Author's response to reviews

Title: Development of burnout over time and the causal order of the three dimensions of burnout among male and female GPs. A three wave panel study.

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Author's response to reviews: see over
Dear Prof. Jacob,

Please find attached the third revision of our manuscript entitled Development of burnout over time and the causal order of the three dimensions of burnout among male and female GPs. A three wave panel study (MS 5636468632975159).

Below we have indicated how we addressed the reviewers' comments.

Referees 1 to 3 had no further comments.

Referee 4 (Jeremy Miles)
Referee 4 mentioned two remaining issues about the manuscript:

- The reviewer raises the issues that disproportionate sampling (or oversampling) may lead to biased overall estimates for the population when the sample estimates are not weighted. However, as the reviewer already mentions, we performed all analyses for men and women separately, and hence weighting would probably not change the results.

- The issue of missing data: we consulted two statisticians about this issue. The final sample itself hardly contained missing data. Hence, in the SEM analyses of the LISREL models we used ML estimation. However, this final study sample was indeed arrived at by listwise deletion: our final study sample only contains data from respondents who participated at all measurement points (complete data). The use of complete data is inherent to the cross-lagged panel design we used in our analyses. This design is highly recommended by many researchers in the area of work & organizational psychology particularly when the aim is to find evidence for causation (e.g., De Jonge, 1995; Kenny, 1975; De Lange, Taris, et al., 2003; Zapf, Dormann & Frese, 1996). The problem of attrition that can hamper this design is recognized, but comparing correlations/regression weights/path estimates based on different samples is problematic as well. Our non-response analyses (a comparison of respondents who dropped out after the first measurement with respondents who remained in the panel) showed that there were no differences regarding the burnout dimensions, but only slight differences regarding gender (i.e., dropout among men was slightly higher than among women). According to our statisticians this type of missing data is called stratified MCAR and this could justify listwise deletion as a method to handle these missing data when gender is somehow included in the analyses, although it reduces power. Nevertheless, attrition could lead to biased results and reduced external validity.
All in all, the observations of referee 4 are very informative. We added a more explicit explanation of both the above issues to the Discussion section/Methodological reflections of the manuscript.

We would like to thank all reviewers for reading and commenting on the manuscript. We look forward to receiving your decision regarding this revised manuscript.

Sincerely yours,

Inge Houkes,
Also on behalf of Yvonne Winants, Mascha Twellaar and Petra Verdonk

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