

## **The paired comparison method for latent Variables**

Almut Thomas, Universität Klagenfurt

Michaela Gareiß, Universität Klagenfurt

Regina Dittrich, WU Wien

Reinhold Hatzinger, WU Wien

Bradley and Terry (1952) formulated a model for paired comparisons which allows the positioning of objects according to their popularity on a preference scale. In psychological research, the interesting variables are often latent traits that psychologists try to measure using manifest empirical observations. We present an approach how to use the Bradley-Terry-model for response formats where each object appears only once in a comparison. Proper reparameterisation allows for estimating the object parameters and to evaluate the effect of additional subject covariates. Empirical data on preference for certain leisure activities are analysed using the R-package 'prefmod'. The data was collected with the 'Freizeit-Interessen-Test' (Stangl, 1991) which is theoretically based on Holland's (1997) RIASEC-model. The analysis shows significant differences between students of psychology and mathematics as well as gender effects concerning leisure activity preferences.