

16th of February 2022

Dear [REDACTED],

Thank you for sending us your comments on the study "Grammatical Gender in German Influences How Role-Nouns Are Interpreted: Evidence from ERPs", authored by Julia Misersky, Asifa Majid, and Tineke M. Snijders, and published in Volume 56, issue 8 of *Discourse Processes*, in 2019.

The paper was published when Prof. [REDACTED] was the editor-in-chief of the journal, and thus [REDACTED] is one of the authors of this response. The study in question was originally evaluated by two expert reviewers, who did not raise concerns about scientific misconduct. We have now investigated the issues you raised, and we present our evaluation of the case below.

1. General issues

Points raised in this part of your commentary are mainly related to the conceptual framing of the study, which builds on previous empirical work. Your main point is that "the authors imply that a language change is necessary for German." However, the authors do not offer such an interpretation of their results in the paper, and while the one sentence in the abstract that you mention later might be a bold statement ("If true, this has implications for a society aiming to achieve equal representation in the workplace since, for example, job adverts use such role descriptions."), it is difficult to position this claim as an instance of scientific misconduct.

2. Reuse and citation of text

You point out that several parts of the paper overlap with earlier published papers, which share the same methodology used in the study. Indeed, all the segments highlighted are from the methods section. Typically, research methodology should be described concisely so that an informed reader knows what has been done. It is very typical for manuscripts to have overlapping text in the Methods section, as they usually describe the best or common practices in the field. For example, the sentences "All participants had normal or corrected-to-normal vision and were right-handed. The study was approved by the local ethics committee" might be found as closely resembling statements presented in other empirical papers, as they simply describe what was done in the study.

3. Reproducibility and principles of FAIR data in science

At the time of the peer-review of this paper for publication in *Discourse Processes*, the journal did not require the authors to openly publish their research materials, datasets, or analysis code. As was typical at the time, authors provided an example of their materials in the paper (see Table 1). If you are interested in the full set of materials or reproducing the analyses reported in the paper, we encourage you to contact the authors.

We would like to note that we fully agree with your stance on open science practices and *Discourse Processes* is currently shifting to endorse the TOP guidelines at level II (see <https://www.cos.io/initiatives/top-guidelines>).

4. Selection of the participants

Another stated concern was that the authors selected their participants so that they represent a homogeneous group, and that the procedure for recruiting participants is unclear. However, the authors quite clearly describe how the participants were reached: they were recruited from the Radboud University's SONA system (which is described at the University's website). While the SONA system could have been described in more detail in the paper, this phrasing is very typical for empirical papers in the field and is not considered untypical or purposefully deceitful.

Unfortunately, most of the research in psychology is conducted with rather homogeneous groups of college students. Therefore, while this is a valid critique of psychological research in general, this is not the fault of the authors of this particular study and cannot be considered as serious scientific misconduct.

You also note that data exclusion criteria are unclear – however, reasons for excluding cases are clearly described in the paper and follow typical practices in the field.

Another question related to the sample size and the statistical power of the study. We would like to note that the authors report an a priori power analysis that was used to define the sufficient number of participants in this type of experimental design (within-participants). Of course, a sufficient number of participants to obtain the expected effect size is not the same thing as having a representative sample of all the German-speaking population, but unfortunately obtaining a representative sample is often simply not possible for practical reasons. This is a clear limitation of the study but not a sufficient reason to accuse the authors of scientific misconduct.

5. Design of the displayed text

The authors report that the experimental materials were created on the basis of a previously published norming study, indicating that the experimental materials were based on empirical data and not their own subjective judgement. We encourage you to contact the authors for the remaining text materials if you have doubts about the stimuli. It should be noted that the expert reviewers did not note such concerns about potential confounding factors. It is of course possible that the authors and the reviewers have missed some important factor that drives the key findings – however, rather than positioning the study as a product of scientific misconduct, we think that this would be a fruitful situation for conducting a follow-up study in which the issues raised are controlled for.

In summary, the comments provided in your letter raise important issues related to the representativeness of the sample and experimental materials, which are common to a large body of laboratory research in psychology. While these are valid critiques of past psychological research in general, we do not think that the authors of this paper are guilty of serious scientific misconduct, and see no reason for further action. However, as you have identified potential (methodological) factors that might be important in how readers process language and specifically role-nouns in German, we invite you to conduct empirical research that corrects the methodological issues you have identified in the previous studies. We would be thrilled to see such a paper published in *Discourse Processes*. We also

encourage you to reach out to the authors for access to their data, stimuli, and other materials.

Sincerely,

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