Reviewer’s report

Title: The effects of martial arts participation on mental and psychosocial health outcomes: A randomised controlled trial of a secondary school-based mental health promotion program

Version: 1 Date: 16 Jun 2019

Reviewer: Joseph Ciarrochi

Reviewer’s report:

I think this is an excellent study of an understudied and promising approach to supporting young people to develop character. There is too little rigorous research in the area of martial arts.

Just a few thoughts on the design

---is there anyway to make the control group equivalent, in terms of physical activity, to the intervention group, so that you can examine the benefits that are associated with martial arts over and above that associated with physical activity?

This does not require revision here, but I was a little uncertain how the salutogenic health model mapped to the intervention. Perhaps one paragraph is not enough to explain the mapping.

Why are continuous variables being converted to categorical variables? what justifies the loss of information?

Is there any plan to do meditational analyses (e.g., argue that the intervention influences certain processes, say self-efficacy, and these processes, in turn, influence key outcomes. Resilience sounds like a mediator, but it does tend to be highly correlated with outcomes (e.g., sometimes resilience and mental health are used synonymously), so resilience may not be the best candidate for mediation.

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:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.