

ABSTRACT

In clinical and healthy populations, picture naming tasks show that verb retrieval is often more difficult than noun retrieval^(1,2). Whether this effect holds true during word retrieval without a visual cue or if specificity of the context influences this difference is unclear. The current study examined differences in noun and verb retrieval using an experimental sentence completion task in which sentences differed in constraint for the target nouns and verbs⁽³⁾. We investigated the types of responses provided and the potential influence of differing levels of sentence constraint on noun versus verb retrieval.

Results showed that, when unable to retrieve the target word, participants were more likely to provide an unrelated word for verbs versus nouns but more likely to provide a same category response for nouns versus verbs. This supports the claim that verb categories are more variable and more difficult to define than nouns.

Level of sentence constraint influenced non-target response type. As expected, highly constrained sentences elicited the fewest unrelated responses. In addition, moderately constrained sentences elicited the most within-category responses. Surprisingly, effects of sentence constraint did not differ between nouns and verbs. This indicates that level of constraint does not differentially influence noun and verb retrieval.

Taken together, these findings show the potential of sentence completion tasks in word retrieval research. Specifically, these results support previous claims about the nature of verb semantic organization and provide new evidence about the influence of context on retrieval.

RESEARCH QUESTIONS

1. Are there differences in the types of non-target noun and verb responses provided in a sentence completion task?
2. Do differences in the level of sentence constraint influence the types of non-target responses?
3. Does sentence constraint level differentially affect noun and verb responses?

METHODS

Data collection

- Participants: 167 college students
- Sentence completion task:
 - Total number of sentences = 260
 - Lists of 20-25 sentences missing the final word
 - Students asked to fill in the missing word with the one word that best completes the sentence

Table 1. Example Test Sentences (target word in italics)

Constraint Level	Sentence
Nouns	
Low	At lunch she didn't eat her <i>apple</i> .
Medium	At the store, buy an <i>apple</i> .
High	Snow White snacked on an <i>apple</i> .
Verbs	
Low	Her favorite hobby is to <i>dance</i> .
Medium	I hope he asks me to <i>dance</i> .
High	All ballet students love to <i>dance</i> .

Lexical coding system

- Based on D'Amico, Devescovi & Bates (2001) and adapted using verb categories according to Levin (1993)

Table 2. Description and Examples of Lexical Codes

Code Type	Response	Examples	
		Nouns	Verbs
Correct (R)	Same as the target	Coat	Skate
Hyponym (H)	Superordinate	Clothes	Exercise
Synonym (S)	Same meaning	Jacket	Glide
Categorical (C)	Within category	Dress	Walk
Other (O)	Unrelated	Hair	Stop

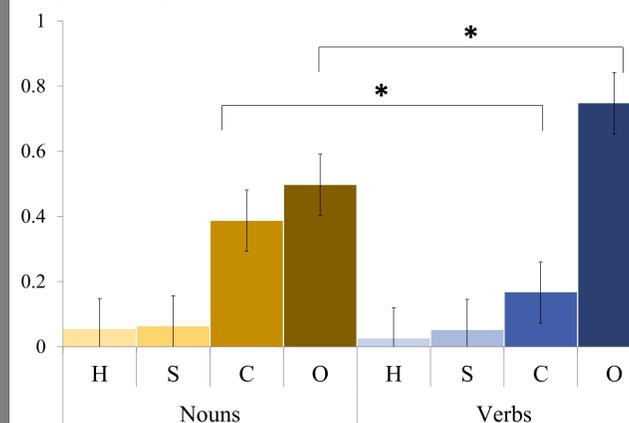
RESULTS

Research Question 1

Are there differences in the types of non-target noun and verb responses provided in a sentence completion task?

Yes, MANOVA $F(4,247)=6.23, p<.05, \eta^2 = 0.09$

Figure 1: Proportion of lexical codes across word classes

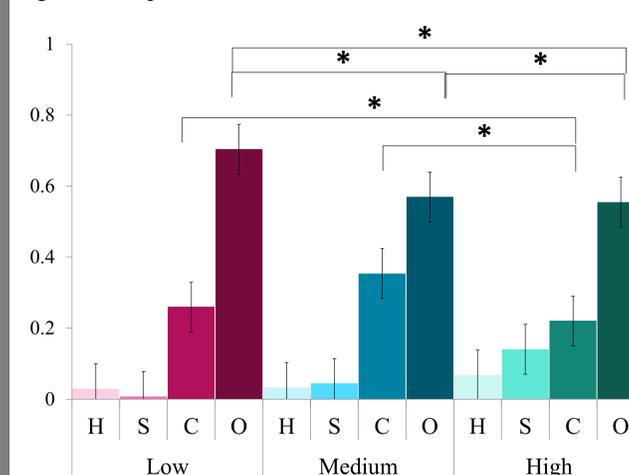


Research Question 2

Do differences in the level of sentence constraint influence the types of non-target responses?

Yes, MANOVA $F(8, 494)=142.9, p<.05, \eta^2 = 0.7$

Figure 2: Proportion of lexical codes across levels of constraint



Research Question 3

Does sentence constraint level differentially affect noun and verb responses?

No, MANOVA $F(8, 488)=1.08, p = .37$

SUMMARY OF FINDINGS

Research Question 1

Verb responses were more likely to be unrelated to the target than nouns. Nouns were more likely to be in the same category as the target than verbs.

Research Question 2

Across all levels of constraint, unrelated responses are the most common. However, the proportion of unrelated responses decreases as level of constraint increases. The proportion of within category responses is largest for the medium constraint sentences.

Research Question 3

The pattern of verb and noun non-target response types do not differ by sentence constraint level.

CONCLUSIONS

When unable to retrieve the target verb, participants are most likely to choose an unrelated word. For nouns, the likelihood of providing a within-category response increases. These findings support the literature that verb categories are more variable and harder to define than nouns.

Level of constraint also influences the types of responses provided. When there is less constraint, participants are most likely to provide unrelated responses. Interestingly, within-category responses are most likely when there is moderate constraint. The most surprising finding is that level of constraint did not differentially influence the types of non-target nouns and verbs the participants retrieved.

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