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

Arlette Setiawan[1]

1 Universitas Padjadjaran

Potential competing interests: No potential competing interests to declare.

Your study appears to provide a comprehensive analysis of the relationship between nutritional and socioeconomic factors and their impacts on cognitive and academic performance among schoolchildren in Faisalabad, Pakistan. Here are some suggestions for improvement and further consideration:

Clarify Methodological Details:

- **Sample Size Justification**: Explain why you chose 225 students for your study. Including statistical power calculations could strengthen this aspect.
- **Dietary Assessment Methods**: Detail how you measured dietary intake and ensured the reliability of the food frequency questionnaires and food group records. Address any potential biases in dietary self-reporting.

Expand on Socioeconomic Assessments:

- **Detailed SES Analysis**: You could elaborate on how you defined and measured socioeconomic status. Including more specific socioeconomic variables might provide deeper insights, such as employment types, access to healthcare, or housing quality.
- **Interaction Effects**: Consider analyzing interaction effects between nutritional status and different socioeconomic variables to see if certain combinations are particularly detrimental or beneficial.

Enhance Cognitive and Academic Measures:

- **Broader Cognitive Tests**: If possible, incorporate additional cognitive assessments that cover a broader range of cognitive abilities beyond reading and math, such as memory, attention, and executive functions.
- **Longitudinal Tracking**: Suggest potential for a follow-up study to track changes over time, which could provide insights into the long-term impacts of nutrition and SES on academic achievements.

Statistical Analysis:

- **Model Selection**: Discuss why specific statistical tests were chosen and consider whether alternative or additional statistical models might provide further insights, such as mixed-effects models to account for clustering within schools.
- **Confounding Factors**: Address potential confounding factors more thoroughly in your analysis, such as age, gender,

and inherent cognitive abilities.

Discussion of Results:

- **Comparative Analysis**: Compare your results with similar studies in other developing countries to highlight any regional similarities or differences in how nutritional and socioeconomic factors affect cognitive development.
- **Policy Implications**: Discuss how your findings could inform local or national educational and health policies. Suggest specific interventions that could be implemented based on your findings.

Limitations and Future Research:

- Acknowledge any limitations in your study, such as the potential inaccuracies in self-reported data or the inability to establish causality due to the study design.
- Suggest areas for future research, perhaps focusing on intervention studies that aim to improve nutritional status and examine the subsequent effects on cognitive and academic outcomes.