Reviewer's report

Title: Socio-demographic, behavioral and cognitive correlates of work-related sitting time from a gender-specific perspective

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Reviewer: Nyssa Hadgraft

Reviewer's report:

This manuscript seeks to identify the socio-demographic, behavioural and cognitive correlates of work-related sitting time in German adults. While the evidence linking sedentary behaviour to adverse health effects is becoming stronger, there is still a need for greater understanding of the determinants of sedentary behaviour. As the authors note, there is limited published work on the correlates and determinants of work-related sitting in particular, and this manuscript adds to the small body of evidence in this area. There are several areas which the authors should attend to, in order to improve their manuscript.

Major compulsory revisions

1. The authors focus on identifying the gender-specific correlates of workplace sitting time. While this is an interesting research question, there is a need for greater rationale in the background section as to why this stratification was carried out. Could the authors please provide relevant literature to justify the need for examination of potential gender differences in relation to correlates of sedentary behaviour?

2. The inclusion criteria for the study were people who were working or who were enrolled in education. The study specifically aimed to look at work-related sitting time so it is not clear if this definition includes time spent studying or in education-related activities. If not, it would be helpful if the authors could outline how participants who were in education but not working were or weren’t incorporated into the analyses. If educational activities were counted as “work” the language throughout the manuscript should be altered to reflect this.

3. It is recommended that the authors seek English language revision.

Minor essential revisions

4. Introduction: in the first paragraph of the introduction the authors discuss the suspected biological mechanisms behind the adverse health effects associated with sedentary behaviour. It is advised that this paragraph should be reworded to reflect the level of evidence for these claims i.e. these are the hypothesised mechanisms, but the effects of prolonged sitting on lipoprotein lipase activity has only been studied in animal models to date.

5. Measures: The sentence relating to the reliability of the Marshall sitting questionnaire appears to require some revision. The reliability figures stated for weekend days (0.23-0.74) are very variable, and 0.23 is quite low. It is suggested
that the language in this paragraph should be revised to indicate which domains had moderate-high reliability, vs which had weak reliability. E.g. “The reliability of the instrument has been shown to be moderate across the work, television and computer domains for weekdays (r= 0.78-0.84) however the reliability was weaker for weekend days, except for television and computer use (r=0.57-074).

6. Measures – physical activity: The sentence regarding calculation of weekly minutes of MVPA is somewhat confusing. Do the authors mean to say that the number of days per week was multiplied by the duration of physical activity on an average day?

7. Results: Table 1 – in some categories there are different numbers of participants in the columns for time spent sitting and the % of overall sitting time made up of work. Could the authors please clarify why this is the case when the methods section suggests participants were excluded if they had missing data on sitting time?

8. Discussion: The discussion needs some editing to improve the clarity and provide greater emphasis on the main findings and the broader implications. References to previous findings in light of the current findings could be written more concisely, allowing a greater focus on the broader public health implications of the results.

9. Conclusion: The authors suggest that the main public health message from their paper relates to reducing sitting time and increasing recreation-related physical activity. While reducing sitting time is an important and necessary public health message, the title and background section suggest that the focus of this paper is on the correlates of sedentary behaviour – particularly gender-specific correlates – rather than the measurement of sedentary behaviour. The authors should consider linking the conclusion more closely back to the findings on correlates and the need to consider tailoring messages and interventions to higher risk groups.

Discretionary Revisions

10. Measures – socio-demographic characteristics: was there a measure of occupation in the survey? The results observed for education/income may be confounded by occupation. E.g. workers in blue collar occupations (likely to have education lower than tertiary level) with higher work-related physical activity are likely to sit less at work than workers in white collar occupations (who may have higher levels of education). If not, it would be helpful if this was discussed in greater detail in the discussion as a potential limitation or explanation for the results observed.

11. Results: It might be helpful to report sitting time in hours rather than minutes to aid comprehension.

12. Results: It would make the results simpler and easier to comprehend if the authors reported either the median or the mean, not both.

13. Table 1 is quite long. Could this table be simplified by only including work-related sitting time (mins/day) and not the mean % of overall sitting time? Interesting differences in mean % of overall sitting time by socio-demographic
characteristics could be referred to in the text. It is also suggested that the authors consider focusing only on socio-demographic characteristics in this table (remove the breakdown by cognitive beliefs) for simplification.

14. The authors could consider removing table 2 and reporting on the significant correlations in the text instead.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.