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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Version: 2 Date: 24 August 2010

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

Please find attached our revised 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). All authors have read and approved of the revised manuscript.

Below we have indicated how we addressed the reviewers’ comments. Furthermore, we have indicated the changes in the manuscript by means of ‘track changes’ and we checked whether the manuscript conforms to the journal style. We also took the opportunity to update the literature review that is part of the article.

**Reviewer 1 (Marcia Scazufca)**

*Background:*
In line with the reviewer’s suggestions, we shortened and revised the background section. We focused more on the issues directly related to our research questions, and deleted information that was less relevant.

*Methods:*
- The study was not submitted to an ethical committee because according to Dutch law (Wet Medisch-Wetenschappelijk Onderzoek met Mensen/Medical Research Involving Human Subjects Act, please see http://www.ccmo-online.nl/main.asp?pid=1&taal=1), paper-and-pencil surveys only have to be submitted to an ethical committee in a limited number of situations which do not apply to the current study. GPs gave their informed consent by filling out and returning the questionnaire (we added this information to the revised ms). When GPs did not fill out and/or return the questionnaire at time 1, they were automatically removed from the study.
- The Dutch Institute for Health Care Research (NIVEL) registers all GPs in the Netherlands. At time 1 (2002) the Dutch GP population consisted of 7341 people. The selection of 685 GPs was based on power calculations (which indicated a sample size of 340, based on an alpha of 5%) and practical considerations (time, budget).
- Disproportionate sampling: we applied stratified sampling in order to create an equal division between men and women in our study sample, even though the division of sex in the population is different (i.e., 28% women). This type of disproportionate stratified sampling is recommended when comparisons between strata are sought, as is the case in the current study (see for instance Polit & Beck, 2008). We added this information to the revised manuscript.
 Please note that the text does not mention “1349 questionnaires were returned”, but “At time 1, 349 questionnaires were returned.

We summarized most information given on pages 13 and 14 (original ms) in a diagram (Figure 2 in revised ms) and transposed this information to the Results section.

The final sample consisted of 212 GPs. We corrected this inconsistency in the text.

Discussion:

- In line with the reviewer’s suggestions, we revised and shortened the discussion section, and we addressed the issues raised by the reviewer (explanation for drop of burnout prevalence between 2002 and 2004, role of the 2006 act). Please also see our response to the fourth issue raised by reviewer 2.
- Unfortunately our data do not allow us to verify whether the decrease in burnout varied according to area and dates of finalizing the reorganization of the on call system. Recently under our supervision, a master student conducted a small qualitative study in which the reorganization of that system was explicitly mentioned by GPs, both male and female, as a great relief that better allows them to balance work and family life. Although they do worry about the continuity of care, there was no question that it was an improvement in working conditions (AandeBrugh, 2010).
- The 2006 act (“Zorgwet”) was implemented simultaneously for all Dutch GPs.
- In line with the reviewer’s suggestion we discuss the possible implications of the 30% response rate in the methodological reflection section (Discussion).

Abbreviations:
We checked and clarified the abbreviations used in the text of the manuscript.

Reviewer 2 (Olaf G Aasland)
First of all, we would like to emphasize that the innovative aspect of this manuscript lies in the fact that it explicitly takes gender into account in studying the prevalence and development of the burnout process. To our knowledge this has not been done before. Below we describe how we have addressed the concerns that were raised by reviewer 2.

1. We added more information about the Maslach Burnout Inventory, its psychometric properties, about the criteria for being “clinically burned out” and about the interpretation of the figures mentioned in the text. Please note that reporting a combination of both mean scores and percentages can be very informative.

2. We added more information about the discussion regarding the causal order of the three burnout dimensions to the manuscript (see Introduction).

3. The reviewer raises the appropriate remark that work-home balance is an important issue in the discussion around burnout and gender. We added this point to the manuscript (see p. 6).

4. Practicing GPs have indicated that this re-organization of the night and weekend shifts into large GP cooperatives has had a tremendous impact on the working conditions of Dutch GPs (see for instance Berg et al., 2004; Van Uden et
al., 2006; AandeBrugh, 2010). This re-organization was not a minor restructuring of tasks, it was a reorganization that invaded both the work and private lives of GPs. In the past, GPs and in particular GPs working in small practices, had to be on call 24/7. With the introduction of these large-scale GP cooperatives in the Netherlands, the average numbers of hours GPs have to be on call during a week decreased from 19 to 4. In addition, GPs know beforehand when they will be on call and can organize their private lives accordingly. We added more information about these GP cooperatives and their impact on GPs to the manuscript (see Discussion).

**Minor revisions**

5. We were more consistent in our reference to the burnout syndrome throughout the manuscript.

6. GPs are particularly susceptible to the burnout syndrome for several reasons: they perform human service work, they face high levels of emotional demands (e.g. human suffering) during their work, they face a high workload, they often work under time pressure, they have to work night and weekend shifts, they are confronted with maturing patients and constantly changing rules and regulations. All these work characteristics make the group of GPs susceptible to burnout.

7. The reviewer is correct that virtually all people somehow cope with situations they face every day. The formulation of our sentence (as quoted by the reviewer) is indeed inaccurate and we rephrased the sentence (see Introduction, under subheading “Gender and burnout development”).

8. The first research question is about changes in the prevalence of burnout over time. We adjusted the formulation of this research question in order to make it more clear. In addition, we provided more information about the “causal development of burnout” (see Introduction).

We would like to thank both 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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