The lexical boost effect in syntactic priming is not indicative of verb-related syntactic frames
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Introduction

• Research on PO/DO priming in production has revealed enhanced priming when the verb is repeated between prime and target (e.g., Pickering & Branigan, 1998; Branigan et al., 2000; Corley & Scheepers, 2002).
• It remains unclear whether such lexical boost effects are specific to verb-repetition or whether they also occur with repetition of non-VP-heads.
• We report two experiments designed to elicit the production of sentences while manipulating the structural position of lexical overlap between prime and target.

Which constituents contribute most strongly to lexical boost effects in PO/DO priming?

– If lexical boost effects are specific to repetition of lexical heads, then we expect enhanced priming only when the verb is repeated between prime and target.
– If lexical boost effects also occur with repetition of non-head constituents, then we expect enhanced priming when agent, verb, theme, and recipient are repeated.

Experiment 1

• Sentence recall paradigm (Potter & Lombardi, 1990, 1998)
• 60 participants, 80 items, 120 intransitive fillers
• 3 factors: Prime Structure (PO, DO), Target Structure (PO, DO), Lexical Overlap (no overlap, agent, verb, theme, recipient)
• Valid trials (2773 or 58%) entered into 5-factorial hierarchical log-linear models: Prime Structure, Target Structure, Lexical Overlap, Structural Repetition (repetition, no repetition), and Subject/Item

Results

• Main effect of Structure Repetition [LRCS(1) = LRCS(1) = 34.220; p < .001]
• Significant interaction between Prime Structure and Structural Repetition [LRCS(1) = 13.391; p < .001; LRCS(1) = 15.434; p < .001]
• Significant 2-way interaction between Overlap and Structural Repetition: Lexical Overlap clearly had an impact on amount of Structural Repetition [LRCS(4) = 11.800; p < .00; LRCS(4) = 10.829; p < .03]
• Log-linear contrasts with no overlap condition showed no effect of agent overlap [LRCS(1) = 0.721; p = .40; LRCS(1) = 0.001; p = .97], but a reliable effect of verb overlap [LRCS(1) = 4.209; p < .05; LRCS(1) = 4.772; p < .03], of theme overlap [LRCS(1) = 5.581; p < .02; LRCS(1) = 3.819; p < .05], and of recipient overlap [LRCS(1) = 5.530; p < .02; LRCS(1) = 5.855; p < .02]

Discussion

• Experiment 1 showed enhanced priming in sentence recall, when the verb, recipient or theme were repeated between prime and target.
• Using a different (comprehension-to-production) task, Experiment 2 showed lexical boost effects for repetition of the agent, verb, and recipient.
• Differences between results of Experiments 1 and 2 suggest that the respective paradigms may direct attention to different constituents.
• Taken together, our results show that overlap of non-head constituents can yield lexical boost effects of similar magnitude to verbal heads. That is, the verb does not enjoy a privileged status in lexically enhancing syntactic priming.
• These findings argue against Pickering and Branigan’s (1998) model, which holds that the lexical boost is determined by activation of connections between verb heads and combinatorial nodes.
• In line with Chang et al. (2006), we argue that repeated content words may serve as memory cues to the syntax of the prime. The lexical boost effect is memory-related and does not reflect syntactic frames.