Reviewer's report

Title: Factors affecting the choice of and predicting dissatisfaction with the medical profession

Version: 2
Date: 27 February 2015
Reviewer: Kate Mandeville

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Overall
Interesting study, but a more coherent narrative is needed for the analyses undertaken. The discussion requires extensive revision to be supported by the data presented.

Major Compulsory Revisions

Introduction
1. Overall, the introduction conflates a number of issues and does not provide a good background for the analysis to come. There are a number of concepts and assumptions that need to be unpacked. For example, what are the “right reasons” for applying to medical school? Who is an “appropriate” student? What is the definition of a “successful” career? Dissatisfied doctors may still make very successful physicians based on patient outcomes – so why is it important to select based on potential future satisfaction levels? Evidence from further downstream may help support this reasoning: for example, are dissatisfied doctors more likely to burnout or leave the medical workforce? If so, what is the size of this problem in Finland? This would strengthen the authors’ argument that it is important to select those who have the most potential to be satisfied with a medical career.

2. In the same way, the inclusion of gender as a key independent variable in the following analysis needs to be better justified. Why is the proportion of women entering the medical workforce a concern? And given that this proportion has declined in recent years, is this still a relevant research question?

Methods
3. In addition to the response rates of the three surveys, Table 1 requires information on the representativeness of each survey for all physicians licensed in Finland in terms of gender, age, time since licensing, specialty group and university of undergraduate training. This will enable better interpretation of the results presented in this paper. In addition, information on the proportion of responses that were online or postal in the 2008 survey would be useful.

4. Page 12, line 7: I’m unclear why the logistic regression was not run for the 1998 study? If it was run, but there were few/no significant results, then this should be stated in the Results, even if the data are not presented.
Results
5. Please give Chi-squared value and degrees of freedom wherever performed.

6. Perform chi-squared test for differences between motives in the three surveys shown in Figure 1. Change “significance” to a different word on page 13, line 6 for clarity.

7. The presentation of gender differences in motives is a little confusing. Two sets of significance tests are needed: (i) between genders in each study and (ii) for each gender between studies. The results for 2008 for (i) and all results for (ii) can be presented in Table 2, with the text stating “there were no significant differences between genders in the 88 and 1998 surveys.” (modified from page 14, line 1).

8. Page 14, line 6: are the differences in respondents for this question: (i) between studies (ii) in genders between surveys significant?

9. As the results from only two studies need to be presented, I suggest including the results for 1998 in Table 3.

10. Table 4: please include the model statistics so goodness of fit can be assessed. Also the coefficient and standard error for each parameter are required.

11. There are a large number of independent variables included in the multivariable logistic regression that have not been justified a priori, predisposing to Type I error. Given the focus of the study and preceding results, I would suggest including gender and motives as variables, and perhaps age and time elapsed. The last four variables are not related to the focus of the current study and would be better left out.

12. Page 15, line 4: as this is an odds rather than a risk ratio, change “risk” to “odds than male physicians of...”.

Discussion
13. It is good practice to start the discussion with a summary of the key findings.

14. Overall, the discussion needs to be revised to ensure that statements are better supported by the data. For example, the “dissatisfaction to the work life itself predict the dissatisfaction with the chosen career, as well as lack of interest in pursuing further medical education” (page 17, line 8): this is an association only, not a predictive relationship. As another example, page 18, line 14: The factors predicting dissatisfaction with the medical profession were only investigated in 1998 and 2008, therefore changes were only investigated over a ten year period for these results.

15. Page 16, line 25: why is “interest in people” an excellent basis for studying medicine? This is a value judgement of the authors, which has not been justified. Why will this lead to “subsequent success” in this profession (page 17, line 1)?
What is the definition of success here?

16. The logistic regression results on specialty training and continuous professional development are minor at most, yet occupy a great deal of space in the discussion. In contrast, gender differences are a main focus of the analysis, yet the implications of these for medical school entrance are not discussed. What is meant by “these probably originate from changes in working life” on page 18, line 10?

Minor Essential Revisions

17. Standardise “wide range of professional opportunities” as this or “versatile working opportunities” throughout manuscript/tables, particularly as this definition is debated in the Discussion.

18. For all analyses performed, add statistical test used in Methods. E.g. Page 11, line 23 – how were the proportions of motives compared?

19. As the observations vary for each item in Table 2 and Table 3, please include actual numbers (i.e. the numerator and denominator) for each percentage shown.

20. Page 11, line 8: “responding to the questionnaire was taken place anonymously”, change to: “Responses to the questionnaire were anonymous”

21. Page 11, line 17: I’m unclear whether the definition between important and not important was made as part of this study, or was in the original data analysis?

22. Competing interests, page 21: “interestS”

23. Authors contributions, page 22: change “desing” to design”

Level of interest: An article whose findings are important to those with closely related research interests

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 set up and volunteer for a charity that supports health workers in training in Malawi and Uganda. I have no other competing interests.