Reviewer's report

Title: Does self-rated health reflect social circumstances? Occupational social class and self-rated health in men and women: A cross-sectional study in the European Prospective Investigation of Cancer and Nutrition in Norfolk (EPIC-Norfolk) cohort

Version: 1 Date: 24 April 2008

Reviewer: Jitse van Dijk

Reviewer's report:

1 Major Compulsory Revisions
The author must respond to these before a decision on publication can be reached. For example, additional necessary experiments or controls, statistical mistakes, errors in interpretation.

1.0
General comment
The manuscript studies SRH related to three variables – social class, gender and age. These three variables are not systematically present in the relevant parts of the manuscript; authors are suggested to go through the manuscript and improve this at every relevant place in the manuscript.

1.1
Abstract
* In Background gender should be mentioned.
* Methods part is too short; it describes only the sample.
* In Conclusions Age and Gender are not mentioned.

1.2
Background
In the Aim of the study gender should be included.

1.3
Methods
1.3.1 Sample
25 639 men and women aged 39-79 years attended; how many were invited?

1.3.2 Measures
* Please give a reference for the SRH question, as it differs from the SF-36 SRH question.
* Please give a reference for the Health and Lifestyle Questionnaire.
1.3.3 Statistical Analysis
I will come to that later, but t-test, chi square and F-test are dependent from the sample size, which is large here. Additional analyses should be added to have a better picture to be able to assess the magnitude of the statistically significant differences.

1.4 Results
* Are there age and gender differences between the unknown number of non-participants (invited minus attendants) and the 25 639 participants?
* T1, T2a, T2b, and T3

These tables show a lot of statistically significant differences; there are two main problems in these tables: which differences are statistically significant, and what is the size of these differences?

** The first problem is, that the authors do not provide us with information which differences (as an example) across social class groups are statistically significant (in table 1 within the group 'social class' with its 6 paired different categories there is at least one significant difference between males and females). Additional analysis should be done here to provide the readers with a better understanding of the information in the table.

As due to the large sample size very small differences are likely to give small P-values, we would suggest to use 95% Confidence Intervals to present the outcomes as estimates of differences in the population instead of differences in the sample.

Example: The difference in the proportion of semi-skilled across gender is statistically not significant as the 95% confidence interval of the difference in proportion ranges from -.009 - .009. Although other differences seem significant at eye-ball evaluation, it is questionable whether they reach the suggested level of p < 0.001 as indicated in the tables.

à We strongly suggest to use the difference of proportions test for each category of social class, and categories of other variables. (see: e.g. http://www.answersresearch.com/proportions.php) or a calculator belonging to Statistics with Confidence.(3)

Differences in mean scores (age, body mass index) between social classes are obscured by representing one P-value. First, it is unclear where the statistically significant differences are allocated: between Professional and Semi-skilled? or between Professional and Unskilled?

à We strongly suggest to utilize MANOVA post hoc analysis with Bonferroni correction to avoid chance capitalization.

** As the tests performed in t1, t2a, t2b and t3 are dependent from the sample size, it is necessary to have a closer view on what is behind 'statistically significant differences'. Where possible an Effect Size should be calculated to
distinguish between ‘although statistically significant but trivial in size’ and ‘statistically significant and (larger than trivial)’. Apart from reasons of the sample size this type of analysis is also important because the authors state in their background: ‘Previous studies have reported a social class gradient in SRH but have not explored in detail the magnitude of this difference across classes (…), suggesting that they would go into this magnitude and calculate the Effect Sizes. In order to estimate the magnitude of the differences, we refer to the work of J. Cohen, especially the following chapters (1;2) à We strongly recommend to use the appropriate effect size estimates in tables 1, 2a, 2b and 3.

As a result of such a additional analyses the text of the Results section related to these tables and in the Abstract, and possibly also in the Discussion will change.


1.5 Discussion

Please include gender in the very first sentences of the Discussion.

Limitations

To overcome the last mentioned limitation it is necessary to know more about age and gender differences between the unknown number of non-participants (invited minus attendants) and the 25 639 participants.

2 Minor Essential Revisions

The author can be trusted to make these. For example, missing labels on figures, the wrong use of a term, spelling mistakes.

2.1 Title

The title is too long and should be shortened; furthermore I prefer to have ‘age’ in the title.

2.2 Abstract

‘Background’ should be ‘Aim’
2.3
Results, text on Table 4
Please make clear for not-English persons what is Class I and Class V.

3 Discretionary Revisions
These are recommendations for improvement which the author can choose to ignore. For example clarifications, data that would be useful but not essential.

3.1
Abstract
In S1 in the Results section a verb is missing.

3.2
Methods
Please add ‘Sample’ and ‘Measures’

3.3
Measures
For the reviewer it is not clear why somebody who is unemployed is categorised as ‘unclassified’ and not categorised according to his former job; for women a similar question can be put – but in the end this is just curiosity.

3.4
Tables
Table 1
Remove ‘p’ from the last column (it is inconsistently used)

Please note that both the comments entered here and answers to the questions below constitute the report, bearing your name, that will be forwarded to the authors and published on the site if the article is accepted.

**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