The Impact of Stereotypes and Noun Endings on Processing Gender in English:
Comparing Native and Non-Native Performance

Julia Müller, Verena Haser & Lars Konieczny (University of Freiburg)
julia.mueller@pluto.uni-freiburg.de

This study aimed at establishing whether the perception of the noun ending "-er" as masculine carries over into English for native speakers of German. Since German is a language with a grammatical gender system (Hellinger & Bußmann, 2003), professions which end in "-er" identify a person as male in German (e.g. der Gärtner – "the (male) gardener") while in English, they are not grammatically marked for gender. Thus, it is possible that Germans might still perceive professions ending in "-er" in English as more male. Alternatively, they might switch to an English native speaker view and judge professions based on their stereotypical associations instead, a phenomenon that has been established in various studies (e.g. Gygax, Gabriel, Sarrasin, Oakhill, & Garnham, 2009).

Participants read short texts while their eye movements were recorded. 60 stimuli with three sentences like (1) each were constructed. The first sentence introduced an occupational noun which varies in its stereotypical association (with males or females) between conditions. The third and final sentence then either included "men" and "women", referring back to the occupational noun in the first sentence.

(1) During the last month, the stockbrokers/hairdressers tried to get the business going. Recently, it had gotten a bad reputation. But *two of these men/women* had a brilliant idea that would turn the ship around.

Professions were taken from Misersky et al. (2014) who had native speakers of seven languages rate them for stereotypicality. Beyond that, professions ending in "-er" in English were contrasted with those that ended in "-or" and those that had endings which rarely occur in German (such as "-ian"). Additionally, 24 items from another reading experiment were used as distractors. Results from 64 participants (40 German, 24 English native speakers) indicate that "-er" may slightly, but "-or" more considerably, slow down processing for German speakers when used with women. This effect is visible in longer trial reading times (figure 1) and regressions on the second spill-over region, i.e. three to four words after the critical region (figures 2 and 3). Therefore, our study suggests slight transfer effects for -er (as in Scheutz & Eberhard, 2004) and additionally for "-or".

As expected, stereotypical associations significantly influenced reading behaviour, with incongruent combinations leading to longer trial reading times. The differences were more pronounced for native speakers of German, suggesting a more pronounced male bias in German.

Moreover, first pass reading times for stimuli that included women were significantly higher than those that contained men, especially for native speakers of German (figure 4). These reading times decreased as the experiment progressed, however, suggesting that the exposure to incongruent stereotype-person combinations seemed to facilitate the acceptance of people in professions which do not correspond to the stereotype (as in Finnegan, Oakhill, & Garnham, 2015).

Future research on this topic should verify (or falsify) the perception of "-or" along with exploring other endings (e.g. "-ent"/"-ant", "-ist", "-ian"). Ideally, the incongruity in the stimuli should not immediately be obvious, e.g. clothing or biological characteristics instead of pronouns or "men"/"women" (as in Garnham, Gabriel, Sarrasin, Gygax, & Oakhill, 2012).

References

Finnegan, E., Oakhill, J., & Garnham, A. (2015). Counter-stereotypical pictures as a strategy for overcoming spontaneous gender stereotypes. *Frontiers in Psychology*, *6*, 1291.

Garnham, A., Gabriel, U., Sarrasin, O., Gygax, P., & Oakhill, J. (2012). Gender representation in different languages and grammatical marking on pronouns: When beauticians, musicians, and mechanics remain men. *Discourse Processes*, *49*(6), 481–500.

Gygax, P., Gabriel, U., Sarrasin, O., Oakhill, J., & Garnham, A. (2009). Some grammatical rules are more difficult than others: The case of the generic interpretation of the masculine. *European Journal of Psychology of Education*, *14*(2), 235–246.

Hellinger, M., & Bußmann, H. (Eds.). (2003). *Gender across languages: Volume III. Impact: Studies in language and society*. Amsterdam: Benjamins.

Misersky, J., Gygax, P. M., Canal, P., Gabriel, U., Garnham, A., Braun, F., . . . Sczesny, S. (2014). Norms on the gender perception of role nouns in Czech, English, French, German, Italian, Norwegian, and Slovak. *Behavior Research Methods*, *46*(3), 841–871.
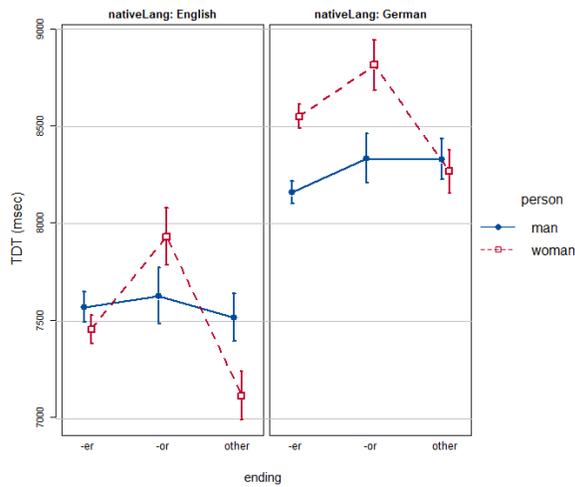
Figure 1: Trial dwell time by role noun ending and native language
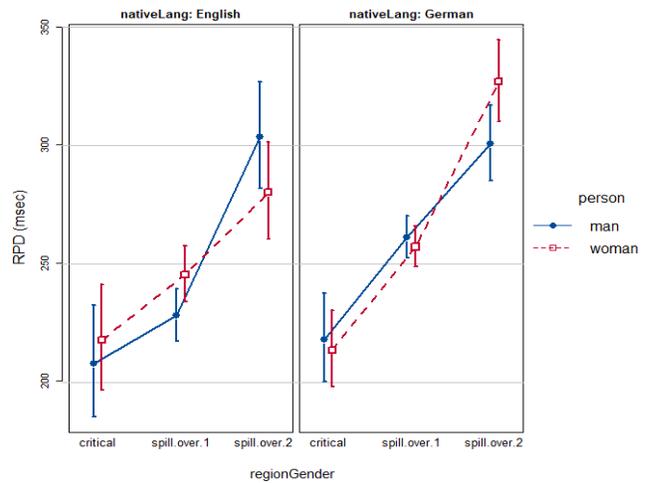
Figure 2: Regression path duration by native language, "-er"
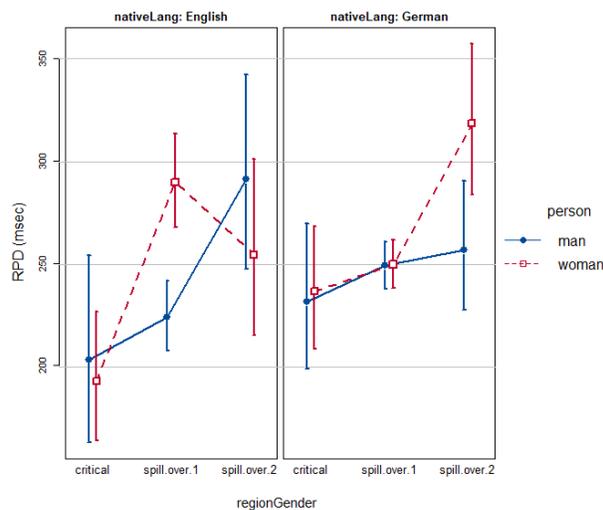
Figure 3: Regression path duration by native language, "-or"
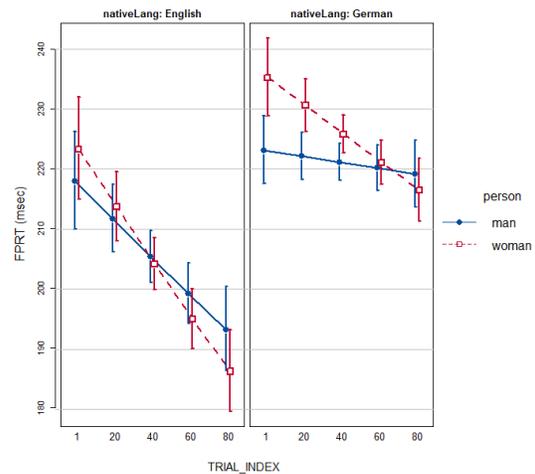
Figure 4: First pass reading time by native language