Reviewer's report

Title: Validity of a brief Stages of Change instrument relevant to the physical activity goal of achieving 10,000 steps per day

Version: 2 Date: 13 October 2015

Reviewer: James Dollman

Reviewer's report:

Major compulsory revisions
1. Please ensure that the Abstract and Discussion are amended to accurately reflect the change in emphasis from steps to intentions as the primary outcome.
2. The validity of the accelerometer to capture steps has not been included in the manuscript. It would be good to point out as a limitation that there is very little evidence of validity in the age group that this study has targeted. It should also be pointed out that the lower sensitivity to steps at lower speeds might lead to an under-estimation of steps in pre-contemplators if they walk at slower speeds compared with purposeful walking in active people.
3. With an emphasis on Intentions as an outcome, there is the possibility/likelihood that self-reporting biases are introduced due to common method variance, particularly the consistency motif and social desirability. This will be exacerbated by the presentation of the benefits of physical activity that are detailed in the preamble to the questionnaire. This should be identified as a limitation.
4. It would be good to have details of the items used to capture self-efficacy and intention.
5. Waist circumference was described in the Methods, but results weren't presented. Did this vary across stages?
6. The sample is still described as 'large' and 'diverse'. While there seems to be a good spread on demographic variables such as education, the sample is still predominantly female, of relatively high overweight/obese, narrow age range, from two regions, and mostly representing 2 stages of change.
7. The responses by the pre-contemplators are invalid by definition, as they have enrolled in an intervention study. This should be highlighted as a limitation.

Discretionary point
If the questionnaire is to be used in future studies, there is a typo in the first line of the Introductory page.

Level of interest: An article of limited interest

Quality of written English: Acceptable
**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