Author’s response to reviews

Title: Effects of simultaneous cognitive and aerobic exercise training on dual-task walking performance in healthy older adults: Results from a pilot randomized controlled trial

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Version: 2 Date: 13 Feb 2020

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Response to reviewers
We thank the reviewers for their constructive comments. We believe addressing these comments has strengthened our manuscript. We have denoted changes made to the manuscript in red font, and we have responded to each question/comment below.

Reviewer reports:
Amanda K Buttery, PhD (Reviewer 1): The authors have addressed the comments from the previous review adequately.

However, the limitations section could be rewritten to improve clarity.

e.g. In the limitations section please remove the sentence on page 14 lines 4-7 "It is possible that larger sample sizes might identify differences among the intervention groups in gait performance across time points." This is not a limitation of the study, but rather a hypothesis for future work.

We thank the reviewer for pointing this out and we have removed this sentence.

In the limitations section please be more explicit about the drop out issues. E.g. There was a high drop out rate in the COG and EXCOG groups in this pilot study and future studies need to better understand the acceptability of these cognitive interventions for participants, particularly given the lower drop out rates of the EX and CON group. (Please remove the suggestion re: transport burden as this is very unlikely to be a reason for drop out in this study from the information presented). Was the acceptability of these interventions investigated in this study (e.g. through qualitative work?). If not then this is a
limitation of this pilot RCT and should be stated as such. Both the second and third limitation points relate to drop out and should be combined in the manuscript.

We agree with the reviewer that these changes help clarify the limitations section. We have made the changes as requested (removed discussion of transportation burden and combined limitations 2 and 3), and have added the following sentence to the limitations section:

"Future work should also include qualitative assessments of the acceptability of the cognitive challenges to help determine whether specific aspects of the tasks were associated with individual drop-out."

Please remove the last 2 sentences before the new final sentence in the manuscript as these are now redundant (i.e. page 15 lines 345-349 " In any case, larger clinical trials are certainly needed to determine optimal prescriptions for reducing the impacts of brain aging. However, given the importance of dual-task abilities in everyday life, such interventions combining aerobic exercise and cognitive challenges may be an effective paradigm for improving cognition during aging.")

We agree and have removed these sentences.

Angela Marie Abbatecola (Reviewer 2): The authors have responded to all of my comments.