



Jouni Kuha (LSE)

<http://stats.lse.ac.uk/kuha/>

Measurement invariance in cross-national survey research: definitions, questions and complications

Abstract:

The core purpose of cross-national surveys is cross-national comparison – and a necessary condition for this is comparability of the survey data across countries. An important element of this comparability is measurement invariance (also known as equivalence of measurement) of the survey questions, i.e. the requirement that a question should measure the same construct and in the same way in every country in the survey. When we consider multiple-item batteries of questions for constructs such as attitudes, which are analysed with statistical latent variable models, ‘multigroup’ extensions of these models give us powerful tools for assessing whether items are invariant, and even allowing for some lack of invariance in the final analyses. Such models are fairly widely used in factor analysis, and increasingly well-known also for other latent variable models such as latent class and latent trait models for categorical items. Even when these tools are used, however, they still often leave us with a fundamental open question: If the analysis suggests that our survey measures do not possess full measurement invariance, what should we do and which results should we use for final conclusions from the data? The answers to this question are not obvious, and not delivered by the models alone.

In this talk we discuss a number of issues related to this question. These include the sensitivity of conclusions of interest to ignoring any non-invariance of measurement, the meaning of different types of invariance, and the implications of ‘partial’ invariance models where some but not all of the items are taken to be invariant.