

## SYMPAB - (16023) - ACCEPTING EVOLUTION: EXAMINING INSTRUMENTS' VALIDITY ASPECTS USING UNIVERSITY STUDENTS AND CREATIONISTS

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### Short Abstract

*The assessment of attitudes towards evolution is a central issue for science education research. Problems concerning measurements' validity and operationalisation have been addressed consecutively. In the last years, several authors investigated validity aspects of different acceptance measures by comparing responses based on the same samples of university students. However, they came to diverging conclusions about the instruments' and results' comparability. This study examines validity aspects and results of often-used evolution acceptance instruments by comparing answer patterns of university students and self-identified creationists. Creationists' responses can provide information about instruments' validity, since creationists should, by definition, achieve lower acceptance scores. A total of 221 university biology students and 101 self-identified creationists participated in a survey comprising of several established evolution acceptance instruments (i.e. ATEVO, GAENE, I-SEA, MATE) and poll questions (100-point, Gallup). Correlation analyses revealed significant small ( $r = .23$ ) to large ( $r = .77$ ) relationships among the instruments with varying levels within the groups. Regression analyses indicated that group affiliation explains between 15.9% (I-SEA) and 79.9% (Gallup) variance of the instruments' or poll questions' scores. Adding personal data increased the explained variance by an average of 2.6%. Our results indicate that all instruments seem to be capable of measuring creationist beliefs but with varying levels of credibility. Questionnaires with several items allow a more differentiated reasoning pattern than typical poll questions.*

**Keywords:** Measurement, Evaluation, Quantitative methods