Reviewer's report

Title: Low fitness and perceived physical activity skills. A cross-sectional study of psychosocial factors and physical fitness in a sample of Finnish men

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Reviewer: Tomi E Maki-Opas

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General

The study examines an interesting topic, whether individuals’ psychosocial characteristics are associated on their fitness level, both measured and self-assessed. This important topic from the PA counseling point of view, as it would beneficial to understand which kind of personal factors should be emphasized on different fitness groups when we want to improve individuals’ fitness and, in the end, their wellbeing. The data is cross-sectional in nature and very limited in number and only among men, but include information from fitness tests and self-reported PA as well as psychological background information. The study has utilized cross-tabulations and regression models as statistical methods. The interesting result is that health aspects might not be some important in PA promoting in low-fit group whereas more important might be exercise skills, goals and social support.

1 Major Compulsory Revisions

1.1 The authors have focused their study on “working-aged” men. This is well-justified as they are especially unfit and in the need of PA-counseling. I wonder whether results might be biased on the fact that the “working-aged” group is so heterogonous as it includes those who are in the very beginning of working-age (18-25 years) and also those who near official retirement age (60-64 years)? Did you examine the associations stratified with different age-groups? Finally, it would useful to have age group associations in the “first” Table, or an separate table.

1.2 As one cannot estimate well how well the study sample represents the general working-age men and low fit men population, I am skeptical whether the results can be utilized in improving PA-counseling among low-fit and low PA men as these groups might be underrepresented in the data. The authors should discuss more about the whether the data supports this kind of conclusions.

1.3 Methods: As the Polar Fitness test (PFT) is also based on the participants self-reported level of long-term physical activity, would that cause bias as you examined how self-reported physical activity is associated with fitness? Especially as in the Borodulin etal (JPAH 2004), the PFT was associated with condition and commuting PA, but not with non-conditioning PA. The methods is
useful in large populations but how does it fit into specific groups such as participants in the specific groups such as in this study? Can the authors give more justification for this? Moreover, in low fit men, one would assume that the non-conditioning PA would be very relevant in terms of promoting fitness and wellbeing.

1.4 Statistical analyses: the statistical modeling procedure should more clearly described to the readers, so that he/she can evaluate the models.

1.5 Discussion: Social support was show to be critical factor in success in this study, as the “low fit men were not well aware of possible sources of social support”. However, the authors have neglected this from the conclusions, was this deliberate choice?

2 Minor Essential Revisions

2.1 Tables: The numbering of the tables are confusing, as there are two table 1:s? Some of the headlines inside of the tables are unclear such as Table 3: “Low”, “Moderate” and “High”? and the second Table 1 such “Low RE” and “Low OE”, what does these groups mean? Authors should improve their tables to be more easily readable.

2.2. Tables: Some of the markings are unclear to the readers such as “f(%),” and “X2” as well as “CI”. These should be explained for example as a footnote.

2.3 Tables: The statistical models should be presented in tables when OR:s are counted so that the readers can evaluate what are adjusted in the models and what are not.

Level of interest: An article of limited interest

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests