Description of Pcmodel

Pcmodel allows estimating the parameters of a random effect Partial Credit Model. The item difficulties and the potential covariates that may influence the considered latent trait are considered as fixed effects. The individual latent traits are considered as a normally distributed random effect.

Two situations are possible:

- The item difficulties can be considered as already known. They do not have to be estimated during the analysis.

- The item difficulties are considered as unknown, and then require to be estimated during the analysis.

It is possible to include covariates (that can possibly influence the individual latent traits) in the partial credit model. These covariates can either be qualitative or quantitative. Pcmodel provides assistance for interpreting the estimated effects of covariates (estimation of the type III sum of squares, percentage of variance explained with the introduction of each covariate). It is finally possible to test the fit after estimating the parameters of the model.

Options

Categorical covariates:
Categorical covariates included in the Partial Credit Model.

Continuous covariates:
Continuous covariates included in the Partial Credit Model.

Set item difficulties:
Considered known values of each item difficulty. The item difficulties should be known for all the items. If the option is not checked, the difficulties are considered as unknown, and are estimated during the analysis.

Rating Scale Model:
Perform a Rating Scale Model instead of a Partial Credit Model.

Estimation only:
Do not perform the Marginal McFadden's pseudo R2 nor the type III sums of square computations.

Maximum number of iterations:
Specify the maximum number of iterations for estimation. If *adapt* is checked, it will cause the program to skip the "Newton Raphson" iterations usually performed at the end without updating the quadrature locations.

Adaptive quadrature:
Use adaptive quadrature instead of ordinary quadrature.

Robust:
Specify that the Huber/White/sandwich estimator of the covariance matrix of the parameter estimates is to be used.

Initials values of parameters:
Set initial values of parameters to be estimated.

Test Model:
Test the fit of the model (not available if the items difficulties are fixed).