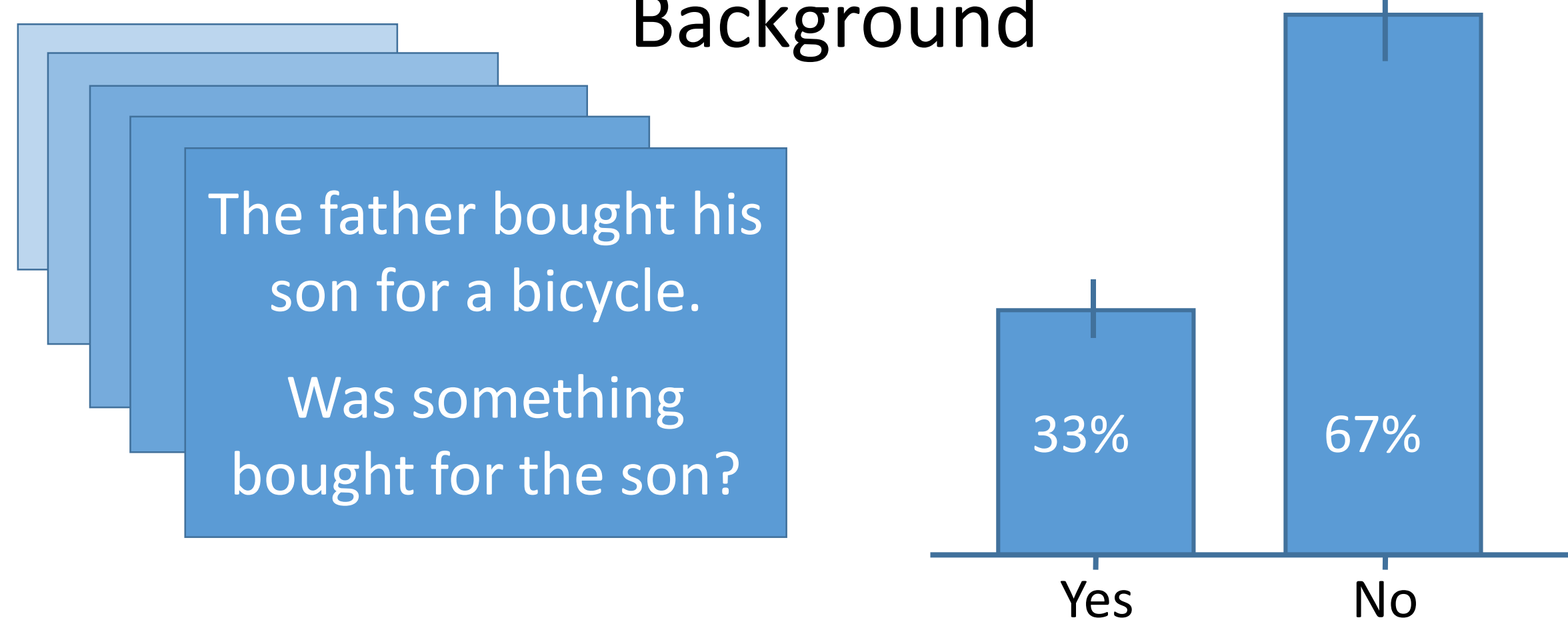


## Background

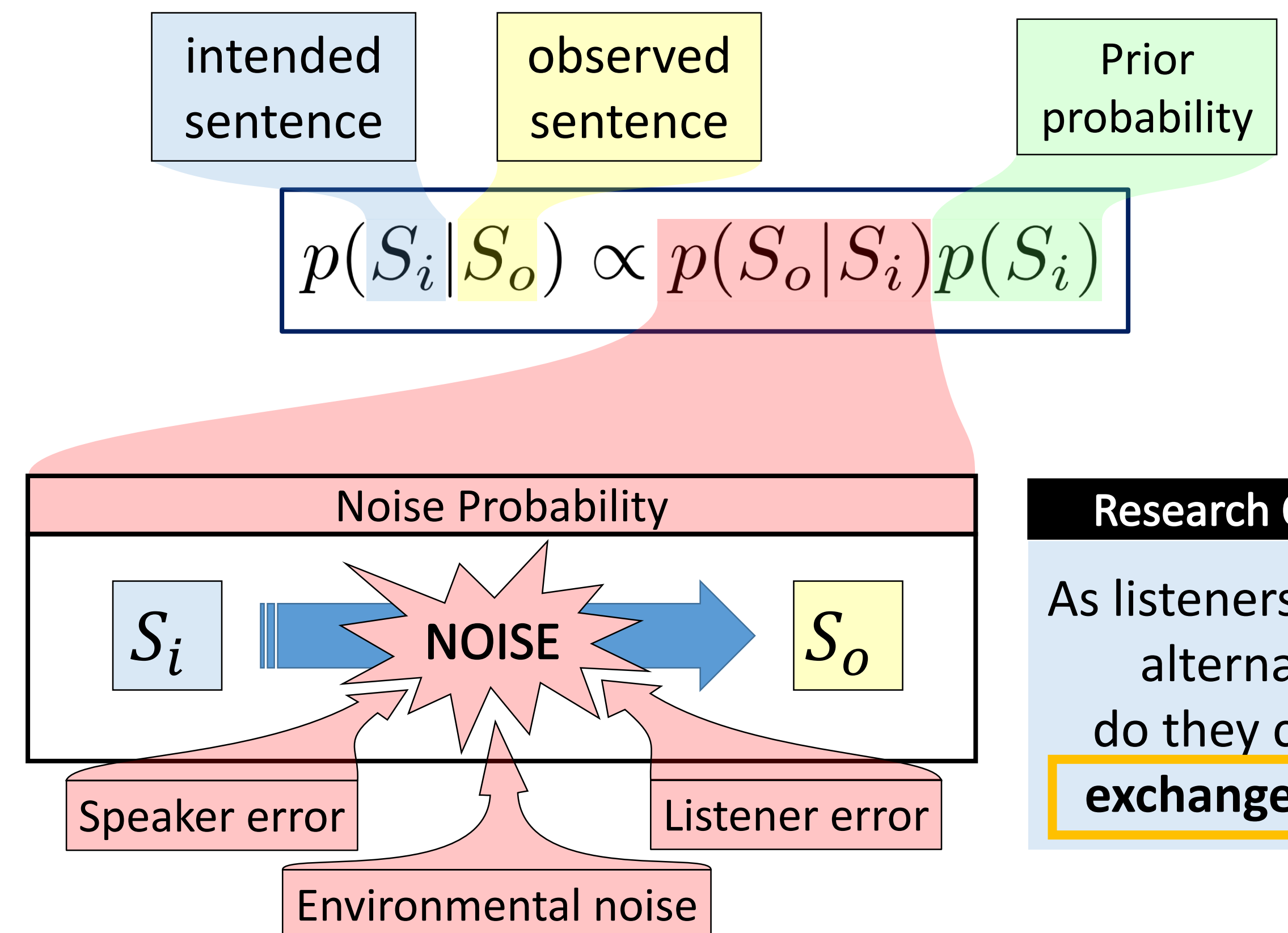


- Comprehenders consider **non-literal** interpretations
- Evidence from **garden-paths**: readers retain initial misinterpretations (Christianson *et al.*, 2001)
- Also in **non-garden paths** (Ferreira, 2003)
- Key finding**: the tendency to adopt non-literal interpretations is affected by semantic **plausibility** and syntactic **canonicity**

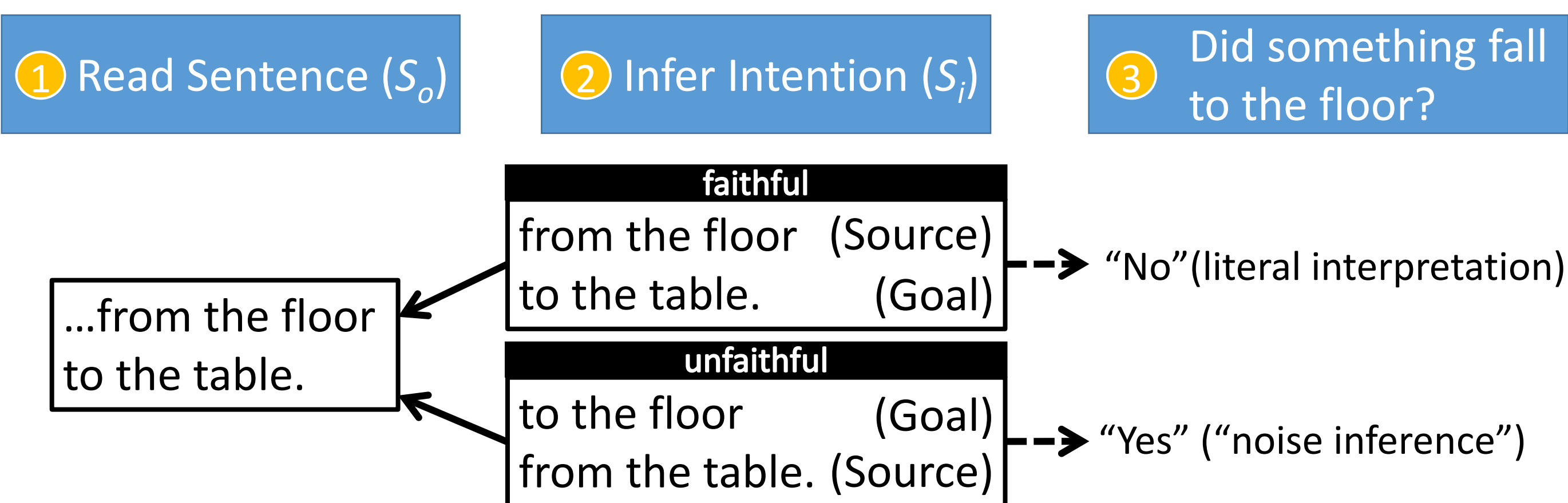


## Noise Inference

- Gibson *et al.* (2013): Noisy-channel approach



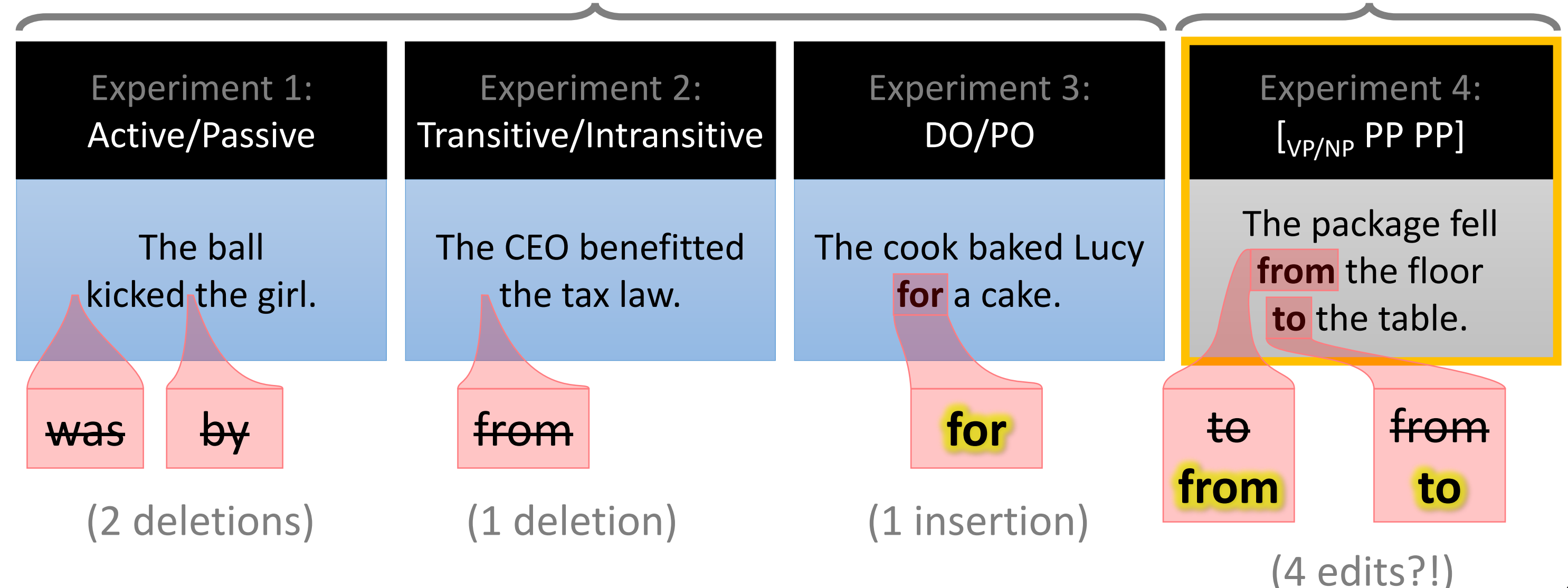
## Assumptions



## Methods

- 2x2 design**: plausibility x canonicity (estimated in separate norming studies)
- Dependent measure**: % of literally correct answers

### Replication



## Predictions

- Effect of the prior**: % of noise inferences should be inversely related to plausibility and canonicity
- # of string edits**: noise operations with fewer string edits should permit more noise inferences
- Exchange errors**: % of noise inference should be higher for exchanges than active/passive constructions

## Discussion

- Listeners consider exchange errors:

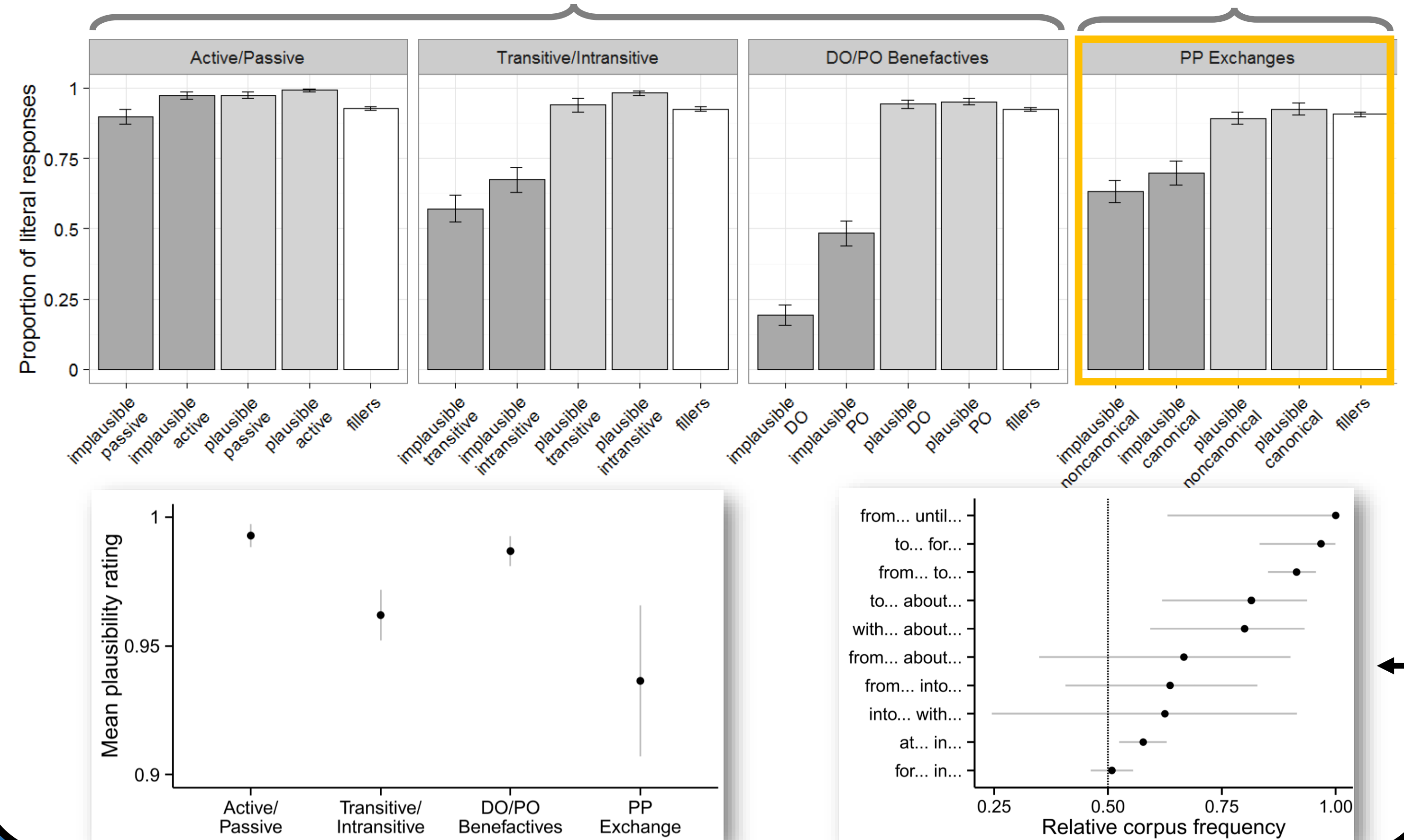
The package fell from the floor to the table.

Comprehenders' noise model is structure-sensitive

- Open questions**:
  - Noise model vs. speaker model: are listeners' inferences attuned to error frequencies? (cf. spoonerisms; e.g. Dell *et al.*, 2000)
  - Exchange what?

The ball kicked the girl.

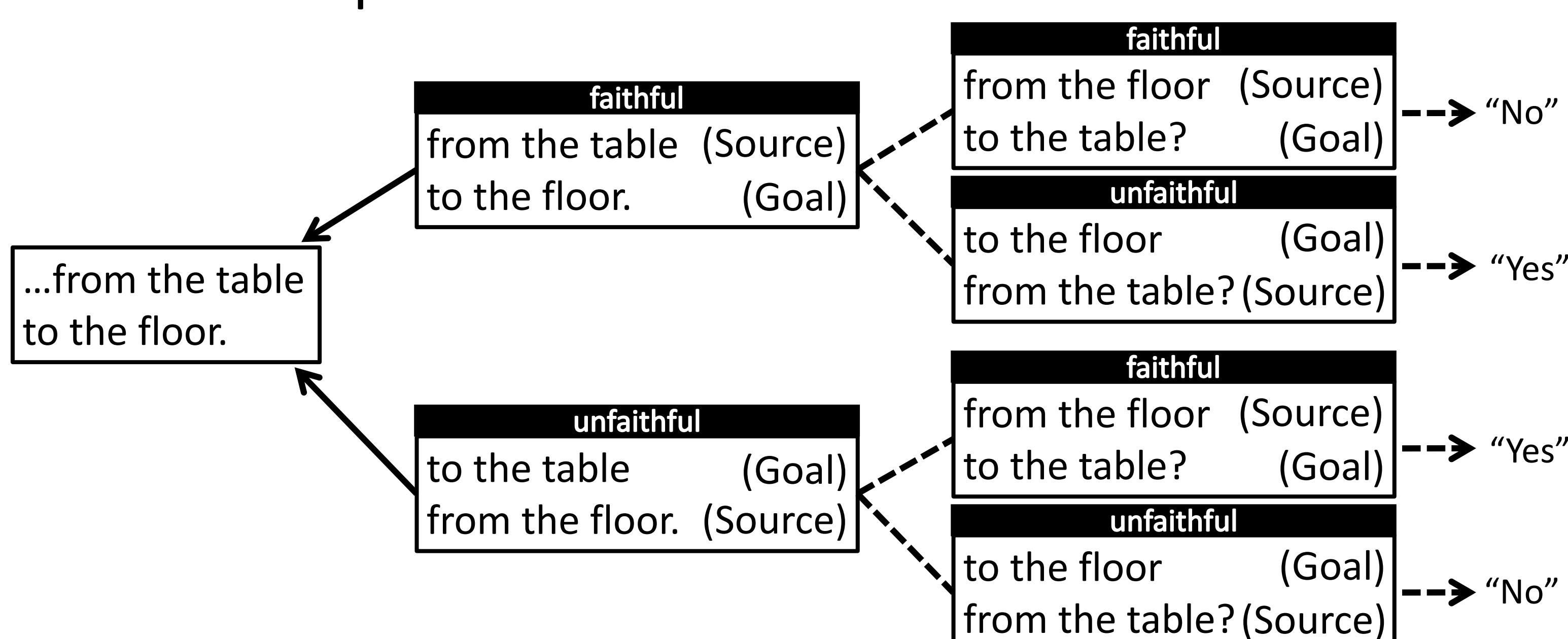
### Replication



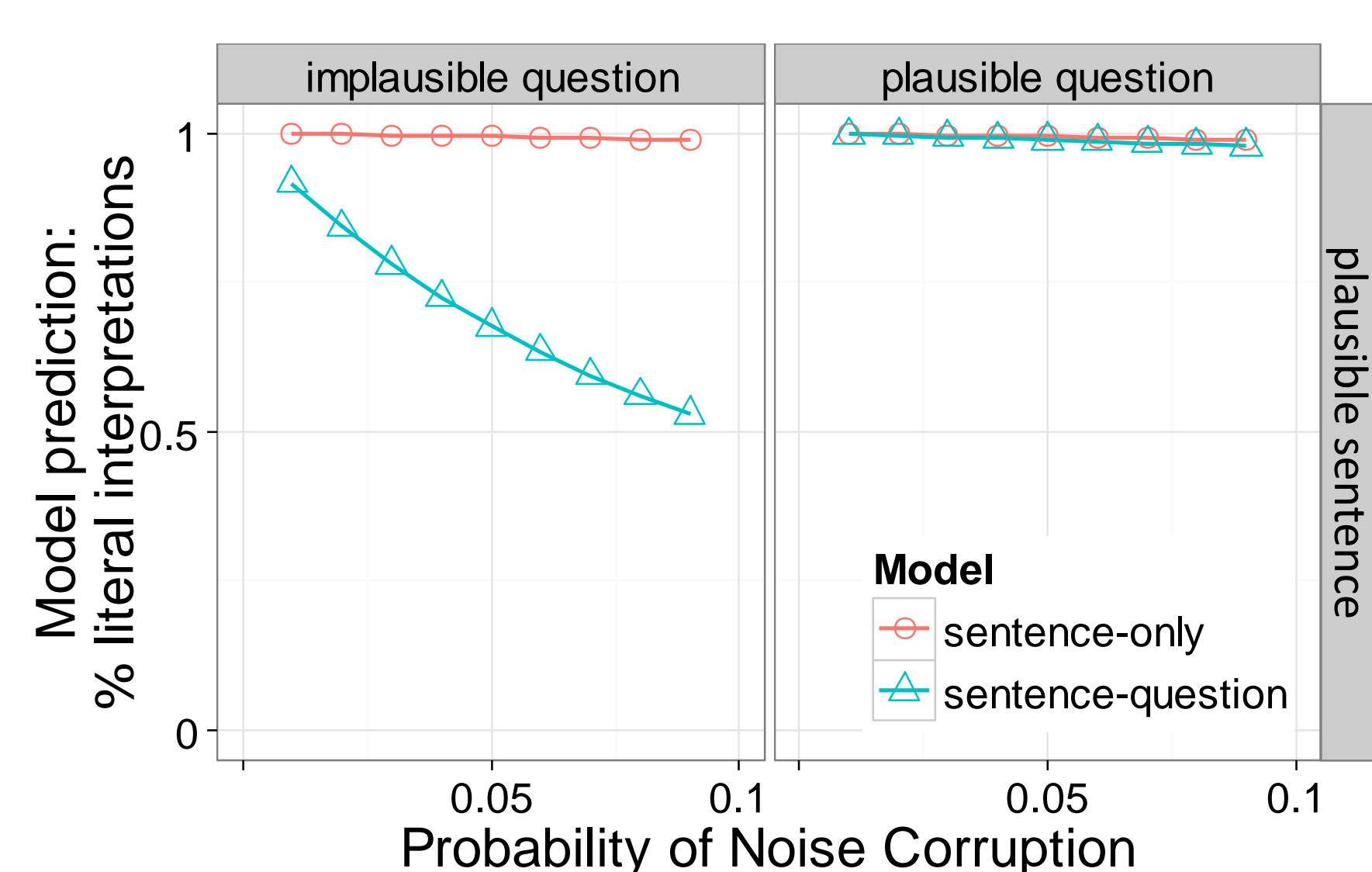
## References

Christianson, K., Hollingworth, A., Halliwell, J. F., & Ferreira, F. (2001). Thematic roles assigned along the garden path linger. *Cognitive Psychology*, 42(4), 368–407.  
 Dell, G. S., Reed, K. D., Adams, D. R., & Meyer, A. S. (2000). Speech errors, phonotactic constraints, and implicit learning: A study of the role of experience in language production. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 26(6), 1355–1367.  
 Ferreira, F. (2003). The misinterpretation of noncanonical sentences. *Cognitive Psychology*, 47(2), 164–203.  
 Gibson, E., Bergen, L., & Piantadosi, S. T. (2013). Rational integration of noisy evidence and prior semantic expectations in sentence interpretation. *Proceedings of the National Academy of Sciences*, 110(20), 8051–8056.

## Non-literal questions?



### Fake data!



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