

# Review of: "Evaluating the Impact of Nutritional and Socioeconomic Factors on Cognitive and Academic Performance in age 6-13 years"

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**Potential competing interests:** No potential competing interests to declare.

With the aim of improving this article to publishable quality, below are some comments and concerns for consideration in revising this work:

1. The study area needs to reflect in the title of the article.
2. The abstract does not adequately state the research problem.
3. Improve the expression of the words by using scientific writing appropriate language. For example, avoid expressions like: that's; can't; etc.
4. What is the nutritional situation in Pakistan? That is, background information on the nutrition situation in Pakistan, especially in Faisalabad district, should be added to the Introduction section since it is the case study of this article.
5. The problem statement needs to be clearly articulated. What the problem is is not coming out. What is the issue in the Pakistan context that the author is trying to address this time around?
6. How does this study differ from Ahsan et al. (2020) and Mian et al. (2002)?
7. The English language should be thoroughly improved throughout the article as most of its contents were not well written, filled with too many typographical & grammatical errors, and had quite a lot of incomplete sentences/statements.
8. Setting: The data obtained for this study, was it done via questionnaire or extracted from a database from each of the selected schools? If via questionnaire, was it a universally-known questionnaire that was adapted for this study or a new questionnaire developed by the author?
9. Who completed the questionnaire – the students or their parents/guardians or the school administration?
10. It should read "... using the purposive sampling technique."
11. How many schools were "purposive-ly" selected for this study in total, and why?
12. The study population should have been the total number of school-going children aged 6-11 in the "purposive-ly" selected schools of the study, out of which the (minimum) sample size for the study can be estimated via a known sample size formula.
13. Study design: How were the 225 students determined? What sample size formula was used to reach 225? How were the 225 students selected across the different regions in the Faisalabad district? What were the inclusion and exclusion criteria for the study?
14. Where is the ethical consideration section of your study, especially when the study is based on school-going children?

15. Statistical analysis: This section is not convincing and falls short. Where are the ANOVA, t-tests, and chi-square tests outputs shown & interpreted within the Results section of this article? On the contrary, the Results section shows outputs from ordered logit analysis and OLS regression techniques. Yet, these techniques were never mentioned under the Statistical analysis section of this article, nor were there any regression model equations shown for them?
16. What version of SPSS was used?
17. Also, provide the justifications for performing all these inferential analyses shown in the Results section of this article. That is, why were they performed in this study?
18. Why do all the figures (Fig. 1 to 3) shown in the Results section not have Y-axis labels?
19. Multivariate analysis: The outputs from the adjusted models for the association between cognitive achievement and nutritional and socioeconomic status of children are presented in a very unconventional and incorrect way in Table 2, while their respective interpretations were wrongly done, and presented in a very unconventional way. Where are the p-values and standard error values? Thus, this whole section needs to be improved, including Table 2, to the standard of an empirical scientific research article - i.e., the inferential analyses need to be properly re-done and the interpretations to be properly aligned to the results of each model, with each model interpreted separately. There are quite a number of recently published empirical papers in the child nutrition areas with different types of modelling outputs (including ordered logit and OLS regression) that the author can consult and follow, especially the methodology and results sections.
20. Discussion: Once the methodology and results sections have been revised as advised, the author will have to re-write his discussion section focusing on the new results' interpretations, bearing in mind that the study discussion should be according to the study objectives.
21. The Conclusion section will need to be re-written focusing on the newly revised discussion section.
22. Where is the recommendation section – especially when this study is tackling one of the critical health concerns in childhood?
23. What were the limitations of this study?
24. The study is either lacking or missing the original contribution to the existing fund of child nutrition knowledge.