

PEER REVIEW HISTORY

BMJ Paediatrics Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Gadget Addiction among School Going Children and its Association to Cognitive Function: A Cross-sectional Survey from Bangladesh
AUTHORS	Liza, Mowshomi Mannan Iktidar, Mohammad Azmain Roy, Simanta Jallow, Musa Chowdhury, Sreshtha Tabassum, Mustari Nailah Mahmud, Tarannum

VERSION 1 – REVIEW

REVIEWER	Reviewer name: Dr. Mashrur Ahmed Institution and Country: University Hospitals Plymouth NHS Trust United Kingdom of Great Britain and Northern Competing interests: None
REVIEW RETURNED	20-Nov-2022

GENERAL COMMENTS	The manuscript provides a clear, in-depth exploration of the cognitive function status of digital screen user school going children. The majority of the essential material has been successfully covered by the authors. The manuscript is simple to read and presents a comprehensive, up-to-date overview of the field. The writing is simple and direct. However, the article needs more grammar correction.
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REVIEWER	Reviewer name: Dr. Syeda Tasnim Tabssum Hridi Institution and Country: Chelsea and Westminster Healthcare NHS Trust, United Kingdom of Great Britain and Northern Ireland Competing interests: None
REVIEW RETURNED	21-Nov-2022

GENERAL COMMENTS	Thank you for asking me to review this paper. In the current era of increased reliance on technology, it's essential to explore how it affects future generations' growth and development. The study has shown a relationship between gadget usage and its impact on cognitive development. However, I would like to highlight some minor revisions that would help make the paper clearer. I have noticed a couple of things that require further review: 1. page 4, line 30: clarify what you mean by future interventions 2. page 6, lines 7/8: check grammar 3. page 8, line 6/8: clarify the line 4. page 9, line 39/41: add AOR 5. page 10, line 12: insert the percentage of participants with gadget addiction 6. Page 10, line 42: omit the phrase as well as poor sleep quality
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	<p>Overall, the paper is written sequentially and constructively. But I would advise the authors to review the paper as a whole for grammar to ensure clarity of what's being said.</p> <p>Thanks.</p>
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REVIEWER	<p>Reviewer name: Dr. Rimpa Hossain Institution and Country: Medway NHS Foundation Trust, United Kingdom of Great Britain and Northern Ireland Competing interests:</p>
REVIEW RETURNED	19-Nov-2022

GENERAL COMMENTS	<p>This is an original manuscript authors demonstrated originality, with clearly defined aim and logical flow of ideas were presented. A good manuscript.</p> <ol style="list-style-type: none"> 1. In page 3, line 13, please review the word "School aged". Should be changed to school going. 2. Please make sure all the abbreviations are properly addressed first time. 3. Please ensure a complete grammar check. 4. Use single format everywhere. In Odds ratio, separate the two values either by "-or "to". 5. Avoid personal pronouns like "we", "our".
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REVIEWER	<p>Reviewer name: Dr. Peter Flom Institution and Country: Peter Flom Consulting, United States Competing interests: None</p>
REVIEW RETURNED	22-Nov-2022

GENERAL COMMENTS	<p>I confine my remarks to statistical and methodological aspects of this paper. Unfortunately, there are some fairly major issues. I am not sure if they can be corrected.</p> <p>p. 3 line 28-30 Chi-square tests do not examine correlations. Nor does logistic regression. And there is no "multivariate correlation". Correlations are inherently bivariate.</p> <p>The conclusions do not follow from the analysis. While the authors don't say, explicitly, that use of gadgets causes poor results in school, their proposed intervention implies it. This is an observational study. It could be that poor cognitive performance causes gadget addiction (e.g. if bad students are more likely to spend time on gadgets). Or it could be that both things are caused by something else.</p> <p>p. 7 lines 11-13 The use of convenience sampling is a further indication that all conclusions should be cautious.</p> <p>The authors state that 769 interviews were done, but not how many requests were sent out. This is needed to assess the response rate. In addition, it is quite possible that the sample is biased. (E.g. parents who are concerned about their kids' gadget use might be more likely to participate).</p> <p>p 7 to 8 - How is the PEDSQL scored? How many points on the Likert scale? Is there any data on the reliability or validity of this instrument?</p>
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	<p>p, 8 line 12-18 First, similar questions for this instrument. Second, dichotomizing the score is a bad idea. It increases type 1 and type 2 error. And it makes no substantive sense. Leave the score as a score.</p> <p>The variables that are listed in Results need to be mentioned and operationalized in Methods. The authors also need to say how the multiple logistic regression model was built. E.g. were all covariates included? Was stepwise selection used? Or LASSO? or what?</p> <p>It would be useful to have information on how the demographics of your sample compare to India generally. Clearly, roughly 50% of kids are boys, but that might not be true of kids in school. But how does income compare? Etc.</p> <p>Nor should income be dichotomized. It is common to categorize it, but just dividing it in half is not a good idea. And the same with parental education. See my blog post https://medium.com/@peterflom/what-happens-when-we-categorize-an-independent-variable-in-regression-77d4c5862b6c Or, for more formal results and proofs see Frank Harrell's book: Regression Modelling Strategies.</p> <p>Figure 2 is not a good method. Indeed, this figure isn't need at all. Each circle only has 2 bits of information, already given.</p>
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VERSION 1 – AUTHOR RESPONSE

Point-by-point response to Editor and Reviewers

Dear Editor,

We hope this letter finds you in good health. Thank you for your and the reviewer's thoughtful comments on our manuscript. We appreciate the opportunity to revise the manuscript.

We hope that you and the reviewers will be satisfied with the further amendments which we have made to the manuscript after taking on board the feedback.

Sincerely,

Dr. Mohammad Azmain Iktidar,

MBBS, MPH Candidate,

Department of Public Health, North South University.

Editor in Chief Comments to Author

You MUST address the points raised by the statistical reviewer

Use one decimal point only for %, i.e. 32.7% not 32.69%

Our Response: It has been addressed.

Focus on presenting the actual results of your survey, not your statistical analysis.

Our Response: It has been addressed.

Without MAJOR changes, we will reject your paper

Our Response: We tried to answer all the concerns raised by the reviewers and made major changes throughout the manuscript.

Associate Editor

Comments to the Author:

Thank you for submitting your manuscript for consideration in BMJPO. Overall, your manuscript received very positive feedback from 3 content reviewers, however the statistical reviewer flagged a number of concerns that need to be addressed, and this may in turn affect your conclusions and discussion. If the authors are able to attend to each of these diligently, the manuscript will then be sent out for reconsideration. I wish the authors all the best and hope this feedback will strengthen the manuscript.

Our Response: We tried to answer all the concerns raised by the reviewers and made necessary changes

throughout the manuscript.

Reviewer: 1

Dr. Rimpa Hossain, Medway NHS Foundation Trust

Comments to the Author

This is an original manuscript authors demonstrated originality, with clearly defined aim and logical flow of ideas were presented. A good manuscript.

1. In page 3, line 13, please review the word "School aged". Should be changed to school going.

Our Response: It has been addressed.

2. Please make sure all the abbreviations are properly addressed first time.

Our Response: All the abbreviations are have been addressed the first time.

3. Please ensure a complete grammar check.

Our Response: A complete grammar check has been done.

4. Use single format everywhere. In Odds ratio, separate the two values either by "-" or "to".

Our Response: It has been addressed.

5. Avoid personal pronouns like "we", "our".

Our Response: It has been addressed.

Reviewer: 2

Dr. Mashrur Ahmed, University Hospitals Plymouth NHS Trust

Comments to the Author

The manuscript provides a clear, in-depth exploration of the cognitive function status of digital screen user school going children. The majority of the essential material has been successfully covered by the authors. The manuscript is simple to read and presents a comprehensive, up-to-date overview of the field. The writing is simple and direct.

However, the article needs more grammar correction.

Our Response: Thanks for the positive review of our paper! A complete grammar check has been done.

Reviewer: 3

Dr. Syeda Hridi, Chelsea and Westminster Healthcare NHS Trust

Comments to the Author

Thank you for asking me to review this paper. In the current era of increased reliance on technology, it's essential to explore how it affects future generations' growth and development. The study has shown a relationship between gadget usage and its impact on cognitive development. However, I would like to highlight some minor revisions that would help make the paper clearer. I have noticed a couple of things that require further review:

1. page 4, line 30: clarify what you mean by future interventions

Our Response: It has been addressed.

2. page 6, lines 7/8: check grammar

Our Response: Thanks for the positive review of our paper! A complete grammar check has been done.

3. page 8, line 6/8: clarify the line

Our Response: It has been addressed.

4. page 9, line 39/41: add AOR

Our Response: It has been addressed.

5. page 10, line 12: insert the percentage of participants with gadget addiction

Our Response: It has been addressed.

6. Page 10, line 42: omit the phrase as well as poor sleep quality

Our Response: It has been addressed.

Overall, the paper is written sequentially and constructively. But I would advise the authors to review the paper as a whole for grammar to ensure clarity of what's being said. Thanks.

Our Response: It has been addressed.

Reviewer: 4

Dr. Peter Flom, Peter Flom Consulting

Comments to the Author

I confine my remarks to statistical and methodological aspects of this paper. Unfortunately, there are some fairly major issues. I am not sure if they can be corrected.

Our Response: Thanks for the detailed remarks. We have addressed them as per your instruction.

p. 3 line 28-30 Chi-square tests do not examine correlations. Nor does logistic regression. And there is no "multivariate correlation". Correlations are inherently bivariate.

Our Response: Thanks for pointing this out. This error was created due to the autocorrection of 'association' with 'correlation'. It is now addressed.

The conclusions do not follow from the analysis. While the authors don't say, explicitly, that use of gadgets causes poor results in school, their proposed intervention implies it. This is an observational study. It could be that poor cognitive performance causes gadget addiction (e.g. if bad students are more likely to spend time on gadgets). Or it could be that both things are caused by something else.

Our Response: Thanks for the comment. It has now been addressed in the discussion. We would like to refer this study as a preliminary study which can lead towards wider research in this area. We agree that a longitudinal study with a control group will give us a clearer understanding of this issue.

p. 7 lines 11-13 The use of convenience sampling is a further indication that all conclusions should be cautious.

Our Response: Thanks for the comment. It has now been addressed in the discussion.

The authors state that 769 interviews were done, but not how many requests were sent out. This is needed to assess the response rate. In addition, it is quite possible that the sample is biased. (E.g. parents who are concerned about their kids' gadget use might be more likely to participate).

Our Response: Thanks for the comment. It has now been addressed in the result.

p 7 to 8 - How is the PEDSQL scored? How many points on the Likert scale? Is there any data on the reliability or validity of this instrument?

Our Response: Thanks for the comment. It has now been addressed in the method.

The variables that are listed in Results need to be mentioned and operationalized in Methods.

Our Response: It has been addressed.

The authors also need to say how the multiple logistic regression model was built. E.g. were all covariates included? Was stepwise selection used? Or LASSO? or what?

Our Response: Thanks for pointing this out. It has now been addressed in the statistical analysis section.

It would be useful to have information on how the demographics of your sample compare to India generally. Clearly, roughly 50% of kids are boys, but that might not be true of kids in school. But how does income compare? Etc.

Our response: Thanks for pointing this out. It has now been addressed in the Discussion section.

Nor should income be dichotomized. It is common to categorize it, but just dividing it in half is not a good idea. And the same with parental education.

See my blog post <https://medium.com/@peterflom/what-happens-when-we-categorize-an-independent-variable-in-regression-77d4c5862b6c> Or, for more formal results and proofs see Frank Harrell's book: Regression Modelling Strategies.

Our Response: Thanks for the suggestion and the resources. Income and parental education have now been categorized instead of dichotomization.

Figure 2 is not a good method. Indeed, this figure isn't need at all. Each circle only has 2 bits of information, already given.

Our Response: Figure 2 has been removed.

VERSION 2 – REVIEW

REVIEWER	Reviewer name: Dr. Syeda Tasnim Tabssum Hridi Institution and Country: Chelsea and Westminster Healthcare NHS Trust, United Kingdom of Great Britain and Northern Ireland Competing interests: None
REVIEW RETURNED	31-Jan-2023

GENERAL COMMENTS	I thank the authors for addressing the concerns raised by me in previous review and working hard to provide some clarity on the affects of gadget in children in this era of technology. I wish them all the best for their research publication.
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REVIEWER	Reviewer name: Dr. Mashrur Ahmed Institution and Country: University Hospitals Plymouth NHS Trust United Kingdom of Great Britain and Northern Competing interests: None
REVIEW RETURNED	30-Jan-2023

GENERAL COMMENTS	Thanks for addressing all comments.
REVIEWER	Reviewer name: Dr. Peter Flom Institution and Country: Peter Flom Consulting, United States Competing interests: None
REVIEW RETURNED	18-Jan-2023
GENERAL COMMENTS	The authors have mostly addressed my concerns and I can now recommend publication

VERSION 2 – AUTHOR RESPONSE