

DSS Statistics Seminar

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<https://meet.google.com/jds-myow-bmt>

Mixture multigroup factor analysis for finding clusters of groups with measurement invariance

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Psychological research often builds on between-group comparisons of (measurements of) latent variables; for instance, to evaluate cross-cultural differences in neuroticism or mindfulness. A critical assumption in such comparative research is that the same latent variable(s) are measured in exactly the same way across all groups (i.e., measurement invariance). Otherwise, one would be comparing apples and oranges. Nowadays, measurement invariance is often tested across a large number of groups by means of multigroup factor analysis. When the assumption is untenable, one may compare group-specific measurement models to pinpoint sources of non-invariance, but the number of pairwise comparisons exponentially increases with the number of groups. This makes it hard to unravel invariances from non-invariances and for which groups they apply, and it elevates the chances of falsely detecting non-invariance. An intuitive solution is clustering the groups into a few clusters based on the measurement model parameters. Therefore, I present mixture multigroup factor analysis (MMG-FA) which clusters the groups according to a specific level of measurement invariance (e.g., metric or scalar invariance). Thus, MMG-FA ties down the number of measurement parameters to inspect and generates clusters of groups wherein latent variables comparisons are valid.



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