KMANPUB Health Nexus Vol. 4 No. 3 (2026)

Article history:
Received 24 January 2026
Revised 07 March 2026
Accepted 14 March 2026
Published online 01 April 2026

A Predictive Model of Academic Well-Being Based on Achievement Goal Orientations: The Mediating Role of Academic Buoyancy among Female Secondary School Students

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1. Round 1

1.1 Reviewer 1

Reviewer:

The paragraph stating that “Performance-approach goals may weaken buoyancy when setbacks threaten the intended display of competence” presents a uniformly negative hypothesis, although performance-approach orientation has produced mixed and context-dependent findings in achievement-goal research. The theoretical review should acknowledge that performance-approach goals can sometimes be positively related to effort, persistence, grades, or engagement, depending on perceived competence, classroom climate, and evaluative conditions. The authors should explain why a negative association was specifically expected in this sample rather than merely inferred after observing the results. Developing competing or conditional hypotheses would provide a more scientifically balanced account and would prevent the discussion from treating a theoretically heterogeneous construct as intrinsically maladaptive.

In Section 2.2, the sentence “The statistical population comprised female students in Grades 10, 11, and 12 who attended public and private upper-secondary schools in Tehran” is not followed by the size of the target population, the sampling frame,

or the distribution of public and private schools. The authors should report the approximate population from which the sample was drawn, identify the administrative source of the school list, and specify how many eligible schools existed in each selected education area. It should also be clarified whether schools were stratified by public/private status before selection. Without this information, it is difficult to assess the representativeness of the sample or determine whether the stated multistage cluster random sampling procedure was implemented with equal or unequal selection probabilities.

The Measures section reports only Cronbach's alpha coefficients, including a very high total-scale alpha of .95 for a multidimensional academic well-being instrument. Alpha assumes essential tau-equivalence and may be misleading for multidimensional measures. The authors should report McDonald's omega or composite reliability for each latent construct and avoid interpreting a total alpha as evidence of unidimensionality. In addition, convergent validity should be evaluated through standardized loadings and average variance extracted, while discriminant validity should be examined through an appropriate criterion such as HTMT or comparisons of latent correlations with AVE. These psychometric analyses are especially necessary because the study's primary conclusions depend on a latent structural model.

Section 2.4 states that "Informed consent was obtained from the students and their parents," but the procedural details are insufficient for research involving minors in school settings. The authors should distinguish parental consent from student assent, explain how voluntariness was protected when questionnaires were administered at school, state whether teachers were present, and clarify whether refusal had any academic consequences. The procedure for maintaining confidentiality should also be described, including whether questionnaires were anonymous, whether identifiable codes were used, how data were stored, and who had access. Because academic burnout and well-being can reveal psychological distress, the manuscript should also state whether students received referral information or access to school counseling when responses indicated substantial difficulty.

The chronology of data collection and ethical approval needs verification. The sample is described as being recruited during the "2024–2025 academic year," whereas the ethics code contains the year designation "1404," which may correspond to a later portion of the study period depending on the exact approval date. The authors should report the full approval date and the exact months of recruitment to demonstrate that ethics approval preceded participant enrollment and data collection. This is not merely an administrative detail; prospective ethics approval is a fundamental requirement, and any apparent temporal discrepancy must be resolved transparently in the Methods section.

The Statistical Analysis subsection states that the study evaluated "multivariate normality, and multivariate outliers," but no diagnostic statistics or decision rules are reported. The authors should provide Mardia's multivariate skewness and kurtosis coefficients, the critical ratio for multivariate kurtosis, the Mahalanobis-distance criterion, the number of observations flagged as outliers, and how those observations were handled. They should also identify the AMOS estimation method, presumably maximum likelihood, and explain whether bootstrap estimation or another robust procedure was used if multivariate normality was violated. Merely stating that assumptions were evaluated does not allow readers to assess whether the estimator and significance tests were appropriate.

Authors revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Reviewer:

Health Nexus
E-ISSN: 2981-2569

The sampling paragraph reports that four education areas were selected, followed by one school from each area and one classroom from each grade, meaning that the sample was clustered within only four schools and approximately twelve classrooms. This hierarchical structure violates the independence assumption underlying conventional Pearson correlations and single-level SEM because students within the same classroom or school may share teachers, assessment climates, socioeconomic characteristics, and peer norms. The authors should report intraclass correlation coefficients or design effects for the principal variables and explain whether standard errors were adjusted for clustering. If multilevel SEM is not feasible because there are only four school-level clusters, the limitation should be explicitly acknowledged, and sensitivity analyses using cluster-robust procedures should be considered where statistically defensible.

The sample-size justification in Section 2.2 is too general. The sentence "The source study used the conventional recommendation of at least 200 participants for SEM" relies on a rule of thumb without specifying the number of freely estimated parameters, expected effect sizes, latent-variable structure, indicator reliability, or desired statistical power. Moreover, the repeated expression "the source study" is inappropriate and creates uncertainty about whether the manuscript reports an original investigation, a secondary reconstruction, or results transferred from another document. The authors should replace this language with a transparent, study-specific justification based on an a priori power analysis, Monte Carlo simulation, or at minimum a clearly calculated participant-to-parameter ratio. The number of estimated parameters and the treatment of missing data should also be stated.

The measurement description for academic well-being requires substantial clarification. The sentence "Academic well-being was measured using the 31-item Academic Well-Being Questionnaire developed by Tuominen-Soini et al. (2012)" should be supported by precise information about the original instrument, its item composition, scoring system, language adaptation, and prior validation in Iran. The authors should identify how many items belong to each dimension, which items were reverse-scored, whether burnout was reversed before computing a favorable total score, and whether the questionnaire was translated through forward–backward translation. Evidence of content validity, factorial validity, and measurement equivalence for Persian-speaking secondary-school students is needed; reporting Cronbach's alpha alone is insufficient to establish validity.

The reported scoring and descriptive results raise a potentially serious inconsistency concerning school burnout. Section 2.3 states that "higher scores indicat[e] more favorable academic well-being after appropriate scoring," yet Table 2 reports school burnout as negatively correlated with mastery and buoyancy but positively correlated with performance goals, which suggests that higher burnout scores represent poorer functioning and were not reverse-coded at the dimension level. More importantly, school burnout is reported as positively correlated with academic satisfaction ($r = .32$) and task engagement ($r = .38$), relationships that are theoretically counterintuitive and inconsistent with the stated scoring logic. The authors should recheck raw coding, reverse-scored items, the correlation matrix, and table transcription. They must explicitly state whether the burnout indicator was reverse-coded before inclusion in the latent academic well-being construct; otherwise, the direction and interpretation of the structural coefficients may be invalid.

Authors revised the manuscript and uploaded the updated document.

2. Revised

Editor's decision after revisions: Accepted.

Editor in Chief's decision: Accepted.

Health Nexus
E-ISSN: 2981-2569