Reviewer's report

Title: Explaining the social gradient in sickness absence: a study of a general working population in Sweden

Version: 1 Date: 7 February 2013

Reviewer: Ossi Rahkonen

Reviewer's report:

Major Compulsory Revisions

1. Perhaps I missed something, but the authors state (page 3) that in a previous study using same data ‘physical work ability explained...’ something or all of the association between SEP and sickness absence. This was an interesting results. Why not to conclude this? Could also in men the SEP differences be explained? Why ‘work ability’ was not included in this paper? Especially when examining men. Why not to look at what the other factors contribute to the association when the contribution of work ability has been included.

2. Response rates were moderate, in men non-response was higher than 50%. The authors describe somewhat the drop-outs, but could the authors slightly more think about is it possible that the results were different if more people could be included? And if they were, in what way?

- Minor Essential Revisions

1. The data and methods could be described more in detail although published previously.

2. I am not sure of the terminology of the variables. ‘Explanatory variables’ include ‘socioeconomic position’ as well as age, health and working conditions. However, could we think that, for example, mental health is in a different position in the hierarchy of the analysis compared to ‘socioeconomic position’ that mental health might be a confounder or a moderator or a mediator -- or a covariate? This question is partly due to the way the authors present the results. In the table 2, all ‘explanatory factors’ had own – often strong -- associations with sickness absence although socioeconomic position was adjusted for, however, these results were not discussed. Why not? For example, an additional interesting finding was that although SEP was adjusted for physical work load still had an effect on sickness absence and after adjusting for SEP jobs strain still was associated with sickness absence – if I read the table correctly.

- Discretionary Revisions

1. If the length of sickness absence (< 14 days) comes first time in discussion perhaps this could be told in the methods as well.

2. Page numbers would have helped: in the methods section, describing job demands etc.; ‘... were graded from one giving a sum of 5-20...’, was something
3. Statistical analyses – section; what did the analyses tell about multicollinearity? Only one correlation was presented. Perhaps others were not notable?

4. Acknowledgement, Capital R; ‘… Worklife Research…’

**Level of interest:** An article of importance in its field

**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'