

The magnitude of syntactic self-priming and comprehension-to-production priming

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Introduction

- Speakers are primed by the linguistic environment
- May optimize communication (Pickering & Garrod, 2013; Jaeger & Snider, 2013)
- Repetition of syntactic structures might maximize production ease (MacDonald, 2013)

Research questions:

- What counts as input from the environment?
- Is priming in production different when the input is internal (self-produced) or external (comprehended)?

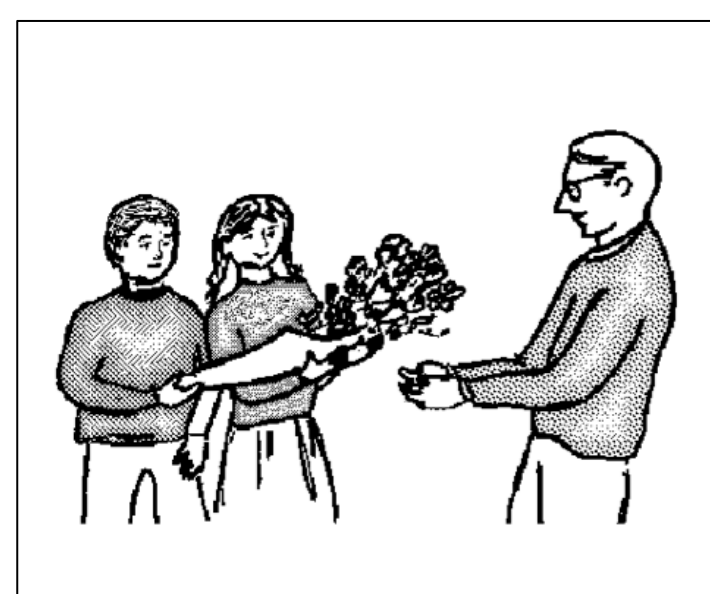
Experimental Design

360 English speakers: Amazon Mechanical Turk

- Dative alternation
 - Double object dative (DO):
The librarian is handing the book to the boy
 - Prepositional object dative (PO):
The librarian is handing the boy the book

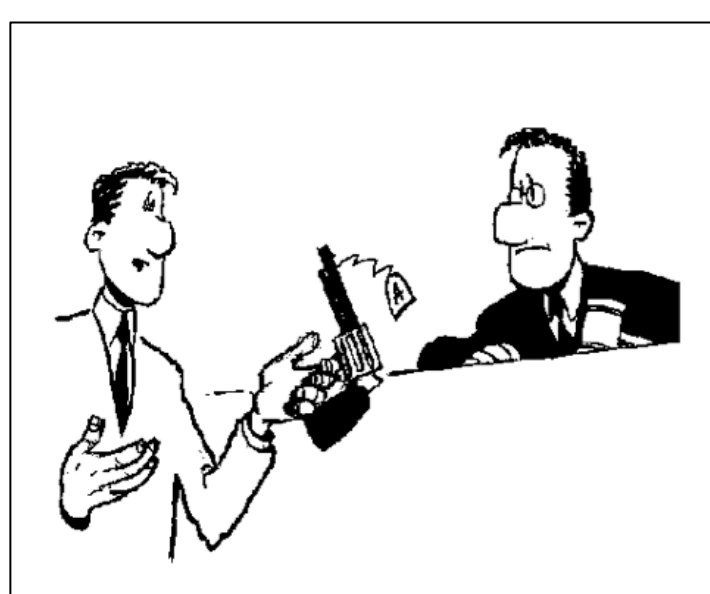
Three phrase study (production-comprehension-production)

Experimental Procedure



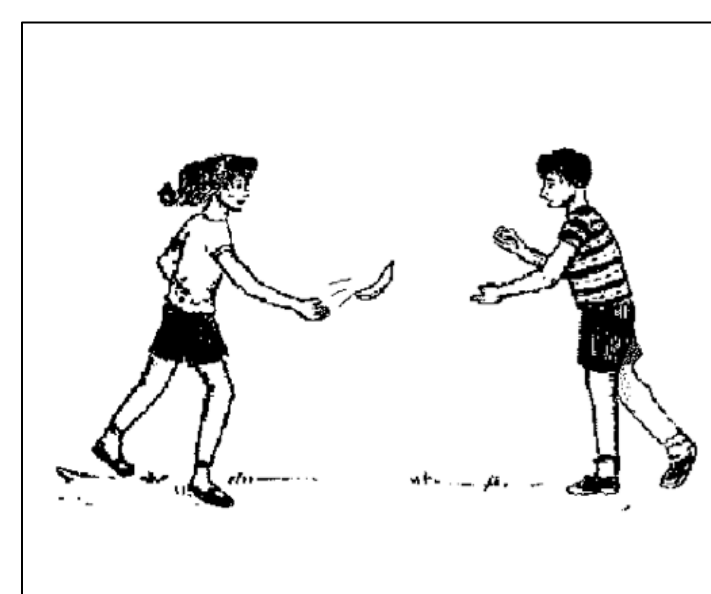
Production phase 1

- 7 ditransitive trials
- Typed productions



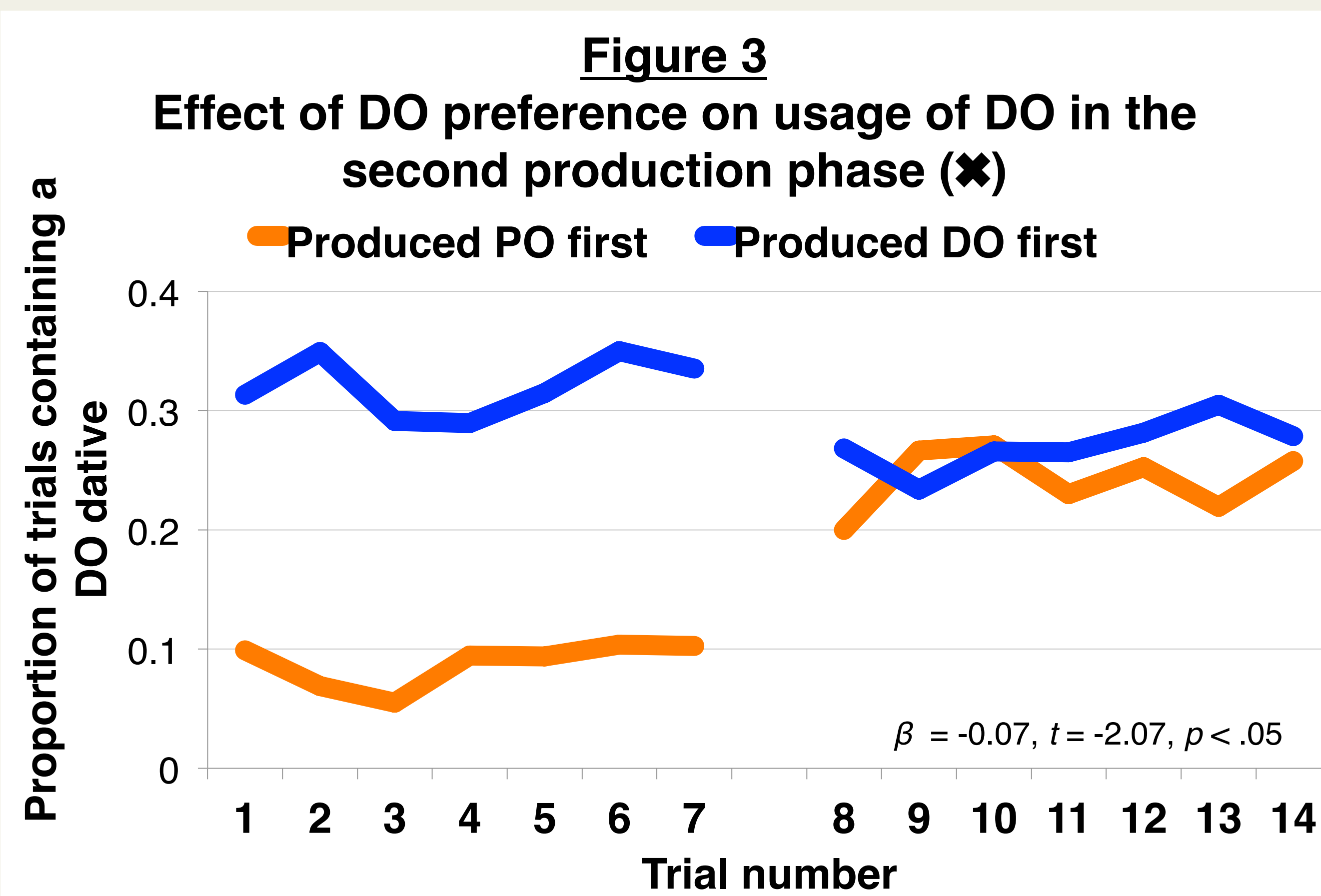
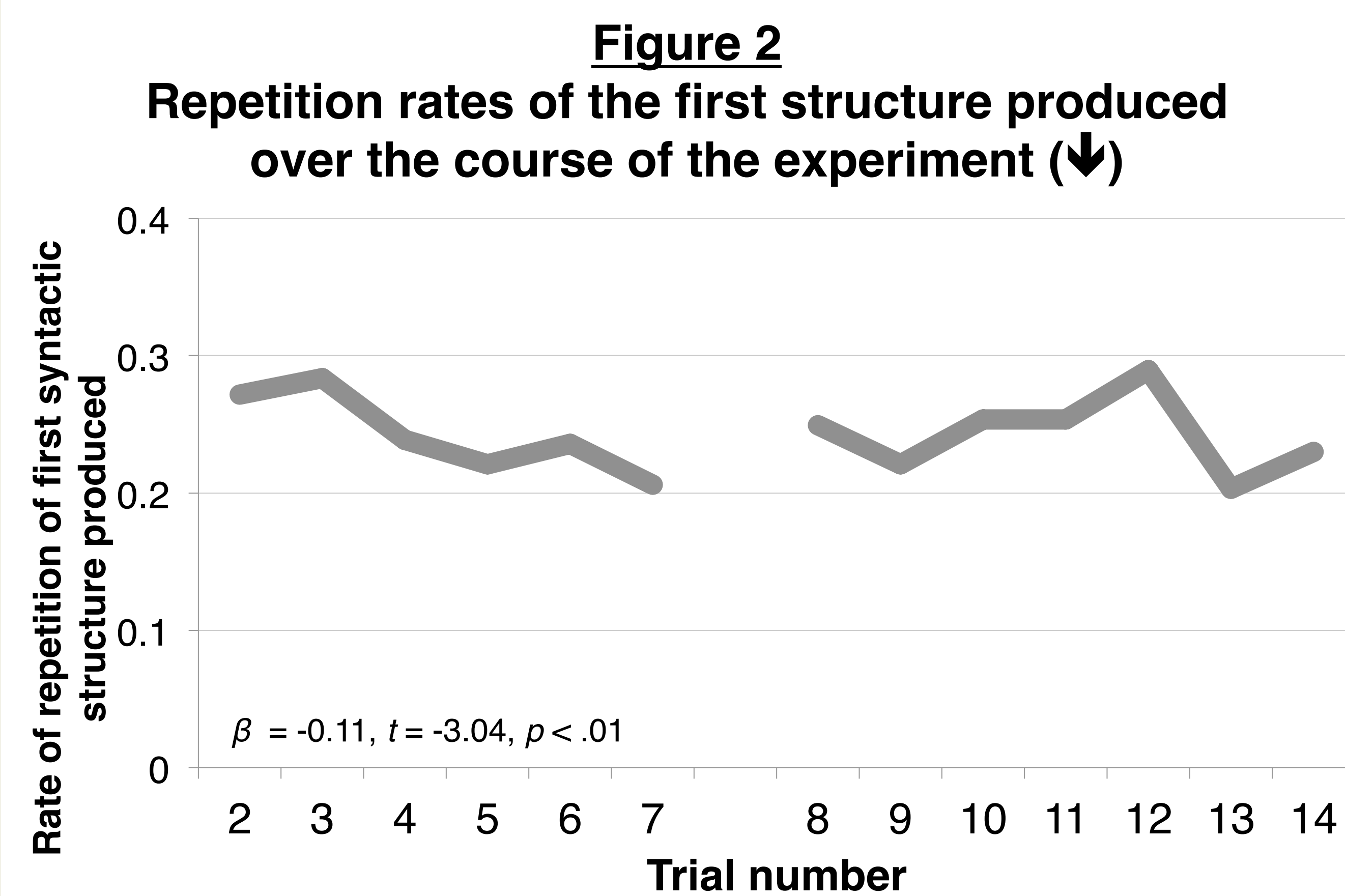
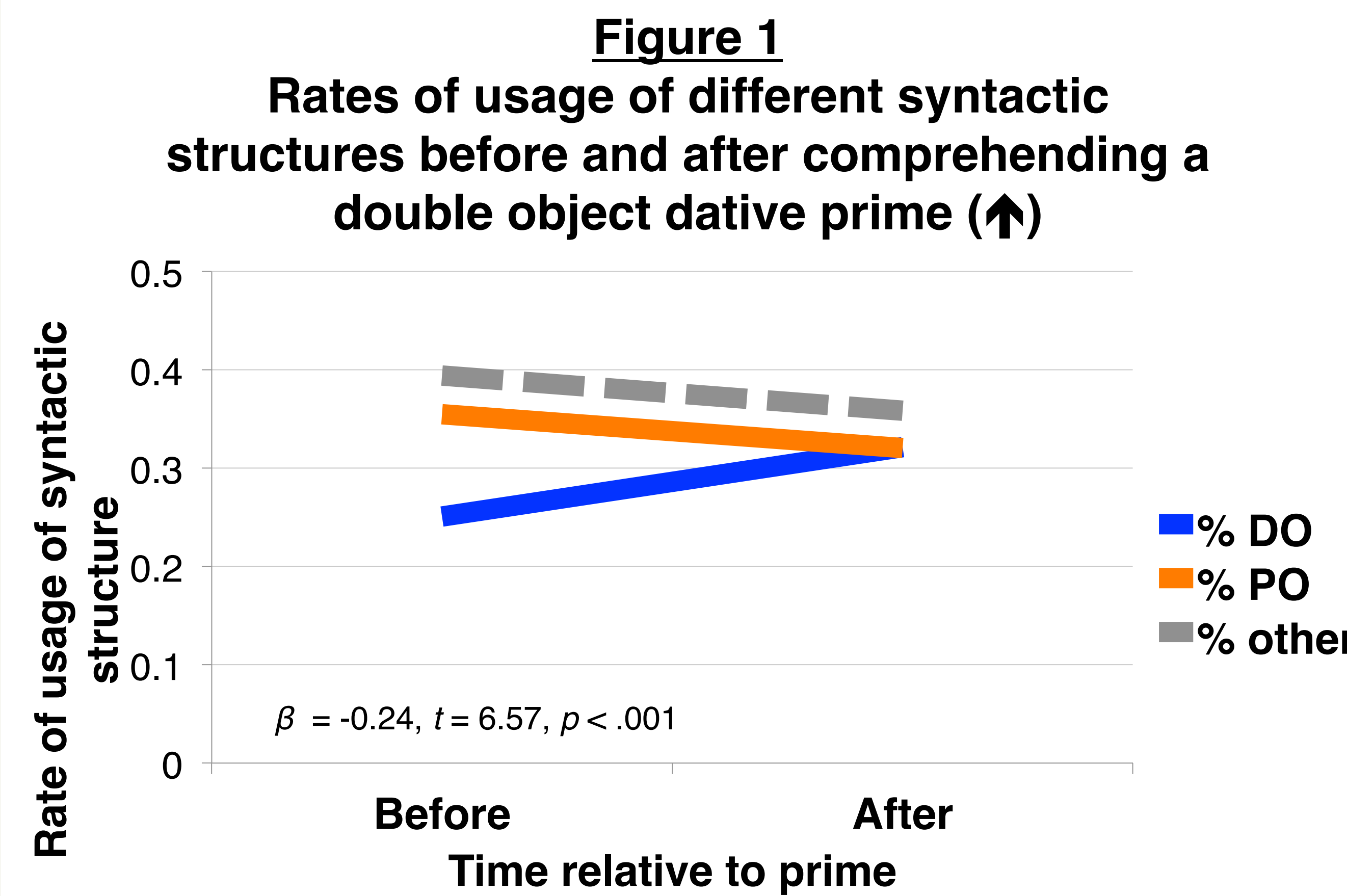
Comprehension Phase

- Rated truthfulness of spoken image descriptions
- 1 prime



Production phase 2

- 7 ditransitive trials
- Typed productions



Analysis and Results

Figure 1: Do people produce the **primed structure** more often after hearing it?

- DO rate ~ Phase 1 or Phase 2
- **INCREASE** in DO usage (***)

Figure 2: Do people increasingly **repeat the same structure** they produced on the very first trial?

- Same as First Structure ~ Trial 2-7
- **DECREASE** over first half (**)

Figure 3: Do PO-first speakers **change more** after hearing a DO construction?

- DO rate ~ Phase 1 or Phase x Preference
- Priming effects **larger** for PO-first (*)

Conclusions

- **Speakers**
 - are sensitive to what they comprehend
 - **do not self-prime**
 - are strongly influenced when they hear a form they did not tend to produce themselves
 - alternatively, may avoid repeating themselves (Healey et al., 2014)
- Evidence supports an **error-driven learning** account of syntactic adaptation (Chang et al., 2006; Jaeger & Snider, 2013)
- Little to no error from one's own productions → no self-priming

References

- [1] Chang, F., Dell, G. S., & Bock, K. (2006). *Psychological Review*.
- [2] Healey, P. G. T., Purver, M., & Howes, C. (2014). *PLoS ONE*.
- [3] Jaeger, T. F., & Snider, N. E. (2013). *Cognition*.
- [4] Macdonald, M. C. (2013). *Frontiers in Psychology*.
- [5] Pickering, M. J., & Garrod, S. (2013). *Behavioral and Brain Sciences*.