Reviewer's report

Title: Socio-demographic and behavioural correlates of physical activity perception in individuals with recently diagnosed diabetes: results from a cross-sectional study

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Reviewer: Mireille van Poppel

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Socio-demographic and behavioural correlates of physical activity perception in individuals with recently diagnosed diabetes: results from a cross-sectional study

The paper studies differences between objectively measured and self reported PA and assesses factors related to the magnitude of these differences and to overestimating PA. The paper is of interest to all who work in the field of physical activity promotion. In general, the paper reads well, but there are some confusing elements that need rectifying.

Major Compulsory Revisions

In the paper, PA disparity has been defined as ‘the absolute difference between objective and self reported PA energy expenditure’. Personally, I misunderstood this definition almost to the very end of the paper. ‘Absolute’ was for me the opposite of ‘relative’, and not the mathematical meaning of the word absolute. I would absolutely urge the authors to the definition of PA disparity more clear, from the start of the paper (already in abstract).

What I find surprising, is that self reported PA energy expenditure was lower then objectively measured PA energy expenditure. To my understanding, PA is usually overestimated on average in self reports. The finding of lower PA levels in the self reports is not discussed in the paper. Also looking at the figure, for me this means that the PA disparity is more driven by UNDERestimating than overestimating. What I do not understand after reading the paper, is why PA disparity is important, and not looking at under- and overestimation instead. For me that would be more informative.

On page 21 in the discussion, the following sentences completely confuse me: “The magnitude of PA overestimation observed….. interventions aimed at increasing PA. The average PA overestimation in this study (…..) equates to 2 hrs of brisk walking per day.” Before coming to this sentence, I was in the absolute conviction that on average PA was underestimated in this study sample. I would delete the second sentence I refer to, and change the first into: “the proportion of people overestimating their PA observed in this study …. “.

Minor Essential Revisions
Page 10: write numbers with which you start a sentence in full.

Page 10: it is not clear to me why the one year follow up data were chosen and analysed cross-sectionally? Were objective PA data not available from baseline? Please add information.

Page 10: what is ‘.. randomised to ‘study s’…?’

Page 13 third and fourth lane: use past tense.

Page 13, second line of statistical analysis: is this with and without objective PA data or any PA data?

Page 13, statistical analysis: was study or study GROUP considered as confounder. I hope study GROUP otherwise I have not understood the design.

Page 18: last paragraph: others (delete space from other s)

Page 19, 4th line: difficult to understand. If levels of perceived inactivity declined, (younger) people nowadays report MORE PA compared to older people? And why would that be related to higher PA disparity, if disparity is mostly driven by UNDER reporting? And is this declining perceived inactivity related to age or to time?

Page 19, line 5: why would low self reported medication adherence be related PA disparity? I don’t see the connection. I can almost understand the connection that has been made with knowledge. But knowledge about health and guidelines does not have to be related to reporting on your own behaviour. A similar reasoning is given in the last sentence of this paragraph. Is it not that people with lower SES might, in addition to higher occupational PA levels (which has not been shown by the way) have more difficulty in filling out questionnaires, and therefore have higher PA disparity?

Discretionary Revisions

Why is ‘daily dietary intake’ in italics in the tables?

Level of interest: An article whose findings are important to those with closely related research interests

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