Author’s response to reviews

Title: Job preferences of undergraduate nursing students in eastern China: a discrete choice experiment

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Author’s response to reviews:

Dear Professor Jane E Ball and two reviewers,

We are most grateful for your helpful comments and constructive suggestions for revision of our manuscript “Job preferences of undergraduate nursing students in eastern China: a discrete choice experiment”.

We have now made careful revisions (highlighted in red in the revised manuscript) following your helpful suggestions. Our responses are detailed below:

Response to Reviewer #1

This paper looks at the job preferences of nursing students in the Chinese province of Shandong using a discrete choice experiment. Given nursing shortages in China, and the particular problem of rural nurse shortages, this is an important topic. The methodology is well established and appropriate to the problem. Although I am not an expert in these specific methods, the analysis appears to have been conducted appropriately. The careful development and piloting of the survey instrument and the high response rate among sampled nursing students are positive
features of the paper. There are a number of changes that could be made to strengthen the paper further. Some of the language and terminology used is not as clear as it could be.

1. The role of bianzhi is not explained clearly enough. What do bianzhi do that helps nurses in their role? Key concepts need clearer definition. What is 'work strength'? I think it means the physical effort expended, but this is not clear - table 1 suggests it is mainly about shift patterns? What is an excellent working environment and how does an excellent working environment differ from a poor working environment? Descriptions of these key variables would be better in the text rather than in table 1.

Response: Bianzhi refers to the established posts, and normally it indicates a permanent and secured position in China. As also suggested by the Reviewer #2, we have added a new reference (Brødsgaard, 2002), which explain bianzhi in more details in the revised manuscript. It is hypothesized that nursing student will express a positive preference for the job with Bianzhi.

We have enriched the introduction of those attribute levels in the text as suggested by the reviewer. More detailed explanations on each attribute as well as corresponding levels have been added in Table 1 (which will be inserted right after that introduction paragraph).


2. It would be helpful for an international audience if RMB values could be converted into US dollar values, with the US dollar values included in parentheses.

Response: We have added the corresponding US$ values for WTP in the text. Meanwhile, we have added the official exchange rate in the notes of Tables 1, 3, 5 & 6 for the readers.

According to the OECD data (https://data.oecd.org/conversion/exchange-rates.htm), the average annual exchange rate between US$ and RMB in 2017 was: US$ 1= RMB 6.76.
3. The background section could be more logically structured. The article makes a good case that there is a nursing shortage in China so we need to know more about nurses’ job preferences, but the precise nature of the nursing shortage could be better explained. What I took from this section is that there is no shortage of nurses in tertiary hospitals in urban centers, but that there is a shortage in secondary and primary care, with the shortage being more acute in rural areas, but I am not certain I have understood this correctly, so the precise nature of the shortage could be spelt out more carefully, including a more precise quantitative description of the problem.

Response: Yes, the reviewer is correct. We have revised the first two paragraphs of the Introduction section as suggested.

4. The discussion could spell out more clearly the similarities and differences with similar studies conducted in other countries. At the moment, this is discussed but in a brief and imprecise way.

Response: Thank you for the suggestion. We have added a brief summary at the end of the first paragraph in the Discussion section. More detailed discussions comparing what have been found in our studies versus what have been reported in the literature, as well as policy suggestions can all be found in the Discussion section.

The first paragraph of Discussion section now reads:

“This study has elicited preferences for job attributes among the final year undergraduate nursing students using a DCE. All six attributes (including both economic and non-economic factors) significantly affected the job choices of the students. They preferred a job with higher monthly income, light working strength, excellent work environment, sufficient opportunity for career development and training, bianzhi, and city location. The mixed logit model estimates further suggest the existence of preference heterogeneity in all six attributes. Comparing our results with what have been reported in the literature, all studies have included both monetary and non-monetary attributes in the nursing job choice DCEs; in addition, consistent findings suggest that monetary attribute (e.g. income) had significantly positive impact on the nursing job preference. On the other hand, the non-monetary attributes included in DCE studies varied in the literature (e.g. bianzhi attribute has been included in all studies focusing China, whilst housing attribute
has been commonly included in studies focusing on African countries), partially highlighting the importance of taking into account of the country-specific context. For the same attribute been investigated in different DCEs (e.g. work strength), results are also mixed regarding to the significance and the relative importance.”

5. The logic behind the policy recommendations around the cost effectiveness of different interventions could be more clearly explained, with a clearer line from study results to recommendation.

Response: We did not aim to provide policy suggestions based on cost-effectiveness of different interventions in the original manuscript or in this study since there is a lack of cost-effectiveness evidence attaching to each of interventions. In the manuscript, the policy suggestions are directly following the findings of each attributes in our DCE.

Response to Reviewer #2

Job preferences of undergraduate nursing students in eastern China: a discrete choice experiment. By Tongtong Liu, et al. This manuscript is extraordinarily well planned and well presented. I am fully satisfied with its sections, its references using standard recognized sources, well presented results, with well designed and constructed data, followed by comprehensive discussion and conclusions.

May be, it would be useful to add a reference on the "Bianzhi" for our wide-scope of readers who may wish to know what that term means. I may suggest a simple and well written paper on Bianzhi as follows: Kjeld Erik Brødsgaard (2002). Institutional Reform and the Bianzhi System in China. The China Quarterly, 170 (June, 2002), pp. 361-386.

Response: Thank you very much for this constructive suggestion. We have added this reference in our revised manuscript to explain the means of bianzhi.