**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:** 11 Jun 2019

**Reviewer:** Vanessa Pinfold

**Reviewer’s report:**

I see that this paper has already been reviewed, I was not involved first time round.

I think this paper describes the protocol for a valuable and important study. I have some minor points to feedback.

1. Can the authors consider terminology. We have mental health difficulties as the main terms used but also mental health issues (even in the abstract) and mental illness, mental health problems in the main text. I recommend one term throughout.

2. The abstract says the study aim is to "develop" valid and reliable data. Do you develop data? I am not sure. You collect data. I recommend changing this in the abstract and boy of the text.

3. The intervention is martial arts, but there are different types. I think earlier in the text (page 3) it could be made clear this is a bespoke programme designed for the study using a mix of different martial arts theory and practice plus psycho-education.

I had a couple of comments about study design.

It suggests that children have to attend all 10 sessions to achieve "intervention dose". Is this realistic - or will they make up for missed sessions - so everyone has to attend 10 - i think that could be made clearer in the protocol.

The abstract suggests this is both a feasibility and efficacy trial - is it? is it about feasibility- if it is can that be added to the title so this is clear.

There doesn't seem to be any qualitative work planned - this is a limitation. Why is this? Can it be acknowledged in the limitations section - as it would be better to have some data to explore mechanism of impact, user satisfaction etc.

We don't know what the primary outcome measure is.

A few minor points in main text

page 3 talks about the cost of treatment being a barrier to help seeking. Can we add poor availability of treatment - its not always cost in the UK - there is just nothing available.
page 4 talks about previous research that shows the "psychological effects" of martial arts training - do they show anything else as well - increased MH awareness, symptom reduction (is that a psychological effect???)

page 4 para 3 does not mention feasibility only efficacy. and uses that term develop data - see point above

page 5 - can the primary outcome measure be named. We don't know how the power calculation was established - based upon what? One page 8 I think it suggests resilience will the the main focus?

page 9 top of the page says you will look at the mechanism underpinning this relationship. How will you do this based upon quant data only?

My final reflection would be the involvement of young people in this study - is there any? Would be great to see teachers, parents and kids as part of the team in some way following co-production in research methods - there is a great resource in Australia by Cath Roper / Flick Grey / Emma Cadogan.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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.

Not relevant to this manuscript

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