

# Conceptual Model of the Relationship Between Metacognitive Learning Strategies and Meta-Emotion with Academic Engagement Mediated by Attributional Styles in Students With High and Low Levels of Anxiety

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## Reviewers

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## 1. Round 1

### 1.1. Reviewer 1

Reviewer:

In the sentence “Empirical evidence indicates that metacognitive competence predicts not only academic achievement but also sustained engagement...”, the manuscript cites multiple studies but does not sufficiently distinguish direct from indirect effects. Consider clarifying whether prior findings support direct prediction, mediated pathways, or both, to better justify the proposed mediation model.

The stated aim is clear; however, it would be methodologically stronger to explicitly mention that the model is tested using multi-group or moderation analysis rather than only stating “high and low levels of test anxiety.”

In the paragraph describing positive and negative meta-emotion, the rationale for collapsing six subcomponents into two higher-order factors should be explained more explicitly, ideally with reference to second-order factor modeling or theoretical parsimony.

The sentence “the total effects indicated that metacognitive learning strategies and positive meta-emotion had the strongest overall influence” would benefit from a comparative statement quantifying the relative magnitude of effects to aid interpretation.

Authors uploaded the revised manuscript.

### 1.2. *Reviewer 2*

Reviewer:

The discussion of meta-emotion is theoretically strong; however, the paragraph beginning “Meta-emotion refers to individuals’ emotional reactions to their own emotions” would benefit from a concise example situated in an academic context (e.g., responding emotionally to exam anxiety) to improve conceptual accessibility for readers unfamiliar with meta-emotional constructs.

In the paragraph on attributional styles, the manuscript references classic attribution theory but does not explicitly justify why attributional styles are positioned as a mediator rather than an antecedent. A short theoretical rationale grounded in cognitive appraisal theory would strengthen this modeling decision.

The sentence “Recent studies suggest that the relationship between cognitive-emotional resources and academic engagement may vary depending on students’ levels of anxiety” is pivotal. However, the manuscript does not clearly state whether moderation by anxiety is theoretically expected to be amplifying or buffering. Clarifying this expectation would improve hypothesis coherence.

The calculation method described in the sentence “a composite attributional style score is derived by subtracting the negative event score from the positive event score” raises concerns about loss of dimensional information. The authors should justify why separate dimensions were not modeled in SEM.

While AVE and CR values are reported, HTMT ratios are not included. Given current best practices in PLS-SEM, reporting HTMT would strengthen the evidence for discriminant validity.

In Table 3, the total effects are reported without standard errors or p-values. While this is sometimes acceptable, a brief justification or supplemental reporting would improve statistical transparency.

Authors uploaded the revised manuscript.

## 2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.