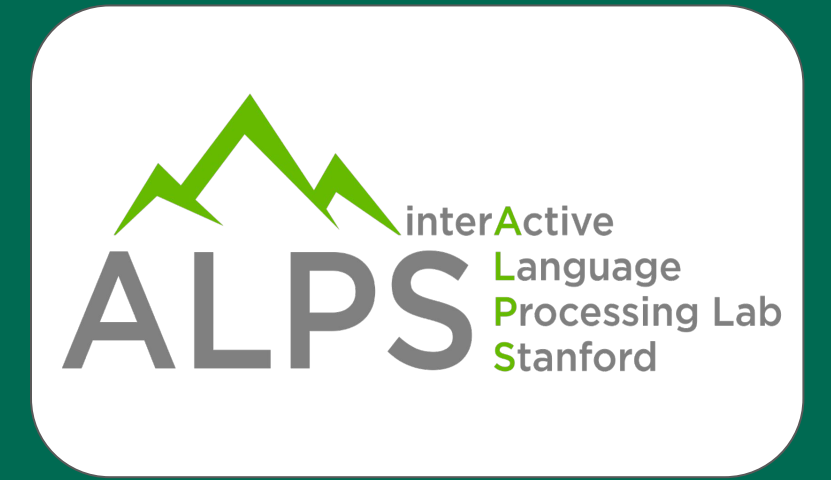




# Accessibility and Production Preferences In The English Spray-Load Alternation



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## Background

What do speakers consider when choosing between forms of English *spray-load* alternation?

- (1) (a) Sally sprayed **the wall** with paint. *Location-first form*  
(b) Sally sprayed **paint** on the wall. *Substance-first form*

- Meaning differences [1, 2, 4, 5]
  - Location-first forms convey a more affected location (so-called **holistic effect**)
  - Substance-first forms convey a partially affected location
- Accessibility of visually foregrounded nouns:
  - In a forced-choice picture-captioning task, participants prefer the form that mentions the foregrounded noun first [3], Cf. [6]

## Main Experiment

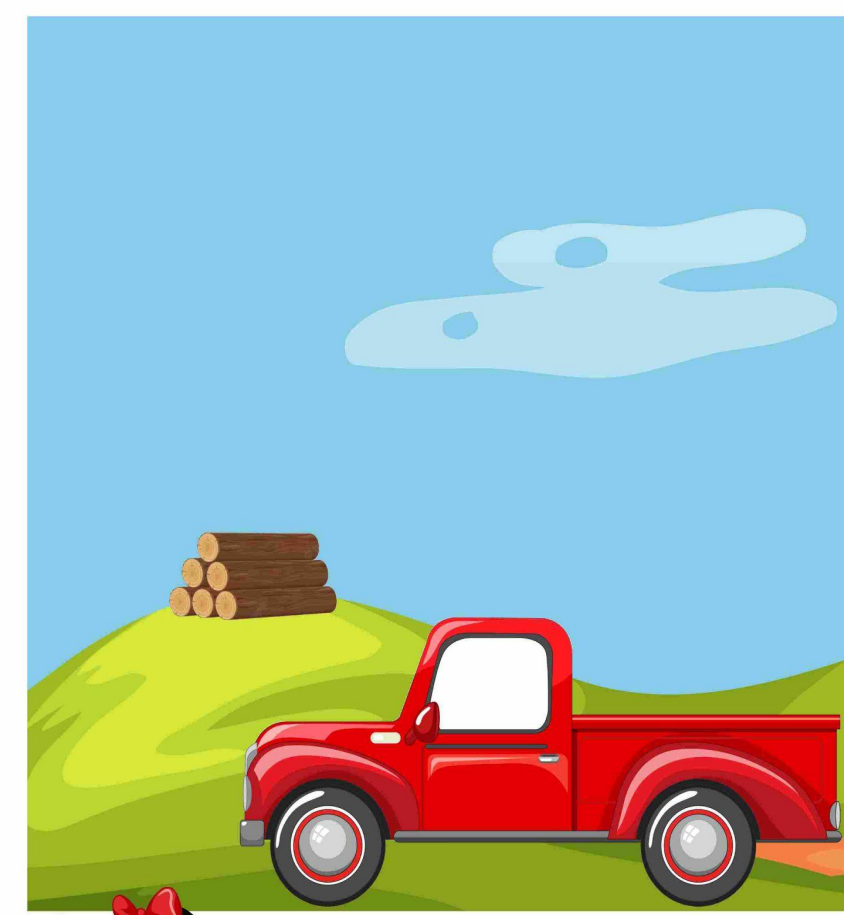
Does foregrounding an entity in a picture-description task lead speakers to produce the name of that entity first, despite the fact that each form conveys a distinct meaning?

We manipulated whether the location or substance entity is foregrounded, and found that speakers are more likely to use a form that mentions the foregrounded noun first.

## Methods and Stimuli

- Online production experiment, 60 native English speakers
- Design:
  - 16 critical trials: spray-load verbs *Spray, Spread, Stuff, Load*
  - 16 control trials: non-alternating verbs *Drench, Cover, Put, Stash*
  - 4 filler trials: dative verbs *show, bring*
- Instructions: "This is Sally. Please look at the provided image, and describe what Sally will do. Start your sentence by mentioning Sally, use complete sentences, and remember to use the provided verb."

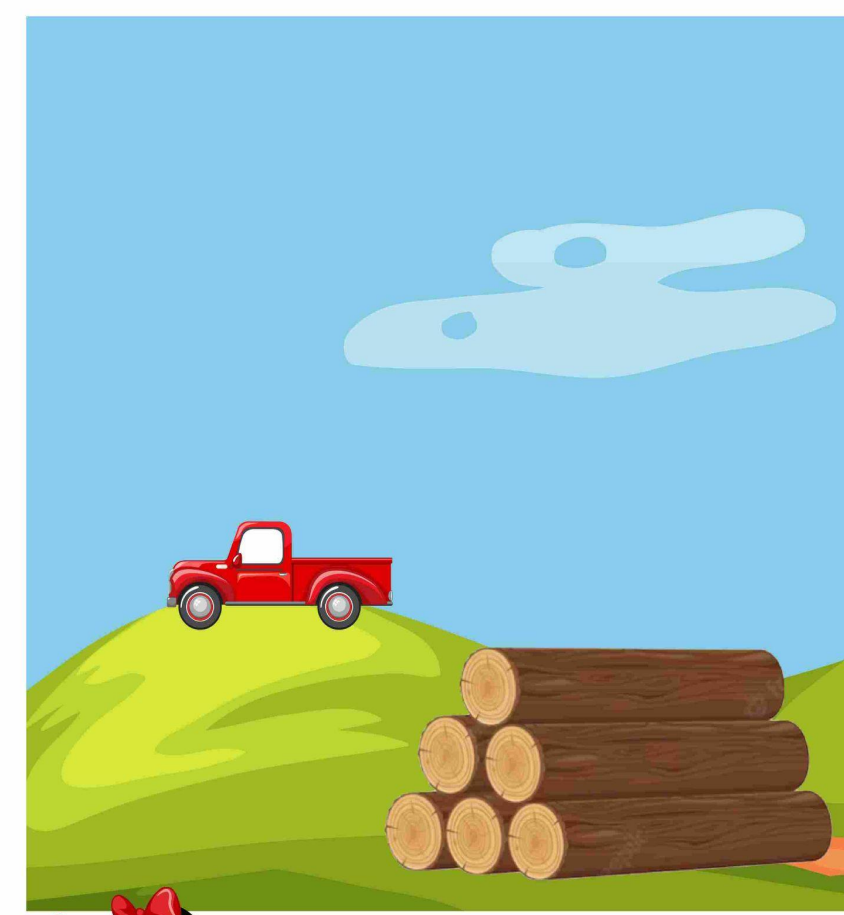
Location Foregrounded Condition



load

Ready to record

Substance Foregrounded Condition

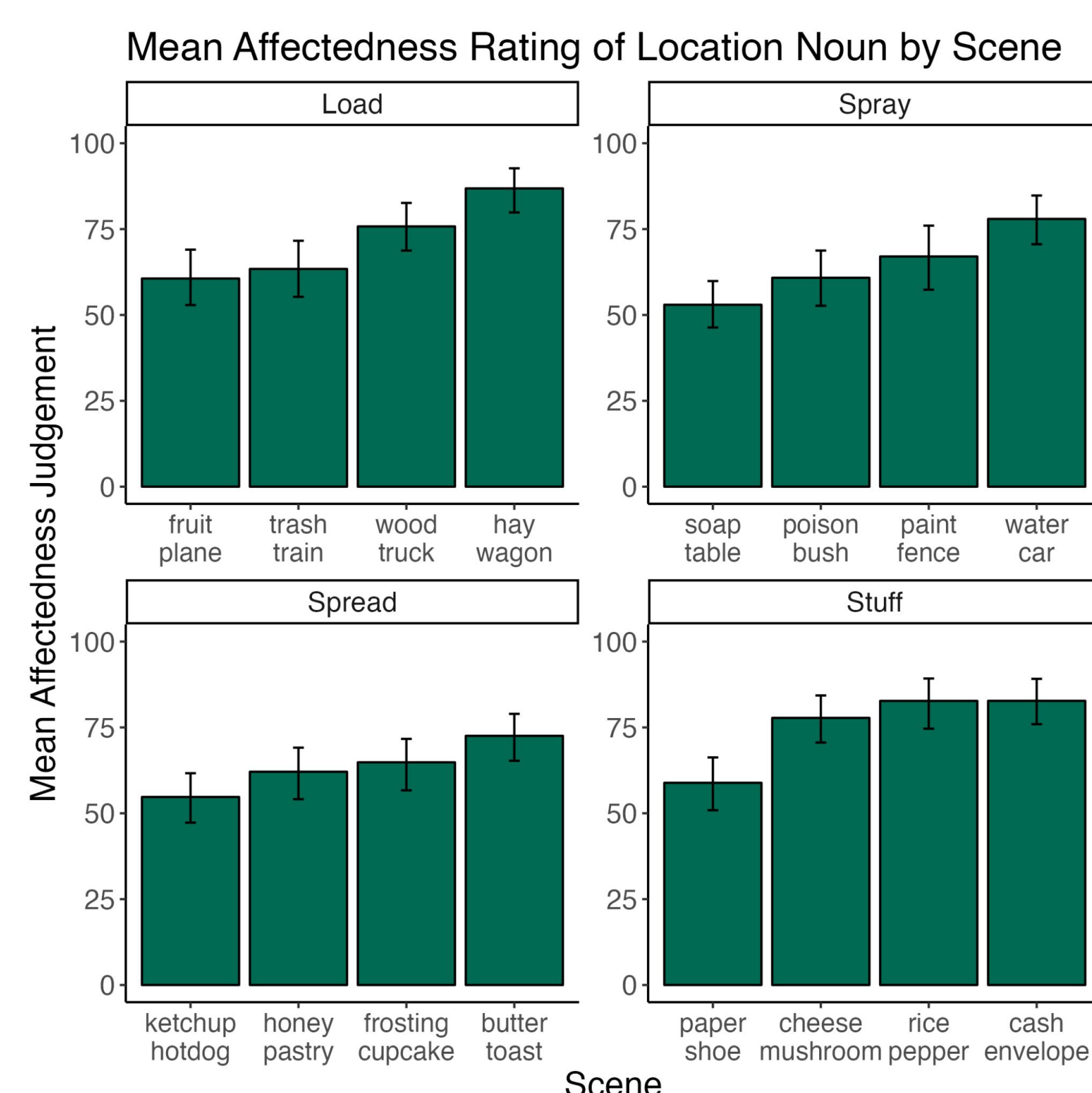


load

Ready to record

## Norming Stimuli for Affectedness

- Participants may expect different degrees of affectedness for different stimuli, due to:
  - Image characteristics: the wood may look like it is not enough to fill the truck, which may bias people against the location-first form
  - World knowledge: people typically spray a fence to completely cover it, which may bias people toward the location-first form.
- Online judgement task, 60 native English speakers
- Visual Stimuli from Experiment 1, slider to indicate how affected the location would be after the action

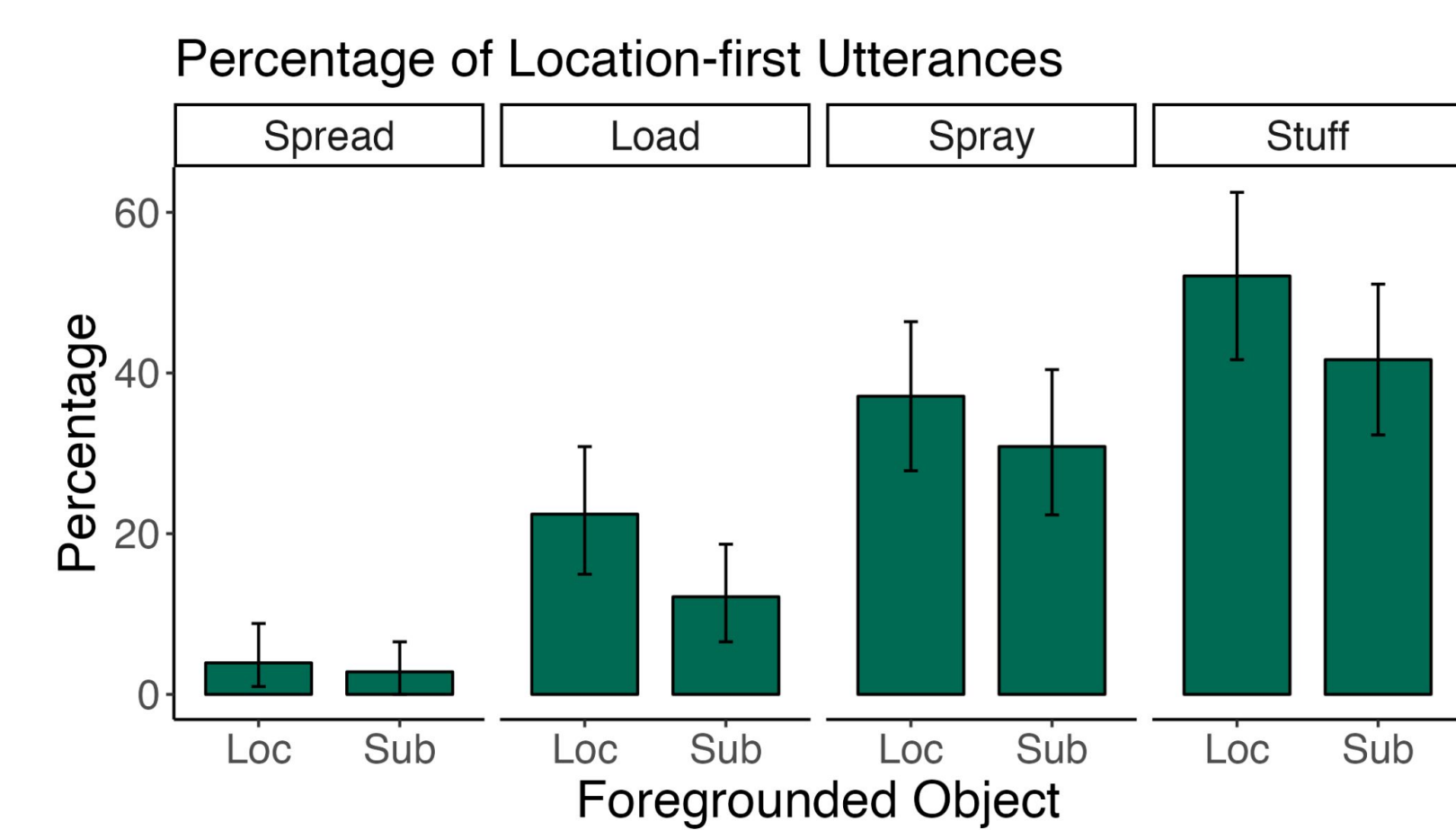


### Results:

- Speakers Stimuli differ in the 'expected affectedness' of the location nouns
- Norming results allow us to control this in our main experiment analysis

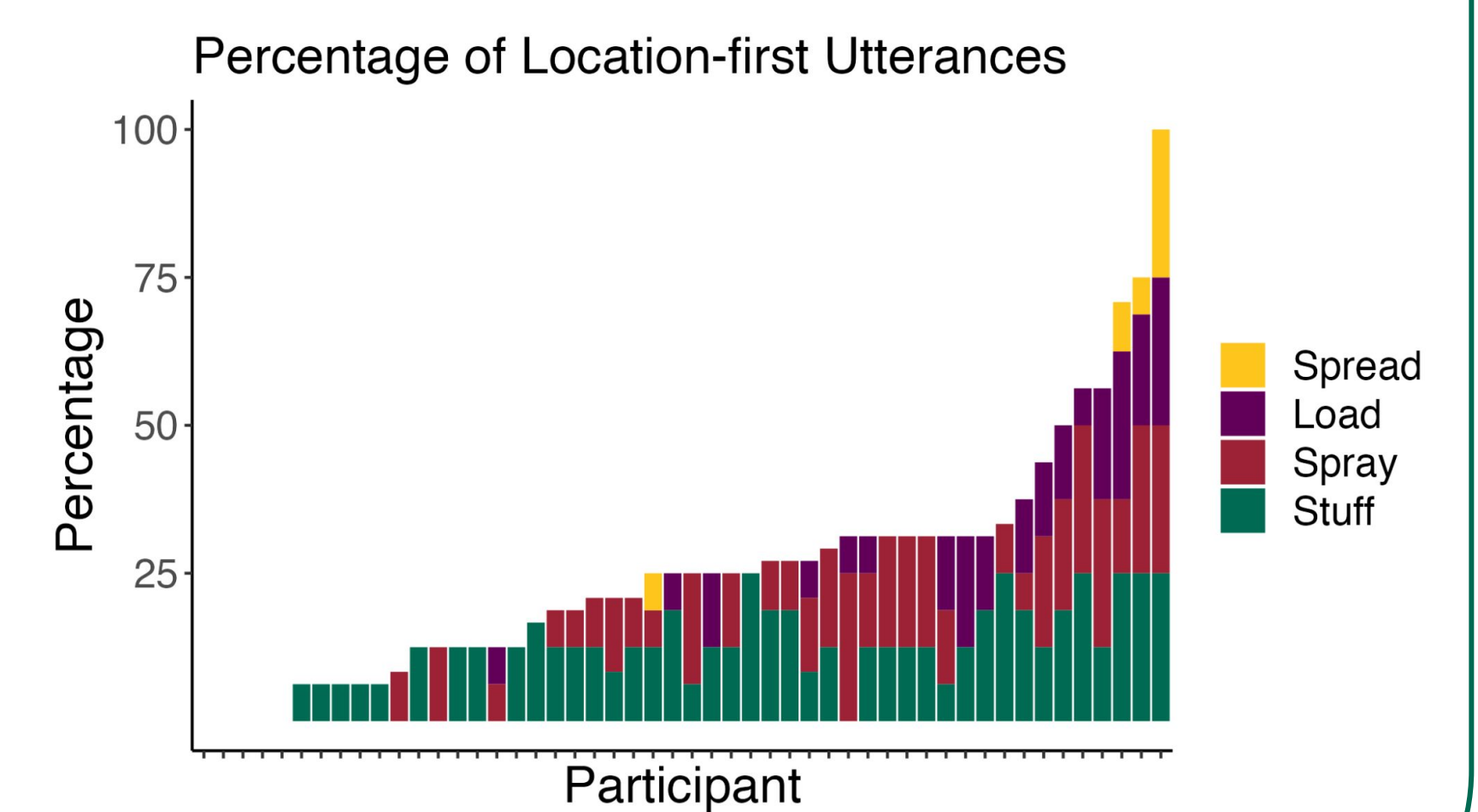
## Main Experiment Results

- For all verbs, substance-first forms were more common
- When controlling for affectedness ratings (see Norming Study), location-first forms occur more frequently when the location is foregrounded ( $\beta = 0.65$ ,  $p = 0.01$ )
- Lots of by-verb variability; *spread* almost never used in location-first form (7 out of 202 productions)



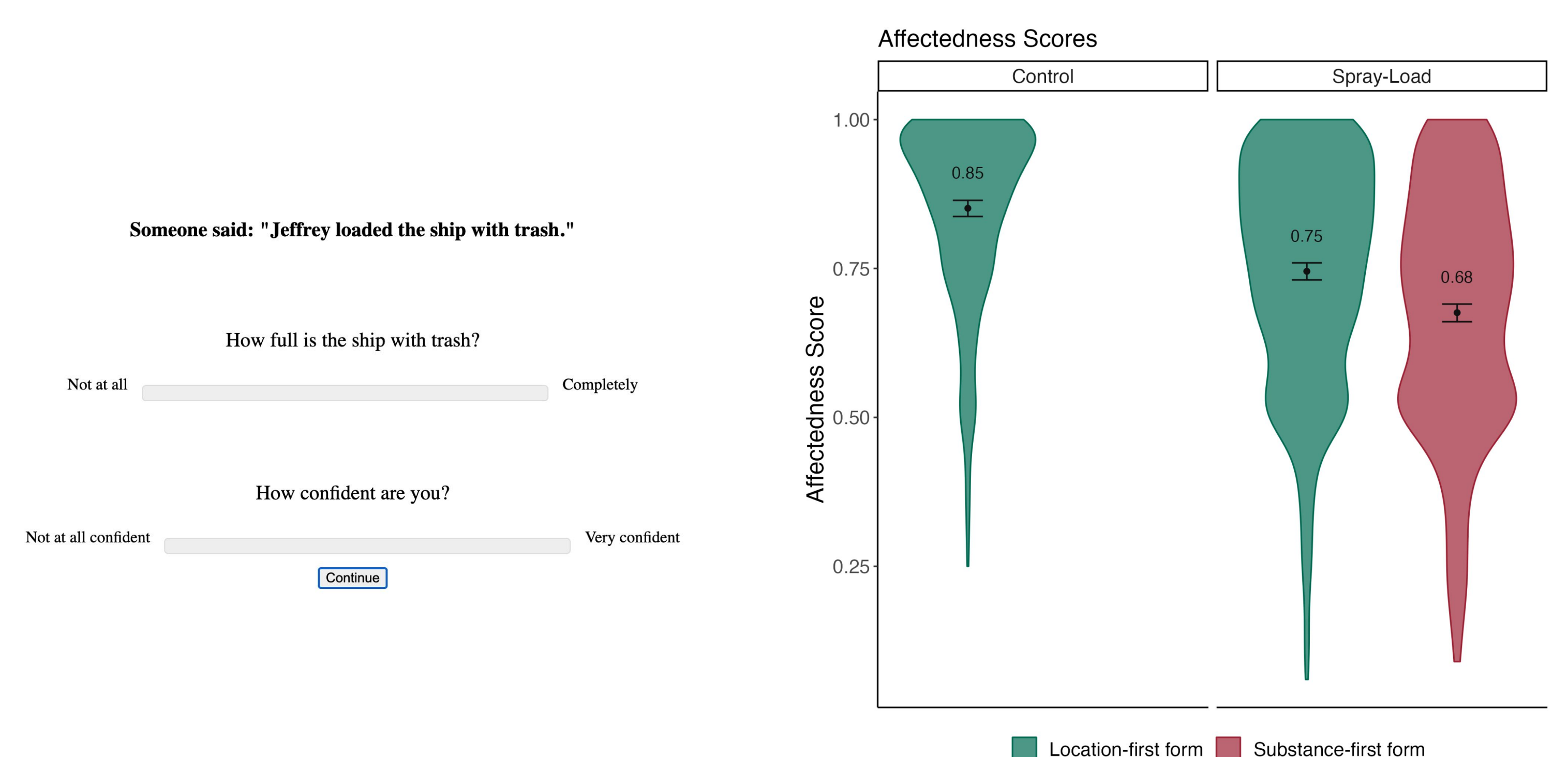
## Productions Form an Implicational Hierarchy

- Within participants, verbs are hierarchically ordered with respect to their use in the location-first form: If participants use this structure, it is most often with *stuff*, with *stuff* and *spray* or with *stuff*, *spray*, and *load*.
- Hierarchy: *stuff* < *spray* < *load* < *spread*



## Spray-Load Comprehension: Evidence for Holistic Effect

- Comprehension experiment testing speakers' intuitions about the holistic effect
- Online judgement task, 60 native English speakers
- Design
  - 6 control trials: non-alternating (Location-first) verbs *Coat, Cover, Fill, Flood, Smother, Drench*
  - 16 critical trials: spray-load verbs *Spray, Spread, Stuff, Load*



### Results:

- Location-first forms convey a more affected location than substance-first forms
- However, they convey a less affected location than sentences with non-alternating control verbs (like *cover*), which lexically entail complete coverage.

## References:

- [1] Anderson, S. (1971). On the role of deep structure in semantic interpretation. *Foundations of Language* 7: 387-96.
- [2] Buck, R. A. (1993). Affectedness and other semantic properties of English denominal locative verbs. *American Speech*, 68(2), 139.
- [3] D'Elia, S. C. (2016). The spray/load and dative alternations: aligning VP structure and contextual effects. PhD thesis, University of Kent.
- [4] Jeffries, L., & Willis, P. (1984). A return to the spray paint issue. *Journal of Pragmatics*, 8(5-6), 715-729.
- [5] Levin, B. (1993). *English verb classes and alternations: A preliminary investigation*. University of Chicago press.
- [6] Vogels, J. et al. (2013). Who is where referred to how, and why? *Language and Cognitive Processes*, 28(9), 1323-1349.