RUNNING HEAD: Who gets mentioned next

Additional Methods Analysis Information for "Who gets mentioned next? The answer depends on the experimental task."

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1. Introduction

Theories about reference production and comprehension have suggested that the frequency of referent re-mention plays a role in guiding biases for either pronoun interpretation (e.g., Kehler & Rohde, 2013) or pronoun production (e.g., Arnold, 1998). This raises questions about how research measure the frequency of referent re-mention. Arnold and Zerkle (under review) examine one method that is commonly used for this purpose: the sentence completion task. This companion paper provides additional details about the methods and results, as well as supplementary analyses.

The sentence completion method presents participants with a fragment and asks them to provide a natural continuation. Arnold and Zerkle (under review) tested whether the responses in this task varied as a function of three manipulations. The primary question was whether the length of the continuation matters. Our analysis focused only on the grammatical subject of the first sentence in the response, so any effect of length would result from difference in discourse planning, and not from the number of opportunities for reference. Across three experiments, we also manipulated features of the stimuli. First, does the stimulus end with the name of a character, or is there material intervening between the second name and the response? Experiment 1 ended with a name (Liz is assembling a bed with Ana), while Experiments 2 and 3 ended with a prepositional phrase (Liz is assembling a bed with Ana on Saturday afternoon). Second we manipulated tense: experiment 1 and 2 were in present tense, and experiment 3 in past tense.

Results revealed a tendency to re-mention the subject in general, but this bias was driven by experiments 2 and 3, which included a prepositional phrase between the fragment and the response. In addition, the subject was more likely to be mentioned in the first sentence of 3-sentence responses than in single-sentence responses. There was no effect of tense.

2. Supplementary methods information

A. Participant details. Participants were 88 Amazon Mturk workers from English-speaking countries (22 in Exp. 1; 33 in Exp. 2, 33 in Exp. 3). In addition to the main task they completed demographic questions and the Author Recognition task (Stanovich & West, 1989; Moore & Gordon, 2015), which are not reported here.

B. Participant exclusions. We report data from 88 participants (22 in Exp. 1; 33 in Exp. 2, 33 in Exp. 3). out of a total of 102 who participated. Using Amazon Mechanical Turk we recruited participants from English-speaking countries with at least 5000 approved HITS and who had not participated in our lab's studies previously. One participant in Exp. 2 was excluded for not following instructions about length. An additional 22 participants did not provide any data after item-based exclusions (see below).

C. Item exclusions. Responses were only included in analyses if the continuation began with mention of the subject or non-subject character, and excluded if the grammatical subject referred to the two characters (e.g., "They are halfway through a Doctor Who marathon." or "Ana and Liz stop hanging the laundry because of the rain.") or something else ("One person did the dishes and the other took out the trash," or "The audience cheered."). If a pronoun was used, the meaning of the response was used to identify the intended referent; if the meaning was fully ambiguous the response was excluded. Responses were also excluded if they began with mention of both characters. A total of 411 trials were excluded (249 trials began by mentioning both,

typically with “they”; 115 began with something else; 47 were ambiguous). 397 trials were included.

D. Statistical analysis details. Results for all experiments were analyzed together with a mixed effects logistic regression, using SAS proc glimmix with a binomial distribution and logit link, using maximal random effects. The dependent measure was whether the response began with a reference to the subject character (i.e., the first person). Centered predictors included continuation length (1 vs. 3 sentences), tense (present vs. past) and presence of prepositional phrase (yes vs. no). Estimates probed effects for each experiment.

E. **Example continuations.**

Table 1. Example continuations for *Ana is cleaning with Liz.*

One-sentence continuation
The house is an absolute mess.
Liz grabs the broom.
Ana gets the broom and mop.
She just finished cleaning the bathroom.
Three-sentence continuation
Liz is going to vacuum the floors. Ana washes all the laundry and sheets. Together they are determined to get this done.
Ana is cleaning the kitchen. Liz is cleaning the bathrooms. They both tackle the bedrooms and laundry.
They had a party last night that went late into the evening. They are cleaning up the mess that was left. They work well together.
While cleaning, Ana finds a rare coin. She shows Liz, and Liz suggests taking it to a coin dealer. Ana does so, and exchanges the coin for thousands of dollars.

F. Example Survey Instructions for Experiment 1.

A1. General instructions.

> “Welcome! In the study, you will read short stories. The stories are about four different characters: Ana and Liz, who are female, and Will and Matt, who are male. Pay attention to every story. You will be asked some questions about each one. For each story, you will be asked to type in a continuation of the story. This means that you'll have to come up with either one sentence or three sentences that follows from the story. For the first half, you will be asked to type in one sentence; for the second half, you will be asked to type in three sentences. Other questions will be about what happened in each story, or which characters are involved in each story. If you make too many mistakes or don't provide meaningful and appropriate story continuations, you will not be paid. “

A2. Instructions given for each block. In List 1 the one-sentence instructions came first, and in List 2 the three-sentence instructions came first.

Now you will read some stories. Please type in ONE sentence continuing the story.

For example, you may see:
Will is going to the library.
One sentence continuation:
He wants a comic book.

Another example:
Ana is raking the leaves with Will.
One sentence continuation:
She goes to get a rake.

Another example:
Matt is designing a mural with Liz.
One sentence continuation:
Liz draws the outline of a figure.

"Now you will read some stories. Please type in THREE sentences continuing the story.

For example, you may see:
Will is going surfing.
Three sentences continuation:
He needs to get a wetsuit. He is planning to go to the surf shop on the corner. Then his friends will come pick him up.

Another example:
Will is putting together a puzzle with Ana.
Three sentences continuation:
Will is looking for the purple piece. They are making a picture of a waterfall. It's a difficult puzzle.

Another example:
Matt is making dinner with Liz.
Three sentences continuation:
Liz needs the salt. Matt gets the salt shaker from the cabinet and hands it to Liz. They are working well together.

Author Note

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References

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