

Predicting Depressive Symptoms Among Adolescents Based on Social Media Addiction and Self-Esteem: The Mediating Role of Social Comparison

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E d i t o r	R e v i e w e r s
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1. Round 1

1.1. Reviewer 1

Reviewer:

The discussion of social comparison should be refined to differentiate general social comparison orientation from platform-specific upward social comparison. The manuscript states that “Social comparison may represent a particularly important mechanism linking both social media addiction and self-esteem with depressive symptoms,” yet the Iowa-Netherlands Comparison Orientation Measure assesses a broad dispositional comparison tendency and does not specifically measure social-media-based comparison, upward comparison, appearance comparison, or comparison with influencers. This distinction should be acknowledged throughout the Introduction, Methods, Discussion, and figure interpretation so that the proposed mediation mechanism is not described more specifically than the measurement instrument permits.

In the Methods section, the statement that “A total of 412 adolescents participated in the study” should be supplemented with an a priori sample-size or power justification. Given that the primary analysis uses structural equation modeling and bootstrapped indirect effects, the authors should report how the required sample size was determined, including the assumed effect size, desired statistical power, significance level, number of estimated parameters, or another accepted SEM-based

criterion. Without such justification, it is difficult to evaluate whether the study was adequately powered specifically for mediation analysis rather than merely sufficiently large in an absolute sense.

The analytic specification requires clarification regarding whether SEM was conducted using latent variables or observed composite scores. The Results present paths among four scale totals and do not report a measurement model, suggesting that this may actually be an observed-variable path analysis conducted in AMOS rather than a full latent-variable SEM. The authors should use the correct terminology consistently. If scale totals were used as observed variables, the method should be described as path analysis within an SEM framework. If latent constructs were modeled, the measurement model, factor loadings, residuals, and measurement fit statistics must be reported.

Table 1 reports satisfactory skewness and kurtosis, but the assumption testing described in the Methods is incompletely represented in the Findings. The Methods mention Mahalanobis distance, tolerance, and variance inflation factors, yet no numerical results are presented. The statement that these diagnostics “did not reveal” problems is too general. The authors should report the range of VIF and tolerance values, the criterion used for Mahalanobis distance, the number of cases exceeding the critical value if any, and how missing data were handled. If multivariate normality was evaluated, Mardia’s coefficient or another appropriate statistic should also be considered.

Authors uploaded the revised manuscript.

1.2. Reviewer 2

Reviewer:

The sampling description requires greater reproducibility. The Methods state that participants were recruited “from public secondary schools located in urban and suburban areas of Ontario, Canada, using a multistage sampling procedure,” but the number of school districts, number of schools, geographic regions, number of classes, school selection process, class selection process, and response rate are not reported. These details should be added. The authors should also specify how many adolescents were initially approached, how many consented, how many were excluded, and how the final analytic sample of 412 was obtained.

The ethical procedures require more complete reporting. The Methods currently state that “Ethical principles concerning research involving adolescents...were observed throughout the research process,” but this is insufficient for a manuscript involving minors and assessment of depressive symptoms, including an item related to death or self-harm. The authors should identify the approving institutional research ethics board, approval number, date of approval, procedures for parental consent and adolescent assent, confidentiality protections, and the specific safeguarding protocol triggered by endorsement of the PHQ-9 self-harm item. If data were collected anonymously, the authors should explain how risk management was ethically implemented when potentially high-risk responses could not be linked to individual participants.

The eligibility criterion “having used at least one social media platform regularly during the previous six months” is not operationally defined. The manuscript should specify what qualified as “regular” use, for example daily use, weekly use, a minimum duration, or self-identification as an active user. Similarly, the exclusion criterion referring to “patterned or indiscriminate responding” should be operationalized by describing the statistical or procedural rule used to identify such responses. Explicit thresholds are necessary to ensure replicability and prevent post hoc exclusion decisions.

The psychometric reporting for the Bergen Social Media Addiction Scale, Rosenberg Self-Esteem Scale, Iowa-Netherlands Comparison Orientation Measure, and PHQ-9 should extend beyond Cronbach’s alpha. Because the manuscript relies on latent theoretical constructs and SEM, the authors should ideally report evidence of factorial validity in the present sample, such as confirmatory factor analysis results, standardized factor loadings, composite reliability, and, where appropriate, average variance extracted. At minimum, the authors should report whether previously validated adolescent English-language versions were used and whether any wording was adapted for the Canadian secondary-school context.

The use of the PHQ-9 in adolescents warrants additional methodological clarification. The sentence “The PHQ-9 has been widely applied in adolescent research and provides a concise measure of depressive symptom severity” is reasonable, but the manuscript should specify whether the standard PHQ-9 or an adolescent-adapted version was administered and whether any

cutoffs were considered descriptively. Importantly, because the dependent variable is labeled “depressive symptoms,” the authors should consistently avoid terminology that could be interpreted as a diagnosis of depressive disorder. The distinction between symptom severity and clinical diagnosis should be maintained throughout the manuscript.

The statistical analysis section states that “Model adequacy was evaluated using multiple goodness-of-fit indices, including the chi-square statistic relative to degrees of freedom (χ^2/df), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Goodness-of-Fit Index (GFI), and Root Mean Square Error of Approximation (RMSEA).” However, the Findings do not report these indices. This is a substantial omission because model fit is essential evidence for interpreting SEM coefficients. The authors should provide χ^2 , df, χ^2/df , CFI, TLI, RMSEA with its 90% confidence interval, and preferably SRMR. Reliance on GFI alone is not recommended in contemporary SEM reporting, so SRMR should be added and GFI may be retained only as supplementary information.

Authors uploaded the revised manuscript.

2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.