





Modeling the Psychological Determinants of Digital Addiction: The Mediating Roles of Loneliness, Self-Control, and Emotional Dysregulation

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1. Round 1

1.1. Reviewer 1

Reviewer:

In the introduction, the paragraph discussing “digital addiction as a multidimensional behavioral phenomenon” is well written but somewhat overgeneralized. The authors should add a more precise explanation of whether digital addiction is treated in this study as a clinical disorder, a behavioral risk pattern, or a non-diagnostic continuum of problematic use. This distinction is important because the field remains diagnostically heterogeneous, and the interpretation of results differs depending on whether the construct is framed clinically, behaviorally, or psychosocially.

In the introduction paragraph beginning with “Among the psychological determinants of digital addiction, loneliness has received substantial empirical attention,” the authors provide a strong conceptual justification for loneliness, but the causal language should be softened. Statements such as “loneliness may drive individuals toward online environments” are acceptable, but the manuscript later implies stronger directional pathways. Given the cross-sectional design, the introduction should consistently use language such as “may be associated with,” “may contribute to,” or “may function as a vulnerability factor,” rather than wording that suggests confirmed temporal causation.

In the introduction paragraph addressing self-control, the sentence “Digital platforms are designed to capture and retain attention through variable rewards, notifications, endless scrolling, personalized recommendations, social feedback, and rapid novelty” is relevant and theoretically important. However, the authors should connect this platform-design explanation more directly to the selected self-control measure. It would be useful to explain how the Brief Self-Control Scale captures behavioral inhibition, impulse regulation, and goal-directed persistence in relation to digital reward systems.

In the introduction paragraph on emotional dysregulation, the manuscript states that “Digital environments provide immediate opportunities for mood modification, distraction, validation, and avoidance.” This is an important mechanism, but the authors should clarify whether emotional dysregulation is expected to mediate the loneliness–digital addiction relationship because loneliness increases negative affect, because dysregulated users prefer avoidant coping, or because digital platforms reinforce short-term affective relief. These are related but distinct pathways, and specifying the assumed mechanism would improve the theoretical precision of the structural model.

In the final introduction paragraph, the aim of the study is stated clearly, but the manuscript would benefit from explicit hypotheses immediately before the aim. For example, the authors could specify that loneliness is expected to positively predict digital addiction, emotional dysregulation is expected to positively predict digital addiction, self-control is expected to negatively predict digital addiction, and emotional dysregulation and self-control are expected to mediate the association between loneliness and digital addiction. Adding these hypotheses would make the transition from literature review to analysis more methodologically transparent.

In the methods section, the paragraph “This study employed a quantitative, cross-sectional correlational design” appropriately describes the design, but the sampling procedure requires further detail. The authors mention that participants were recruited through “online advertisements distributed via universities, community organizations, and social media platforms across several Canadian provinces,” yet the manuscript does not identify which provinces were represented, whether quotas were applied, or whether the sample was balanced geographically. Since the study is described as Canadian, the authors should report the regional distribution of the participants or clarify that the sample was a convenience sample of Canadian residents.

In the methods section, the participant eligibility criteria state that respondents had to be “at least 18 years of age, residing in Canada for a minimum of one year, possessing sufficient English language proficiency, and reporting daily use of digital devices.” Please clarify how these criteria were verified. For example, the manuscript should state whether screening questions were used before survey access, whether IP restrictions were applied, whether residence was self-reported, and whether English proficiency was assumed based on completion of the English-language questionnaire.

In Table 2, the measurement model fit indices are strong, but the manuscript does not report factor loadings, error variances, or the structure of the measurement model. The figure includes indicators such as ED1–ED6, LON1–LON5, SC1–SC5, and DA1–DA5, suggesting that item parcels or subscale parcels may have been used. The authors should explicitly explain how these indicators were created. If parceling was used, the rationale, parceling method, and implications should be reported because parceling can improve model fit while obscuring item-level misfit.

In Table 3, the structural path “Emotional Dysregulation → Self-Control” is theoretically plausible, but the manuscript should justify the directionality of this path. Since self-control can also influence emotion regulation, the opposite direction is equally plausible in a cross-sectional design. The authors should either provide stronger theoretical justification for modeling emotional dysregulation as antecedent to self-control or test and report an alternative model comparing the reverse pathway.

In the paragraph under Figure 1, the manuscript states that “loneliness influenced digital addiction both directly and indirectly through sequential effects involving emotional dysregulation and diminished self-control.” This interpretation should be revised to avoid causal overstatement. Because the data are cross-sectional, the authors should use wording such as “was associated with digital addiction directly and indirectly” or “the model was consistent with a sequential pathway.” This change is necessary to align the interpretation with the research design and avoid implying longitudinal mediation.

Authors revised and uploaded the document.

1.2. Reviewer 2

Reviewer:

In the methods paragraph reporting that “responses from 642 participants were retained for statistical analysis,” the manuscript should provide an a priori or post hoc sample-size justification for structural equation modeling. Although the text states that the sample exceeded minimum recommendations, this claim should be supported by a concrete rationale, such as the participant-to-parameter ratio, anticipated effect size, desired statistical power, number of latent variables, number of observed indicators, or Monte Carlo/power-based reasoning. This would improve the methodological defensibility of the SEM analysis.

In the data collection tools section, the manuscript uses the Smartphone Addiction Scale–Short Version to assess “digital addiction.” This requires careful justification. The SAS-SV was developed specifically for smartphone addiction, not necessarily for all forms of digital addiction. If the study title and model refer to digital addiction broadly, the authors should either justify the SAS-SV as an acceptable proxy for digital addiction in the present sample or revise the terminology throughout the manuscript to “smartphone addiction” or “problematic smartphone use” for conceptual and measurement consistency.

In the data collection tools section, the manuscript provides general psychometric descriptions of each scale, but it should also report reliability coefficients from the present sample. Although Table 1 later reports Cronbach’s alpha and composite reliability values, the methods section should briefly state that internal consistency was evaluated in the current dataset. The authors should also specify whether scale scores were treated as observed composite scores or whether item parcels/latent indicators were created for SEM.

In the data analysis section, the sentence “The hypothesized structural model was then evaluated using Structural Equation Modeling with the maximum likelihood estimation method” is appropriate, but the authors should specify whether multivariate normality was assessed. Maximum likelihood estimation assumes approximate multivariate normality, and the manuscript currently reports only univariate skewness and kurtosis. Please add information on Mardia’s coefficient or explain whether robust estimation or bootstrapping was used to reduce bias due to potential non-normality.

In the findings section, the demographic paragraph reports that participants had a mean age of 31.84 years and included 52.3% female and 47.7% male respondents. However, the manuscript should clarify whether gender categories beyond male/female were assessed and, if so, how they were handled analytically. If only binary gender categories were offered, this should be acknowledged as a limitation because it may reduce inclusivity and limit interpretation of gender-related representativeness in a Canadian adult sample.

In Table 1, the reported mean for digital addiction is 31.84, which is identical to the reported mean age in the demographic paragraph. Please verify whether this is coincidental or an error. Because the digital addiction scale mean is a central descriptive statistic, the authors should recheck the dataset and ensure that the descriptive values in Table 1 accurately correspond to the correct variables. Any repeated or suspiciously identical values should be corrected before submission.

In Table 1, the correlations among digital addiction, loneliness, self-control, and emotional dysregulation are all strong and statistically significant. While this supports the proposed model, the high negative correlation between emotional dysregulation and self-control ($r = -.71$) raises potential concerns about multicollinearity or construct overlap. The authors should report variance inflation factor values, tolerance statistics, or latent-variable discriminant validity indices to demonstrate that emotional dysregulation and self-control are empirically distinguishable constructs.

Authors revised and uploaded the document.

2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.