

Review of: "Exploring the Relationship Between Dietary Practices and Academic Performance of High School Students in Tamale Metropolis, Ghana"

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Potential competing interests: No potential competing interests to declare.

Title:

- "Exploring the Relationship Between Dietary Practices and Academic Performance of High School Students in Tamale Metropolis, Ghana" is correctly formatted.

Author Affiliation:

- "University for Development Studies," should be followed by the city name "Tamale, Ghana."

Abstract:

- "A study was conducted to assess dietary practices and their effects on the academic performance of high school students in Ghana." - This sentence could be revised for clarity, perhaps by specifying the purpose of the study more explicitly, e.g., "The aim of this study was to assess the relationship between dietary practices and academic performance among high school students in Ghana."
- "The study hypothesized that dietary diversity has a significant influence on the academic performance of high school students." - This sentence could be rephrased for clarity and conciseness, e.g., "The study aimed to investigate the influence of dietary diversity on the academic performance of high school students."
- "A cross-sectional analytical survey design was used." - This sentence is correct.
- "Descriptive statistics, Pearson correlation, t-test, and ANOVA at 0.05 probability level were used in the data analysis with SPSS computer software." - Consider rephrasing this for clarity, e.g., "Data analysis employed descriptive statistics, Pearson correlation, t-tests, and ANOVA at a significance level of 0.05 using SPSS software."
- "Higher dietary diversity was significantly ($p < 0.05$) correlated with English language ($r = 0.119$) and social studies ($r = 0.184$) scores, while it had no significant relationship with mathematics and science scores." - This sentence is correct.
- "In conclusion, dietary diversity impacts the reading scores of students." - Consider rephrasing this for clarity, e.g., "In conclusion, the study suggests that dietary diversity is associated with students' reading scores."
- "Therefore, students must be diverse in their food intake for better performance." - This conclusion could be more nuanced, acknowledging the need for further research or interventions to confirm causality.

Author Information:

- "Department of Agriculture and Consumer Sciences Education" is correctly formatted.
- "University for Development Studies, P. O. Box TL 1350, Nyankpala campus, Tamale, Ghana." - This line is correct.
- "*Corresponding author:" should be followed by a colon instead of a comma.
- "samuel.tutu@uds.edu.gh" - This email address is correctly formatted.

Introduction:

1. The citation style seems inconsistent (e.g., [1][2], [3], [6][4]). Please ensure that the citations are correctly formatted and ordered.
2. Clarify the meaning of "intellectual development may be negatively impacted by nutritional deficits throughout key stages of brain development." It might be helpful to provide specific examples or evidence to support this claim.
3. Check for redundancy and repetition in the text, such as mentioning the importance of nutrition and its impact on health and academic performance multiple times.
4. Provide more context or explanation for statements like "intellectual development may be negatively impacted by nutritional deficits throughout key stages of brain development." What evidence or research supports this assertion?
5. The sentence "The price of food is a major factor in determining what to eat [10]" seems out of place and could be integrated more smoothly into the surrounding text or expanded upon to provide more context.
6. Check the consistency of terminology used throughout the introduction, such as "adolescents," "children," and "students." Ensure that these terms are used appropriately and consistently.
7. Provide more information on the specific dietary practices or habits of SHS students in Tamale Metropolis, Ghana, and how they may impact academic performance. This could help to better contextualize the study and its objectives.
8. Clarify the research gap or problem that this study aims to address. What is currently unknown or insufficiently understood about the relationship between dietary practices and academic performance among SHS students in Tamale Metropolis, Ghana?
9. Consider providing a brief overview of the structure of the paper to guide the reader through the content of the introduction and the subsequent sections.
10. Ensure that all claims or statements are supported by evidence or citations to relevant research literature. This will enhance the credibility and rigor of the introduction.

Materials and Methods

Study area

- "Fig 1" should be removed from the parenthesis as it seems to refer to a figure that is not included in the text.

Research design

- "Metropolitan" should be capitalized as "metropolitan" in "Metropolitan capital city."
- Consider revising the second sentence for clarity, e.g., "Tamale Metropolis lies between latitudes 9°16' and 9° 34' North and longitudes 0° 36' and 0° 57' West [20]."

Sampling

- The formula for calculating the sample size should be presented in a clearer format, possibly in a separate equation block.
- Consider reformatting the formula for better readability, perhaps by arranging it vertically.
- Ensure that the formula is correctly presented with proper mathematical symbols and spacing.
- The explanation of how the sample size was increased for generalization purposes is clear and accurate.

Instrumentation

- Ensure consistency in punctuation; consider using semicolons or commas consistently in lists.
- Clarify the reference for the dietary diversification table and the household food insecurity access scale, providing publication information if available.
- The explanation of how dietary diversity and household food insecurity were assessed is clear and comprehensive.

Validity and reliability

- Clarify what "reconstruct the questions" means in the context of validating the questionnaire.
- Consider revising "To establish the reliability of the research instrument" for clarity, perhaps by specifying the instrument being referenced.
- Ensure clarity in explaining the Cronbach Alpha formula and how reliability was computed.
- Consider rephrasing "Reliability was calculated to establish internal consistency by the outcome has to be between 0.60 to 0.90, to be reliable." for clarity.

Ethical consideration

- The explanation of ethical considerations is clear and appropriate.

Statistical analysis

- The explanation of the statistical analysis methods used is clear and appropriate.
- Ensure consistency in punctuation and capitalization throughout the section.

Results section:

1. Ensure consistency in presenting numerical data by using the same format throughout the section (e.g., mean age presented with one decimal place, household food insecurity mean score presented with two decimal places).
2. Clarify whether the percentages provided in Table 2 represent the proportion of respondents who sometimes skipped meals or the frequency of skipping meals among those who reported doing so.
3. Provide more context or explanation for statements like "More girls than boys displayed eating behaviors that more closely mirrored those recommended by national and international nutritional guidelines." What specific eating behaviors are being referred to, and how do they relate to nutritional guidelines?
4. Consider providing additional explanations for the observed gender differences in dietary practices and household food

insecurity status. What social or cultural factors might contribute to these disparities?

5. Clarify the interpretation of the correlation between age and dietary diversity. Is it suggesting that older students tend to have a more diverse diet, or is there another explanation?
6. Ensure that all statistical tests and their results are clearly explained and interpreted. For example, in Table 7, it's mentioned that there was a statistical difference in food security status between male and female students, but the specific test used and the significance level are not provided.
7. Provide more context or discussion regarding the findings related to meal skipping and dietary diversity. What implications do these findings have for the overall nutritional status and health of the students?
8. Ensure that all statements and findings are supported by evidence from relevant literature. For example, when discussing the relationship between dietary diversity and academic performance, cite specific studies that support this association.
9. Consider including a discussion of potential limitations of the study, such as the reliance on self-reported dietary practices and the potential for response bias.
10. Clearly summarize the main findings of each subsection before proceeding to the next one to facilitate understanding and retention of information by the reader. This could be done through brief introductory sentences or bullet points.

references:

- **Benton D.** The influence of dietary status on the cognitive performance of children. *Molecular nutrition & food research*. 2010;54(4):457-70.
- **Edefonti V, Rosato V, Parpinel M, et al.** The effect of breakfast composition and energy contribution on cognitive and academic performance: a systematic review. *The American journal of clinical nutrition*. 2014;100(2):626-56.
- **Rampersaud GC, Pereira MA, Girard BL, et al.** Breakfast habits, nutritional status, body weight, and academic performance in children and adolescents. *Journal of the American Dietetic Association*. 2005;105(5):743-60.
- **Adolphus K, Lawton CL, Champ CL, Dye L.** The effects of breakfast and breakfast composition on cognition in children and adolescents: a systematic review. *Advances in Nutrition*. 2016;7(3):590S-612S.
- **Kristo AS, Gültekin B, Öztağ M, Sikolidis AK.** The effect of eating habits' quality on scholastic performance in Turkish adolescents. *Behavioral Sciences*. 2020;10(1):31.
- **Kristo AS, Sikolidis AK.** Malnutrition and cardiometabolic risk among Turkish adolescents: a public health concern during the epidemiological transition. *American Journal of Biomedical Sciences*. 2014;6(4):290-307.
- **Story M, Kaphingst KM, Robinson-O'Brien R, Glanz K.** Creating healthy food and eating environments: policy and environmental approaches. *Annu Rev Public Health*. 2008;29:253-72.
- **Alaimo K, Olson CM, Frongillo EA.** Food insufficiency and American school-aged children's cognitive, academic, and psychosocial development. *Pediatrics*. 2001;108(1):44-53.
- **Alaimo K, Olson CM, Frongillo EA.** Low family income and food insufficiency in relation to overweight in US children: is there a paradox? *Archives of Pediatrics & Adolescent Medicine*. 2001;155(10):1161-67.
- **Jyoti DF, Frongillo EA, Jones SJ.** Food insecurity affects school children's academic performance, weight gain, and social skills. *The Journal of Nutrition*. 2005;135(12):2831-39.

- **Pieper JR, Whaley SE.** Healthy eating behaviors and the cognitive environment are positively associated in low-income households with young children. *Appetite*. 2011;57(1):59-64.
- **Jokin DI-E, Groth M, Johansson L, et al.** A systematic review of socio-economic differences in food habits in Europe: consumption of fruit and vegetables. *European Journal of Clinical Nutrition*. 2000;54(9):706-14.
- **Vereecken C, Maes L.** Young children's dietary habits and associations with the mothers' nutritional knowledge and attitudes. *Appetite*. 2010;54(1):44-51.