

## The syntax and prosody associated with German gender gaps

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The interpretation of referring expressions (e.g. ‘doctors’) often show gender bias. Languages with grammatical gender afford strategies to explicitly counter such biases. Some have argued that using generic masculine forms in such languages can in fact increase bias, further motivating gender-inclusive strategies. Objections against such strategies are often based on (I) doubts such strategies are able to achieve their societal goals, or objections to, or at least uncertainty about, ideological implications; (II) worries about whether they make reading/understanding harder; (III) worries about whether they violate basic principles of grammar.

Eisenberg (2021, FAZ) raises concerns about gender-inclusive strategies in German that span (I–III). Here, we specifically address claims pertaining to (III), with respect to the use of the orthographic ‘gender gap’ (1). Eisenberg claims (i) that forms encoded with the gender gap are unambiguously feminine, and hence not in fact inclusive; (ii) realizing the gap before ‘-in’ with a glottal stop, as is sometimes reported or even recommended, causes stress to shift to the suffix, but neither stress nor glottal stop on a suffix are compatible with German morphophonology.

We report on two preregistered production experiments that compare Eisenberg’s analysis with an alternative, according to which gender gaps are shorthands for larger coordinate structures (e.g., Stefanowitsch 2018, Blogpost). More specifically, we propose that gender gaps involve ellipsis and (asyndetic) coordination. Forms like ‘Leser\*in’ are understood to stand in for ‘Leser/Leserin’, which in turn are interpreted as coordinations (either existentially as ‘or’ or universally as ‘and’). The stress and the glottal stop on the suffix are due to a general phonological constraint on conjuncts, which must be at least prosodic-word-sized (Booij 1985). This predicts determiner-matching effects parallel to syndetic coordinations (2), (3).

In Experiment 1, participants produced sentences with either the gender asterisk or unreduced forms separated by a slash, and then rated them ((4) & (5) illustrate one of the 16 item sets). Determiner mismatch effects were expected in the sg but not in the plural. Fig. 1 shows that there are indeed determiner matching effects in both unreduced and gender gap forms. The size of the mismatch effect was modulated by attitude toward gendering. Speakers realized gender gap forms with a separate prosody for the suffix only about 2/3 of the time, and mismatch effects were not observed in the other cases, suggesting they were not parsed as coordinates, explaining the smaller mismatch effect for asterisk forms. Suffixes with a separate prosody were realized with an initial a glottal stop (45%), a duplicate of the stem-final consonant (13%), or no onset (42%). Glottalization was also often observed stem-finally (66%). Contrary to Eisenberg (2021), it is hence not the glottal stop that forces an unnatural stress on the suffix. Rather, glottal stops and stress are a natural consequence of the prosody of coordination.

Experiment 2 compared sentences with gender gaps (using the slash notation this time) to those with shorthands based on other suffixes, such as *Kapital(-ismus)* or *Doktor(-and)* ‘Doctor/doctor in training’. The rate of prosodically realizing a gap between stem and these other suffixes is lower, but when the suffix did receive a separate stress, it was often realized with a glottal stop. This is incompatible with Eisenberg’s contention that glottal stops on German suffixes are ungrammatical, and only ever produced due to prescriptive gender activism.

The experiments, to our knowledge the first quantitative studies of the realization of gender gaps, suggest that they are preferentially understood as shorthands for full DP coordinations. While the results do not speak to objections (I) and (II), they do show that Eisenberg’s objections along the lines of (III) are invalid. Matching effects are also implicit in recommendations for gender inclusive uses in French (e.g. to use two articles in ‘le/la professeur.e’). Whether these forms in French work as shorthands for larger coordinate structures as well remains to be explored.

- (1) Alternative orthographic ways to convey the 'gender gap' in German
  - a. Asterisk: Leser\*in 'reader/-fem'
  - b. Capitalization: LeserIn
  - c. Slash: Leser/in
  - d. Colon: Leser:in
  
- (2) In the singular, masculine and feminine nominative determiners mismatch:
  - a. Singular: Coordination above determiner possible  
 Der Leser oder die Leserin hat...  
 the-masc reader-masc or the-fem reader-fem has
  - b. Singular: Coordination below determiner impossible: **Mismatch**  
 \*Die Leser oder Leserin hat ...  
 the-fem reader-masc or reader-fem has...
  
- (3) In the plural, masculine and feminine nominative determiners are syncretic:
  - a. Plural: Coordination above determiner:  
 Die Leser oder die Leserinnen haben...  
 the-pl readers-masc-pl or the-pl readers-fem-pl have...
  - b. Plural Coordination below determiner possible: **No Mismatch**  
 Die Leser oder Leserinnen haben...  
 the-pl reader-masc-pl or reader-fem-pl have...
  
- (4) Singular reduced and unreduced cases: Mismatch effect expected
  - a. \*Die Antragsteller\*in kann jeweils nur einen Antrag stellen.  
 The-fem applicant-masc/-fem can respectively only one application submit
  - b. \*Die Antragsteller/Antragstellerin kann jeweils nur einen Antrag stellen.  
 The-fem applicant-masc/applicant-fem can respectively only one application submit
  
- (5) Plural reduced and unreduced cases: No Mismatch effect expected
  - a. Die Antragsteller\*innen können jeweils nur einen Antrag stellen.  
 The-pl applicant-masc-pl/fem-pl can respectively only one application submit
  - b. Die Antragsteller/Antragstellerinnen können jeweils nur einen Antrag stellen.  
 The-pl applicant-masc-pl/applicant-fem-pl can respectively only one application submit

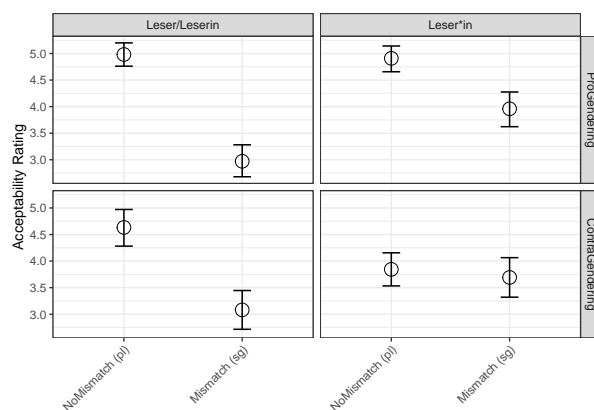


Figure 1: Acceptability ratings from Experiment 1. There were a total of 32 participants and 16 item sets. The experiment was run in a latin square design, with 16 trials per participant.