


## Machine-Learning Prediction of Academic Stress from Working Memory Load and Neuroticism Facets

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### R e v i e w e r s

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## 1. Round 1

### 1.1. Reviewer 1

Reviewer:

While the use of advanced machine learning algorithms, particularly eXtreme Gradient Boosting (XGBoost), demonstrates a modern approach to data analysis and adds to the predictive validity of the findings, a more detailed explanation of the model selection criteria and validation processes would enhance the rigor of the methodology.

The paper provides valuable insights that bridge cognitive psychology, personality theory, and computational modeling. It effectively demonstrates that academic stress is a complex, nonlinear phenomenon. Expanding the theoretical framework to include broader psychological constructs could further enrich the discussion.

The recommendations for future studies hint at intriguing directions for academic inquiry. Specifically, longitudinal studies that incorporate diverse cognitive tests and physiological stress indicators can advance our understanding of academic stress mechanisms over time.

Authors revised and uploaded the document.

## 1.2. Reviewer 2

Reviewer:

The findings regarding working memory capacity and stress vulnerability present intriguing implications for educational interventions. However, it would be beneficial to discuss specific educational strategies that could leverage these insights to support students with different working memory capacities.

The observation that high emotional vulnerability can neutralize the protective benefits of a high working memory capacity is particularly noteworthy. This interaction deserves further exploration—perhaps examining coping mechanisms that might mitigate this effect could lead to practical applications in academic settings.

The identification of contextual support variables such as secure attachment styles and familial support highlights the importance of a holistic approach to student well-being. Further research could investigate how these variables interact dynamically with cognitive and emotional factors across various educational contexts.

The manuscript acknowledges significant limitations, including reliance on self-report measures that may introduce biases. It would strengthen the study to explore alternative assessment methods or include physiological measures of stress, which could provide a more objective understanding of the constructs being studied.

Authors revised and uploaded the document.

## 2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.