Reviewer’s report

Title: Investigating the associations between productive housework activities, sleep hours and self-reported health among elderly men and women in western industrialised countries

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Reviewer: Yvonne Wells

Reviewer’s report:

This article reports on an international study examining self-rated health and time use among older men and women.

Strengths of the sample include the large sample size and the ability to make some very interesting cross-national comparisons.

The study found a positive correlation between health and time use, but the relationship between health and sleep was an inverted-u, with better health reported by people getting 7-8 hours’ sleep than those getting either more than or less than this. Interactions between sleep and activity in predicting health were examined for men and women separately.

Although the authors are careful to acknowledge that the study is correlational and that therefore no directionality can be implied, in fact, the conclusion claims "time allocation to housework activities may be beneficial to the health among elderly men and women [sic]. . . . To achieve health equity among older adults, elderly women need optimal sleep duration and average housework hours."

This conclusion is not justifiable because of the problem of the direction of causation. It is entirely feasible that people who are in the best health are those who are most able to take on housework activities: health affects activity levels, rather than the other way around. The same goes for sleep. It may well be that poor health can cause either disrupted sleep, or need for more hours of sleep than are necessary for those in relatively good health. Prescribing 7-8 hours’ sleep and moderate levels of housework for women may be good advice in general, but is not really justified by the study, in my view. Besides, the corollary for men, given their results illustrated in Figure 1a, is that the advice would be to take on as many household tasks as possible.

It is often better to write results so that the DV comes first. For example, the third sentence of the abstract is currently a mess. It would be better expressed as: This study not only examined individual associations between self-rated health and both housework activities and sleep duration, it explored self-rated health by the interaction effect between housework activities and sleep duration separately for men and women.

In the Method section, specify the number of days for which diaries were kept, and explain why self-rated health was dichotomised (was its distribution heavily skewed?).
Use consistent capitalisation of variable names in the Covariates section.

In the Results section, report numbers with only the number of decimal places justified by the scale of measurement. For example, if respondents reported time spent in whole minutes, it is not justified to report mean scores to two decimal places: one is ample.

Numerous minor edits are required, for example:

1. Add referents to comparisons (e.g., line 74, elderly men and women are more involved in social roles and activities, such as . . . , than their younger counterparts).

2. Specify the direction of gender differences in the literature review (e.g., lines 86 - 93).

3. Achieve agreement in number between nouns and verbs (e.g., line 98: the increasing prevalence of health conditions at older ages restricts time allocation for other daily activities; line 266: any combination of sleep duration not equal to 7-8 hours and fewer hours spent on total housework was significantly associated with poorer health than the reference group, who had 7-8 hours/day sleep and engaged in 1-3 hours/day total housework; line 332: heavy housework activities were . . . )

4. Simplify sentences explaining relationships between the DV and IVs (line 183: we applied binary logistic regression to model the association between self-reported health and each of the three broad housework categories, total housework, and sleep hours).

5. Fix typos (e.g., line 204, women in the study were slightly older than men)

6. Use "than" rather than "compared to" in comparisons (line 205: Men had higher educational attainment than women; line 211: Older men and women both allocated more time to cleaning and cooking than to occasional tasks such as gardening and maintenance.)

7. Keep the number of decimal places in text consistent (line 208: About 9.0% of older men were in paid employment, compared with 4.7% of women)

There are some other very awkward sentences. Rewrite the sentence beginning line 317 to:

Previous studies have also stressed the health benefits of gardening for older adults; such benefits include physical health, psychological health, cognitive ability, and low risk of depression.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
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