Production priming of subject- and object-extracted relative clauses

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Background and Motivation

Research Question

General: What is the nature of syntax? Assuming that the syntactic priming paradigm primes elements that people store, the aim is to discover what kinds of complex syntactic structures can be stored, and how these structures are represented and stored in memory during language processing.

In order to investigate this question, we compared object- and subject-extracted relative clauses (ORCs), which share reading time complexity, differences depending on the type of embedding. The subject-extracted ORCs (SOE) are harder to read as the subject of the SOE is a pronoun. Research has shown (Chun & Engle, 1998; Scheepers, 2000; Suchan et al., 2002), in Experiment 1, there was a significant effect of the SOE condition on the percentage of object-extraction responses. This suggests that syntactic information is stored contingent on the combination of the rules and the lexical items in the structure.

Hypotheses

1. If combinations of syntactic rules are used frequently, then their combination may be stored directly, and therefore may be primed.
2. Lexical priming should also be observed for words in the ORCs; for example, a pronoun in subject position.
3. Performance: A particular word co-occurs with syntactic structures, then their combination should be primed.

Design and Materials

Experiment 1

- Design: A within-subjects design.
- Materials: 120 prime-target sentence pairs.
- Procedure: Participants read the sentence pairs and produced the target.

Experiment 2

- Design: A within-subjects design.
- Materials: 120 prime-target sentence pairs.
- Procedure: Participants read the sentence pairs and produced the target.

Results

- The results from both Experiments 1 and 2 show priming effects for ORCs, which provide evidence that combinations of syntactic rules are represented and stored in memory during language processing.

Conclusions

- The results from Experiments 1 and 2 show priming effects for ORCs, which provide evidence that combinations of syntactic rules are represented and stored in memory during language processing.
- Evidence from Experiment 1 indicates priming of ORCs cannot be attributed to the presence of a pronoun alone, or to the presence of a pronoun as the subject of the clause, since neither the ORC_eject nor the Comp conditions showed increased ORC target responses. This provides further evidence that the priming effects are due to priming of syntactic representations and cannot be explained by lexical priming.
- The priming effects in both Experiments 1 and 2 were contingent on both the ORC structure and the presence of a pronoun in subject position. This suggests that syntactic information is stored contingent on a combination of the rules and the lexical items in the structure.