Contribution ID : **21**   Type : **not specified**

Mixture Models for Repeatedly Measured Survey Data

giovedì 29 giugno 2023 11:00 (40)

Survey data items are commonly collected on a Likert scale and may have an additional "don't know" category. It is also typical to have questions that are not applicable to some individuals or to observe floor or ceiling effects on ordinal or interval responses. These situations necessitate the use of mixture models to properly account for the structure of the data. The model formulation also needs to account for correlations among repeated measures within individual. We present a couple of mixture models with random effects for such situations. In particular, we use logistic sub-models to handle "don't know", inapplicable or floor effects and appropriate generalized linear sub-models for the remaining data. Correlated random effects link the sub-models together. For illustration we use data from tobacco surveys. Maximum likelihood estimation methods are used for model fitting and inference. The software implementation is using PROC NLMIXED in SAS. Simulation studies evaluate bias and efficiency of the parameter estimates.

Primary author(s) :   GUEORGUIEVA, Ralitza (Yale University); BUTA, Eugenia (Yale University)

Presenter(s) :   GUEORGUIEVA, Ralitza (Yale University)

Session Classification : First Plenary Session