Multiple Imputation in Practice

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Short bio

Gerko is an assistant professor at Utrecht University, the Netherlands. Coming from a background in official statistics, his work focuses on incomplete data problems and causal inference. He is an active developer and contributes to package mice in *R* and is author of missing data facilities Ampute and parlMice.

Course description

Most researchers in the social and behavioural sciences have encountered the problem of missing data: It seriously complicates the statistical analysis of data, and simply ignoring it is not a good strategy. A general and statistically valid technique to analyse incomplete data is *multiple imputation*, which is rapidly becoming the standard in social and behavioural science research.

This 2-day course will introduce and explain a modern and flexible imputation technique that is able to preserve important features in the data. The aim of this course is to enhance participants' knowledge in imputation methodology, and to provide a flexible solution to their incomplete data problems using R. The course will outline a step-by-step approach toward creating high quality imputations, and provide guidelines how the results can be reported. The course will use the MICE package in R, and explain how to bridge to mainstream analysis software such as SPSS and Mplus.

Software

R with packages mice and lattice
RStudio

Prerequisites

Participants should be familiar with multivariate modelling, least squares techniques and the concepts of estimation and uncertainty.

Schedule

June 29, 2017

Time	Topic
9-10 am	Ad Hoc methods (lecture)
10-10.45 am	Ad Hoc imputation in R (lab meeting)
	Break
11.15 - noon	Univariate methods (lecture)
noon -1 pm	Univariate imputation in R (lab meeting)

June 30, 2017

Time	Topic
9-10.45	Multivariate imputation (lecture)
	Break
11.15 am - 1 pm	Multivariate imputation (lab meeting and plenary discussion)

References

Course largely based on:

The lectures will follow the book “Flexible Imputation of Missing Data” by Stef van Buuren (Chapman & Hall, 2012).