Reviewer's report

Title: Memory Complaints and Depressive Symptoms Over Time: A Construct-Level Replication Analysis

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Reviewer: Fan Zhang

Reviewer's report:

Using an integrative analytic framework, the authors tested the bidirectional relationships between subjective memory complaints and depression with two Longitudinal datasets (NHATS and HRS). By controlling for the same covariates, multilevel linear modeling showed that in both datasets, perceived memory decline was associated with higher level of concurrent and future depressive symptoms, and depressive symptoms predicted more concurrent memory complaints and declines. With the construct-level replication analysis, the study provided evidence to support the generalizability of the bidirectional association between depressive symptoms and memory complaints among older adults. However, there are a few issues that need to be addressed before the manuscript could conform to the publication standard of BMC Geriatrics.

- It is agreed that the two datasets adopted quite similar measurements for memory ratings and memory declines. However, regarding depressive symptoms, HRS used CES-D, while NHATS used 2 items from PHQ2, with a relatively low reliability (0.57). Would it lead to any problem or differences in the replication analysis in the two datasets?

- In introduction, the authors mentioned that one of the limitations in existing literature is that the majority only investigated the directional or concurrent relationship between depressive symptoms and memory complaints. In the current study, bidirectional relationships were found, while the different causes and implications in "depression predicting memory complaints" vs. "memory complaints predicting depression" were not clearly addressed in discussion (p14).

- The author also mentioned that the heterogeneity in the measurement of memory complaints could be problematic, and focused on memory rating and memory declines in the current study. However, the reasons why choosing memory rating and memory declines were not clarified. Meanwhile, what implications the results of memory rating and memory declines may have were also not clear. Moreover, little explanations were provided about why memory declines showed a greater effect than memory rating when predicting depressive symptoms, especially in the dataset of NHATS.

- Also, the "so what" question was not addressed sufficiently. Though the bidirectional relationship between memory complaints and depressive symptoms was identified, how would this finding help with diagnosis, treatment, and health care for the people who might develop dementia? This should be added in discussion.
Another issue is that the attribution rate across different waves in two datasets should be mentioned, to give the readers a better idea about how many participants stayed in the study, or any selection bias.

Although the authors mentioned that "participants tended to rate their memory more poorly in HRS compared with NHATS" (P15), no statistic results were provided to compared the memory complaints and depressive symptoms in baseline across the datasets.

There were many mistakes in the tables and reference. E.g., in Table 1, though both columns were supposed to list n(%), in the column of HRS, it was %(n) in income. In Table 2, the heading of the table should be put above the table not below the table. In the reference no. 23, the title should be "The Patient Health Questionnaire-2: Validity of a two-item depression screener", not "ywo-item". Pls have a thorough check throughout the manuscript.

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.

Yes

Are the conclusions drawn adequately supported by the data shown?
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Yes

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