Module: HLM2 (7.30)
Date: May 10, 2019
Time: 16:33:23

Specifications for this HLM2 run

Problem Title: no title

The data source for this run = hsb.mdm
The command file for this run = C:\Users\cinti\AppData\Local\Temp\whlmtemp.hlm
Output file name = C:\Users\cinti\Box Sync\Booth 2017-2018\Spring 2019\Statistical Methods of Research 2\TA Sessions\hlm2.html
The maximum number of level-1 units = 7185
The maximum number of level-2 units = 160
The maximum number of iterations = 100
Method of estimation: restricted maximum likelihood

The outcome variable is MATHACH

Summary of the model specified

Step 2 model

Level-1 Model

$$MATHACH_{ij} = \beta_{0j} + \beta_{1j}*(SES_{ij}) + r_{ij}$$

Level-2 Model

$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(SECTOR_j) + u_{0j}$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}*(SECTOR_j) + u_{1j}$$

SES has been centered around the group mean.

SECTOR has been centered around the grand mean.

Mixed Model

$$MATHACH_{ij} = \gamma_{00} + \gamma_{01}*SECTOR_j + \gamma_{10}*SES_{ij} + \gamma_{11}*SECTOR_j*SES_{ij} + u_{0j} + u_{1j}*SES_{ij} + r_{ij}$$

Final Results - Iteration 43

Iterations stopped due to small change in likelihood function

$\sigma^2 = 36.68995$

τ

INTRCPT1,β_0	6.73966	1.03763
SES,β_1	1.03763	0.30405

τ (as correlations)

INTRCPT1,β_0	1.000	0.725
SES,β_1	0.725	1.000

Random level-1 coefficient	Reliability estimate
INTRCPT1,β_0	0.884
SES,β_1	0.138

The value of the log-likelihood function at iteration 43 = -2.331840E+004

Final estimation of fixed effects:

Fixed Effect	Coefficient	Standard error	*t*-ratio	Approx. *d.f.*	*p*-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	12.622102	0.218265	57.829	158	<0.001
SECTOR, γ_{01}	2.807465	0.439216	6.392	158	<0.001
For SES slope, β_1					
INTRCPT2, γ_{10}	2.215921	0.117156	18.914	158	<0.001
SECTOR, γ_{11}	-1.340634	0.236028	-5.680	158	<0.001

Final estimation of fixed effects (with robust standard errors)

Fixed Effect	Coefficient	Standard error	*t*-ratio	Approx. *d.f.*	*p*-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	12.622102	0.216813	58.217	158	<0.001
SECTOR, γ_{01}	2.807465	0.435634	6.445	158	<0.001
For SES slope, β_1					
INTRCPT2, γ_{10}	2.215921	0.115204	19.235	158	<0.001
SECTOR, γ_{11}	-1.340634	0.230324	-5.821	158	<0.001

Final estimation of variance components

Random Effect	Standard Deviation	Variance Component	*d.f.*	χ^2	*p*-value
INTRCPT1, u_0	2.59609	6.73966	158	1383.78477	<0.001
SES slope, u_1	0.55141	0.30405	158	175.31196	0.164
level-1, r	6.05722	36.68995			

Statistics for current covariance components model

Deviance = 46636.802657
Number of estimated parameters = 4