Author's response to reviews

Title: Interactions between Social/behavioral Factors and ADRB2 Genotypes May be Associated with Health at Advanced Ages in China

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Author’s response to reviews: see over
Report on how we respond to Editor’s minor comments in further revising our paper

Editor’s Comments: First, in the authors’ response letter, they noted that a justification for inclusion of demographics and socioeconomic variables in the model was provided in the revised version. But I did not see it. This has to be added.

Authors: In our last revised version, we provided the following very simple justification without any reference: “In addition to the primary independent variable, we chose the following independent variables, which are associated with the dependent variables of health outcome being investigated based on the literature and our understanding of the Chinese social context.” We agree with your comment that this justification is too simple, and we now added the following expanded justification and added three relevant references to support our justification:

“Note that the demographic and socioeconomic variables included as covariates in our regression models and discussed above are all associated with the dependent variables of health outcome being investigated, based on the literature [50], our understanding of the Chinese social context, and the previous publications using the CLHLS datasets [29, 44]. Thus, inclusion of these variables in the regression may help to reduce or eliminate the potential confounding bias.”

Editor’s Comments: Second, the MMSE score in the analysis was grouped into <21, 21-23, and >=24 three categories, which is different from the original categories (<10, 10-17, 18-23, >=24). I need a justification and/or sensitivity analysis for this classification.

Authors: Following your suggestion, we revised the sentence which justifies the MMSE classification adopted in this study: “Following the previously adopted practice in the literature, we use the MMSE cutoffs to define cognitive function as “Good” (24+) “Moderate (21-23),” and “Poor” (<21)” [30, 35, 36].” We also tried the ordered logistic regression using the new four categories (<10, 10-17, 18-23, >=24) of MMSE score as the dependent variable, as mentioned by you. The new results shown that our original conclusions concerning the GxE effects essentially remain unchanged (except that one significance level reduced from P<0.05 to P<0.1). We added this additional sensitivity test in the endnote 5 which is revised as follows:

“We also tried the continuous MMSE scores, the four categories (<10, 10-17, 18-23, >=24) of MMSE scores and the dichotomized MMSE scores. The results of the continuous and the alternative classifications of MMSE scores are generally consistent with the estimates using the three categories of the MMSE scores, while the significance level reduced moderately in the continuous model and slightly in the four categories and dichotomized models, as compared to the three-category model we adopted.”

So, it is clear that our conclusions are quite robust to the choice of cut-off point and the
corresponding classification of MMSE.

Reference:


