Reviewer's report

Title: A cognitive-motor intervention using a dance video game to enhance foot placement accuracy and gait under dual task conditions in older adults: A randomized controlled trial

Version: 3 Date: 21 September 2012

Reviewer: Stuart Smith

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All minor essential revisions discussed in the attached but also here.

1. p 13 para 4 the authors state that in “the CG a significant increase in A-P distance error from 8.34 to 18.75mm was observed...”. However, the data in Table 2 do not reflect this statement and I would urge the authors to clarify.

2. Also, a small point, in the text of results median walking velocity is reported in cm/s while in Table 2 velocity is reported in m/s. Gait velocity data in Tables 3 and 4 is also in cm/s.

3. Given the paucity of gaze data, I would strongly urge the authors to consider removing this aspect from the manuscript. I know the pain one suffers in trying to measure eye movements and the feeling that one must try and convey that one did ones best to do so, but in this case I think the manuscript would be considerably improved if the gaze argument was expunged. I look forward to reading more about the authors attempts at measuring gaze during such tasks but I suspect that should wait until a subsequent manuscript.

4. The methods and analyses conducted were appropriate for the questions the authors have addressed. As always, when faced with a manuscript with a small n and multiple DVs I always wonder about the overall inflation of experiment-wise Type I error rates. In the case of the spatio-temporal analysis, the authors have at least 7 DVs, each of which is assessed by an independent assessment of non-normally distributed data. I won’t pretend to be a pedant about such things but I know some reviewers are.

5. I’d prefer to see “inner-group” difference replaced with “within-group” differences throughout.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests