

# AI-Based Prediction of Social Anxiety: Interactions Among Intolerance of Uncertainty, Self-Focused Attention, Safety Behaviors, and Fear of Evaluation

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## 1. Round 1

### 1.1. Reviewer 1

Reviewer:

In the paragraph beginning “One of the most prominent cognitive constructs implicated in anxiety disorders is intolerance of uncertainty...”, the definition is appropriate, but the theoretical framework is not explicitly anchored to a specific model (e.g., Dugas’ model of GAD). You should explicitly situate this construct within a formal theoretical lineage to enhance conceptual rigor.

In the paragraph “Fear of evaluation, particularly fear of negative evaluation, represents a core feature of social anxiety...”, the sentence “This construct is closely linked to attentional biases...” would benefit from more precise operationalization. Specify which types of attentional bias (e.g., vigilance vs. avoidance) are implicated to avoid conceptual ambiguity.

In the same section, the inclusion criterion “without a current diagnosis of severe psychiatric disorders” raises methodological concerns. Explain how diagnoses were assessed (self-report vs. clinical interview), as this has implications for sample validity.

In the “Measures” subsection, the sentence “All instruments demonstrated acceptable reliability coefficients (Cronbach’s alpha > 0.80)” is insufficiently detailed. Report exact alpha values for each instrument to allow for proper psychometric evaluation.

In the “Data analysis” section, the statement “outliers were assessed through Mahalanobis distance and winsorized where necessary” requires more transparency. Specify the cutoff threshold and proportion of data affected, as winsorization can influence model performance.

In the same section, the sentence “Hyperparameter tuning was conducted using grid search optimization” lacks methodological detail. You should report the parameter ranges and evaluation criteria used during tuning to ensure reproducibility.

In Table 1 interpretation (“all predictor variables demonstrated moderate to strong positive correlations...”), the acknowledgment of “potential multicollinearity” is appropriate, but the justification “VIF values remained below 5” is not sufficient. Consider reporting exact VIF values and tolerance statistics for transparency.

Authors revised and uploaded the document.

## 1.2. Reviewer 2

Reviewer:

In the paragraph “Another critical cognitive mechanism in social anxiety is self-focused attention...”, the claim “this inward attentional bias is often triggered in situations characterized by uncertainty or evaluative threat” is theoretically important but insufficiently supported. Consider strengthening this claim with more direct empirical evidence or meta-analytic references.

In the paragraph “Behavioral responses, particularly safety behaviors, constitute another fundamental component...”, the sentence “their effectiveness may vary depending on contextual factors” is underdeveloped. Specify which contextual moderators (e.g., situational threat intensity, individual coping style) influence safety behavior efficacy.

In the paragraph discussing COVID-19 (“The global context of uncertainty, particularly during the COVID-19 pandemic...”), the integration feels somewhat tangential. You should more explicitly connect pandemic-related uncertainty to the core model variables rather than presenting it as a general contextual observation.

In the paragraph “Despite the substantial body of research...”, the sentence “they are often limited in their ability to capture complex, nonlinear relationships” is accurate but overly generic. It would strengthen the manuscript to explicitly contrast regression-based approaches with ensemble methods (e.g., bias–variance trade-off, interaction detection).

In the methods section (“The present study employed a cross-sectional predictive design...”), the use of the term “stratified random sampling” requires clarification. Provide explicit details on stratification variables and sampling frames, as true randomization in online recruitment is rarely achievable.

Authors revised and uploaded the document.

## 2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.