Author's response to reviews

Title: Key health promotion factors among male members of staff at a higher educational institution: a cross-sectional postal survey

Authors:

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Author's response to reviews:

Dear editor,

We have outlined below our reply to the two reviewers' comments and those of yourself. Thank you very much for your positive feedback.

Reviewer: Marieke W Verheijden

Major Compulsory Revisions

1. Please make substantial changes to Introduction to give text more focus. For example: If possible clustering of lifestyles is indeed topic of interest; please explain why this is relevant and discuss available evidence from literature.

Authors: We have changed the focus in the Introduction, particularly highlighting the clustering of lifestyles We hope the new Introduction is clearer and better focused.

2. Remove all introductory lines on topics that have no relation to this (such as definition of 'health promotion'; this should be known to readership of BMC Public Health and is of little relevance to topic of manuscript).

Authors: We have removed the references to health promotion, as these should, indeed be familiar to the readership of the journal.

3. Please extend the materials and methods sections as current manuscript provides insufficient information to replicate the work. The following examples may give you an idea about changes that need to be made, but many more changes are necessary. Provide more information on the questionnaire. Readers need to be able to understand (in general terms) what you measured without having to contact you for the original questionnaire. At least mention all topics you collected data on. Please provide information on how key outcomes (smoking, alcohol consumption & physical activity) were defined. The current lack of information leaves room for confusion. E.g. table 1 suggests that smoking was defined in three categories, but if smoking was used as the dependent variable in logistic regression analyses (page 8) it must have been collapsed into two categories. Explain this in the methods section. Also explain how other variables (e.g. marital status and physical activity) were entered in the regression models.
E.g. was physical activity entered as a continuous variable (range? etc) or as a categorical (which categories? What was the reference group? etc)?

Authors: we extended this Methods section considerably. For clarity we appended the questionnaire as an Appendix (as suggested by second reviewer). The questionnaire makes it clear how we asked respondents about smoking, drinking and physical activity. We have outlined how certain variables have been transformed for use in the analysis. Smoking and drinking are particularly highlighted. Age is defined in banded categories. We described in more detail how the questionnaires were distributed, etc. We have explained consent and ethical issues in general. The order in which factors were put into the regression model is also described. In addition, the legends of the tables describe which are the dependent and categorical variables.

4 I disagree with your decision to categorize alcohol intake as none/some. I am not familiar with any European guideline recommending complete abstinence for adults (by contrast, there is ample evidence that moderate alcohol consumption has beneficial health effects). Choosing the none group as the healthy reference therefore does no justice to what we know about alcohol, and (as an added disadvantage) leaves you with a small group (n=52) of men to conduct analyses on. I would suggest to distinguish men who meet current guidelines (mild to moderate drinking) from those who don’t (excessive drinking).

Authors: Other studies, particularly the Scottish Health Survey, which we use as our key comparative data are based on the division between alcohol users and those who do not drink. We agree with the reviewer in principle, and for the purpose of sub-group analysis we have now re-categorised them, as suggested by the reviewer, into those who are heavy drinkers i.e. more than the recommended national guidelines, and mild or moderate drinkers, who consume less than these guidelines. We did sub-group analysis which is in the text around Figure 1, see:

Younger men (< 24 years) had more units of alcohol on their heaviest day than relatively older men (51-59 years), as shown in Figure 1 \( \chi^2(5) =28.9, p<0.001 \).

Figure 1 about here

Heavy drinkers (defined by high number of units of alcohol on heaviest drinking day) were more likely to be single, separated or divorced, \( \chi^2(1) =5.6, p=0.02 \) or without qualifications \( \chi^2(10) =20.2, p=0.03 \). Educational and occupational status of men was not statistically significant in terms of weekly alcohol consumption. According to analysis, 63% men on their heaviest drinking day had less than 8 units while 37% men had more than 8 units. Average consumption of alcohol on heaviest day was approximately 7.0.

5. The results section contains many paragraphs with no relevance for the primary research question (does clustering of lifestyles occur?). Furthermore, large parts in the results section discuss data that are not shown in tables/figures. I would suggest to focus the results section on answering the primary research question. In my opinion this means that a paragraph on clustering of the lifestyles should be the main outcome. Descriptives on the individual lifestyles is a valuable and interesting addition to this, but one may
wonder how relevant all subgroup analyses are.

Authors: we have restructured and rewritten the Results section. We have also changed the tables which clearly show the extent of the association between various reported lifestyle factors. The text in the Results now relates better to the revised tables in this resubmission.

6. Tables 1, 2, and 4 present data on subgroup analyses. Please be careful not to test the same subgroup twice (i.e. testing both the banded and the group variable for age is redundant. Please pick the most important one; I would suggest using the banded variable as this gives more information. I would like to stress that to prevent data-fishing, the decision on which variable to use should have been made BEFORE conducting the analyses!) The same argument may hold up for using both education level and job title, as much research has shown that these are strongly related.

Authors: We have improved the tables dramatically in reply to both reviewers comments. This time variables are selected before the analysis in order to provide a better statistical analysis.

6. Some parts of the results section (e.g. third and fourth sentence page 9) should be in the materials section.

Authors: we have removed this text (apologies for the initial oversight).

7. Figure 1: Do not connect the means from the different groups, as this does not do justice to the data. I would prefer bar charts.

Authors: Fig. 1 now presented as a bar chart with 95% CI.

8. Please contemplate on the necessity to adjust for multiple testing. It seems that many subgroup tests were conducted, which is fine (if there is an a-priori assumption on how and why the groups might differ). However, if one conducts many tests, a few will inevitably turn out to be significant. Please address this.

Authors: In the new tables 3, 5 and 6, the Odds Ratio was fully adjusted for all variables entered in the model, which should deal the issue of multiple testing.

9. If possible, I would combine the discussion and conclusion sections (please follow the standard format for this final section, i.e., start with a summary of main findings, discuss these findings in view of the limitations of your own work and in relation to the available literature, conclude with what this adds and where it leaves us). Please make the integrated section more concise. Please note: I will not go into the discussion and conclusion in detail, because I feel that these sections will change considerably if the authors bring more focus in the article. I would be more than happy to comment on these sections after receiving a later draft. I wish the authors all the best revising the manuscript.

Authors: we have combined the Discussion and Conclusion sections as requested. We have rewritten the text considerably in the light of the newly presented results. We have tried to be more concise and refer only briefly to health promotion and men's health and masculinity issues. We thank the reviewer for her kind words at the end.
Minor Essential Revisions

1. Tables 1, 2, and 4:
   - remove the n from the subgroups in the table; the percentages are sufficient
   - make the text and the tables matching. The text often refers to groups in which
     the prevalence of (un)healthy behaviour is highest. To support the text, the tables
     would need to present percentages of (un)healthy behaviour within subgroups
     (e.g., the percentage of smokers, ex-smokers and never-smokers WITHIN the
     group of single/separated/divorced men and NOT the percentages of
     single/separated/divorced versus married/living with partner WITHIN the group of
     smokers). In short: row-percentages better match the text than the
     column-percentages that are currently provided.
   - make sure percentages within subgroups add up to 100% (check rounding).

Authors: we have restructured all tables in the light of the comments made by
both reviewers. We have changed the text to highlight the highest percentages of
unhealthy behaviour in the various subgroups.

2. I am not sure what table 3 (detailed information on alcohol intake) adds. Most
   of the text refers to subgroup analyses, yet these are not presented. I am also
   unsure why the authors chose to provide additional information on alcohol
   (Figure 1 and Table 3) but not on smoking and physical activity.

Authors: we agree and have removed the old table 3. The relevant subgroup
analysis is now presented in the new tables (i.e. tables 2 to 6). We had to leave a
small number of results of results from other statistical test (e.g. t-tests) in the
text which are not presented in tables to clarify information for the reader.

Discretionary Revisions

I would propose to the authors to focus on the main concerns of the editors and
reviewers before addressing discretionary revisions. Again, I feel that some
major changes need to be made to the manuscript and I have focused on those
major changes instead of the possible smaller ones.

Authors: we hope that the improved tables and the changed article in general
have addressed the key concerns of both reviewers.

Reviewer: Chris Metcalfe

[1] Page 6, first paragraph. Could a copy of questionnaire be included as an
appendix?
Authors: will upload as an appendix

[2] Page 7, first paragraph. Can the exact mean and the exact median be given?
These are very similar, in the text we have now also added S.D.

[3] Page 7, first paragraph
The key demographic etc information only needs to be presented in Table 1. No
need to repeat it in Tables 2 and 4. In fact I would keep Table 1 just for this
information and start a new table for smoking. Note that in Table 1 the number of Single / Separated / Divorced men is incorrect.

Authors: Table 1 provides the demographic information. The subsequent new tables use the demographic and socio-eco factors in the statistical analysis.

[4] Page 7, smoking, first paragraph
At present Table 1 includes column percentages for the current smoker, ex-smoker and non-smoker columns. In fact row percentages would be more useful, and it is these that are discussed in the text. Single, separated and divorced men are combined into a single row in the Table, but these should be separated into single men and separated + divorced men, as is done in the text.
Authors: both reviewers commented on the usefulness of presenting row %, which we have now done.

Similarly support technical and manual occupational groups should be presented separately in the Table, as they are discussed separately in the text.
Authors: as the tables have been changed, we have deleted some of the old text which was not relevant to the analysis.

[5] Pages 7 to 8, smoking, second, third and fourth paragraphs
The number of current smokers is low (n=47), so the statistics presented for this group should give numbers of men as well as percentages. Otherwise the percentages give the impression of having more data than is the case. In addition, it isn’t always clear where the percentages have come from. For example, the proportion of medium smokers (54.5%) and heavy smokers (46.7%) was higher in manual jobs. To me this implies 0% light smoking in manual jobs. Giving the numbers would make this clearer.

Authors: the text has changed with number included, but more importantly we have changed the related tables, see new tables 2 and 3. The chi-square test for manual versus non-manual jobs has 18 degrees of freedom implying that the more detailed division of occupations is being considered in this test. Worth pointing this out to the reader? The F-test comparing the ages of men who would like to quit versus those who do not want to change has 2, 44 degrees of freedom, implying 3 not two groups are being compared. I’m not clear what the third group is.

Authors: We removed the relevant text as it was based on a different statistical analysis which was not reported.

[6] Page 8, smoking, last paragraph
Fulfilling the Scottish national recommended level of physical activity (OR 2.2) and being single (OR 0.3) were associated with not smoking. Is the latter correct? The odds ratio is in the opposite direction to that for physical activity, and the result is in the opposite direction to that quoted a couple of paragraphs earlier.

Author: As we have re-categorised the variables more logically (as suggested above) the results of the logistic regression has slightly changed and we have changed the text accordingly.
[7] Page 9, drinking The distinction between ¿consumed alcohol¿ and ¿have not consumed alcohol¿ in Table 2 is not useful, and isn¿t used in the text. Worth including categories in the table which are also used in the text?
Authors: we agree as this was mentioned by the first referee, our reply is listed above.

[8] Page 10, second paragraph ¿Single / divorced or separated men had more units of alcohol a week than those married or living with a partner ¿¿. How the associated 1 degree of freedom test has been calculated is unclear to me.
Author: as the chi-square test was for range (Mann Whitney) and marital status was recoded (married or with partner / single or divorced) there was only one degree of freedom.

[9] Page 10, third paragraph
This paragraph needs to be moved to the methods. The resulting data has already been described by the time we get to this paragraph.
Authors: both reviewers mentioned this, and the text has now been moved (and slightly improved).

[10] Page 11, physical activity, first and second paragraphs. These two paragraphs are slight variations of one another ¿ choose just one to present.
Authors: all analysis is now based on the official physical guidelines cut off points (to be consistent).

[11] Page 11, physical activity, third paragraph. It looks very odd to have and odds ratio of 1.00 for age, when it is stated to be the major factor associated with physical activity. Worth presenting the OR for a five year rather than a one year increase in age?
Authors: A new logistic regression was undertaken for this analysis (Table 6), the text has changed to represent the new findings.

[12] Discussion and conclusions
It appears that most of the cohort know that they could be behaving in a way more beneficial to their health, but still smoke and binge drink. The benefits of health education in this cohort are questionable. I suspect effective interventions will have to be a bit more novel than those suggested here.
Authors: we have left the text on behavioural change, but we have now also mentioned the potential role of HE institutions as health promoting workplaces.

[13] Acknowledgements
Was any funding received for this study?
Authors: text has changes to highlight this study was unfunded.

[14] Figure 1
Add confidence intervals. No need to join the means ¿ with age banded it is no longer a continuous scale.
Figure 1 is now a bar chart as suggested by the other reviewers with CI.
Editors additional comments:

1) In addition, we would also like you to document within the Methods section the full name of the ethical committee from which approval for your study was obtained. Submission of a manuscript to BMC Public Health implies that all authors have read and agreed to its content, and that any experimental research that is reported in the manuscript has been performed with the approval of an appropriate ethics committee. Research on humans must be in compliance with the Helsinki Declaration [http://www.wma.net/e/policy/b3.htm]. A statement to this effect must appear in the Methods section of the manuscript, including the name of the body which gave approval, with a reference number where appropriate. Manuscripts may be rejected if the editorial office considers that the research has not been carried out within an ethical framework, e.g. if the severity of the experimental procedure is not justified by the value of the knowledge gained.

Authors: The situation around ethics has been addressed in a full paragraph in the Methods.

2) Please also state whether written or verbal consent was obtained from study participants, although this may have been implied upon completion of the questionnaire.

Authors: text added in the Methods. As this was a postal questionnaire posted to men whose names and addresses we did not have access to, the return of a completed questionnaire was taken as consent. Because the questionnaire was anonymous we could not go back to any of the non-responders with reminders. This has also been mentioned in the Discussion section about the weaknesses of our study in terms of the low response rate.

3. A competing interest exists when your interpretation of data or presentation of information may be influenced by your personal or financial relationship with other people or organizations. Authors should disclose any financial competing interests but also any non-financial competing interests that may cause them embarrassment were they to become public after the publication of the manuscript.

Authors: there are no competing interests.

Authors are required to complete a declaration of competing interests. All competing interests that are declared will be listed at the end of published articles. Where an author gives no competing interests, the listing will read 'The author(s) declare that they have no competing interests'.

4) In order to give appropriate credit to each author of a paper, the individual contributions of authors to the manuscript should be specified in this section.

Authors: we have added this section in the text.

5) Please check the quality of the English used throughout your manuscript, as grammatical errors detract from the important points in your paper.

Authors: we have proof read the article in detail, and we hope it now acceptable.
Yours sincerely,

Alena Vasianovich & Edwin van Teijlingen & Garth Reid