Reviewer’s report

Title: Six weeks of balance or power training induce no generalizable improvements in balance performance in healthy young adults

Version: 1 Date: 23 Aug 2019

Reviewer: Lucy Parrington

Reviewer's report:

The authors have satisfied most of my concerns. A few points to tidy:

1) I appreciate the detail input into the statistical methods section (i.e. defining the effects input into the LMM's). I do believe that this could be written in a slightly more succinct and clear manner.

2) Please note that AIC should not be used to compare between models using raw and transformed data. This is a misunderstanding of how the AIC should be used and should be removed. It is fine for the authors to justify using transformed data based off the lack of normal distribution.

3) Did the authors assess gender as a covariate within the model? If you did, you should mention that this was assessed. If you did not, I think it is worth exploring. You have 44% and 43% female in the control and balance group, but only 25% female in the power group. This should be taken into consideration and potentially discussed depending on findings.

4) While some people may have the capacity to understand t-values in your table, confidence intervals around your beta coefficients are generally going to be more interpretable. I would suggest interchanging t-val for 95% or 90% CI.

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?
If not, please explain in your comments to the authors.
Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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