

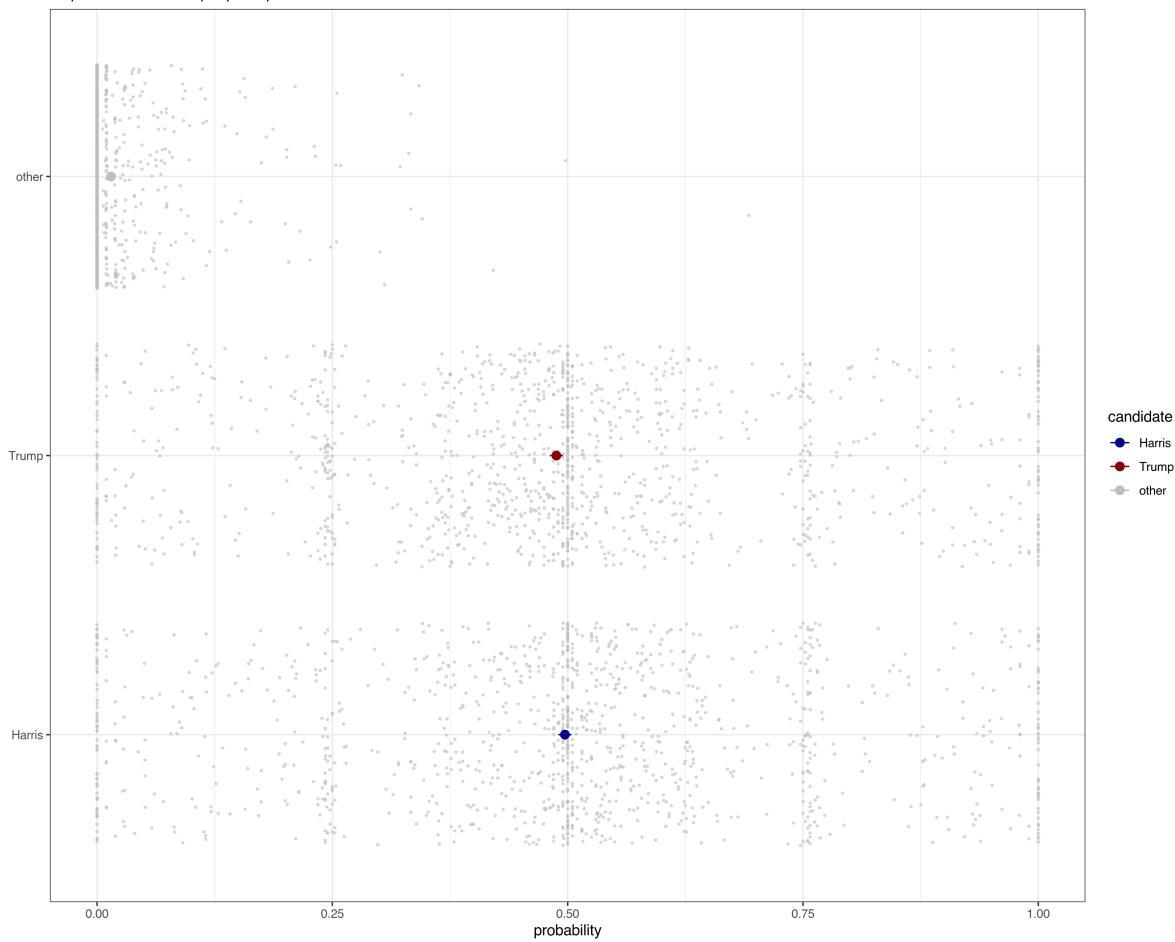
Pre-election data EDA

Exploratory data analysis plotting

Expectations

Check that we got a rough balance in event probability responses for the two candidates (given the uncertainty in polling and prediction markets, we should expect respondents to reflect this).

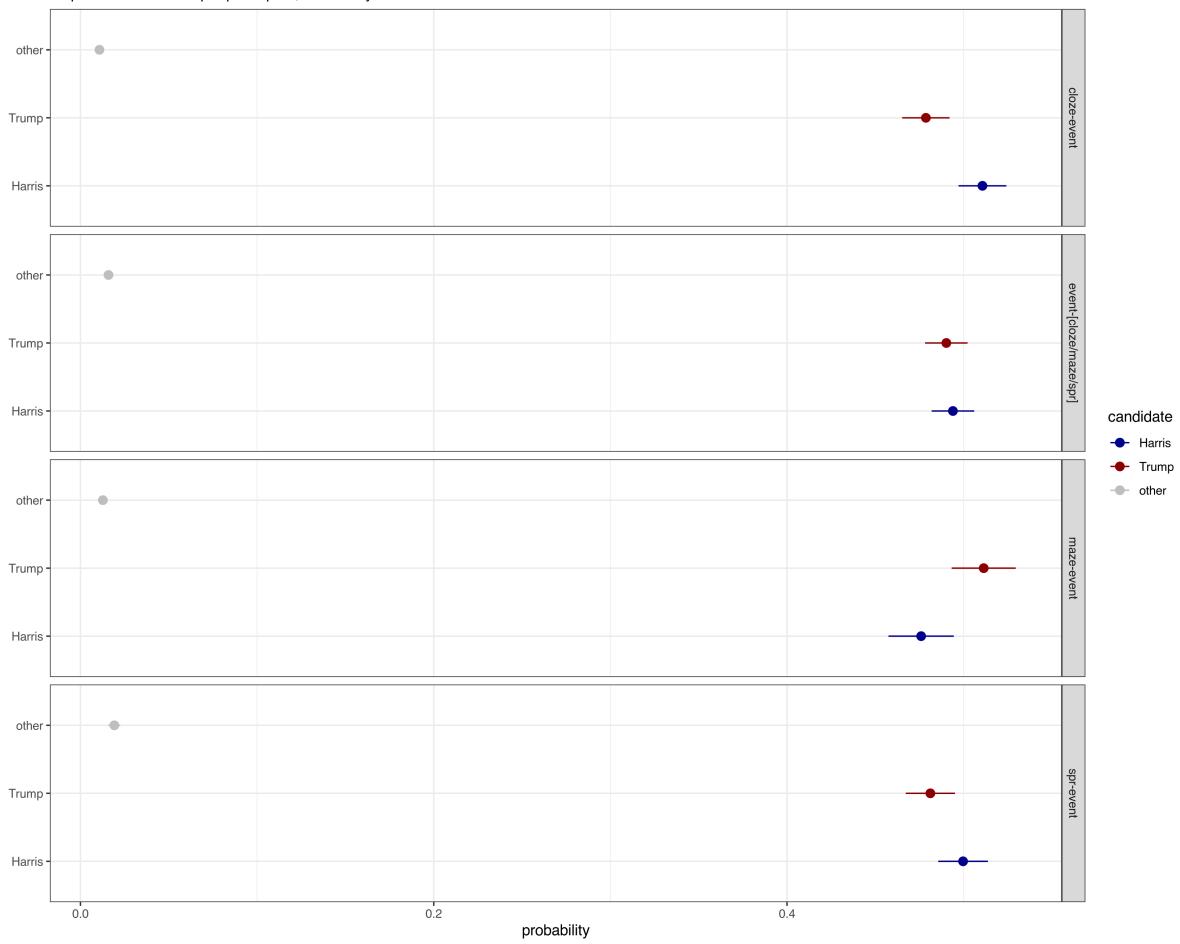
"Who do you think will be the US president in February 2025?"
responses normalized per participant



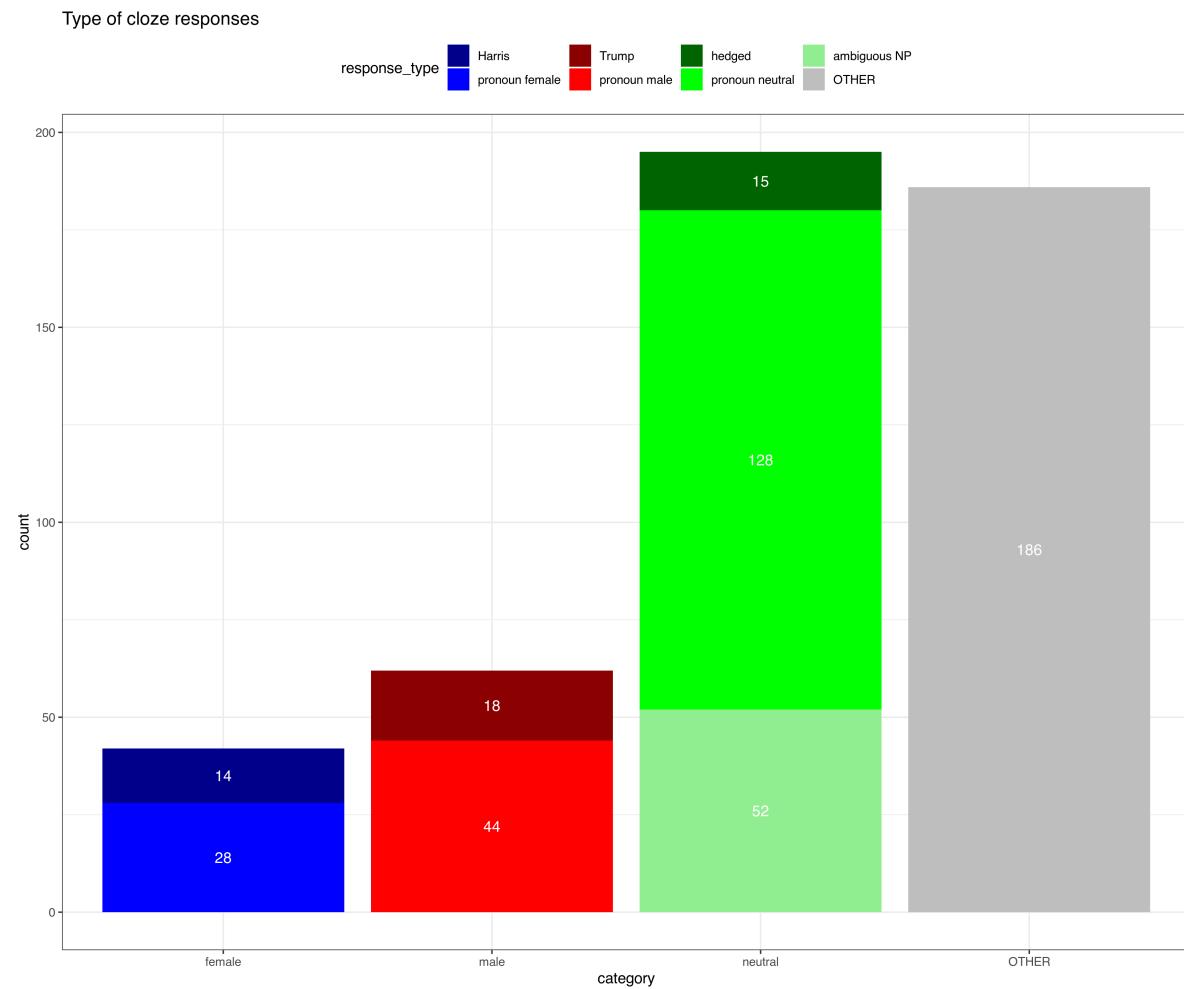
Looking for order effects, (combining all orders that start with “event” to one, for this plot, since all are identical wrt this data)

"Who do you think will be the US president in February 2025?"

responses normalized per participant, faceted by order

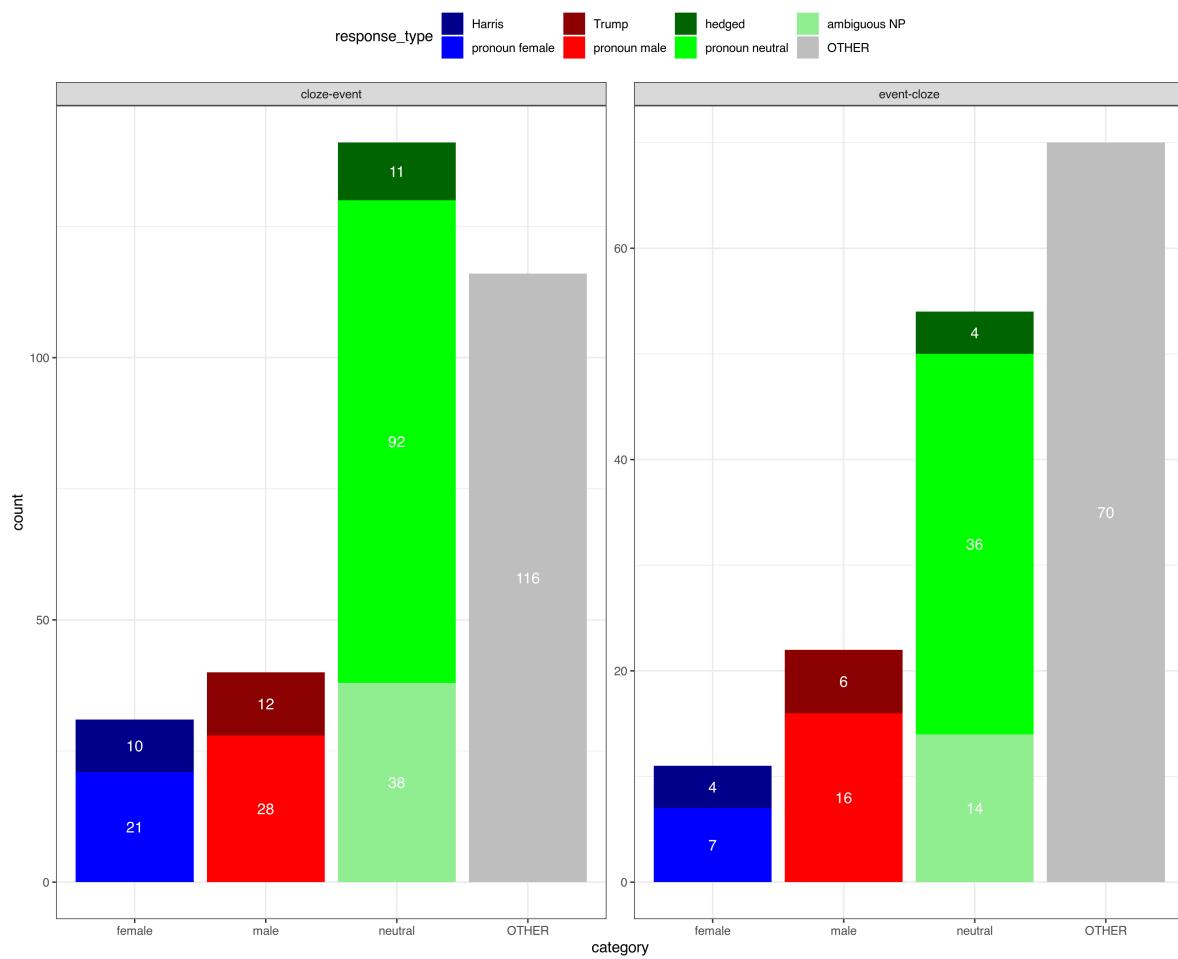


Cloze



Faceting by order:

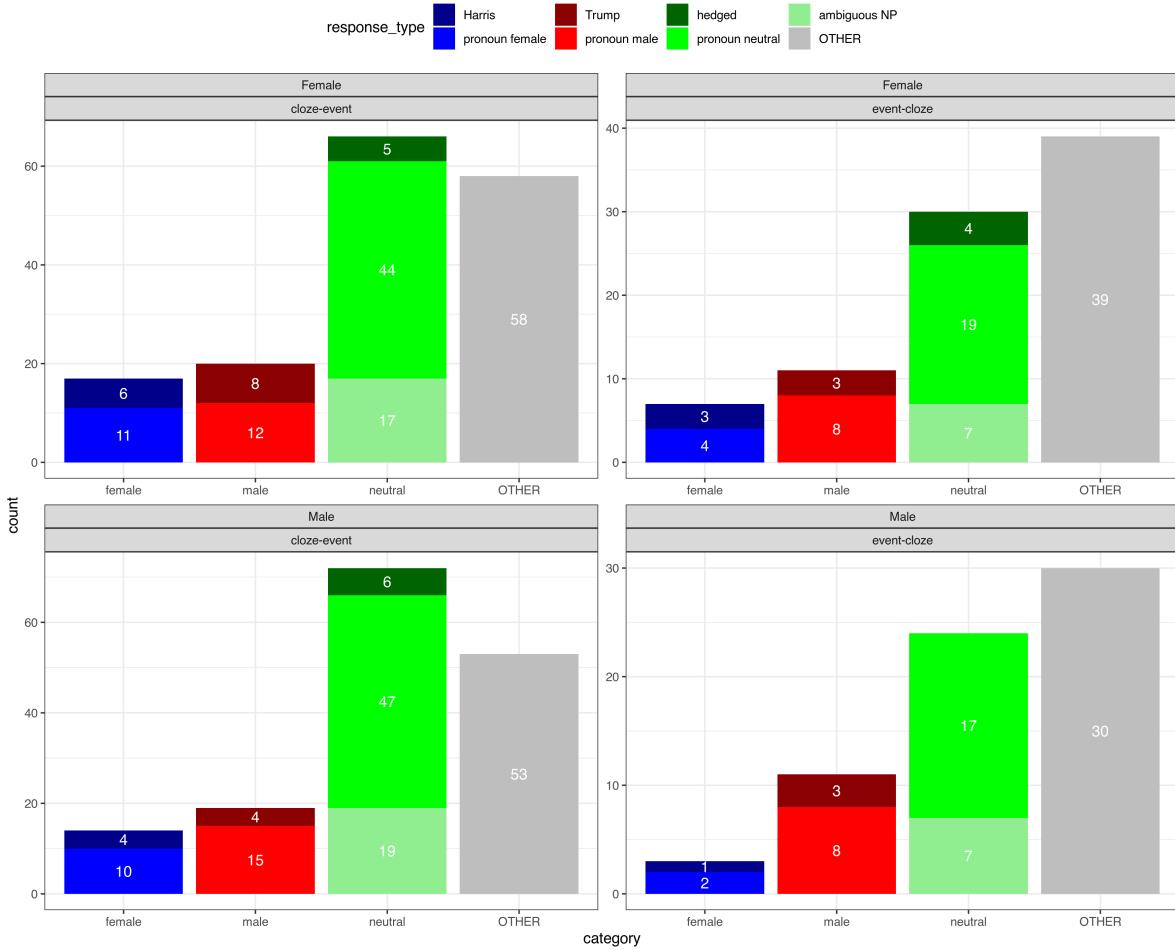
Type of cloze responses, faceted by order



In the event-cloze order there seems to be a somewhat larger bias toward producing male pronouns or male referents/Trump.

Breaking down further by gender:

Type of cloze responses, faceted by order and gender



^ It appears the effect of order on bias may be driven by gender: Male-identifying participants produced more male-referring cloze completions when the cloze completion task followed event-estimation, compared to when cloze completion came first.

For female-identifying participants, there is no such marked difference between the orders.

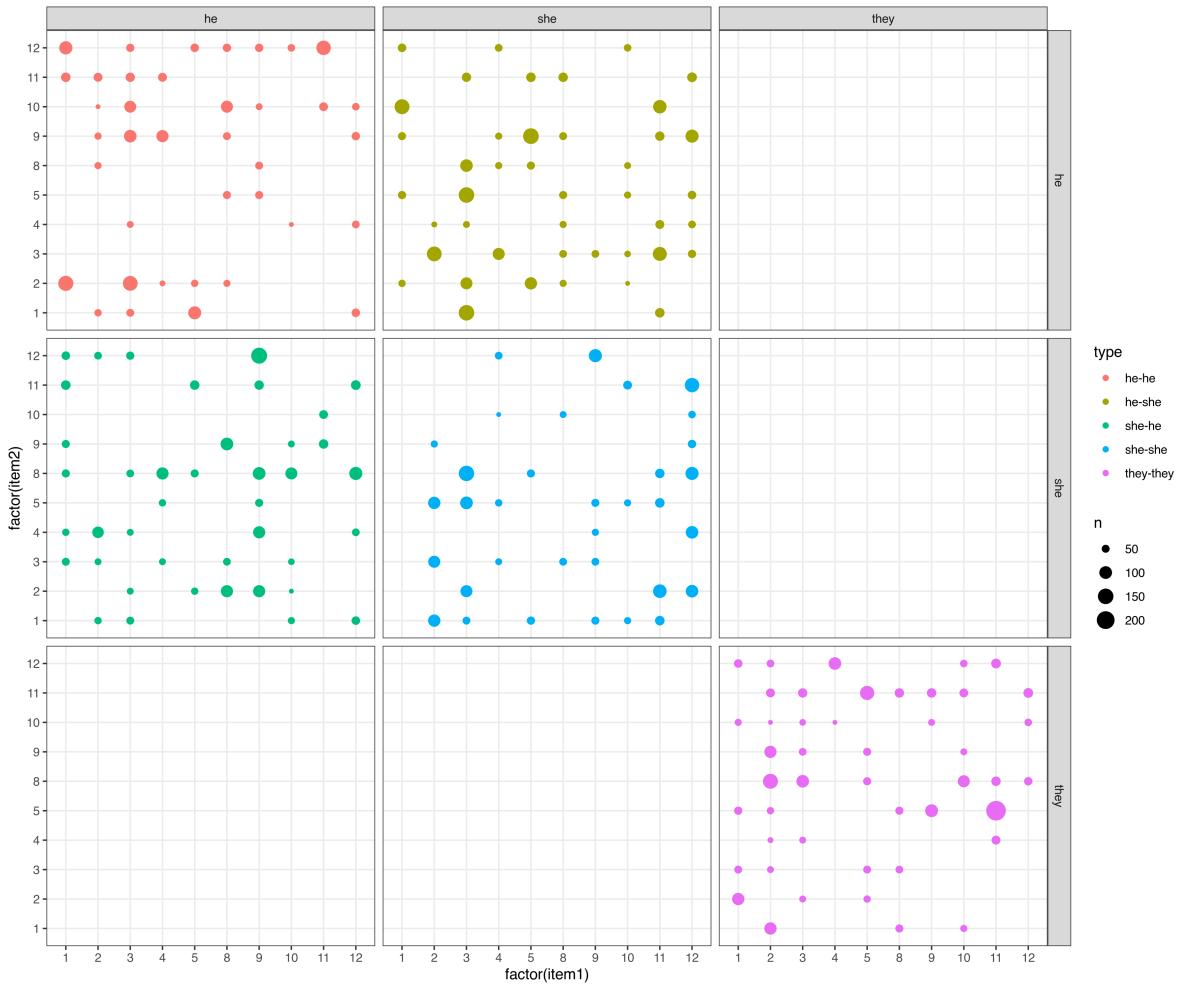
Across participant-genders, there is a smaller proportion of neutral/hedged referents when completing sentences after event estimation, compared to before event-estimation.

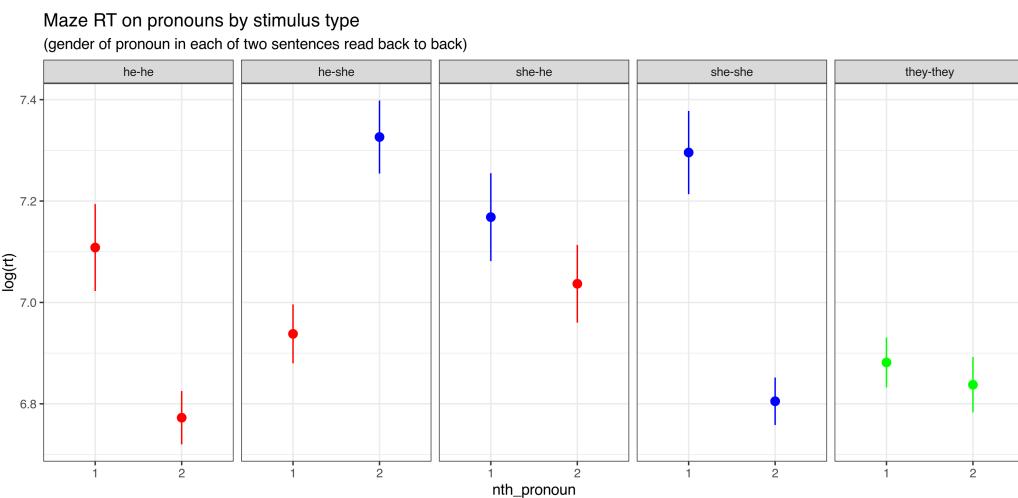
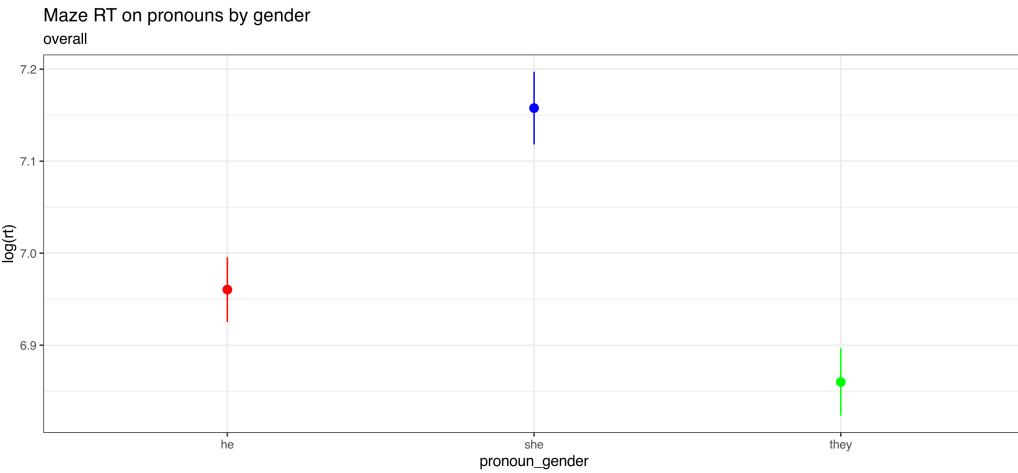
Type of cloze responses, by item



Maze

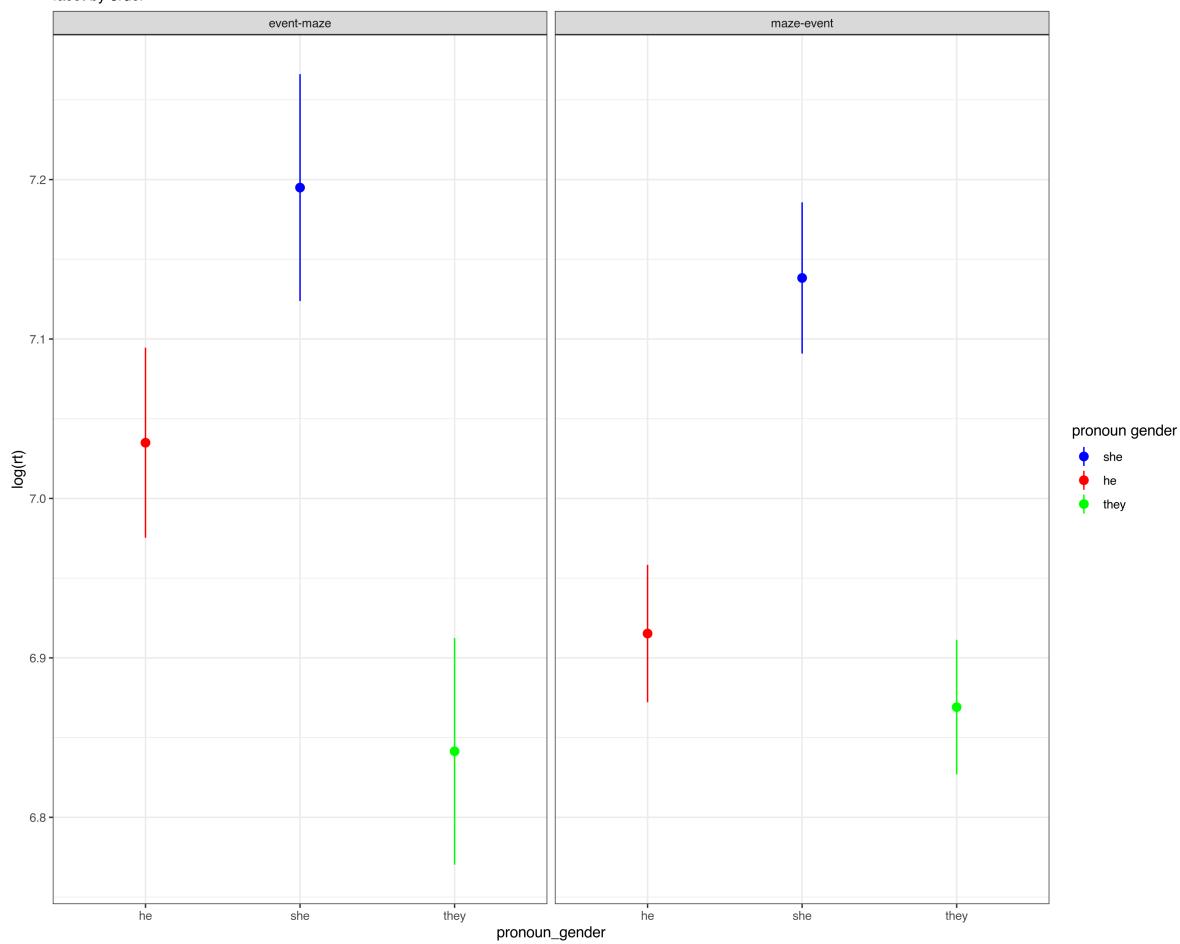
Look at average Maze RT by gender of pronoun, and for each condition of two sentences presented. Shows an effect of gender (male pronoun is read faster than female, neutral is perhaps even faster than male). These Maze RTs are not residualized. But could be for slightly smaller std error probably.





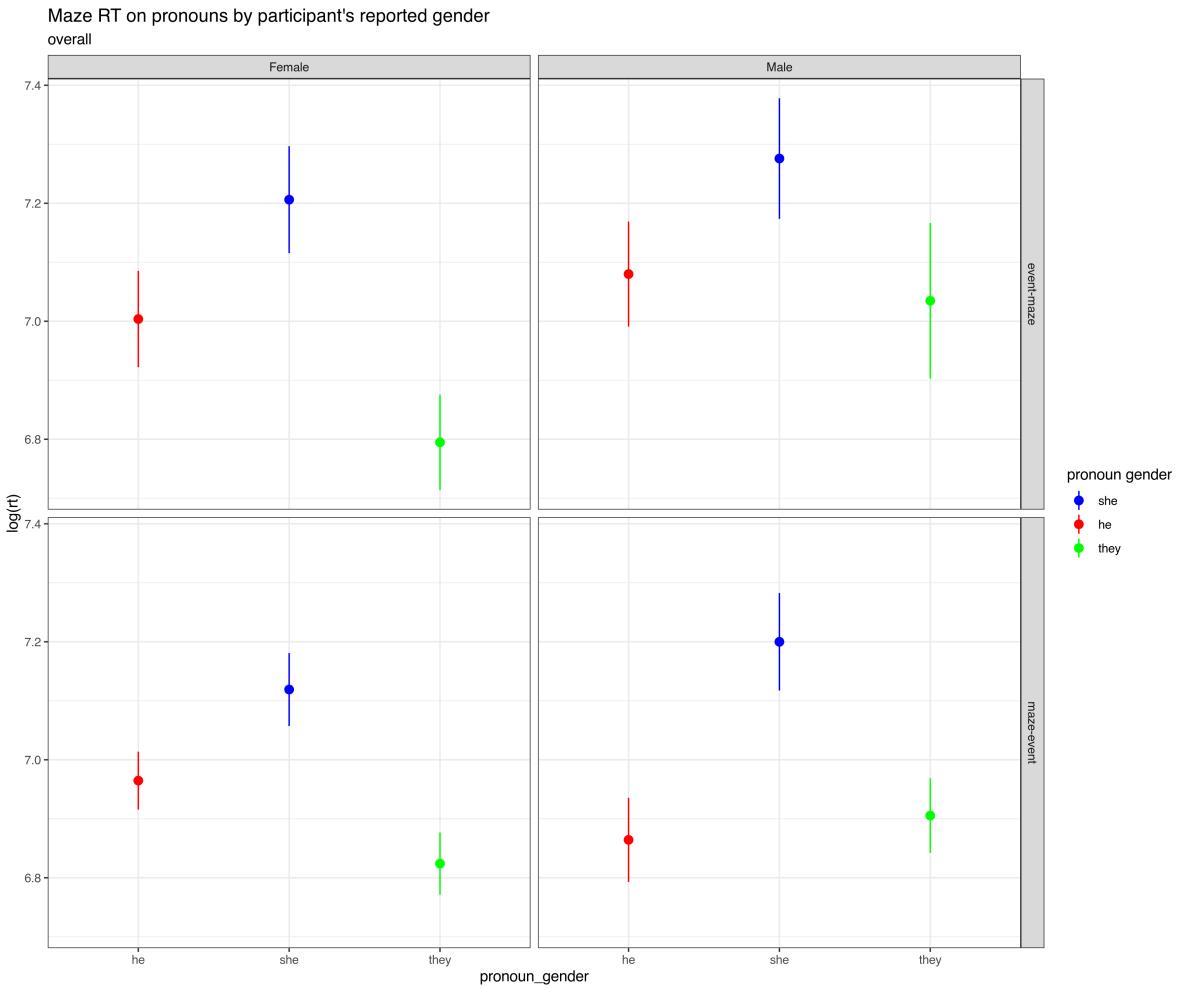
Faceting by order

Maze RT on pronouns by gender
facet by order



There is an overall less pronounced bias for male pronoun for participants who did the maze task following the event estimation (event-maze) versus before (maze-event).

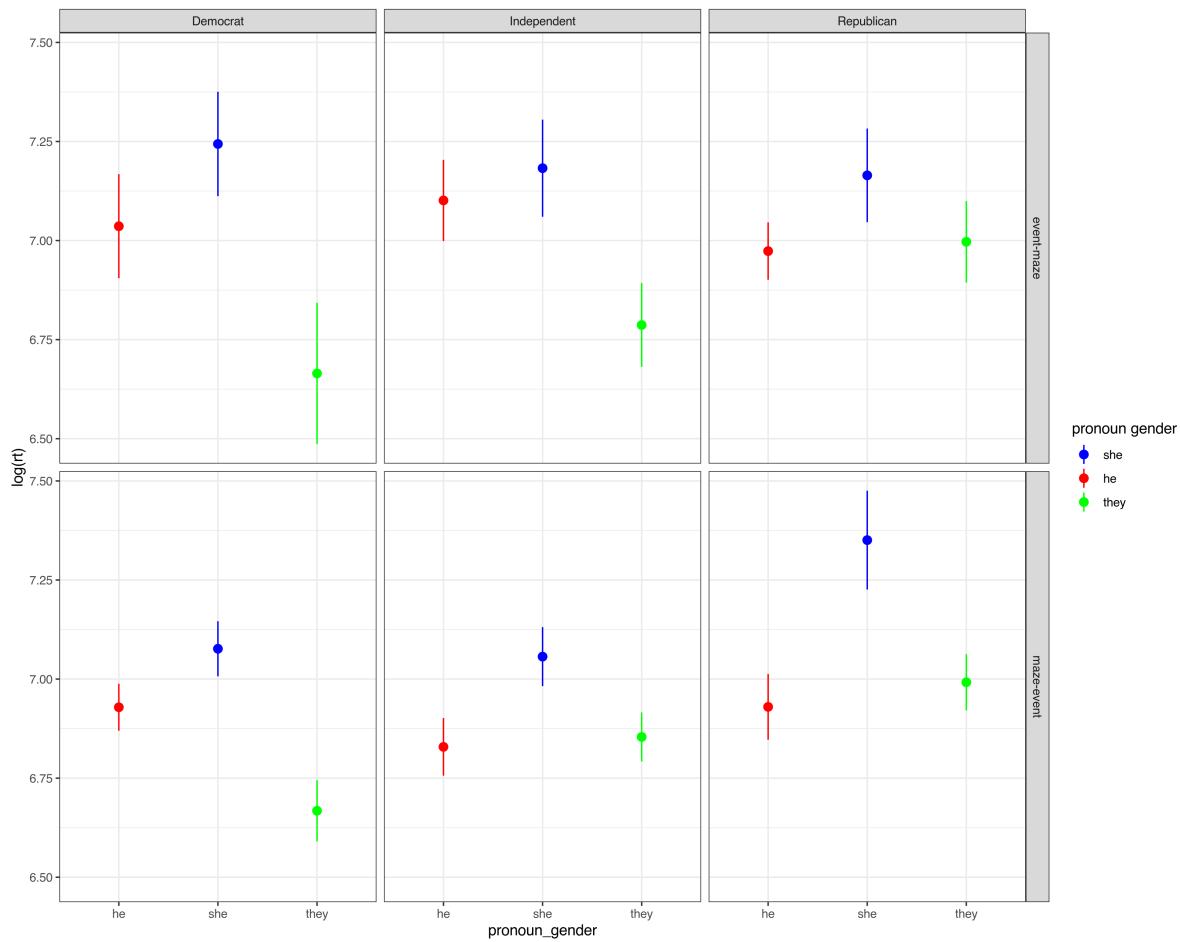
Faceting also by participant gender



^ Breaking down by gender, it seems the order-dependence is mostly driven by males. For females, the processing advantage for male pronoun over female is similar whether event-estimation was done before or after the reading task, whereas for males, the bias is much larger in maze-event versus event-maze.

And broken down by participant reported political affiliation

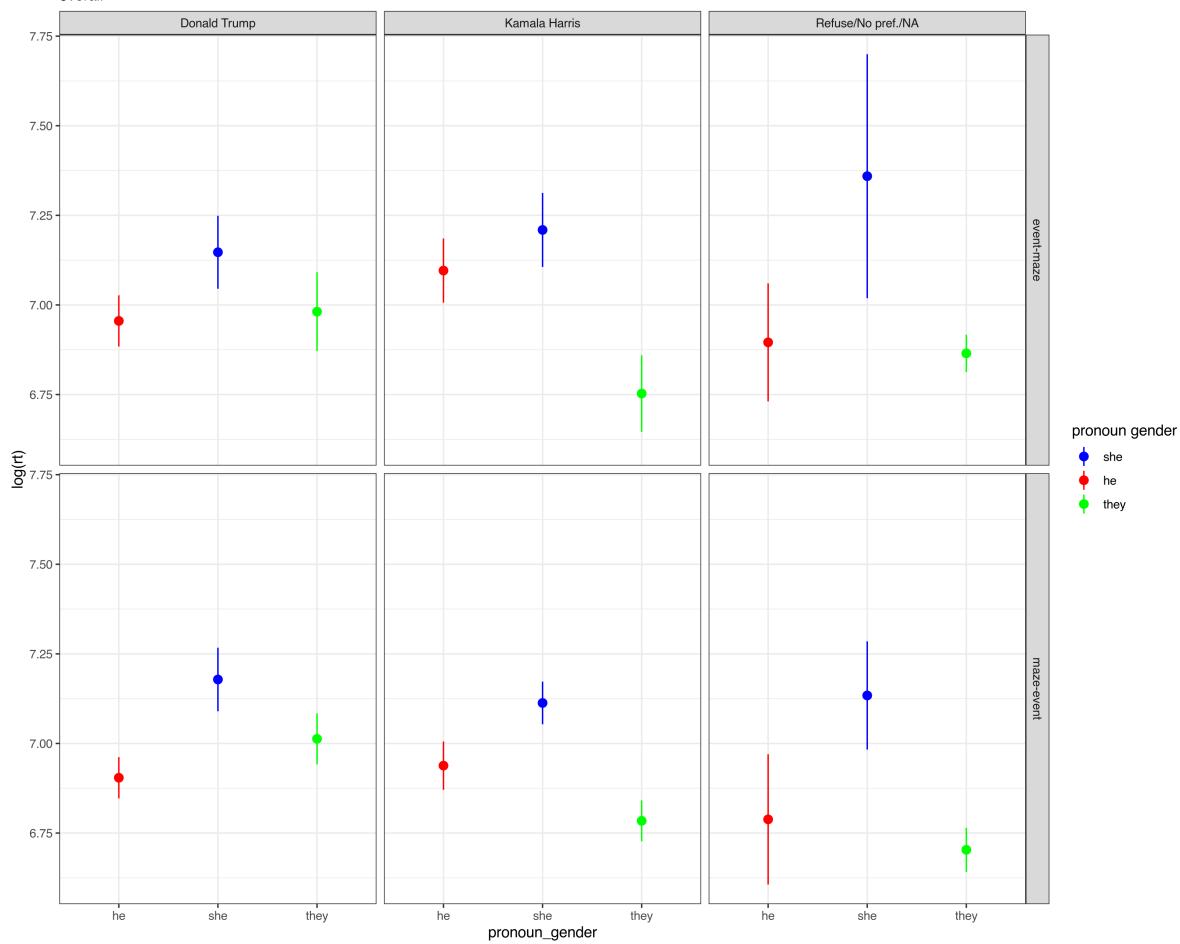
SPR RT on pronouns by participant's reported political affili.
overall



^ Breaking down by political affiliation we see something similar, it seems the order-dependence is mostly non-democrats. For democrats, the processing advantage for male pronoun over female is similar whether event-estimation was done before or after the reading task, whereas for independents and Republicans, the bias is pronounced only when the maze task came before event estimation.

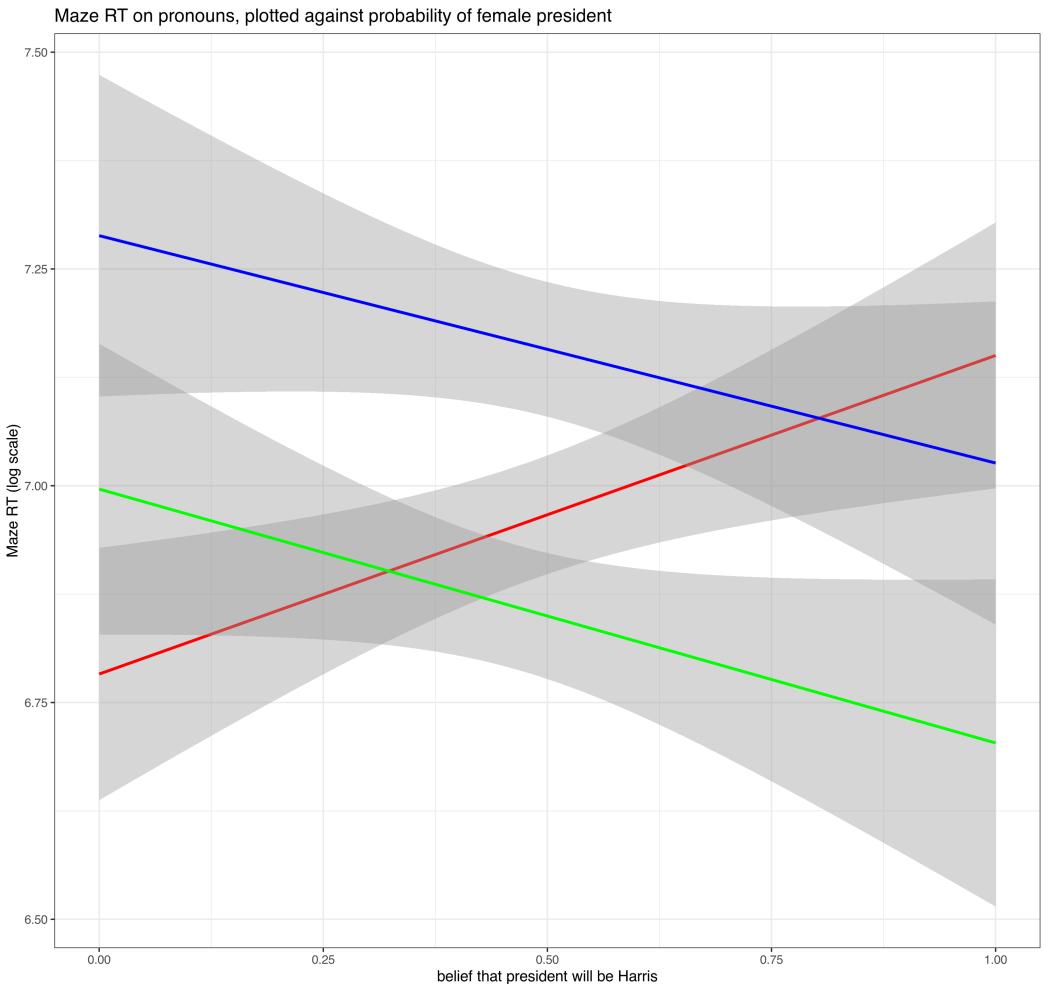
And broken down by participant reported preference

SPR RT on pronouns by participant's reported candidate preference overall



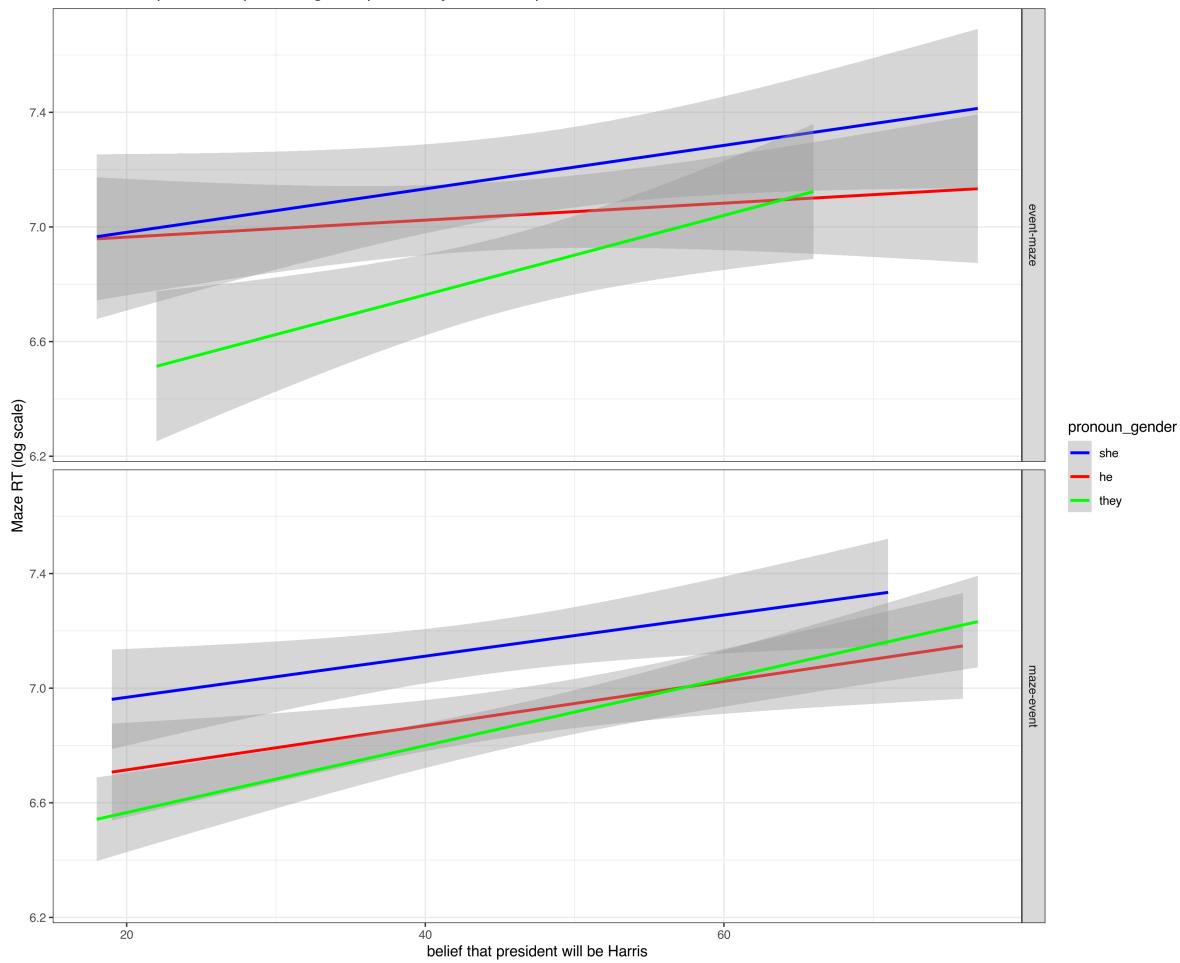
^ Interestingly (?) the order-effect is not as clearly explainable by candidate preference.

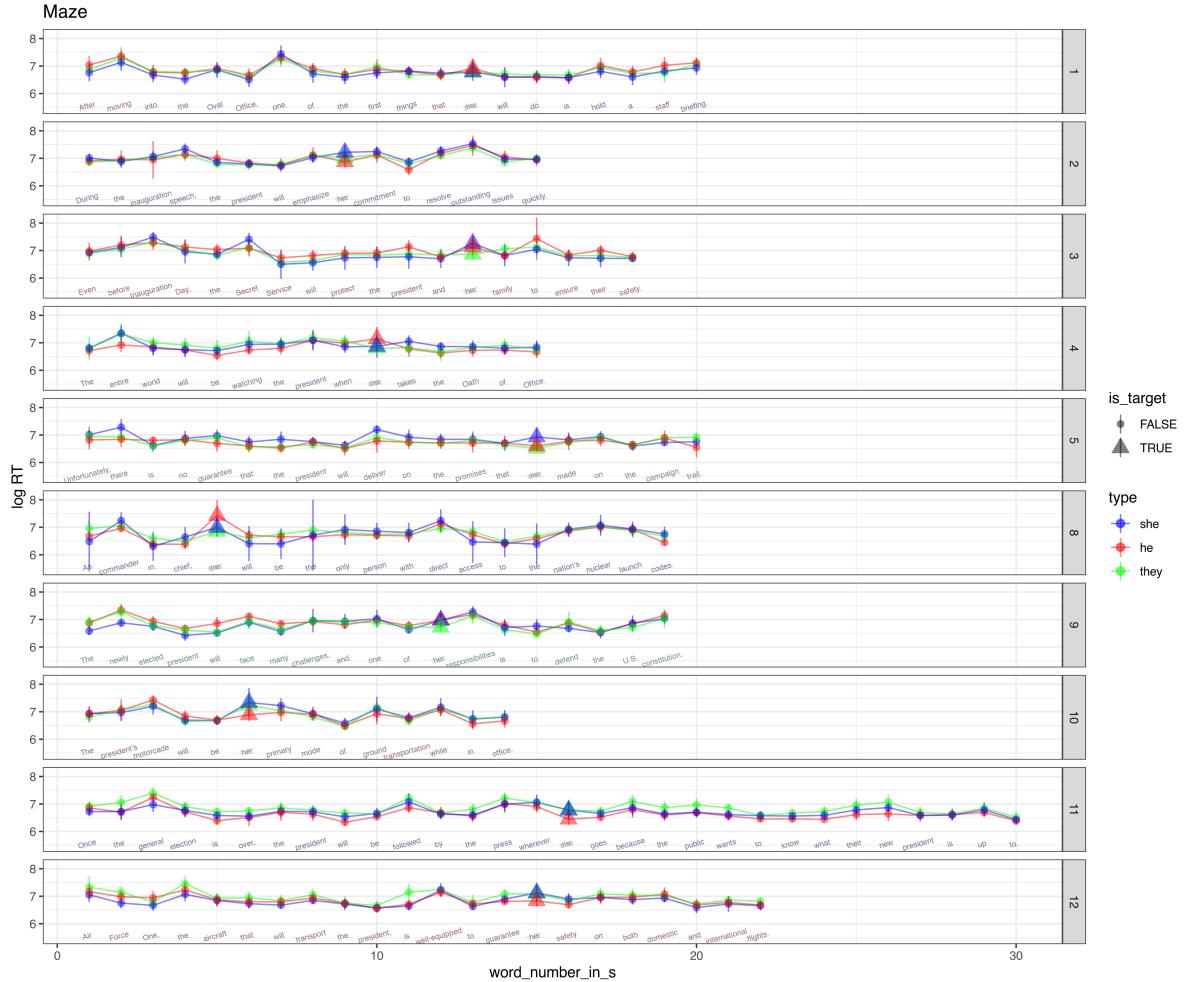
We can also look at the effect of event probability (who the participant thinks will be president) on pronoun RT bias



Or, we could look at participant age

Maze RT on pronouns, plotted against probability of female president

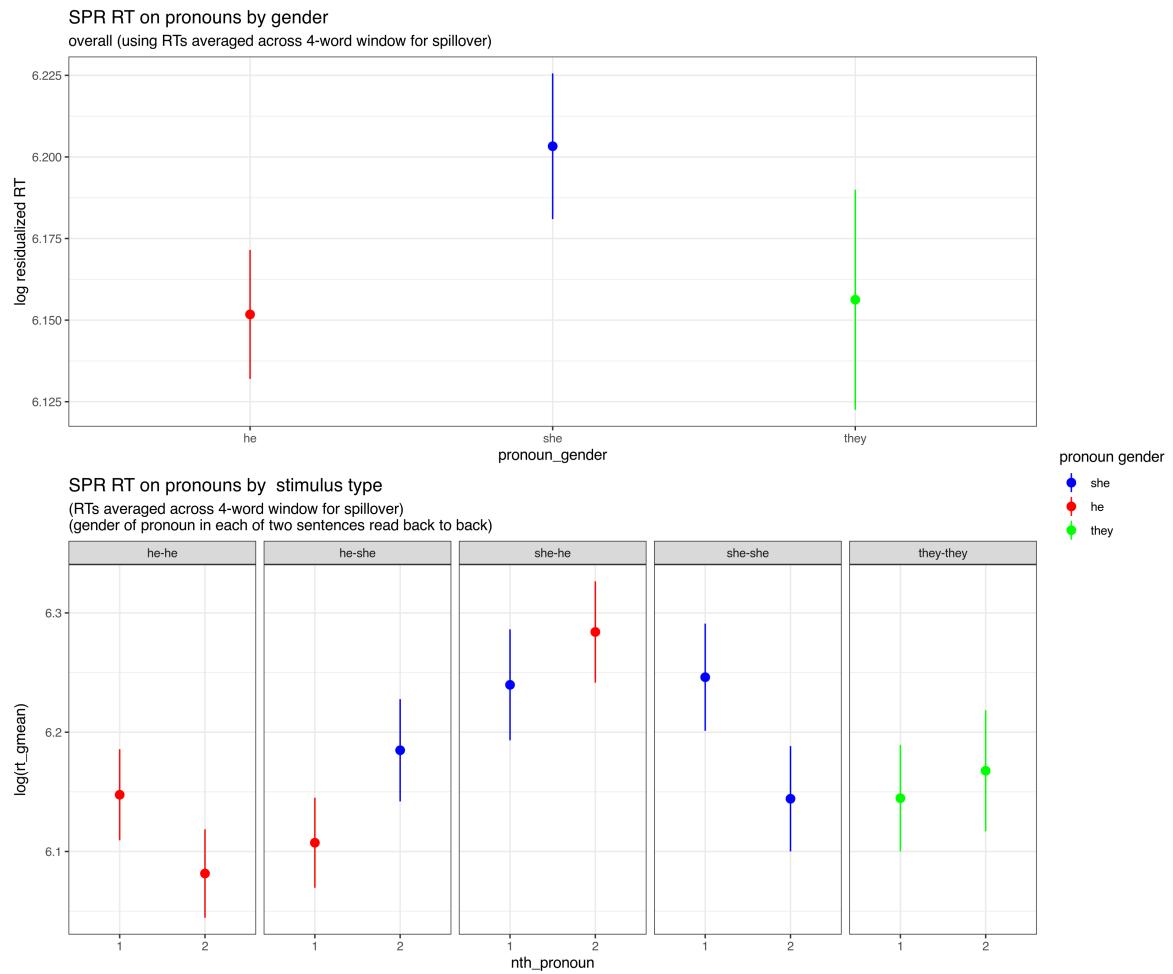




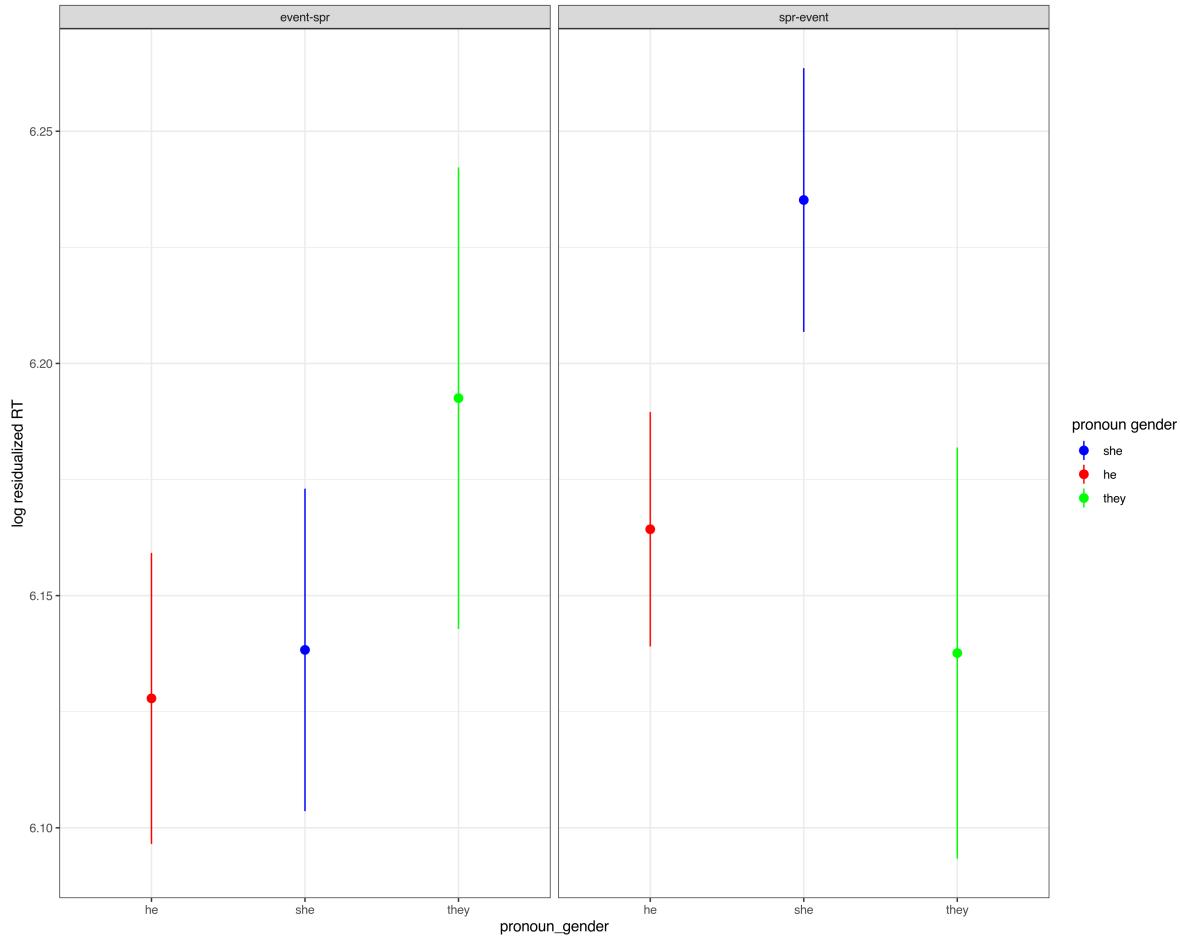
SPR

Likewise look at average SPR RT by gender of pronoun, and for each condition of two sentences presented. These RTs are residualized. Results look similar to Maze RTs, but are less pronounced/lower power.

Still, I think high enough power that we don't need to run further trials.



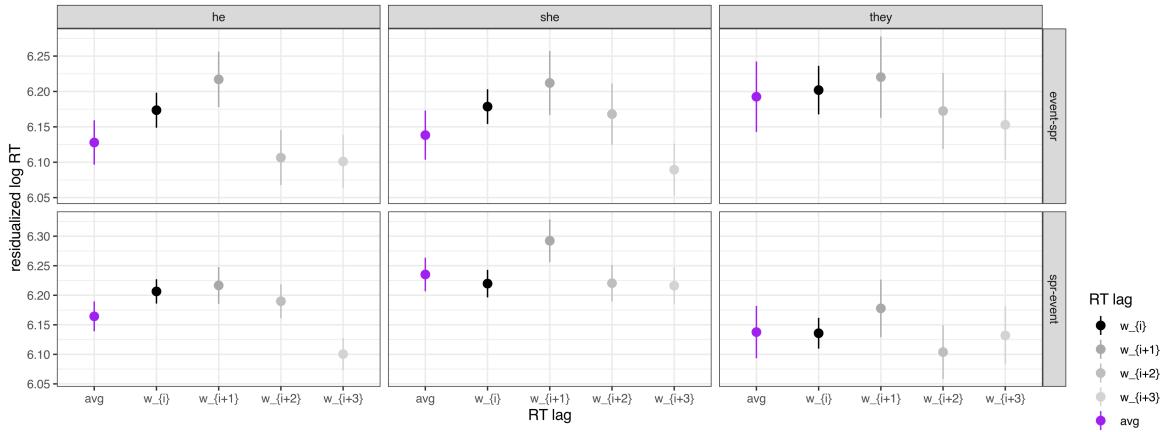
SPR RT on pronouns by gender
overall (using RTs averaged across 4-word window for spillover)



As with the Maze task, the bias toward male pronouns is less when the reading task follows event-probability-estimation (event-spr order) versus when it precedes it (spr-event). In this case, there seems to be no bias at all for male vs female pronoun in the event-spr order.

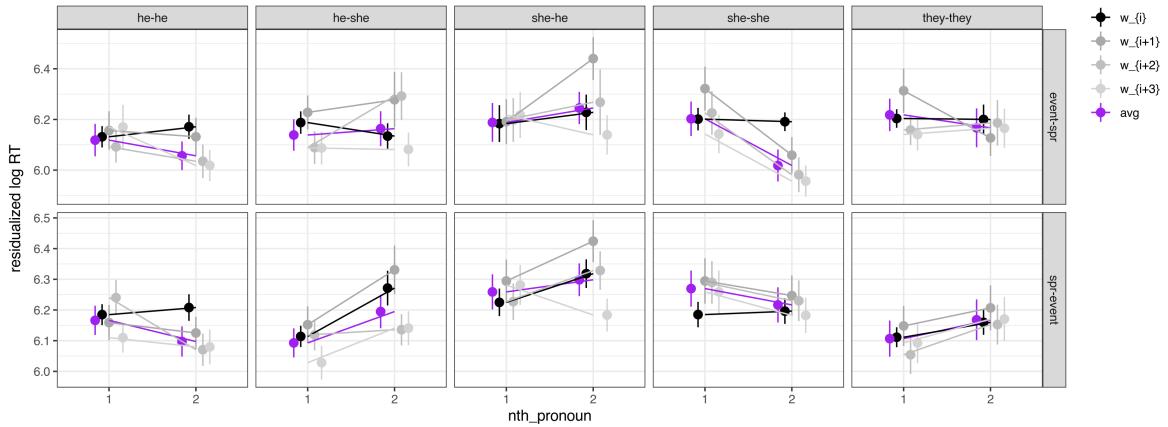
SPR by gender

Looking at RT with different lags w_{-i+n} , where w_{-i} = target pronoun.
Also showing geometric_mean(w_{-i+n}) for $n = \{0, \dots, 3\}$



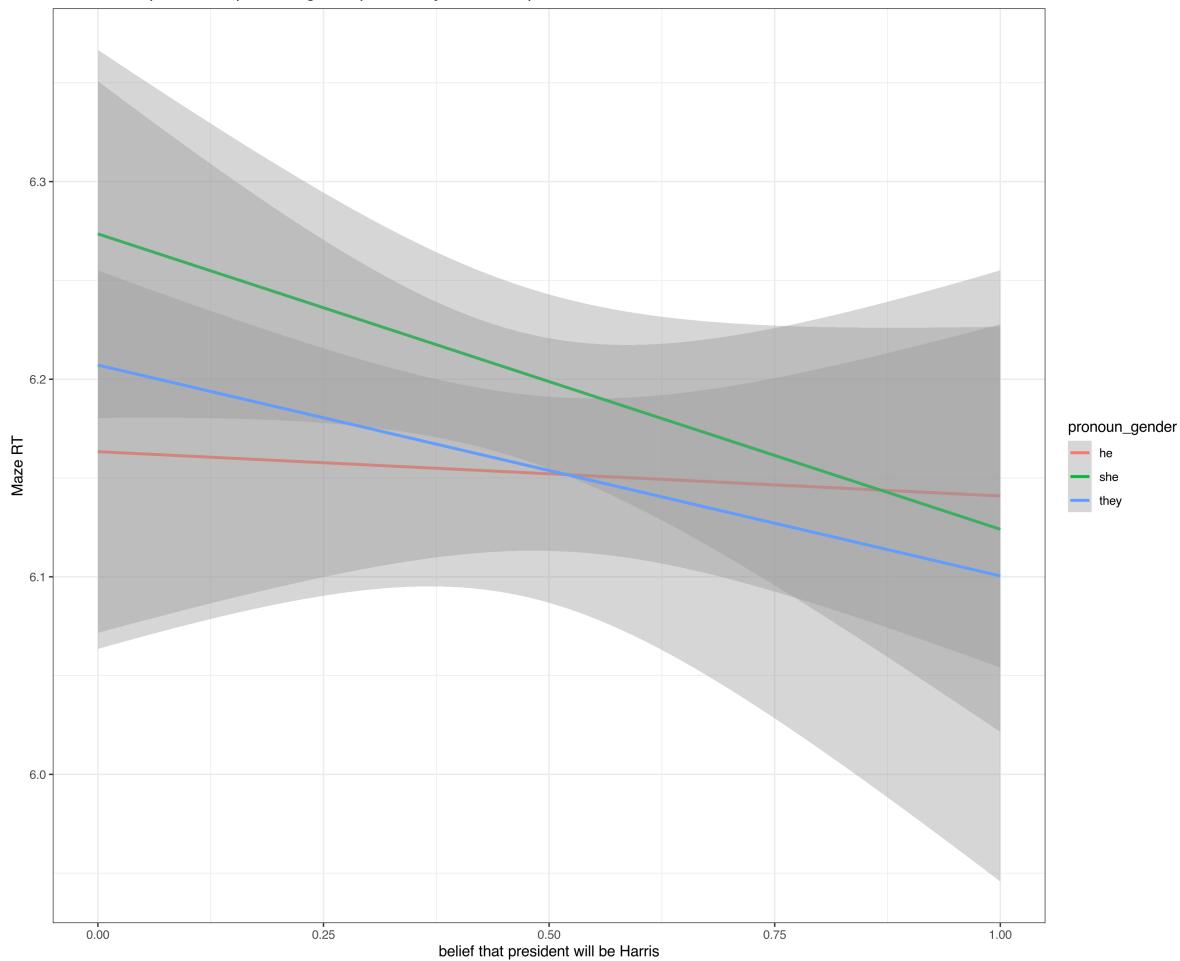
Maze RT on pronouns by stimulus type

(gender of pronoun in each of two sentences read back to back)



We could also try to look at the effect of event belief, but this is too low power with SPR:

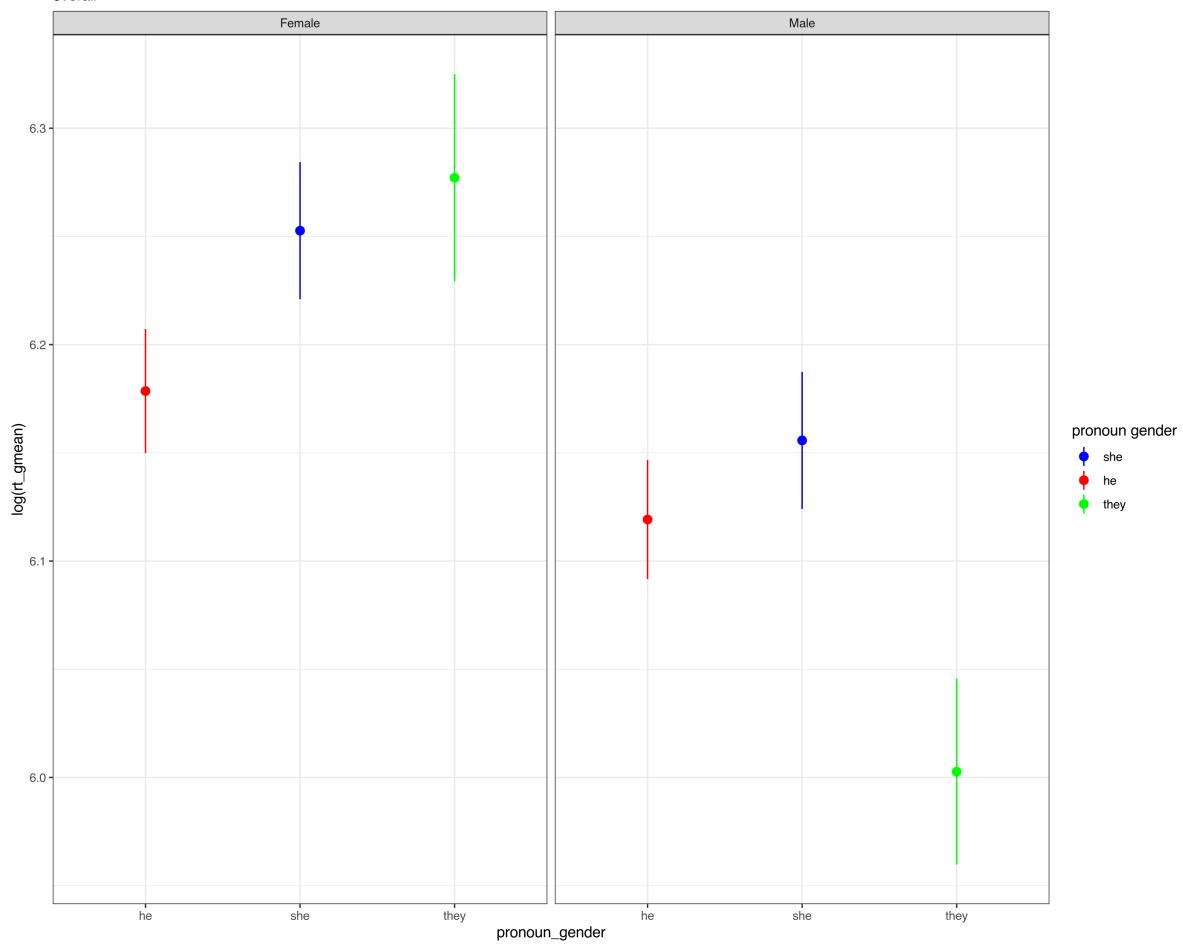
SPR RT on pronouns, plotted against probability of female president



Yet given that we can see it plausibly in the Maze data, we don't necessarily need this.

SPR averages broken down by participant gender

SPR RT on pronouns by participant's reported gender
overall



SPR averages broken down by participant gender

SPR RT on pronouns by participant's reported political affiliations
overall

