Author's response to reviews

Title: Does housework keep you healthy? The contribution of domestic physical activity to meeting current recommendations.

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Author's response to reviews: see over
Response to Reviewer 1

Comment 1. Perhaps the authors could highlight the innovative features of their analysis more clearly in the Abstract, and/or title of the paper. Even though the rationale for encouraging people to be active in their daily lives is a worthy one, it does lead to overestimation problems when measuring physical activity. The findings from this paper begs the question whether domestic activity, which people report as MVPA, is, in fact, activity of moderate to vigorous intensity. This is nicely described in the second paragraph of the Introduction and is worthy of a mention in the Abstract.

Response: Details of the data analysis and inclusion of the issue of whether domestic PA is MVPA have now both been included in the abstract. These changes are highlighted in yellow.

Comment 2. This type of activity is negatively associated with leanness and the last sentence of the Abstract states that it therefore ‘may not be sufficient to enhance health’. One could expand the notion of ‘health enhancing’ beyond leanness, however. Indeed, the authors make this point well at the end of the first paragraph in the Introduction in respect of cardiovascular health. Perhaps domestic activity replaces sedentary time and is health-enhancing in this respect. Conversely, domestic activity is often considered a ‘menial task’ and may contribute adversely to mental being! Some of these arguments might enliven the paper!

Response: We acknowledge that leanness is just one of the potential health outcomes of physical activity and that domestic physical activity may bring other health benefits we have altered the last sentence of the abstract to reflect this. Although we agree that there may be a negative effect of this type of activity on mental health, we have not explored this literature and therefore have avoided making speculative comments here (as we have tried to avoid commentary on the fact that females report much more domestic PA!) although we agree that this would make an interesting paper!

Comment 3. In the Results section it is stated that “For women, if domestic physical activity was excluded from their total MVPA, only 20.4% would be deemed to meet current recommendations.”. This is a useful headline finding also, and probably worthy of inclusion in the Abstract. The recommendations for physical activity promotional campaigns in the Discussion are well made.

Response: We agree that this is an important observation from the data and have added the headline figure to the abstract.

Minor essential revisions

Response: All of the minor edits recommended by the reviewer have now been made and highlighted in yellow.
Response to Reviewer 2

The current provided a population-based data about the housework and health.

In general, physical activity would benefit health, and in fact, housework includes physical activity. It is worthy to note that there may be active or passive attitudes about perceived responsibility for housework, which would also confound the association of housework with health.

Response: We have altered the abstract to ensure that we acknowledge that housework can enhance health (i.e. that it is not just leanness that indicates health). This change has been highlighted in yellow. We are not entirely clear what the reviewer means by “active and passive attitudes to perceived responsibility for housework”. We have however highlighted the difference in levels of domestic PA between men and women and between older and younger individuals and have included a consideration of whether housework tasks can be performed at moderate to vigorous intensity. We hope that these address the reviewers comment adequately.

In addition, it is worthy to note housework is a widespread around the world, and most of the individuals and families will face housework. We may be careful about the conclusion about the effect of housework on health.

We agree that housework can indeed be health enhancing since it may replace sedentary time and contribute to a total volume of physical activity. We have made edits to the abstract and discussion which ensure that we do not imply that this is not the case but rather that we focus on the likelihood that such activity is moderate to vigorous in intensity and can therefore contribute to meeting the current physical activity recommendations.