File Descriptions

Files in the R Directory

sim3.r: The main file for the simulation.

generate.r: The file responsible for generating data.

helper_functions.r: Contains various functions required for the simulation.

Files in the summary Directory

taus.csv: Contains threshold values (Delta parameterization) needed for data generation (see Table S1 in the Online Supplement). If this file is missing, it can be generated by running calc_tau.r, which may take several hours.

Files in the res Directory

sim3_X.csv: The main result files for the simulation, where X represents the condition number (ranging from 1 to 960).

empty_stats_sim3_X.csv: Indicates datasets with empty responses for each condition (e.g., when all respondents choose response 1, leaving no respondents for response 2).

failed_reps_sim3_X.csv: Indicates datasets that are non-convergent or inadmissible for each condition.

Description of Elements in Simulation Result Files (sim3_X.csv)

Rows

Rows 1 and 6: WLSMV-Delta

Rows 2 and 7: WLSMV-Theta

Rows 3 and 8: ULSMV-Delta

Rows 4 and 9: ULSMV-Theta

Row 5 and 10: MML

Rows 1–5: Partial exclusion approach

Rows 6–10: Full exclusion approach

Columns

condition_number: Ranges from 1 to 960.

n: Sample size (200, 1000).

L: Number of dimensions (1, 2).

J: Number of items (6, 20).

discrm: Slope parameter (FA-Theta or IRT-normal ogive scale).

xdist: Distribution of observed scores.

tdist: Distribution of the latent variable.

taus1–taus4: Location parameters.

estimator: 1 = WLSMV-Delta, 2 = WLSMV-Theta, 3 = ULSMV-Delta, 4 = ULSMV-Theta, 5 = MML.

exclusion: 0 = partial exclusion, 1 = full exclusion.

proper: Percentage of used data.

b_aest: Relative bias of the slope parameter.

rm_aest: RMSE of the slope parameter.

rb_ase: Relative bias of standard errors of the slope parameter.

acov: Coverage of the slope parameter.

b_dest: Relative bias of the location parameters.

rm_dest: RMSE of the location parameters.

rb_dse: Relative bias of standard errors of the location parameters.

dcov: Coverage of the location parameters.

b_rest: Relative bias of the inter-factor correlation.

rm_rest: RMSE of the inter-factor correlation.

rb_rse: Relative bias of standard errors of the inter-factor correlation.

rcov: Coverage of the inter-factor correlation.