Structural priming and the phrasal/clausal distinction: The case of concealed questions

Gözde Bahadır¹, Maria Polinsky²
¹ Middle East Technical University, Turkey; ² Harvard University, USA

Abstract

This paper investigates whether structural priming is sensitive to the phrasal vs. clausal nature of the constructions it tests. To that end, we examine NPs that receive a question-like interpretation when embedded under certain predicates. These NPs are known as “concealed question (CQ) NPs”. We first report the results of a pilot study that establishes co-occurrence patterns of the target embedding predicates. We then present two structural priming studies which test CQ NPs with “overt embedded questions”: “embedded wh-questions” and “embedded declaratives”. Both written sentence completion tasks demonstrate structural priming, which turns out to be sensitive to the phrase-clause distinction.

Introduction

Structural priming: Structural priming [1] is the facilitating effect of having experience with a certain syntactic form on future processing. When asked to describe an event that could be expressed with either a prepositional object (PO) or a direct object (DO), participants produce more PO utterances after a PO prime than after a DO prime, and more DO sentences after a DO prime. (1) The man gave a new toy to a little boy. (2) The man gave a little boy a new toy. The same results hold for the “active/passive” alternation [1]. Priming has also been demonstrated with different methodologies like written sentence completion tasks [2].

Concealed questions: Concealed questions (CQs) involve shifting the meaning of a functional NP argument (3a) to a question-like meaning (3b) when that NP appears as the object of certain embedding predicates (3c), (4a), (5a), (6a). CQs may NOT have the same denotation as a plain matrix interrogative but may instead behave more like an embedded declarative that-clause (i.e., a proposition)(4b). Kim told me [the capital of France]; (4c) Kim told me [what the capital of France was]. (8) He remembered how to write... (Other completion)

Results:

Participants produced more NP completions than ED completions overall (significant main effect of Completion Type: F(1,31,15)= 5.80; p<.05; n²= .249), consistent with the results of the pilot study. There is also a significant two-way interaction between Prime Type and Completion Type (F(5,398; p<.05; n²=.114). Participants produced more NP-responses after NP-primes than after ED-primes, and more EQ-responses after EQ-primes. Therefore, despite the general high frequency of NPs, there is priming in the alternation between NPs and EQs. Due to frequency, this priming is not symmetrical and seems to work better for NPs than for questions.

C. Priming Study 2: NPs & embedded declaratives

Methodology and Materials:

On a theoretical plane, it is unclear whether CQs correspond to interrogative (4b) or declarative embeddings (4c). To investigate the distribution of clausal primes, the present priming study was conducted using embedded declaratives (EDs) (7) instead of EQ primes (6a). (7) The expert explained that the diamond was worth $5000. (ED-Prime)

Experimental fragments contained two sets of embedding matrix verbs: SET 1: explain, learn, find out, figure out, report, disclose SET 2: predict, estimate, determine, discover, announce, guess

Results:

There is a significant main effect of Prime Type (F(2,211; p<.05; n²=.257). This means that whether the prime is nominal or clausal has an effect on the completions overall: CQ NPs EDs lead to different numbers of completions. In addition to the nominal and clausal completions, we also have a third type of completion, which is neither an NP nor an ED with that (8). ED primes seem to lead to fewer “other” completions than NP primes. (8) He remembered how to write... (Other completion)

There is also a significant interaction between Prime Type and Completion Type (F(5,492; p<.05; n²=.234) as in the previous study. This suggests that participants provided more NP completions after NP primes than after ED primes and more ED completions after ED primes than after NP primes. The priming effect is confirmed for the CQ NP-ED pair, as well.

Conclusions

CQs demonstrate structural priming effects when paired with overt embedded clauses, expressed either as embedded interrogatives or embedded declaratives. These results provide novel evidence for structural priming being sensitive to the distinction between phrases and clauses. In our study, a large proportion of the ED responses would be more appropriate as an answer to a yes-no question than to a wh-question (e.g., The police disclosed that the suspect was found). This suggests that while EDs prime EDs, their denotation may be more general than the one that corresponds to the denotation of CQs. Thus, our results underscore the contrast between wh-questions and yes-no questions and indirectly suggest that the wh-question interpretation may be more appropriate for CQs.

References


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Contact: gozdebahadir@gmail.com