Anatomy Education Environment Measurement Inventory (AEEMI): a cross-validation study in Malaysian medical schools

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Abstract

Background: The Anatomy Education Environment Measurement Inventory (AEEMI) evaluates the perception of medical students of educational climates with regard to teaching and learning anatomy. The study aimed to cross-validate the AEEMI, which was previously studied in a public medical school, and proposed a valid universal model of AEEMI across public and private medical schools in Malaysia.

Methods: The initial 11-factor and 132-item AEEMI was distributed to 1930 pre-clinical and clinical year medical students from 11 medical schools in Malaysia. The study examined the construct validity of the AEEMI using exploratory and confirmatory factor analyses.

Results: The best-fit model of AEEMI was achieved using 5 factors and 26 items (χ^2 = 3300.71 (df = 1680), $P <$ 0.001, χ^2/df = 1.965, Root Mean Square of Error Approximation (RMSEA) = 0.018, Goodness-of-fit Index (GFI) = 0.929, Comparative Fit Index (CFI) = 0.962, Normed Fit Index (NFI) = 0.927, Tucker–Lewis Index (TLI) = 0.956) with Cronbach's alpha values ranging from 0.621 to 0.927. Findings of the cross-validation across institutions and phases of medical training indicated that the AEEMI measures nearly the same constructs as the previously validated version with several modifications to the item placement within each factor.

Conclusions: These results confirmed that variability exists within factors of the anatomy education environment among institutions. Hence, with modifications to the internal structure, the proposed model of the AEEMI can be considered universally applicable in the Malaysian context and thus can be used as one of the tools for auditing and benchmarking the anatomy curriculum.

Keywords: Anatomy education environment, Learning environment, Educational climate, Validity, Reliability

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