Reviewer’s report

Title: Does the Discrepancy between Implicit and Explicit Attitudes Moderate the Relationships between Explicit Attitude and (Intention to) Being Physically Active?

Version: 0 Date: 06 May 2019

Reviewer: Julie C.S. Boiche

Reviewer’s report:

The article presents a complementary analysis to a study already published in BMC Psychology on the explicit and implicit determinants of physical activity derived from a longitudinal study in Dutch college students. While the research question raised appears interesting, I have several concerns related to the article.

First, there is a lack of rationale in the manuscript: the idea that there can be a discrepancy between explicit and implicit attitudes which can impact behavior adoption is announced page 4. However, there is no explanation or theoretical background explaining why this should happen; and the next paragraph directly presents the results of previous studies on the subject - including experimental research in social psychology which may not be directly transferable to the issue at hand. The authors mention several theoretical frameworks (RIM, APE) but do not develop the assumptions on which the hypotheses of the current article are based. It is not clear for example why the IED score should moderate the explicit attitudes -intention relationship (and not the intention-behavior relationship).

A consequence of this is that it is not clear why absolute discrepancy was investigated and not only the difference between implicit and explicit scores - indeed, the example that spontaneously comes to mind, considering the strong social norms that generally exist in favor of exercise, is that people usually hold strong positive explicit attitudes toward physical activity, but may not have implicit attitudes that are as favorable; hence a strong discrepancy could reflect a particular configuration (positive explicit attitudes + less favorable implicit scores). This seems plausible as the mean scores for explicit attitudes are very high (56 on a 70 point measure) and the implicit score close from 0 (a score indicating no strong implicit association).

From my point of view a thorough description of the studies that dealt with this issue is missing; there are three previous studies in the context of exercise (Karpen et al., Brand & Antoniewicz; Berry et al.), but their method and results are not presented sufficiently in detail.

The method used in the present study presents several similarities but also differences with previous research; unfortunately those aspects are not developed.

The authors used the SC-IAT and cite articles demonstrating evidence of validity of this measure; however, there were adjustments to translate the material from English to Dutch and German; the authors present statistics for the test internal consistency; however other properties
may not be verified; for instance temporal reliability of PA-related SC IAT was already reported in past literature.

The method used to compute a discrepancy score seems basic compared to the analyses performed in previous research.

Regarding the scales used to assess the sociocognitive variables, since the Theory of Planned Behavior is cited in introduction, it is surprising to see items that refer to slightly different concepts (social modeling; barrier self-efficacy).

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

Unable to assess

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 declare that 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