Reviewer's report

Title: Empathy and big five personality model in medical students and its relationship to gender and specialty preference. Cross-sectional study

Version: 0 Date: 01 Oct 2018

Reviewer: Ya-huei Wang

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The study intended to explore the relationship between empathy and personality, using three empathy scales simultaneously and taking into account gender and specialty preference. In order to reach the goal, the researcher(s) recruited one hundred and ten medical students to complete the Jefferson Scale of Physician Empathy, the Interpersonal Reactivity Index, the Empathy Quotient, and the NEO-FFI Big Five personality model for data analysis. The quantitative results corresponded with the previous research in that empathy was related to personality. Finally, the researcher(s) jumped to the conclusion that "Although personality is by definition difficult to modify, some personalised intervention strategies could improve empathy in medical students". Nonetheless, in the paper, there was no intervention to verify or confirm that personalized intervention strategies could improve empathy in medical students. How come the researcher(s) could draw a conclusion, saying that personalized intervention strategies could improve empathy in medical students? The researcher(s) cannot draw a conclusion from previous literature review but should come up with a conclusion based on the results derived from the study.

Besides, without any substantial intervention or experiment in the study, that is definitely a research flaw in the paper. Since the researcher(s) mentioned that some personalized intervention strategies could improve empathy in medical students, the reviewer would suggest that the researcher(s) should give a personalized intervention strategy to examine how the intervention strategies could improve medical students' empathy and further explore the relationship between empathy and personality after the intervention. Without any intervention, it would be awkward to jump to the conclusion without logical connection and demonstration to prove that supposition.

There is another problem in that the sample size of 110 medical students is too small. The sample size used in the study is a critical factor to obtain reliable results about the proportion in the whole population. Definitely, a sample size of 110 medical students is too small to obtain reliable results. Hence, it becomes inadequate to discuss the results based on those small samples because the small samples lose the representativeness.
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.

No

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

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
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Needs some language corrections before being published

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