Reviewer’s report

Title: Factors deterring dentistry, medical, pharmacy, and social science undergraduates from pursuing nursing as a healthcare career: A cross-sectional study in an Asian university

Version: 0 Date: 03 Oct 2017

Reviewer: Peter Johnston

Reviewer's report:

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General

I like the idea of this paper and I see the message. In addition there is I think an interesting social and cultural narrative that is present in the data however the authors do not point this out which in the context of world literature, they might do to good purpose. I think that unfortunately there are some problems that preclude its publication in the current form. These are specified below.

Introduction

I would suggest reorganisation of the introduction with more emphasis on the gap in knowledge and the insights the study brings. For example, we see on lines 24-25 a sentence about the difficulty in recruiting and retaining nurses. This seems to me to be an international issue and might better be couched in those terms. Further, I would like to see this at the top of the introduction rather that in the second paragraph.

There could also be more clarity about the research question addressed in the study. This is not spelled out and usefully could be. Linked to this is the question about what the study brings. The selection as a study population of people who have already decided they will not be nurses yet will work in the health professions must surely apply some bias - these are first year students and so is it not likely they will be more positive about their own choice than a career they did not enter? In that regard and in the light of the quoted evidence, is a negative result not inevitable? This conclusion may be wrong but I think it could be addressed to add more depth to the consideration of the results.
Methods

Participants

Helpful if the term "convenience sampling method" could be explained briefly and referenced.

Data collection

This and the following section could be compressed into one - I respect the cultural requirement to seek approval of a departmental head however in this context, the ethics is more important. That heads agreed could be added after as a single sentence.

It would be helpful to outline the HCC-NCC parallel scale measure. I accept that this is well described in the paper by Liaw et al 2015. None the less, having that reference at the start would be useful and then a summary of what the scale actually tells us. The need for the bulleted list that follows may then be removed and thus save space. Alternatively, it might appear in a short table, referring to the Liaw paper.

Data analysis

Likert scores are ordinal numbers, not linear, and thus converting to a linear scale may be an issue. Do we know, for example, that the difference between a score of say agree and neither agree nor disagree is the same distance as difference between agree and strongly agree? Generally, we do not. And so, the data are not normally distributed and thus it is argued that using paired t-tests is not appropriate. Rather, non-parametric tests (Chi square, for instance) would be more appropriate.

The methods also note the use of a p value of <0.05 as the threshold for "significance" and then proceeds to do multiple t-tests. The likelihood of these producing random answers less and 0.05 is one in 20. I would expect to see the p value being corrected (eg Bonferroni correction) to reduce the likelihood of spurious significance.

One of the other points is that t-tests tend to imply that the data groups compared are of equivalent sizes. The numbers here suggest this is not the case, again questioning the data handling design.

With these observations in mind, the data analysis is in my view flawed and would need to be reworked justifying the use of t-tests as opposed to non-parametrics and adjusting for multiple tests.
Results

With the methodological concerns outlined above, the interpretation of the results is thus uncertain and what is described may need to change as results and their differences or lack of difference become apparent.

Discussion

The discussion is on the long side, has a tendency to be speculative and makes some leaps of faith.

P10, line 36: "A lack of nursing exposure primarily be the main reason…." This may be the case however the study does not provide evidence this is the case.

P10, line 56: "This may in turn help adolescents…" Again, it may be right but we are not given evidence to support this statement.

P11 line 15 et seq: There is no evidence about courses in the data. Social influences may be part of the issue - in fact, the insights to the social and cultural influences could be compared as I think the data (for example as regards parental approval) are interesting and might not have come out in a European study.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

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