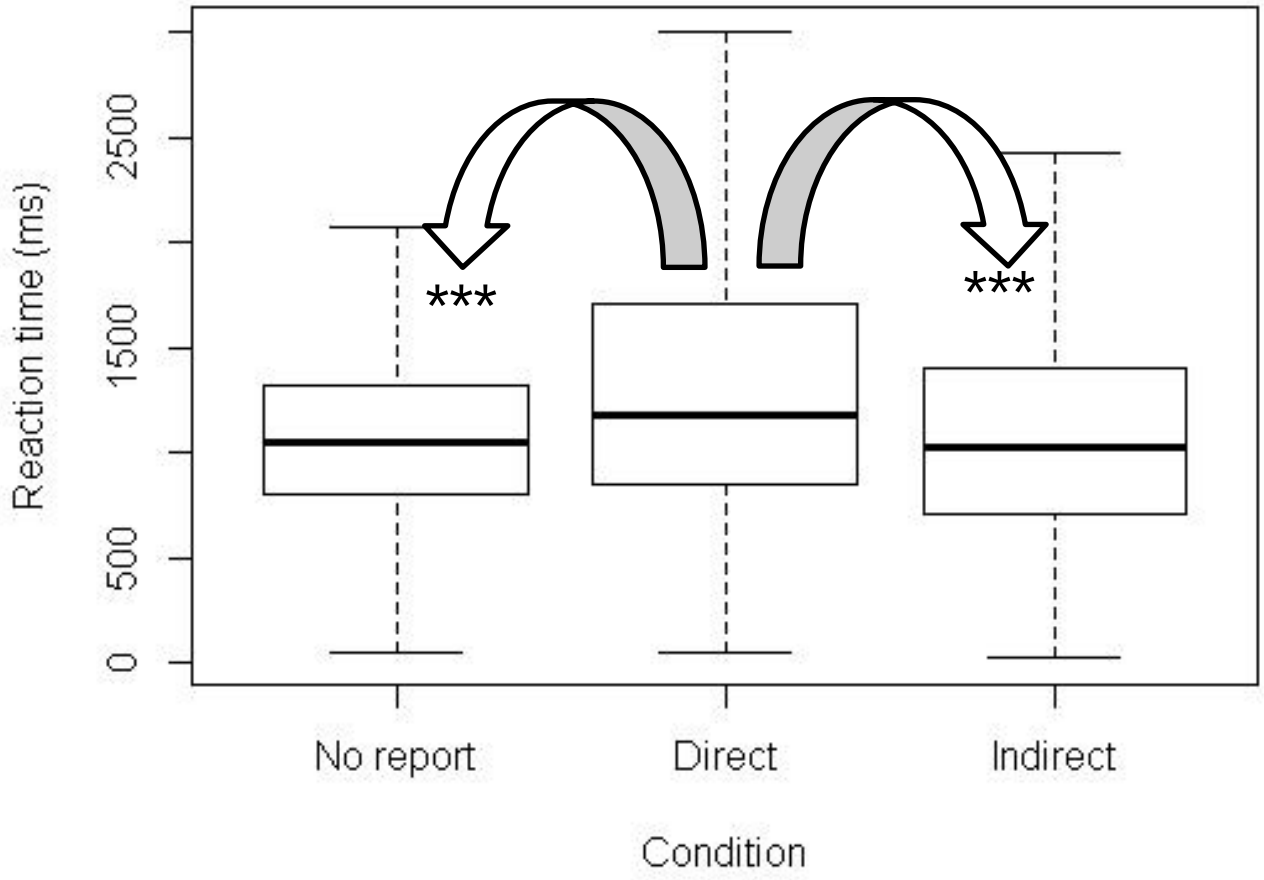
Mean percentage of mistakes



Significance codes

'***' p < 0.001
'**' p < 0.01
'*' p < 0.05

Effect of condition on reaction time



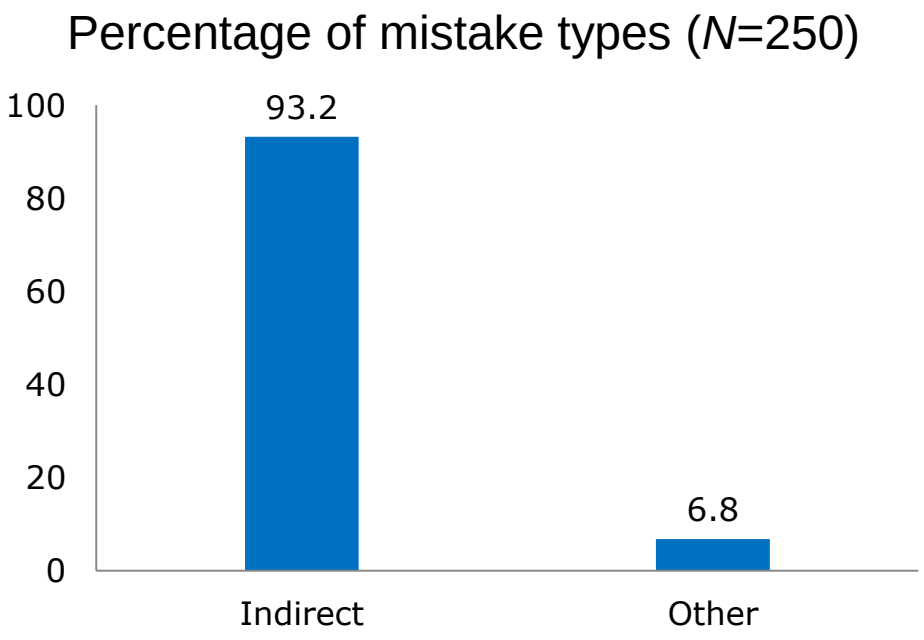
Significance codes

'***' p < 0.001

'**' p < 0.01

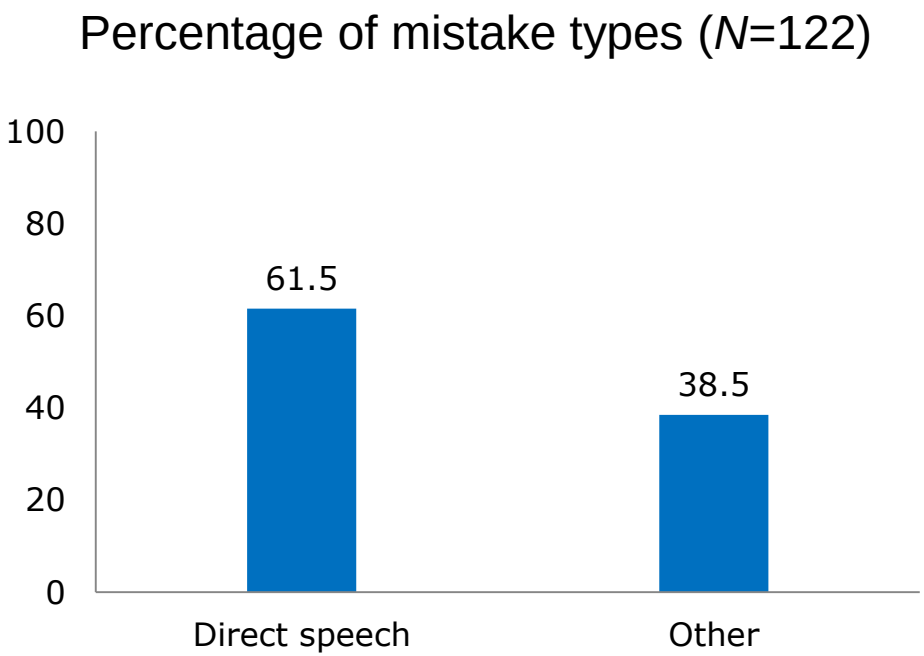
'*' p < 0.05

Analysis of mistakes in direct speech



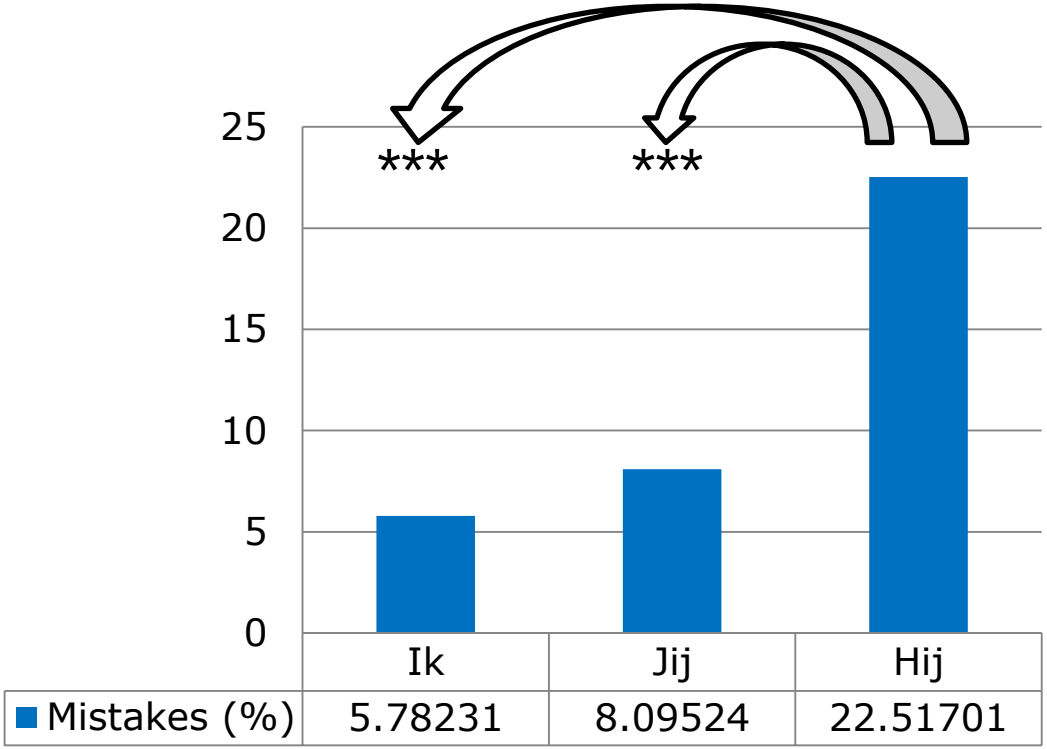
- When participants make mistakes in direct speech, they predominantly interpret the pronouns like in indirect speech.

Analysis of mistakes in indirect speech



- No clear trend to interpret pronouns in indirect speech like in direct speech

Effect of pronoun type on accuracy



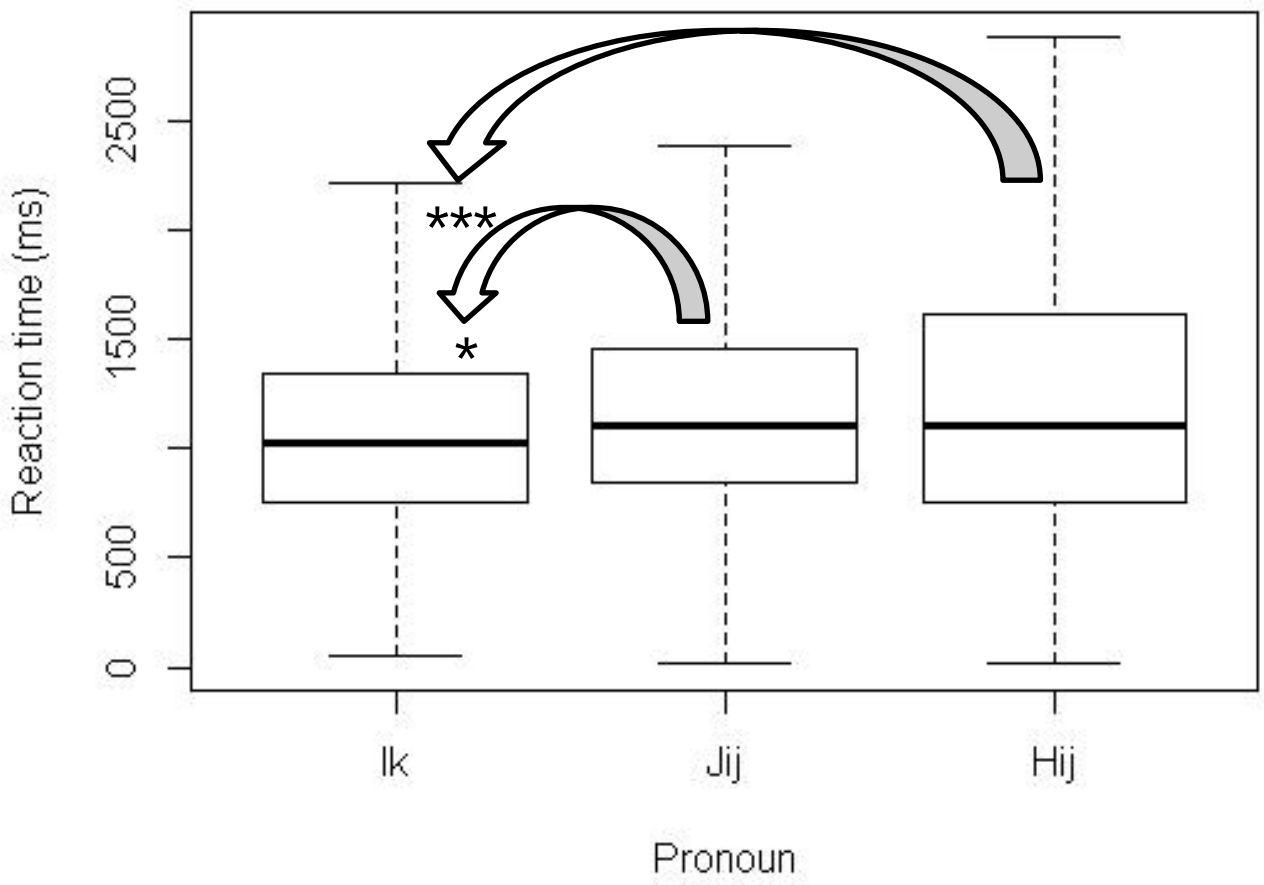
Significance codes

'***' p < 0.001

'**' p < 0.01

'*' p < 0.05

Effect of pronoun type on reaction time



Significance codes

'***' p < 0.001
'**' p < 0.01
'*' p < 0.05

Evaluation of Hypotheses

1. Increasing difficulty: no report, indirect speech < direct speech
   a. more mistakes ✓
   b. longer reaction times ✓

2. Systematic mistakes: Choice of indirect speech interpretation of pronouns in direct speech. ✓

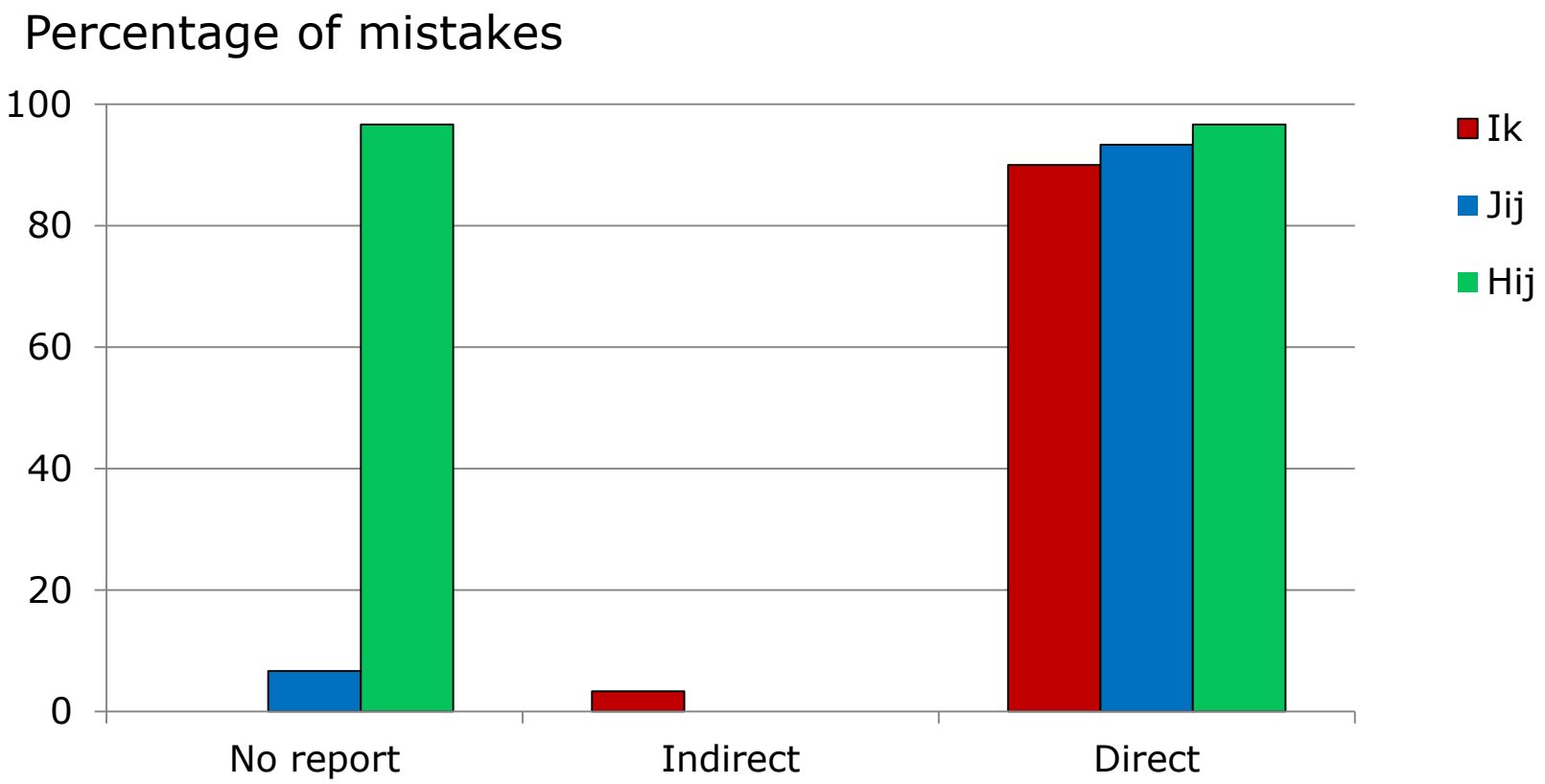
3. Increasing difficulty: 1p < 2p < 3p (exception: anaphoric pronoun)
   a. more mistakes ✓ (not 1p < 2p)
   b. longer reaction times ✓

Pretest children

- 5 children (4 girls, 1 boy)
- Age: 3;6 – 6;0 (3;6, 3;10, 4;10, 5;6; 6;0)

Children played experimental game on an iPad (touch screen) with an experimenter present

Pretest children: Accuracy



4. Conclusions

1. Context shift between actual and original speech context seems to be particularly demaning – even for adults.

2. Strong tendency to interpret pronouns in direct speech as referring to the participants of the actual speech context (even though this interpretation is not licensed in Dutch)

Generalisability of the results

Are deictic pronouns always more difficult to interpret in direct speech than in indirect speech?

Evidence against:

- Typology: direct speech more widespread
- Children acquire direct speech before indirect speech (Ely, McCabe 1993; Hickman 1993, Nordqvist 2001, Özyürek 1996)
- Direct speech is used much more frequently than indirect speech by children and their interlocutors (Köder 2013)

Limitation of the current study

- Pronoun interpretation in direct speech seems to be more difficult than in indirect speech if both the actual and the original speech context are highly salient and a shift between two representations is required.
- In other scenarios (e.g. narratives) where the original speech context is foregrounded and the actual speech context (e.g. narrator telling story to audience) is backgrounded, a representation of the original speech context is sufficient for interpreting direct speech. In this setup pronoun interpretation is probably easier in direct speech than in indirect speech.

References

Bloom, L., Lightbown, P., Hood, L., Bowerman, M., Maratsos, M., & Maratsos, M. P. (2013). Structure and Variation in Child Language. *Monographs of the Society for Research in Child Development*, *40*(2), 1–97.

Brener, R. (1983). Learning the deictic meaning of third person pronouns. *Journal of Psycholinguistic Research*, *12*(3), 235–262.

Carlson, S. M., & Moses, L. J. (2001). Individual Differences in Inhibitory Control and Children's Theory of Mind. *Child Development*, *72*(4).

Charney, R. (1980). Speech roles and the development of personal pronouns. *Journal of Child Language*, *7*(3), 509–28.

De Mulder, H. (2011). *Putting the pieces together: The development of theory of mind and (mental) language*. *LOT Dissertation Series*. LOT.

De Villiers, P. A., & de Villiers, J. G. (1974). On This, That, and the Other: Nonegocentrism in Very Young Children. *Journal of experimental child psychology*, *18*, 438–447.

Deutsch, W., & Pechmann, T. (1978). Ihr, dir, or mir? On the acquisition of pronouns in German children. *Cognition*, (6), 155–168.

Ely, R., & McCabe, A. (1993). Remembered voices. *Journal of Child Language*, *20*, 671–696.

Frye, D., Zelazo, P. D., & Palfai, T. (1995). Theory of mind and rule-based reasoning. *Cognitive Development*, *10*(4), 483–527.

Hickmann, M. (1993). The boundaries of reported speech in narrative discourse: some developmental aspects. In J. A. Lucy (Ed.), *Reflexive Language: Reported Speech and Metapragmatics* (pp. 63–90). Cambridge: Cambridge University Press.

Köder, F. (2013). How children acquire reported speech in German and Dutch: a corpus study. In B. Sonnenhauser, C. Trautmann, & P. Noel Aziz Hanna (Eds.), *„Perspektiven" Diskussionsforum Linguistik in Bayern / Bavarian Working Papers in Linguistics 2* (pp. 15–28). München, Bamberg.

Legendre, G., & Smolensky, P. (2012). On the Asymmetrical Difficulty of Acquiring Person Reference in French: Production Versus Comprehension. *Journal of Logic, Language and Information*, *21*(1), 7–30.

Loveland, K. A. (1984). Learning about points of view: spatial perspective and the acquisition of "I/you". *Journal of Child Language*, *11*(3), 535–56.

Murphy, S. (1986). Children' s comprehension of deictic categories in oral and written language. *Reading Research Quarterly*, *21*(2), 118–131.

Nordqvist, Å. (2001). *Speech about speech. A developmental study on form and functions of direct and indirect speech*. Göteborg: Kompendiet.

Özyürek, A. (1996). How children talk about a conversation. *Journal of Child Language*, *23*(3), 693–714.

Ricard, M., Girouard, P. C., & Décarie, T. G. (1999). Personal pronouns and perspective taking in toddlers. *Journal of Child Language*, *26*(3), 681–97.

Smyth, R. (1995). Conceptual perspective-taking and children's interpretation of pronouns in reported speech. *Journal of Child Language*, *22*, 171–187.