

Does gender-fair language induce accurate representations of gender ratios?

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French, like various other languages, has a sex-based grammatical gender. The masculine plural gender is often used to refer to mixed-sex groups. This generic use of the masculine gender may disfavor the presence of women in mental representations (e.g. Brauer & Landry, 2008; Gygax et al., 2008, 2012; Irmen, 2007). Gender-fair language alternatives, such as a double-gender forms (e.g. *les caissiers et caissières* 'the cashiers_{masc} and cashiers_{fem}'), yield a stronger representation of women (e.g. Braun et al., 1998; Gygax & Gabriel, 2008). So far, the recent French innovative form called *écriture inclusive* (e.g. *les caissier-ère-s* 'the cashiers_{masc.fem}') has not been empirically investigated. Moreover, little is known as to whether gender-fair language can induce accurate representations of women.

In two preregistered online experiments, we investigated the influence of linguistic form on the mental representation of gender in text-based inferences in French, across different stereotypes. Participants read a short text on a professional gathering (shown on next page) and estimated the percentage of women present at the gathering on a response slider. The data were analyzed in mixed-effects models. Crucially, we compared the estimates with norming data from Misersky et al. (2013), in which native speakers of French estimated the proportions of men and women in a great many professions.

In Experiment 1 (N = 153), we compared the masculine plural to double-gender and *écriture inclusive* across professions without gender stereotype, e.g. musician. Relative to the masculine plural form, higher estimates of %-women were obtained for the double-gender form ($\beta = 9.92$, SE = 2.64, $t(146) = 3.76$, $p < .001$) and the *écriture inclusive* ($\beta = 9.63$, SE = 2.63, $t(146) = 3.67$, $p < .001$), with no difference among the latter two ($t < 1$) (Fig. 1a). Furthermore, compared to the norming data, the masculine form yielded an underrepresentation of women ($\beta = -10.66$, SE = 2.73, $t = -3.91$, $p < .02$; note that β indicates the difference between the norm and the estimate, measured in percent points); as the estimates for double-gender and inclusive forms did not differ from the norming data (double: $\beta = -0.80$, $|t| < 1$; inclusive: $\beta = -1.01$, $|t| < 1$), these forms yielded accurate representations.

In Experiment 2 (N = 305), we used male- and female-stereotyped professions, e.g. electrician and beautician. Again higher estimates of %-women were obtained for the double-gender form ($\beta = 7.16$, SE = 2.55, $t(290) = 2.81$, $p < .02$) and the *écriture inclusive* ($\beta = 9.44$, SE = 2.57, $t(290) = 3.67$, $p < .001$), with no difference between the latter two ($t < 1$); the interaction between linguistic form and stereotype was not significant either ($p = 0.15$) (Fig. 1b). The comparison to the norming data showed different results from those in Experiment 1: For the male-stereotyped professions, the double-gender and inclusive forms yielded an overrepresentation of women (double-gender: $\beta = 19.26$, SE = 2.02, $t = 9.52$, $p < .0001$; inclusive: $\beta = 19.18$, SE = 3.00, $t = 6.40$, $p < .003$), with the masculine form trending in the same direction ($\beta = 7.47$, SE = 3.19, $t = 2.34$, $p < .07$). For the female-stereotyped professions, conversely, all three forms yielded an underrepresentation of women, which is numerically largest for the masculine form (masculine: $\beta = -20.24$, SE = 3.63, $t = -5.57$, $p < .003$; double-gender: $\beta = -17.89$, SE = 2.97, $t = -6.02$, $p < .002$; inclusive: $\beta = -12.39$, SE = 2.83, $t = -4.37$, $p < .0001$).

To conclude, we showed that two very different gender-fair language forms induce similar mental representations of the presence of women in professional groups. For neutral professions, the masculine generic yields a male bias while the gender-fair language forms yield accurate representations. For stereotyped professions, the comparison to the norming data showed a more intricate pattern of results, suggesting that none of the linguistic forms

yields an adequate representation. We will discuss our results in light of the tradeoffs between accuracy and gender-fairness in people's representations of women and men.

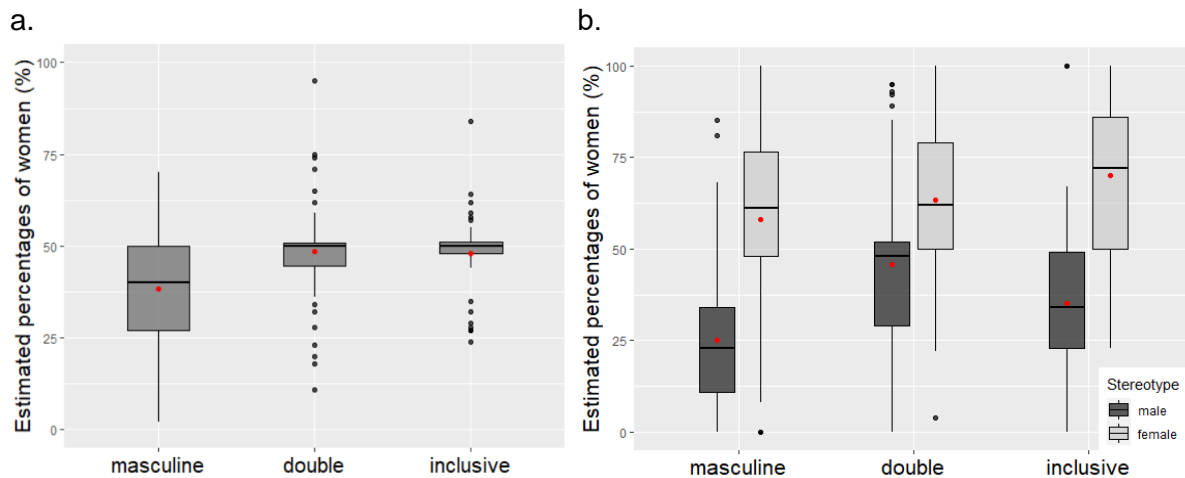


Figure 1. Estimated percentages of women as a function of linguistic form. a. Neutral professions; b. Male- and female-stereotyped professions. Medians are indicated by black lines, means by red dots.

Text presented in experiments :

Le rassemblement régional des PROFESSION NAME a eu lieu cette semaine à Amiens. La localisation centrale de cette ville a été particulièrement appréciée. Les PROFESSION NAME ont aussi adoré l'apéro offert à l'hôtel de ville le premier jour.

'The regional gathering of PROFESSION NAME took place this week in Amiens. The central location of this city was particularly appreciated. The PROFESSION NAME also loved the aperitif offered at City Hall on the first day.'

References:

- Brauer, M., & Landry, M. (2008). Un ministre peut-il tomber enceinte? L'impact du générique masculin sur les représentations mentales. *L'Année psychologique*, 108, 243–272.
- Braun et al. (1998). Können Geophysiker Frauen sein? Generische Personenbezeichnungen im Deutschen. *Zeitschrift Für Germanistische Linguistik*, 26, 177–195.
- Gygax, P., & Gabriel, U. (2008). Can a Group of Musicians be Composed of Women? Generic Interpretation of French Masculine Role Names in the Absence and Presence of Feminine Forms. *Swiss Journal of Psychology*, 67, 143–151.
- Gygax, P., Gabriel, U., Lévy, A., Pool, E., Grivel, M., & Pedrazzini, E. (2012). The masculine form and its competing interpretations in French: When linking grammatically masculine role names to female referents is difficult. *Journal of Cognitive Psychology*, 24, 395–408.
- Gygax, P., Gabriel, U., Sarrasin, O., Oakhill, J., & Garnham, A. (2008). Generically intended, but specifically interpreted: When beauticians, musicians, and mechanics are all men. *Language and Cognitive Processes*, 23, 464–485.
- Irmen, L. (2007). What's in a (role) name? Formal and conceptual aspects of comprehending personal nouns. *Journal of Psycholinguistic Research*, 36, 431–456.
- Misersky, J., Gygax, P. M., Canal, P., Gabriel, U., Garnham, A., Braun, F., Chiarini, T., Englund, K., Hanulíková, A., & Oetl, A. (2013). Norms on the gender perception of role nouns in Czech, English, French, German, Italian, Norwegian, and Slovak. *Behavior Research Methods*, 46, 841–871.