

# Assessing Discriminant Validity in Clinical Psychology: Combining Exploratory Graph Analysis and Structural Equation Modeling

Friday, September 12, 2025 9:40 AM (20 minutes)

**Background:** Discriminant validity (DV) is present when two measures of similar, yet distinct constructs exhibit a correlation that is sufficiently low to consider them as distinct. Multiple strategies exist for evaluating DV, but recent recommendations highlighted Structural Equation Modeling (SEM) as a robust approach, although contemporary techniques such as Exploratory Graph Analysis (EGA) also offer significant insights.

**Methods:** This study combines EGA and SEM in evaluating DV for four instruments whose DV had not previously been established: the Uncertainty in Illness Questionnaire (UIQ), Intolerance of Uncertainty Scale-Revised (IUS), Penn State Worry Questionnaire (PSWQ), and General Anxiety Disorder 7-items (GAD-7), all utilized within the DIPPS project.

**Results:** First, EGA (1,000 parametric bootstraps) on the items of all four measures successfully identified the underlying dimensions, with all stability indices exceeding 0.85. No problematic EGA cross-loadings emerged, further confirming DV among the scales.

Then, using SEM latent correlations with 95% bootstrapped confidence intervals were estimated freely among the measures, with all values remaining below the threshold of 0.85, thereby supporting the presence of DV (RMSEA= .050, SRMR= .055; CFI= .992; UIQ~~IUS = 0.532, 95%CI[0.518, 0.546]; UIQ~~PSWQ = .553, 95%CI[.521, .546]; UIQ~~GAD-7= .489, 95%CI[.472, .505]; PSWQ~~IUS= 0.708, 95%CI[0.696, 0.719]; IUS~~GAD-7= 0.561, 95%CI[0.546, 0.577]; PSWQ~~GAD-7= .758, 95%CI[.745, .771]).

**Conclusions:** The preliminary application of EGA to DV assessment produced outcomes consistent with those from confirmatory SEM, suggesting that modern network-based methods represent effective integrations into traditional approaches. This combined performance underscores the potential for contemporary methods to integrate established practices in psychometrics.

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Innovations in psychometric modelling: New approaches to understanding psychological measurement

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**Session Classification:** Innovations in psychometric modelling: New approaches to understanding psychological measurement