Reviewer’s report

Title: A school-based rope skipping intervention for adolescents in Hong Kong: Protocol of a matched-pair cluster randomized control trial

Version: 2 Date: 25 February 2014

Reviewer: Dylan Cliff

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This paper reports on the protocol for a group randomised trial evaluating a rope skipping-based fitness infusion intervention to increase MVPA during PE among secondary school students. The design appears to be methodologically sound and the protocol is appropriately reported. Some suggested modifications are below.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Background:
1. “In order to attain health benefits, however, it has been suggested that school PE should be designed to keep students active for at least 50% of the class time [6]”

Suggest modifying. Health benefits can still be gained from <50% MVPA during PE. Rationale for >50% PA in PE is that prevalence of habitual PA for youth is low and that PE, as a key context during which all youth should have the opportunity to engage in PA, should include >50% active time.

2. “In this study, we examined whether perceived autonomy support may be associated with students’ autonomous motivation to PE, and therefore their engagement in PE.”

Change to future tense – ‘in this study we propose to examine”

Methods

3. “Students will need to complete the PAR-Q to assess their physical health and readiness to take part in physical activity. Only students deemed to have sufficient physical health will be eligible to take part in the study.”

Write PAR-Q in full and note how sufficient or insufficient health is determined.

4. “students taught using the bad practices to be shown in the video spent 20.8 ± 3.6 of the five-minute period in MVPA”

Missing percent
5. “The will be encouraged”
They will be

6. “(to experimental of control condition)”
experimental or control

7. “To ensure intervention fidelity (experimental group) and test for any contamination effects (control group), raters blinded to study hypotheses and class allocation (to experimental of control condition)”
After the first lesson the observers will be aware that some classes are doing typical lessons and others are beginning with rope skipping, Is it appropriate to say that they will be blinded to group allocation?
This will be measured using ActiGraph GT3X+ accelerometers. MVPA will be defined using Evenson and colleagues’ criteria [26], and 1-second epochs will be used.

8. Provide company details for Actigraph


10. Provide reference to support use of 1s epochs: Sanders et al., Measuring adolescent boys’ physical activity: Bout length and the influence of accelerometer epoch length

11. “Secondary outcomes include students’ time spent in sedentary, light, moderate, and vigorous physical activity.”
Add – as measured by accelerometry and defined using Evenson et al (Ref) cut-points.

Discussion

12. “In conclusion, the results to our study”
the results from our study

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

13. “Furthermore, after controlling for students’ autonomous motivation and perceived autonomy support from their teachers, students in the experimental group, compared to those in the control group, will spend higher percentages of time in MVPA during three lessons when the intervention is applied”
Should this be - ‘after controlling for students’ autonomous motivation and perceived autonomy support from their teachers at baseline’? If the reason that the intervention group is more active during PE is because the intervention increases these factors, then you control for these factors, is there a risk of
adjusting away the intervention effect? Although this is unlikely to happen (change in lesson content to skipping might also contribute to increased PA above motivation and perceived autonomy support, plus other factors), it is worth considering the analysis plan at this stage.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**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