

Daily social media use, sleep quality, and anxiety levels among university students: a cross-sectional survey

Paper Review Report

Decision: Major Revision

Overall Score: 42

Data2Paper Reviewer Panel

October 31, 2026

Editorial Decision

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Decision

Major Revision

This decision is provisional. Only one of the five expected review reports is usable:

- The EIC report is present but cuts off mid-sentence in its Weaknesses section (W1 Suggestion).
- The Methodology, Domain, Perspective and Devil's Advocate reports are empty.

The EIC recommends **Reject (in current form; substantially re-conceived re-submission encouraged)**, with Confidence 4. I did not treat that single recommendation as a panel verdict, and I did not invent findings for the missing reviewers. I placed the decision one tier above the EIC's recommendation for these reasons:

- The concerns about novelty and data validity might be resolved by reframing, documenting the data and adding stronger measurement.
- The EIC credits the manuscript with transparency, internal consistency and clear writing.
- Four of five perspectives are absent, so the evidence does not support a final rejection.

If the missing reports are recovered, this synthesis should be re-run. If they independently confirm the novelty and data-provenance concerns, Reject becomes the appropriate outcome.

Overall Score

42 / 100

This reflects one partial report and is not a panel average. The paper is clearly written, honest about its limits and arithmetically consistent, but its incremental contribution is weak and its data validity is in question.

Critical Issues

All issues below come from the EIC report. No other reviewer has corroborated or contested them.

- **Negligible incremental contribution.**
 - The stated gap is “direct and sleep-mediated components within one model in a university sample.”
 - The EIC says this is not a real gap. The manuscript cites Adams & Kisler (2013), who tested sleep quality as a mediator between technology use and

depression/anxiety in college students.

- The Discussion concedes the results “agree qualitatively” with that study. The sleep-mediation framework is also established for adolescents and young adults (Woods & Scott, 2016; Levenson et al., 2017).
- The EIC notes no new population, platform- or content-level distinction, longitudinal element, objective usage data, validated instrument or theoretical refinement.
- **Implausibly large effect size.** The social media–anxiety association is reported as $\beta^* = 0.704$ ($R^2 = 0.495$). The EIC says this raises questions about the validity and provenance of the estimates. The authors discuss it frankly, but the EIC does not consider the discussion sufficient.
- **Data anomalies.** The EIC reports an out-of-range value (the manuscript’s §3.2 acknowledges one) and non-integer values on supposedly 1–10 single-item measures.
- **Undocumented sampling and ethics.** The EIC reports that the sampling procedure and ethical approval are not documented.
- **Measurement and design limits.** Every focal construct is a single self-report item, and the design is cross-sectional. The authors acknowledge both, but the EIC holds that the limitations cannot compensate for the lack of contribution.

Summary of Reviewer Agreement

No consensus can be established. [CONSENSUS-4] and [CONSENSUS-3] require at least three non-empty reports, and only one is available.

The EIC does identify points that I would expect any reviewer to check, but I am recording them as single-reviewer findings: - The paper is clearly written and candid about its limitations (single items, cross-sectional design, shared method variance, low-power nulls). - The mediation arithmetic is internally consistent: $0.367 + 0.092 = 0.459$, $0.092/0.459 \approx 20\%$, and $(-0.340)(-0.269) \approx 0.092$. - The conclusions are appropriately hedged. The non-significant ANOVAs are read as absence of evidence, not evidence of equivalence.

Summary of Reviewer Disagreement

No disagreement can be identified, because there is only one substantive report. Two weighting decisions were made:

- **EIC Reject vs. Major Revision.** I weighted the EIC’s concerns as follows:
 - The novelty concern is a high-confidence finding (Confidence 4, within the EIC’s core remit). It is not fully curable by editing and drives the Major Revision rather than a lower tier.
 - The data-provenance concerns are curable through documentation and re-checking

the data.

- The EIC defers statistical detail to Reviewer 1, whose report is empty. I therefore did not rule on the statistical validity of the $\beta^* = 0.704$ estimate, the bootstrap with 400 resamples, or the analysis-wise deletion.
- **Devil’s Advocate.** The report is empty, so there are no DA-CRITICAL items to track. This gap should be noted in any re-run.

Integrity Notes

`integrity_verification.json` shows all 14 references were checked and verified, with none not found and none mismatched. This confirms the references exist and the titles match. It does not confirm that each source supports the claim it is cited for, and the integrity check does not address the EIC’s data-provenance concerns about the survey itself.

Revision Roadmap

Revision Roadmap

Basis and limitations. Every item below traces to the EIC report, the only usable review. The EIC’s W1 Suggestion is truncated after “(c) a longitudinal or experience-sampling design, (”, and the EIC’s later weaknesses are absent. Items from the Methodology, Domain, Perspective and Devil’s Advocate reviewers are therefore missing. The roadmap should be expanded once those reports are recovered.

Recommended revision window: 6–8 weeks (Major Revision). Substantive changes to measurement or design may require new data collection and a further round of review.

Priority 1 — Must fix or the decision drops a tier

- ☐ [P1] Reframe the contribution honestly and demonstrate genuine incremental value over Adams & Kisler (2013) and related work.
 - *Raised by:* eic
 - *Section:* Introduction; Theoretical Framework and Hypotheses; Discussion
 - *Suggestion:* Remove or substantiate the claim that few studies estimate direct and sleep-mediated paths “within one model in a university sample.” Position the study explicitly as a replication or extension of Adams & Kisler (2013), Woods & Scott (2016) and Levenson et al. (2017). State what is new, such as a different population, a different outcome or a more precise estimate of the share mediated. If nothing new can be claimed, the paper will need an added element (see the measurement and design items below).

- **[P1]** Add a genuine contribution through stronger measurement or design.
 - *Raised by:* eic
 - *Section:* Method (Measures); Discussion
 - *Suggestion:* The EIC proposes any of the following:
 - * Validated multi-item measures, such as the PSQI for sleep and the GAD-7 or STAI for anxiety.
 - * Bedtime-specific or problematic-use indicators instead of total daily hours.
 - * A longitudinal or experience-sampling design.

The EIC's list continues beyond the truncation point. If new data collection is impossible, say so and explain how the paper still meets the journal's novelty threshold.
- **[P1]** Document the sampling procedure, recruitment, response rate and ethics approval.
 - *Raised by:* eic
 - *Section:* Method (Sample)
 - *Suggestion:* State how participants were recruited, the sampling frame, inclusion criteria, the number approached and the number who responded. Report the ethics committee name and approval number, plus the consent procedure. Without this, the EIC treats the dataset's provenance as unestablished.
- **[P1]** Resolve the data anomalies: the out-of-range value and the non-integer values on 1–10 single items.
 - *Raised by:* eic
 - *Section:* Method (Measures); Results (Descriptive Statistics)
 - *Suggestion:*
 - * Explain how the out-of-range value arose, which variable it affects, how it was handled and whether any substantive result changes when it is excluded or corrected.
 - * Explain how non-integer values arose on items that should be integer-scored (for example, slider input, averaging or recoding).
 - * Report the data-cleaning rules and the number of cases affected.
 - * Ideally, supply the data and analysis code, or a data availability statement.
- **[P1]** Substantiate or qualify the unusually large social media–anxiety association ($\beta^* = 0.704$, $R^2 = 0.495$).
 - *Raised by:* eic
 - *Section:* Results (Regression Analysis); Discussion
 - *Suggestion:* Show that the estimate is not an artefact of data handling, shared method variance, range restriction or the anomalies above. For example, report robustness checks such as sensitivity to outliers and bivariate plots. Compare the effect size explicitly with prior literature. The authors already discuss

this value frankly, but the EIC treats it as bearing on whether the estimates can be relied on. Statistical specifics should be confirmed against Reviewer 1's report once available.

Priority 2 — Should fix to improve acceptance probability

- ☐ [P2] Justify the gender and study-year tests theoretically, or reduce their weight.
 - *Raised by:* eic
 - *Section:* Theoretical Framework (H5–H6); Results (Group Difference Tests); Discussion
 - *Suggestion:* The EIC describes these tests as non-significant, underpowered and motivated only loosely by Twenge (2000). Either supply a stronger theoretical rationale with specific predictions, or present them as exploratory and move them to a secondary position. Report the minimum detectable effect for the group sizes.
- ☐ [P2] Make the comparison with prior mediation estimates specific.
 - *Raised by:* eic
 - *Section:* Discussion
 - *Suggestion:* The Discussion says the results “agree qualitatively” with Adams & Kisler (2013). Compare the magnitude of the indirect effect and the proportion mediated with the earlier estimates, where reported. Say what the measurement differences (single items vs. multi-item scales) imply for comparing results.
- ☐ [P2] Qualify the practical conclusions in light of the weakened measurement and novelty position.
 - *Raised by:* eic
 - *Section:* Conclusions and Implications
 - *Suggestion:* The EIC credits the existing hedging as appropriate. After the revisions above, check that the practical recommendations still match what the revised evidence supports.

Priority 3 — Optional polish

- ☐ [P3] Keep the candour of the limitations sections when revising.
 - *Raised by:* eic
 - *Section:* Method (Measures); Results; Limitations and Future Research
 - *Suggestion:* The EIC cites the transparent treatment of single-item measurement, cross-sectional limits, shared method variance and underpowered nulls as a strength. Preserve it. Update the Limitations section so it reflects any new measures, design changes or data-handling corrections made in response

to the P1 items.

- **[P3]** Add a short statement of the manuscript's novelty relative to the cited literature in the abstract.
 - *Raised by:* eic
 - *Section:* Abstract
 - *Suggestion:* Once the contribution is reframed (first P1 item), make the abstract's opening and closing sentences consistent with it, so readers see the paper's position as a replication or extension.

Items pending

- Findings from the **Methodology, Domain, Perspective and Devil's Advocate** reviewers are not included, because those reports were empty.
- Anything the EIC raised after the truncation point of W1, including any further weaknesses (W2 onward) or recommendations, is not included.
- Once the missing reports are available, re-run the synthesis. Add items, reclassify priorities where consensus emerges, and reassess the decision.

Reviewer Reports

Editor-in-Chief

Peer Review Report

Manuscript Information

- **Title:** Daily social media use, sleep quality, and anxiety levels among university students: a cross-sectional survey (An empirical study of direct and sleep-mediated associations)
 - **Manuscript ID:** Not provided
 - **Review Date:** Not provided
 - **Review Round:** Round 1
-

Reviewer Information

Reviewer Role *

Editor-in-Chief (EIC) / Senior Associate Editor

Reviewer Identity *

Senior Associate Editor of a specialized cyberpsychology and digital mental health journal (comparable to *Cyberpsychology, Behavior, and Social Networking* or *Computers in Human Behavior Reports*). I screen survey-based submissions on youth media use and well-being for novelty, reader interest and incremental contribution. Strictness: high.

Review Focus *

This review concerns originality, journal fit, significance, and above all the incremental contribution over existing mediation studies of technology use, sleep and affective symptoms in student samples. It is a bird's-eye assessment. Detailed methodological critique is left to Reviewer 1, but I flag data-provenance and measurement issues that bear directly on the editorial decision.

Overall Assessment ***Recommendation ***

- ☐ Accept
- ☐ Minor Revision
- ☐ Major Revision
- ☒ **Reject** (in current form; a substantially re-conceived resubmission, or submission to a venue with a lower novelty threshold, is encouraged)

Confidence Score *

4: The topic and the journal's readership are well within my expertise. I defer to Reviewer 1 on statistical detail.

Summary Assessment *

The manuscript analyses a cross-sectional survey of 280 university students. Daily social media hours, a single-item sleep-quality rating and a single-item anxiety rating are related through simple regressions, a 400-resample bootstrap mediation model and one-way ANOVAs. The authors report a very strong social media–anxiety association ($\beta^* = 0.704$, $R^2 = 0.495$). Sleep quality “partially mediates” this association (indirect effect 0.092, about 20% of the total). Anxiety does not differ by gender or study year.

The paper is clearly written and commendably candid about its limitations. As a contribution to a journal that expects novelty, it falls short. The central model (technology use $\rightarrow$ sleep quality $\rightarrow$ anxiety, in college students) was already estimated by Adams and Kisler (2013), which the authors cite as their own motivating evidence. The stated gap, that few studies estimate direct and mediated paths “within one model in a university sample”, is therefore not a real gap. Every focal construct is a single self-report item, the design is cross-sectional, and no new theoretical, methodological or population element is added.

Several features of the dataset raise questions about provenance and validity. These include an implausibly large effect size, an out-of-range value, undocumented sampling and ethics, and non-integer values on supposedly 1–10 single items. Together they prevent me from treating the estimates as a reliable addition to the literature. Honest limitations cannot compensate for an absent incremental contribution.

Strengths *

S1: Transparent and self-critical reporting

The authors openly acknowledge single-item measurement (§3.2, §4.2, Table 3), the cross-sectional limits on the mediation model (“a statistical decomposition, not ... a temporal or causal process”, §4.6), shared method variance, the low-power null findings (§4.3) and the out-of-range depression value (§3.2). This is better practice than is common in the genre. The discussion of the unexpectedly large $\beta^* = 0.704$ (§5) is also commendably frank.

S2: Coherent, parsimonious hypothesis structure with internally consistent statistics

The six hypotheses map one-to-one onto the analyses (Table 1). The mediation arithmetic is internally consistent: $0.367 + 0.092 = 0.459$ total effect, $0.092/0.459 \approx 20\%$, and $-0.340 \times -0.269 \approx 0.092$. The H3 standardised coefficients are consistent with the reported correlations in Table 5. This makes the paper easy to follow and verify.

S3: Clear writing and appropriate hedging in the conclusions

The prose is concise and well organised. The practical recommendations (§6) are explicitly qualified as correlational. The paper correctly reads the non-significant ANOVAs as “absence of evidence, not ... evidence of equivalence” (§4.3).

S4: Topic of ongoing practical relevance

Student well-being, screen use and sleep are of continuing interest to counselling services and policymakers. The attempt to quantify how much of the use–anxiety link runs through sleep is, in principle, a useful question for readers.

Weaknesses ***W1: The incremental contribution over existing mediation work is negligible**

Problem: The Introduction states that “fewer [studies] estimate the direct and sleep-mediated components within one model in a university sample.” The authors themselves cite Adams and Kisler (2013), who tested sleep quality as a mediator between technology use and depression/anxiety in college students, and the Discussion concedes that the results “agree qualitatively” with that study. The sleep-mediation framework is also well established for adolescents and young adults (Woods & Scott, 2016; Levenson et al., 2017). The paper adds no new population, platform-level or content-level distinction, longitudinal element, objective usage data, validated instrument, or theoretical refinement. The only novelty is a modest “share mediated” estimate from a weaker measurement set than the prior study used. The demographic tests (gender, year) are non-significant, underpowered and not theoretically motivated beyond a loosely applied citation (Twenge, 2000). **Why it matters:** For a journal screening for novelty, a conceptual replication with poorer measures and no added insight does not meet the bar. Readers gain little they cannot infer from the existing literature. Calling this a “gap” overstates the case. **Suggestion:** Reframe honestly as a replication or extension and justify what it adds. Better, add a genuine contribution, for example (a) validated multi-item measures (PSQI, GAD-7 or STAI), (b) bedtime-specific or problematic-use indicators rather than total hours, (c) a longitudinal or experience-sampling design, (

Methodology Reviewer**Domain Expert****Field Perspective Reviewer****Devil’s Advocate****Integrity Check**

Total references: 14

Checked: 14

Verified: 14

Not found: 0

Mismatched: 0

14 verified, 0 not found, 0 mismatched of 14 references

Citation	DOI	Status	Note
[1] Adams, S. K., & Kisler, T. S. (2013). Sleep Quality as a Mediator Between Technology-Related Sleep Quality, Depression, and Anxiety. <i>Cyberpsychology Behavior and Social Networking</i> . https://doi.org/10.1089/cyber.2012.0157	10.1089/cyber.2012.0157	verified	Sleep Quality as a Mediator Between Technology-Related Sleep Quality, Depression, and Anxiety
Berryman, C., Ferguson, C. J., & Negy, C. (2017). Social Media Use and Mental Health among Young Adults. <i>Psychiatric Quarterly</i> . https://doi.org/10.1007/s11126-017-9535-6	10.1007/s11126-017-9535-6	verified	Social Media Use and Mental Health among Young Adults
Carpenter, J. S., & Andrykowski, M. A. (1998). Psychometric evaluation of the pittsburgh sleep quality index. <i>Journal of Psychosomatic Research</i> . https://doi.org/10.1016/s0022-3999(97)00298-5	10.1016/s0022-3999(97)00298-5	verified	Psychometric evaluation of the pittsburgh sleep quality index
Harvey, A. G. (2002). A cognitive model of insomnia. <i>Behaviour Research and Therapy</i> .	10.1016/s0005-7967(01)00061-4	verified	A cognitive model of insomnia

Citation	DOI	Status	Note
Julian, L. J. (2011). Measures of anxiety: State-Trait Anxiety Inventory (STAI), Beck Anxiety Inventory (BAI), and Hospital Anxiety and Depression Scale-Anxiety (HADS-A). Arthritis Care & Research. https://doi.org/10.1002/acr.20561	10.1002/acr.20561	verified	Measures of anxiety: State-Trait Anxiety Inventory (STAI), Beck Anxiety Inventory (BAI), and Hospital Anxiety and Depression Scale-Anxiety (HADS-A)
Krystal, A. D., & Edinger, J. D. (2008). Measuring sleep quality. Sleep Medicine. https://doi.org/10.1016/s1389-9457(08)70011-x	10.1016/s1389-9457(08)70011-x	verified	Measuring sleep quality
Levenson, J. C., Shensa, A., Sidani, J. E., Colditz, J. B., & Primack, B. A. (2017). Social media use before bed and sleep disturbance among young adults in the United States: A nationally representative study. Sleep.	10.1093/sleep/zsx143	verified	Social Media Use Before Bed and Sleep Disturbance Among Young Adults in the United States: A Nationally Representative Study
Nelson, K. L., Davis, J. E., & Corbett, C. F. (2021). Sleep quality: An evolutionary concept analysis. Nursing Forum. https://doi.org/10.1111/nuf.12659	10.1111/nuf.12659	verified	Sleep quality: An evolutionary concept analysis
O'Day, E. B., & Heimerl, R. G. (2021). Social media use, social anxiety, and loneliness: A systematic review. Computers in Human Behavior Reports. https://doi.org/10.1016/j.chbr.2021.100070	10.1016/j.chbr.2021.100070	verified	Social media use, social anxiety, and loneliness: A systematic review

Citation	DOI	Status	Note
Twenge, J. M. (2000). The age of anxiety? The birth cohort change in anxiety and neuroticism, 1952–1993. <i>Journal of Personality and Social Psychology</i> . https://doi.org/10.1037//0022-3514.79.6.1007	10.1037//0022-3514.79.6.1007	verified	The age of anxiety? The birth cohort change in anxiety and neuroticism, 1952–1993.
Vannucci, A., Flannery, K. M., & Ohannessian, C. M. (2016). Social media use and anxiety in emerging adults. <i>Journal of Affective Disorders</i> . https://doi.org/10.1016/j.jad.2016.08.040	10.1016/j.jad.2016.08.040	verified	Social media use and anxiety in emerging adults
Wolfers, L. N., & Utz, S. (2022). Social media use, stress, and coping. <i>Current Opinion in Psychology</i> . https://doi.org/10.1016/j.copsyc.2022.101305	10.1016/j.copsyc.2022.101305	verified	Social media use, stress, and coping
Woods, H. C., & Scott, H. (2016). #Sleepyteens: Social media use in adolescence is associated with poor sleep quality, anxiety, depression and low self-esteem. <i>Journal of Adolescence</i> . https://doi.org/10.1016/j.adolescence.2016.05.018	10.1016/j.adolescence.2016.05.018	verified	#Sleepyteens: Social media use in adolescence is associated with poor sleep quality, anxiety, depression and low self-esteem
Yi, H., Shin, K.-R., & Shin, C. (2006). Development of the Sleep Quality Scale. <i>Journal of Sleep Research</i> . https://doi.org/10.1111/j.1365-2869.2006.00544.x	10.1111/j.1365-2869.2006.00544.x	verified	Development of the Sleep Quality Scale