

Program of workshop on ‘Introduction to Nonparametric Item Response Theory’

Aim of the workshop: The workshop is intended for all who want to gain some insight into nonparametric item response theory (IRT) and its applications to the analysis of real data.

The theory of nonparametric (IRT) is explained, based on work of Mokken, Stout, Ramsay, and their co-workers, and it is placed in the broader framework of IRT and social science measurement in general. Here the main questions are: What is the contribution of nonparametric IRT to measurement and for what kinds of applications is it suited in particular?

The applications of nonparametric IRT are illustrated by means of real-data examples from psychological, sociological and marketing research, showing output from the programs MSP (Molenaar & Sijtsma), DETECT (Stout et al.), and TestGraf98 (Ramsay). The program MSP is used for data analysis and there is time for participants to work with this program. The lecturers will provide data sets for this purpose, but participants are encouraged to bring their own data.

MSP can handle both dichotomously and polytomously scored items, and allows for fitting two nonparametric IRT models, the monotone homogeneity model and the double monotonicity model. MSP can handle a group structure in the data and provides goodness-of-fit and scaling results for separate groups.

For those who bring their own data: the data file must be in ascii-format (MSP does not read SPSS system files; however, SPSS data files can easily be saved in ascii-format). The data file must consist of one line per case and a column per item ; the item scores must be integer-valued, ranging from 0 – 9; columns may be separated by blanks. One is encouraged to solve missing data problems before attending the workshop, so that no time is lost in doing that on the spot.

Lecturers: Klaas Sijtsma, L. Andries van der Ark, and Wilco H. M. Emons – Tilburg University

Information about the workshop can be obtained from the lecturers, at k.sijtsma@uvt.nl, a.vdark@uvt.nl, and w.h.m.emons@uvt.nl

Literature:

- Sijtsma, K., & Molenaar, I. W. (2002). *Introduction to nonparametric item response theory*. Thousand Oaks, CA: Sage.
- Reader with selected papers and transparencies

Program:

09.00 – 10.45	Introduction to nonparametric IRT; place in IRT and social science measurement in general; contributions to measurement
10.45 – 11.15	Break
11.15 – 12.30	Real-data examples of from different areas of application, showing and explaining output from MSP, DETECT, and TestGraf98.
12.30 – 13.30	Lunch
13.30 – 14.30	More on theory, but related to the real-data examples discussed in the morning
14.30 – 15.00	Break
15.00 - ?	Practice MSP using ones own data or those provided by the lecturers