Reviewer's report

Title: The level of leisure time physical activity is associated with work ability- a cross sectional and prospective study of health care workers

Version: 1 Date: 2 January 2013

Reviewer: Alex Burdorf

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Major Compulsory Revisions

1. Abstract: the comparison of poor/moderate WAI with PA pattern is not directly clear, please phrase the direction of associations at baseline. Also, for the prospective study which should read that those with more PA are more likely to improve in WAI (start with the determinant in the sentence!)

2. introduction: the statement that a simple tool to predict WA is strange..this manuscript does not evaluate the predictive power of PA..also, why should PA be predictive tool that is needed when WA can be measured directly. Thus, it is of interest to know the relation between PA and WA, but not from the point of view to have predictive power for WA (I guess that the predictive power in terms as c-statistics will be very low)

3. Discussion: see remarks on predictive power..the PA question is not intended to have diagnostic or prognostic power. Otherwise, if this was the approach then one would expect classical parameters such as spec, sens and area under the curve.

4. Discussion: when having only two points in time reversed causality cannot be excluded. It would strengthen the paper when also addressing negative change in WAI

Minor Essential Revisions

1. Abstract: the mental and somatic health part in the background is rather odd, since both aspects of health are not addressed at all in this study.

2. Methods: I doubt whether response RATE is the correct term, since not a RATE

3. Methods: As the measure of change is likely to suffer to some extent from regression to the mean it would help to also present determinants of a negative change in WAI

4. Results: why is table 2 not presented as a similar analysis as table 3, also to underpin the values given in the text. Both tables 2 and 3 should also include some information on the prevalence of the determinant and outcome measures.
5. Discussion: the second paragraph presents sort of the rationale...hence, I would like to see some remarks on why WA is important for sustained employability with studies that show that a poorer WAI has negative impact on this

6. Discussion: with respect to Pohjonen, it is important to present both decline and improvement in WAI, may be in the text simply also the average value. I would expect that at population level over 2 years there is only a limited change in WAI

Discretionary Revisions
1. Methods: how was the sample constructed of the study population? Random ? convenience?

2. Methods: are the answering categories on PA mutually exclusive?

3. Discussion: the first two sentences are confusing, please separate the cross-sectional and longitudinal findings clearly and explain the direction of the association (more PA higher WAI)

**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'