Reviewer's report

Title: Combining perceptual regulation and exergaming for exercise prescription in low-active adults with and without cognitive impairment

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Reviewer: Lindsay S. Nagamatsu

Reviewer's report:
Overview: This was a simple, well presented study that addressed important questions, such as whether older adults with MCI can self-regulate their exercise intensity, and potential ways to improve adherence in a sedentary population. However, there are a few methodological flaws that I think need to be addressed.

1. One of the eligibility criteria was less than 150 minutes/week of physical activity. Did the authors actually record the average amount of physical activity participants engaged in? For example, there is a major difference between exercising 140 minutes per week and exercising 0 minutes per week, but in this case, both would be eligible to participate.

2. What was the range of scores for the ACE-III? For example, were the groups really that different? Especially since the ad was specifically looking for those with memory complaints.

3. Is it possible that there are order effects present in the way the exercise was completed? For example, people are naturally going to be more tired and less happy at the end of an exercise session, which has nothing to do with the intensity itself. This study would be greatly improved if the RPE order was randomized.

4. In terms of interpretation of the results, I am wondering if you can actually attribute the results to perceptual regulation due to a lack of a control group (who didn't use the BORG). I.e., was this just a happy bunch of people?
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.
No

Are the conclusions drawn adequately supported by the data shown?
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