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| Program: | HLM 7 Hierarchical Linear and Nonlinear Modeling |
| Authors: | Stephen Raudenbush, Tony Bryk, & Richard Congdon |
| Publisher: | Scientific Software International, Inc. (c) 2010 |
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| Module: | HMLM.EXE (7.00.21105.10001) |
| Date: | 10 May 2013, Friday |
| Time: | 13: 5:46 |

## Specifications for this HMLM run

Problem Title: Members Distinguishable  
  
The data source for this run = Acitelli\_Distinguishable  
The command file for this run = C:\Users\NSOE-CTC\AppData\Local\Temp\whlmtemp.hlm  
Output file name = C:\Users\NSOE-CTC\Desktop\hmlm.html  
The maximum number of level-1 units = 296  
The maximum number of level-2 units = 148  
The maximum number of iterations = 100  
  
The outcome variable is SAT\_A   
  
The model specified for the fixed effects was:

#### The model specified for the fixed effects

|  |  |
| --- | --- |
| Level-1 Coefficients | Level-2 Predictors |
| HUSBAND slope, *π1* | INTRCPT2, *β10* |
|  | OPOS\_A, *β11* |
|  | OPOS\_P, *β12* |
| WIFE slope, *π2* | INTRCPT2, *β20* |
|  | OPOS\_A, *β21* |
|  | OPOS\_P, *β22* |

## Output for the Unrestricted Model

### Summary of the model specified

#### Level-1 Model

*SAT\_Ami* = (*HUSBANDmi*)\**SAT\_A1i*\* + (*WIFEmi*)\**SAT\_A2i*\*  
  
    *SAT\_Ati*\* = *π1i*\*(*HUSBANDti*) + *π2i*\*(*WIFEti*)

#### Level-2 Model

*π1i* = *β10* + *β11*\*(*OPOS\_Ai*) + *β12*\*(*OPOS\_Pi*) + u*1i*  
    *π2i* = *β20* + *β21*\*(*OPOS\_Ai*) + *β22*\*(*OPOS\_Pi*) + u*2i*  
  
  
Var(u*ε*) = i  
**Iterations stopped due to small change in likelihood function**

### Final Results - Iteration 2

**Δ**

|  |  |  |
| --- | --- | --- |
| HUSBAND | 0.14024 | 0.08021 |
| WIFE | 0.08021 | 0.20326 |

Standard errors of **Δ**

|  |  |  |
| --- | --- | --- |
| HUSBAND | 0.01630 | 0.01536 |
| WIFE | 0.01536 | 0.02363 |

**Δ** (as correlations)

|  |  |  |
| --- | --- | --- |
| HUSBAND | 1.000 | 0.475 |
| WIFE | 0.475 | 1.000 |

The value of the log-likelihood function at iteration 2 = -1.378035E+002

#### Final estimation of fixed effects:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Fixed Effect | Coefficient | Standard error | *t*-ratio | Approx. *d.f.* | *p*-value |
| For HUSBAND slope, *π1* | | | | | |
| INTRCPT2, *β10* | 0.690459 | 0.339410 | 2.034 | 145 | 0.042 |
| OPOS\_A, *β11* | 0.261650 | 0.060777 | 4.305 | 145 | <0.001 |
| OPOS\_P, *β12* | 0.424387 | 0.067026 | 6.332 | 145 | <0.001 |
| For WIFE slope, *π2* | | | | | |
| INTRCPT2, *β20* | 0.611248 | 0.408614 | 1.496 | 145 | 0.135 |
| OPOS\_A, *β21* | 0.377700 | 0.073169 | 5.162 | 145 | <0.001 |
| OPOS\_P, *β22* | 0.321478 | 0.080692 | 3.984 | 145 | <0.001 |

#### Statistics for the current model

Deviance = 275.607038  
Number of estimated parameters = 9