Reviewer’s report

Title: Does academic interest play a more important role in medical sciences than in other disciplines? A nationwide cross-sectional study in China

Version: 1 Date: 13 Jul 2019

Reviewer: Connor McGuire

Reviewer's report:

Dear authors,

Thank you for such an interesting study. You will find my suggested edits below.

1. Abstract: Please consider dropping a few of the question statements in the background section of the abstract. Keep the background section concise in terms of a brief one or two sentence introduction and a single sentence with the objective/purpose. The current format is not conducive to easy understanding.

2. Abstract: confidence intervals should be included for all effect sizes along with p-values.

3. Methods: "For the purpose of this study, we resampled the participants to better represent the distribution of undergraduate students in terms of their demographic characteristics, such as gender and home location (rural or urban area)." Why was this done? If you had data from 100,000+ students why would you resample to 54,398? Please clarify why this was done as it's not clear.

4. Table 1: Some numbers have one decimal place and others have two, keep consistent with one decimal place throughout as that is typically what is presented.

5. Results: Please provide confidence intervals and p-values for all estimates, they are necessary for proper interpretation of the data.

6. Results: "Specifically, the effect sizes of academic interest on academic performance for medical sciences, humanities, social sciences, natural sciences and engineering are 2.310, 2.231, 2.016, 3.840 and 2.698, respectively. The results reveal that students must have a relatively high academic interest to achieve academic excellence in the natural sciences. In the medical sciences, no extra academic interest is needed to gain academic success relative to the natural sciences and engineering programmes, but more academic interest is required than for the humanities or social sciences." How are you able to say no extra academic interest is needed when comparing disciplines? What test did you use? You must report confidence intervals to see if they intersect in order to compare two effect sizes.

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

**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.

Yes

**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**
Please indicate the quality of language in the manuscript:

Acceptable

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