

Innovations in psychometric modelling: New approaches to understanding psychological measurement

Friday, September 12, 2025 9:00 AM (1h 30m)

This symposium highlights innovative approaches to psychometric modelling aimed at advancing the assessment and understanding of psychological constructs. The four contributions showcase diverse methodologies that go beyond traditional frameworks to better capture the complexity of human behaviour and measurement.

The first presentation evaluates the use of Exploratory Graph Analysis (EGA) to assess discriminant validity, demonstrating the utility of network psychometrics as an alternative to Structural Equation Modelling (SEM). The second applies generalised linear mixed-effects models to derive Rasch-like parametrisation of both accuracy and response time data in cognitive and social psychology experiments, offering a novel approach to modelling individual differences in psychological measures. The third explores the application of effect-variant models, which treat both participants and items as random factors, to questionnaire data, emphasising their capacity to account for respondent and item-level variability in a flexible, multilevel structure. The fourth contribution presents the development of a digital assessment tool to evaluate both mathematical competence and emotional responses to mathematics. The tool's psychometric properties are analysed using the two-parameter logistic (2PL) model within the Item Response Theory (IRT) framework, allowing for nuanced evaluation of item difficulty and discrimination parameters across cognitive and affective dimensions.

Together, these contributions reflect a shared commitment to methodological innovation in psychometrics, illustrating how modern statistical techniques can enhance psychological measurement's precision, interpretability, and scope.

If you're submitting a symposium talk, what's the symposium title?

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If you're submitting a symposium, or a talk that is part of a symposium, is this a junior symposium?

No

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