OCTO : Seed Report

Date: 2016-10-20

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This report contains a searchable table, followed by publication-ready tables.

# Available models

Study **OCTO** have contributed the following outcome pairs to the IASLA-2015-Portland model pool: NULL

|  |  |  |
| --- | --- | --- |
| process\_a | process\_b | n\_models |
| grip | block | 6 |
| grip | digit\_b | 6 |
| grip | digit\_f | 6 |
| grip | fig\_logic | 4 |
| grip | mir | 4 |
| grip | prose\_im | 6 |
| grip | symbol | 6 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| octo | female | a | grip | block | 1 |
| octo | female | a | grip | digit\_b | 1 |
| octo | female | a | grip | digit\_f | 1 |
| octo | female | a | grip | fig\_logic | 1 |
| octo | female | a | grip | mir | 1 |
| octo | female | a | grip | prose\_im | 1 |
| octo | female | a | grip | symbol | 1 |
| octo | female | aeh | grip | block | 1 |
| octo | female | aeh | grip | digit\_b | 1 |
| octo | female | aeh | grip | digit\_f | 1 |
| octo | female | aeh | grip | fig\_logic | 1 |
| octo | female | aeh | grip | mir | 1 |
| octo | female | aeh | grip | prose\_im | 1 |
| octo | female | aeh | grip | symbol | 1 |
| octo | female | aehplus | grip | block | 1 |
| octo | female | aehplus | grip | digit\_b | 1 |
| octo | female | aehplus | grip | digit\_f | 1 |
| octo | female | aehplus | grip | prose\_im | 1 |
| octo | female | aehplus | grip | symbol | 1 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| octo | male | a | grip | block | 1 |
| octo | male | a | grip | digit\_b | 1 |
| octo | male | a | grip | digit\_f | 1 |
| octo | male | a | grip | fig\_logic | 1 |
| octo | male | a | grip | mir | 1 |
| octo | male | a | grip | prose\_im | 1 |
| octo | male | a | grip | symbol | 1 |
| octo | male | aeh | grip | block | 1 |
| octo | male | aeh | grip | digit\_b | 1 |
| octo | male | aeh | grip | digit\_f | 1 |
| octo | male | aeh | grip | fig\_logic | 1 |
| octo | male | aeh | grip | mir | 1 |
| octo | male | aeh | grip | prose\_im | 1 |
| octo | male | aeh | grip | symbol | 1 |
| octo | male | aehplus | grip | block | 1 |
| octo | male | aehplus | grip | digit\_b | 1 |
| octo | male | aehplus | grip | digit\_f | 1 |
| octo | male | aehplus | grip | prose\_im | 1 |
| octo | male | aehplus | grip | symbol | 1 |

# female

Gender = *female*; Model type: *aehplus*; Process (a) = *grip*; Process (b): *block*, *digit\_b*, *digit\_f*, *fig\_logic*, *mir*, *prose\_im*, *symbol*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| process | label | block | digit\_b | digit\_f | prose\_im | symbol | mean(sd) |
| a | Level | 9.18 (0.25) <.01 | 9.19 (0.25) <.01 | 9.19 (0.25) <.01 | 9.19 (0.25) <.01 | 9.19 (0.25) <.01 | 9.19(0.01) |
| a | Slope | -0.34 (0.04) <.01 | -0.34 (0.04) <.01 | -0.33 (0.04) <.01 | -0.34 (0.04) <.01 | -0.34 (0.04) <.01 | -0.34(0.00) |
| a | Level \* age | -0.15 (0.04) <.01 | -0.16 (0.04) <.01 | -0.16 (0.04) <.01 | -0.15 (0.04) <.01 | -0.16 (0.04) <.01 | -0.16(0.00) |
| a | Level \* education | 0.17 (0.07) .01 | 0.17 (0.07) .01 | 0.17 (0.07) .01 | 0.17 (0.07) .01 | 0.17 (0.07) .01 | 0.17(0.00) |
| a | Level \* height | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 | 0.09(0.00) |
| a | Level \* smoking | -0.52 (0.32) .10 | -0.52 (0.31) .10 | -0.51 (0.32) .10 | -0.53 (0.32) .10 | -0.51 (0.32) .10 | -0.52(0.01) |
| a | Level \* cardio | -0.17 (0.25) .51 | -0.16 (0.25) .53 | -0.16 (0.25) .52 | -0.17 (0.25) .51 | -0.16 (0.25) .53 | -0.16(0.00) |
| a | Level \* diabetes | -0.01 (0.53) .99 | -0.01 (0.53) .98 | -0.03 (0.53) .95 | -0.01 (0.53) .99 | -0.01 (0.53) .99 | -0.01(0.01) |
| a | Slope \* age | -0.00 (0.01) .61 | -0.00 (0.01) .73 | -0.00 (0.01) .72 | -0.00 (0.01) .61 | -0.00 (0.01) .68 | -0.00(0.00) |
| a | Slope \* education | -0.01 (0.01) .48 | -0.01 (0.01) .38 | -0.01 (0.01) .36 | -0.01 (0.01) .37 | -0.01 (0.01) .35 | -0.01(0.00) |
| a | Slope \* height | -0.00 (0.00) .48 | -0.00 (0.00) .50 | -0.00 (0.00) .51 | -0.00 (0.00) .50 | -0.00 (0.00) .57 | -0.00(0.00) |
| a | Slope \* smoking | 0.00 (0.05) .98 | 0.01 (0.04) .86 | 0.01 (0.04) .87 | 0.01 (0.04) .86 | 0.00 (0.05) .97 | 0.01(0.00) |
| a | Slope \* cardio | 0.00 (0.04) .99 | -0.00 (0.04) .96 | 0.00 (0.04) .99 | 0.00 (0.04) .98 | -0.00 (0.04) .90 | -0.00(0.00) |
| a | Slope \* diabetes | -0.05 (0.10) .64 | -0.06 (0.10) .58 | -0.05 (0.10) .63 | -0.06 (0.10) .58 | -0.04 (0.10) .66 | -0.05(0.01) |
| b | Level | 14.87 (0.75) <.01 | 3.86 (0.13) <.01 | 5.68 (0.12) <.01 | 11.14 (0.40) <.01 | 28.57 (1.19) <.01 | --- |
| b | Slope | -0.23 (0.11) .04 | -0.09 (0.03) <.01 | -0.08 (0.02) <.01 | -0.04 (0.07) .58 | -0.13 (0.19) .51 | --- |
| b | Level \* age | -0.59 (0.14) <.01 | -0.10 (0.02) <.01 | -0.08 (0.02) <.01 | -0.25 (0.08) <.01 | -0.82 (0.27) <.01 | --- |
| b | Level \* education | 0.76 (0.19) <.01 | 0.12 (0.04) <.01 | 0.14 (0.03) <.01 | 0.46 (0.10) <.01 | 1.68 (0.37) <.01 | --- |
| b | Level \* height | -0.01 (0.07) .85 | -0.00 (0.01) .76 | 0.01 (0.01) .43 | 0.01 (0.04) .76 | 0.08 (0.11) .50 | --- |
| b | Level \* smoking | -1.33 (0.95) .16 | -0.32 (0.19) .09 | -0.15 (0.14) .29 | 0.26 (0.49) .59 | -0.56 (1.69) .74 | --- |
| b | Level \* cardio | -0.18 (0.80) .82 | 0.06 (0.14) .69 | 0.05 (0.12) .66 | 0.24 (0.43) .58 | 0.90 (1.27) .48 | --- |
| b | Level \* diabetes | 1.14 (2.31) .62 | -0.09 (0.30) .77 | 0.08 (0.26) .75 | -1.78 (1.14) .12 | -2.89 (3.13) .36 | --- |
| b | Slope \* age | 0.01 (0.02) .58 | 0.01 (0.01) .12 | 0.00 (0.00) .52 | 0.02 (0.02) .21 | 0.00 (0.04) .94 | --- |
| b | Slope \* education | -0.03 (0.03) .34 | 0.00 (0.01) .84 | -0.01 (0.00) .02 | -0.04 (0.02) .04 | -0.04 (0.06) .53 | --- |
| b | Slope \* height | 0.01 (0.01) .17 | 0.00 (0.00) .62 | -0.00 (0.00) .29 | 0.01 (0.01) .45 | 0.01 (0.02) .49 | --- |
| b | Slope \* smoking | 0.08 (0.14) .59 | 0.04 (0.03) .14 | 0.05 (0.03) .09 | -0.12 (0.10) .20 | -0.34 (0.28) .22 | --- |
| b | Slope \* cardio | -0.19 (0.12) .11 | -0.03 (0.03) .26 | -0.00 (0.02) .85 | -0.07 (0.09) .40 | -0.80 (0.19) <.01 | --- |
| b | Slope \* diabetes | -0.01 (0.20) .95 | 0.04 (0.06) .53 | 0.00 (0.05) .96 | 0.09 (0.19) .64 | 1.48 (0.48) <.01 | --- |
| a | Var (Level) | 3.23 (0.44) <.01 | 3.17 (0.43) <.01 | 3.18 (0.43) <.01 | 3.18 (0.43) <.01 | 3.17 (0.44) <.01 | 3.19(0.02) |
| a | Var (Slope) | 0.02 (0.01) .04 | 0.02 (0.01) .06 | 0.02 (0.01) .06 | 0.02 (0.01) .06 | 0.02 (0.01) .06 | 0.02(0.00) |
| a | Var (Residual) | 1.25 (0.12) <.01 | 1.27 (0.12) <.01 | 1.28 (0.13) <.01 | 1.27 (0.12) <.01 | 1.27 (0.12) <.01 | 1.27(0.01) |
| a | Covar (Level, Slope) | -0.04 (0.04) .29 | -0.03 (0.04) .45 | -0.03 (0.04) .43 | -0.04 (0.04) .40 | -0.04 (0.04) .40 | -0.04(0.01) |
| b | Var (Level) | 30.62 (3.15) <.01 | 0.54 (0.14) <.01 | 0.54 (0.07) <.01 | 7.79 (1.04) <.01 | 66.95 (7.79) <.01 | --- |
| b | Var (Slope) | 0.19 (0.09) .03 | 0.00 (0.00) .43 | 0.00 (0.00) .07 | 0.08 (0.03) .01 | 0.39 (0.15) .01 | --- |
| b | Var (Residual) | 10.76 (0.81) <.01 | 1.16 (0.10) <.01 | 0.61 (0.04) <.01 | 4.35 (0.38) <.01 | 27.89 (2.40) <.01 | --- |
| b | Covar (Level, Slope) | -0.99 (0.42) .02 | -0.02 (0.02) .33 | -0.04 (0.01) .01 | -0.38 (0.15) .01 | -1.93 (0.91) .03 | --- |
| ab | Covar (Levels) | 3.10 (0.84) <.01 | -0.00 (0.13) .98 | -0.07 (0.12) .53 | 0.68 (0.38) .08 | 2.62 (1.18) .03 | --- |
| ab | Covar (Slopes) | 0.05 (0.02) <.01 | -0.00 (0.00) .40 | 0.00 (0.00) .70 | 0.01 (0.01) .31 | 0.01 (0.02) .59 | --- |
| ab | Covar (Residuals) | 0.18 (0.19) .35 | 0.06 (0.06) .35 | 0.04 (0.04) .37 | 0.14 (0.16) .39 | 0.72 (0.32) .02 | --- |
|  | Correlation of Levels | 0.311 | -0.0023 | -0.056 | 0.137 | 0.18 | 0.11(0.15) |
|  | Correlation of Slopes | 0.764 | -0.4851 | 0.112 | 0.362 | 0.16 | 0.18(0.45) |
|  | Correlation of Residuals | 0.048 | 0.0470 | 0.045 | 0.059 | 0.12 | 0.06(0.03) |
|  | N | 274 | 275 | 275 | 272 | 271 | 273.40(1.82) |
|  | occasions | 5 | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -4,176 | -3,263 | -3,021 | -3,672 | -4,202 | -3,667( 531) |
|  | AIC | 8,434 | 6,608 | 6,123 | 7,426 | 8,486 | 7,415(1,061) |
|  | BIC | 8,582 | 6,756 | 6,271 | 7,574 | 8,633 | 7,563(1,061) |

## block

Gender = *female*; Process (a) = *grip*; Process (b) = *block*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 8.82 (0.20) <.01 | 8.98 (0.22) <.01 | 9.18 (0.25) <.01 |
| a | Slope | -0.33 (0.03) <.01 | -0.34 (0.03) <.01 | -0.34 (0.04) <.01 |
| a | Level \* age | -0.22 (0.04) <.01 | -0.15 (0.04) <.01 | -0.15 (0.04) <.01 |
| a | Level \* education | --- | 0.13 (0.07) .06 | 0.17 (0.07) .01 |
| a | Level \* height | --- | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 |
| a | Level \* smoking | --- | --- | -0.52 (0.32) .10 |
| a | Level \* cardio | --- | --- | -0.17 (0.25) .51 |
| a | Level \* diabetes | --- | --- | -0.01 (0.53) .99 |
| a | Slope \* age | -0.00 (0.01) .71 | -0.00 (0.01) .59 | -0.00 (0.01) .61 |
| a | Slope \* education | --- | -0.01 (0.01) .51 | -0.01 (0.01) .48 |
| a | Slope \* height | --- | -0.00 (0.00) .51 | -0.00 (0.00) .48 |
| a | Slope \* smoking | --- | --- | 0.00 (0.05) .98 |
| a | Slope \* cardio | --- | --- | 0.00 (0.04) .99 |
| a | Slope \* diabetes | --- | --- | -0.05 (0.10) .64 |
| b | Level | 14.45 (0.58) <.01 | 14.42 (0.66) <.01 | 14.87 (0.75) <.01 |
| b | Slope | -0.29 (0.08) <.01 | -0.28 (0.09) <.01 | -0.23 (0.11) .04 |
| b | Level \* age | -0.65 (0.14) <.01 | -0.55 (0.16) <.01 | -0.59 (0.14) <.01 |
| b | Level \* education | --- | 0.69 (0.21) <.01 | 0.76 (0.19) <.01 |
| b | Level \* height | --- | -0.01 (0.07) .90 | -0.01 (0.07) .85 |
| b | Level \* smoking | --- | --- | -1.33 (0.95) .16 |
| b | Level \* cardio | --- | --- | -0.18 (0.80) .82 |
| b | Level \* diabetes | --- | --- | 1.14 (2.31) .62 |
| b | Slope \* age | 0.00 (0.02) .85 | 0.01 (0.02) .73 | 0.01 (0.02) .58 |
| b | Slope \* education | --- | -0.02 (0.04) .51 | -0.03 (0.03) .34 |
| b | Slope \* height | --- | 0.01 (0.01) .15 | 0.01 (0.01) .17 |
| b | Slope \* smoking | --- | --- | 0.08 (0.14) .59 |
| b | Slope \* cardio | --- | --- | -0.19 (0.12) .11 |
| b | Slope \* diabetes | --- | --- | -0.01 (0.20) .95 |
| a | Var (Level) | 3.79 (0.49) <.01 | 3.27 (0.46) <.01 | 3.23 (0.44) <.01 |
| a | Var (Slope) | 0.02 (0.01) .06 | 0.02 (0.01) .04 | 0.02 (0.01) .04 |
| a | Var (Residual) | 1.28 (0.12) <.01 | 1.27 (0.13) <.01 | 1.25 (0.12) <.01 |
| a | Covar (Level, Slope) | -0.05 (0.04) .23 | -0.04 (0.04) .30 | -0.04 (0.04) .29 |
| b | Var (Level) | 34.40 (3.28) <.01 | 30.80 (3.29) <.01 | 30.62 (3.15) <.01 |
| b | Var (Slope) | 0.19 (0.07) .01 | 0.19 (0.08) .02 | 0.19 (0.09) .03 |
| b | Var (Residual) | 10.68 (0.79) <.01 | 10.85 (0.83) <.01 | 10.76 (0.81) <.01 |
| b | Covar (Level, Slope) | -1.03 (0.38) .01 | -0.95 (0.39) .01 | -0.99 (0.42) .02 |
| ab | Covar (Levels) | 4.29 (0.92) <.01 | 3.20 (0.84) <.01 | 3.10 (0.84) <.01 |
| ab | Covar (Slopes) | 0.05 (0.02) <.01 | 0.05 (0.02) <.01 | 0.05 (0.02) <.01 |
| ab | Covar (Residuals) | 0.17 (0.19) .36 | 0.15 (0.20) .45 | 0.18 (0.19) .35 |
|  | Correlation of Levels | 0.376 | 0.319 | 0.311 |
|  | Correlation of Slopes | 0.860 | 0.857 | 0.764 |
|  | Correlation of Residuals | 0.047 | 0.041 | 0.048 |
|  | N | 303 | 275 | 274 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | NA | NA | 41 |
|  | LL | -4,429 | -4,187 | -4,176 |
|  | AIC | 8,900 | 8,431 | 8,434 |
|  | BIC | 8,978 | 8,536 | 8,582 |

## digit\_b

Gender = *female*; Process (a) = *grip*; Process (b) = *digit\_b*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 8.84 (0.20) <.01 | 8.99 (0.22) <.01 | 9.19 (0.25) <.01 |
| a | Slope | -0.33 (0.03) <.01 | -0.33 (0.03) <.01 | -0.34 (0.04) <.01 |
| a | Level \* age | -0.22 (0.04) <.01 | -0.15 (0.04) <.01 | -0.16 (0.04) <.01 |
| a | Level \* education | --- | 0.14 (0.07) .05 | 0.17 (0.07) .01 |
| a | Level \* height | --- | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 |
| a | Level \* smoking | --- | --- | -0.52 (0.31) .10 |
| a | Level \* cardio | --- | --- | -0.16 (0.25) .53 |
| a | Level \* diabetes | --- | --- | -0.01 (0.53) .98 |
| a | Slope \* age | -0.00 (0.01) .85 | -0.00 (0.01) .64 | -0.00 (0.01) .73 |
| a | Slope \* education | --- | -0.01 (0.01) .43 | -0.01 (0.01) .38 |
| a | Slope \* height | --- | -0.00 (0.00) .52 | -0.00 (0.00) .50 |
| a | Slope \* smoking | --- | --- | 0.01 (0.04) .86 |
| a | Slope \* cardio | --- | --- | -0.00 (0.04) .96 |
| a | Slope \* diabetes | --- | --- | -0.06 (0.10) .58 |
| b | Level | 3.73 (0.10) <.01 | 3.80 (0.12) <.01 | 3.86 (0.13) <.01 |
| b | Slope | -0.08 (0.02) <.01 | -0.09 (0.02) <.01 | -0.09 (0.03) <.01 |
| b | Level \* age | -0.07 (0.02) <.01 | -0.10 (0.03) <.01 | -0.10 (0.02) <.01 |
| b | Level \* education | --- | 0.09 (0.04) .01 | 0.12 (0.04) <.01 |
| b | Level \* height | --- | -0.00 (0.01) .75 | -0.00 (0.01) .76 |
| b | Level \* smoking | --- | --- | -0.32 (0.19) .09 |
| b | Level \* cardio | --- | --- | 0.06 (0.14) .69 |
| b | Level \* diabetes | --- | --- | -0.09 (0.30) .77 |
| b | Slope \* age | 0.00 (0.00) .45 | 0.01 (0.01) .14 | 0.01 (0.01) .12 |
| b | Slope \* education | --- | 0.00 (0.01) .44 | 0.00 (0.01) .84 |
| b | Slope \* height | --- | 0.00 (0.00) .62 | 0.00 (0.00) .62 |
| b | Slope \* smoking | --- | --- | 0.04 (0.03) .14 |
| b | Slope \* cardio | --- | --- | -0.03 (0.03) .26 |
| b | Slope \* diabetes | --- | --- | 0.04 (0.06) .53 |
| a | Var (Level) | 3.77 (0.48) <.01 | 3.24 (0.46) <.01 | 3.17 (0.43) <.01 |
| a | Var (Slope) | 0.02 (0.01) .06 | 0.02 (0.01) .06 | 0.02 (0.01) .06 |
| a | Var (Residual) | 1.28 (0.12) <.01 | 1.27 (0.13) <.01 | 1.27 (0.12) <.01 |
| a | Covar (Level, Slope) | -0.05 (0.04) .29 | -0.04 (0.04) .41 | -0.03 (0.04) .45 |
| b | Var (Level) | 0.61 (0.14) <.01 | 0.55 (0.16) <.01 | 0.54 (0.14) <.01 |
| b | Var (Slope) | 0.00 (0.00) .32 | 0.00 (0.00) .46 | 0.00 (0.00) .43 |
| b | Var (Residual) | 1.14 (0.10) <.01 | 1.16 (0.11) <.01 | 1.16 (0.10) <.01 |
| b | Covar (Level, Slope) | -0.02 (0.02) .34 | -0.02 (0.02) .33 | -0.02 (0.02) .33 |
| ab | Covar (Levels) | 0.05 (0.16) .77 | 0.01 (0.14) .92 | -0.00 (0.13) .98 |
| ab | Covar (Slopes) | -0.00 (0.00) .30 | -0.00 (0.00) .35 | -0.00 (0.00) .40 |
| ab | Covar (Residuals) | 0.07 (0.06) .22 | 0.06 (0.06) .32 | 0.06 (0.06) .35 |
|  | Correlation of Levels | 0.031 | 0.011 | -0.0023 |
|  | Correlation of Slopes | -0.434 | -0.485 | -0.4851 |
|  | Correlation of Residuals | 0.060 | 0.049 | 0.0470 |
|  | N | 305 | 276 | 275 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | NA | NA | 41 |
|  | LL | -3,481 | -3,271 | -3,263 |
|  | AIC | 7,003 | 6,600 | 6,608 |
|  | BIC | 7,081 | 6,705 | 6,756 |

## digit\_f

Gender = *female*; Process (a) = *grip*; Process (b) = *digit\_f*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 8.83 (0.20) <.01 | 8.99 (0.22) <.01 | 9.19 (0.25) <.01 |
| a | Slope | -0.33 (0.03) <.01 | -0.33 (0.03) <.01 | -0.33 (0.04) <.01 |
| a | Level \* age | -0.22 (0.04) <.01 | -0.15 (0.04) <.01 | -0.16 (0.04) <.01 |
| a | Level \* education | --- | 0.14 (0.07) .05 | 0.17 (0.07) .01 |
| a | Level \* height | --- | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 |
| a | Level \* smoking | --- | --- | -0.51 (0.32) .10 |
| a | Level \* cardio | --- | --- | -0.16 (0.25) .52 |
| a | Level \* diabetes | --- | --- | -0.03 (0.53) .95 |
| a | Slope \* age | -0.00 (0.01) .79 | -0.00 (0.01) .64 | -0.00 (0.01) .72 |
| a | Slope \* education | --- | -0.01 (0.01) .40 | -0.01 (0.01) .36 |
| a | Slope \* height | --- | -0.00 (0.00) .54 | -0.00 (0.00) .51 |
| a | Slope \* smoking | --- | --- | 0.01 (0.04) .87 |
| a | Slope \* cardio | --- | --- | 0.00 (0.04) .99 |
| a | Slope \* diabetes | --- | --- | -0.05 (0.10) .63 |
| b | Level | 5.60 (0.10) <.01 | 5.66 (0.11) <.01 | 5.68 (0.12) <.01 |
| b | Slope | -0.06 (0.02) <.01 | -0.06 (0.02) <.01 | -0.08 (0.02) <.01 |
| b | Level \* age | -0.07 (0.02) <.01 | -0.08 (0.02) <.01 | -0.08 (0.02) <.01 |
| b | Level \* education | --- | 0.13 (0.03) <.01 | 0.14 (0.03) <.01 |
| b | Level \* height | --- | 0.01 (0.01) .47 | 0.01 (0.01) .43 |
| b | Level \* smoking | --- | --- | -0.15 (0.14) .29 |
| b | Level \* cardio | --- | --- | 0.05 (0.12) .66 |
| b | Level \* diabetes | --- | --- | 0.08 (0.26) .75 |
| b | Slope \* age | 0.00 (0.00) .73 | 0.00 (0.00) .66 | 0.00 (0.00) .52 |
| b | Slope \* education | --- | -0.01 (0.00) .07 | -0.01 (0.00) .02 |
| b | Slope \* height | --- | -0.00 (0.00) .32 | -0.00 (0.00) .29 |
| b | Slope \* smoking | --- | --- | 0.05 (0.03) .09 |
| b | Slope \* cardio | --- | --- | -0.00 (0.02) .85 |
| b | Slope \* diabetes | --- | --- | 0.00 (0.05) .96 |
| a | Var (Level) | 3.77 (0.48) <.01 | 3.24 (0.46) <.01 | 3.18 (0.43) <.01 |
| a | Var (Slope) | 0.02 (0.01) .07 | 0.02 (0.01) .06 | 0.02 (0.01) .06 |
| a | Var (Residual) | 1.28 (0.12) <.01 | 1.28 (0.13) <.01 | 1.28 (0.13) <.01 |
| a | Covar (Level, Slope) | -0.05 (0.04) .29 | -0.04 (0.04) .39 | -0.03 (0.04) .43 |
| b | Var (Level) | 0.72 (0.10) <.01 | 0.54 (0.07) <.01 | 0.54 (0.07) <.01 |
| b | Var (Slope) | 0.01 (0.00) .02 | 0.01 (0.00) .07 | 0.00 (0.00) .07 |
| b | Var (Residual) | 0.62 (0.05) <.01 | 0.61 (0.05) <.01 | 0.61 (0.04) <.01 |
| b | Covar (Level, Slope) | -0.05 (0.01) <.01 | -0.04 (0.01) .01 | -0.04 (0.01) .01 |
| ab | Covar (Levels) | 0.07 (0.14) .58 | -0.07 (0.12) .55 | -0.07 (0.12) .53 |
| ab | Covar (Slopes) | 0.00 (0.00) .72 | 0.00 (0.00) .66 | 0.00 (0.00) .70 |
| ab | Covar (Residuals) | 0.05 (0.04) .23 | 0.04 (0.04) .35 | 0.04 (0.04) .37 |
|  | Correlation of Levels | 0.045 | -0.052 | -0.056 |
|  | Correlation of Slopes | 0.094 | 0.099 | 0.112 |
|  | Correlation of Residuals | 0.060 | 0.045 | 0.045 |
|  | N | 306 | 276 | 275 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | NA | NA | 41 |
|  | LL | -3,252 | -3,028 | -3,021 |
|  | AIC | 6,547 | 6,114 | 6,123 |
|  | BIC | 6,625 | 6,219 | 6,271 |

## fig\_logic

Gender = *female*; Process (a) = *grip*; Process (b) = *fig\_logic*

|  |  |  |  |
| --- | --- | --- | --- |
| process | label | a | aeh |
| a | Level | 8.84 (0.20) <.01 | 8.99 (0.22) <.01 |
| a | Slope | -0.33 (0.03) <.01 | -0.33 (0.03) <.01 |
| a | Level \* age | -0.22 (0.04) <.01 | -0.15 (0.04) <.01 |
| a | Level \* education | --- | 0.14 (0.07) .05 |
| a | Level \* height | --- | 0.09 (0.02) <.01 |
| a | Level \* smoking | --- | --- |
| a | Level \* cardio | --- | --- |
| a | Level \* diabetes | --- | --- |
| a | Slope \* age | -0.00 (0.01) .76 | -0.00 (0.01) .61 |
| a | Slope \* education | --- | -0.01 (0.01) .46 |
| a | Slope \* height | --- | -0.00 (0.00) .51 |
| a | Slope \* smoking | --- | --- |
| a | Slope \* cardio | --- | --- |
| a | Slope \* diabetes | --- | --- |
| b | Level | 16.66 (0.39) <.01 | 16.73 (0.40) <.01 |
| b | Slope | -0.09 (0.07) .20 | -0.08 (0.08) .30 |
| b | Level \* age | -0.28 (0.09) <.01 | -0.27 (0.10) <.01 |
| b | Level \* education | --- | 0.22 (0.12) .07 |
| b | Level \* height | --- | -0.01 (0.05) .76 |
| b | Level \* smoking | --- | --- |
| b | Level \* cardio | --- | --- |
| b | Level \* diabetes | --- | --- |
| b | Slope \* age | -0.00 (0.02) .98 | -0.00 (0.02) .96 |
| b | Slope \* education | --- | -0.01 (0.03) .63 |
| b | Slope \* height | --- | 0.00 (0.01) .57 |
| b | Slope \* smoking | --- | --- |
| b | Slope \* cardio | --- | --- |
| b | Slope \* diabetes | --- | --- |
| a | Var (Level) | 3.77 (0.48) <.01 | 3.24 (0.46) <.01 |
| a | Var (Slope) | 0.02 (0.01) .06 | 0.02 (0.01) .05 |
| a | Var (Residual) | 1.28 (0.12) <.01 | 1.27 (0.13) <.01 |
| a | Covar (Level, Slope) | -0.05 (0.04) .28 | -0.04 (0.04) .38 |
| b | Var (Level) | 8.84 (1.37) <.01 | 7.95 (1.21) <.01 |
| b | Var (Slope) | 0.09 (0.05) .04 | 0.10 (0.05) .03 |
| b | Var (Residual) | 7.95 (0.62) <.01 | 7.95 (0.59) <.01 |
| b | Covar (Level, Slope) | -0.41 (0.20) .04 | -0.41 (0.19) .03 |
| ab | Covar (Levels) | 2.13 (0.51) <.01 | 1.59 (0.48) <.01 |
| ab | Covar (Slopes) | 0.02 (0.01) .11 | 0.02 (0.01) .09 |
| ab | Covar (Residuals) | 0.27 (0.16) .10 | 0.22 (0.17) .20 |
|  | Correlation of Levels | 0.370 | 0.314 |
|  | Correlation of Slopes | 0.553 | 0.557 |
|  | Correlation of Residuals | 0.085 | 0.071 |
|  | N | 302 | 274 |
|  | occasions | 5 | 5 |
|  | parameters | NA | NA |
|  | LL | -3,906 | -3,704 |
|  | AIC | 7,855 | 7,465 |
|  | BIC | 7,933 | 7,570 |

## mir

Gender = *female*; Process (a) = *grip*; Process (b) = *mir*

|  |  |  |  |
| --- | --- | --- | --- |
| process | label | a | aeh |
| a | Level | 8.83 (0.20) <.01 | 8.99 (0.22) <.01 |
| a | Slope | -0.33 (0.03) <.01 | -0.33 (0.03) <.01 |
| a | Level \* age | -0.22 (0.04) <.01 | -0.15 (0.04) <.01 |
| a | Level \* education | --- | 0.14 (0.07) .06 |
| a | Level \* height | --- | 0.09 (0.02) <.01 |
| a | Level \* smoking | --- | --- |
| a | Level \* cardio | --- | --- |
| a | Level \* diabetes | --- | --- |
| a | Slope \* age | -0.00 (0.01) .54 | -0.00 (0.01) .46 |
| a | Slope \* education | --- | -0.01 (0.01) .49 |
| a | Slope \* height | --- | -0.00 (0.00) .58 |
| a | Slope \* smoking | --- | --- |
| a | Slope \* cardio | --- | --- |
| a | Slope \* diabetes | --- | --- |
| b | Level | 7.63 (0.19) <.01 | 7.79 (0.18) <.01 |
| b | Slope | -0.06 (0.05) .18 | -0.06 (0.05) .23 |
| b | Level \* age | -0.16 (0.05) <.01 | -0.15 (0.05) <.01 |
| b | Level \* education | --- | 0.03 (0.07) .69 |
| b | Level \* height | --- | -0.01 (0.02) .48 |
| b | Level \* smoking | --- | --- |
| b | Level \* cardio | --- | --- |
| b | Level \* diabetes | --- | --- |
| b | Slope \* age | -0.02 (0.01) .10 | -0.02 (0.01) .17 |
| b | Slope \* education | --- | -0.00 (0.02) .78 |
| b | Slope \* height | --- | 0.00 (0.01) .47 |
| b | Slope \* smoking | --- | --- |
| b | Slope \* cardio | --- | --- |
| b | Slope \* diabetes | --- | --- |
| a | Var (Level) | 3.79 (0.49) <.01 | 3.26 (0.46) <.01 |
| a | Var (Slope) | 0.02 (0.01) .04 | 0.02 (0.01) .03 |
| a | Var (Residual) | 1.27 (0.12) <.01 | 1.26 (0.12) <.01 |
| a | Covar (Level, Slope) | -0.06 (0.04) .20 | -0.05 (0.04) .24 |
| b | Var (Level) | 3.15 (0.53) <.01 | 2.41 (0.48) <.01 |
| b | Var (Slope) | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 |
| b | Var (Residual) | 1.89 (0.16) <.01 | 1.85 (0.17) <.01 |
| b | Covar (Level, Slope) | -0.01 (0.07) .87 | 0.00 (0.07) .99 |
| ab | Covar (Levels) | 0.65 (0.28) .02 | 0.44 (0.23) .05 |
| ab | Covar (Slopes) | 0.03 (0.01) <.01 | 0.03 (0.01) <.01 |
| ab | Covar (Residuals) | 0.07 (0.07) .36 | 0.07 (0.07) .33 |
|  | Correlation of Levels | 0.189 | 0.157 |
|  | Correlation of Slopes | 0.629 | 0.595 |
|  | Correlation of Residuals | 0.044 | 0.045 |
|  | N | 303 | 273 |
|  | occasions | 5 | 5 |
|  | parameters | NA | NA |
|  | LL | -3,735 | -3,501 |
|  | AIC | 7,511 | 7,060 |
|  | BIC | 7,589 | 7,164 |

## prose\_im

Gender = *female*; Process (a) = *grip*; Process (b) = *prose\_im*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 8.83 (0.20) <.01 | 8.99 (0.22) <.01 | 9.19 (0.25) <.01 |
| a | Slope | -0.33 (0.03) <.01 | -0.34 (0.03) <.01 | -0.34 (0.04) <.01 |
| a | Level \* age | -0.22 (0.04) <.01 | -0.15 (0.04) <.01 | -0.15 (0.04) <.01 |
| a | Level \* education | --- | 0.14 (0.07) .05 | 0.17 (0.07) .01 |
| a | Level \* height | --- | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 |
| a | Level \* smoking | --- | --- | -0.53 (0.32) .10 |
| a | Level \* cardio | --- | --- | -0.17 (0.25) .51 |
| a | Level \* diabetes | --- | --- | -0.01 (0.53) .99 |
| a | Slope \* age | -0.00 (0.01) .70 | -0.00 (0.01) .54 | -0.00 (0.01) .61 |
| a | Slope \* education | --- | -0.01 (0.01) .42 | -0.01 (0.01) .37 |
| a | Slope \* height | --- | -0.00 (0.00) .52 | -0.00 (0.00) .50 |
| a | Slope \* smoking | --- | --- | 0.01 (0.04) .86 |
| a | Slope \* cardio | --- | --- | 0.00 (0.04) .98 |
| a | Slope \* diabetes | --- | --- | -0.06 (0.10) .58 |
| b | Level | 11.13 (0.31) <.01 | 11.29 (0.34) <.01 | 11.14 (0.40) <.01 |
| b | Slope | -0.12 (0.06) .05 | -0.10 (0.05) .06 | -0.04 (0.07) .58 |
| b | Level \* age | -0.28 (0.08) <.01 | -0.28 (0.08) <.01 | -0.25 (0.08) <.01 |
| b | Level \* education | --- | 0.47 (0.10) <.01 | 0.46 (0.10) <.01 |
| b | Level \* height | --- | 0.01 (0.04) .77 | 0.01 (0.04) .76 |
| b | Level \* smoking | --- | --- | 0.26 (0.49) .59 |
| b | Level \* cardio | --- | --- | 0.24 (0.43) .58 |
| b | Level \* diabetes | --- | --- | -1.78 (1.14) .12 |
| b | Slope \* age | 0.02 (0.02) .21 | 0.02 (0.01) .10 | 0.02 (0.02) .21 |
| b | Slope \* education | --- | -0.05 (0.02) .02 | -0.04 (0.02) .04 |
| b | Slope \* height | --- | 0.01 (0.01) .44 | 0.01 (0.01) .45 |
| b | Slope \* smoking | --- | --- | -0.12 (0.10) .20 |
| b | Slope \* cardio | --- | --- | -0.07 (0.09) .40 |
| b | Slope \* diabetes | --- | --- | 0.09 (0.19) .64 |
| a | Var (Level) | 3.78 (0.48) <.01 | 3.24 (0.46) <.01 | 3.18 (0.43) <.01 |
| a | Var (Slope) | 0.02 (0.01) .06 | 0.02 (0.01) .05 | 0.02 (0.01) .06 |
| a | Var (Residual) | 1.28 (0.12) <.01 | 1.27 (0.13) <.01 | 1.27 (0.12) <.01 |
| a | Covar (Level, Slope) | -0.05 (0.04) .26 | -0.04 (0.04) .36 | -0.04 (0.04) .40 |
| b | Var (Level) | 9.66 (1.17) <.01 | 7.97 (1.02) <.01 | 7.79 (1.04) <.01 |
| b | Var (Slope) | 0.10 (0.04) .01 | 0.08 (0.03) .01 | 0.08 (0.03) .01 |
| b | Var (Residual) | 4.39 (0.38) <.01 | 4.35 (0.38) <.01 | 4.35 (0.38) <.01 |
| b | Covar (Level, Slope) | -0.49 (0.17) <.01 | -0.39 (0.14) <.01 | -0.38 (0.15) .01 |
| ab | Covar (Levels) | 1.20 (0.45) .01 | 0.65 (0.40) .10 | 0.68 (0.38) .08 |
| ab | Covar (Slopes) | 0.01 (0.01) .37 | 0.01 (0.01) .34 | 0.01 (0.01) .31 |
| ab | Covar (Residuals) | 0.17 (0.16) .28 | 0.13 (0.16) .41 | 0.14 (0.16) .39 |
|  | Correlation of Levels | 0.198 | 0.128 | 0.137 |
|  | Correlation of Slopes | 0.294 | 0.353 | 0.362 |
|  | Correlation of Residuals | 0.071 | 0.056 | 0.059 |
|  | N | 302 | 273 | 272 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | NA | NA | 41 |
|  | LL | -3,931 | -3,683 | -3,672 |
|  | AIC | 7,904 | 7,423 | 7,426 |
|  | BIC | 7,982 | 7,528 | 7,574 |

## symbol

Gender = *female*; Process (a) = *grip*; Process (b) = *symbol*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 8.83 (0.20) <.01 | 9.00 (0.22) <.01 | 9.19 (0.25) <.01 |
| a | Slope | -0.33 (0.03) <.01 | -0.34 (0.03) <.01 | -0.34 (0.04) <.01 |
| a | Level \* age | -0.22 (0.04) <.01 | -0.15 (0.04) <.01 | -0.16 (0.04) <.01 |
| a | Level \* education | --- | 0.14 (0.07) .05 | 0.17 (0.07) .01 |
| a | Level \* height | --- | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 |
| a | Level \* smoking | --- | --- | -0.51 (0.32) .10 |
| a | Level \* cardio | --- | --- | -0.16 (0.25) .53 |
| a | Level \* diabetes | --- | --- | -0.01 (0.53) .99 |
| a | Slope \* age | -0.00 (0.01) .73 | -0.00 (0.01) .63 | -0.00 (0.01) .68 |
| a | Slope \* education | --- | -0.01 (0.01) .39 | -0.01 (0.01) .35 |
| a | Slope \* height | --- | -0.00 (0.00) .60 | -0.00 (0.00) .57 |
| a | Slope \* smoking | --- | --- | 0.00 (0.05) .97 |
| a | Slope \* cardio | --- | --- | -0.00 (0.04) .90 |
| a | Slope \* diabetes | --- | --- | -0.04 (0.10) .66 |
| b | Level | 28.59 (1.01) <.01 | 28.70 (1.08) <.01 | 28.57 (1.19) <.01 |
| b | Slope | -0.51 (0.16) <.01 | -0.52 (0.16) <.01 | -0.13 (0.19) .51 |
| b | Level \* age | -0.98 (0.25) <.01 | -0.82 (0.28) <.01 | -0.82 (0.27) <.01 |
| b | Level \* education | --- | 1.58 (0.36) <.01 | 1.68 (0.37) <.01 |
| b | Level \* height | --- | 0.07 (0.12) .53 | 0.08 (0.11) .50 |
| b | Level \* smoking | --- | --- | -0.56 (1.69) .74 |
| b | Level \* cardio | --- | --- | 0.90 (1.27) .48 |
| b | Level \* diabetes | --- | --- | -2.89 (3.13) .36 |
| b | Slope \* age | 0.00 (0.04) .94 | 0.01 (0.04) .73 | 0.00 (0.04) .94 |
| b | Slope \* education | --- | -0.02 (0.06) .71 | -0.04 (0.06) .53 |
| b | Slope \* height | --- | 0.01 (0.02) .64 | 0.01 (0.02) .49 |
| b | Slope \* smoking | --- | --- | -0.34 (0.28) .22 |
| b | Slope \* cardio | --- | --- | -0.80 (0.19) <.01 |
| b | Slope \* diabetes | --- | --- | 1.48 (0.48) <.01 |
| a | Var (Level) | 3.77 (0.48) <.01 | 3.23 (0.46) <.01 | 3.17 (0.44) <.01 |
| a | Var (Slope) | 0.02 (0.01) .07 | 0.02 (0.01) .06 | 0.02 (0.01) .06 |
| a | Var (Residual) | 1.28 (0.12) <.01 | 1.28 (0.13) <.01 | 1.27 (0.12) <.01 |
| a | Covar (Level, Slope) | -0.05 (0.04) .28 | -0.04 (0.04) .35 | -0.04 (0.04) .40 |
| b | Var (Level) | 83.77 (9.06) <.01 | 67.01 (7.93) <.01 | 66.95 (7.79) <.01 |
| b | Var (Slope) | 0.58 (0.16) <.01 | 0.60 (0.16) <.01 | 0.39 (0.15) .01 |
| b | Var (Residual) | 28.30 (2.43) <.01 | 28.05 (2.38) <.01 | 27.89 (2.40) <.01 |
| b | Covar (Level, Slope) | -2.66 (0.92) <.01 | -2.40 (0.85) <.01 | -1.93 (0.91) .03 |
| ab | Covar (Levels) | 4.86 (1.50) <.01 | 2.38 (1.29) .06 | 2.62 (1.18) .03 |
| ab | Covar (Slopes) | 0.01 (0.03) .75 | 0.01 (0.02) .69 | 0.01 (0.02) .59 |
| ab | Covar (Residuals) | 0.75 (0.32) .02 | 0.71 (0.33) .03 | 0.72 (0.32) .02 |
|  | Correlation of Levels | 0.273 | 0.162 | 0.18 |
|  | Correlation of Slopes | 0.083 | 0.099 | 0.16 |
|  | Correlation of Residuals | 0.124 | 0.119 | 0.12 |
|  | N | 299 | 272 | 271 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | NA | NA | 41 |
|  | LL | -4,458 | -4,220 | -4,202 |
|  | AIC | 8,958 | 8,499 | 8,486 |
|  | BIC | 9,036 | 8,604 | 8,633 |

## Summary

Study = *OCTO*; Gender = *female*; Process (a) = *grip*

Computed correlations:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Correlation of Levels | block | 0.38 | 0.32 | 0.31 |
| Correlation of Levels | digit\_b | 0.03 | 0.01 | -0.00 |
| Correlation of Levels | digit\_f | 0.05 | -0.05 | -0.06 |
| Correlation of Levels | fig\_logic | 0.37 | 0.31 | . |
| Correlation of Levels | mir | 0.19 | 0.16 | . |
| Correlation of Levels | prose\_im | 0.20 | 0.13 | 0.14 |
| Correlation of Levels | symbol | 0.27 | 0.16 | 0.18 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Correlation of Slopes | block | 0.86 | 0.86 | 0.76 |
| Correlation of Slopes | digit\_b | -0.43 | -0.49 | -0.49 |
| Correlation of Slopes | digit\_f | 0.09 | 0.10 | 0.11 |
| Correlation of Slopes | fig\_logic | 0.55 | 0.56 | . |
| Correlation of Slopes | mir | 0.63 | 0.59 | . |
| Correlation of Slopes | prose\_im | 0.29 | 0.35 | 0.36 |
| Correlation of Slopes | symbol | 0.08 | 0.10 | 0.16 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Correlation of Residuals | block | 0.05 | 0.04 | 0.05 |
| Correlation of Residuals | digit\_b | 0.06 | 0.05 | 0.05 |
| Correlation of Residuals | digit\_f | 0.06 | 0.05 | 0.05 |
| Correlation of Residuals | fig\_logic | 0.08 | 0.07 | . |
| Correlation of Residuals | mir | 0.04 | 0.05 | . |
| Correlation of Residuals | prose\_im | 0.07 | 0.06 | 0.06 |
| Correlation of Residuals | symbol | 0.12 | 0.12 | 0.12 |

P-values for corresponding covariances:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Covariance of Levels | block | 0.00 | 0.00 | 0.00 |
| Covariance of Levels | digit\_b | 0.77 | 0.92 | 0.98 |
| Covariance of Levels | digit\_f | 0.58 | 0.55 | 0.53 |
| Covariance of Levels | fig\_logic | 0.00 | 0.00 | . |
| Covariance of Levels | mir | 0.02 | 0.05 | . |
| Covariance of Levels | prose\_im | 0.01 | 0.10 | 0.08 |
| Covariance of Levels | symbol | 0.00 | 0.06 | 0.03 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Covariance of Slopes | block | 0.00 | 0.00 | 0.00 |
| Covariance of Slopes | digit\_b | 0.30 | 0.35 | 0.40 |
| Covariance of Slopes | digit\_f | 0.72 | 0.66 | 0.70 |
| Covariance of Slopes | fig\_logic | 0.11 | 0.09 | . |
| Covariance of Slopes | mir | 0.00 | 0.00 | . |
| Covariance of Slopes | prose\_im | 0.37 | 0.34 | 0.31 |
| Covariance of Slopes | symbol | 0.75 | 0.69 | 0.59 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Covariance of Residuals | block | 0.36 | 0.45 | 0.35 |
| Covariance of Residuals | digit\_b | 0.22 | 0.32 | 0.35 |
| Covariance of Residuals | digit\_f | 0.23 | 0.35 | 0.37 |
| Covariance of Residuals | fig\_logic | 0.10 | 0.20 | . |
| Covariance of Residuals | mir | 0.36 | 0.33 | . |
| Covariance of Residuals | prose\_im | 0.28 | 0.41 | 0.39 |
| Covariance of Residuals | symbol | 0.02 | 0.03 | 0.02 |

# male

Gender = *male*; Model type: *aehplus*; Process (a) = *grip*; Process (b): *block*, *digit\_b*, *digit\_f*, *fig\_logic*, *mir*, *prose\_im*, *symbol*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| process | label | block | digit\_b | digit\_f | prose\_im | symbol | mean(sd) |
| a | Level | 10.78 (0.60) <.01 | 10.78 (0.60) <.01 | 10.77 (0.60) <.01 | 10.78 (0.60) <.01 | 10.79 (0.60) <.01 | 10.78(0.01) |
| a | Slope | -0.14 (0.11) .19 | -0.13 (0.10) .20 | -0.11 (0.10) .25 | -0.13 (0.11) .22 | -0.14 (0.10) .19 | -0.13(0.01) |
| a | Level \* age | -0.17 (0.07) .01 | -0.17 (0.07) .01 | -0.16 (0.07) .01 | -0.16 (0.07) .01 | -0.16 (0.07) .01 | -0.16(0.00) |
| a | Level \* education | -0.14 (0.05) .01 | -0.14 (0.05) .01 | -0.14 (0.05) .01 | -0.13 (0.05) .01 | -0.13 (0.05) .01 | -0.13(0.00) |
| a | Level \* height | 0.11 (0.04) <.01 | 0.11 (0.04) <.01 | 0.11 (0.04) <.01 | 0.11 (0.04) <.01 | 0.11 (0.04) <.01 | 0.11(0.00) |
| a | Level \* smoking | 0.11 (0.43) .80 | 0.10 (0.43) .81 | 0.10 (0.43) .81 | 0.08 (0.43) .84 | 0.09 (0.43) .84 | 0.10(0.01) |
| a | Level \* cardio | -0.40 (0.40) .32 | -0.42 (0.40) .30 | -0.42 (0.40) .29 | -0.41 (0.40) .31 | -0.41 (0.40) .31 | -0.41(0.01) |
| a | Level \* diabetes | -1.60 (0.69) .02 | -1.54 (0.70) .03 | -1.55 (0.69) .02 | -1.58 (0.69) .02 | -1.56 (0.69) .02 | -1.57(0.03) |
| a | Slope \* age | -0.05 (0.02) .01 | -0.05 (0.02) .01 | -0.05 (0.02) .01 | -0.06 (0.02) .01 | -0.05 (0.02) .01 | -0.05(0.00) |
| a | Slope \* education | -0.00 (0.01) .82 | 0.00 (0.01) .95 | 0.00 (0.01) .95 | -0.00 (0.01) .78 | -0.00 (0.01) .79 | -0.00(0.00) |
| a | Slope \* height | -0.01 (0.01) .07 | -0.01 (0.00) .07 | -0.01 (0.01) .05 | -0.01 (0.01) .10 | -0.01 (0.01) .06 | -0.01(0.00) |
| a | Slope \* smoking | 0.04 (0.09) .65 | 0.03 (0.08) .73 | 0.03 (0.09) .72 | 0.03 (0.09) .73 | 0.05 (0.09) .61 | 0.04(0.01) |
| a | Slope \* cardio | -0.23 (0.08) <.01 | -0.22 (0.07) <.01 | -0.23 (0.07) <.01 | -0.23 (0.07) <.01 | -0.23 (0.08) <.01 | -0.23(0.00) |
| a | Slope \* diabetes | -0.06 (0.12) .64 | -0.09 (0.13) .47 | -0.08 (0.13) .55 | -0.04 (0.13) .75 | -0.06 (0.12) .60 | -0.07(0.02) |
| b | Level | 14.93 (1.82) <.01 | 3.95 (0.31) <.01 | 5.89 (0.32) <.01 | 10.69 (0.97) <.01 | 28.40 (2.81) <.01 | --- |
| b | Slope | -0.37 (0.21) .09 | -0.14 (0.09) .11 | -0.06 (0.06) .35 | 0.06 (0.22) .79 | -0.30 (0.43) .49 | --- |
| b | Level \* age | -0.48 (0.22) .03 | -0.08 (0.04) .08 | -0.03 (0.03) .40 | -0.26 (0.12) .03 | -0.66 (0.38) .08 | --- |
| b | Level \* education | 0.63 (0.19) <.01 | 0.12 (0.03) <.01 | 0.07 (0.02) .01 | 0.43 (0.09) <.01 | 1.71 (0.24) <.01 | --- |
| b | Level \* height | 0.15 (0.09) .09 | 0.00 (0.02) .90 | 0.01 (0.01) .41 | 0.01 (0.06) .91 | 0.24 (0.12) .05 | --- |
| b | Level \* smoking | -3.70 (1.45) .01 | -0.19 (0.27) .49 | -0.47 (0.23) .04 | -0.62 (0.80) .43 | -5.97 (2.29) .01 | --- |
| b | Level \* cardio | -0.55 (1.12) .63 | -0.55 (0.24) .02 | -0.02 (0.19) .93 | -0.44 (0.69) .52 | -1.36 (1.79) .45 | --- |
| b | Level \* diabetes | -2.55 (1.31) .05 | -0.30 (0.43) .47 | -0.02 (0.26) .92 | 0.70 (0.94) .46 | -2.03 (2.23) .36 | --- |
| b | Slope \* age | 0.04 (0.04) .24 | 0.00 (0.01) .98 | -0.01 (0.01) .10 | -0.01 (0.05) .87 | 0.03 (0.07) .67 | --- |
| b | Slope \* education | 0.03 (0.04) .55 | -0.00 (0.01) .68 | 0.01 (0.01) .24 | -0.01 (0.01) .54 | 0.02 (0.05) .61 | --- |
| b | Slope \* height | -0.01 (0.01) .57 | 0.01 (0.00) .11 | -0.00 (0.00) .14 | 0.01 (0.01) .36 | -0.02 (0.02) .33 | --- |
| b | Slope \* smoking | 0.02 (0.15) .88 | -0.04 (0.08) .66 | 0.07 (0.05) .17 | -0.15 (0.20) .45 | 0.17 (0.30) .58 | --- |
| b | Slope \* cardio | -0.14 (0.17) .42 | 0.08 (0.06) .15 | -0.03 (0.04) .52 | -0.19 (0.12) .12 | -0.17 (0.27) .54 | --- |
| b | Slope \* diabetes | 0.25 (0.27) .35 | -0.03 (0.12) .80 | 0.00 (0.06) .99 | -0.18 (0.25) .47 | -0.14 (0.47) .77 | --- |
| a | Var (Level) | 4.44 (0.68) <.01 | 4.41 (0.68) <.01 | 4.41 (0.68) <.01 | 4.45 (0.68) <.01 | 4.45 (0.68) <.01 | 4.43(0.02) |
| a | Var (Slope) | 0.04 (0.02) .08 | 0.04 (0.02) .08 | 0.04 (0.02) .08 | 0.04 (0.02) .07 | 0.04 (0.03) .09 | 0.04(0.00) |
| a | Var (Residual) | 1.54 (0.20) <.01 | 1.57 (0.21) <.01 | 1.56 (0.20) <.01 | 1.56 (0.20) <.01 | 1.54 (0.20) <.01 | 1.56(0.01) |
| a | Covar (Level, Slope) | -0.14 (0.10) .17 | -0.13 (0.10) .17 | -0.13 (0.10) .16 | -0.16 (0.10) .12 | -0.15 (0.10) .14 | -0.14(0.01) |
| b | Var (Level) | 32.24 (5.01) <.01 | 1.04 (0.27) <.01 | 0.82 (0.17) <.01 | 10.25 (2.47) <.01 | 74.08 (10.95) <.01 | --- |
| b | Var (Slope) | 0.05 (0.17) .78 | 0.02 (0.01) .21 | 0.01 (0.00) .02 | 0.02 (0.20) .90 | 0.44 (0.26) .09 | --- |
| b | Var (Residual) | 9.20 (1.27) <.01 | 0.96 (0.14) <.01 | 0.51 (0.08) <.01 | 4.07 (0.80) <.01 | 17.29 (2.31) <.01 | --- |
| b | Covar (Level, Slope) | 0.13 (0.50) .80 | -0.08 (0.05) .08 | -0.07 (0.03) .01 | -0.21 (0.72) .77 | -2.78 (1.13) .01 | --- |
| ab | Covar (Levels) | 3.62 (1.22) <.01 | 0.12 (0.23) .60 | -0.29 (0.26) .27 | 2.38 (0.78) <.01 | 4.32 (1.88) .02 | --- |
| ab | Covar (Slopes) | -0.01 (0.03) .74 | 0.00 (0.01) .68 | 0.00 (0.01) .50 | -0.01 (0.05) .79 | -0.01 (0.06) .85 | --- |
| ab | Covar (Residuals) | 0.52 (0.24) .03 | -0.16 (0.10) .10 | -0.07 (0.06) .30 | 0.35 (0.25) .16 | 0.76 (0.46) .09 | --- |
|  | Correlation of Levels | 0.30 | 0.056 | -0.152 | 0.35 | 0.238 | 0.16(0.21) |
|  | Correlation of Slopes | -0.25 | 0.191 | 0.231 | -0.37 | -0.079 | -0.05(0.26) |
|  | Correlation of Residuals | 0.14 | -0.128 | -0.074 | 0.14 | 0.148 | 0.04(0.13) |
|  | N | 139 | 139 | 139 | 139 | 138 | 138.80(0.45) |
|  | occasions | 5 | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -1,989 | -1,541 | -1,429 | -1,681 | -2,017 | -1,731(264) |
|  | AIC | 4,060 | 3,163 | 2,940 | 3,444 | 4,117 | 3,545(528) |
|  | BIC | 4,180 | 3,283 | 3,060 | 3,564 | 4,237 | 3,665(528) |

## block

Gender = *male*; Process (a) = *grip*; Process (b) = *block*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 11.28 (0.36) <.01 | 11.78 (0.34) <.01 | 10.78 (0.60) <.01 |
| a | Slope | -0.36 (0.05) <.01 | -0.37 (0.05) <.01 | -0.14 (0.11) .19 |
| a | Level \* age | -0.18 (0.08) .02 | -0.16 (0.07) .03 | -0.17 (0.07) .01 |
| a | Level \* education | --- | -0.11 (0.05) .02 | -0.14 (0.05) .01 |
| a | Level \* height | --- | 0.11 (0.04) <.01 | 0.11 (0.04) <.01 |
| a | Level \* smoking | --- | --- | 0.11 (0.43) .80 |
| a | Level \* cardio | --- | --- | -0.40 (0.40) .32 |
| a | Level \* diabetes | --- | --- | -1.60 (0.69) .02 |
| a | Slope \* age | -0.04 (0.02) .04 | -0.04 (0.02) .08 | -0.05 (0.02) .01 |
| a | Slope \* education | --- | 0.00 (0.01) .74 | -0.00 (0.01) .82 |
| a | Slope \* height | --- | -0.01 (0.01) .19 | -0.01 (0.01) .07 |
| a | Slope \* smoking | --- | --- | 0.04 (0.09) .65 |
| a | Slope \* cardio | --- | --- | -0.23 (0.08) <.01 |
| a | Slope \* diabetes | --- | --- | -0.06 (0.12) .64 |
| b | Level | 13.24 (0.88) <.01 | 13.49 (0.91) <.01 | 14.93 (1.82) <.01 |
| b | Slope | -0.48 (0.10) <.01 | -0.52 (0.12) <.01 | -0.37 (0.21) .09 |
| b | Level \* age | -0.56 (0.22) .01 | -0.47 (0.24) .06 | -0.48 (0.22) .03 |
| b | Level \* education | --- | 0.57 (0.21) .01 | 0.63 (0.19) <.01 |
| b | Level \* height | --- | 0.14 (0.09) .11 | 0.15 (0.09) .09 |
| b | Level \* smoking | --- | --- | -3.70 (1.45) .01 |
| b | Level \* cardio | --- | --- | -0.55 (1.12) .63 |
| b | Level \* diabetes | --- | --- | -2.55 (1.31) .05 |
| b | Slope \* age | 0.04 (0.03) .20 | 0.05 (0.03) .13 | 0.04 (0.04) .24 |
| b | Slope \* education | --- | 0.03 (0.04) .47 | 0.03 (0.04) .55 |
| b | Slope \* height | --- | -0.01 (0.01) .41 | -0.01 (0.01) .57 |
| b | Slope \* smoking | --- | --- | 0.02 (0.15) .88 |
| b | Slope \* cardio | --- | --- | -0.14 (0.17) .42 |
| b | Slope \* diabetes | --- | --- | 0.25 (0.27) .35 |
| a | Var (Level) | 6.61 (1.11) <.01 | 4.63 (0.72) <.01 | 4.44 (0.68) <.01 |
| a | Var (Slope) | 0.05 (0.03) .05 | 0.05 (0.03) .08 | 0.04 (0.02) .08 |
| a | Var (Residual) | 1.60 (0.21) <.01 | 1.58 (0.23) <.01 | 1.54 (0.20) <.01 |
| a | Covar (Level, Slope) | -0.12 (0.11) .28 | -0.06 (0.10) .53 | -0.14 (0.10) .17 |
| b | Var (Level) | 43.95 (5.63) <.01 | 35.78 (5.64) <.01 | 32.24 (5.01) <.01 |
| b | Var (Slope) | 0.04 (0.10) .71 | 0.04 (0.16) .80 | 0.05 (0.17) .78 |
| b | Var (Residual) | 9.12 (1.13) <.01 | 9.27 (1.26) <.01 | 9.20 (1.27) <.01 |
| b | Covar (Level, Slope) | 0.27 (0.45) .56 | 0.16 (0.47) .73 | 0.13 (0.50) .80 |
| ab | Covar (Levels) | 6.10 (1.74) <.01 | 3.99 (1.22) <.01 | 3.62 (1.22) <.01 |
| ab | Covar (Slopes) | -0.02 (0.03) .49 | -0.01 (0.04) .77 | -0.01 (0.03) .74 |
| ab | Covar (Residuals) | 0.49 (0.23) .03 | 0.51 (0.27) .06 | 0.52 (0.24) .03 |
|  | Correlation of Levels | 0.36 | 0.31 | 0.30 |
|  | Correlation of Slopes | -0.49 | -0.27 | -0.25 |
|  | Correlation of Residuals | 0.13 | 0.13 | 0.14 |
|  | N | 158 | 139 | 139 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | NA | NA | 41 |
|  | LL | -2,224 | -2,007 | -1,989 |
|  | AIC | 4,489 | 4,073 | 4,060 |
|  | BIC | 4,553 | 4,158 | 4,180 |

## digit\_b

Gender = *male*; Process (a) = *grip*; Process (b) = *digit\_b*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 11.30 (0.36) <.01 | 11.78 (0.34) <.01 | 10.78 (0.60) <.01 |
| a | Slope | -0.36 (0.05) <.01 | -0.37 (0.05) <.01 | -0.13 (0.10) .20 |
| a | Level \* age | -0.19 (0.08) .01 | -0.16 (0.07) .03 | -0.17 (0.07) .01 |
| a | Level \* education | --- | -0.11 (0.05) .02 | -0.14 (0.05) .01 |
| a | Level \* height | --- | 0.11 (0.04) <.01 | 0.11 (0.04) <.01 |
| a | Level \* smoking | --- | --- | 0.10 (0.43) .81 |
| a | Level \* cardio | --- | --- | -0.42 (0.40) .30 |
| a | Level \* diabetes | --- | --- | -1.54 (0.70) .03 |
| a | Slope \* age | -0.04 (0.02) .06 | -0.04 (0.02) .09 | -0.05 (0.02) .01 |
| a | Slope \* education | --- | 0.01 (0.01) .56 | 0.00 (0.01) .95 |
| a | Slope \* height | --- | -0.01 (0.01) .17 | -0.01 (0.00) .07 |
| a | Slope \* smoking | --- | --- | 0.03 (0.08) .73 |
| a | Slope \* cardio | --- | --- | -0.22 (0.07) <.01 |
| a | Slope \* diabetes | --- | --- | -0.09 (0.13) .47 |
| b | Level | 3.54 (0.17) <.01 | 3.53 (0.18) <.01 | 3.95 (0.31) <.01 |
| b | Slope | -0.06 (0.04) .15 | -0.06 (0.04) .20 | -0.14 (0.09) .11 |
| b | Level \* age | -0.08 (0.04) .06 | -0.07 (0.04) .12 | -0.08 (0.04) .08 |
| b | Level \* education | --- | 0.13 (0.03) <.01 | 0.12 (0.03) <.01 |
| b | Level \* height | --- | 0.00 (0.02) .90 | 0.00 (0.02) .90 |
| b | Level \* smoking | --- | --- | -0.19 (0.27) .49 |
| b | Level \* cardio | --- | --- | -0.55 (0.24) .02 |
| b | Level \* diabetes | --- | --- | -0.30 (0.43) .47 |
| b | Slope \* age | -0.00 (0.01) .90 | 0.00 (0.01) .99 | 0.00 (0.01) .98 |
| b | Slope \* education | --- | -0.01 (0.01) .42 | -0.00 (0.01) .68 |
| b | Slope \* height | --- | 0.00 (0.00) .12 | 0.01 (0.00) .11 |
| b | Slope \* smoking | --- | --- | -0.04 (0.08) .66 |
| b | Slope \* cardio | --- | --- | 0.08 (0.06) .15 |
| b | Slope \* diabetes | --- | --- | -0.03 (0.12) .80 |
| a | Var (Level) | 6.57 (1.12) <.01 | 4.60 (0.72) <.01 | 4.41 (0.68) <.01 |
| a | Var (Slope) | 0.05 (0.02) .06 | 0.04 (0.02) .08 | 0.04 (0.02) .08 |
| a | Var (Residual) | 1.62 (0.21) <.01 | 1.59 (0.23) <.01 | 1.57 (0.21) <.01 |
| a | Covar (Level, Slope) | -0.10 (0.10) .35 | -0.06 (0.10) .59 | -0.13 (0.10) .17 |
| b | Var (Level) | 1.53 (0.31) <.01 | 1.13 (0.29) <.01 | 1.04 (0.27) <.01 |
| b | Var (Slope) | 0.02 (0.01) .16 | 0.02 (0.01) .16 | 0.02 (0.01) .21 |
| b | Var (Residual) | 0.99 (0.14) <.01 | 0.97 (0.14) <.01 | 0.96 (0.14) <.01 |
| b | Covar (Level, Slope) | -0.12 (0.06) .05 | -0.09 (0.05) .09 | -0.08 (0.05) .08 |
| ab | Covar (Levels) | 0.74 (0.44) .09 | 0.21 (0.25) .40 | 0.12 (0.23) .60 |
| ab | Covar (Slopes) | 0.00 (0.01) .95 | 0.00 (0.01) .92 | 0.00 (0.01) .68 |
| ab | Covar (Residuals) | -0.14 (0.10) .14 | -0.17 (0.09) .07 | -0.16 (0.10) .10 |
|  | Correlation of Levels | 0.235 | 0.091 | 0.056 |
|  | Correlation of Slopes | 0.032 | 0.033 | 0.191 |
|  | Correlation of Residuals | -0.111 | -0.134 | -0.128 |
|  | N | 161 | 139 | 139 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | NA | NA | 41 |
|  | LL | -1,755 | -1,556 | -1,541 |
|  | AIC | 3,552 | 3,170 | 3,163 |
|  | BIC | 3,616 | 3,255 | 3,283 |

## digit\_f

Gender = *male*; Process (a) = *grip*; Process (b) = *digit\_f*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 11.30 (0.35) <.01 | 11.78 (0.34) <.01 | 10.77 (0.60) <.01 |
| a | Slope | -0.34 (0.05) <.01 | -0.36 (0.05) <.01 | -0.11 (0.10) .25 |
| a | Level \* age | -0.18 (0.08) .02 | -0.16 (0.07) .03 | -0.16 (0.07) .01 |
| a | Level \* education | --- | -0.11 (0.05) .02 | -0.14 (0.05) .01 |
| a | Level \* height | --- | 0.11 (0.04) <.01 | 0.11 (0.04) <.01 |
| a | Level \* smoking | --- | --- | 0.10 (0.43) .81 |
| a | Level \* cardio | --- | --- | -0.42 (0.40) .29 |
| a | Level \* diabetes | --- | --- | -1.55 (0.69) .02 |
| a | Slope \* age | -0.04 (0.02) .03 | -0.04 (0.02) .06 | -0.05 (0.02) .01 |
| a | Slope \* education | --- | 0.01 (0.01) .55 | 0.00 (0.01) .95 |
| a | Slope \* height | --- | -0.01 (0.01) .13 | -0.01 (0.01) .05 |
| a | Slope \* smoking | --- | --- | 0.03 (0.09) .72 |
| a | Slope \* cardio | --- | --- | -0.23 (0.07) <.01 |
| a | Slope \* diabetes | --- | --- | -0.08 (0.13) .55 |
| b | Level | 5.71 (0.13) <.01 | 5.68 (0.15) <.01 | 5.89 (0.32) <.01 |
| b | Slope | -0.05 (0.03) .07 | -0.07 (0.03) .01 | -0.06 (0.06) .35 |
| b | Level \* age | -0.05 (0.03) .07 | -0.02 (0.03) .51 | -0.03 (0.03) .40 |
| b | Level \* education | --- | 0.06 (0.02) .02 | 0.07 (0.02) .01 |
| b | Level \* height | --- | 0.01 (0.02) .50 | 0.01 (0.01) .41 |
| b | Level \* smoking | --- | --- | -0.47 (0.23) .04 |
| b | Level \* cardio | --- | --- | -0.02 (0.19) .93 |
| b | Level \* diabetes | --- | --- | -0.02 (0.26) .92 |
| b | Slope \* age | -0.02 (0.01) .04 | -0.01 (0.01) .10 | -0.01 (0.01) .10 |
| b | Slope \* education | --- | 0.01 (0.01) .16 | 0.01 (0.01) .24 |
| b | Slope \* height | --- | -0.00 (0.00) .13 | -0.00 (0.00) .14 |
| b | Slope \* smoking | --- | --- | 0.07 (0.05) .17 |
| b | Slope \* cardio | --- | --- | -0.03 (0.04) .52 |
| b | Slope \* diabetes | --- | --- | 0.00 (0.06) .99 |
| a | Var (Level) | 6.52 (1.10) <.01 | 4.60 (0.72) <.01 | 4.41 (0.68) <.01 |
| a | Var (Slope) | 0.05 (0.02) .04 | 0.04 (0.02) .08 | 0.04 (0.02) .08 |
| a | Var (Residual) | 1.61 (0.20) <.01 | 1.59 (0.23) <.01 | 1.56 (0.20) <.01 |
| a | Covar (Level, Slope) | -0.10 (0.10) .32 | -0.06 (0.10) .56 | -0.13 (0.10) .16 |
| b | Var (Level) | 0.91 (0.17) <.01 | 0.86 (0.17) <.01 | 0.82 (0.17) <.01 |
| b | Var (Slope) | 0.01 (0.01) .04 | 0.01 (0.01) .02 | 0.01 (0.00) .02 |
| b | Var (Residual) | 0.56 (0.08) <.01 | 0.51 (0.08) <.01 | 0.51 (0.08) <.01 |
| b | Covar (Level, Slope) | -0.07 (0.03) .01 | -0.08 (0.03) <.01 | -0.07 (0.03) .01 |
| ab | Covar (Levels) | 0.10 (0.30) .74 | -0.28 (0.28) .30 | -0.29 (0.26) .27 |
| ab | Covar (Slopes) | 0.01 (0.01) .23 | 0.01 (0.01) .40 | 0.00 (0.01) .50 |
| ab | Covar (Residuals) | -0.08 (0.07) .24 | -0.07 (0.07) .29 | -0.07 (0.06) .30 |
|  | Correlation of Levels | 0.042 | -0.142 | -0.152 |
|  | Correlation of Slopes | 0.434 | 0.293 | 0.231 |
|  | Correlation of Residuals | -0.082 | -0.079 | -0.074 |
|  | N | 161 | 139 | 139 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | NA | NA | 41 |
|  | LL | -1,640 | -1,443 | -1,429 |
|  | AIC | 3,322 | 2,945 | 2,940 |
|  | BIC | 3,386 | 3,030 | 3,060 |

## fig\_logic

Gender = *male*; Process (a) = *grip*; Process (b) = *fig\_logic*

|  |  |  |  |
| --- | --- | --- | --- |
| process | label | a | aeh |
| a | Level | 11.23 (0.36) <.01 | 11.76 (0.35) <.01 |
| a | Slope | -0.34 (0.05) <.01 | -0.35 (0.05) <.01 |
| a | Level \* age | -0.17 (0.08) .02 | -0.16 (0.07) .03 |
| a | Level \* education | --- | -0.10 (0.05) .03 |
| a | Level \* height | --- | 0.11 (0.04) <.01 |
| a | Level \* smoking | --- | --- |
| a | Level \* cardio | --- | --- |
| a | Level \* diabetes | --- | --- |
| a | Slope \* age | -0.04 (0.02) .03 | -0.04 (0.02) .05 |
| a | Slope \* education | --- | 0.00 (0.01) .72 |
| a | Slope \* height | --- | -0.01 (0.01) .18 |
| a | Slope \* smoking | --- | --- |
| a | Slope \* cardio | --- | --- |
| a | Slope \* diabetes | --- | --- |
| b | Level | 15.59 (0.56) <.01 | 15.88 (0.50) <.01 |
| b | Slope | -0.03 (0.13) .81 | -0.01 (0.12) .95 |
| b | Level \* age | -0.13 (0.12) .27 | -0.12 (0.13) .35 |
| b | Level \* education | --- | 0.31 (0.10) <.01 |
| b | Level \* height | --- | 0.04 (0.05) .50 |
| b | Level \* smoking | --- | --- |
| b | Level \* cardio | --- | --- |
| b | Level \* diabetes | --- | --- |
| b | Slope \* age | 0.01 (0.03) .70 | 0.01 (0.04) .76 |
| b | Slope \* education | --- | -0.03 (0.03) .32 |
| b | Slope \* height | --- | 0.01 (0.01) .36 |
| b | Slope \* smoking | --- | --- |
| b | Slope \* cardio | --- | --- |
| b | Slope \* diabetes | --- | --- |
| a | Var (Level) | 6.78 (1.13) <.01 | 4.71 (0.72) <.01 |
| a | Var (Slope) | 0.05 (0.03) .04 | 0.05 (0.03) .08 |
| a | Var (Residual) | 1.60 (0.21) <.01 | 1.57 (0.22) <.01 |
| a | Covar (Level, Slope) | -0.16 (0.11) .14 | -0.10 (0.10) .35 |
| b | Var (Level) | 11.72 (2.81) <.01 | 7.86 (1.90) <.01 |
| b | Var (Slope) | 0.09 (0.10) .36 | 0.08 (0.11) .45 |
| b | Var (Residual) | 7.94 (0.95) <.01 | 7.81 (0.98) <.01 |
| b | Covar (Level, Slope) | -0.56 (0.45) .21 | -0.35 (0.38) .36 |
| ab | Covar (Levels) | 5.52 (1.50) <.01 | 3.43 (0.95) <.01 |
| ab | Covar (Slopes) | 0.04 (0.04) .27 | 0.04 (0.04) .35 |
| ab | Covar (Residuals) | -0.28 (0.23) .22 | -0.23 (0.24) .34 |
|  | Correlation of Levels | 0.62 | 0.563 |
|  | Correlation of Slopes | 0.63 | 0.638 |
|  | Correlation of Residuals | -0.08 | -0.065 |
|  | N | 157 | 138 |
|  | occasions | 5 | 5 |
|  | parameters | NA | NA |
|  | LL | -2,001 | -1,829 |
|  | AIC | 4,043 | 3,716 |
|  | BIC | 4,108 | 3,801 |

## mir

Gender = *male*; Process (a) = *grip*; Process (b) = *mir*

|  |  |  |  |
| --- | --- | --- | --- |
| process | label | a | aeh |
| a | Level | 11.30 (0.36) <.01 | 11.78 (0.34) <.01 |
| a | Slope | -0.36 (0.05) <.01 | -0.37 (0.05) <.01 |
| a | Level \* age | -0.18 (0.08) .02 | -0.16 (0.07) .03 |
| a | Level \* education | --- | -0.10 (0.05) .04 |
| a | Level \* height | --- | 0.11 (0.04) <.01 |
| a | Level \* smoking | --- | --- |
| a | Level \* cardio | --- | --- |
| a | Level \* diabetes | --- | --- |
| a | Slope \* age | -0.04 (0.02) .03 | -0.04 (0.02) .05 |
| a | Slope \* education | --- | 0.00 (0.01) .74 |
| a | Slope \* height | --- | -0.01 (0.01) .20 |
| a | Slope \* smoking | --- | --- |
| a | Slope \* cardio | --- | --- |
| a | Slope \* diabetes | --- | --- |
| b | Level | 6.99 (0.24) <.01 | 6.94 (0.27) <.01 |
| b | Slope | -0.07 (0.07) .31 | -0.03 (0.07) .68 |
| b | Level \* age | -0.27 (0.07) <.01 | -0.21 (0.07) <.01 |
| b | Level \* education | --- | 0.08 (0.05) .08 |
| b | Level \* height | --- | -0.00 (0.03) .93 |
| b | Level \* smoking | --- | --- |
| b | Level \* cardio | --- | --- |
| b | Level \* diabetes | --- | --- |
| b | Slope \* age | -0.02 (0.02) .30 | -0.03 (0.02) .10 |
| b | Slope \* education | --- | -0.00 (0.02) .88 |
| b | Slope \* height | --- | 0.00 (0.01) .94 |
| b | Slope \* smoking | --- | --- |
| b | Slope \* cardio | --- | --- |
| b | Slope \* diabetes | --- | --- |
| a | Var (Level) | 6.63 (1.12) <.01 | 4.66 (0.72) <.01 |
| a | Var (Slope) | 0.05 (0.02) .04 | 0.04 (0.02) .07 |
| a | Var (Residual) | 1.60 (0.20) <.01 | 1.58 (0.23) <.01 |
| a | Covar (Level, Slope) | -0.10 (0.11) .38 | -0.06 (0.10) .55 |
| b | Var (Level) | 2.52 (0.47) <.01 | 1.95 (0.40) <.01 |
| b | Var (Slope) | 0.08 (0.02) <.01 | 0.07 (0.02) <.01 |
| b | Var (Residual) | 2.10 (0.23) <.01 | 1.99 (0.22) <.01 |
| b | Covar (Level, Slope) | 0.02 (0.09) .79 | 0.04 (0.08) .58 |
| ab | Covar (Levels) | 1.59 (0.62) .01 | 1.11 (0.48) .02 |
| ab | Covar (Slopes) | 0.02 (0.02) .25 | 0.03 (0.01) .05 |
| ab | Covar (Residuals) | 0.05 (0.16) .77 | 0.03 (0.17) .85 |
|  | Correlation of Levels | 0.389 | 0.369 |
|  | Correlation of Slopes | 0.290 | 0.527 |
|  | Correlation of Residuals | 0.026 | 0.018 |
|  | N | 159 | 139 |
|  | occasions | 5 | 5 |
|  | parameters | NA | NA |
|  | LL | -1,884 | -1,694 |
|  | AIC | 3,809 | 3,447 |
|  | BIC | 3,874 | 3,532 |

## prose\_im

Gender = *male*; Process (a) = *grip*; Process (b) = *prose\_im*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 11.29 (0.36) <.01 | 11.76 (0.34) <.01 | 10.78 (0.60) <.01 |
| a | Slope | -0.34 (0.05) <.01 | -0.35 (0.05) <.01 | -0.13 (0.11) .22 |
| a | Level \* age | -0.18 (0.08) .02 | -0.16 (0.07) .03 | -0.16 (0.07) .01 |
| a | Level \* education | --- | -0.10 (0.05) .03 | -0.13 (0.05) .01 |
| a | Level \* height | --- | 0.11 (0.04) <.01 | 0.11 (0.04) <.01 |
| a | Level \* smoking | --- | --- | 0.08 (0.43) .84 |
| a | Level \* cardio | --- | --- | -0.41 (0.40) .31 |
| a | Level \* diabetes | --- | --- | -1.58 (0.69) .02 |
| a | Slope \* age | -0.04 (0.02) .03 | -0.04 (0.02) .05 | -0.06 (0.02) .01 |
| a | Slope \* education | --- | 0.00 (0.01) .85 | -0.00 (0.01) .78 |
| a | Slope \* height | --- | -0.01 (0.01) .26 | -0.01 (0.01) .10 |
| a | Slope \* smoking | --- | --- | 0.03 (0.09) .73 |
| a | Slope \* cardio | --- | --- | -0.23 (0.07) <.01 |
| a | Slope \* diabetes | --- | --- | -0.04 (0.13) .75 |
| b | Level | 10.48 (0.47) <.01 | 10.17 (0.57) <.01 | 10.69 (0.97) <.01 |
| b | Slope | -0.15 (0.09) .09 | -0.09 (0.09) .30 | 0.06 (0.22) .79 |
| b | Level \* age | -0.36 (0.12) <.01 | -0.25 (0.14) .07 | -0.26 (0.12) .03 |
| b | Level \* education | --- | 0.43 (0.08) <.01 | 0.43 (0.09) <.01 |
| b | Level \* height | --- | 0.00 (0.06) .99 | 0.01 (0.06) .91 |
| b | Level \* smoking | --- | --- | -0.62 (0.80) .43 |
| b | Level \* cardio | --- | --- | -0.44 (0.69) .52 |
| b | Level \* diabetes | --- | --- | 0.70 (0.94) .46 |
| b | Slope \* age | 0.00 (0.05) .99 | 0.00 (0.05) .98 | -0.01 (0.05) .87 |
| b | Slope \* education | --- | -0.01 (0.01) .56 | -0.01 (0.01) .54 |
| b | Slope \* height | --- | 0.01 (0.01) .13 | 0.01 (0.01) .36 |
| b | Slope \* smoking | --- | --- | -0.15 (0.20) .45 |
| b | Slope \* cardio | --- | --- | -0.19 (0.12) .12 |
| b | Slope \* diabetes | --- | --- | -0.18 (0.25) .47 |
| a | Var (Level) | 6.64 (1.12) <.01 | 4.65 (0.72) <.01 | 4.45 (0.68) <.01 |
| a | Var (Slope) | 0.05 (0.02) .05 | 0.05 (0.02) .07 | 0.04 (0.02) .07 |
| a | Var (Residual) | 1.61 (0.21) <.01 | 1.59 (0.23) <.01 | 1.56 (0.20) <.01 |
| a | Covar (Level, Slope) | -0.12 (0.10) .24 | -0.09 (0.10) .39 | -0.16 (0.10) .12 |
| b | Var (Level) | 13.18 (1.76) <.01 | 10.05 (2.16) <.01 | 10.25 (2.47) <.01 |
| b | Var (Slope) | 0.01 (0.08) .88 | 0.01 (0.08) .92 | 0.02 (0.20) .90 |
| b | Var (Residual) | 4.33 (0.66) <.01 | 4.19 (0.71) <.01 | 4.07 (0.80) <.01 |
| b | Covar (Level, Slope) | 0.10 (0.34) .78 | 0.08 (0.35) .83 | -0.21 (0.72) .77 |
| ab | Covar (Levels) | 3.60 (1.03) <.01 | 2.36 (0.92) .01 | 2.38 (0.78) <.01 |
| ab | Covar (Slopes) | -0.01 (0.03) .81 | -0.00 (0.03) .87 | -0.01 (0.05) .79 |
| ab | Covar (Residuals) | 0.21 (0.23) .37 | 0.37 (0.26) .15 | 0.35 (0.25) .16 |
|  | Correlation of Levels | 0.384 | 0.34 | 0.35 |
|  | Correlation of Slopes | -0.330 | -0.26 | -0.37 |
|  | Correlation of Residuals | 0.078 | 0.14 | 0.14 |
|  | N | 161 | 139 | 139 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | NA | NA | 41 |
|  | LL | -1,916 | -1,698 | -1,681 |
|  | AIC | 3,874 | 3,453 | 3,444 |
|  | BIC | 3,939 | 3,538 | 3,564 |

## symbol

Gender = *male*; Process (a) = *grip*; Process (b) = *symbol*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 11.29 (0.36) <.01 | 11.77 (0.35) <.01 | 10.79 (0.60) <.01 |
| a | Slope | -0.35 (0.05) <.01 | -0.37 (0.05) <.01 | -0.14 (0.10) .19 |
| a | Level \* age | -0.18 (0.08) .02 | -0.16 (0.07) .03 | -0.16 (0.07) .01 |
| a | Level \* education | --- | -0.10 (0.05) .03 | -0.13 (0.05) .01 |
| a | Level \* height | --- | 0.11 (0.04) <.01 | 0.11 (0.04) <.01 |
| a | Level \* smoking | --- | --- | 0.09 (0.43) .84 |
| a | Level \* cardio | --- | --- | -0.41 (0.40) .31 |
| a | Level \* diabetes | --- | --- | -1.56 (0.69) .02 |
| a | Slope \* age | -0.04 (0.02) .04 | -0.04 (0.02) .07 | -0.05 (0.02) .01 |
| a | Slope \* education | --- | 0.00 (0.01) .79 | -0.00 (0.01) .79 |
| a | Slope \* height | --- | -0.01 (0.01) .21 | -0.01 (0.01) .06 |
| a | Slope \* smoking | --- | --- | 0.05 (0.09) .61 |
| a | Slope \* cardio | --- | --- | -0.23 (0.08) <.01 |
| a | Slope \* diabetes | --- | --- | -0.06 (0.12) .60 |
| b | Level | 26.54 (1.53) <.01 | 25.91 (1.43) <.01 | 28.40 (2.81) <.01 |
| b | Slope | -0.52 (0.22) .02 | -0.57 (0.20) <.01 | -0.30 (0.43) .49 |
| b | Level \* age | -0.74 (0.37) .05 | -0.57 (0.40) .16 | -0.66 (0.38) .08 |
| b | Level \* education | --- | 1.62 (0.24) <.01 | 1.71 (0.24) <.01 |
| b | Level \* height | --- | 0.23 (0.13) .06 | 0.24 (0.12) .05 |
| b | Level \* smoking | --- | --- | -5.97 (2.29) .01 |
| b | Level \* cardio | --- | --- | -1.36 (1.79) .45 |
| b | Level \* diabetes | --- | --- | -2.03 (2.23) .36 |
| b | Slope \* age | 0.02 (0.08) .83 | 0.04 (0.07) .54 | 0.03 (0.07) .67 |
| b | Slope \* education | --- | 0.03 (0.04) .47 | 0.02 (0.05) .61 |
| b | Slope \* height | --- | -0.02 (0.02) .22 | -0.02 (0.02) .33 |
| b | Slope \* smoking | --- | --- | 0.17 (0.30) .58 |
| b | Slope \* cardio | --- | --- | -0.17 (0.27) .54 |
| b | Slope \* diabetes | --- | --- | -0.14 (0.47) .77 |
| a | Var (Level) | 6.61 (1.11) <.01 | 4.64 (0.72) <.01 | 4.45 (0.68) <.01 |
| a | Var (Slope) | 0.05 (0.03) .06 | 0.05 (0.03) .08 | 0.04 (0.03) .09 |
| a | Var (Residual) | 1.60 (0.21) <.01 | 1.57 (0.22) <.01 | 1.54 (0.20) <.01 |
| a | Covar (Level, Slope) | -0.13 (0.11) .24 | -0.08 (0.10) .44 | -0.15 (0.10) .14 |
| b | Var (Level) | 107.55 (14.31) <.01 | 83.08 (13.36) <.01 | 74.08 (10.95) <.01 |
| b | Var (Slope) | 0.55 (0.24) .02 | 0.44 (0.26) .10 | 0.44 (0.26) .09 |
| b | Var (Residual) | 17.42 (2.06) <.01 | 17.25 (2.36) <.01 | 17.29 (2.31) <.01 |
| b | Covar (Level, Slope) | -2.60 (1.31) .05 | -2.75 (1.30) .03 | -2.78 (1.13) .01 |
| ab | Covar (Levels) | 7.52 (2.66) <.01 | 4.93 (1.94) .01 | 4.32 (1.88) .02 |
| ab | Covar (Slopes) | 0.01 (0.07) .82 | 0.00 (0.07) .98 | -0.01 (0.06) .85 |
| ab | Covar (Residuals) | 0.40 (0.48) .40 | 0.73 (0.45) .10 | 0.76 (0.46) .09 |
|  | Correlation of Levels | 0.282 | 0.2509 | 0.238 |
|  | Correlation of Slopes | 0.090 | 0.0068 | -0.079 |
|  | Correlation of Residuals | 0.075 | 0.1408 | 0.148 |
|  | N | 156 | 138 | 138 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | NA | NA | 41 |
|  | LL | -2,223 | -2,035 | -2,017 |
|  | AIC | 4,488 | 4,128 | 4,117 |
|  | BIC | 4,552 | 4,213 | 4,237 |

## Summary

Study = *OCTO*; Gender = *male*; Process (a) = *grip*

Computed correlations:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Correlation of Levels | block | 0.36 | 0.31 | 0.30 |
| Correlation of Levels | digit\_b | 0.23 | 0.09 | 0.06 |
| Correlation of Levels | digit\_f | 0.04 | -0.14 | -0.15 |
| Correlation of Levels | fig\_logic | 0.62 | 0.56 | . |
| Correlation of Levels | mir | 0.39 | 0.37 | . |
| Correlation of Levels | prose\_im | 0.38 | 0.34 | 0.35 |
| Correlation of Levels | symbol | 0.28 | 0.25 | 0.24 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Correlation of Slopes | block | -0.49 | -0.27 | -0.25 |
| Correlation of Slopes | digit\_b | 0.03 | 0.03 | 0.19 |
| Correlation of Slopes | digit\_f | 0.43 | 0.29 | 0.23 |
| Correlation of Slopes | fig\_logic | 0.63 | 0.64 | . |
| Correlation of Slopes | mir | 0.29 | 0.53 | . |
| Correlation of Slopes | prose\_im | -0.33 | -0.26 | -0.37 |
| Correlation of Slopes | symbol | 0.09 | 0.01 | -0.08 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Correlation of Residuals | block | 0.13 | 0.13 | 0.14 |
| Correlation of Residuals | digit\_b | -0.11 | -0.13 | -0.13 |
| Correlation of Residuals | digit\_f | -0.08 | -0.08 | -0.07 |
| Correlation of Residuals | fig\_logic | -0.08 | -0.06 | . |
| Correlation of Residuals | mir | 0.03 | 0.02 | . |
| Correlation of Residuals | prose\_im | 0.08 | 0.14 | 0.14 |
| Correlation of Residuals | symbol | 0.08 | 0.14 | 0.15 |

P-values for corresponding covariances:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Covariance of Levels | block | 0.00 | 0.00 | 0.00 |
| Covariance of Levels | digit\_b | 0.09 | 0.40 | 0.60 |
| Covariance of Levels | digit\_f | 0.74 | 0.30 | 0.27 |
| Covariance of Levels | fig\_logic | 0.00 | 0.00 | . |
| Covariance of Levels | mir | 0.01 | 0.02 | . |
| Covariance of Levels | prose\_im | 0.00 | 0.01 | 0.00 |
| Covariance of Levels | symbol | 0.00 | 0.01 | 0.02 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Covariance of Slopes | block | 0.49 | 0.77 | 0.74 |
| Covariance of Slopes | digit\_b | 0.95 | 0.92 | 0.68 |
| Covariance of Slopes | digit\_f | 0.23 | 0.40 | 0.50 |
| Covariance of Slopes | fig\_logic | 0.27 | 0.35 | . |
| Covariance of Slopes | mir | 0.25 | 0.05 | . |
| Covariance of Slopes | prose\_im | 0.81 | 0.87 | 0.79 |
| Covariance of Slopes | symbol | 0.82 | 0.98 | 0.85 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus |
| Covariance of Residuals | block | 0.03 | 0.06 | 0.03 |
| Covariance of Residuals | digit\_b | 0.14 | 0.07 | 0.10 |
| Covariance of Residuals | digit\_f | 0.24 | 0.29 | 0.30 |
| Covariance of Residuals | fig\_logic | 0.22 | 0.34 | . |
| Covariance of Residuals | mir | 0.77 | 0.85 | . |
| Covariance of Residuals | prose\_im | 0.37 | 0.15 | 0.16 |
| Covariance of Residuals | symbol | 0.40 | 0.10 | 0.09 |

#Session Info

R version 3.3.1 (2016-06-21)  
Platform: x86\_64-w64-mingw32/x64 (64-bit)  
Running under: Windows >= 8 x64 (build 9200)  
  
locale:  
[1] LC\_COLLATE=English\_United States.1252 LC\_CTYPE=English\_United States.1252 LC\_MONETARY=English\_United States.1252  
[4] LC\_NUMERIC=C LC\_TIME=English\_United States.1252   
  
attached base packages:  
[1] stats graphics grDevices utils datasets methods base   
  
other attached packages:  
[1] knitr\_1.14 ggplot2\_2.1.0 magrittr\_1.5   
  
loaded via a namespace (and not attached):  
 [1] Rcpp\_0.12.7 munsell\_0.4.3 testit\_0.5 colorspace\_1.2-7 R6\_2.2.0 stringr\_1.1.0   
 [7] highr\_0.6 plyr\_1.8.4 dplyr\_0.5.0 tools\_3.3.1 DT\_0.2 grid\_3.3.1   
[13] gtable\_0.2.0 DBI\_0.5-1 htmltools\_0.3.5 yaml\_2.1.13 lazyeval\_0.2.0 assertthat\_0.1   
[19] digest\_0.6.10 tibble\_1.2 formatR\_1.4 readr\_1.0.0 tidyr\_0.6.0 htmlwidgets\_0.7   
[25] rsconnect\_0.5 evaluate\_0.10 rmarkdown\_1.1 stringi\_1.1.2 scales\_0.4.0