

Deep Learning Classification of Suicidal Ideation from Electronic Health Records

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1. Round 1

1.1. Reviewer 1

Reviewer:

The literature review is reasonably comprehensive but somewhat descriptive rather than analytical. Many studies are listed in sequence with brief summaries; this makes it harder to see how the existing findings converge, diverge, or leave contradictions that your study addresses. I suggest restructuring the review thematically (e.g., by constructs, contexts, or methodological approaches) and for each theme, critically comparing studies (sample, methods, main findings, limitations) and then concluding each thematic subsection with 2–3 sentences that explicitly connect that body of work to the need for your study.

The conceptual/theoretical framework is present but could be made more rigorous and visually clear. Some key constructs are used without sufficiently operational definitions, and the expected relationships between variables (e.g., predictors, mediators, moderators, outcomes) are not consistently justified by theory. It would strengthen the paper to: (a) provide concise, theory-grounded definitions for each construct; (b) ensure that every hypothesized relationship is supported by explicit theoretical or empirical reasoning; and © add or refine a figure that clearly illustrates the proposed model, including directionality of effects and any moderating/mediating paths.

The methodology section contains the core information but lacks some critical details necessary for replication and for assessing internal validity. Information about sampling strategy, inclusion/exclusion criteria, sample size justification (e.g., power analysis or rule-of-thumb), and data collection procedures is either missing or only briefly mentioned. I recommend

adding a clearly labeled “Participants and Sampling” subsection and a “Procedure” subsection, ensuring you specify: (a) the population and sampling method (probability vs. non-probability, type), (b) response rate and handling of non-response, and © ethical approval and informed consent procedures, if applicable.

Measurement and instrument quality need to be reported more systematically. While you mention some scales or items, the development/translation/adaptation process, reliability, and validity evidence are not always clearly described. To align with best practices, please specify, for each key construct: (a) the source of the scale (with proper citation), (b) any translation/back-translation or cultural adaptation procedures, © internal consistency indices (e.g., Cronbach’s alpha, composite reliability) and cutoff criteria, and (d) evidence of construct validity (e.g., factor loadings, AVE, discriminant validity tests) if you performed factor analysis or structural modeling.

The data analysis section reports results but would benefit from a clearer rationale for the chosen statistical techniques and from more transparent reporting of assumptions and diagnostics. For each main analysis, it would be helpful to state why this method is appropriate given your research questions and data structure, and to briefly report how you checked key assumptions (normality, independence, homoscedasticity, multicollinearity, etc.). Additionally, I encourage you to report effect sizes and confidence intervals alongside p-values, and to structure the results in a way that follows the order of hypotheses or research questions to improve readability.

The presentation of tables and figures can be improved to meet international journal standards. Some tables appear dense, lack clear titles that state what is being shown (not only which variables), and in some cases the notes under tables do not fully explain abbreviations or statistical indicators. Please ensure all tables and figures are numbered consistently, have self-contained titles and notes, adhere to a consistent decimal/rounding convention, and avoid redundant information between text and tables (i.e., highlight and interpret key patterns in the text rather than repeating every numerical value).

Authors uploaded the revised manuscript.

1.2. Reviewer 2

Reviewer:

The description of the passive sensing framework is rich and convincingly ties specific telemetry features (mobility, accelerometer, nocturnal use, keystroke dynamics) to core depressive phenomenology (social withdrawal, circadian disruption, psychomotor retardation); nonetheless, the paper should provide a more structured, possibly tabular, mapping of each raw sensor stream to derived features, units, aggregation windows, and clinical interpretation to facilitate replication and cross-study comparison.

The LSTM modeling pipeline is described at a high level (multivariate daily sequences, dropout, Adam optimizer, binary cross-entropy, train/validation/test split), but key details needed for reproducibility and rigorous evaluation are missing, including exact architecture (number of layers and units per layer), sequence length used as input, hyperparameter tuning strategy, handling of class imbalance, and whether any nested cross-validation or temporal cross-validation was employed to mitigate overfitting on a single cohort.

While the results section suggests clinically meaningful behavioral changes in the 14-day pre-relapse window (reduced mobility and activity, increased nocturnal device use, lengthened inter-key intervals) and indicates statistical significance, the absence of precise effect sizes, confidence intervals, and exact p-values in the text, along with missing entries referenced in Tables 1 and 2, impairs the reader’s ability to gauge the robustness and practical magnitude of these associations; these quantitative details should be reported explicitly and consistently.

Authors uploaded the revised manuscript.

2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief's decision: Accepted.