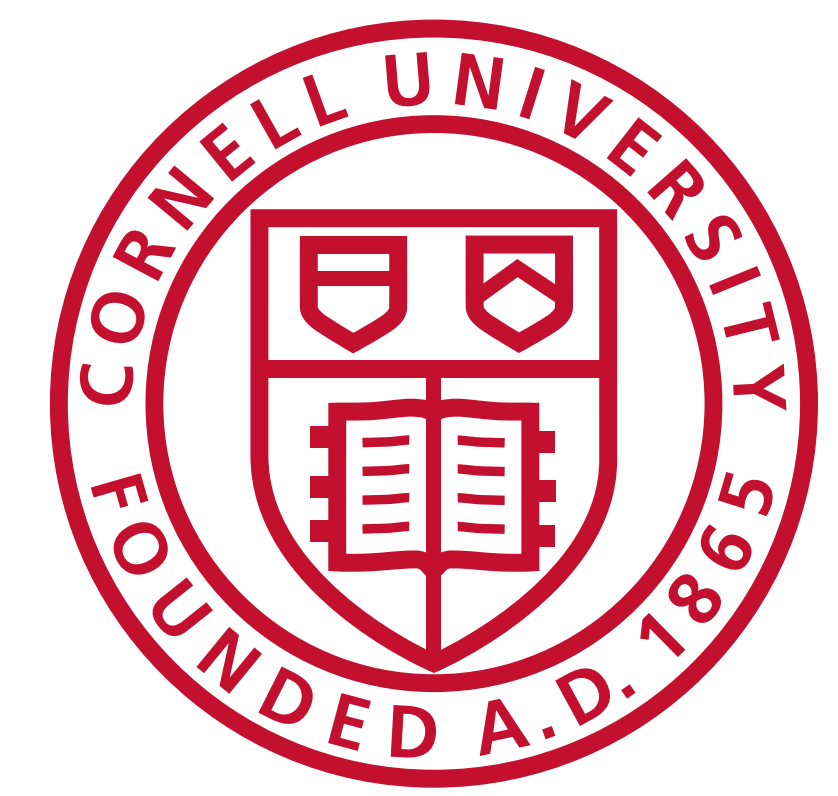


# Semantics reels us in: a first look at mind rhymes

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## Introduction

Alternative sets (Horn 1972) are fuzzy in many pragmatic contexts. In this work we study a novel phenomenon with a phonologically-constrained alternative set: **mind rhymes** (Holdefer 2009). Mind rhymes subvert an intended target (IT) with an unrhyming, overt target (OT) for humorous effect, allowing us to investigate semantic and phonological constraints that help listeners infer alternative sets.

**Research question:** In mind rhymes, what factors dictate the alternative set?

## Mind Rhyme Examples

Work all night  
I'm always tired.  
Hope my boss  
doesn't get me **laid off**. (fired)

Example 1: Synonymy between OT and IT

He's limber-slouched  
against a post,  
and tells a friend  
what matters **least**. (most)

Example 2: Antonymy between OT and IT

Now they're going to bed,  
and my stomach is sick,  
and it's all in my head,  
but she's touching his **chest**. (d\*\*\*)

Example 3: Taboo encoding

## Data

200 mind rhymes were collected from online resources. 50 additional items were generated by the first author. Each mind rhyme was annotated for metrical structure, taboo encoding, and target semantic relationship.

## Select References

- Pennington, J., Socher, R., & Manning, C. D. (2014). Glove: Global vectors for word representation. *EMNLP 2014*.
- Schwarz, F., Bill, C., & Romoli, J. (2016). Reluctant acceptance of the literal truth: Eye tracking in the covered box paradigm. *Sinn und Bedeutung*.
- Holdefer, C. (2009). 'Shaving Cream' and other mind rhymes. *The Antioch Review*, 67(1), 158-163.
- Horn, L. R. (1972). *On the semantic properties of logical operators in English*. University of California, Los Angeles.

## Mind Rhyme Vector Space

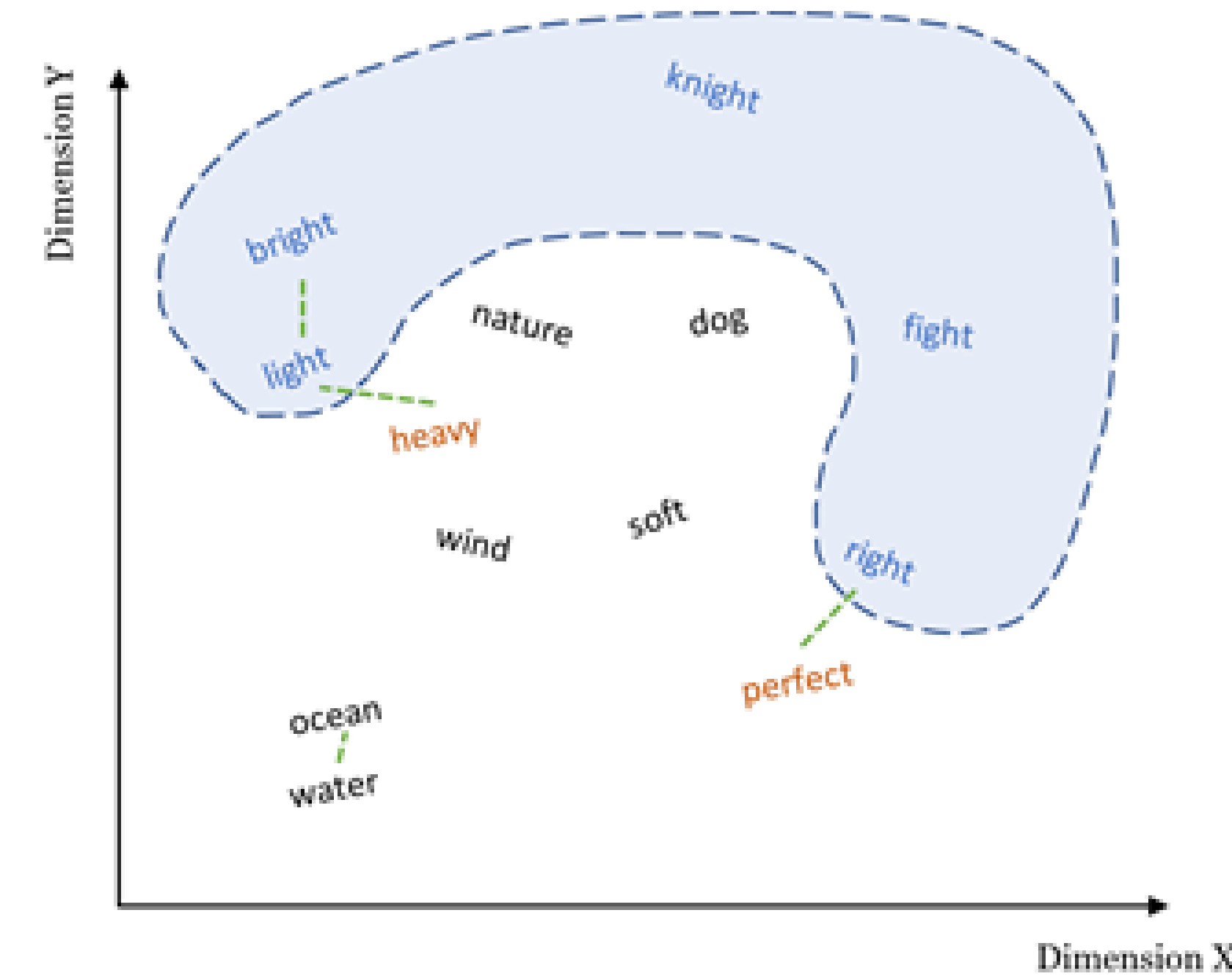


Figure 1: Sample vector space for item in Figure 2; shaded blue indicates rhymes

## Computational Component

Using pre-trained GLoVe embeddings (Pennington et al. 2014), we calculated the cosine similarity across the following pairings to determine the relevance of global semantics for alternative selection:

- OT:IT (Mind Rhyme)
- OT:Rhyme
- Shuffled-OT:IT
- Shuffled-IT:IT

## Experimental Component

**Norming Study:** Participants (N=60) completed a cloze task for a mind rhyme item with a blank target position to test IT saliency:

The poems I write  
are a real delight,  
so please be polite  
when the rhyme is not \_\_\_\_\_.

Figure 2: Sample cloze stimuli

**Experiment:** Participants (N=50) completed a covered-box task (Schwarz et al. 2016) after seeing a mind rhyme item with a blank target position to test participants' alternative preferences.

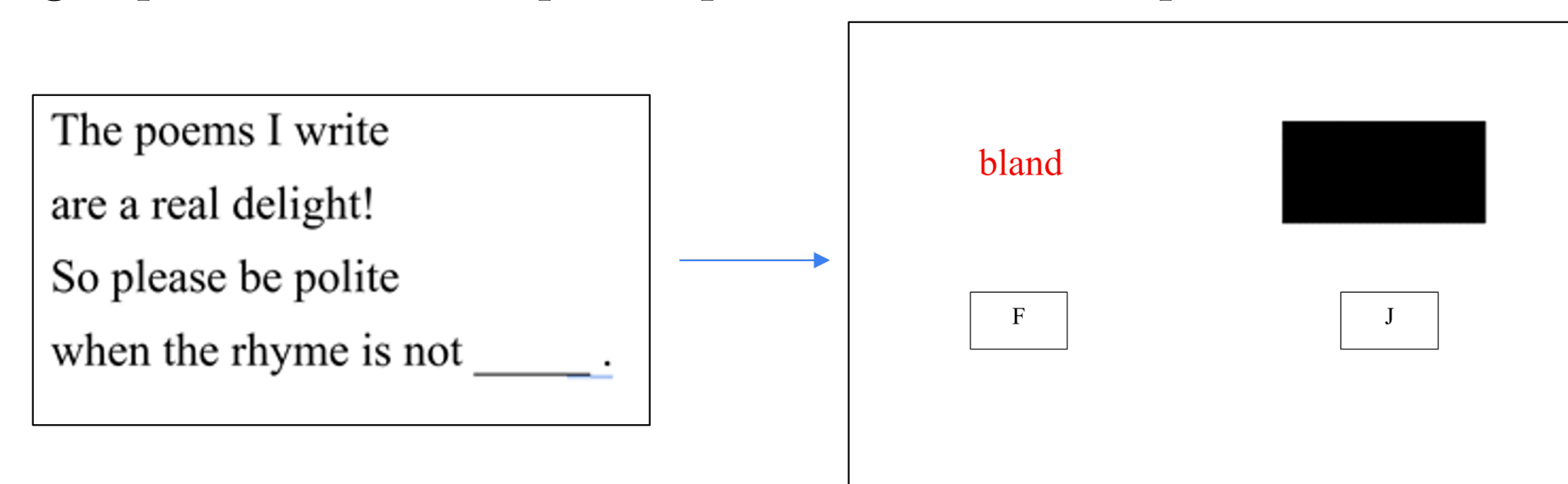


Figure 3: Sample covered box stimuli

Four conditions were present (samples for Figure 2 above):

	+Rhyme	-Rhyme
+Meaning	IT : <b>right</b>	OT : <b>perfect</b>
-Meaning	Rhyme : <b>bright</b>	Mismatch : <b>bland</b>

## Computational Results

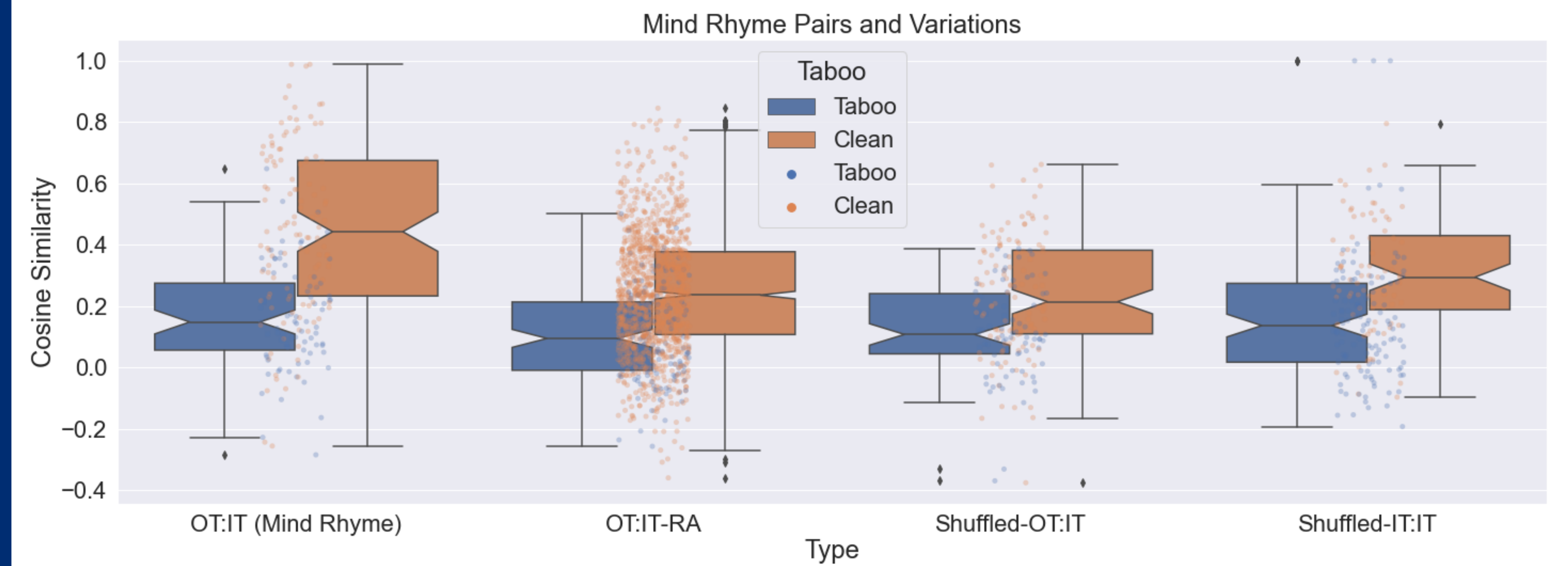


Figure 4: Cosine similarity by condition

## Experimental Results

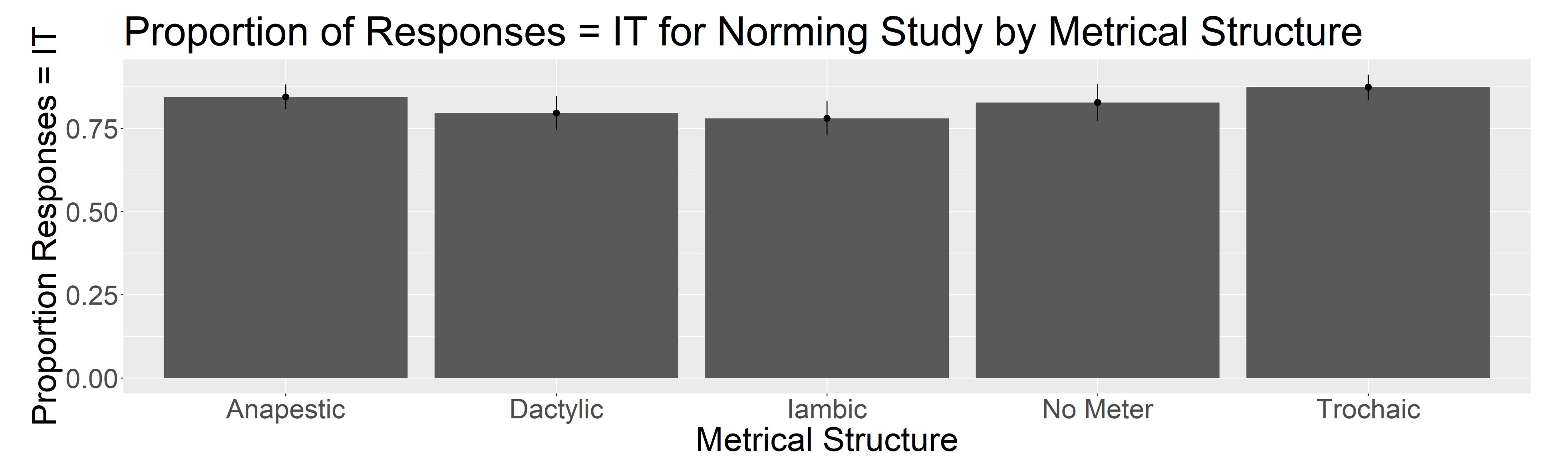


Figure 5: Norming study results by meter

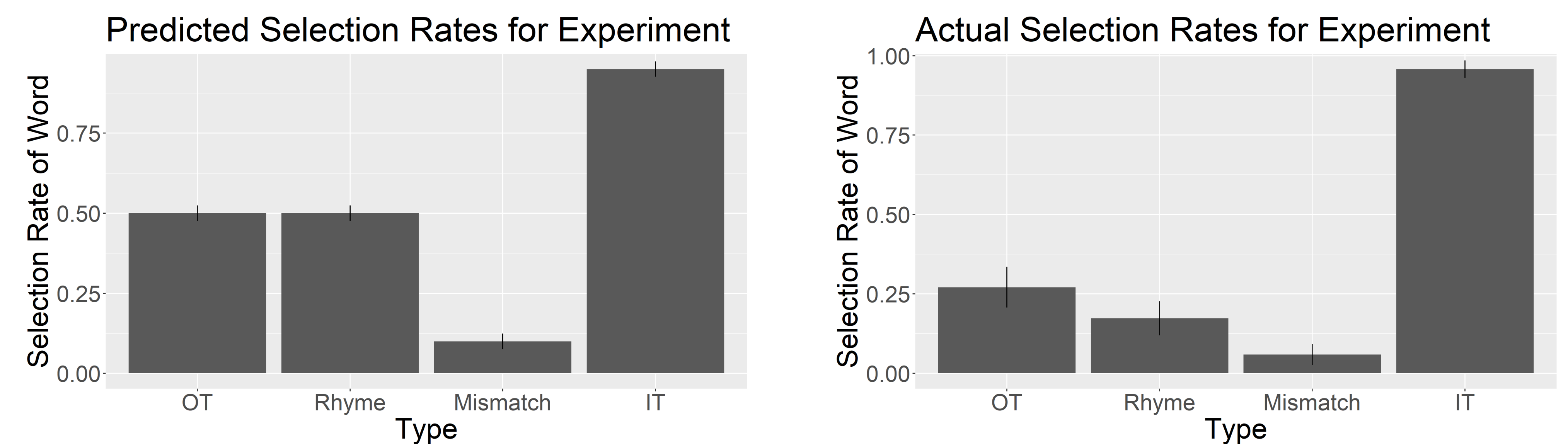


Figure 6: Experiment predictions by condition

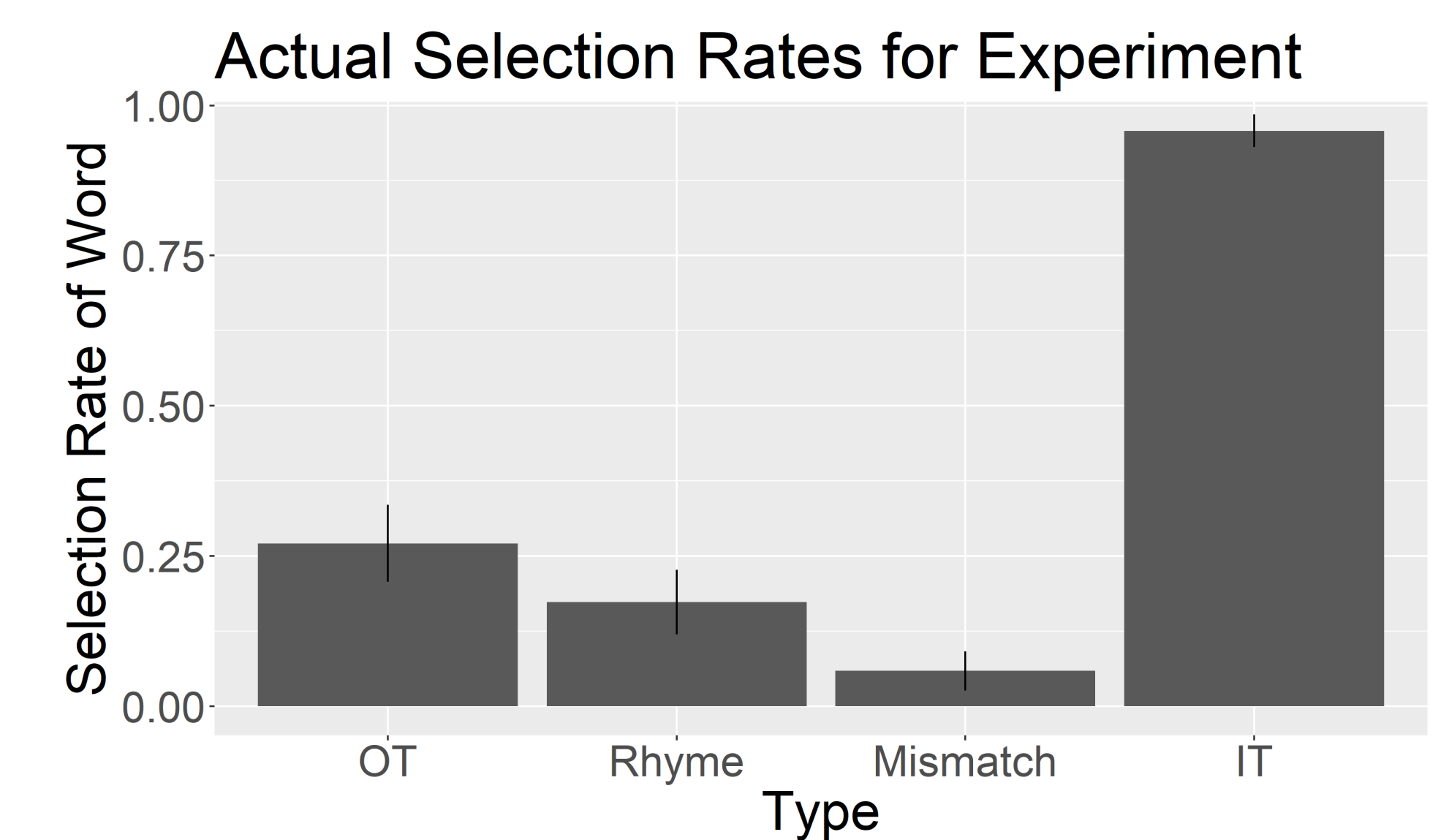


Figure 7: Experiment results by condition

## Conclusions

Our results suggest that the global semantic relationship between what is said and what is expected affects selection of the alternative from a limited set, especially in contexts where a strong phonological continuation pervades. Further study is needed to untangle whether such phonological and semantic processing occur serially or in parallel.