

Peer Review

Review of: "Which Attributes Explain Gender Differences in Impostor Syndrome Scores in Medicine and Health Sciences Students: A Secondary Multivariate Analysis"

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This study provides a valuable and methodologically interesting contribution by examining gender differences in Impostor Syndrome (IS) through item-level analysis of the Clance Impostor Phenomenon Scale and by constructing a canonical composite variable to identify dominant contributors to gender disparities among medical and health sciences students. The large sample size, high internal consistency of the instrument, and use of multivariate analysis strengthen the reliability of the findings, particularly the identification of self-doubt and fear-of-failure dimensions as stronger drivers of IS in women and overcompensation/perfectionism tendencies in men. However, several improvements would enhance the robustness and interpretability of the study. The cross-sectional and secondary nature of the dataset limits causal inference and should be more clearly emphasized when discussing gender-specific mechanisms and intervention recommendations. The analysis would benefit from adjustment for potential confounders such as academic year, clinical exposure, specialty interest, academic performance, and psychological comorbidities, which may influence IS expression independently of gender. Additionally, the construction and validation of the canonical composite variable require stronger statistical justification, including cross-validation or confirmatory factor modeling to ensure stability and generalizability. The predominance of female participants and the single-country sampling restrict external validity and should be addressed through multi-center or cross-cultural replication. Finally, the discussion could better integrate theoretical frameworks explaining gendered cognitive and sociocultural

influences on IS to strengthen conceptual interpretation. Addressing these aspects would significantly improve the methodological rigor, generalizability, and translational impact of the study.

Declarations

Potential competing interests: No potential competing interests to declare.