

Review report

Final title: Social media and depression among young adults in Bangladesh: Patterns, predictors, and implications

Title at submission: Social media and depression among young adults: A case study of Rajshahi City, Bangladesh

Submission date: 21-Oct-24  
Revised submission: 20-Feb-25  
Accepted: 8-Mar-25

Reviewer C: Sandeep, ORCID: 0000-0002-5249-5397, COI: None

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| <b>Overview</b><br>The manuscript title "Effects of Social Media on Depression among Young Adults: A Case Study in Rajshahi, Bangladesh" suitable for the likely publication in the journal. |  |
| 1. <b>Comment</b>  | The Results section have major redundancy between text and data visuals (tables/ figures)  |
| <b>Response</b>  | I understand that you mentioned potential redundancy between the text and data visuals (tables/figures). Upon reviewing the manuscript, I believe the text primarily highlights key trends and findings, while the tables and figures provide detailed data for readers' reference. However, I would appreciate further clarification on any specific sections or examples where you identified redundancy. This will help me make targeted adjustments to better align the manuscript with the journal's standards. |
| 2. <b>Comment</b>  | The Discussion section has repetition of results.  |
| <b>Response</b>  | Necessary modifications were made on the Discussion section.   |

Reviewer E: Muhammad Kamal Uddin, ORCID: 0000-0003-2033-8933, COI: None

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| 3. <b>Comment</b>  | The proposed title, "Social Media and Depression among Young Adults in Bangladesh: Patterns, Predictors, and Implications," aligns well with the study's objectives.   |
| <b>Response</b>    | Pleased to hear that it aligns well with the study's objectives. I am happy to accept the title, "Social Media and Depression among Young Adults in Bangladesh: Patterns, Predictors, and Implications." (please see abstract section).                                |
| 4. <b>Comment</b>  | The sampling method (purposive sampling) and data collection mode (face-to-face interviews) should be explicitly mentioned.  |
| <b>Response</b>    | The 'Methods' section of Abstract has been revised accordingly (please see abstract section).  |
| 5. <b>Comment</b>  | The sample size calculation should be briefly explained, highlighting why p = 0.5 was used instead of Bangladesh's 2018 national depression prevalence data.   |
| <b>Response</b>    | It has been described in the 'Data and methods' section of the main text (please see abstract section).160-165.  |
| 6. <b>Comment</b>  | The statistical findings should include odds ratios (OR) and confidence intervals (CI) for key predictors. The demographic breakdown of depression prevalence should be briefly summarized.  |
| <b>Response</b>    | The suggestions are accepted and this section has been revised accordingly (please see abstract section).  |
| 7. <b>Comment</b>  | The implications for mental health interventions, digital literacy programs, and policy recommendations should be mentioned.   |
| <b>Response</b>    | The sentence is written accordingly (please see abstract section).   |
| 8. <b>Comment</b>  | The National Mental Health Survey of Bangladesh (2018) found that depressive disorders affected approximately 4.4% of the general population, with higher rates in urban youth. The introduction should reference this national data to justify the study's relevance. |
| <b>Response</b>    | The introduction section revised accordingly (please see page 5, paragraph 1).   |
| 9. <b>Comment</b>  | The study should explicitly state: The primary research question (Does social media use contribute to depression among young adults in Bangladesh?). The key hypothesis (Higher social media engagement is associated with increased depressive symptoms).             |
| <b>Response</b>    | We incorporated the suggestions. (Please see page 5, last paragraph).  |
| 10. <b>Comment</b> | The authors do not reference the 2018 National Mental Health Survey of Bangladesh, which could have provided a data-driven estimate for p (prevalence of depression in young adults).  |
| <b>Response</b>    | We appreciate your suggestion regarding the use of the 2018 National Mental Health Survey of Bangladesh. We acknowledge that the nationally reported depression prevalence could have provided more accurate estimates of p,   |

particularly for young adults. Thus, the revised sample size calculation method is based on the national prevalence of mental depression (please see page 6).

11. **Comment** Discuss whether adjustments for non-response or missing data were made.  
**Response** Regarding adjustments for non-response or missing data, our study excluded individuals who were physically disabled, outside the 18-30 age range, lacked internet access, or provided incomplete or inconsistent responses (please see page 6, green coloured). This approach was taken to ensure data quality and consistency. Therefore, no imputation or additional statistical adjustments were applied for missing data, as only complete and valid responses were used for analysis.
12. **Comment** Purposive sampling was used, which introduces selection bias and limits generalizability. This limitation should be explicitly acknowledged.  
**Response** We acknowledge that the use of purposive sampling introduces selection bias and limits the generalizability of the findings. We have now explicitly addressed this limitation in the manuscript under the "Limitations" section to provide full transparency. We appreciate your input in helping to improve the clarity and rigor of our work. (please see page 12)
13. **Comment** The PHQ-9 scale is an appropriate measure, but the manuscript should report internal consistency (Cronbach's  $\alpha$ ) of the Bangla version (not Bengali version) used in this sample to confirm reliability.  
**Response** The internal consistency measured by Cronbach's  $\alpha$  for the Bangla version of the PHQ-9 scale in our sample. The Cronbach's  $\alpha$  was calculated and included in the manuscript to confirm the reliability of the measure in this study. (Please see page 8)
14. **Comment** The measurement of social media use needs more detail. What specific aspects were assessed?  
**Response** It has been explained in the subsection "Patient Health Questionnaire-9 items (PHQ-9)".
15. **Comment** Did the questionnaire examine time spent, platform preferences, and content engagement?  
**Response** The questionnaire is examined.
16. **Comment** The manuscript does not clarify how variables were selected for logistic regression.  
**Response** Significantly associated ( $P < 0.05$ ) variables determined by  $X^2$ -test were considered as factors for the binary logistic regression model. It has been mentioned in the text (Sub-section: Statistical analysis).
17. **Comment** The study should report goodness-of-fit statistics (e.g., Nagelkerke  $R^2$ ) to indicate how well the predictors explain depression variability. Clarifying these methodological details will improve the study's rigor and transparency.  
**Response** We appreciate the Editor's insightful suggestion regarding the inclusion of goodness-of-fit statistics. In response, we have incorporated the Nagelkerke  $R^2$  values in the Results section as well as in the Table (Table 5).
18. **Comment** The demographic characteristics of the sample are presented in Table 1, but additional details (e.g., education level, socio-economic status) could improve interpretation.  
**Response** This is a limitation which has been mentioned in the limitation section
19. **Comment** Table 5 (logistic regression results) presents odds ratios, but the interpretation should be expanded.  
**Response** I agree with this suggestion.
20. **Comment** The authors should compare their findings with Bangladesh's national mental health data to contextualize results. The discussion of gender differences in social media's effects should be expanded.  
**Response** We have expanded the discussion to compare our findings with the 2019 NMHS data for better context and explored potential reasons for the differences. Additionally, we have elaborated on gender differences in social media's effects on depression to enhance the depth of our discussion.
21. **Comment** The discussion should provide more concrete recommendations, such as digital literacy programs to promote responsible social media use. Mental health awareness campaigns targeting youth. Interventions for high-risk users, such as excessive social media consumers.  
**Response** The suggestion is considered and the discussion section has been revised accordingly.
22. **Comment** Emphasize the need for longitudinal research to confirm findings. Provide specific, evidence-based policy recommendations. A stronger conclusion would increase the study's relevance to policymakers and mental health professionals.  
**Response** I agree with the comments. Accordingly, I revised the conclusion to emphasize the study's significance in Bangladesh's mental health landscape, highlighted the need for longitudinal research, and provided evidence-based policy recommendations on social media use and mental health awareness.
23. **Comment** The reference list does not fully adhere to APA 7th edition formatting.  
**Response** I reviewed the reference list and ensured it fully adhered to APA 7th edition formatting by making the necessary corrections.

24. **Comment** The second clause of the title should have the study design. All other information should be in the main clause.  
**Response** We appreciate your suggestion regarding the title structure. Accordingly, we have revised the title. (Please see the title lines 2-3).
25. **Comment** Participants: Subjects were residents of 20 halls. Sixty from each hall were recruited for the study. However, the authors describe their residence area as rural and urban. I understand that the hall is located in urban areas only.  
**Response** 'Thank you for your valuable observation, and we apologise for the confusion. Data were collected from 500 young adults (18-30 years) in Rajshahi city, Bangladesh, who have access to the internet. Participants, selected through purposive sampling, were interviewed face-to-face using a structured questionnaire between October 2023 and February 2024. This included both students from 20 residential halls and non-students from various urban areas. We have clarified this in the manuscript (see lines 90-93).
26. **Comment** Authors excluded irregular students. What is the definition of irregular?  
**Response** We did not apply any exclusion criteria related to "irregular students" in our study. Our sample included both students and non-students aged 18-30 years in Rajshahi city, Bangladesh, who have access to the internet. We kindly request clarification on this point to ensure we address any concerns appropriately (please see line: 90-93).
27. **Comment** How did the authors determine the three socioeconomic status, three sleep qualities, three physical health categories, and how was social engagement defined?  
**Response** We appreciate your observation. However, we did not categorise participants into three socioeconomic statuses, three sleep qualities, or three physical health categories, nor did we define social engagement in this study. These aspects were not part of our research objectives. We have reviewed the manuscript to ensure there is no ambiguity regarding these variables.
28. **Comment** Add a small paragraph to the Methods section on ethical concerns that you have addressed. You have some information in the lines for ethics approval.  
**Response** We appreciate your suggestion. We have added a brief paragraph in the Methods section outlining the ethical concerns addressed in the study. (please see the method section, lines: 168-173).
29. **Comment** Please drop lines 138-140.  
**Response** We appreciate your suggestion. We have revised accordingly.
30. **Comment** The conclusion is lengthy. Please make it precise and crisp.  
**Response** We have revised the conclusion to make it more concise and focused, summarizing the key findings and implications in a clear and precise manner.
31. **Comment** Results: The number of tables and graphs could be reduced. Table 1 could be merged with Table 2 by adding one total column.  
**Response** Thank you for your valuable feedback. We appreciate your suggestion regarding the reduction of tables and graphs. However, we would like to clarify that we have not included any graphs in the manuscript, and Table 1 and Table 2 serve distinct purposes. Table 1 presents the background characteristics of the respondents, while Table 2 provides detailed statistical information about the Patient Health Questionnaire-9 (PHQ-9). Given the difference in content and the importance of maintaining clarity, we believe it is more appropriate to keep these tables separate. Nonetheless, we will review the tables again to ensure that they are as concise and informative as possible.
32. **Comment** Drop *P* values, these are redundant to the 95% CIs. You can add asterisks to indicate the significant variables. Our style is to use ORs up to one decimal point.  
**Response** We agree that your suggestions are more relevant to Table 4 and Table 5, which present the results of the univariate and multivariate analyses. We will make the necessary adjustments, such as dropping the *p*-values where redundant with the 95% confidence intervals, adding asterisks to indicate significant variables, and rounding the odds ratios (ORs) to one decimal point, as per the style guidelines. These changes will be made to ensure consistency and clarity in the presentation of the results.
33. **Comment** Figure 1 is redundant to Table 2. Drop it.  
Figure 2 is not necessary. One sentence text description is enough. Drop it.  
If you agree, the manuscript will have three tables only. I recommend to reduce the length of the manuscript to 2000 words and 20 references.  
**Response** Table and figure related issues have already been minimized. We will review the content and ensure that the length is minimised without compromising the clarity and quality of the manuscript. We will also adjust the reference list accordingly.
34. **Comment** Provide ORs and their CIs up to one decimal point.  
**Response** We have revised the manuscript accordingly by providing ORs and their CIs up to one decimal point as per your recommendation.
35. **Comment** Please replace the highlights with a Key Message of 50-60 words. These would be in descriptive terms, not in bullets. This is because of the BSMMUJ's change in the style.

**Response** It has been revised the highlights into a Key Message in descriptive format as per the journal's updated style. (please see lines: 38-42).

36. **Comment** The Introduction (not the Background) could be shorter.

**Response** I appreciate your suggestion regarding the Introduction. I have revised the section to make it more concise while retaining the essential context to align with the journal's requirements.

37. **Comment** Follow the BSMMUJ's style for the author contribution.

**Response** We have revised the Author Contributions section following the BSMMU Journal's style. (please see lines: 295-300)

38. **Comment** We use the Vancouver style. Please change the reference format.

**Response** I appreciate the clarification regarding the reference style. We revised the references according to the Vancouver style as per the journal's guidelines using EndNote.