The Role of Expectations and Stereotypes in the Production of Gender Marked Expressions in the 2020 French Municipal Elections

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1. Introduction This paper presents an experiment studying the relationship between speaker expectations, gender stereotypes and language use. Inspired by [8]'s experiments linking event expectations to gender-marked pronoun production within the context of the 2016 US and 2017 UK elections, we did an experiment using data from the first round of the 2020 French municipal elections.

2. Hypotheses French is a grammatical gender language, and gender marking on nouns and pronouns referring to humans has a slightly different mapping to social gender than in English (1). Psycholinguistic research on French [1, 7, 6] has shown that masculine grammatical gender in French maps to social gender in a probabilistic way, highly favouring male. Feminine grammatical gender, on the other hand, maps more consistently to female. Written French also has a wide variety of inclusive forms (*le/la maire*, *il ou elle*, *il/elle* etc.), mapping to both male and female.

Given (1), if speaker expectations exclusively drive pronoun use, we predict that masculine grammatical gender should be used when participants think that the next mayor will be male, and feminine should be favoured when participants are (almost) certain that the mayor will be female. Since, unlike English, the association between masculine grammatical gender and male social gender is not categorical, we expect to find some masculine even when expectation of a female mayor is high. Furthermore, Marseille and Paris are parallel to the US and the UK in terms of their electoral history: although a female candidate is favoured in 2020, Marseille has never had a female mayor. In contrast, the Parisian incumbent, who is also the front runner, is female. Thus, if stereotypes play a role in addition to expectations, we predict that production of masculines should exceed participant expectations to a higher degree in Marseille than in Paris.

3. Design, materials & procedure Inspired by [8], our experiment consisted of 2 parts: a completion task (context sentence (2), sentence to complete (3)) and an estimation of the probability of winning the elections for the five most popular candidates (11-point level slider). 122 participants from the region of Paris and 68 participants from the region of Marseille were recruited via the Crowdpanel platform and did the experiment on Ibexfarm [5]. Participants read a sentence and completed another as they wished. Then, they estimated the probability of winning the election for five candidates in Paris (3 women, 2 men)/Marseille (2 women, 3 men).

4. Results We took into account completions about the mayor in the three possible grammatical gender forms (1). This led us to 48 tokens for Marseille and 68 tokens for Paris. Figure 1 shows the proportion of the grammatical forms depending on the probability that the mayor will be a woman (by taking the median). Besides the dominance of the masculine form, Bayesian binomial regression models[1] [4, 2, 3] showed an effect of speaker expectations ($\hat{\beta}$ =15.6, 95% CrI=[5.94, 28.41], P(β)>0=1, Figure 2): the more participants think that the mayor will be a woman the more they will use the feminine form. Furthermore, there was a correlation between city and speaker expectations: participants think a woman is more likely to win in Paris, so they use more feminine forms. The appearance of inclusive forms in the Parisian data could be due to *maire* being associated with a less strongly male stereotype in this location.

5. Conclusion While some of the generalizations found by [8] also characterize our French results, our cross-linguistic comparison highlights how the linguistic particularities of the English and French gender marking systems interact with speaker expectations and stereotype mental representations to create different patterns of pronoun production.

[1] Because of the very small number of Inclusive forms (N=4), we excluded them in the analysis.

Figure 1: Production depending on grammatical gender for Paris (left) and Marseille (right)

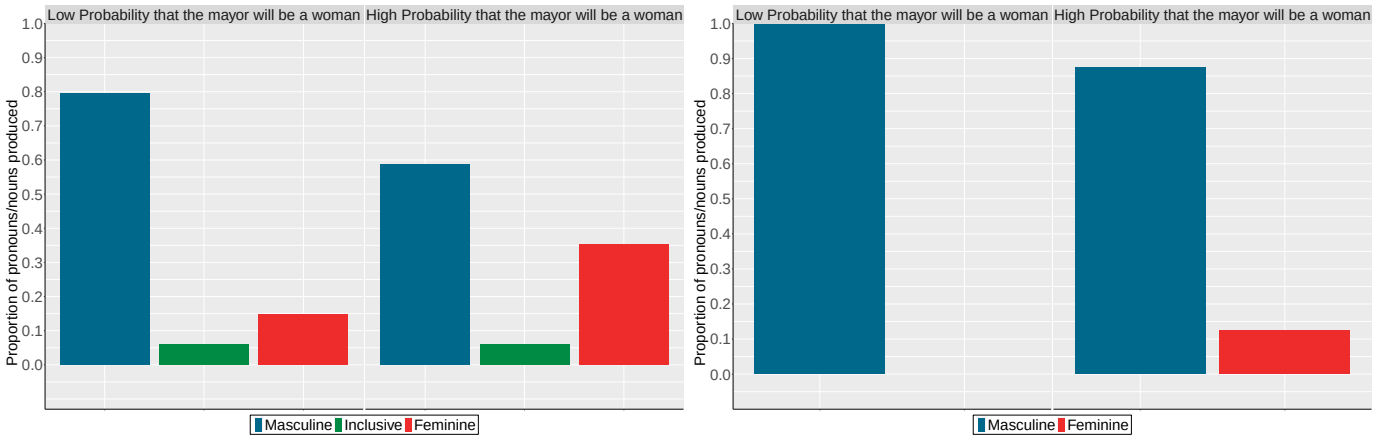
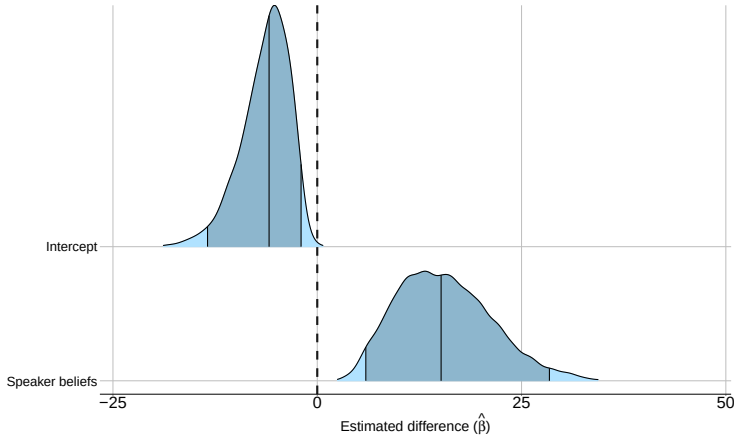


Figure 2: Posterior distributions for the grammatical gender condition (95 % CrI)

Grammatical gender dependent variable coded as 1 for feminine and 0 for masculine. Since city speaker beliefs variables are highly correlated (cor=.73), we kept the speaker beliefs continuous variable in the model only. Mean centered coding applied. Random variables: Participants and Items. The model was run with 4 chains with 3000 iterations by chain. Weakly informative priors (normal(0,10)).



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(1) *Masculine* $\mapsto$ probably male (but maybe female)
Feminine $\mapsto$ female *Inclusive forms* $\mapsto$ male or female

(2) Les élections municipales de mars 2020 vont déterminer qui/la personne qui dirigera la ville de Paris/Marseille.
'The municipal elections of March 2020 will decide who/the person who will govern the city of Paris/marseille.'

(3) Même si son pouvoir n'est pas absolu/Une fois au poste/Pendant sa première année/Le lendemain de son élection/Pour remercier son équipe politique,...
'Even if his/her power is not absolute/Once in office/During his.her first year/The following day of his.her election/To thank his.her political team,...'