Reviewer's report

Title: Role of Gait Speed and Grip Strength in Predicting 10-year Cognitive Decline among Community-dwelling Older People

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Reviewer: Akitomo Yasunaga

Reviewer's report:

Please iThis paper examined longitudinal associations between physical function and cognitive decline among a sample of Japanese older adults. In general, this is a well-written paper which may be of interest to a wide range of readers. However, I would suggest that the authors address the following issues:

1. Background

More explanations are needed on why maintaining high levels of physical function may prevent cognitive decline. For example, according to the several physical activity guidelines, engaging in regular physical activity (i.e., do over 150 minutes a week of MVPA; Piercy et al., JAMA, 2018) is favourably associated with cognitive function. Therefore, it is likely that the maintenance of better cognitive function to be influenced by physical activity levels instead of or in addition to physical function levels.

2. Background

This study employed two different cognitive function measures (MMSE and DSST). Did the authors hypothesize that the levels of physical function may differently affect these two cognitive function measures? If yes, this hypothesis needs to be included in the Background section.

3. Assessment of physical function

Handgrip strength was divided into five groups according to gender. It is unclear why walking speed measure was not also classified into quintiles by the gender. As Table 1 shows, the gait speed measure appeared to show a gender difference.
4. Assessment of cognitive function

The MMSE measure was used as a continuous variable. The cut-off points of MMSE (e.g. 23/24) are more common in the gerontology/geriatrics. The reasons for using the continuous MMSE measure need to be included.

5. Discussion

It will be useful to see a comparison between physical function results in this sample compared with the general Japanese population. In addition, it should be noted that how many participants had an MMSE score below 24 in this sample.

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

No

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

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

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If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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