

Predicting Somatic Complaints from Personality Traits and Smartphone-Derived Behavioral Data Using Machine Learning

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1. Round 1

1.1. Reviewer 1

Reviewer:

The sentence “Neuroticism has consistently been associated with heightened symptom sensitivity...” would be strengthened by briefly distinguishing trait neuroticism from state negative affect, particularly because machine-learning models may capture both stable and transient variance.

When stating “smartphone-derived data... have emerged as valuable indicators of mental and physical health states”, the authors should explicitly acknowledge potential construct validity limitations of passive sensing proxies (e.g., sleep regularity inferred from inactivity).

In the eligibility criteria paragraph, the rationale for excluding individuals with “severe neurological disorder or psychotic condition” should be briefly explained in terms of data validity or behavioral distortion.

Authors revised the manuscript and uploaded the document.

1.2. Reviewer 2

Reviewer:

In the paragraph discussing “excessive screen time, irregular usage rhythms...”, it is unclear whether the current study conceptualizes these behaviors as risk factors, correlates, or behavioral manifestations of somatic complaints. Please clarify the assumed causal stance.

The paragraph beginning “The relevance of such integrative approaches is further underscored by cross-cultural considerations” would benefit from a brief justification of why Armenia is theoretically or empirically relevant for digital phenotyping research.

The final sentence “Accordingly, the present study aims to predict somatic complaints...” is clear, but it should explicitly mention model comparison and incremental prediction as central objectives to align with later analyses.

The sentence “The final sample size was determined based on the requirements of supervised machine learning modeling” is insufficiently precise. Please report the exact sample size and justify it using either empirical rules (e.g., events-per-predictor) or simulation-based reasoning.

Authors revised the manuscript and uploaded the document.

2. Revised

Editor’s decision: Accepted.

Editor in Chief’s decision: Accepted.