MAP : Seed report

Date: 2016-12-05

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

# Available models

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

|  |  |  |
| --- | --- | --- |
| process\_a | process\_b | n\_models |
| grip | bnt | 8 |
| grip | bstory\_de | 8 |
| grip | bstory\_im | 8 |
| grip | categories | 8 |
| grip | digit\_b | 8 |
| grip | digit\_f | 8 |
| grip | digit\_o | 8 |
| grip | ideas | 8 |
| grip | line | 8 |
| grip | logic\_de | 8 |
| grip | logic\_im | 8 |
| grip | matrices | 8 |
| grip | mmse | 8 |
| grip | nart | 8 |
| grip | num\_comp | 8 |
| grip | symbol | 8 |
| grip | word\_de | 8 |
| grip | word\_im | 8 |
| grip | word\_rec | 8 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| map | female | a | grip | bnt | 1 |
| map | female | a | grip | bstory\_de | 1 |
| map | female | a | grip | bstory\_im | 1 |
| map | female | a | grip | categories | 1 |
| map | female | a | grip | digit\_b | 1 |
| map | female | a | grip | digit\_f | 1 |
| map | female | a | grip | digit\_o | 1 |
| map | female | a | grip | ideas | 1 |
| map | female | a | grip | line | 1 |
| map | female | a | grip | logic\_de | 1 |
| map | female | a | grip | logic\_im | 1 |
| map | female | a | grip | matrices | 1 |
| map | female | a | grip | mmse | 1 |
| map | female | a | grip | nart | 1 |
| map | female | a | grip | num\_comp | 1 |
| map | female | a | grip | symbol | 1 |
| map | female | a | grip | word\_de | 1 |
| map | female | a | grip | word\_im | 1 |
| map | female | a | grip | word\_rec | 1 |
| map | female | ae | grip | bnt | 1 |
| map | female | ae | grip | bstory\_de | 1 |
| map | female | ae | grip | bstory\_im | 1 |
| map | female | ae | grip | categories | 1 |
| map | female | ae | grip | digit\_b | 1 |
| map | female | ae | grip | digit\_f | 1 |
| map | female | ae | grip | digit\_o | 1 |
| map | female | ae | grip | ideas | 1 |
| map | female | ae | grip | line | 1 |
| map | female | ae | grip | logic\_de | 1 |
| map | female | ae | grip | logic\_im | 1 |
| map | female | ae | grip | matrices | 1 |
| map | female | ae | grip | mmse | 1 |
| map | female | ae | grip | nart | 1 |
| map | female | ae | grip | num\_comp | 1 |
| map | female | ae | grip | symbol | 1 |
| map | female | ae | grip | word\_de | 1 |
| map | female | ae | grip | word\_im | 1 |
| map | female | ae | grip | word\_rec | 1 |
| map | female | aeh | grip | bnt | 1 |
| map | female | aeh | grip | bstory\_de | 1 |
| map | female | aeh | grip | bstory\_im | 1 |
| map | female | aeh | grip | categories | 1 |
| map | female | aeh | grip | digit\_b | 1 |
| map | female | aeh | grip | digit\_f | 1 |
| map | female | aeh | grip | digit\_o | 1 |
| map | female | aeh | grip | ideas | 1 |
| map | female | aeh | grip | line | 1 |
| map | female | aeh | grip | logic\_de | 1 |
| map | female | aeh | grip | logic\_im | 1 |
| map | female | aeh | grip | matrices | 1 |
| map | female | aeh | grip | mmse | 1 |
| map | female | aeh | grip | nart | 1 |
| map | female | aeh | grip | num\_comp | 1 |
| map | female | aeh | grip | symbol | 1 |
| map | female | aeh | grip | word\_de | 1 |
| map | female | aeh | grip | word\_im | 1 |
| map | female | aeh | grip | word\_rec | 1 |
| map | female | aehplus | grip | bnt | 1 |
| map | female | aehplus | grip | bstory\_de | 1 |
| map | female | aehplus | grip | bstory\_im | 1 |
| map | female | aehplus | grip | categories | 1 |
| map | female | aehplus | grip | digit\_b | 1 |
| map | female | aehplus | grip | digit\_f | 1 |
| map | female | aehplus | grip | digit\_o | 1 |
| map | female | aehplus | grip | ideas | 1 |
| map | female | aehplus | grip | line | 1 |
| map | female | aehplus | grip | logic\_de | 1 |
| map | female | aehplus | grip | logic\_im | 1 |
| map | female | aehplus | grip | matrices | 1 |
| map | female | aehplus | grip | mmse | 1 |
| map | female | aehplus | grip | nart | 1 |
| map | female | aehplus | grip | num\_comp | 1 |
| map | female | aehplus | grip | symbol | 1 |
| map | female | aehplus | grip | word\_de | 1 |
| map | female | aehplus | grip | word\_im | 1 |
| map | female | aehplus | grip | word\_rec | 1 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| map | male | a | grip | bnt | 1 |
| map | male | a | grip | bstory\_de | 1 |
| map | male | a | grip | bstory\_im | 1 |
| map | male | a | grip | categories | 1 |
| map | male | a | grip | digit\_b | 1 |
| map | male | a | grip | digit\_f | 1 |
| map | male | a | grip | digit\_o | 1 |
| map | male | a | grip | ideas | 1 |
| map | male | a | grip | line | 1 |
| map | male | a | grip | logic\_de | 1 |
| map | male | a | grip | logic\_im | 1 |
| map | male | a | grip | matrices | 1 |
| map | male | a | grip | mmse | 1 |
| map | male | a | grip | nart | 1 |
| map | male | a | grip | num\_comp | 1 |
| map | male | a | grip | symbol | 1 |
| map | male | a | grip | word\_de | 1 |
| map | male | a | grip | word\_im | 1 |
| map | male | a | grip | word\_rec | 1 |
| map | male | ae | grip | bnt | 1 |
| map | male | ae | grip | bstory\_de | 1 |
| map | male | ae | grip | bstory\_im | 1 |
| map | male | ae | grip | categories | 1 |
| map | male | ae | grip | digit\_b | 1 |
| map | male | ae | grip | digit\_f | 1 |
| map | male | ae | grip | digit\_o | 1 |
| map | male | ae | grip | ideas | 1 |
| map | male | ae | grip | line | 1 |
| map | male | ae | grip | logic\_de | 1 |
| map | male | ae | grip | logic\_im | 1 |
| map | male | ae | grip | matrices | 1 |
| map | male | ae | grip | mmse | 1 |
| map | male | ae | grip | nart | 1 |
| map | male | ae | grip | num\_comp | 1 |
| map | male | ae | grip | symbol | 1 |
| map | male | ae | grip | word\_de | 1 |
| map | male | ae | grip | word\_im | 1 |
| map | male | ae | grip | word\_rec | 1 |
| map | male | aeh | grip | bnt | 1 |
| map | male | aeh | grip | bstory\_de | 1 |
| map | male | aeh | grip | bstory\_im | 1 |
| map | male | aeh | grip | categories | 1 |
| map | male | aeh | grip | digit\_b | 1 |
| map | male | aeh | grip | digit\_f | 1 |
| map | male | aeh | grip | digit\_o | 1 |
| map | male | aeh | grip | ideas | 1 |
| map | male | aeh | grip | line | 1 |
| map | male | aeh | grip | logic\_de | 1 |
| map | male | aeh | grip | logic\_im | 1 |
| map | male | aeh | grip | matrices | 1 |
| map | male | aeh | grip | mmse | 1 |
| map | male | aeh | grip | nart | 1 |
| map | male | aeh | grip | num\_comp | 1 |
| map | male | aeh | grip | symbol | 1 |
| map | male | aeh | grip | word\_de | 1 |
| map | male | aeh | grip | word\_im | 1 |
| map | male | aeh | grip | word\_rec | 1 |
| map | male | aehplus | grip | bnt | 1 |
| map | male | aehplus | grip | bstory\_de | 1 |
| map | male | aehplus | grip | bstory\_im | 1 |
| map | male | aehplus | grip | categories | 1 |
| map | male | aehplus | grip | digit\_b | 1 |
| map | male | aehplus | grip | digit\_f | 1 |
| map | male | aehplus | grip | digit\_o | 1 |
| map | male | aehplus | grip | ideas | 1 |
| map | male | aehplus | grip | line | 1 |
| map | male | aehplus | grip | logic\_de | 1 |
| map | male | aehplus | grip | logic\_im | 1 |
| map | male | aehplus | grip | matrices | 1 |
| map | male | aehplus | grip | mmse | 1 |
| map | male | aehplus | grip | nart | 1 |
| map | male | aehplus | grip | num\_comp | 1 |
| map | male | aehplus | grip | symbol | 1 |
| map | male | aehplus | grip | word\_de | 1 |
| map | male | aehplus | grip | word\_im | 1 |
| map | male | aehplus | grip | word\_rec | 1 |

# female

Gender = *female*; Model type: *aehplus*; Process (a) = *grip*; Process (b): *bnt*, *bstory\_de*, *bstory\_im*, *categories*, *digit\_b*, *digit\_f*, *digit\_o*, *ideas*, *line*, *logic\_de*, *logic\_im*, *matrices*, *mmse*, *nart*, *num\_comp*, *symbol*, *word\_de*, *word\_im*, *word\_rec*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| process | label | bnt | bstory\_de | bstory\_im | categories | digit\_b | digit\_f | digit\_o | ideas | line | logic\_de | logic\_im | matrices | mmse | nart | num\_comp | symbol | word\_de | word\_im | word\_rec | mean(sd) |
| ab | Covar (Levels) | 0.84 (0.42) .05 | 0.32 (0.64) .61 | -0.14 (0.54) .80 | 6.22 (2.87) .03 | 1.18 (0.67) .08 | 0.27 (0.66) .68 | 0.59 (0.54) .27 | 0.19 (0.21) .37 | 2.17 (1.05) .04 | 0.14 (1.40) .92 | -0.09 (1.40) .95 | 1.72 (0.92) .06 | 0.31 (0.55) .57 | -0.17 (0.73) .82 | 1.98 (2.50) .43 | 6.67 (3.50) .06 | 2.66 (0.69) <.01 | 5.17 (1.34) <.01 | 1.02 (0.28) <.01 | --- |
| ab | Covar (Slopes) | 0.00 (0.03) .91 | 0.06 (0.06) .31 | 0.02 (0.05) .69 | 0.22 (0.18) .22 | 0.05 (0.04) .26 | 0.06 (0.05) .16 | 0.09 (0.04) .03 | 0.01 (0.02) .56 | 0.08 (0.07) .30 | 0.11 (0.10) .30 | 0.16 (0.09) .08 | 0.07 (0.06) .27 | 0.12 (0.07) .07 | 0.03 (0.03) .30 | -0.02 (0.13) .88 | 0.07 (0.22) .77 | 0.08 (0.04) .05 | 0.26 (0.10) .01 | 0.01 (0.02) .49 | --- |
| ab | Covar (Residuals) | -0.03 (0.08) .70 | -0.08 (0.20) .68 | -0.08 (0.18) .66 | 1.29 (0.59) .03 | 0.38 (0.16) .02 | 0.15 (0.16) .36 | -0.01 (0.14) .94 | 0.03 (0.06) .63 | 0.24 (0.23) .29 | 0.50 (0.31) .10 | 0.02 (0.31) .94 | -0.10 (0.25) .69 | 0.12 (0.15) .43 | -0.08 (0.11) .49 | 0.57 (0.46) .22 | -0.19 (0.57) .74 | 0.02 (0.16) .88 | 0.21 (0.32) .51 | -0.04 (0.06) .50 | --- |
| er | Corr (Levels) | 0.09 (0.04) .05 | 0.03 (0.06) .61 | -0.01 (0.06) .80 | 0.09 (0.04) .03 | 0.08 (0.04) .07 | 0.02 (0.04) .68 | 0.06 (0.05) .27 | 0.05 (0.06) .37 | 0.11 (0.05) .04 | 0.00 (0.04) .92 | -0.00 (0.04) .95 | 0.10 (0.05) .06 | 0.03 (0.06) .57 | -0.01 (0.04) .82 | 0.04 (0.04) .43 | 0.09 (0.04) .06 | 0.17 (0.04) <.01 | 0.17 (0.04) <.01 | 0.15 (0.04) <.01 | --- |
| er | Corr (Slopes) | 0.02 (0.20) .91 | 0.26 (0.26) .32 | 0.11 (0.28) .69 | 0.23 (0.19) .23 | 0.31 (0.28) .27 | 0.46 (0.33) .16 | 0.60 (0.31) .05 | 0.15 (0.26) .56 | 0.74 (1.13) .51 | 0.21 (0.20) .28 | 0.37 (0.21) .08 | 0.30 (0.27) .26 | 0.55 (0.23) .01 | 0.26 (0.27) .33 | -0.04 (0.24) .88 | 0.06 (0.22) .77 | 0.46 (0.26) .07 | 0.53 (0.20) .01 | 0.45 (1.50) .76 | --- |
| er | Corr (Residuals) | -0.01 (0.03) .70 | -0.01 (0.03) .68 | -0.01 (0.03) .66 | 0.06 (0.03) .03 | 0.07 (0.03) .02 | 0.02 (0.03) .36 | -0.00 (0.03) .94 | 0.01 (0.03) .63 | 0.03 (0.03) .29 | 0.05 (0.03) .10 | 0.00 (0.03) .94 | -0.01 (0.03) .69 | 0.02 (0.03) .43 | -0.02 (0.03) .49 | 0.03 (0.03) .22 | -0.01 (0.03) .74 | 0.00 (0.03) .88 | 0.02 (0.03) .51 | -0.02 (0.02) .50 | --- |
| a | Level | 44.90 (1.36) <.01 | 44.91 (1.35) <.01 | 44.91 (1.36) <.01 | 44.92 (1.36) <.01 | 44.92 (1.35) <.01 | 44.95 (1.35) <.01 | 44.90 (1.36) <.01 | 44.89 (1.36) <.01 | 44.88 (1.36) <.01 | 44.89 (1.36) <.01 | 44.90 (1.36) <.01 | 44.89 (1.36) <.01 | 44.92 (1.35) <.01 | 44.92 (1.36) <.01 | 44.92 (1.35) <.01 | 44.90 (1.36) <.01 | 44.83 (1.36) <.01 | 44.88 (1.35) <.01 | 44.91 (1.35) <.01 | 44.90(0.02) |
| a | Slope | -0.50 (0.34) .14 | -0.47 (0.34) .16 | -0.48 (0.33) .15 | -0.50 (0.34) .14 | -0.50 (0.34) .14 | -0.50 (0.33) .13 | -0.48 (0.34) .16 | -0.46 (0.34) .17 | -0.49 (0.34) .14 | -0.47 (0.34) .17 | -0.45 (0.34) .18 | -0.47 (0.34) .17 | -0.54 (0.34) .11 | -0.47 (0.34) .16 | -0.49 (0.34) .14 | -0.49 (0.34) .15 | -0.48 (0.34) .16 | -0.47 (0.33) .15 | -0.48 (0.34) .15 | -0.49(0.02) |
| a | Level \* age | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61 (0.05) <.01 | -0.61(0.00) |
| a | Level \* education | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.30 (0.13) .03 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.30 (0.13) .03 | 0.30 (0.13) .02 | 0.29 (0.13) .03 | 0.29 (0.13) .03 | 0.29(0.00) |
| a | Level \* height | 38.12 (5.05) <.01 | 38.20 (5.05) <.01 | 38.16 (5.05) <.01 | 37.90 (5.06) <.01 | 38.12 (5.05) <.01 | 38.19 (5.06) <.01 | 38.14 (5.06) <.01 | 38.08 (5.05) <.01 | 38.17 (5.05) <.01 | 38.11 (5.06) <.01 | 38.18 (5.06) <.01 | 38.18 (5.05) <.01 | 38.21 (5.06) <.01 | 38.27 (5.06) <.01 | 38.20 (5.06) <.01 | 38.17 (5.07) <.01 | 37.95 (5.05) <.01 | 38.10 (5.05) <.01 | 38.26 (5.05) <.01 | 38.14(0.09) |
| a | Level \* smoking | 0.30 (0.74) .68 | 0.28 (0.74) .70 | 0.29 (0.74) .69 | 0.28 (0.74) .70 | 0.25 (0.74) .73 | 0.27 (0.74) .71 | 0.29 (0.73) .69 | 0.30 (0.74) .68 | 0.29 (0.73) .69 | 0.30 (0.74) .69 | 0.29 (0.74) .69 | 0.29 (0.74) .69 | 0.26 (0.74) .72 | 0.29 (0.74) .70 | 0.28 (0.74) .70 | 0.28 (0.74) .71 | 0.30 (0.74) .69 | 0.27 (0.74) .71 | 0.29 (0.74) .70 | 0.28(0.01) |
| a | Level \* cardio | -0.10 (1.09) .93 | -0.10 (1.10) .93 | -0.13 (1.09) .90 | -0.12 (1.09) .92 | -0.11 (1.10) .92 | -0.10 (1.10) .93 | -0.10 (1.09) .93 | -0.14 (1.10) .90 | -0.14 (1.09) .90 | -0.14 (1.09) .90 | -0.16 (1.09) .89 | -0.11 (1.09) .92 | -0.12 (1.10) .91 | -0.13 (1.10) .90 | -0.09 (1.09) .93 | -0.10 (1.09) .93 | -0.13 (1.09) .90 | -0.14 (1.09) .90 | -0.10 (1.09) .93 | -0.12(0.02) |
| a | Level \* diabetes | -0.43 (0.98) .66 | -0.45 (0.98) .65 | -0.45 (0.98) .64 | -0.42 (0.98) .67 | -0.44 (0.98) .65 | -0.46 (0.98) .64 | -0.45 (0.98) .65 | -0.44 (0.98) .66 | -0.42 (0.98) .67 | -0.44 (0.98) .65 | -0.45 (0.98) .65 | -0.44 (0.98) .65 | -0.46 (0.98) .64 | -0.45 (0.98) .65 | -0.45 (0.98) .65 | -0.47 (0.98) .63 | -0.45 (0.98) .65 | -0.48 (0.98) .62 | -0.46 (0.98) .64 | -0.45(0.02) |
| a | Slope \* age | -0.01 (0.01) .27 | -0.01 (0.01) .27 | -0.01 (0.01) .24 | -0.01 (0.01) .33 | -0.01 (0.01) .26 | -0.01 (0.01) .30 | -0.01 (0.01) .29 | -0.01 (0.01) .26 | -0.01 (0.01) .29 | -0.01 (0.01) .31 | -0.01 (0.01) .31 | -0.01 (0.01) .26 | -0.01 (0.01) .34 | -0.01 (0.01) .26 | -0.01 (0.01) .27 | -0.01 (0.01) .25 | -0.01 (0.01) .29 | -0.01 (0.01) .27 | -0.01 (0.01) .31 | -0.01(0.00) |
| a | Slope \* education | -0.06 (0.04) .10 | -0.06 (0.04) .09 | -0.06 (0.04) .09 | -0.06 (0.04) .09 | -0.06 (0.04) .11 | -0.06 (0.04) .10 | -0.06 (0.04) .10 | -0.06 (0.04) .09 | -0.06 (0.04) .11 | -0.06 (0.04) .09 | -0.06 (0.04) .08 | -0.06 (0.04) .09 | -0.06 (0.04) .10 | -0.06 (0.04) .09 | -0.06 (0.04) .10 | -0.06 (0.04) .10 | -0.06 (0.04) .09 | -0.06 (0.04) .09 | -0.06 (0.04) .10 | -0.06(0.00) |
| a | Slope \* height | -0.27 (1.41) .85 | -0.26 (1.41) .86 | -0.18 (1.40) .90 | -0.17 (1.41) .90 | -0.44 (1.42) .76 | -0.21 (1.41) .88 | -0.33 (1.41) .81 | -0.19 (1.42) .89 | -0.28 (1.42) .84 | -0.37 (1.42) .79 | -0.38 (1.41) .79 | -0.14 (1.43) .92 | -0.08 (1.42) .95 | -0.39 (1.41) .78 | -0.25 (1.42) .86 | -0.20 (1.42) .89 | -0.15 (1.41) .91 | -0.18 (1.39) .90 | -0.34 (1.42) .81 | -0.25(0.10) |
| a | Slope \* smoking | 0.09 (0.18) .62 | 0.10 (0.18) .57 | 0.09 (0.18) .62 | 0.12 (0.18) .52 | 0.11 (0.18) .53 | 0.11 (0.18) .56 | 0.10 (0.18) .60 | 0.08 (0.18) .67 | 0.09 (0.18) .62 | 0.07 (0.18) .70 | 0.10 (0.18) .59 | 0.08 (0.18) .64 | 0.12 (0.18) .50 | 0.11 (0.18) .56 | 0.10 (0.18) .61 | 0.09 (0.18) .62 | 0.09 (0.18) .61 | 0.10 (0.18) .58 | 0.09 (0.18) .61 | 0.10(0.01) |
| a | Slope \* cardio | 0.09 (0.24) .70 | 0.09 (0.24) .71 | 0.09 (0.24) .71 | 0.09 (0.24) .71 | 0.09 (0.25) .70 | 0.08 (0.24) .75 | 0.08 (0.24) .75 | 0.11 (0.24) .65 | 0.11 (0.24) .66 | 0.09 (0.24) .70 | 0.11 (0.24) .67 | 0.10 (0.25) .68 | 0.10 (0.24) .70 | 0.10 (0.24) .69 | 0.09 (0.24) .71 | 0.10 (0.24) .68 | 0.10 (0.24) .69 | 0.10 (0.24) .68 | 0.09 (0.24) .70 | 0.10(0.01) |
| a | Slope \* diabetes | -0.05 (0.23) .81 | -0.06 (0.23) .81 | -0.06 (0.22) .80 | -0.07 (0.22) .76 | -0.05 (0.22) .82 | -0.05 (0.22) .82 | -0.07 (0.22) .77 | -0.06 (0.23) .77 | -0.05 (0.22) .81 | -0.05 (0.23) .83 | -0.04 (0.23) .87 | -0.06 (0.23) .78 | -0.04 (0.22) .85 | -0.06 (0.23) .81 | -0.06 (0.23) .78 | -0.05 (0.22) .82 | -0.05 (0.22) .81 | -0.06 (0.22) .78 | -0.05 (0.23) .84 | -0.05(0.01) |
| b | Level | 13.59 (0.15) <.01 | 8.92 (0.17) <.01 | 9.31 (0.16) <.01 | 32.43 (0.80) <.01 | 5.17 (0.20) <.01 | 7.36 (0.22) <.01 | 6.51 (0.16) <.01 | 7.58 (0.06) <.01 | 7.99 (0.30) <.01 | 8.47 (0.41) <.01 | 10.31 (0.42) <.01 | 10.12 (0.27) <.01 | 27.81 (0.16) <.01 | 5.36 (0.24) <.01 | 23.29 (0.77) <.01 | 35.72 (1.08) <.01 | 5.45 (0.21) <.01 | 16.82 (0.40) <.01 | 9.65 (0.09) <.01 | --- |
| b | Slope | 0.07 (0.04) .07 | 0.05 (0.07) .44 | 0.03 (0.06) .67 | 0.06 (0.23) .78 | -0.03 (0.06) .62 | -0.00 (0.06) .96 | 0.09 (0.05) .08 | 0.02 (0.02) .42 | 0.07 (0.09) .40 | 0.39 (0.12) <.01 | 0.30 (0.12) .01 | 0.05 (0.09) .61 | 0.06 (0.07) .38 | 0.02 (0.05) .73 | 0.39 (0.17) .02 | 0.85 (0.24) <.01 | 0.15 (0.06) .01 | 0.48 (0.12) <.01 | 0.02 (0.02) .39 | --- |
| b | Level \* age | -0.03 (0.00) <.01 | -0.02 (0.01) <.01 | -0.02 (0.01) <.01 | -0.26 (0.04) <.01 | 0.01 (0.01) .48 | 0.00 (0.01) .98 | -0.00 (0.01) .65 | 0.00 (0.00) .26 | -0.01 (0.01) .33 | -0.10 (0.02) <.01 | -0.10 (0.02) <.01 | -0.05 (0.01) <.01 | -0.05 (0.01) <.01 | 0.04 (0.01) <.01 | -0.17 (0.03) <.01 | -0.38 (0.04) <.01 | -0.06 (0.01) <.01 | -0.11 (0.02) <.01 | -0.02 (0.00) <.01 | --- |
| b | Level \* education | 0.09 (0.01) <.01 | 0.09 (0.02) <.01 | 0.08 (0.02) <.01 | 0.82 (0.08) <.01 | 0.15 (0.02) <.01 | 0.12 (0.02) <.01 | 0.12 (0.02) <.01 | 0.01 (0.00) <.01 | 0.25 (0.03) <.01 | 0.34 (0.04) <.01 | 0.33 (0.04) <.01 | 0.30 (0.02) <.01 | 0.14 (0.02) <.01 | 0.31 (0.02) <.01 | 0.50 (0.08) <.01 | 1.01 (0.10) <.01 | 0.14 (0.02) <.01 | 0.35 (0.04) <.01 | 0.02 (0.01) .01 | --- |
| b | Level \* height | 2.33 (0.60) <.01 | 0.73 (0.80) .35 | 0.75 (0.79) .34 | 12.88 (3.74) <.01 | 2.82 (0.88) <.01 | 2.51 (0.91) .01 | 1.91 (0.68) <.01 | 0.23 (0.26) .37 | 2.73 (1.26) .03 | 5.53 (1.75) <.01 | 4.28 (1.65) .01 | 4.95 (1.20) <.01 | 0.80 (0.71) .26 | 3.20 (1.02) <.01 | 11.40 (3.37) <.01 | 16.65 (4.22) <.01 | 2.05 (0.88) .02 | 4.43 (1.81) .01 | 0.46 (0.45) .31 | --- |
| b | Level \* smoking | 0.03 (0.07) .70 | 0.02 (0.12) .86 | 0.10 (0.10) .32 | -0.64 (0.51) .21 | -0.02 (0.12) .88 | -0.01 (0.12) .94 | -0.04 (0.09) .64 | -0.02 (0.03) .48 | -0.23 (0.18) .19 | 0.08 (0.26) .75 | -0.11 (0.25) .66 | 0.03 (0.16) .85 | -0.01 (0.09) .89 | 0.05 (0.13) .70 | -0.36 (0.44) .41 | -0.14 (0.59) .82 | -0.20 (0.13) .12 | -0.49 (0.25) .05 | -0.04 (0.05) .47 | --- |
| b | Level \* cardio | 0.08 (0.11) .44 | -0.12 (0.19) .52 | -0.08 (0.16) .60 | -0.64 (0.74) .38 | -0.38 (0.18) .04 | 0.22 (0.19) .24 | -0.05 (0.14) .70 | -0.03 (0.05) .59 | 0.07 (0.26) .78 | -0.06 (0.42) .89 | -0.10 (0.40) .80 | -0.45 (0.25) .07 | -0.11 (0.13) .41 | 0.25 (0.19) .19 | -0.48 (0.69) .49 | -0.68 (0.89) .45 | -0.33 (0.21) .12 | -0.34 (0.37) .36 | -0.10 (0.10) .32 | --- |
| b | Level \* diabetes | -0.22 (0.11) .04 | 0.13 (0.14) .33 | 0.17 (0.13) .19 | -0.38 (0.64) .55 | 0.17 (0.16) .29 | 0.16 (0.17) .35 | 0.06 (0.13) .61 | -0.10 (0.05) .06 | 0.07 (0.24) .77 | 0.19 (0.32) .56 | 0.03 (0.31) .93 | -0.13 (0.21) .52 | 0.00 (0.13) .99 | -0.50 (0.19) .01 | -0.32 (0.60) .59 | -1.22 (0.81) .14 | 0.16 (0.16) .31 | 0.32 (0.32) .33 | 0.09 (0.06) .17 | --- |
| b | Slope \* age | -0.00 (0.00) .62 | -0.01 (0.00) <.01 | -0.00 (0.00) .14 | -0.03 (0.01) <.01 | -0.00 (0.00) .78 | 0.00 (0.00) .73 | -0.00 (0.00) .04 | 0.00 (0.00) .76 | -0.00 (0.00) .75 | -0.02 (0.00) <.01 | -0.01 (0.00) .05 | -0.01 (0.00) .01 | -0.00 (0.00) .03 | -0.00 (0.00) .26 | -0.03 (0.01) <.01 | -0.06 (0.01) <.01 | -0.01 (0.00) <.01 | -0.02 (0.00) <.01 | -0.00 (0.00) .19 | --- |
| b | Slope \* education | -0.01 (0.00) .10 | -0.00 (0.01) .54 | 0.00 (0.01) .97 | -0.00 (0.03) .94 | -0.00 (0.00) .64 | -0.00 (0.01) .70 | -0.00 (0.00) .51 | -0.00 (0.00) .55 | -0.00 (0.01) .74 | 0.02 (0.01) .22 | 0.01 (0.01) .52 | 0.00 (0.01) .98 | -0.01 (0.01) .06 | 0.00 (0.00) .85 | -0.03 (0.02) .12 | -0.07 (0.03) .01 | 0.00 (0.01) .75 | -0.00 (0.01) .68 | -0.00 (0.00) .72 | --- |
| b | Slope \* height | -0.17 (0.16) .28 | -0.01 (0.33) .98 | 0.01 (0.29) .98 | -0.36 (1.10) .74 | 0.12 (0.26) .64 | 0.12 (0.27) .64 | -0.05 (0.23) .82 | 0.04 (0.09) .67 | 0.55 (0.39) .16 | -0.25 (0.60) .68 | 0.15 (0.52) .77 | 0.28 (0.39) .48 | 0.06 (0.26) .82 | 0.08 (0.19) .68 | 1.02 (0.81) .21 | 1.09 (1.16) .35 | 0.23 (0.29) .42 | 0.12 (0.56) .83 | 0.03 (0.10) .79 | --- |
| b | Slope \* smoking | 0.00 (0.02) .83 | -0.01 (0.05) .79 | -0.05 (0.04) .24 | 0.12 (0.15) .43 | 0.02 (0.04) .61 | -0.01 (0.04) .68 | -0.04 (0.03) .21 | 0.01 (0.01) .35 | 0.01 (0.05) .80 | -0.09 (0.08) .27 | -0.10 (0.07) .20 | -0.04 (0.05) .44 | 0.02 (0.04) .60 | 0.04 (0.02) .10 | -0.08 (0.11) .46 | -0.25 (0.15) .09 | -0.02 (0.04) .64 | -0.00 (0.08) .96 | 0.01 (0.01) .40 | --- |
| b | Slope \* cardio | 0.00 (0.03) .99 | 0.00 (0.07) .94 | -0.03 (0.06) .59 | -0.52 (0.21) .01 | 0.10 (0.06) .08 | -0.04 (0.05) .48 | -0.07 (0.04) .09 | 0.00 (0.02) .86 | -0.14 (0.09) .11 | -0.04 (0.12) .72 | -0.03 (0.12) .79 | -0.00 (0.09) .99 | -0.02 (0.06) .74 | -0.04 (0.04) .29 | -0.11 (0.17) .52 | -0.06 (0.22) .77 | 0.01 (0.06) .91 | -0.13 (0.12) .28 | -0.00 (0.02) .93 | --- |
| b | Slope \* diabetes | 0.06 (0.03) .02 | 0.10 (0.05) .06 | 0.04 (0.04) .33 | 0.07 (0.18) .68 | 0.04 (0.05) .51 | -0.02 (0.04) .70 | -0.00 (0.04) .92 | 0.03 (0.02) .06 | -0.12 (0.07) .06 | 0.06 (0.10) .52 | 0.21 (0.09) .02 | 0.00 (0.07) .94 | 0.07 (0.05) .12 | -0.03 (0.04) .43 | -0.05 (0.15) .76 | -0.08 (0.19) .69 | -0.05 (0.04) .25 | 0.03 (0.10) .77 | -0.00 (0.02) .78 | --- |
| a | Var (Level) | 96.70 (6.30) <.01 | 96.61 (6.30) <.01 | 96.52 (6.30) <.01 | 96.67 (6.30) <.01 | 96.58 (6.29) <.01 | 96.70 (6.30) <.01 | 96.44 (6.29) <.01 | 96.66 (6.30) <.01 | 96.53 (6.30) <.01 | 96.64 (6.30) <.01 | 96.53 (6.29) <.01 | 96.66 (6.30) <.01 | 96.73 (6.30) <.01 | 96.64 (6.30) <.01 | 96.61 (6.30) <.01 | 96.83 (6.32) <.01 | 96.68 (6.30) <.01 | 96.70 (6.31) <.01 | 96.78 (6.32) <.01 | 96.64(0.10) |
| a | Var (Slope) | 0.86 (0.34) .01 | 0.84 (0.33) .01 | 0.82 (0.33) .01 | 0.86 (0.34) .01 | 0.87 (0.34) .01 | 0.85 (0.33) .01 | 0.84 (0.33) .01 | 0.85 (0.33) .01 | 0.86 (0.34) .01 | 0.88 (0.34) .01 | 0.86 (0.33) .01 | 0.89 (0.34) .01 | 0.85 (0.32) .01 | 0.87 (0.34) .01 | 0.86 (0.34) .01 | 0.88 (0.34) .01 | 0.84 (0.33) .01 | 0.82 (0.33) .01 | 0.88 (0.34) .01 | 0.86(0.02) |
| a | Var (Residual) | 20.54 (1.17) <.01 | 20.58 (1.17) <.01 | 20.59 (1.17) <.01 | 20.56 (1.17) <.01 | 20.57 (1.17) <.01 | 20.55 (1.17) <.01 | 20.58 (1.17) <.01 | 20.57 (1.17) <.01 | 20.55 (1.17) <.01 | 20.52 (1.17) <.01 | 20.56 (1.17) <.01 | 20.49 (1.17) <.01 | 20.56 (1.17) <.01 | 20.55 (1.17) <.01 | 20.55 (1.17) <.01 | 20.50 (1.16) <.01 | 20.56 (1.17) <.01 | 20.60 (1.17) <.01 | 20.51 (1.17) <.01 | 20.55(0.03) |
| b | Var (Level) | 0.95 (0.09) <.01 | 1.33 (0.19) <.01 | 0.95 (0.11) <.01 | 46.00 (3.18) <.01 | 2.27 (0.16) <.01 | 2.37 (0.15) <.01 | 1.02 (0.10) <.01 | 0.13 (0.02) <.01 | 4.19 (0.32) <.01 | 11.11 (0.67) <.01 | 10.12 (0.63) <.01 | 2.93 (0.26) <.01 | 0.87 (0.13) <.01 | 3.22 (0.20) <.01 | 32.40 (2.12) <.01 | 62.41 (4.28) <.01 | 2.59 (0.18) <.01 | 9.68 (0.65) <.01 | 0.49 (0.13) <.01 | --- |
| b | Var (Slope) | 0.02 (0.01) <.01 | 0.07 (0.03) .01 | 0.04 (0.02) .02 | 1.11 (0.24) <.01 | 0.03 (0.02) .05 | 0.02 (0.01) .10 | 0.03 (0.01) .03 | 0.01 (0.00) .02 | 0.01 (0.03) .69 | 0.29 (0.06) <.01 | 0.23 (0.06) <.01 | 0.06 (0.03) .04 | 0.06 (0.03) .08 | 0.02 (0.01) .06 | 0.37 (0.15) .02 | 1.18 (0.33) <.01 | 0.04 (0.02) .02 | 0.29 (0.07) <.01 | 0.00 (0.01) .87 | --- |
| b | Var (Residual) | 0.43 (0.02) <.01 | 2.38 (0.13) <.01 | 1.95 (0.07) <.01 | 21.53 (0.79) <.01 | 1.64 (0.06) <.01 | 1.61 (0.06) <.01 | 1.25 (0.06) <.01 | 0.19 (0.01) <.01 | 3.88 (0.16) <.01 | 5.67 (0.20) <.01 | 5.60 (0.21) <.01 | 3.04 (0.18) <.01 | 1.51 (0.07) <.01 | 0.67 (0.04) <.01 | 15.15 (0.82) <.01 | 21.98 (1.28) <.01 | 1.76 (0.08) <.01 | 5.89 (0.20) <.01 | 0.33 (0.06) <.01 | --- |
| a | Covar (Level, Slope) | -1.29 (1.07) .23 | -1.22 (1.08) .26 | -1.13 (1.07) .29 | -1.35 (1.08) .21 | -1.40 (1.08) .20 | -1.28 (1.06) .23 | -1.18 (1.07) .27 | -1.32 (1.07) .22 | -1.22 (1.08) .26 | -1.30 (1.08) .22 | -1.30 (1.07) .22 | -1.27 (1.08) .24 | -1.31 (1.06) .22 | -1.33 (1.07) .21 | -1.27 (1.07) .24 | -1.35 (1.07) .21 | -1.21 (1.07) .26 | -1.20 (1.07) .26 | -1.31 (1.09) .23 | -1.28(0.07) |
| b | Covar (Level, Slope) | -0.09 (0.02) <.01 | 0.02 (0.06) .70 | -0.04 (0.04) .32 | -0.12 (0.63) .85 | -0.07 (0.04) .07 | -0.03 (0.04) .45 | -0.07 (0.03) .01 | -0.01 (0.01) .04 | 0.07 (0.08) .38 | -0.05 (0.15) .75 | -0.30 (0.14) .04 | -0.08 (0.07) .28 | -0.01 (0.04) .84 | -0.03 (0.03) .38 | -0.29 (0.43) .50 | 0.78 (0.82) .34 | 0.02 (0.04) .71 | 0.09 (0.16) .57 | -0.00 (0.03) .95 | --- |
|  | Correlation of Levels | 0.088 | 0.029 | -0.014 | 0.093 | 0.080 | 0.018 | 0.060 | 0.054 | 0.108 | 0.0042 | -0.0028 | 0.102 | 0.033 | -0.0096 | 0.035 | 0.086 | 0.168 | 0.169 | 0.149 | 0.07(0.06) |
|  | Correlation of Slopes | 0.020 | 0.261 | 0.111 | 0.227 | 0.305 | 0.467 | 0.597 | 0.154 | 0.730 | 0.2113 | 0.3693 | 0.305 | 0.552 | 0.2717 | -0.037 | 0.065 | 0.464 | 0.535 | 0.507 | 0.32(0.21) |
|  | Correlation of Residuals | -0.011 | -0.012 | -0.013 | 0.061 | 0.066 | 0.025 | -0.002 | 0.014 | 0.027 | 0.0466 | 0.0022 | -0.012 | 0.021 | -0.0204 | 0.032 | -0.009 | 0.004 | 0.019 | -0.017 | 0.01(0.03) |
|  | N | 934 | 935 | 935 | 935 | 935 | 935 | 935 | 935 | 934 | 935 | 935 | 920 | 935 | 932 | 934 | 934 | 935 | 935 | 935 | 933.84(3.44) |
|  | occasions | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -13,080 | -15,747 | -15,285 | -20,097 | -15,287 | -15,306 | -14,546 | -11,256 | -16,561 | -17,661 | -17,573 | -15,655 | -14,920 | -14,166 | -19,180 | -20,002 | -15,442 | -17,645 | -12,462 | -1.588794e+04(2,393) |
|  | AIC | 26,241 | 31,576 | 30,651 | 40,276 | 30,657 | 30,693 | 29,175 | 22,595 | 33,204 | 35,403 | 35,228 | 31,393 | 29,921 | 28,415 | 38,443 | 40,085 | 30,965 | 35,371 | 25,007 | 3.185787e+04(4,787) |
|  | BIC | 26,440 | 31,775 | 30,850 | 40,475 | 30,855 | 30,892 | 29,373 | 22,793 | 33,403 | 35,602 | 35,426 | 31,590 | 30,120 | 28,613 | 38,641 | 40,283 | 31,163 | 35,570 | 25,205 | 3.205628e+04(4,787) |

## bnt

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 1.84 (0.57) <.01 | 1.27 (0.52) .01 | 0.78 (0.42) .06 | 0.84 (0.42) .05 |
| ab | Covar (Slopes) | 0.02 (0.03) .52 | 0.01 (0.03) .62 | 0.01 (0.03) .77 | 0.00 (0.03) .91 |
| ab | Covar (Residuals) | -0.07 (0.08) .40 | -0.07 (0.08) .38 | -0.06 (0.08) .46 | -0.03 (0.08) .70 |
| er | Corr (Levels) | 0.16 (0.05) <.01 | 0.11 (0.04) .01 | 0.08 (0.04) .06 | 0.09 (0.04) .05 |
| er | Corr (Slopes) | 0.12 (0.19) .53 | 0.09 (0.19) .62 | 0.06 (0.19) .77 | 0.02 (0.20) .91 |
| er | Corr (Residuals) | -0.02 (0.03) .40 | -0.02 (0.03) .38 | -0.02 (0.03) .46 | -0.01 (0.03) .70 |
| a | Level | 47.49 (0.60) <.01 | 43.63 (1.14) <.01 | 44.43 (1.14) <.01 | 44.90 (1.36) <.01 |
| a | Slope | -0.95 (0.13) <.01 | -0.52 (0.29) .07 | -0.52 (0.29) .08 | -0.50 (0.34) .14 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.43 (4.86) <.01 | 38.12 (5.05) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.30 (0.74) .68 |
| a | Level \* cardio | --- | --- | --- | -0.10 (1.09) .93 |
| a | Level \* diabetes | --- | --- | --- | -0.43 (0.98) .66 |
| a | Slope \* age | -0.01 (0.01) .33 | -0.01 (0.01) .30 | -0.01 (0.01) .30 | -0.01 (0.01) .27 |
| a | Slope \* education | --- | -0.06 (0.03) .08 | -0.06 (0.03) .08 | -0.06 (0.04) .10 |
| a | Slope \* height | --- | --- | -0.48 (1.30) .71 | -0.27 (1.41) .85 |
| a | Slope \* smoking | --- | --- | --- | 0.09 (0.18) .62 |
| a | Slope \* cardio | --- | --- | --- | 0.09 (0.24) .70 |
| a | Slope \* diabetes | --- | --- | --- | -0.05 (0.23) .81 |
| b | Level | 14.19 (0.06) <.01 | 13.41 (0.13) <.01 | 13.46 (0.13) <.01 | 13.59 (0.15) <.01 |
| b | Slope | 0.04 (0.01) <.01 | 0.08 (0.04) .02 | 0.08 (0.04) .02 | 0.07 (0.04) .07 |
| b | Level \* age | -0.03 (0.00) <.01 | -0.03 (0.00) <.01 | -0.02 (0.00) <.01 | -0.03 (0.00) <.01 |
| b | Level \* education | --- | 0.10 (0.01) <.01 | 0.10 (0.01) <.01 | 0.09 (0.01) <.01 |
| b | Level \* height | --- | --- | 1.88 (0.57) <.01 | 2.33 (0.60) <.01 |
| b | Level \* smoking | --- | --- | --- | 0.03 (0.07) .70 |
| b | Level \* cardio | --- | --- | --- | 0.08 (0.11) .44 |
| b | Level \* diabetes | --- | --- | --- | -0.22 (0.11) .04 |
| b | Slope \* age | -0.00 (0.00) .50 | -0.00 (0.00) .44 | -0.00 (0.00) .43 | -0.00 (0.00) .62 |
| b | Slope \* education | --- | -0.01 (0.00) .13 | -0.01 (0.00) .13 | -0.01 (0.00) .10 |
| b | Slope \* height | --- | --- | -0.10 (0.15) .51 | -0.17 (0.16) .28 |
| b | Slope \* smoking | --- | --- | --- | 0.00 (0.02) .83 |
| b | Slope \* cardio | --- | --- | --- | 0.00 (0.03) .99 |
| b | Slope \* diabetes | --- | --- | --- | 0.06 (0.03) .02 |
| a | Var (Level) | 108.39 (6.41) <.01 | 106.01 (6.29) <.01 | 98.55 (6.01) <.01 | 96.70 (6.30) <.01 |
| a | Var (Slope) | 0.89 (0.31) <.01 | 0.85 (0.30) <.01 | 0.84 (0.30) <.01 | 0.86 (0.34) .01 |
| a | Var (Residual) | 20.07 (1.06) <.01 | 20.06 (1.06) <.01 | 20.02 (1.06) <.01 | 20.54 (1.17) <.01 |
| b | Var (Level) | 1.28 (0.20) <.01 | 1.18 (0.20) <.01 | 1.00 (0.11) <.01 | 0.95 (0.09) <.01 |
| b | Var (Slope) | 0.03 (0.01) <.01 | 0.03 (0.01) <.01 | 0.02 (0.01) <.01 | 0.02 (0.01) <.01 |
| b | Var (Residual) | 0.44 (0.02) <.01 | 0.44 (0.02) <.01 | 0.43 (0.02) <.01 | 0.43 (0.02) <.01 |
| a | Covar (Level, Slope) | -1.83 (1.08) .09 | -1.61 (1.03) .12 | -1.44 (1.00) .15 | -1.29 (1.07) .23 |
| b | Covar (Level, Slope) | -0.11 (0.03) <.01 | -0.10 (0.03) <.01 | -0.08 (0.02) <.01 | -0.09 (0.02) <.01 |
|  | Correlation of Levels | 0.156 | 0.114 | 0.079 | 0.088 |
|  | Correlation of Slopes | 0.122 | 0.092 | 0.056 | 0.020 |
|  | Correlation of Residuals | -0.022 | -0.024 | -0.020 | -0.011 |
|  | N | 1,029 | 1,029 | 1,024 | 934 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -14,727 | -14,682 | -14,517 | -13,080 |
|  | AIC | 29,496 | 29,414 | 29,093 | 26,241 |
|  | BIC | 29,600 | 29,537 | 29,236 | 26,440 |

## bstory\_de

Gender = *female*; Process (a) = *grip*; Process (b) = *bstory\_de*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 0.78 (0.62) .21 | 0.30 (0.62) .63 | 0.23 (0.60) .70 | 0.32 (0.64) .61 |
| ab | Covar (Slopes) | 0.07 (0.06) .24 | 0.07 (0.06) .24 | 0.07 (0.06) .24 | 0.06 (0.06) .31 |
| ab | Covar (Residuals) | -0.10 (0.19) .58 | -0.11 (0.19) .57 | -0.10 (0.19) .60 | -0.08 (0.20) .68 |
| er | Corr (Levels) | 0.06 (0.05) .21 | 0.02 (0.05) .63 | 0.02 (0.05) .70 | 0.03 (0.06) .61 |
| er | Corr (Slopes) | 0.27 (0.23) .25 | 0.27 (0.24) .25 | 0.27 (0.24) .25 | 0.26 (0.26) .32 |
| er | Corr (Residuals) | -0.01 (0.03) .58 | -0.01 (0.03) .57 | -0.01 (0.03) .60 | -0.01 (0.03) .68 |
| a | Level | 47.50 (0.60) <.01 | 43.63 (1.14) <.01 | 44.42 (1.14) <.01 | 44.91 (1.35) <.01 |
| a | Slope | -0.94 (0.13) <.01 | -0.49 (0.29) .09 | -0.50 (0.29) .09 | -0.47 (0.34) .16 |
| a | Level \* age | -0.68 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.42 (4.84) <.01 | 38.20 (5.05) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.28 (0.74) .70 |
| a | Level \* cardio | --- | --- | --- | -0.10 (1.10) .93 |
| a | Level \* diabetes | --- | --- | --- | -0.45 (0.98) .65 |
| a | Slope \* age | -0.01 (0.01) .30 | -0.01 (0.01) .27 | -0.01 (0.01) .28 | -0.01 (0.01) .27 |
| a | Slope \* education | --- | -0.06 (0.03) .06 | -0.06 (0.03) .07 | -0.06 (0.04) .09 |
| a | Slope \* height | --- | --- | -0.40 (1.30) .76 | -0.26 (1.41) .86 |
| a | Slope \* smoking | --- | --- | --- | 0.10 (0.18) .57 |
| a | Slope \* cardio | --- | --- | --- | 0.09 (0.24) .71 |
| a | Slope \* diabetes | --- | --- | --- | -0.06 (0.23) .81 |
| b | Level | 9.68 (0.07) <.01 | 8.97 (0.14) <.01 | 9.02 (0.14) <.01 | 8.92 (0.17) <.01 |
| b | Slope | 0.01 (0.03) .62 | 0.05 (0.05) .32 | 0.05 (0.05) .34 | 0.05 (0.07) .44 |
| b | Level \* age | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.02 (0.01) <.01 |
| b | Level \* education | --- | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 |
| b | Level \* height | --- | --- | 0.69 (0.74) .36 | 0.73 (0.80) .35 |
| b | Level \* smoking | --- | --- | --- | 0.02 (0.12) .86 |
| b | Level \* cardio | --- | --- | --- | -0.12 (0.19) .52 |
| b | Level \* diabetes | --- | --- | --- | 0.13 (0.14) .33 |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) .01 | -0.01 (0.00) <.01 |
| b | Slope \* education | --- | -0.00 (0.01) .44 | -0.00 (0.01) .44 | -0.00 (0.01) .54 |
| b | Slope \* height | --- | --- | 0.15 (0.34) .66 | -0.01 (0.33) .98 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.05) .79 |
| b | Slope \* cardio | --- | --- | --- | 0.00 (0.07) .94 |
| b | Slope \* diabetes | --- | --- | --- | 0.10 (0.05) .06 |
| a | Var (Level) | 108.01 (6.38) <.01 | 105.72 (6.27) <.01 | 98.40 (6.00) <.01 | 96.61 (6.30) <.01 |
| a | Var (Slope) | 0.87 (0.31) <.01 | 0.82 (0.30) .01 | 0.81 (0.30) .01 | 0.84 (0.33) .01 |
| a | Var (Residual) | 20.10 (1.06) <.01 | 20.10 (1.06) <.01 | 20.05 (1.06) <.01 | 20.58 (1.17) <.01 |
| b | Var (Level) | 1.37 (0.18) <.01 | 1.29 (0.17) <.01 | 1.25 (0.17) <.01 | 1.33 (0.19) <.01 |
| b | Var (Slope) | 0.07 (0.03) <.01 | 0.07 (0.03) <.01 | 0.07 (0.02) <.01 | 0.07 (0.03) .01 |
| b | Var (Residual) | 2.36 (0.12) <.01 | 2.36 (0.12) <.01 | 2.36 (0.12) <.01 | 2.38 (0.13) <.01 |
| a | Covar (Level, Slope) | -1.73 (1.08) .11 | -1.49 (1.03) .15 | -1.34 (1.01) .18 | -1.22 (1.08) .26 |
| b | Covar (Level, Slope) | 0.03 (0.06) .58 | 0.04 (0.05) .52 | 0.04 (0.05) .46 | 0.02 (0.06) .70 |
|  | Correlation of Levels | 0.064 | 0.025 | 0.021 | 0.029 |
|  | Correlation of Slopes | 0.267 | 0.269 | 0.273 | 0.261 |
|  | Correlation of Residuals | -0.015 | -0.016 | -0.014 | -0.012 |
|  | N | 1,030 | 1,030 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -17,506 | -17,480 | -17,389 | -15,747 |
|  | AIC | 35,054 | 35,010 | 34,836 | 31,576 |
|  | BIC | 35,158 | 35,133 | 34,979 | 31,775 |

## bstory\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 0.45 (0.55) .41 | 0.07 (0.54) .89 | 0.01 (0.51) .98 | -0.14 (0.54) .80 |
| ab | Covar (Slopes) | 0.05 (0.05) .26 | 0.06 (0.05) .20 | 0.06 (0.05) .19 | 0.02 (0.05) .69 |
| ab | Covar (Residuals) | -0.17 (0.17) .32 | -0.18 (0.17) .31 | -0.18 (0.17) .30 | -0.08 (0.18) .66 |
| er | Corr (Levels) | 0.04 (0.05) .41 | 0.01 (0.05) .89 | 0.00 (0.05) .98 | -0.01 (0.06) .80 |
| er | Corr (Slopes) | 0.26 (0.23) .27 | 0.30 (0.24) .21 | 0.31 (0.24) .20 | 0.11 (0.28) .69 |
| er | Corr (Residuals) | -0.03 (0.03) .32 | -0.03 (0.03) .31 | -0.03 (0.03) .30 | -0.01 (0.03) .66 |
| a | Level | 47.50 (0.60) <.01 | 43.63 (1.14) <.01 | 44.42 (1.14) <.01 | 44.91 (1.36) <.01 |
| a | Slope | -0.94 (0.13) <.01 | -0.50 (0.29) .08 | -0.51 (0.29) .08 | -0.48 (0.33) .15 |
| a | Level \* age | -0.68 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.43 (4.84) <.01 | 38.16 (5.05) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.29 (0.74) .69 |
| a | Level \* cardio | --- | --- | --- | -0.13 (1.09) .90 |
| a | Level \* diabetes | --- | --- | --- | -0.45 (0.98) .64 |
| a | Slope \* age | -0.01 (0.01) .28 | -0.01 (0.01) .26 | -0.01 (0.01) .27 | -0.01 (0.01) .24 |
| a | Slope \* education | --- | -0.06 (0.03) .06 | -0.06 (0.03) .07 | -0.06 (0.04) .09 |
| a | Slope \* height | --- | --- | -0.38 (1.29) .77 | -0.18 (1.40) .90 |
| a | Slope \* smoking | --- | --- | --- | 0.09 (0.18) .62 |
| a | Slope \* cardio | --- | --- | --- | 0.09 (0.24) .71 |
| a | Slope \* diabetes | --- | --- | --- | -0.06 (0.22) .80 |
| b | Level | 10.03 (0.07) <.01 | 9.43 (0.13) <.01 | 9.47 (0.13) <.01 | 9.31 (0.16) <.01 |
| b | Slope | -0.01 (0.03) .75 | -0.04 (0.05) .48 | -0.04 (0.05) .44 | 0.03 (0.06) .67 |
| b | Level \* age | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.02 (0.01) <.01 |
| b | Level \* education | --- | 0.08 (0.01) <.01 | 0.07 (0.01) <.01 | 0.08 (0.02) <.01 |
| b | Level \* height | --- | --- | 0.59 (0.73) .42 | 0.75 (0.79) .34 |
| b | Level \* smoking | --- | --- | --- | 0.10 (0.10) .32 |
| b | Level \* cardio | --- | --- | --- | -0.08 (0.16) .60 |
| b | Level \* diabetes | --- | --- | --- | 0.17 (0.13) .19 |
| b | Slope \* age | -0.00 (0.00) .32 | -0.00 (0.00) .32 | -0.00 (0.00) .34 | -0.00 (0.00) .14 |
| b | Slope \* education | --- | 0.00 (0.01) .53 | 0.00 (0.01) .52 | 0.00 (0.01) .97 |
| b | Slope \* height | --- | --- | 0.09 (0.27) .73 | 0.01 (0.29) .98 |
| b | Slope \* smoking | --- | --- | --- | -0.05 (0.04) .24 |
| b | Slope \* cardio | --- | --- | --- | -0.03 (0.06) .59 |
| b | Slope \* diabetes | --- | --- | --- | 0.04 (0.04) .33 |
| a | Var (Level) | 107.95 (6.37) <.01 | 105.67 (6.27) <.01 | 98.34 (6.00) <.01 | 96.52 (6.30) <.01 |
| a | Var (Slope) | 0.86 (0.30) <.01 | 0.81 (0.29) .01 | 0.80 (0.29) .01 | 0.82 (0.33) .01 |
| a | Var (Residual) | 20.11 (1.06) <.01 | 20.12 (1.06) <.01 | 20.07 (1.06) <.01 | 20.59 (1.17) <.01 |
| b | Var (Level) | 1.05 (0.11) <.01 | 0.99 (0.11) <.01 | 0.96 (0.11) <.01 | 0.95 (0.11) <.01 |
| b | Var (Slope) | 0.05 (0.02) <.01 | 0.05 (0.02) <.01 | 0.05 (0.02) <.01 | 0.04 (0.02) .02 |
| b | Var (Residual) | 1.96 (0.07) <.01 | 1.96 (0.07) <.01 | 1.95 (0.07) <.01 | 1.95 (0.07) <.01 |
| a | Covar (Level, Slope) | -1.68 (1.07) .12 | -1.45 (1.02) .16 | -1.30 (1.00) .19 | -1.13 (1.07) .29 |
| b | Covar (Level, Slope) | -0.05 (0.04) .15 | -0.05 (0.04) .13 | -0.05 (0.04) .16 | -0.04 (0.04) .32 |
|  | Correlation of Levels | 0.043 | 0.0073 | 0.0015 | -0.014 |
|  | Correlation of Slopes | 0.257 | 0.3037 | 0.3111 | 0.111 |
|  | Correlation of Residuals | -0.027 | -0.0282 | -0.0286 | -0.013 |
|  | N | 1,030 | 1,030 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -17,033 | -17,001 | -16,911 | -15,285 |
|  | AIC | 34,108 | 34,052 | 33,880 | 30,651 |
|  | BIC | 34,212 | 34,176 | 34,023 | 30,850 |

## categories

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 11.40 (2.98) <.01 | 7.03 (2.82) .01 | 4.71 (2.76) .09 | 6.22 (2.87) .03 |
| ab | Covar (Slopes) | 0.27 (0.17) .11 | 0.28 (0.17) .10 | 0.28 (0.17) .09 | 0.22 (0.18) .22 |
| ab | Covar (Residuals) | 0.98 (0.55) .07 | 0.94 (0.54) .08 | 0.92 (0.55) .09 | 1.29 (0.59) .03 |
| er | Corr (Levels) | 0.15 (0.04) <.01 | 0.10 (0.04) .01 | 0.07 (0.04) .08 | 0.09 (0.04) .03 |
| er | Corr (Slopes) | 0.28 (0.18) .12 | 0.30 (0.18) .11 | 0.30 (0.19) .10 | 0.23 (0.19) .23 |
| er | Corr (Residuals) | 0.05 (0.03) .07 | 0.04 (0.03) .08 | 0.04 (0.03) .09 | 0.06 (0.03) .03 |
| a | Level | 47.48 (0.60) <.01 | 43.65 (1.14) <.01 | 44.44 (1.14) <.01 | 44.92 (1.36) <.01 |
| a | Slope | -0.95 (0.13) <.01 | -0.50 (0.29) .09 | -0.51 (0.29) .08 | -0.50 (0.34) .14 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.25 (4.86) <.01 | 37.90 (5.06) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.28 (0.74) .70 |
| a | Level \* cardio | --- | --- | --- | -0.12 (1.09) .92 |
| a | Level \* diabetes | --- | --- | --- | -0.42 (0.98) .67 |
| a | Slope \* age | -0.01 (0.01) .37 | -0.01 (0.01) .33 | -0.01 (0.01) .35 | -0.01 (0.01) .33 |
| a | Slope \* education | --- | -0.06 (0.03) .06 | -0.06 (0.03) .07 | -0.06 (0.04) .09 |
| a | Slope \* height | --- | --- | -0.40 (1.30) .76 | -0.17 (1.41) .90 |
| a | Slope \* smoking | --- | --- | --- | 0.12 (0.18) .52 |
| a | Slope \* cardio | --- | --- | --- | 0.09 (0.24) .71 |
| a | Slope \* diabetes | --- | --- | --- | -0.07 (0.22) .76 |
| b | Level | 38.27 (0.41) <.01 | 31.92 (0.67) <.01 | 32.33 (0.66) <.01 | 32.43 (0.80) <.01 |
| b | Slope | 0.07 (0.10) .48 | 0.02 (0.18) .92 | 0.01 (0.18) .96 | 0.06 (0.23) .78 |
| b | Level \* age | -0.29 (0.03) <.01 | -0.27 (0.03) <.01 | -0.26 (0.03) <.01 | -0.26 (0.04) <.01 |
| b | Level \* education | --- | 0.83 (0.08) <.01 | 0.78 (0.08) <.01 | 0.82 (0.08) <.01 |
| b | Level \* height | --- | --- | 12.37 (3.43) <.01 | 12.88 (3.74) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.64 (0.51) .21 |
| b | Level \* cardio | --- | --- | --- | -0.64 (0.74) .38 |
| b | Level \* diabetes | --- | --- | --- | -0.38 (0.64) .55 |
| b | Slope \* age | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 |
| b | Slope \* education | --- | 0.01 (0.02) .76 | 0.01 (0.02) .75 | -0.00 (0.03) .94 |
| b | Slope \* height | --- | --- | 0.04 (1.01) .97 | -0.36 (1.10) .74 |
| b | Slope \* smoking | --- | --- | --- | 0.12 (0.15) .43 |
| b | Slope \* cardio | --- | --- | --- | -0.52 (0.21) .01 |
| b | Slope \* diabetes | --- | --- | --- | 0.07 (0.18) .68 |
| a | Var (Level) | 108.20 (6.39) <.01 | 105.84 (6.27) <.01 | 98.52 (6.01) <.01 | 96.67 (6.30) <.01 |
| a | Var (Slope) | 0.89 (0.31) <.01 | 0.85 (0.30) <.01 | 0.84 (0.30) .01 | 0.86 (0.34) .01 |
| a | Var (Residual) | 20.09 (1.06) <.01 | 20.08 (1.06) <.01 | 20.04 (1.06) <.01 | 20.56 (1.17) <.01 |
| b | Var (Level) | 52.96 (3.31) <.01 | 46.22 (3.05) <.01 | 45.10 (3.00) <.01 | 46.00 (3.18) <.01 |
| b | Var (Slope) | 1.02 (0.22) <.01 | 1.02 (0.22) <.01 | 1.02 (0.22) <.01 | 1.11 (0.24) <.01 |
| b | Var (Residual) | 21.55 (0.75) <.01 | 21.55 (0.74) <.01 | 21.58 (0.75) <.01 | 21.53 (0.79) <.01 |
| a | Covar (Level, Slope) | -1.89 (1.08) .08 | -1.65 (1.03) .11 | -1.50 (1.01) .14 | -1.35 (1.08) .21 |
| b | Covar (Level, Slope) | 0.23 (0.64) .71 | 0.17 (0.59) .77 | 0.20 (0.58) .74 | -0.12 (0.63) .85 |
|  | Correlation of Levels | 0.151 | 0.100 | 0.071 | 0.093 |
|  | Correlation of Slopes | 0.281 | 0.296 | 0.303 | 0.227 |
|  | Correlation of Residuals | 0.047 | 0.045 | 0.044 | 0.061 |
|  | N | 1,030 | 1,030 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -22,376 | -22,311 | -22,207 | -20,097 |
|  | AIC | 44,795 | 44,671 | 44,472 | 40,276 |
|  | BIC | 44,899 | 44,795 | 44,615 | 40,475 |

## digit\_b

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 2.54 (0.72) <.01 | 1.76 (0.69) .01 | 1.03 (0.66) .12 | 1.18 (0.67) .08 |
| ab | Covar (Slopes) | 0.05 (0.04) .20 | 0.06 (0.04) .17 | 0.05 (0.04) .20 | 0.05 (0.04) .26 |
| ab | Covar (Residuals) | 0.38 (0.15) .01 | 0.37 (0.15) .01 | 0.38 (0.15) .01 | 0.38 (0.16) .02 |
| er | Corr (Levels) | 0.15 (0.04) <.01 | 0.11 (0.04) .01 | 0.07 (0.04) .12 | 0.08 (0.04) .07 |
| er | Corr (Slopes) | 0.32 (0.25) .21 | 0.34 (0.26) .19 | 0.32 (0.26) .22 | 0.31 (0.28) .27 |
| er | Corr (Residuals) | 0.07 (0.03) .01 | 0.06 (0.03) .01 | 0.07 (0.03) .01 | 0.07 (0.03) .02 |
| a | Level | 47.50 (0.60) <.01 | 43.63 (1.14) <.01 | 44.42 (1.14) <.01 | 44.92 (1.35) <.01 |
| a | Slope | -0.93 (0.13) <.01 | -0.50 (0.29) .09 | -0.51 (0.29) .09 | -0.50 (0.34) .14 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.45 (4.86) <.01 | 38.12 (5.05) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.25 (0.74) .73 |
| a | Level \* cardio | --- | --- | --- | -0.11 (1.10) .92 |
| a | Level \* diabetes | --- | --- | --- | -0.44 (0.98) .65 |
| a | Slope \* age | -0.01 (0.01) .31 | -0.01 (0.01) .28 | -0.01 (0.01) .28 | -0.01 (0.01) .26 |
| a | Slope \* education | --- | -0.06 (0.03) .07 | -0.06 (0.03) .08 | -0.06 (0.04) .11 |
| a | Slope \* height | --- | --- | -0.60 (1.30) .64 | -0.44 (1.42) .76 |
| a | Slope \* smoking | --- | --- | --- | 0.11 (0.18) .53 |
| a | Slope \* cardio | --- | --- | --- | 0.09 (0.25) .70 |
| a | Slope \* diabetes | --- | --- | --- | -0.05 (0.22) .82 |
| b | Level | 6.36 (0.10) <.01 | 5.15 (0.16) <.01 | 5.25 (0.16) <.01 | 5.17 (0.20) <.01 |
| b | Slope | -0.03 (0.02) .24 | -0.02 (0.04) .69 | -0.02 (0.04) .63 | -0.03 (0.06) .62 |
| b | Level \* age | -0.01 (0.01) .42 | -0.00 (0.01) .70 | 0.00 (0.01) .87 | 0.01 (0.01) .48 |
| b | Level \* education | --- | 0.16 (0.02) <.01 | 0.14 (0.02) <.01 | 0.15 (0.02) <.01 |
| b | Level \* height | --- | --- | 3.46 (0.84) <.01 | 2.82 (0.88) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.02 (0.12) .88 |
| b | Level \* cardio | --- | --- | --- | -0.38 (0.18) .04 |
| b | Level \* diabetes | --- | --- | --- | 0.17 (0.16) .29 |
| b | Slope \* age | 0.00 (0.00) .98 | 0.00 (0.00) .98 | 0.00 (0.00) .99 | -0.00 (0.00) .78 |
| b | Slope \* education | --- | -0.00 (0.00) .80 | -0.00 (0.00) .86 | -0.00 (0.00) .64 |
| b | Slope \* height | --- | --- | -0.07 (0.24) .79 | 0.12 (0.26) .64 |
| b | Slope \* smoking | --- | --- | --- | 0.02 (0.04) .61 |
| b | Slope \* cardio | --- | --- | --- | 0.10 (0.06) .08 |
| b | Slope \* diabetes | --- | --- | --- | 0.04 (0.05) .51 |
| a | Var (Level) | 108.16 (6.38) <.01 | 105.81 (6.27) <.01 | 98.38 (6.00) <.01 | 96.58 (6.29) <.01 |
| a | Var (Slope) | 0.88 (0.30) <.01 | 0.85 (0.30) <.01 | 0.83 (0.30) <.01 | 0.87 (0.34) .01 |
| a | Var (Residual) | 20.10 (1.06) <.01 | 20.09 (1.06) <.01 | 20.05 (1.06) <.01 | 20.57 (1.17) <.01 |
| b | Var (Level) | 2.65 (0.17) <.01 | 2.42 (0.16) <.01 | 2.36 (0.16) <.01 | 2.27 (0.16) <.01 |
| b | Var (Slope) | 0.03 (0.01) .03 | 0.03 (0.01) .03 | 0.03 (0.01) .03 | 0.03 (0.02) .05 |
| b | Var (Residual) | 1.62 (0.06) <.01 | 1.62 (0.06) <.01 | 1.62 (0.06) <.01 | 1.64 (0.06) <.01 |
| a | Covar (Level, Slope) | -1.92 (1.08) .07 | -1.70 (1.03) .10 | -1.50 (1.01) .14 | -1.40 (1.08) .20 |
| b | Covar (Level, Slope) | -0.09 (0.04) .01 | -0.09 (0.04) .01 | -0.09 (0.04) .02 | -0.07 (0.04) .07 |
|  | Correlation of Levels | 0.150 | 0.110 | 0.068 | 0.080 |
|  | Correlation of Slopes | 0.315 | 0.334 | 0.318 | 0.305 |
|  | Correlation of Residuals | 0.067 | 0.065 | 0.066 | 0.066 |
|  | N | 1,030 | 1,030 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -17,033 | -16,984 | -16,897 | -15,287 |
|  | AIC | 34,109 | 34,018 | 33,851 | 30,657 |
|  | BIC | 34,212 | 34,142 | 33,994 | 30,855 |

## digit\_f

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 1.31 (0.69) .06 | 0.63 (0.66) .34 | 0.07 (0.63) .91 | 0.27 (0.66) .68 |
| ab | Covar (Slopes) | 0.06 (0.04) .21 | 0.06 (0.04) .21 | 0.05 (0.04) .25 | 0.06 (0.05) .16 |
| ab | Covar (Residuals) | 0.18 (0.15) .23 | 0.17 (0.15) .25 | 0.18 (0.15) .23 | 0.15 (0.16) .36 |
| er | Corr (Levels) | 0.08 (0.04) .05 | 0.04 (0.04) .33 | 0.00 (0.04) .91 | 0.02 (0.04) .68 |
| er | Corr (Slopes) | 0.40 (0.31) .20 | 0.40 (0.32) .21 | 0.38 (0.32) .24 | 0.46 (0.33) .16 |
| er | Corr (Residuals) | 0.03 (0.03) .23 | 0.03 (0.03) .24 | 0.03 (0.03) .23 | 0.02 (0.03) .36 |
| a | Level | 47.51 (0.60) <.01 | 43.66 (1.14) <.01 | 44.45 (1.14) <.01 | 44.95 (1.35) <.01 |
| a | Slope | -0.94 (0.13) <.01 | -0.50 (0.29) .08 | -0.50 (0.29) .08 | -0.50 (0.33) .13 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.48 (4.86) <.01 | 38.19 (5.06) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.27 (0.74) .71 |
| a | Level \* cardio | --- | --- | --- | -0.10 (1.10) .93 |
| a | Level \* diabetes | --- | --- | --- | -0.46 (0.98) .64 |
| a | Slope \* age | -0.01 (0.01) .32 | -0.01 (0.01) .29 | -0.01 (0.01) .30 | -0.01 (0.01) .30 |
| a | Slope \* education | --- | -0.06 (0.03) .06 | -0.06 (0.03) .07 | -0.06 (0.04) .10 |
| a | Slope \* height | --- | --- | -0.44 (1.30) .74 | -0.21 (1.41) .88 |
| a | Slope \* smoking | --- | --- | --- | 0.11 (0.18) .56 |
| a | Slope \* cardio | --- | --- | --- | 0.08 (0.24) .75 |
| a | Slope \* diabetes | --- | --- | --- | -0.05 (0.22) .82 |
| b | Level | 8.36 (0.09) <.01 | 7.37 (0.17) <.01 | 7.45 (0.17) <.01 | 7.36 (0.22) <.01 |
| b | Slope | -0.03 (0.02) .20 | -0.01 (0.05) .85 | -0.01 (0.05) .84 | -0.00 (0.06) .96 |
| b | Level \* age | -0.01 (0.01) .34 | -0.00 (0.01) .54 | 0.00 (0.01) .97 | 0.00 (0.01) .98 |
| b | Level \* education | --- | 0.13 (0.02) <.01 | 0.12 (0.02) <.01 | 0.12 (0.02) <.01 |
| b | Level \* height | --- | --- | 2.86 (0.85) <.01 | 2.51 (0.91) .01 |
| b | Level \* smoking | --- | --- | --- | -0.01 (0.12) .94 |
| b | Level \* cardio | --- | --- | --- | 0.22 (0.19) .24 |
| b | Level \* diabetes | --- | --- | --- | 0.16 (0.17) .35 |
| b | Slope \* age | 0.00 (0.00) .82 | -0.00 (0.00) .78 | 0.00 (0.00) .86 | 0.00 (0.00) .73 |
| b | Slope \* education | --- | -0.00 (0.01) .67 | -0.00 (0.01) .66 | -0.00 (0.01) .70 |
| b | Slope \* height | --- | --- | 0.01 (0.25) .98 | 0.12 (0.27) .64 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.04) .68 |
| b | Slope \* cardio | --- | --- | --- | -0.04 (0.05) .48 |
| b | Slope \* diabetes | --- | --- | --- | -0.02 (0.04) .70 |
| a | Var (Level) | 108.22 (6.38) <.01 | 105.94 (6.28) <.01 | 98.56 (6.00) <.01 | 96.70 (6.30) <.01 |
| a | Var (Slope) | 0.88 (0.30) <.01 | 0.85 (0.30) <.01 | 0.83 (0.30) <.01 | 0.85 (0.33) .01 |
| a | Var (Residual) | 20.08 (1.06) <.01 | 20.07 (1.06) <.01 | 20.02 (1.06) <.01 | 20.55 (1.17) <.01 |
| b | Var (Level) | 2.55 (0.15) <.01 | 2.39 (0.14) <.01 | 2.35 (0.14) <.01 | 2.37 (0.15) <.01 |
| b | Var (Slope) | 0.02 (0.01) .10 | 0.02 (0.01) .09 | 0.02 (0.01) .10 | 0.02 (0.01) .10 |
| b | Var (Residual) | 1.62 (0.06) <.01 | 1.62 (0.06) <.01 | 1.63 (0.06) <.01 | 1.61 (0.06) <.01 |
| a | Covar (Level, Slope) | -1.85 (1.06) .08 | -1.64 (1.02) .11 | -1.47 (1.00) .14 | -1.28 (1.06) .23 |
| b | Covar (Level, Slope) | -0.02 (0.03) .48 | -0.02 (0.03) .51 | -0.02 (0.03) .49 | -0.03 (0.04) .45 |
|  | Correlation of Levels | 0.079 | 0.04 | 0.0048 | 0.018 |
|  | Correlation of Slopes | 0.404 | 0.40 | 0.3776 | 0.467 |
|  | Correlation of Residuals | 0.031 | 0.03 | 0.0308 | 0.025 |
|  | N | 1,030 | 1,030 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -17,056 | -17,020 | -16,933 | -15,306 |
|  | AIC | 34,153 | 34,091 | 33,924 | 30,693 |
|  | BIC | 34,257 | 34,214 | 34,067 | 30,892 |

## digit\_o

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 1.38 (0.55) .01 | 0.78 (0.52) .13 | 0.46 (0.51) .37 | 0.59 (0.54) .27 |
| ab | Covar (Slopes) | 0.09 (0.04) .02 | 0.09 (0.04) .02 | 0.09 (0.04) .02 | 0.09 (0.04) .03 |
| ab | Covar (Residuals) | 0.01 (0.14) .97 | -0.00 (0.14) .99 | -0.02 (0.14) .88 | -0.01 (0.14) .94 |
| er | Corr (Levels) | 0.12 (0.05) .01 | 0.07 (0.05) .13 | 0.05 (0.05) .37 | 0.06 (0.05) .27 |
| er | Corr (Slopes) | 0.60 (0.29) .04 | 0.64 (0.30) .03 | 0.64 (0.30) .03 | 0.60 (0.31) .05 |
| er | Corr (Residuals) | 0.00 (0.03) .97 | 0.00 (0.03) .99 | -0.00 (0.03) .88 | -0.00 (0.03) .94 |
| a | Level | 47.49 (0.60) <.01 | 43.63 (1.14) <.01 | 44.42 (1.14) <.01 | 44.90 (1.36) <.01 |
| a | Slope | -0.93 (0.13) <.01 | -0.50 (0.29) .09 | -0.50 (0.30) .09 | -0.48 (0.34) .16 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.40 (4.86) <.01 | 38.14 (5.06) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.29 (0.73) .69 |
| a | Level \* cardio | --- | --- | --- | -0.10 (1.09) .93 |
| a | Level \* diabetes | --- | --- | --- | -0.45 (0.98) .65 |
| a | Slope \* age | -0.01 (0.01) .32 | -0.01 (0.01) .30 | -0.01 (0.01) .30 | -0.01 (0.01) .29 |
| a | Slope \* education | --- | -0.06 (0.03) .07 | -0.06 (0.03) .08 | -0.06 (0.04) .10 |
| a | Slope \* height | --- | --- | -0.50 (1.30) .70 | -0.33 (1.41) .81 |
| a | Slope \* smoking | --- | --- | --- | 0.10 (0.18) .60 |
| a | Slope \* cardio | --- | --- | --- | 0.08 (0.24) .75 |
| a | Slope \* diabetes | --- | --- | --- | -0.07 (0.22) .77 |
| b | Level | 7.37 (0.07) <.01 | 6.43 (0.14) <.01 | 6.48 (0.14) <.01 | 6.51 (0.16) <.01 |
| b | Slope | 0.02 (0.02) .23 | 0.05 (0.04) .23 | 0.05 (0.04) .22 | 0.09 (0.05) .08 |
| b | Level \* age | -0.01 (0.01) .17 | -0.00 (0.01) .34 | -0.00 (0.01) .57 | -0.00 (0.01) .65 |
| b | Level \* education | --- | 0.12 (0.01) <.01 | 0.12 (0.01) <.01 | 0.12 (0.02) <.01 |
| b | Level \* height | --- | --- | 1.77 (0.65) .01 | 1.91 (0.68) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.04 (0.09) .64 |
| b | Level \* cardio | --- | --- | --- | -0.05 (0.14) .70 |
| b | Level \* diabetes | --- | --- | --- | 0.06 (0.13) .61 |
| b | Slope \* age | -0.00 (0.00) .04 | -0.00 (0.00) .03 | -0.00 (0.00) .05 | -0.00 (0.00) .04 |
| b | Slope \* education | --- | -0.00 (0.00) .50 | -0.00 (0.00) .46 | -0.00 (0.00) .51 |
| b | Slope \* height | --- | --- | 0.12 (0.21) .57 | -0.05 (0.23) .82 |
| b | Slope \* smoking | --- | --- | --- | -0.04 (0.03) .21 |
| b | Slope \* cardio | --- | --- | --- | -0.07 (0.04) .09 |
| b | Slope \* diabetes | --- | --- | --- | -0.00 (0.04) .92 |
| a | Var (Level) | 108.04 (6.38) <.01 | 105.68 (6.26) <.01 | 98.35 (6.00) <.01 | 96.44 (6.29) <.01 |
| a | Var (Slope) | 0.88 (0.31) <.01 | 0.85 (0.30) <.01 | 0.83 (0.30) <.01 | 0.84 (0.33) .01 |
| a | Var (Residual) | 20.09 (1.06) <.01 | 20.08 (1.06) <.01 | 20.04 (1.06) <.01 | 20.58 (1.17) <.01 |
| b | Var (Level) | 1.19 (0.11) <.01 | 1.05 (0.10) <.01 | 1.04 (0.10) <.01 | 1.02 (0.10) <.01 |
| b | Var (Slope) | 0.02 (0.01) .04 | 0.02 (0.01) .04 | 0.02 (0.01) .04 | 0.03 (0.01) .03 |
| b | Var (Residual) | 1.28 (0.06) <.01 | 1.28 (0.06) <.01 | 1.28 (0.06) <.01 | 1.25 (0.06) <.01 |
| a | Covar (Level, Slope) | -1.79 (1.08) .10 | -1.56 (1.02) .13 | -1.40 (1.00) .16 | -1.18 (1.07) .27 |
| b | Covar (Level, Slope) | -0.07 (0.03) .01 | -0.07 (0.03) .02 | -0.07 (0.03) .02 | -0.07 (0.03) .01 |
|  | Correlation of Levels | 0.1211 | 0.0739 | 0.0455 | 0.060 |
|  | Correlation of Slopes | 0.5994 | 0.6438 | 0.6358 | 0.597 |
|  | Correlation of Residuals | 0.0012 | -0.0002 | -0.0041 | -0.002 |
|  | N | 1,030 | 1,030 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -16,267 | -16,210 | -16,126 | -14,546 |
|  | AIC | 32,575 | 32,470 | 32,311 | 29,175 |
|  | BIC | 32,679 | 32,593 | 32,454 | 29,373 |

## ideas

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 0.21 (0.21) .31 | 0.12 (0.21) .56 | 0.06 (0.20) .76 | 0.19 (0.21) .37 |
| ab | Covar (Slopes) | 0.01 (0.02) .40 | 0.01 (0.02) .41 | 0.01 (0.02) .61 | 0.01 (0.02) .56 |
| ab | Covar (Residuals) | 0.02 (0.05) .76 | 0.02 (0.05) .75 | 0.01 (0.05) .77 | 0.03 (0.06) .63 |
| er | Corr (Levels) | 0.06 (0.06) .31 | 0.04 (0.06) .55 | 0.02 (0.06) .76 | 0.05 (0.06) .37 |
| er | Corr (Slopes) | 0.21 (0.25) .40 | 0.21 (0.26) .41 | 0.14 (0.27) .61 | 0.15 (0.26) .56 |
| er | Corr (Residuals) | 0.01 (0.03) .76 | 0.01 (0.03) .75 | 0.01 (0.03) .77 | 0.01 (0.03) .63 |
| a | Level | 47.51 (0.60) <.01 | 43.63 (1.14) <.01 | 44.42 (1.14) <.01 | 44.89 (1.36) <.01 |
| a | Slope | -0.94 (0.13) <.01 | -0.49 (0.29) .09 | -0.50 (0.29) .09 | -0.46 (0.34) .17 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.42 (4.85) <.01 | 38.08 (5.05) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.30 (0.74) .68 |
| a | Level \* cardio | --- | --- | --- | -0.14 (1.10) .90 |
| a | Level \* diabetes | --- | --- | --- | -0.44 (0.98) .66 |
| a | Slope \* age | -0.01 (0.01) .31 | -0.01 (0.01) .28 | -0.01 (0.01) .28 | -0.01 (0.01) .26 |
| a | Slope \* education | --- | -0.06 (0.03) .06 | -0.06 (0.03) .07 | -0.06 (0.04) .09 |
| a | Slope \* height | --- | --- | -0.44 (1.30) .73 | -0.19 (1.42) .89 |
| a | Slope \* smoking | --- | --- | --- | 0.08 (0.18) .67 |
| a | Slope \* cardio | --- | --- | --- | 0.11 (0.24) .65 |
| a | Slope \* diabetes | --- | --- | --- | -0.06 (0.23) .77 |
| b | Level | 7.67 (0.03) <.01 | 7.52 (0.05) <.01 | 7.52 (0.05) <.01 | 7.58 (0.06) <.01 |
| b | Slope | 0.02 (0.01) .07 | 0.03 (0.02) .08 | 0.03 (0.02) .05 | 0.02 (0.02) .42 |
| b | Level \* age | 0.00 (0.00) .35 | 0.00 (0.00) .26 | 0.00 (0.00) .21 | 0.00 (0.00) .26 |
| b | Level \* education | --- | 0.02 (0.00) <.01 | 0.02 (0.00) <.01 | 0.01 (0.00) <.01 |
| b | Level \* height | --- | --- | 0.24 (0.24) .31 | 0.23 (0.26) .37 |
| b | Level \* smoking | --- | --- | --- | -0.02 (0.03) .48 |
| b | Level \* cardio | --- | --- | --- | -0.03 (0.05) .59 |
| b | Level \* diabetes | --- | --- | --- | -0.10 (0.05) .06 |
| b | Slope \* age | 0.00 (0.00) .61 | 0.00 (0.00) .57 | 0.00 (0.00) .87 | 0.00 (0.00) .76 |
| b | Slope \* education | --- | -0.00 (0.00) .30 | -0.00 (0.00) .17 | -0.00 (0.00) .55 |
| b | Slope \* height | --- | --- | 0.11 (0.09) .21 | 0.04 (0.09) .67 |
| b | Slope \* smoking | --- | --- | --- | 0.01 (0.01) .35 |
| b | Slope \* cardio | --- | --- | --- | 0.00 (0.02) .86 |
| b | Slope \* diabetes | --- | --- | --- | 0.03 (0.02) .06 |
| a | Var (Level) | 108.09 (6.37) <.01 | 105.86 (6.27) <.01 | 98.53 (6.00) <.01 | 96.66 (6.30) <.01 |
| a | Var (Slope) | 0.88 (0.31) <.01 | 0.84 (0.30) <.01 | 0.84 (0.30) <.01 | 0.85 (0.33) .01 |
| a | Var (Residual) | 20.10 (1.06) <.01 | 20.09 (1.06) <.01 | 20.03 (1.06) <.01 | 20.57 (1.17) <.01 |
| b | Var (Level) | 0.12 (0.02) <.01 | 0.12 (0.02) <.01 | 0.12 (0.02) <.01 | 0.13 (0.02) <.01 |
| b | Var (Slope) | 0.00 (0.00) .04 | 0.00 (0.00) .04 | 0.00 (0.00) .05 | 0.01 (0.00) .02 |
| b | Var (Residual) | 0.20 (0.01) <.01 | 0.20 (0.01) <.01 | 0.20 (0.01) <.01 | 0.19 (0.01) <.01 |
| a | Covar (Level, Slope) | -1.86 (1.06) .08 | -1.65 (1.02) .11 | -1.49 (1.00) .14 | -1.32 (1.07) .22 |
| b | Covar (Level, Slope) | -0.01 (0.01) .07 | -0.01 (0.01) .07 | -0.01 (0.01) .06 | -0.01 (0.01) .04 |
|  | Correlation of Levels | 0.058 | 0.035 | 0.0179 | 0.054 |
|  | Correlation of Slopes | 0.211 | 0.215 | 0.1392 | 0.154 |
|  | Correlation of Residuals | 0.008 | 0.008 | 0.0075 | 0.014 |
|  | N | 1,030 | 1,030 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -12,593 | -12,574 | -12,489 | -11,256 |
|  | AIC | 25,227 | 25,199 | 25,036 | 22,595 |
|  | BIC | 25,331 | 25,322 | 25,179 | 22,793 |

## line

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 3.90 (1.16) <.01 | 2.50 (1.09) .02 | 1.93 (1.06) .07 | 2.17 (1.05) .04 |
| ab | Covar (Slopes) | 0.10 (0.07) .17 | 0.09 (0.07) .19 | 0.09 (0.07) .19 | 0.08 (0.07) .30 |
| ab | Covar (Residuals) | 0.16 (0.21) .45 | 0.16 (0.21) .44 | 0.17 (0.21) .42 | 0.24 (0.23) .29 |
| er | Corr (Levels) | 0.16 (0.05) <.01 | 0.11 (0.05) .02 | 0.09 (0.05) .07 | 0.11 (0.05) .04 |
| er | Corr (Slopes) | 0.61 (0.54) .26 | 0.61 (0.55) .27 | 0.62 (0.58) .29 | 0.74 (1.13) .51 |
| er | Corr (Residuals) | 0.02 (0.02) .45 | 0.02 (0.02) .44 | 0.02 (0.02) .42 | 0.03 (0.03) .29 |
| a | Level | 47.49 (0.60) <.01 | 43.62 (1.14) <.01 | 44.41 (1.14) <.01 | 44.88 (1.36) <.01 |
| a | Slope | -0.93 (0.13) <.01 | -0.49 (0.29) .09 | -0.50 (0.29) .09 | -0.49 (0.34) .14 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.45 (4.85) <.01 | 38.17 (5.05) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.29 (0.73) .69 |
| a | Level \* cardio | --- | --- | --- | -0.14 (1.09) .90 |
| a | Level \* diabetes | --- | --- | --- | -0.42 (0.98) .67 |
| a | Slope \* age | -0.01 (0.01) .32 | -0.01 (0.01) .29 | -0.01 (0.01) .30 | -0.01 (0.01) .29 |
| a | Slope \* education | --- | -0.06 (0.03) .07 | -0.06 (0.03) .07 | -0.06 (0.04) .11 |
| a | Slope \* height | --- | --- | -0.51 (1.31) .70 | -0.28 (1.42) .84 |
| a | Slope \* smoking | --- | --- | --- | 0.09 (0.18) .62 |
| a | Slope \* cardio | --- | --- | --- | 0.11 (0.24) .66 |
| a | Slope \* diabetes | --- | --- | --- | -0.05 (0.22) .81 |
| b | Level | 9.78 (0.14) <.01 | 7.66 (0.26) <.01 | 7.76 (0.26) <.01 | 7.99 (0.30) <.01 |
| b | Slope | 0.04 (0.03) .23 | 0.08 (0.07) .27 | 0.09 (0.07) .23 | 0.07 (0.09) .40 |
| b | Level \* age | -0.02 (0.01) .15 | -0.01 (0.01) .31 | -0.01 (0.01) .58 | -0.01 (0.01) .33 |
| b | Level \* education | --- | 0.28 (0.03) <.01 | 0.26 (0.03) <.01 | 0.25 (0.03) <.01 |
| b | Level \* height | --- | --- | 2.89 (1.21) .02 | 2.73 (1.26) .03 |
| b | Level \* smoking | --- | --- | --- | -0.23 (0.18) .19 |
| b | Level \* cardio | --- | --- | --- | 0.07 (0.26) .78 |
| b | Level \* diabetes | --- | --- | --- | 0.07 (0.24) .77 |
| b | Slope \* age | -0.00 (0.00) .34 | -0.00 (0.00) .30 | -0.00 (0.00) .48 | -0.00 (0.00) .75 |
| b | Slope \* education | --- | -0.00 (0.01) .51 | -0.01 (0.01) .40 | -0.00 (0.01) .74 |
| b | Slope \* height | --- | --- | 0.59 (0.35) .10 | 0.55 (0.39) .16 |
| b | Slope \* smoking | --- | --- | --- | 0.01 (0.05) .80 |
| b | Slope \* cardio | --- | --- | --- | -0.14 (0.09) .11 |
| b | Slope \* diabetes | --- | --- | --- | -0.12 (0.07) .06 |
| a | Var (Level) | 108.12 (6.39) <.01 | 105.79 (6.28) <.01 | 98.42 (6.00) <.01 | 96.53 (6.30) <.01 |
| a | Var (Slope) | 0.87 (0.31) <.01 | 0.84 (0.30) <.01 | 0.83 (0.30) .01 | 0.86 (0.34) .01 |
| a | Var (Residual) | 20.10 (1.06) <.01 | 20.09 (1.06) <.01 | 20.04 (1.06) <.01 | 20.55 (1.17) <.01 |
| b | Var (Level) | 5.36 (0.37) <.01 | 4.61 (0.33) <.01 | 4.50 (0.32) <.01 | 4.19 (0.32) <.01 |
| b | Var (Slope) | 0.03 (0.03) .34 | 0.03 (0.03) .36 | 0.03 (0.03) .39 | 0.01 (0.03) .69 |
| b | Var (Residual) | 3.79 (0.15) <.01 | 3.79 (0.15) <.01 | 3.79 (0.15) <.01 | 3.88 (0.16) <.01 |
| a | Covar (Level, Slope) | -1.80 (1.07) .09 | -1.58 (1.03) .12 | -1.40 (1.01) .16 | -1.22 (1.08) .26 |
| b | Covar (Level, Slope) | 0.02 (0.08) .82 | 0.03 (0.08) .66 | 0.04 (0.08) .65 | 0.07 (0.08) .38 |
|  | Correlation of Levels | 0.162 | 0.113 | 0.092 | 0.108 |
|  | Correlation of Slopes | 0.616 | 0.612 | 0.621 | 0.730 |
|  | Correlation of Residuals | 0.019 | 0.019 | 0.020 | 0.027 |
|  | N | 1,029 | 1,029 | 1,024 | 934 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -18,456 | -18,393 | -18,309 | -16,561 |
|  | AIC | 36,955 | 36,836 | 36,675 | 33,204 |
|  | BIC | 37,058 | 36,960 | 36,818 | 33,403 |

## logic\_de

Gender = *female*; Process (a) = *grip*; Process (b) = *logic\_de*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 2.50 (1.48) .09 | 0.73 (1.38) .60 | -0.45 (1.32) .74 | 0.14 (1.40) .92 |
| ab | Covar (Slopes) | 0.10 (0.09) .29 | 0.13 (0.09) .18 | 0.13 (0.09) .16 | 0.11 (0.10) .30 |
| ab | Covar (Residuals) | 0.36 (0.29) .21 | 0.34 (0.29) .23 | 0.34 (0.29) .24 | 0.50 (0.31) .10 |
| er | Corr (Levels) | 0.07 (0.04) .09 | 0.02 (0.04) .60 | -0.01 (0.04) .74 | 0.00 (0.04) .92 |
| er | Corr (Slopes) | 0.20 (0.18) .28 | 0.26 (0.19) .16 | 0.28 (0.19) .14 | 0.21 (0.20) .28 |
| er | Corr (Residuals) | 0.03 (0.03) .21 | 0.03 (0.03) .23 | 0.03 (0.03) .24 | 0.05 (0.03) .10 |
| a | Level | 47.50 (0.60) <.01 | 43.62 (1.14) <.01 | 44.41 (1.14) <.01 | 44.89 (1.36) <.01 |
| a | Slope | -0.95 (0.13) <.01 | -0.50 (0.29) .09 | -0.50 (0.29) .09 | -0.47 (0.34) .17 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.43 (4.84) <.01 | 38.11 (5.06) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.30 (0.74) .69 |
| a | Level \* cardio | --- | --- | --- | -0.14 (1.09) .90 |
| a | Level \* diabetes | --- | --- | --- | -0.44 (0.98) .65 |
| a | Slope \* age | -0.01 (0.01) .34 | -0.01 (0.01) .30 | -0.01 (0.01) .31 | -0.01 (0.01) .31 |
| a | Slope \* education | --- | -0.06 (0.03) .06 | -0.06 (0.03) .07 | -0.06 (0.04) .09 |
| a | Slope \* height | --- | --- | -0.58 (1.30) .66 | -0.37 (1.42) .79 |
| a | Slope \* smoking | --- | --- | --- | 0.07 (0.18) .70 |
| a | Slope \* cardio | --- | --- | --- | 0.09 (0.24) .70 |
| a | Slope \* diabetes | --- | --- | --- | -0.05 (0.23) .83 |
| b | Level | 11.16 (0.18) <.01 | 8.51 (0.32) <.01 | 8.66 (0.32) <.01 | 8.47 (0.41) <.01 |
| b | Slope | 0.45 (0.05) <.01 | 0.28 (0.10) .01 | 0.27 (0.10) .01 | 0.39 (0.12) <.01 |
| b | Level \* age | -0.12 (0.02) <.01 | -0.11 (0.02) <.01 | -0.10 (0.02) <.01 | -0.10 (0.02) <.01 |
| b | Level \* education | --- | 0.35 (0.04) <.01 | 0.32 (0.04) <.01 | 0.34 (0.04) <.01 |
| b | Level \* height | --- | --- | 6.04 (1.74) <.01 | 5.53 (1.75) <.01 |
| b | Level \* smoking | --- | --- | --- | 0.08 (0.26) .75 |
| b | Level \* cardio | --- | --- | --- | -0.06 (0.42) .89 |
| b | Level \* diabetes | --- | --- | --- | 0.19 (0.32) .56 |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.02 (0.00) <.01 |
| b | Slope \* education | --- | 0.02 (0.01) .06 | 0.02 (0.01) .05 | 0.02 (0.01) .22 |
| b | Slope \* height | --- | --- | -0.18 (0.55) .74 | -0.25 (0.60) .68 |
| b | Slope \* smoking | --- | --- | --- | -0.09 (0.08) .27 |
| b | Slope \* cardio | --- | --- | --- | -0.04 (0.12) .72 |
| b | Slope \* diabetes | --- | --- | --- | 0.06 (0.10) .52 |
| a | Var (Level) | 108.14 (6.37) <.01 | 105.78 (6.26) <.01 | 98.41 (6.00) <.01 | 96.64 (6.30) <.01 |
| a | Var (Slope) | 0.90 (0.31) <.01 | 0.87 (0.30) <.01 | 0.85 (0.30) <.01 | 0.88 (0.34) .01 |
| a | Var (Residual) | 20.06 (1.06) <.01 | 20.06 (1.06) <.01 | 20.01 (1.06) <.01 | 20.52 (1.17) <.01 |
| b | Var (Level) | 12.24 (0.66) <.01 | 11.08 (0.64) <.01 | 10.93 (0.63) <.01 | 11.11 (0.67) <.01 |
| b | Var (Slope) | 0.28 (0.06) <.01 | 0.27 (0.06) <.01 | 0.27 (0.06) <.01 | 0.29 (0.06) <.01 |
| b | Var (Residual) | 5.71 (0.20) <.01 | 5.70 (0.20) <.01 | 5.68 (0.20) <.01 | 5.67 (0.20) <.01 |
| a | Covar (Level, Slope) | -1.87 (1.08) .08 | -1.63 (1.02) .11 | -1.45 (1.00) .15 | -1.30 (1.08) .22 |
| b | Covar (Level, Slope) | 0.08 (0.14) .59 | 0.01 (0.14) .94 | 0.01 (0.14) .93 | -0.05 (0.15) .75 |
|  | Correlation of Levels | 0.069 | 0.021 | -0.014 | 0.0042 |
|  | Correlation of Slopes | 0.197 | 0.262 | 0.276 | 0.2113 |
|  | Correlation of Residuals | 0.034 | 0.032 | 0.032 | 0.0466 |
|  | N | 1,029 | 1,029 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -19,671 | -19,612 | -19,516 | -17,661 |
|  | AIC | 39,384 | 39,275 | 39,090 | 35,403 |
|  | BIC | 39,488 | 39,398 | 39,233 | 35,602 |

## logic\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 2.35 (1.48) .11 | 0.67 (1.37) .63 | -0.38 (1.32) .78 | -0.09 (1.40) .95 |
| ab | Covar (Slopes) | 0.16 (0.09) .07 | 0.18 (0.09) .04 | 0.18 (0.09) .04 | 0.16 (0.09) .08 |
| ab | Covar (Residuals) | -0.08 (0.29) .79 | -0.09 (0.29) .76 | -0.10 (0.29) .74 | 0.02 (0.31) .94 |
| er | Corr (Levels) | 0.07 (0.04) .11 | 0.02 (0.04) .63 | -0.01 (0.04) .78 | -0.00 (0.04) .95 |
| er | Corr (Slopes) | 0.33 (0.19) .08 | 0.39 (0.20) .05 | 0.40 (0.20) .04 | 0.37 (0.21) .08 |
| er | Corr (Residuals) | -0.01 (0.03) .79 | -0.01 (0.03) .76 | -0.01 (0.03) .74 | 0.00 (0.03) .94 |
| a | Level | 47.50 (0.60) <.01 | 43.62 (1.14) <.01 | 44.41 (1.14) <.01 | 44.90 (1.36) <.01 |
| a | Slope | -0.94 (0.13) <.01 | -0.48 (0.29) .10 | -0.48 (0.29) .10 | -0.45 (0.34) .18 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.50 (4.85) <.01 | 38.18 (5.06) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.29 (0.74) .69 |
| a | Level \* cardio | --- | --- | --- | -0.16 (1.09) .89 |
| a | Level \* diabetes | --- | --- | --- | -0.45 (0.98) .65 |
| a | Slope \* age | -0.01 (0.01) .34 | -0.01 (0.01) .30 | -0.01 (0.01) .31 | -0.01 (0.01) .31 |
| a | Slope \* education | --- | -0.06 (0.03) .06 | -0.06 (0.03) .06 | -0.06 (0.04) .08 |
| a | Slope \* height | --- | --- | -0.54 (1.30) .68 | -0.38 (1.41) .79 |
| a | Slope \* smoking | --- | --- | --- | 0.10 (0.18) .59 |
| a | Slope \* cardio | --- | --- | --- | 0.11 (0.24) .67 |
| a | Slope \* diabetes | --- | --- | --- | -0.04 (0.23) .87 |
| b | Level | 12.76 (0.18) <.01 | 10.22 (0.32) <.01 | 10.31 (0.32) <.01 | 10.31 (0.42) <.01 |
| b | Slope | 0.34 (0.05) <.01 | 0.24 (0.10) .02 | 0.24 (0.10) .02 | 0.30 (0.12) .01 |
| b | Level \* age | -0.11 (0.02) <.01 | -0.10 (0.01) <.01 | -0.10 (0.02) <.01 | -0.10 (0.02) <.01 |
| b | Level \* education | --- | 0.33 (0.04) <.01 | 0.32 (0.04) <.01 | 0.33 (0.04) <.01 |
| b | Level \* height | --- | --- | 4.86 (1.66) <.01 | 4.28 (1.65) .01 |
| b | Level \* smoking | --- | --- | --- | -0.11 (0.25) .66 |
| b | Level \* cardio | --- | --- | --- | -0.10 (0.40) .80 |
| b | Level \* diabetes | --- | --- | --- | 0.03 (0.31) .93 |
| b | Slope \* age | -0.01 (0.00) .13 | -0.01 (0.00) .15 | -0.01 (0.00) .14 | -0.01 (0.00) .05 |
| b | Slope \* education | --- | 0.01 (0.01) .25 | 0.01 (0.01) .26 | 0.01 (0.01) .52 |
| b | Slope \* height | --- | --- | 0.16 (0.49) .75 | 0.15 (0.52) .77 |
| b | Slope \* smoking | --- | --- | --- | -0.10 (0.07) .20 |
| b | Slope \* cardio | --- | --- | --- | -0.03 (0.12) .79 |
| b | Slope \* diabetes | --- | --- | --- | 0.21 (0.09) .02 |
| a | Var (Level) | 108.14 (6.37) <.01 | 105.74 (6.25) <.01 | 98.35 (5.99) <.01 | 96.53 (6.29) <.01 |
| a | Var (Slope) | 0.90 (0.31) <.01 | 0.86 (0.30) <.01 | 0.84 (0.30) <.01 | 0.86 (0.33) .01 |
| a | Var (Residual) | 20.07 (1.06) <.01 | 20.07 (1.06) <.01 | 20.03 (1.05) <.01 | 20.56 (1.17) <.01 |
| b | Var (Level) | 11.19 (0.63) <.01 | 10.12 (0.61) <.01 | 10.01 (0.60) <.01 | 10.12 (0.63) <.01 |
| b | Var (Slope) | 0.25 (0.06) <.01 | 0.24 (0.06) <.01 | 0.24 (0.06) <.01 | 0.23 (0.06) <.01 |
| b | Var (Residual) | 5.64 (0.20) <.01 | 5.63 (0.20) <.01 | 5.63 (0.20) <.01 | 5.60 (0.21) <.01 |
| a | Covar (Level, Slope) | -1.89 (1.07) .08 | -1.65 (1.02) .11 | -1.46 (1.00) .14 | -1.30 (1.07) .22 |
| b | Covar (Level, Slope) | -0.24 (0.14) .09 | -0.27 (0.14) .05 | -0.28 (0.14) .04 | -0.30 (0.14) .04 |
|  | Correlation of Levels | 0.0674 | 0.0205 | -0.0120 | -0.0028 |
|  | Correlation of Slopes | 0.3314 | 0.3917 | 0.4024 | 0.3693 |
|  | Correlation of Residuals | -0.0071 | -0.0084 | -0.0091 | 0.0022 |
|  | N | 1,029 | 1,029 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -19,590 | -19,531 | -19,440 | -17,573 |
|  | AIC | 39,221 | 39,113 | 38,938 | 35,228 |
|  | BIC | 39,325 | 39,236 | 39,081 | 35,426 |

## matrices

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 4.35 (0.99) <.01 | 2.76 (0.91) <.01 | 1.81 (0.88) .04 | 1.72 (0.92) .06 |
| ab | Covar (Slopes) | 0.09 (0.06) .16 | 0.09 (0.06) .12 | 0.09 (0.06) .13 | 0.07 (0.06) .27 |
| ab | Covar (Residuals) | -0.10 (0.23) .66 | -0.12 (0.23) .60 | -0.12 (0.23) .61 | -0.10 (0.25) .69 |
| er | Corr (Levels) | 0.20 (0.04) <.01 | 0.15 (0.05) <.01 | 0.10 (0.05) .04 | 0.10 (0.05) .06 |
| er | Corr (Slopes) | 0.38 (0.28) .17 | 0.42 (0.28) .13 | 0.42 (0.29) .14 | 0.30 (0.27) .26 |
| er | Corr (Residuals) | -0.01 (0.03) .66 | -0.01 (0.03) .60 | -0.01 (0.03) .61 | -0.01 (0.03) .69 |
| a | Level | 47.51 (0.60) <.01 | 43.62 (1.14) <.01 | 44.42 (1.14) <.01 | 44.89 (1.36) <.01 |
| a | Slope | -0.94 (0.13) <.01 | -0.49 (0.29) .10 | -0.49 (0.30) .10 | -0.47 (0.34) .17 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.30 (0.13) .03 |
| a | Level \* height | --- | --- | 40.47 (4.86) <.01 | 38.18 (5.05) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.29 (0.74) .69 |
| a | Level \* cardio | --- | --- | --- | -0.11 (1.09) .92 |
| a | Level \* diabetes | --- | --- | --- | -0.44 (0.98) .65 |
| a | Slope \* age | -0.01 (0.01) .33 | -0.01 (0.01) .29 | -0.01 (0.01) .30 | -0.01 (0.01) .26 |
| a | Slope \* education | --- | -0.06 (0.03) .06 | -0.06 (0.03) .07 | -0.06 (0.04) .09 |
| a | Slope \* height | --- | --- | -0.44 (1.31) .74 | -0.14 (1.43) .92 |
| a | Slope \* smoking | --- | --- | --- | 0.08 (0.18) .64 |
| a | Slope \* cardio | --- | --- | --- | 0.10 (0.25) .68 |
| a | Slope \* diabetes | --- | --- | --- | -0.06 (0.23) .78 |
| b | Level | 12.31 (0.13) <.01 | 9.80 (0.23) <.01 | 9.92 (0.23) <.01 | 10.12 (0.27) <.01 |
| b | Slope | 0.03 (0.03) .39 | 0.01 (0.07) .86 | 0.01 (0.07) .85 | 0.05 (0.09) .61 |
| b | Level \* age | -0.07 (0.01) <.01 | -0.06 (0.01) <.01 | -0.05 (0.01) <.01 | -0.05 (0.01) <.01 |
| b | Level \* education | --- | 0.33 (0.02) <.01 | 0.31 (0.02) <.01 | 0.30 (0.02) <.01 |
| b | Level \* height | --- | --- | 4.96 (1.10) <.01 | 4.95 (1.20) <.01 |
| b | Level \* smoking | --- | --- | --- | 0.03 (0.16) .85 |
| b | Level \* cardio | --- | --- | --- | -0.45 (0.25) .07 |
| b | Level \* diabetes | --- | --- | --- | -0.13 (0.21) .52 |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) .01 | -0.01 (0.00) .01 |
| b | Slope \* education | --- | 0.00 (0.01) .79 | 0.00 (0.01) .84 | 0.00 (0.01) .98 |
| b | Slope \* height | --- | --- | 0.29 (0.36) .42 | 0.28 (0.39) .48 |
| b | Slope \* smoking | --- | --- | --- | -0.04 (0.05) .44 |
| b | Slope \* cardio | --- | --- | --- | -0.00 (0.09) .99 |
| b | Slope \* diabetes | --- | --- | --- | 0.00 (0.07) .94 |
| a | Var (Level) | 108.17 (6.38) <.01 | 105.91 (6.27) <.01 | 98.55 (6.00) <.01 | 96.66 (6.30) <.01 |
| a | Var (Slope) | 0.91 (0.31) <.01 | 0.88 (0.30) <.01 | 0.86 (0.30) <.01 | 0.89 (0.34) .01 |
| a | Var (Residual) | 20.04 (1.06) <.01 | 20.02 (1.06) <.01 | 19.98 (1.06) <.01 | 20.49 (1.17) <.01 |
| b | Var (Level) | 4.27 (0.31) <.01 | 3.20 (0.27) <.01 | 3.06 (0.27) <.01 | 2.93 (0.26) <.01 |
| b | Var (Slope) | 0.06 (0.03) .06 | 0.05 (0.03) .07 | 0.05 (0.03) .08 | 0.06 (0.03) .04 |
| b | Var (Residual) | 3.12 (0.18) <.01 | 3.11 (0.18) <.01 | 3.12 (0.18) <.01 | 3.04 (0.18) <.01 |
| a | Covar (Level, Slope) | -1.85 (1.08) .09 | -1.63 (1.03) .12 | -1.47 (1.01) .15 | -1.27 (1.08) .24 |
| b | Covar (Level, Slope) | -0.07 (0.08) .35 | -0.07 (0.07) .33 | -0.07 (0.07) .32 | -0.08 (0.07) .28 |
|  | Correlation of Levels | 0.202 | 0.150 | 0.104 | 0.102 |
|  | Correlation of Slopes | 0.381 | 0.427 | 0.425 | 0.305 |
|  | Correlation of Residuals | -0.013 | -0.015 | -0.015 | -0.012 |
|  | N | 1,013 | 1,013 | 1,010 | 920 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -17,577 | -17,456 | -17,376 | -15,655 |
|  | AIC | 35,196 | 34,963 | 34,809 | 31,393 |
|  | BIC | 35,299 | 35,086 | 34,952 | 31,590 |

## mmse

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 0.94 (0.58) .10 | 0.20 (0.53) .71 | -0.01 (0.53) .98 | 0.31 (0.55) .57 |
| ab | Covar (Slopes) | 0.12 (0.06) .05 | 0.12 (0.06) .06 | 0.11 (0.06) .08 | 0.12 (0.07) .07 |
| ab | Covar (Residuals) | 0.14 (0.14) .34 | 0.13 (0.14) .35 | 0.14 (0.14) .33 | 0.12 (0.15) .43 |
| er | Corr (Levels) | 0.09 (0.05) .10 | 0.02 (0.05) .71 | -0.00 (0.06) .98 | 0.03 (0.06) .57 |
| er | Corr (Slopes) | 0.56 (0.21) .01 | 0.55 (0.22) .01 | 0.53 (0.22) .02 | 0.55 (0.23) .01 |
| er | Corr (Residuals) | 0.02 (0.03) .34 | 0.02 (0.03) .35 | 0.02 (0.03) .33 | 0.02 (0.03) .43 |
| a | Level | 47.52 (0.60) <.01 | 43.63 (1.14) <.01 | 44.42 (1.14) <.01 | 44.92 (1.35) <.01 |
| a | Slope | -0.97 (0.13) <.01 | -0.55 (0.29) .06 | -0.55 (0.29) .06 | -0.54 (0.34) .11 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.34 (4.83) <.01 | 38.21 (5.06) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.26 (0.74) .72 |
| a | Level \* cardio | --- | --- | --- | -0.12 (1.10) .91 |
| a | Level \* diabetes | --- | --- | --- | -0.46 (0.98) .64 |
| a | Slope \* age | -0.01 (0.01) .38 | -0.01 (0.01) .33 | -0.01 (0.01) .34 | -0.01 (0.01) .34 |
| a | Slope \* education | --- | -0.06 (0.03) .08 | -0.06 (0.03) .08 | -0.06 (0.04) .10 |
| a | Slope \* height | --- | --- | -0.28 (1.30) .83 | -0.08 (1.42) .95 |
| a | Slope \* smoking | --- | --- | --- | 0.12 (0.18) .50 |
| a | Slope \* cardio | --- | --- | --- | 0.10 (0.24) .70 |
| a | Slope \* diabetes | --- | --- | --- | -0.04 (0.22) .85 |
| b | Level | 28.80 (0.07) <.01 | 27.71 (0.14) <.01 | 27.77 (0.14) <.01 | 27.81 (0.16) <.01 |
| b | Slope | -0.03 (0.02) .14 | 0.06 (0.06) .29 | 0.06 (0.06) .30 | 0.06 (0.07) .38 |
| b | Level \* age | -0.05 (0.01) <.01 | -0.05 (0.01) <.01 | -0.05 (0.01) <.01 | -0.05 (0.01) <.01 |
| b | Level \* education | --- | 0.14 (0.01) <.01 | 0.14 (0.01) <.01 | 0.14 (0.02) <.01 |
| b | Level \* height | --- | --- | 0.95 (0.66) .15 | 0.80 (0.71) .26 |
| b | Level \* smoking | --- | --- | --- | -0.01 (0.09) .89 |
| b | Level \* cardio | --- | --- | --- | -0.11 (0.13) .41 |
| b | Level \* diabetes | --- | --- | --- | 0.00 (0.13) .99 |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) .01 | -0.00 (0.00) .03 |
| b | Slope \* education | --- | -0.01 (0.01) .07 | -0.01 (0.01) .06 | -0.01 (0.01) .06 |
| b | Slope \* height | --- | --- | 0.19 (0.26) .47 | 0.06 (0.26) .82 |
| b | Slope \* smoking | --- | --- | --- | 0.02 (0.04) .60 |
| b | Slope \* cardio | --- | --- | --- | -0.02 (0.06) .74 |
| b | Slope \* diabetes | --- | --- | --- | 0.07 (0.05) .12 |
| a | Var (Level) | 108.13 (6.37) <.01 | 105.83 (6.26) <.01 | 98.54 (6.00) <.01 | 96.73 (6.30) <.01 |
| a | Var (Slope) | 0.89 (0.30) <.01 | 0.86 (0.29) <.01 | 0.85 (0.29) <.01 | 0.85 (0.32) .01 |
| a | Var (Residual) | 20.08 (1.06) <.01 | 20.07 (1.05) <.01 | 20.03 (1.05) <.01 | 20.56 (1.17) <.01 |
| b | Var (Level) | 1.11 (0.14) <.01 | 0.92 (0.12) <.01 | 0.87 (0.12) <.01 | 0.87 (0.13) <.01 |
| b | Var (Slope) | 0.05 (0.03) .09 | 0.05 (0.03) .10 | 0.05 (0.03) .11 | 0.06 (0.03) .08 |
| b | Var (Residual) | 1.53 (0.07) <.01 | 1.53 (0.07) <.01 | 1.53 (0.07) <.01 | 1.51 (0.07) <.01 |
| a | Covar (Level, Slope) | -1.85 (1.07) .08 | -1.64 (1.02) .11 | -1.50 (1.00) .13 | -1.31 (1.06) .22 |
| b | Covar (Level, Slope) | -0.01 (0.04) .82 | 0.01 (0.04) .87 | 0.02 (0.04) .69 | -0.01 (0.04) .84 |
|  | Correlation of Levels | 0.086 | 0.020 | -0.0013 | 0.033 |
|  | Correlation of Slopes | 0.566 | 0.553 | 0.5344 | 0.552 |
|  | Correlation of Residuals | 0.025 | 0.024 | 0.0251 | 0.021 |
|  | N | 1,030 | 1,030 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -16,672 | -16,610 | -16,517 | -14,920 |
|  | AIC | 33,386 | 33,270 | 33,092 | 29,921 |
|  | BIC | 33,490 | 33,394 | 33,235 | 30,120 |

## nart

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 2.28 (0.90) .01 | 0.55 (0.74) .46 | -0.14 (0.70) .84 | -0.17 (0.73) .82 |
| ab | Covar (Slopes) | 0.03 (0.03) .39 | 0.03 (0.03) .35 | 0.03 (0.03) .33 | 0.03 (0.03) .30 |
| ab | Covar (Residuals) | -0.02 (0.10) .81 | -0.03 (0.10) .79 | -0.03 (0.10) .76 | -0.08 (0.11) .49 |
| er | Corr (Levels) | 0.10 (0.04) .01 | 0.03 (0.04) .46 | -0.01 (0.04) .84 | -0.01 (0.04) .82 |
| er | Corr (Slopes) | 0.20 (0.25) .41 | 0.23 (0.27) .38 | 0.24 (0.27) .37 | 0.26 (0.27) .33 |
| er | Corr (Residuals) | -0.01 (0.03) .81 | -0.01 (0.03) .79 | -0.01 (0.03) .76 | -0.02 (0.03) .49 |
| a | Level | 47.50 (0.60) <.01 | 43.65 (1.14) <.01 | 44.44 (1.14) <.01 | 44.92 (1.36) <.01 |
| a | Slope | -0.92 (0.13) <.01 | -0.47 (0.29) .11 | -0.48 (0.29) .11 | -0.47 (0.34) .16 |
| a | Level \* age | -0.68 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.57 (4.86) <.01 | 38.27 (5.06) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.29 (0.74) .70 |
| a | Level \* cardio | --- | --- | --- | -0.13 (1.10) .90 |
| a | Level \* diabetes | --- | --- | --- | -0.45 (0.98) .65 |
| a | Slope \* age | -0.01 (0.01) .30 | -0.01 (0.01) .27 | -0.01 (0.01) .27 | -0.01 (0.01) .26 |
| a | Slope \* education | --- | -0.06 (0.03) .06 | -0.06 (0.03) .06 | -0.06 (0.04) .09 |
| a | Slope \* height | --- | --- | -0.58 (1.29) .66 | -0.39 (1.41) .78 |
| a | Slope \* smoking | --- | --- | --- | 0.11 (0.18) .56 |
| a | Slope \* cardio | --- | --- | --- | 0.10 (0.24) .69 |
| a | Slope \* diabetes | --- | --- | --- | -0.06 (0.23) .81 |
| b | Level | 7.58 (0.12) <.01 | 4.96 (0.21) <.01 | 5.07 (0.21) <.01 | 5.36 (0.24) <.01 |
| b | Slope | 0.03 (0.02) .07 | 0.04 (0.04) .37 | 0.04 (0.04) .39 | 0.02 (0.05) .73 |
| b | Level \* age | 0.04 (0.01) <.01 | 0.05 (0.01) <.01 | 0.05 (0.01) <.01 | 0.04 (0.01) <.01 |
| b | Level \* education | --- | 0.34 (0.02) <.01 | 0.33 (0.02) <.01 | 0.31 (0.02) <.01 |
| b | Level \* height | --- | --- | 3.63 (0.96) <.01 | 3.20 (1.02) <.01 |
| b | Level \* smoking | --- | --- | --- | 0.05 (0.13) .70 |
| b | Level \* cardio | --- | --- | --- | 0.25 (0.19) .19 |
| b | Level \* diabetes | --- | --- | --- | -0.50 (0.19) .01 |
| b | Slope \* age | -0.00 (0.00) .13 | -0.00 (0.00) .12 | -0.00 (0.00) .14 | -0.00 (0.00) .26 |
| b | Slope \* education | --- | 0.00 (0.00) .94 | 0.00 (0.00) .96 | 0.00 (0.00) .85 |
| b | Slope \* height | --- | --- | 0.02 (0.17) .92 | 0.08 (0.19) .68 |
| b | Slope \* smoking | --- | --- | --- | 0.04 (0.02) .10 |
| b | Slope \* cardio | --- | --- | --- | -0.04 (0.04) .29 |
| b | Slope \* diabetes | --- | --- | --- | -0.03 (0.04) .43 |
| a | Var (Level) | 108.38 (6.40) <.01 | 105.93 (6.28) <.01 | 98.54 (6.01) <.01 | 96.64 (6.30) <.01 |
| a | Var (Slope) | 0.90 (0.30) <.01 | 0.86 (0.30) <.01 | 0.85 (0.30) <.01 | 0.87 (0.34) .01 |
| a | Var (Residual) | 20.08 (1.06) <.01 | 20.07 (1.06) <.01 | 20.02 (1.06) <.01 | 20.55 (1.17) <.01 |
| b | Var (Level) | 4.70 (0.27) <.01 | 3.53 (0.20) <.01 | 3.38 (0.19) <.01 | 3.22 (0.20) <.01 |
| b | Var (Slope) | 0.02 (0.01) .04 | 0.02 (0.01) .04 | 0.02 (0.01) .04 | 0.02 (0.01) .06 |
| b | Var (Residual) | 0.70 (0.04) <.01 | 0.70 (0.04) <.01 | 0.70 (0.04) <.01 | 0.67 (0.04) <.01 |
| a | Covar (Level, Slope) | -1.97 (1.07) .07 | -1.69 (1.02) .10 | -1.50 (1.00) .13 | -1.33 (1.07) .21 |
| b | Covar (Level, Slope) | -0.04 (0.04) .23 | -0.04 (0.03) .21 | -0.04 (0.03) .23 | -0.03 (0.03) .38 |
|  | Correlation of Levels | 0.1011 | 0.0284 | -0.0078 | -0.0096 |
|  | Correlation of Slopes | 0.2069 | 0.2344 | 0.2444 | 0.2717 |
|  | Correlation of Residuals | -0.0067 | -0.0072 | -0.0086 | -0.0204 |
|  | N | 1,027 | 1,027 | 1,022 | 932 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -15,966 | -15,821 | -15,728 | -14,166 |
|  | AIC | 31,974 | 31,693 | 31,513 | 28,415 |
|  | BIC | 32,078 | 31,816 | 31,656 | 28,613 |

## num\_comp

Gender = *female*; Process (a) = *grip*; Process (b) = *num\_comp*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 7.19 (2.75) .01 | 4.12 (2.59) .11 | 1.73 (2.45) .48 | 1.98 (2.50) .43 |
| ab | Covar (Slopes) | 0.08 (0.12) .54 | 0.06 (0.13) .66 | 0.05 (0.12) .69 | -0.02 (0.13) .88 |
| ab | Covar (Residuals) | 0.32 (0.43) .46 | 0.33 (0.43) .44 | 0.34 (0.43) .43 | 0.57 (0.46) .22 |
| er | Corr (Levels) | 0.11 (0.04) .01 | 0.07 (0.04) .11 | 0.03 (0.04) .48 | 0.04 (0.04) .43 |
| er | Corr (Slopes) | 0.14 (0.22) .54 | 0.10 (0.23) .66 | 0.09 (0.23) .69 | -0.04 (0.24) .88 |
| er | Corr (Residuals) | 0.02 (0.02) .46 | 0.02 (0.02) .44 | 0.02 (0.02) .43 | 0.03 (0.03) .22 |
| a | Level | 47.50 (0.60) <.01 | 43.66 (1.14) <.01 | 44.44 (1.14) <.01 | 44.92 (1.35) <.01 |
| a | Slope | -0.95 (0.13) <.01 | -0.51 (0.30) .08 | -0.52 (0.30) .08 | -0.49 (0.34) .14 |
| a | Level \* age | -0.68 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.48 (4.86) <.01 | 38.20 (5.06) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.28 (0.74) .70 |
| a | Level \* cardio | --- | --- | --- | -0.09 (1.09) .93 |
| a | Level \* diabetes | --- | --- | --- | -0.45 (0.98) .65 |
| a | Slope \* age | -0.01 (0.01) .32 | -0.01 (0.01) .29 | -0.01 (0.01) .29 | -0.01 (0.01) .27 |
| a | Slope \* education | --- | -0.06 (0.03) .07 | -0.06 (0.03) .08 | -0.06 (0.04) .10 |
| a | Slope \* height | --- | --- | -0.46 (1.31) .72 | -0.25 (1.42) .86 |
| a | Slope \* smoking | --- | --- | --- | 0.10 (0.18) .61 |
| a | Slope \* cardio | --- | --- | --- | 0.09 (0.24) .71 |
| a | Slope \* diabetes | --- | --- | --- | -0.06 (0.23) .78 |
| b | Level | 26.65 (0.35) <.01 | 22.29 (0.66) <.01 | 22.64 (0.66) <.01 | 23.29 (0.77) <.01 |
| b | Slope | 0.11 (0.07) .12 | 0.26 (0.14) .06 | 0.27 (0.14) .06 | 0.39 (0.17) .02 |
| b | Level \* age | -0.19 (0.03) <.01 | -0.18 (0.03) <.01 | -0.17 (0.03) <.01 | -0.17 (0.03) <.01 |
| b | Level \* education | --- | 0.57 (0.07) <.01 | 0.53 (0.07) <.01 | 0.50 (0.08) <.01 |
| b | Level \* height | --- | --- | 11.24 (3.14) <.01 | 11.40 (3.37) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.36 (0.44) .41 |
| b | Level \* cardio | --- | --- | --- | -0.48 (0.69) .49 |
| b | Level \* diabetes | --- | --- | --- | -0.32 (0.60) .59 |
| b | Slope \* age | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 |
| b | Slope \* education | --- | -0.02 (0.02) .23 | -0.02 (0.02) .18 | -0.03 (0.02) .12 |
| b | Slope \* height | --- | --- | 0.84 (0.76) .27 | 1.02 (0.81) .21 |
| b | Slope \* smoking | --- | --- | --- | -0.08 (0.11) .46 |
| b | Slope \* cardio | --- | --- | --- | -0.11 (0.17) .52 |
| b | Slope \* diabetes | --- | --- | --- | -0.05 (0.15) .76 |
| a | Var (Level) | 108.16 (6.38) <.01 | 105.88 (6.28) <.01 | 98.49 (6.00) <.01 | 96.61 (6.30) <.01 |
| a | Var (Slope) | 0.89 (0.31) <.01 | 0.85 (0.30) <.01 | 0.84 (0.30) <.01 | 0.86 (0.34) .01 |
| a | Var (Residual) | 20.07 (1.06) <.01 | 20.06 (1.06) <.01 | 20.02 (1.06) <.01 | 20.55 (1.17) <.01 |
| b | Var (Level) | 37.85 (2.26) <.01 | 34.66 (2.11) <.01 | 33.24 (2.03) <.01 | 32.40 (2.12) <.01 |
| b | Var (Slope) | 0.36 (0.14) .01 | 0.36 (0.14) .01 | 0.35 (0.14) .01 | 0.37 (0.15) .02 |
| b | Var (Residual) | 15.04 (0.76) <.01 | 15.03 (0.76) <.01 | 15.04 (0.76) <.01 | 15.15 (0.82) <.01 |
| a | Covar (Level, Slope) | -1.83 (1.08) .09 | -1.61 (1.03) .12 | -1.44 (1.00) .15 | -1.27 (1.07) .24 |
| b | Covar (Level, Slope) | -0.35 (0.41) .40 | -0.24 (0.41) .55 | -0.22 (0.40) .58 | -0.29 (0.43) .50 |
|  | Correlation of Levels | 0.112 | 0.068 | 0.030 | 0.035 |
|  | Correlation of Slopes | 0.136 | 0.101 | 0.092 | -0.037 |
|  | Correlation of Residuals | 0.018 | 0.019 | 0.019 | 0.032 |
|  | N | 1,029 | 1,029 | 1,024 | 934 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -21,332 | -21,287 | -21,191 | -19,180 |
|  | AIC | 42,706 | 42,625 | 42,439 | 38,443 |
|  | BIC | 42,810 | 42,748 | 42,582 | 38,641 |

## symbol

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 14.13 (3.87) <.01 | 8.15 (3.49) .02 | 5.30 (3.41) .12 | 6.67 (3.50) .06 |
| ab | Covar (Slopes) | 0.17 (0.21) .42 | 0.12 (0.21) .57 | 0.13 (0.21) .53 | 0.07 (0.22) .77 |
| ab | Covar (Residuals) | -0.05 (0.56) .93 | -0.04 (0.56) .95 | -0.13 (0.55) .81 | -0.19 (0.57) .74 |
| er | Corr (Levels) | 0.15 (0.04) <.01 | 0.10 (0.04) .02 | 0.07 (0.04) .12 | 0.09 (0.04) .06 |
| er | Corr (Slopes) | 0.16 (0.20) .42 | 0.12 (0.21) .57 | 0.13 (0.21) .54 | 0.06 (0.22) .77 |
| er | Corr (Residuals) | -0.00 (0.03) .93 | -0.00 (0.03) .95 | -0.01 (0.03) .81 | -0.01 (0.03) .74 |
| a | Level | 47.49 (0.60) <.01 | 43.62 (1.14) <.01 | 44.42 (1.14) <.01 | 44.90 (1.36) <.01 |
| a | Slope | -0.95 (0.13) <.01 | -0.52 (0.30) .08 | -0.52 (0.30) .08 | -0.49 (0.34) .15 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.30 (0.13) .03 |
| a | Level \* height | --- | --- | 40.49 (4.86) <.01 | 38.17 (5.07) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.28 (0.74) .71 |
| a | Level \* cardio | --- | --- | --- | -0.10 (1.09) .93 |
| a | Level \* diabetes | --- | --- | --- | -0.47 (0.98) .63 |
| a | Slope \* age | -0.01 (0.01) .31 | -0.01 (0.01) .27 | -0.01 (0.01) .27 | -0.01 (0.01) .25 |
| a | Slope \* education | --- | -0.06 (0.03) .08 | -0.06 (0.03) .08 | -0.06 (0.04) .10 |
| a | Slope \* height | --- | --- | -0.41 (1.30) .75 | -0.20 (1.42) .89 |
| a | Slope \* smoking | --- | --- | --- | 0.09 (0.18) .62 |
| a | Slope \* cardio | --- | --- | --- | 0.10 (0.24) .68 |
| a | Slope \* diabetes | --- | --- | --- | -0.05 (0.22) .82 |
| b | Level | 42.77 (0.50) <.01 | 34.20 (0.91) <.01 | 34.69 (0.92) <.01 | 35.72 (1.08) <.01 |
| b | Slope | 0.12 (0.10) .22 | 0.46 (0.21) .03 | 0.49 (0.21) .02 | 0.85 (0.24) <.01 |
| b | Level \* age | -0.40 (0.04) <.01 | -0.38 (0.04) <.01 | -0.36 (0.04) <.01 | -0.38 (0.04) <.01 |
| b | Level \* education | --- | 1.13 (0.09) <.01 | 1.07 (0.09) <.01 | 1.01 (0.10) <.01 |
| b | Level \* height | --- | --- | 14.89 (3.98) <.01 | 16.65 (4.22) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.14 (0.59) .82 |
| b | Level \* cardio | --- | --- | --- | -0.68 (0.89) .45 |
| b | Level \* diabetes | --- | --- | --- | -1.22 (0.81) .14 |
| b | Slope \* age | -0.06 (0.01) <.01 | -0.06 (0.01) <.01 | -0.06 (0.01) <.01 | -0.06 (0.01) <.01 |
| b | Slope \* education | --- | -0.05 (0.02) .06 | -0.05 (0.03) .05 | -0.07 (0.03) .01 |
| b | Slope \* height | --- | --- | 1.28 (1.12) .26 | 1.09 (1.16) .35 |
| b | Slope \* smoking | --- | --- | --- | -0.25 (0.15) .09 |
| b | Slope \* cardio | --- | --- | --- | -0.06 (0.22) .77 |
| b | Slope \* diabetes | --- | --- | --- | -0.08 (0.19) .69 |
| a | Var (Level) | 108.17 (6.38) <.01 | 106.00 (6.28) <.01 | 98.65 (6.01) <.01 | 96.83 (6.32) <.01 |
| a | Var (Slope) | 0.92 (0.31) <.01 | 0.88 (0.30) <.01 | 0.86 (0.30) <.01 | 0.88 (0.34) .01 |
| a | Var (Residual) | 20.03 (1.05) <.01 | 20.02 (1.05) <.01 | 19.98 (1.05) <.01 | 20.50 (1.16) <.01 |
| b | Var (Level) | 78.85 (4.80) <.01 | 66.42 (4.16) <.01 | 64.65 (4.15) <.01 | 62.41 (4.28) <.01 |
| b | Var (Slope) | 1.17 (0.32) <.01 | 1.16 (0.31) <.01 | 1.15 (0.31) <.01 | 1.18 (0.33) <.01 |
| b | Var (Residual) | 22.57 (1.21) <.01 | 22.55 (1.21) <.01 | 22.53 (1.21) <.01 | 21.98 (1.28) <.01 |
| a | Covar (Level, Slope) | -1.84 (1.08) .09 | -1.64 (1.03) .11 | -1.49 (1.01) .14 | -1.35 (1.07) .21 |
| b | Covar (Level, Slope) | 0.63 (0.84) .46 | 1.11 (0.79) .16 | 1.02 (0.78) .19 | 0.78 (0.82) .34 |
|  | Correlation of Levels | 0.1530 | 0.0971 | 0.0664 | 0.086 |
|  | Correlation of Slopes | 0.1641 | 0.1171 | 0.1295 | 0.065 |
|  | Correlation of Residuals | -0.0022 | -0.0016 | -0.0063 | -0.009 |
|  | N | 1,028 | 1,028 | 1,024 | 934 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -22,321 | -22,242 | -22,153 | -20,002 |
|  | AIC | 44,685 | 44,535 | 44,363 | 40,085 |
|  | BIC | 44,789 | 44,658 | 44,506 | 40,283 |

## word\_de

Gender = *female*; Process (a) = *grip*; Process (b) = *word\_de*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 3.60 (0.75) <.01 | 2.84 (0.71) <.01 | 2.36 (0.67) <.01 | 2.66 (0.69) <.01 |
| ab | Covar (Slopes) | 0.07 (0.04) .09 | 0.07 (0.04) .07 | 0.08 (0.04) .05 | 0.08 (0.04) .05 |
| ab | Covar (Residuals) | 0.06 (0.15) .71 | 0.06 (0.15) .70 | 0.03 (0.15) .84 | 0.02 (0.16) .88 |
| er | Corr (Levels) | 0.20 (0.04) <.01 | 0.17 (0.04) <.01 | 0.15 (0.04) <.01 | 0.17 (0.04) <.01 |
| er | Corr (Slopes) | 0.34 (0.21) .10 | 0.38 (0.22) .08 | 0.42 (0.22) .06 | 0.46 (0.26) .07 |
| er | Corr (Residuals) | 0.01 (0.03) .71 | 0.01 (0.03) .70 | 0.00 (0.03) .84 | 0.00 (0.03) .88 |
| a | Level | 47.48 (0.60) <.01 | 43.58 (1.14) <.01 | 44.38 (1.14) <.01 | 44.83 (1.36) <.01 |
| a | Slope | -0.95 (0.13) <.01 | -0.51 (0.30) .09 | -0.51 (0.30) .09 | -0.48 (0.34) .16 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.52 (0.12) <.01 | 0.38 (0.12) <.01 | 0.30 (0.13) .02 |
| a | Level \* height | --- | --- | 40.25 (4.84) <.01 | 37.95 (5.05) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.30 (0.74) .69 |
| a | Level \* cardio | --- | --- | --- | -0.13 (1.09) .90 |
| a | Level \* diabetes | --- | --- | --- | -0.45 (0.98) .65 |
| a | Slope \* age | -0.01 (0.01) .32 | -0.01 (0.01) .29 | -0.01 (0.01) .31 | -0.01 (0.01) .29 |
| a | Slope \* education | --- | -0.06 (0.03) .07 | -0.06 (0.03) .07 | -0.06 (0.04) .09 |
| a | Slope \* height | --- | --- | -0.36 (1.29) .78 | -0.15 (1.41) .91 |
| a | Slope \* smoking | --- | --- | --- | 0.09 (0.18) .61 |
| a | Slope \* cardio | --- | --- | --- | 0.10 (0.24) .69 |
| a | Slope \* diabetes | --- | --- | --- | -0.05 (0.22) .81 |
| b | Level | 6.48 (0.09) <.01 | 5.34 (0.18) <.01 | 5.42 (0.17) <.01 | 5.45 (0.21) <.01 |
| b | Slope | 0.14 (0.02) <.01 | 0.12 (0.05) .02 | 0.12 (0.05) .02 | 0.15 (0.06) .01 |
| b | Level \* age | -0.07 (0.01) <.01 | -0.07 (0.01) <.01 | -0.06 (0.01) <.01 | -0.06 (0.01) <.01 |
| b | Level \* education | --- | 0.15 (0.02) <.01 | 0.14 (0.02) <.01 | 0.14 (0.02) <.01 |
| b | Level \* height | --- | --- | 2.39 (0.87) .01 | 2.05 (0.88) .02 |
| b | Level \* smoking | --- | --- | --- | -0.20 (0.13) .12 |
| b | Level \* cardio | --- | --- | --- | -0.33 (0.21) .12 |
| b | Level \* diabetes | --- | --- | --- | 0.16 (0.16) .31 |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 |
| b | Slope \* education | --- | 0.00 (0.01) .60 | 0.00 (0.01) .67 | 0.00 (0.01) .75 |
| b | Slope \* height | --- | --- | 0.27 (0.28) .34 | 0.23 (0.29) .42 |
| b | Slope \* smoking | --- | --- | --- | -0.02 (0.04) .64 |
| b | Slope \* cardio | --- | --- | --- | 0.01 (0.06) .91 |
| b | Slope \* diabetes | --- | --- | --- | -0.05 (0.04) .25 |
| a | Var (Level) | 108.25 (6.39) <.01 | 105.91 (6.28) <.01 | 98.53 (6.01) <.01 | 96.68 (6.30) <.01 |
| a | Var (Slope) | 0.88 (0.31) <.01 | 0.84 (0.30) <.01 | 0.83 (0.30) .01 | 0.84 (0.33) .01 |
| a | Var (Residual) | 20.07 (1.06) <.01 | 20.06 (1.06) <.01 | 20.02 (1.06) <.01 | 20.56 (1.17) <.01 |
| b | Var (Level) | 2.91 (0.19) <.01 | 2.69 (0.18) <.01 | 2.63 (0.18) <.01 | 2.59 (0.18) <.01 |
| b | Var (Slope) | 0.04 (0.02) <.01 | 0.04 (0.02) <.01 | 0.04 (0.02) <.01 | 0.04 (0.02) .02 |
| b | Var (Residual) | 1.75 (0.07) <.01 | 1.75 (0.07) <.01 | 1.75 (0.07) <.01 | 1.76 (0.08) <.01 |
| a | Covar (Level, Slope) | -1.77 (1.08) .10 | -1.54 (1.03) .13 | -1.39 (1.01) .17 | -1.21 (1.07) .26 |
| b | Covar (Level, Slope) | -0.00 (0.04) .97 | -0.00 (0.04) .92 | -0.00 (0.04) .90 | 0.02 (0.04) .71 |
|  | Correlation of Levels | 0.2030 | 0.17 | 0.1463 | 0.168 |
|  | Correlation of Slopes | 0.3363 | 0.38 | 0.4241 | 0.464 |
|  | Correlation of Residuals | 0.0098 | 0.01 | 0.0052 | 0.004 |
|  | N | 1,030 | 1,030 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -17,206 | -17,165 | -17,074 | -15,442 |
|  | AIC | 34,453 | 34,380 | 34,206 | 30,965 |
|  | BIC | 34,557 | 34,504 | 34,349 | 31,163 |

## word\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 7.69 (1.47) <.01 | 5.76 (1.35) <.01 | 4.86 (1.27) <.01 | 5.17 (1.34) <.01 |
| ab | Covar (Slopes) | 0.23 (0.09) .01 | 0.22 (0.09) .01 | 0.24 (0.09) .01 | 0.26 (0.10) .01 |
| ab | Covar (Residuals) | 0.25 (0.29) .40 | 0.25 (0.29) .39 | 0.23 (0.29) .42 | 0.21 (0.32) .51 |
| er | Corr (Levels) | 0.22 (0.04) <.01 | 0.18 (0.04) <.01 | 0.16 (0.04) <.01 | 0.17 (0.04) <.01 |
| er | Corr (Slopes) | 0.45 (0.18) .01 | 0.45 (0.18) .01 | 0.49 (0.19) .01 | 0.53 (0.20) .01 |
| er | Corr (Residuals) | 0.02 (0.03) .39 | 0.02 (0.03) .39 | 0.02 (0.03) .42 | 0.02 (0.03) .51 |
| a | Level | 47.45 (0.60) <.01 | 43.60 (1.14) <.01 | 44.40 (1.14) <.01 | 44.88 (1.35) <.01 |
| a | Slope | -0.93 (0.13) <.01 | -0.50 (0.29) .09 | -0.50 (0.29) .09 | -0.47 (0.33) .15 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.32 (4.84) <.01 | 38.10 (5.05) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.27 (0.74) .71 |
| a | Level \* cardio | --- | --- | --- | -0.14 (1.09) .90 |
| a | Level \* diabetes | --- | --- | --- | -0.48 (0.98) .62 |
| a | Slope \* age | -0.01 (0.01) .30 | -0.01 (0.01) .26 | -0.01 (0.01) .29 | -0.01 (0.01) .27 |
| a | Slope \* education | --- | -0.06 (0.03) .07 | -0.06 (0.03) .07 | -0.06 (0.04) .09 |
| a | Slope \* height | --- | --- | -0.35 (1.28) .79 | -0.18 (1.39) .90 |
| a | Slope \* smoking | --- | --- | --- | 0.10 (0.18) .58 |
| a | Slope \* cardio | --- | --- | --- | 0.10 (0.24) .68 |
| a | Slope \* diabetes | --- | --- | --- | -0.06 (0.22) .78 |
| b | Level | 19.36 (0.19) <.01 | 16.51 (0.34) <.01 | 16.68 (0.33) <.01 | 16.82 (0.40) <.01 |
| b | Slope | 0.40 (0.05) <.01 | 0.43 (0.10) <.01 | 0.43 (0.10) <.01 | 0.48 (0.12) <.01 |
| b | Level \* age | -0.13 (0.02) <.01 | -0.12 (0.01) <.01 | -0.12 (0.01) <.01 | -0.11 (0.02) <.01 |
| b | Level \* education | --- | 0.37 (0.04) <.01 | 0.35 (0.04) <.01 | 0.35 (0.04) <.01 |
| b | Level \* height | --- | --- | 4.41 (1.67) .01 | 4.43 (1.81) .01 |
| b | Level \* smoking | --- | --- | --- | -0.49 (0.25) .05 |
| b | Level \* cardio | --- | --- | --- | -0.34 (0.37) .36 |
| b | Level \* diabetes | --- | --- | --- | 0.32 (0.32) .33 |
| b | Slope \* age | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 |
| b | Slope \* education | --- | -0.00 (0.01) .69 | -0.00 (0.01) .67 | -0.00 (0.01) .68 |
| b | Slope \* height | --- | --- | 0.37 (0.53) .49 | 0.12 (0.56) .83 |
| b | Slope \* smoking | --- | --- | --- | -0.00 (0.08) .96 |
| b | Slope \* cardio | --- | --- | --- | -0.13 (0.12) .28 |
| b | Slope \* diabetes | --- | --- | --- | 0.03 (0.10) .77 |
| a | Var (Level) | 108.25 (6.40) <.01 | 105.90 (6.29) <.01 | 98.49 (6.01) <.01 | 96.70 (6.31) <.01 |
| a | Var (Slope) | 0.86 (0.30) <.01 | 0.83 (0.30) <.01 | 0.81 (0.30) .01 | 0.82 (0.33) .01 |
| a | Var (Residual) | 20.10 (1.06) <.01 | 20.09 (1.06) <.01 | 20.06 (1.06) <.01 | 20.60 (1.17) <.01 |
| b | Var (Level) | 11.47 (0.70) <.01 | 10.09 (0.66) <.01 | 9.72 (0.62) <.01 | 9.68 (0.65) <.01 |
| b | Var (Slope) | 0.29 (0.07) <.01 | 0.29 (0.07) <.01 | 0.28 (0.07) <.01 | 0.29 (0.07) <.01 |
| b | Var (Residual) | 5.84 (0.19) <.01 | 5.84 (0.19) <.01 | 5.84 (0.19) <.01 | 5.89 (0.20) <.01 |
| a | Covar (Level, Slope) | -1.75 (1.08) .10 | -1.51 (1.03) .14 | -1.36 (1.01) .17 | -1.20 (1.07) .26 |
| b | Covar (Level, Slope) | 0.01 (0.16) .97 | 0.02 (0.16) .91 | 0.04 (0.15) .78 | 0.09 (0.16) .57 |
|  | Correlation of Levels | 0.218 | 0.176 | 0.157 | 0.169 |
|  | Correlation of Slopes | 0.453 | 0.451 | 0.493 | 0.535 |
|  | Correlation of Residuals | 0.023 | 0.023 | 0.021 | 0.019 |
|  | N | 1,030 | 1,030 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -19,649 | -19,592 | -19,491 | -17,645 |
|  | AIC | 39,339 | 39,234 | 39,040 | 35,371 |
|  | BIC | 39,443 | 39,358 | 39,183 | 35,570 |

## word\_rec

Gender = *female*; Process (a) = *grip*; Process (b) = *word\_rec*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 1.28 (0.33) <.01 | 1.15 (0.32) <.01 | 0.94 (0.26) <.01 | 1.02 (0.28) <.01 |
| ab | Covar (Slopes) | 0.02 (0.02) .42 | 0.02 (0.02) .45 | 0.01 (0.02) .46 | 0.01 (0.02) .49 |
| ab | Covar (Residuals) | -0.02 (0.06) .78 | -0.01 (0.06) .81 | -0.01 (0.06) .85 | -0.04 (0.06) .50 |
| er | Corr (Levels) | 0.17 (0.04) <.01 | 0.15 (0.04) <.01 | 0.14 (0.04) <.01 | 0.15 (0.04) <.01 |
| er | Corr (Slopes) | 0.48 (1.45) .74 | 0.47 (1.43) .74 | 0.51 (1.87) .79 | 0.45 (1.50) .76 |
| er | Corr (Residuals) | -0.01 (0.02) .78 | -0.01 (0.02) .81 | -0.00 (0.02) .85 | -0.02 (0.02) .50 |
| a | Level | 47.48 (0.60) <.01 | 43.62 (1.14) <.01 | 44.42 (1.14) <.01 | 44.91 (1.35) <.01 |
| a | Slope | -0.94 (0.13) <.01 | -0.49 (0.29) .10 | -0.50 (0.29) .09 | -0.48 (0.34) .15 |
| a | Level \* age | -0.69 (0.05) <.01 | -0.68 (0.05) <.01 | -0.62 (0.05) <.01 | -0.61 (0.05) <.01 |
| a | Level \* education | --- | 0.51 (0.12) <.01 | 0.38 (0.12) <.01 | 0.29 (0.13) .03 |
| a | Level \* height | --- | --- | 40.59 (4.87) <.01 | 38.26 (5.05) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.29 (0.74) .70 |
| a | Level \* cardio | --- | --- | --- | -0.10 (1.09) .93 |
| a | Level \* diabetes | --- | --- | --- | -0.46 (0.98) .64 |
| a | Slope \* age | -0.01 (0.01) .36 | -0.01 (0.01) .32 | -0.01 (0.01) .33 | -0.01 (0.01) .31 |
| a | Slope \* education | --- | -0.06 (0.03) .06 | -0.06 (0.03) .07 | -0.06 (0.04) .10 |
| a | Slope \* height | --- | --- | -0.57 (1.30) .66 | -0.34 (1.42) .81 |
| a | Slope \* smoking | --- | --- | --- | 0.09 (0.18) .61 |
| a | Slope \* cardio | --- | --- | --- | 0.09 (0.24) .70 |
| a | Slope \* diabetes | --- | --- | --- | -0.05 (0.23) .84 |
| b | Level | 9.83 (0.03) <.01 | 9.67 (0.07) <.01 | 9.69 (0.07) <.01 | 9.65 (0.09) <.01 |
| b | Slope | 0.02 (0.01) .02 | 0.02 (0.02) .32 | 0.02 (0.02) .34 | 0.02 (0.02) .39 |
| b | Level \* age | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 | -0.01 (0.00) <.01 | -0.02 (0.00) <.01 |
| b | Level \* education | --- | 0.02 (0.01) <.01 | 0.02 (0.01) .01 | 0.02 (0.01) .01 |
| b | Level \* height | --- | --- | 0.52 (0.43) .22 | 0.46 (0.45) .31 |
| b | Level \* smoking | --- | --- | --- | -0.04 (0.05) .47 |
| b | Level \* cardio | --- | --- | --- | -0.10 (0.10) .32 |
| b | Level \* diabetes | --- | --- | --- | 0.09 (0.06) .17 |
| b | Slope \* age | -0.00 (0.00) .22 | -0.00 (0.00) .21 | -0.00 (0.00) .20 | -0.00 (0.00) .19 |
| b | Slope \* education | --- | -0.00 (0.00) .80 | -0.00 (0.00) .81 | -0.00 (0.00) .72 |
| b | Slope \* height | --- | --- | 0.05 (0.10) .57 | 0.03 (0.10) .79 |
| b | Slope \* smoking | --- | --- | --- | 0.01 (0.01) .40 |
| b | Slope \* cardio | --- | --- | --- | -0.00 (0.02) .93 |
| b | Slope \* diabetes | --- | --- | --- | -0.00 (0.02) .78 |
| a | Var (Level) | 108.56 (6.43) <.01 | 106.25 (6.31) <.01 | 98.67 (6.03) <.01 | 96.78 (6.32) <.01 |
| a | Var (Slope) | 0.90 (0.31) <.01 | 0.87 (0.30) <.01 | 0.85 (0.30) <.01 | 0.88 (0.34) .01 |
| a | Var (Residual) | 20.05 (1.06) <.01 | 20.04 (1.06) <.01 | 19.99 (1.06) <.01 | 20.51 (1.17) <.01 |
| b | Var (Level) | 0.53 (0.14) <.01 | 0.53 (0.14) <.01 | 0.46 (0.12) <.01 | 0.49 (0.13) <.01 |
| b | Var (Slope) | 0.00 (0.01) .86 | 0.00 (0.01) .86 | 0.00 (0.01) .88 | 0.00 (0.01) .87 |
| b | Var (Residual) | 0.32 (0.06) <.01 | 0.32 (0.06) <.01 | 0.31 (0.05) <.01 | 0.33 (0.06) <.01 |
| a | Covar (Level, Slope) | -1.91 (1.10) .08 | -1.68 (1.05) .11 | -1.49 (1.02) .15 | -1.31 (1.09) .23 |
| b | Covar (Level, Slope) | -0.01 (0.03) .74 | -0.01 (0.03) .74 | -0.00 (0.03) .91 | -0.00 (0.03) .95 |
|  | Correlation of Levels | 0.1677 | 0.154 | 0.1392 | 0.149 |
|  | Correlation of Slopes | 0.5651 | 0.543 | 0.5136 | 0.507 |
|  | Correlation of Residuals | -0.0068 | -0.006 | -0.0048 | -0.017 |
|  | N | 1,030 | 1,030 | 1,025 | 935 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -13,822 | -13,809 | -13,680 | -12,462 |
|  | AIC | 27,685 | 27,668 | 27,418 | 25,007 |
|  | BIC | 27,789 | 27,791 | 27,561 | 25,205 |

## Summary

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

Computed correlations:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Correlation of Levels | bnt | 0.16 | 0.11 | 0.08 | 0.09 |
| Correlation of Levels | bstory\_de | 0.06 | 0.03 | 0.02 | 0.03 |
| Correlation of Levels | bstory\_im | 0.04 | 0.01 | 0.00 | -0.01 |
| Correlation of Levels | categories | 0.15 | 0.10 | 0.07 | 0.09 |
| Correlation of Levels | digit\_b | 0.15 | 0.11 | 0.07 | 0.08 |
| Correlation of Levels | digit\_f | 0.08 | 0.04 | 0.00 | 0.02 |
| Correlation of Levels | digit\_o | 0.12 | 0.07 | 0.05 | 0.06 |
| Correlation of Levels | ideas | 0.06 | 0.03 | 0.02 | 0.05 |
| Correlation of Levels | line | 0.16 | 0.11 | 0.09 | 0.11 |
| Correlation of Levels | logic\_de | 0.07 | 0.02 | -0.01 | 0.00 |
| Correlation of Levels | logic\_im | 0.07 | 0.02 | -0.01 | -0.00 |
| Correlation of Levels | matrices | 0.20 | 0.15 | 0.10 | 0.10 |
| Correlation of Levels | mmse | 0.09 | 0.02 | -0.00 | 0.03 |
| Correlation of Levels | nart | 0.10 | 0.03 | -0.01 | -0.01 |
| Correlation of Levels | num\_comp | 0.11 | 0.07 | 0.03 | 0.04 |
| Correlation of Levels | symbol | 0.15 | 0.10 | 0.07 | 0.09 |
| Correlation of Levels | word\_de | 0.20 | 0.17 | 0.15 | 0.17 |
| Correlation of Levels | word\_im | 0.22 | 0.18 | 0.16 | 0.17 |
| Correlation of Levels | word\_rec | 0.17 | 0.15 | 0.14 | 0.15 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Correlation of Slopes | bnt | 0.12 | 0.09 | 0.06 | 0.02 |
| Correlation of Slopes | bstory\_de | 0.27 | 0.27 | 0.27 | 0.26 |
| Correlation of Slopes | bstory\_im | 0.26 | 0.30 | 0.31 | 0.11 |
| Correlation of Slopes | categories | 0.28 | 0.30 | 0.30 | 0.23 |
| Correlation of Slopes | digit\_b | 0.32 | 0.33 | 0.32 | 0.31 |
| Correlation of Slopes | digit\_f | 0.40 | 0.40 | 0.38 | 0.47 |
| Correlation of Slopes | digit\_o | 0.60 | 0.64 | 0.64 | 0.60 |
| Correlation of Slopes | ideas | 0.21 | 0.22 | 0.14 | 0.15 |
| Correlation of Slopes | line | 0.62 | 0.61 | 0.62 | 0.73 |
| Correlation of Slopes | logic\_de | 0.20 | 0.26 | 0.28 | 0.21 |
| Correlation of Slopes | logic\_im | 0.33 | 0.39 | 0.40 | 0.37 |
| Correlation of Slopes | matrices | 0.38 | 0.43 | 0.43 | 0.30 |
| Correlation of Slopes | mmse | 0.57 | 0.55 | 0.53 | 0.55 |
| Correlation of Slopes | nart | 0.21 | 0.23 | 0.24 | 0.27 |
| Correlation of Slopes | num\_comp | 0.14 | 0.10 | 0.09 | -0.04 |
| Correlation of Slopes | symbol | 0.16 | 0.12 | 0.13 | 0.06 |
| Correlation of Slopes | word\_de | 0.34 | 0.38 | 0.42 | 0.46 |
| Correlation of Slopes | word\_im | 0.45 | 0.45 | 0.49 | 0.53 |
| Correlation of Slopes | word\_rec | 0.57 | 0.54 | 0.51 | 0.51 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Correlation of Residuals | bnt | -0.02 | -0.02 | -0.02 | -0.01 |
| Correlation of Residuals | bstory\_de | -0.02 | -0.02 | -0.01 | -0.01 |
| Correlation of Residuals | bstory\_im | -0.03 | -0.03 | -0.03 | -0.01 |
| Correlation of Residuals | categories | 0.05 | 0.05 | 0.04 | 0.06 |
| Correlation of Residuals | digit\_b | 0.07 | 0.07 | 0.07 | 0.07 |
| Correlation of Residuals | digit\_f | 0.03 | 0.03 | 0.03 | 0.03 |
| Correlation of Residuals | digit\_o | 0.00 | -0.00 | -0.00 | -0.00 |
| Correlation of Residuals | ideas | 0.01 | 0.01 | 0.01 | 0.01 |
| Correlation of Residuals | line | 0.02 | 0.02 | 0.02 | 0.03 |
| Correlation of Residuals | logic\_de | 0.03 | 0.03 | 0.03 | 0.05 |
| Correlation of Residuals | logic\_im | -0.01 | -0.01 | -0.01 | 0.00 |
| Correlation of Residuals | matrices | -0.01 | -0.02 | -0.01 | -0.01 |
| Correlation of Residuals | mmse | 0.02 | 0.02 | 0.03 | 0.02 |
| Correlation of Residuals | nart | -0.01 | -0.01 | -0.01 | -0.02 |
| Correlation of Residuals | num\_comp | 0.02 | 0.02 | 0.02 | 0.03 |
| Correlation of Residuals | symbol | -0.00 | -0.00 | -0.01 | -0.01 |
| Correlation of Residuals | word\_de | 0.01 | 0.01 | 0.01 | 0.00 |
| Correlation of Residuals | word\_im | 0.02 | 0.02 | 0.02 | 0.02 |
| Correlation of Residuals | word\_rec | -0.01 | -0.01 | -0.00 | -0.02 |

P-values for corresponding covariances:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Covariance of Levels | bnt | 0.00 | 0.01 | 0.06 | 0.05 |
| Covariance of Levels | bstory\_de | 0.21 | 0.63 | 0.70 | 0.61 |
| Covariance of Levels | bstory\_im | 0.41 | 0.89 | 0.98 | 0.80 |
| Covariance of Levels | categories | 0.00 | 0.01 | 0.09 | 0.03 |
| Covariance of Levels | digit\_b | 0.00 | 0.01 | 0.12 | 0.08 |
| Covariance of Levels | digit\_f | 0.06 | 0.34 | 0.91 | 0.68 |
| Covariance of Levels | digit\_o | 0.01 | 0.13 | 0.37 | 0.27 |
| Covariance of Levels | ideas | 0.31 | 0.56 | 0.76 | 0.37 |
| Covariance of Levels | line | 0.00 | 0.02 | 0.07 | 0.04 |
| Covariance of Levels | logic\_de | 0.09 | 0.60 | 0.74 | 0.92 |
| Covariance of Levels | logic\_im | 0.11 | 0.63 | 0.78 | 0.95 |
| Covariance of Levels | matrices | 0.00 | 0.00 | 0.04 | 0.06 |
| Covariance of Levels | mmse | 0.10 | 0.71 | 0.98 | 0.57 |
| Covariance of Levels | nart | 0.01 | 0.46 | 0.84 | 0.82 |
| Covariance of Levels | num\_comp | 0.01 | 0.11 | 0.48 | 0.43 |
| Covariance of Levels | symbol | 0.00 | 0.02 | 0.12 | 0.06 |
| Covariance of Levels | word\_de | 0.00 | 0.00 | 0.00 | 0.00 |
| Covariance of Levels | word\_im | 0.00 | 0.00 | 0.00 | 0.00 |
| Covariance of Levels | word\_rec | 0.00 | 0.00 | 0.00 | 0.00 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Covariance of Slopes | bnt | 0.52 | 0.62 | 0.77 | 0.91 |
| Covariance of Slopes | bstory\_de | 0.24 | 0.24 | 0.24 | 0.31 |
| Covariance of Slopes | bstory\_im | 0.26 | 0.20 | 0.19 | 0.69 |
| Covariance of Slopes | categories | 0.11 | 0.10 | 0.09 | 0.22 |
| Covariance of Slopes | digit\_b | 0.20 | 0.17 | 0.20 | 0.26 |
| Covariance of Slopes | digit\_f | 0.21 | 0.21 | 0.25 | 0.16 |
| Covariance of Slopes | digit\_o | 0.02 | 0.02 | 0.02 | 0.03 |
| Covariance of Slopes | ideas | 0.40 | 0.41 | 0.61 | 0.56 |
| Covariance of Slopes | line | 0.17 | 0.19 | 0.19 | 0.30 |
| Covariance of Slopes | logic\_de | 0.29 | 0.18 | 0.16 | 0.30 |
| Covariance of Slopes | logic\_im | 0.07 | 0.04 | 0.04 | 0.08 |
| Covariance of Slopes | matrices | 0.16 | 0.12 | 0.13 | 0.27 |
| Covariance of Slopes | mmse | 0.05 | 0.06 | 0.08 | 0.07 |
| Covariance of Slopes | nart | 0.39 | 0.35 | 0.33 | 0.30 |
| Covariance of Slopes | num\_comp | 0.54 | 0.66 | 0.69 | 0.88 |
| Covariance of Slopes | symbol | 0.42 | 0.57 | 0.53 | 0.77 |
| Covariance of Slopes | word\_de | 0.09 | 0.07 | 0.05 | 0.05 |
| Covariance of Slopes | word\_im | 0.01 | 0.01 | 0.01 | 0.01 |
| Covariance of Slopes | word\_rec | 0.42 | 0.45 | 0.46 | 0.49 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Covariance of Residuals | bnt | 0.40 | 0.38 | 0.46 | 0.70 |
| Covariance of Residuals | bstory\_de | 0.58 | 0.57 | 0.60 | 0.68 |
| Covariance of Residuals | bstory\_im | 0.32 | 0.31 | 0.30 | 0.66 |
| Covariance of Residuals | categories | 0.07 | 0.08 | 0.09 | 0.03 |
| Covariance of Residuals | digit\_b | 0.01 | 0.01 | 0.01 | 0.02 |
| Covariance of Residuals | digit\_f | 0.23 | 0.25 | 0.23 | 0.36 |
| Covariance of Residuals | digit\_o | 0.97 | 0.99 | 0.88 | 0.94 |
| Covariance of Residuals | ideas | 0.76 | 0.75 | 0.77 | 0.63 |
| Covariance of Residuals | line | 0.45 | 0.44 | 0.42 | 0.29 |
| Covariance of Residuals | logic\_de | 0.21 | 0.23 | 0.24 | 0.10 |
| Covariance of Residuals | logic\_im | 0.79 | 0.76 | 0.74 | 0.94 |
| Covariance of Residuals | matrices | 0.66 | 0.60 | 0.61 | 0.69 |
| Covariance of Residuals | mmse | 0.34 | 0.35 | 0.33 | 0.43 |
| Covariance of Residuals | nart | 0.81 | 0.79 | 0.76 | 0.49 |
| Covariance of Residuals | num\_comp | 0.46 | 0.44 | 0.43 | 0.22 |
| Covariance of Residuals | symbol | 0.93 | 0.95 | 0.81 | 0.74 |
| Covariance of Residuals | word\_de | 0.71 | 0.70 | 0.84 | 0.88 |
| Covariance of Residuals | word\_im | 0.40 | 0.39 | 0.42 | 0.51 |
| Covariance of Residuals | word\_rec | 0.78 | 0.81 | 0.85 | 0.50 |

# male

Gender = *male*; Model type: *aehplus*; Process (a) = *grip*; Process (b): *bnt*, *bstory\_de*, *bstory\_im*, *categories*, *digit\_b*, *digit\_f*, *digit\_o*, *ideas*, *line*, *logic\_de*, *logic\_im*, *matrices*, *mmse*, *nart*, *num\_comp*, *symbol*, *word\_de*, *word\_im*, *word\_rec*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| process | label | bnt | bstory\_de | bstory\_im | categories | digit\_b | digit\_f | digit\_o | ideas | line | logic\_de | logic\_im | matrices | mmse | nart | num\_comp | symbol | word\_de | word\_im | word\_rec | mean(sd) |
| ab | Covar (Levels) | 2.95 (1.26) .02 | 1.82 (1.79) .31 | 2.15 (1.55) .17 | 1.41 (7.82) .86 | 0.58 (2.02) .77 | 1.78 (1.67) .28 | 0.80 (1.59) .61 | 1.04 (0.56) .06 | 1.74 (2.12) .41 | -2.80 (4.09) .49 | -5.23 (3.88) .18 | 1.54 (2.09) .46 | 4.00 (2.30) .08 | 3.38 (1.83) .06 | 3.24 (5.94) .58 | 16.04 (9.44) .09 | -0.57 (1.68) .73 | -0.25 (3.08) .93 | 0.85 (1.00) .40 | --- |
| ab | Covar (Slopes) | 0.05 (0.03) .05 | -0.08 (0.13) .50 | -0.00 (0.10) .96 | 0.35 (0.38) .35 | 0.01 (0.10) .95 | 0.04 (0.08) .61 | -0.04 (0.08) .64 | 0.02 (0.04) .54 | -0.06 (0.14) .68 | -0.05 (0.18) .77 | -0.22 (0.17) .19 | 0.25 (0.11) .02 | 0.30 (0.17) .08 | 0.08 (0.07) .23 | -0.18 (0.31) .56 | 0.60 (0.42) .16 | -0.03 (0.10) .77 | -0.13 (0.16) .41 | 0.03 (0.06) .60 | --- |
| ab | Covar (Residuals) | 0.12 (0.15) .42 | 0.41 (0.43) .34 | 0.07 (0.37) .85 | -0.90 (1.22) .46 | 0.91 (0.34) .01 | 0.05 (0.36) .88 | 0.00 (0.28) .99 | -0.11 (0.08) .14 | -0.26 (0.51) .60 | 0.60 (0.60) .32 | 0.57 (0.67) .40 | -0.20 (0.54) .71 | 0.01 (0.41) .98 | -0.14 (0.27) .60 | 0.67 (0.92) .47 | -0.24 (1.11) .83 | -0.12 (0.31) .70 | 0.95 (0.68) .16 | -0.07 (0.22) .76 | --- |
| er | Corr (Levels) | 0.19 (0.05) <.01 | 0.10 (0.09) .30 | 0.14 (0.10) .16 | 0.01 (0.07) .86 | 0.02 (0.09) .77 | 0.08 (0.08) .28 | 0.05 (0.10) .61 | 0.16 (0.05) <.01 | 0.06 (0.07) .41 | -0.06 (0.08) .49 | -0.12 (0.09) .17 | 0.06 (0.08) .45 | 0.17 (0.07) .01 | 0.12 (0.06) .06 | 0.04 (0.07) .58 | 0.13 (0.07) .07 | -0.02 (0.07) .73 | -0.01 (0.08) .93 | 0.06 (0.07) .38 | --- |
| er | Corr (Slopes) | 0.73 (0.18) <.01 | -0.55 (0.51) .28 | -0.03 (0.64) .96 | 0.25 (0.28) .36 | 0.03 (0.44) .95 | 0.25 (0.51) .62 | -0.35 (0.78) .66 | 0.10 (0.15) .51 | -0.18 (0.42) .68 | -0.07 (0.23) .77 | -0.48 (0.38) .22 | 0.75 (0.12) <.01 | 0.69 (0.23) <.01 | 0.38 (0.33) .25 | -0.21 (0.35) .54 | 0.49 (0.32) .13 | -0.12 (0.42) .78 | -0.34 (0.38) .38 | 0.11 (0.21) .60 | --- |
| er | Corr (Residuals) | 0.03 (0.04) .42 | 0.04 (0.05) .34 | 0.01 (0.04) .85 | -0.04 (0.05) .46 | 0.13 (0.05) <.01 | 0.01 (0.05) .88 | 0.00 (0.04) .99 | -0.05 (0.03) .13 | -0.03 (0.05) .60 | 0.04 (0.04) .32 | 0.04 (0.05) .40 | -0.02 (0.05) .71 | 0.00 (0.05) .98 | -0.03 (0.06) .59 | 0.03 (0.04) .47 | -0.01 (0.04) .83 | -0.02 (0.04) .71 | 0.07 (0.05) .16 | -0.02 (0.06) .76 | --- |
| a | Level | 77.42 (2.75) <.01 | 77.34 (2.75) <.01 | 77.33 (2.74) <.01 | 77.26 (2.73) <.01 | 77.32 (2.72) <.01 | 77.28 (2.74) <.01 | 77.35 (2.74) <.01 | 77.16 (2.74) <.01 | 77.30 (2.74) <.01 | 77.30 (2.73) <.01 | 77.32 (2.73) <.01 | 77.30 (2.74) <.01 | 77.09 (2.74) <.01 | 77.23 (2.74) <.01 | 77.29 (2.75) <.01 | 77.27 (2.74) <.01 | 77.22 (2.75) <.01 | 77.23 (2.74) <.01 | 77.45 (2.76) <.01 | 77.29(0.08) |
| a | Slope | -1.97 (0.77) .01 | -2.00 (0.76) .01 | -1.97 (0.76) .01 | -1.98 (0.75) .01 | -1.92 (0.75) .01 | -1.94 (0.76) .01 | -1.98 (0.75) .01 | -1.92 (0.77) .01 | -1.96 (0.76) .01 | -1.97 (0.76) .01 | -1.98 (0.75) .01 | -1.93 (0.76) .01 | -1.97 (0.77) .01 | -1.92 (0.75) .01 | -2.00 (0.75) .01 | -1.99 (0.74) .01 | -1.97 (0.77) .01 | -1.96 (0.76) .01 | -2.01 (0.76) .01 | -1.96(0.03) |
| a | Level \* age | -0.97 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.97 (0.12) <.01 | -0.97 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96 (0.12) <.01 | -0.96(0.00) |
| a | Level \* education | 0.10 (0.25) .69 | 0.10 (0.25) .67 | 0.10 (0.25) .67 | 0.10 (0.25) .67 | 0.11 (0.25) .66 | 0.10 (0.25) .68 | 0.10 (0.25) .68 | 0.11 (0.25) .66 | 0.10 (0.25) .67 | 0.10 (0.25) .68 | 0.10 (0.25) .69 | 0.10 (0.25) .67 | 0.13 (0.25) .61 | 0.12 (0.25) .64 | 0.11 (0.25) .67 | 0.12 (0.25) .64 | 0.11 (0.25) .67 | 0.11 (0.25) .65 | 0.09 (0.25) .71 | 0.11(0.01) |
| a | Level \* height | 88.34 (10.63) <.01 | 88.30 (10.63) <.01 | 88.16 (10.62) <.01 | 88.53 (10.63) <.01 | 89.21 (10.64) <.01 | 88.87 (10.64) <.01 | 88.80 (10.61) <.01 | 88.56 (10.66) <.01 | 88.78 (10.65) <.01 | 88.85 (10.63) <.01 | 89.23 (10.61) <.01 | 88.78 (10.64) <.01 | 88.39 (10.60) <.01 | 88.59 (10.60) <.01 | 88.51 (10.61) <.01 | 87.87 (10.65) <.01 | 88.31 (10.66) <.01 | 88.33 (10.66) <.01 | 89.26 (10.67) <.01 | 88.61(0.37) |
| a | Level \* smoking | 0.85 (1.82) .64 | 0.81 (1.81) .66 | 0.81 (1.81) .66 | 0.85 (1.82) .64 | 0.79 (1.82) .66 | 0.84 (1.82) .64 | 0.82 (1.82) .65 | 0.92 (1.82) .61 | 0.84 (1.82) .65 | 0.87 (1.82) .63 | 0.88 (1.82) .63 | 0.85 (1.82) .64 | 0.82 (1.81) .65 | 0.78 (1.82) .67 | 0.86 (1.82) .64 | 0.74 (1.82) .68 | 0.90 (1.82) .62 | 0.83 (1.82) .65 | 0.82 (1.82) .65 | 0.84(0.04) |
| a | Level \* cardio | -3.59 (2.25) .11 | -3.70 (2.26) .10 | -3.73 (2.26) .10 | -3.65 (2.26) .11 | -3.69 (2.25) .10 | -3.65 (2.26) .11 | -3.68 (2.26) .10 | -3.61 (2.25) .11 | -3.73 (2.25) .10 | -3.62 (2.27) .11 | -3.60 (2.27) .11 | -3.64 (2.26) .11 | -3.58 (2.24) .11 | -3.68 (2.26) .10 | -3.72 (2.26) .10 | -3.73 (2.27) .10 | -3.60 (2.26) .11 | -3.63 (2.27) .11 | -3.76 (2.26) .10 | -3.66(0.05) |
| a | Level \* diabetes | -3.11 (2.18) .15 | -3.09 (2.18) .16 | -3.08 (2.18) .16 | -2.97 (2.18) .17 | -3.12 (2.18) .15 | -3.01 (2.18) .17 | -3.08 (2.19) .16 | -2.98 (2.19) .17 | -3.06 (2.19) .16 | -3.05 (2.19) .16 | -2.96 (2.20) .18 | -3.06 (2.18) .16 | -3.08 (2.18) .16 | -3.09 (2.18) .16 | -3.06 (2.18) .16 | -3.04 (2.19) .16 | -2.96 (2.19) .18 | -2.95 (2.19) .18 | -3.13 (2.20) .15 | -3.05(0.06) |
| a | Slope \* age | -0.04 (0.04) .21 | -0.04 (0.03) .19 | -0.05 (0.03) .18 | -0.05 (0.03) .16 | -0.05 (0.04) .17 | -0.05 (0.03) .17 | -0.05 (0.04) .18 | -0.05 (0.04) .17 | -0.05 (0.03) .18 | -0.04 (0.03) .19 | -0.04 (0.03) .19 | -0.04 (0.04) .22 | -0.04 (0.04) .28 | -0.04 (0.03) .19 | -0.05 (0.04) .18 | -0.05 (0.04) .14 | -0.05 (0.04) .18 | -0.04 (0.04) .20 | -0.04 (0.03) .19 | -0.05(0.00) |
| a | Slope \* education | 0.06 (0.06) .30 | 0.06 (0.06) .28 | 0.06 (0.06) .29 | 0.07 (0.06) .26 | 0.06 (0.06) .31 | 0.06 (0.06) .32 | 0.06 (0.06) .28 | 0.06 (0.06) .31 | 0.06 (0.06) .28 | 0.07 (0.06) .28 | 0.07 (0.06) .26 | 0.06 (0.06) .37 | 0.06 (0.06) .32 | 0.06 (0.06) .33 | 0.07 (0.06) .27 | 0.06 (0.06) .31 | 0.06 (0.06) .28 | 0.06 (0.06) .32 | 0.07 (0.06) .27 | 0.06(0.00) |
| a | Slope \* height | -1.33 (2.89) .64 | -1.17 (2.90) .69 | -1.25 (2.93) .67 | -1.14 (2.91) .70 | -1.71 (2.90) .56 | -1.28 (2.95) .66 | -1.10 (2.91) .70 | -1.19 (2.91) .68 | -1.42 (2.92) .63 | -1.54 (2.92) .60 | -1.63 (2.91) .58 | -1.09 (2.94) .71 | -1.75 (2.94) .55 | -1.36 (2.87) .64 | -1.29 (2.91) .66 | -1.36 (2.90) .64 | -1.18 (2.95) .69 | -1.13 (2.92) .70 | -1.50 (2.93) .61 | -1.34(0.20) |
| a | Slope \* smoking | 0.11 (0.43) .80 | 0.12 (0.44) .79 | 0.10 (0.44) .81 | 0.10 (0.43) .81 | 0.09 (0.43) .83 | 0.10 (0.44) .82 | 0.09 (0.43) .83 | 0.09 (0.44) .84 | 0.12 (0.44) .78 | 0.11 (0.44) .81 | 0.12 (0.44) .79 | 0.13 (0.44) .76 | 0.14 (0.44) .75 | 0.19 (0.43) .66 | 0.10 (0.43) .81 | 0.10 (0.43) .83 | 0.08 (0.44) .86 | 0.08 (0.44) .86 | 0.12 (0.44) .78 | 0.11(0.03) |
| a | Slope \* cardio | 0.45 (0.49) .36 | 0.51 (0.49) .30 | 0.53 (0.49) .28 | 0.48 (0.49) .33 | 0.53 (0.49) .29 | 0.52 (0.49) .28 | 0.50 (0.49) .30 | 0.48 (0.49) .32 | 0.54 (0.48) .27 | 0.53 (0.49) .28 | 0.50 (0.49) .31 | 0.50 (0.49) .31 | 0.46 (0.48) .35 | 0.50 (0.49) .30 | 0.52 (0.49) .29 | 0.50 (0.49) .31 | 0.47 (0.49) .34 | 0.50 (0.49) .30 | 0.55 (0.49) .27 | 0.50(0.03) |
| a | Slope \* diabetes | 0.44 (0.46) .33 | 0.46 (0.45) .31 | 0.47 (0.45) .30 | 0.39 (0.45) .39 | 0.52 (0.45) .25 | 0.46 (0.45) .30 | 0.46 (0.45) .31 | 0.48 (0.46) .30 | 0.48 (0.46) .29 | 0.47 (0.46) .30 | 0.48 (0.46) .29 | 0.40 (0.46) .38 | 0.40 (0.45) .38 | 0.47 (0.45) .30 | 0.48 (0.45) .28 | 0.37 (0.45) .41 | 0.43 (0.45) .34 | 0.42 (0.44) .35 | 0.50 (0.45) .27 | 0.45(0.04) |
| b | Level | 13.74 (0.28) <.01 | 8.68 (0.37) <.01 | 9.17 (0.32) <.01 | 31.22 (1.49) <.01 | 4.73 (0.34) <.01 | 7.01 (0.30) <.01 | 6.89 (0.25) <.01 | 7.72 (0.09) <.01 | 10.30 (0.50) <.01 | 7.58 (0.84) <.01 | 9.25 (0.79) <.01 | 10.99 (0.46) <.01 | 27.36 (0.32) <.01 | 5.08 (0.41) <.01 | 21.20 (1.29) <.01 | 35.63 (1.92) <.01 | 4.81 (0.37) <.01 | 15.43 (0.69) <.01 | 9.38 (0.20) <.01 | --- |
| b | Slope | 0.05 (0.05) .33 | -0.04 (0.12) .71 | -0.06 (0.12) .58 | -0.06 (0.39) .87 | 0.11 (0.10) .24 | 0.14 (0.10) .15 | -0.04 (0.08) .62 | -0.00 (0.04) .97 | -0.02 (0.14) .91 | 0.17 (0.23) .47 | 0.22 (0.20) .27 | 0.06 (0.16) .69 | -0.01 (0.12) .90 | 0.12 (0.08) .15 | 0.34 (0.32) .28 | -0.17 (0.43) .69 | 0.09 (0.11) .41 | 0.18 (0.20) .38 | 0.08 (0.06) .23 | --- |
| b | Level \* age | -0.03 (0.01) .08 | -0.06 (0.01) <.01 | -0.04 (0.01) <.01 | -0.29 (0.06) <.01 | -0.03 (0.02) .04 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.01 (0.01) .28 | -0.02 (0.02) .38 | -0.12 (0.03) <.01 | -0.13 (0.03) <.01 | -0.07 (0.02) <.01 | -0.08 (0.02) <.01 | 0.01 (0.02) .54 | -0.18 (0.06) <.01 | -0.46 (0.07) <.01 | -0.10 (0.01) <.01 | -0.15 (0.03) <.01 | -0.04 (0.01) <.01 | --- |
| b | Level \* education | 0.06 (0.02) .01 | 0.12 (0.03) <.01 | 0.09 (0.03) <.01 | 0.54 (0.12) <.01 | 0.20 (0.03) <.01 | 0.20 (0.02) <.01 | 0.10 (0.02) <.01 | 0.02 (0.01) .07 | 0.21 (0.05) <.01 | 0.27 (0.07) <.01 | 0.28 (0.07) <.01 | 0.24 (0.04) <.01 | 0.14 (0.03) <.01 | 0.31 (0.04) <.01 | 0.53 (0.11) <.01 | 0.86 (0.16) <.01 | 0.14 (0.03) <.01 | 0.30 (0.06) <.01 | 0.04 (0.02) .01 | --- |
| b | Level \* height | 2.95 (1.05) <.01 | 0.68 (1.51) .65 | 1.67 (1.31) .20 | 12.17 (6.09) .05 | 0.45 (1.46) .76 | 0.36 (1.43) .80 | 2.91 (1.11) .01 | 0.83 (0.41) .04 | 5.35 (2.28) .02 | 2.17 (3.01) .47 | 3.83 (2.94) .19 | 9.20 (2.21) <.01 | 3.03 (1.30) .02 | 2.75 (1.67) .10 | 16.76 (5.10) <.01 | 22.13 (6.41) <.01 | 1.60 (1.36) .24 | 2.00 (2.29) .38 | 0.84 (0.74) .25 | --- |
| b | Level \* smoking | 0.04 (0.15) .79 | -0.01 (0.21) .97 | 0.17 (0.18) .35 | -0.88 (0.92) .34 | 0.15 (0.21) .49 | 0.43 (0.21) .04 | -0.02 (0.16) .92 | -0.07 (0.07) .35 | -0.85 (0.30) <.01 | -0.05 (0.43) .91 | 0.06 (0.41) .88 | -0.50 (0.28) .07 | -0.09 (0.24) .71 | 0.17 (0.24) .47 | -0.61 (0.78) .43 | -0.85 (1.07) .43 | -0.21 (0.22) .35 | -0.27 (0.37) .46 | -0.21 (0.14) .13 | --- |
| b | Level \* cardio | 0.11 (0.15) .47 | 0.23 (0.24) .33 | 0.20 (0.22) .35 | 0.35 (1.03) .74 | 0.25 (0.22) .27 | 0.22 (0.23) .34 | 0.20 (0.19) .28 | 0.08 (0.07) .27 | -0.00 (0.35) .99 | 0.68 (0.49) .17 | 0.59 (0.48) .21 | 0.60 (0.31) .05 | 0.28 (0.27) .30 | -0.02 (0.27) .95 | 0.57 (0.85) .51 | 0.85 (1.13) .45 | 0.23 (0.24) .35 | 0.23 (0.41) .58 | 0.10 (0.16) .54 | --- |
| b | Level \* diabetes | 0.11 (0.12) .38 | 0.05 (0.24) .85 | 0.03 (0.21) .89 | -0.17 (1.06) .88 | 0.04 (0.23) .84 | -0.14 (0.23) .54 | -0.19 (0.17) .27 | -0.02 (0.07) .81 | -0.35 (0.34) .31 | 0.66 (0.47) .15 | 0.55 (0.45) .22 | -0.06 (0.33) .86 | 0.02 (0.21) .94 | -0.08 (0.25) .76 | 1.38 (0.86) .11 | 0.05 (1.25) .97 | 0.24 (0.26) .35 | 0.38 (0.44) .38 | 0.25 (0.14) .06 | --- |
| b | Slope \* age | 0.00 (0.00) .44 | 0.01 (0.01) .31 | 0.01 (0.00) .19 | -0.04 (0.02) .03 | -0.00 (0.00) .31 | -0.00 (0.00) .79 | -0.00 (0.00) .20 | 0.00 (0.00) .11 | 0.00 (0.01) .82 | -0.01 (0.01) .12 | -0.00 (0.01) .76 | -0.01 (0.01) .26 | -0.00 (0.01) .59 | -0.00 (0.00) .22 | -0.03 (0.01) .01 | -0.05 (0.02) <.01 | 0.00 (0.00) .84 | -0.00 (0.01) .93 | 0.00 (0.00) .88 | --- |
| b | Slope \* education | -0.00 (0.00) .47 | -0.01 (0.01) .37 | -0.01 (0.01) .29 | -0.00 (0.04) .92 | -0.00 (0.01) .55 | -0.01 (0.01) .17 | 0.01 (0.01) .37 | -0.00 (0.00) .35 | 0.00 (0.01) .98 | 0.02 (0.02) .39 | -0.00 (0.02) .96 | -0.01 (0.01) .60 | -0.01 (0.01) .53 | -0.01 (0.01) .36 | -0.05 (0.03) .07 | 0.02 (0.04) .57 | -0.00 (0.01) .70 | 0.01 (0.02) .60 | -0.00 (0.01) .45 | --- |
| b | Slope \* height | -0.33 (0.17) .06 | 0.93 (0.47) .05 | 0.17 (0.44) .71 | 1.77 (1.53) .25 | 0.70 (0.41) .08 | 0.11 (0.41) .78 | 0.06 (0.33) .84 | -0.16 (0.14) .28 | 0.98 (0.57) .09 | 0.55 (0.86) .53 | 0.17 (0.77) .82 | -0.31 (0.80) .70 | 0.01 (0.55) .99 | 0.10 (0.27) .71 | 0.26 (1.10) .82 | 2.28 (1.60) .15 | 0.25 (0.46) .58 | 0.04 (0.77) .96 | -0.33 (0.24) .17 | --- |
| b | Slope \* smoking | 0.00 (0.03) .94 | -0.07 (0.07) .34 | -0.10 (0.07) .15 | 0.17 (0.23) .47 | -0.02 (0.06) .70 | -0.08 (0.06) .16 | -0.00 (0.05) .97 | 0.04 (0.03) .15 | 0.00 (0.09) .95 | 0.07 (0.13) .59 | 0.02 (0.12) .85 | 0.14 (0.09) .12 | -0.02 (0.08) .79 | 0.02 (0.04) .61 | 0.27 (0.18) .14 | 0.09 (0.23) .71 | -0.06 (0.07) .37 | -0.05 (0.12) .70 | -0.01 (0.04) .73 | --- |
| b | Slope \* cardio | -0.02 (0.03) .60 | 0.07 (0.08) .38 | 0.05 (0.08) .53 | 0.15 (0.29) .61 | -0.02 (0.07) .76 | -0.08 (0.07) .23 | -0.02 (0.06) .66 | -0.01 (0.02) .71 | 0.12 (0.12) .32 | 0.23 (0.15) .13 | 0.06 (0.15) .70 | 0.02 (0.11) .85 | 0.10 (0.08) .21 | 0.04 (0.05) .40 | -0.14 (0.19) .47 | 0.15 (0.27) .59 | 0.08 (0.07) .23 | 0.13 (0.14) .35 | 0.07 (0.04) .11 | --- |
| b | Slope \* diabetes | 0.00 (0.03) .97 | -0.00 (0.08) .95 | 0.05 (0.08) .55 | -0.33 (0.27) .23 | -0.05 (0.06) .45 | 0.01 (0.06) .81 | -0.03 (0.05) .52 | 0.00 (0.03) .98 | 0.05 (0.10) .58 | -0.08 (0.15) .60 | -0.16 (0.14) .25 | -0.04 (0.10) .67 | 0.06 (0.08) .43 | -0.06 (0.05) .28 | -0.21 (0.18) .26 | -0.23 (0.28) .40 | -0.10 (0.07) .14 | -0.16 (0.13) .21 | -0.03 (0.04) .43 | --- |
| a | Var (Level) | 217.71 (25.42) <.01 | 218.17 (25.63) <.01 | 217.82 (25.61) <.01 | 217.34 (25.55) <.01 | 217.34 (25.52) <.01 | 217.79 (25.56) <.01 | 217.78 (25.56) <.01 | 218.11 (25.58) <.01 | 217.67 (25.54) <.01 | 217.40 (25.52) <.01 | 217.62 (25.56) <.01 | 217.56 (25.59) <.01 | 216.88 (25.41) <.01 | 218.25 (25.54) <.01 | 218.02 (25.61) <.01 | 217.79 (25.64) <.01 | 217.78 (25.58) <.01 | 217.78 (25.64) <.01 | 217.77 (25.60) <.01 | 217.71(0.33) |
| a | Var (Slope) | 2.26 (0.86) .01 | 2.29 (0.86) .01 | 2.23 (0.86) .01 | 2.25 (0.86) .01 | 2.22 (0.85) .01 | 2.23 (0.86) .01 | 2.25 (0.87) .01 | 2.26 (0.87) .01 | 2.27 (0.87) .01 | 2.24 (0.86) .01 | 2.31 (0.87) .01 | 2.35 (0.79) <.01 | 2.29 (0.86) .01 | 2.30 (0.86) .01 | 2.21 (0.87) .01 | 2.23 (0.85) .01 | 2.24 (0.87) .01 | 2.15 (0.83) .01 | 2.27 (0.88) .01 | 2.26(0.04) |
| a | Var (Residual) | 32.24 (2.87) <.01 | 32.15 (2.88) <.01 | 32.27 (2.91) <.01 | 32.23 (2.89) <.01 | 32.27 (2.90) <.01 | 32.27 (2.90) <.01 | 32.25 (2.90) <.01 | 32.23 (2.90) <.01 | 32.24 (2.90) <.01 | 32.28 (2.91) <.01 | 32.17 (2.90) <.01 | 32.11 (2.82) <.01 | 32.33 (2.85) <.01 | 32.26 (2.90) <.01 | 32.31 (2.91) <.01 | 32.34 (2.89) <.01 | 32.28 (2.91) <.01 | 32.37 (2.89) <.01 | 32.21 (2.91) <.01 | 32.25(0.06) |
| b | Var (Level) | 1.07 (0.51) .04 | 1.69 (0.33) <.01 | 1.07 (0.23) <.01 | 55.02 (6.33) <.01 | 2.54 (0.27) <.01 | 2.15 (0.26) <.01 | 1.20 (0.23) <.01 | 0.20 (0.15) .19 | 4.47 (0.56) <.01 | 10.73 (1.09) <.01 | 8.49 (0.99) <.01 | 3.14 (0.45) <.01 | 2.48 (1.49) .10 | 3.56 (0.40) <.01 | 35.12 (3.29) <.01 | 71.24 (7.28) <.01 | 2.46 (0.31) <.01 | 6.35 (0.85) <.01 | 0.91 (0.24) <.01 | --- |
| b | Var (Slope) | 0.00 (0.00) .17 | 0.01 (0.03) .72 | 0.01 (0.03) .74 | 0.86 (0.39) .02 | 0.02 (0.02) .28 | 0.01 (0.02) .56 | 0.00 (0.01) .75 | 0.03 (0.02) .23 | 0.04 (0.04) .23 | 0.29 (0.10) <.01 | 0.09 (0.09) .31 | 0.04 (0.02) .06 | 0.08 (0.07) .22 | 0.02 (0.02) .21 | 0.35 (0.26) .18 | 0.67 (0.41) .10 | 0.03 (0.02) .20 | 0.07 (0.05) .19 | 0.03 (0.02) .07 | --- |
| b | Var (Residual) | 0.38 (0.04) <.01 | 2.72 (0.21) <.01 | 2.23 (0.15) <.01 | 20.31 (1.30) <.01 | 1.57 (0.09) <.01 | 1.51 (0.09) <.01 | 1.19 (0.07) <.01 | 0.18 (0.05) <.01 | 3.28 (0.30) <.01 | 5.54 (0.37) <.01 | 6.39 (0.37) <.01 | 3.13 (0.32) <.01 | 1.93 (0.17) <.01 | 0.74 (0.10) <.01 | 13.74 (1.64) <.01 | 20.00 (1.61) <.01 | 1.68 (0.12) <.01 | 6.04 (0.33) <.01 | 0.45 (0.08) <.01 | --- |
| a | Covar (Level, Slope) | -6.34 (3.39) .06 | -6.29 (3.47) .07 | -6.22 (3.48) .07 | -5.92 (3.50) .09 | -6.00 (3.45) .08 | -6.22 (3.47) .07 | -6.21 (3.52) .08 | -6.31 (3.48) .07 | -6.27 (3.45) .07 | -6.20 (3.42) .07 | -6.28 (3.42) .07 | -6.20 (3.38) .07 | -6.03 (3.43) .08 | -6.53 (3.46) .06 | -6.26 (3.45) .07 | -5.66 (3.44) .10 | -6.16 (3.50) .08 | -5.98 (3.50) .09 | -6.21 (3.45) .07 | -6.17(0.19) |
| b | Covar (Level, Slope) | -0.04 (0.03) .23 | -0.02 (0.11) .86 | -0.01 (0.08) .87 | -1.20 (1.22) .33 | -0.03 (0.06) .59 | -0.02 (0.06) .72 | 0.01 (0.05) .91 | -0.06 (0.05) .22 | -0.21 (0.12) .08 | -0.31 (0.26) .22 | 0.04 (0.22) .87 | -0.07 (0.10) .44 | -0.26 (0.30) .39 | -0.15 (0.07) .04 | -0.15 (0.81) .85 | 1.35 (1.37) .32 | 0.01 (0.07) .91 | 0.28 (0.20) .16 | -0.10 (0.05) .05 | --- |
|  | Correlation of Levels | 0.193 | 0.095 | 0.1414 | 0.013 | 0.025 | 0.0822 | 0.04940 | 0.159 | 0.056 | -0.058 | -0.12 | 0.059 | 0.1723 | 0.121 | 0.037 | 0.1287 | -0.025 | -0.0068 | 0.060 | 0.06(0.08) |
|  | Correlation of Slopes | 0.773 | -0.561 | -0.0319 | 0.254 | 0.031 | 0.2505 | -0.34861 | 0.103 | -0.175 | -0.067 | -0.48 | 0.756 | 0.6926 | 0.378 | -0.211 | 0.4895 | -0.120 | -0.3398 | 0.111 | 0.08(0.40) |
|  | Correlation of Residuals | 0.034 | 0.044 | 0.0081 | -0.035 | 0.128 | 0.0076 | 0.00049 | -0.046 | -0.026 | 0.045 | 0.04 | -0.020 | 0.0014 | -0.029 | 0.032 | -0.0093 | -0.016 | 0.0680 | -0.018 | 0.01(0.04) |
|  | N | 321 | 321 | 321 | 321 | 321 | 321 | 321 | 321 | 321 | 321 | 321 | 308 | 321 | 321 | 321 | 321 | 321 | 321 | 321 | 320.32(2.98) |
|  | occasions | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -4,749 | -5,775 | -5,630 | -7,214 | -5,566 | -5,523 | -5,310 | -4,177 | -5,949 | -6,379 | -6,398 | -5,694 | -5,649 | -5,236 | -6,923 | -7,201 | -5,597 | -6,329 | -4,838 | -5,797( 806) |
|  | AIC | 9,579 | 11,632 | 11,342 | 14,510 | 11,213 | 11,129 | 10,701 | 8,436 | 11,980 | 12,841 | 12,877 | 11,470 | 11,381 | 10,554 | 13,928 | 14,485 | 11,277 | 12,740 | 9,759 | 11,675(1,611) |
|  | BIC | 9,734 | 11,787 | 11,496 | 14,665 | 11,368 | 11,283 | 10,856 | 8,590 | 12,134 | 12,995 | 13,032 | 11,622 | 11,535 | 10,709 | 14,082 | 14,640 | 11,432 | 12,895 | 9,914 | 11,830(1,611) |

## bnt

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 5.11 (1.56) <.01 | 4.49 (1.44) <.01 | 3.04 (1.20) .01 | 2.95 (1.26) .02 |
| ab | Covar (Slopes) | 0.05 (0.05) .32 | 0.06 (0.05) .27 | 0.06 (0.05) .25 | 0.05 (0.03) .05 |
| ab | Covar (Residuals) | 0.09 (0.16) .57 | 0.10 (0.16) .56 | 0.09 (0.16) .59 | 0.12 (0.15) .42 |
| er | Corr (Levels) | 0.27 (0.06) <.01 | 0.25 (0.06) <.01 | 0.19 (0.05) <.01 | 0.19 (0.05) <.01 |
| er | Corr (Slopes) | 0.47 (0.38) .21 | 0.55 (0.33) .09 | 0.62 (0.30) .04 | 0.73 (0.18) <.01 |
| er | Corr (Residuals) | 0.02 (0.04) .58 | 0.03 (0.04) .56 | 0.02 (0.04) .59 | 0.03 (0.04) .42 |
| a | Level | 79.87 (1.74) <.01 | 74.50 (2.94) <.01 | 76.26 (2.57) <.01 | 77.42 (2.75) <.01 |
| a | Slope | -1.40 (0.37) <.01 | -1.72 (0.59) <.01 | -1.67 (0.60) .01 | -1.97 (0.77) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.01 (0.12) <.01 | -0.97 (0.12) <.01 |
| a | Level \* education | --- | 0.64 (0.27) .02 | 0.17 (0.24) .49 | 0.10 (0.25) .69 |
| a | Level \* height | --- | --- | 86.93 (10.59) <.01 | 88.34 (10.63) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.85 (1.82) .64 |
| a | Level \* cardio | --- | --- | --- | -3.59 (2.25) .11 |
| a | Level \* diabetes | --- | --- | --- | -3.11 (2.18) .15 |
| a | Slope \* age | -0.04 (0.03) .29 | -0.04 (0.03) .23 | -0.05 (0.03) .17 | -0.04 (0.04) .21 |
| a | Slope \* education | --- | 0.04 (0.06) .44 | 0.05 (0.06) .43 | 0.06 (0.06) .30 |
| a | Slope \* height | --- | --- | -1.69 (2.77) .54 | -1.33 (2.89) .64 |
| a | Slope \* smoking | --- | --- | --- | 0.11 (0.43) .80 |
| a | Slope \* cardio | --- | --- | --- | 0.45 (0.49) .36 |
| a | Slope \* diabetes | --- | --- | --- | 0.44 (0.46) .33 |
| b | Level | 14.33 (0.14) <.01 | 13.72 (0.24) <.01 | 13.76 (0.23) <.01 | 13.74 (0.28) <.01 |
| b | Slope | 0.02 (0.02) .28 | 0.06 (0.04) .10 | 0.06 (0.04) .13 | 0.05 (0.05) .33 |
| b | Level \* age | -0.02 (0.01) .08 | -0.03 (0.01) .06 | -0.02 (0.01) .09 | -0.03 (0.01) .08 |
| b | Level \* education | --- | 0.07 (0.02) <.01 | 0.06 (0.02) <.01 | 0.06 (0.02) .01 |
| b | Level \* height | --- | --- | 3.12 (1.05) <.01 | 2.95 (1.05) <.01 |
| b | Level \* smoking | --- | --- | --- | 0.04 (0.15) .79 |
| b | Level \* cardio | --- | --- | --- | 0.11 (0.15) .47 |
| b | Level \* diabetes | --- | --- | --- | 0.11 (0.12) .38 |
| b | Slope \* age | 0.00 (0.00) .61 | 0.00 (0.00) .57 | 0.00 (0.00) .64 | 0.00 (0.00) .44 |
| b | Slope \* education | --- | -0.00 (0.00) .19 | -0.00 (0.00) .35 | -0.00 (0.00) .47 |
| b | Slope \* height | --- | --- | -0.28 (0.17) .10 | -0.33 (0.17) .06 |
| b | Slope \* smoking | --- | --- | --- | 0.00 (0.03) .94 |
| b | Slope \* cardio | --- | --- | --- | -0.02 (0.03) .60 |
| b | Slope \* diabetes | --- | --- | --- | 0.00 (0.03) .97 |
| a | Var (Level) | 264.83 (27.25) <.01 | 259.26 (27.16) <.01 | 217.34 (24.21) <.01 | 217.71 (25.42) <.01 |
| a | Var (Slope) | 3.72 (1.43) .01 | 3.70 (1.42) .01 | 3.77 (1.44) .01 | 2.26 (0.86) .01 |
| a | Var (Residual) | 33.42 (2.85) <.01 | 33.43 (2.84) <.01 | 33.41 (2.85) <.01 | 32.24 (2.87) <.01 |
| b | Var (Level) | 1.35 (0.56) .02 | 1.28 (0.53) .02 | 1.23 (0.52) .02 | 1.07 (0.51) .04 |
| b | Var (Slope) | 0.00 (0.00) .57 | 0.00 (0.00) .52 | 0.00 (0.00) .49 | 0.00 (0.00) .17 |
| b | Var (Residual) | 0.38 (0.03) <.01 | 0.38 (0.03) <.01 | 0.39 (0.03) <.01 | 0.38 (0.04) <.01 |
| a | Covar (Level, Slope) | -9.45 (3.99) .02 | -9.64 (3.99) .02 | -8.75 (3.68) .02 | -6.34 (3.39) .06 |
| b | Covar (Level, Slope) | -0.05 (0.05) .33 | -0.05 (0.05) .34 | -0.04 (0.05) .37 | -0.04 (0.03) .23 |
|  | Correlation of Levels | 0.270 | 0.247 | 0.186 | 0.193 |
|  | Correlation of Slopes | 0.483 | 0.532 | 0.668 | 0.773 |
|  | Correlation of Residuals | 0.025 | 0.026 | 0.024 | 0.034 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -5,238 | -5,227 | -5,160 | -4,749 |
|  | AIC | 10,517 | 10,504 | 10,379 | 9,579 |
|  | BIC | 10,598 | 10,601 | 10,490 | 9,734 |

## bstory\_de

Gender = *male*; Process (a) = *grip*; Process (b) = *bstory\_de*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 3.71 (2.04) .07 | 2.61 (1.97) .18 | 1.79 (1.71) .29 | 1.82 (1.79) .31 |
| ab | Covar (Slopes) | -0.11 (0.10) .30 | -0.10 (0.10) .31 | -0.10 (0.13) .47 | -0.08 (0.13) .50 |
| ab | Covar (Residuals) | 0.38 (0.43) .37 | 0.38 (0.43) .38 | 0.39 (0.44) .38 | 0.41 (0.43) .34 |
| er | Corr (Levels) | 0.17 (0.09) .06 | 0.13 (0.09) .17 | 0.10 (0.09) .29 | 0.10 (0.09) .30 |
| er | Corr (Slopes) | -0.51 (0.36) .16 | -0.50 (0.38) .18 | -0.50 (0.54) .35 | -0.55 (0.51) .28 |
| er | Corr (Residuals) | 0.04 (0.04) .37 | 0.04 (0.04) .37 | 0.04 (0.05) .38 | 0.04 (0.05) .34 |
| a | Level | 79.77 (1.75) <.01 | 74.34 (2.94) <.01 | 76.14 (2.57) <.01 | 77.34 (2.75) <.01 |
| a | Slope | -1.41 (0.37) <.01 | -1.76 (0.59) <.01 | -1.74 (0.60) <.01 | -2.00 (0.76) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.66 (0.27) .01 | 0.18 (0.24) .46 | 0.10 (0.25) .67 |
| a | Level \* height | --- | --- | 86.68 (10.60) <.01 | 88.30 (10.63) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.81 (1.81) .66 |
| a | Level \* cardio | --- | --- | --- | -3.70 (2.26) .10 |
| a | Level \* diabetes | --- | --- | --- | -3.09 (2.18) .16 |
| a | Slope \* age | -0.04 (0.03) .26 | -0.04 (0.03) .21 | -0.05 (0.03) .16 | -0.04 (0.03) .19 |
| a | Slope \* education | --- | 0.05 (0.06) .42 | 0.05 (0.06) .39 | 0.06 (0.06) .28 |
| a | Slope \* height | --- | --- | -1.45 (2.76) .60 | -1.17 (2.90) .69 |
| a | Slope \* smoking | --- | --- | --- | 0.12 (0.44) .79 |
| a | Slope \* cardio | --- | --- | --- | 0.51 (0.49) .30 |
| a | Slope \* diabetes | --- | --- | --- | 0.46 (0.45) .31 |
| b | Level | 9.70 (0.16) <.01 | 8.69 (0.29) <.01 | 8.66 (0.29) <.01 | 8.68 (0.37) <.01 |
| b | Slope | -0.14 (0.05) .01 | -0.10 (0.08) .21 | -0.09 (0.08) .28 | -0.04 (0.12) .71 |
| b | Level \* age | -0.05 (0.01) <.01 | -0.06 (0.01) <.01 | -0.05 (0.01) <.01 | -0.06 (0.01) <.01 |
| b | Level \* education | --- | 0.12 (0.03) <.01 | 0.12 (0.03) <.01 | 0.12 (0.03) <.01 |
| b | Level \* height | --- | --- | 0.70 (1.47) .63 | 0.68 (1.51) .65 |
| b | Level \* smoking | --- | --- | --- | -0.01 (0.21) .97 |
| b | Level \* cardio | --- | --- | --- | 0.23 (0.24) .33 |
| b | Level \* diabetes | --- | --- | --- | 0.05 (0.24) .85 |
| b | Slope \* age | 0.01 (0.00) .10 | 0.01 (0.00) .12 | 0.01 (0.00) .12 | 0.01 (0.01) .31 |
| b | Slope \* education | --- | -0.00 (0.01) .66 | -0.01 (0.01) .40 | -0.01 (0.01) .37 |
| b | Slope \* height | --- | --- | 0.70 (0.45) .12 | 0.93 (0.47) .05 |
| b | Slope \* smoking | --- | --- | --- | -0.07 (0.07) .34 |
| b | Slope \* cardio | --- | --- | --- | 0.07 (0.08) .38 |
| b | Slope \* diabetes | --- | --- | --- | -0.00 (0.08) .95 |
| a | Var (Level) | 265.81 (27.47) <.01 | 259.94 (27.36) <.01 | 217.73 (24.34) <.01 | 218.17 (25.63) <.01 |
| a | Var (Slope) | 3.73 (1.42) .01 | 3.69 (1.41) .01 | 3.71 (1.43) .01 | 2.29 (0.86) .01 |
| a | Var (Residual) | 33.33 (2.84) <.01 | 33.34 (2.84) <.01 | 33.36 (2.85) <.01 | 32.15 (2.88) <.01 |
| b | Var (Level) | 1.80 (0.32) <.01 | 1.62 (0.29) <.01 | 1.63 (0.32) <.01 | 1.69 (0.33) <.01 |
| b | Var (Slope) | 0.01 (0.01) .21 | 0.01 (0.01) .20 | 0.01 (0.03) .73 | 0.01 (0.03) .72 |
| b | Var (Residual) | 2.75 (0.21) <.01 | 2.75 (0.21) <.01 | 2.75 (0.20) <.01 | 2.72 (0.21) <.01 |
| a | Covar (Level, Slope) | -9.23 (3.98) .02 | -9.48 (3.96) .02 | -8.59 (3.65) .02 | -6.29 (3.47) .07 |
| b | Covar (Level, Slope) | 0.02 (0.08) .79 | 0.02 (0.08) .75 | 0.01 (0.11) .89 | -0.02 (0.11) .86 |
|  | Correlation of Levels | 0.17 | 0.13 | 0.095 | 0.095 |
|  | Correlation of Slopes | -0.52 | -0.51 | -0.498 | -0.561 |
|  | Correlation of Residuals | 0.04 | 0.04 | 0.041 | 0.044 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -6,315 | -6,301 | -6,231 | -5,775 |
|  | AIC | 12,671 | 12,651 | 12,519 | 11,632 |
|  | BIC | 12,752 | 12,748 | 12,631 | 11,787 |

## bstory\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 4.32 (1.76) .01 | 3.51 (1.68) .04 | 2.17 (1.48) .14 | 2.15 (1.55) .17 |
| ab | Covar (Slopes) | -0.05 (0.11) .69 | -0.04 (0.11) .72 | -0.04 (0.11) .73 | -0.00 (0.10) .96 |
| ab | Covar (Residuals) | 0.12 (0.36) .75 | 0.11 (0.36) .76 | 0.10 (0.36) .79 | 0.07 (0.37) .85 |
| er | Corr (Levels) | 0.25 (0.10) .01 | 0.21 (0.10) .03 | 0.15 (0.10) .14 | 0.14 (0.10) .16 |
| er | Corr (Slopes) | -0.20 (0.48) .68 | -0.18 (0.49) .71 | -0.18 (0.50) .72 | -0.03 (0.64) .96 |
| er | Corr (Residuals) | 0.01 (0.04) .75 | 0.01 (0.04) .76 | 0.01 (0.04) .79 | 0.01 (0.04) .85 |
| a | Level | 79.74 (1.75) <.01 | 74.30 (2.94) <.01 | 76.10 (2.58) <.01 | 77.33 (2.74) <.01 |
| a | Slope | -1.41 (0.37) <.01 | -1.74 (0.60) <.01 | -1.72 (0.61) <.01 | -1.97 (0.76) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.66 (0.27) .01 | 0.18 (0.24) .46 | 0.10 (0.25) .67 |
| a | Level \* height | --- | --- | 86.48 (10.59) <.01 | 88.16 (10.62) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.81 (1.81) .66 |
| a | Level \* cardio | --- | --- | --- | -3.73 (2.26) .10 |
| a | Level \* diabetes | --- | --- | --- | -3.08 (2.18) .16 |
| a | Slope \* age | -0.04 (0.03) .25 | -0.04 (0.03) .20 | -0.05 (0.03) .15 | -0.05 (0.03) .18 |
| a | Slope \* education | --- | 0.04 (0.06) .44 | 0.05 (0.06) .41 | 0.06 (0.06) .29 |
| a | Slope \* height | --- | --- | -1.51 (2.78) .59 | -1.25 (2.93) .67 |
| a | Slope \* smoking | --- | --- | --- | 0.10 (0.44) .81 |
| a | Slope \* cardio | --- | --- | --- | 0.53 (0.49) .28 |
| a | Slope \* diabetes | --- | --- | --- | 0.47 (0.45) .30 |
| b | Level | 10.05 (0.14) <.01 | 9.28 (0.25) <.01 | 9.29 (0.25) <.01 | 9.17 (0.32) <.01 |
| b | Slope | -0.17 (0.05) <.01 | -0.08 (0.08) .30 | -0.09 (0.08) .28 | -0.06 (0.12) .58 |
| b | Level \* age | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 |
| b | Level \* education | --- | 0.09 (0.02) <.01 | 0.08 (0.02) <.01 | 0.09 (0.03) <.01 |
| b | Level \* height | --- | --- | 1.94 (1.30) .13 | 1.67 (1.31) .20 |
| b | Level \* smoking | --- | --- | --- | 0.17 (0.18) .35 |
| b | Level \* cardio | --- | --- | --- | 0.20 (0.22) .35 |
| b | Level \* diabetes | --- | --- | --- | 0.03 (0.21) .89 |
| b | Slope \* age | 0.01 (0.00) .05 | 0.01 (0.00) .05 | 0.01 (0.00) .06 | 0.01 (0.00) .19 |
| b | Slope \* education | --- | -0.01 (0.01) .21 | -0.01 (0.01) .25 | -0.01 (0.01) .29 |
| b | Slope \* height | --- | --- | -0.10 (0.43) .81 | 0.17 (0.44) .71 |
| b | Slope \* smoking | --- | --- | --- | -0.10 (0.07) .15 |
| b | Slope \* cardio | --- | --- | --- | 0.05 (0.08) .53 |
| b | Slope \* diabetes | --- | --- | --- | 0.05 (0.08) .55 |
| a | Var (Level) | 265.67 (27.46) <.01 | 259.83 (27.36) <.01 | 217.56 (24.32) <.01 | 217.82 (25.61) <.01 |
| a | Var (Slope) | 3.70 (1.43) .01 | 3.67 (1.42) .01 | 3.69 (1.43) .01 | 2.23 (0.86) .01 |
| a | Var (Residual) | 33.40 (2.85) <.01 | 33.40 (2.86) <.01 | 33.42 (2.87) <.01 | 32.27 (2.91) <.01 |
| b | Var (Level) | 1.13 (0.23) <.01 | 1.03 (0.22) <.01 | 1.01 (0.21) <.01 | 1.07 (0.23) <.01 |
| b | Var (Slope) | 0.01 (0.03) .65 | 0.01 (0.03) .66 | 0.01 (0.03) .66 | 0.01 (0.03) .74 |
| b | Var (Residual) | 2.24 (0.14) <.01 | 2.24 (0.14) <.01 | 2.24 (0.14) <.01 | 2.23 (0.15) <.01 |
| a | Covar (Level, Slope) | -9.24 (4.00) .02 | -9.47 (3.99) .02 | -8.58 (3.66) .02 | -6.22 (3.48) .07 |
| b | Covar (Level, Slope) | -0.01 (0.07) .89 | 0.00 (0.07) .99 | -0.00 (0.07) .99 | -0.01 (0.08) .87 |
|  | Correlation of Levels | 0.249 | 0.215 | 0.146 | 0.1414 |
|  | Correlation of Slopes | -0.202 | -0.181 | -0.183 | -0.0319 |
|  | Correlation of Residuals | 0.013 | 0.012 | 0.011 | 0.0081 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -6,152 | -6,141 | -6,073 | -5,630 |
|  | AIC | 12,346 | 12,333 | 12,205 | 11,342 |
|  | BIC | 12,427 | 12,429 | 12,316 | 11,496 |

## categories

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 15.80 (8.86) .07 | 10.34 (8.40) .22 | 0.87 (7.44) .91 | 1.41 (7.82) .86 |
| ab | Covar (Slopes) | 0.44 (0.37) .24 | 0.47 (0.37) .21 | 0.47 (0.37) .20 | 0.35 (0.38) .35 |
| ab | Covar (Residuals) | -0.54 (1.20) .65 | -0.51 (1.20) .67 | -0.59 (1.20) .62 | -0.90 (1.22) .46 |
| er | Corr (Levels) | 0.12 (0.07) .07 | 0.09 (0.07) .22 | 0.01 (0.07) .91 | 0.01 (0.07) .86 |
| er | Corr (Slopes) | 0.26 (0.22) .24 | 0.27 (0.22) .21 | 0.27 (0.22) .21 | 0.25 (0.28) .36 |
| er | Corr (Residuals) | -0.02 (0.05) .65 | -0.02 (0.05) .67 | -0.02 (0.05) .62 | -0.04 (0.05) .46 |
| a | Level | 79.72 (1.75) <.01 | 74.30 (2.94) <.01 | 76.11 (2.57) <.01 | 77.26 (2.73) <.01 |
| a | Slope | -1.39 (0.37) <.01 | -1.75 (0.59) <.01 | -1.73 (0.60) <.01 | -1.98 (0.75) .01 |
| a | Level \* age | -1.09 (0.13) <.01 | -1.10 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.65 (0.27) .01 | 0.18 (0.24) .46 | 0.10 (0.25) .67 |
| a | Level \* height | --- | --- | 87.01 (10.58) <.01 | 88.53 (10.63) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.85 (1.82) .64 |
| a | Level \* cardio | --- | --- | --- | -3.65 (2.26) .11 |
| a | Level \* diabetes | --- | --- | --- | -2.97 (2.18) .17 |
| a | Slope \* age | -0.04 (0.03) .20 | -0.05 (0.03) .17 | -0.05 (0.03) .12 | -0.05 (0.03) .16 |
| a | Slope \* education | --- | 0.05 (0.06) .41 | 0.05 (0.06) .38 | 0.07 (0.06) .26 |
| a | Slope \* height | --- | --- | -1.37 (2.77) .62 | -1.14 (2.91) .70 |
| a | Slope \* smoking | --- | --- | --- | 0.10 (0.43) .81 |
| a | Slope \* cardio | --- | --- | --- | 0.48 (0.49) .33 |
| a | Slope \* diabetes | --- | --- | --- | 0.39 (0.45) .39 |
| b | Level | 35.34 (0.78) <.01 | 30.18 (1.19) <.01 | 30.20 (1.18) <.01 | 31.22 (1.49) <.01 |
| b | Slope | -0.04 (0.17) .83 | -0.09 (0.32) .78 | -0.08 (0.33) .81 | -0.06 (0.39) .87 |
| b | Level \* age | -0.28 (0.06) <.01 | -0.29 (0.06) <.01 | -0.28 (0.06) <.01 | -0.29 (0.06) <.01 |
| b | Level \* education | --- | 0.62 (0.11) <.01 | 0.58 (0.12) <.01 | 0.54 (0.12) <.01 |
| b | Level \* height | --- | --- | 12.09 (5.98) .04 | 12.17 (6.09) .05 |
| b | Level \* smoking | --- | --- | --- | -0.88 (0.92) .34 |
| b | Level \* cardio | --- | --- | --- | 0.35 (1.03) .74 |
| b | Level \* diabetes | --- | --- | --- | -0.17 (1.06) .88 |
| b | Slope \* age | -0.03 (0.02) .04 | -0.03 (0.02) .03 | -0.03 (0.02) .03 | -0.04 (0.02) .03 |
| b | Slope \* education | --- | 0.01 (0.03) .81 | 0.00 (0.04) .90 | -0.00 (0.04) .92 |
| b | Slope \* height | --- | --- | 1.05 (1.49) .48 | 1.77 (1.53) .25 |
| b | Slope \* smoking | --- | --- | --- | 0.17 (0.23) .47 |
| b | Slope \* cardio | --- | --- | --- | 0.15 (0.29) .61 |
| b | Slope \* diabetes | --- | --- | --- | -0.33 (0.27) .23 |
| a | Var (Level) | 264.88 (27.41) <.01 | 259.15 (27.31) <.01 | 216.78 (24.26) <.01 | 217.34 (25.55) <.01 |
| a | Var (Slope) | 3.61 (1.39) .01 | 3.60 (1.39) .01 | 3.64 (1.40) .01 | 2.25 (0.86) .01 |
| a | Var (Residual) | 33.47 (2.84) <.01 | 33.45 (2.84) <.01 | 33.47 (2.86) <.01 | 32.23 (2.89) <.01 |
| b | Var (Level) | 60.30 (6.32) <.01 | 55.25 (6.10) <.01 | 53.63 (5.96) <.01 | 55.02 (6.33) <.01 |
| b | Var (Slope) | 0.81 (0.36) .02 | 0.82 (0.36) .02 | 0.82 (0.37) .02 | 0.86 (0.39) .02 |
| b | Var (Residual) | 20.68 (1.24) <.01 | 20.69 (1.24) <.01 | 20.61 (1.24) <.01 | 20.31 (1.30) <.01 |
| a | Covar (Level, Slope) | -8.49 (3.99) .03 | -8.84 (3.97) .03 | -8.10 (3.66) .03 | -5.92 (3.50) .09 |
| b | Covar (Level, Slope) | -0.43 (1.20) .72 | -0.57 (1.21) .64 | -0.65 (1.18) .58 | -1.20 (1.22) .33 |
|  | Correlation of Levels | 0.12 | 0.086 | 0.0081 | 0.013 |
|  | Correlation of Slopes | 0.26 | 0.271 | 0.2738 | 0.254 |
|  | Correlation of Residuals | -0.02 | -0.019 | -0.0225 | -0.035 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -7,878 | -7,862 | -7,778 | -7,214 |
|  | AIC | 15,798 | 15,774 | 15,614 | 14,510 |
|  | BIC | 15,879 | 15,870 | 15,725 | 14,665 |

## digit\_b

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 1.94 (2.13) .36 | 0.28 (2.03) .89 | -0.04 (1.91) .98 | 0.58 (2.02) .77 |
| ab | Covar (Slopes) | 0.03 (0.10) .80 | 0.03 (0.10) .74 | 0.04 (0.10) .65 | 0.01 (0.10) .95 |
| ab | Covar (Residuals) | 0.92 (0.33) <.01 | 0.92 (0.33) .01 | 0.89 (0.33) .01 | 0.91 (0.34) .01 |
| er | Corr (Levels) | 0.07 (0.08) .36 | 0.01 (0.08) .89 | -0.00 (0.08) .98 | 0.02 (0.09) .77 |
| er | Corr (Slopes) | 0.07 (0.29) .79 | 0.09 (0.28) .74 | 0.13 (0.28) .65 | 0.03 (0.44) .95 |
| er | Corr (Residuals) | 0.13 (0.04) <.01 | 0.13 (0.04) <.01 | 0.12 (0.04) .01 | 0.13 (0.05) <.01 |
| a | Level | 79.80 (1.75) <.01 | 74.27 (2.93) <.01 | 76.09 (2.56) <.01 | 77.32 (2.72) <.01 |
| a | Slope | -1.37 (0.37) <.01 | -1.67 (0.59) <.01 | -1.68 (0.60) <.01 | -1.92 (0.75) .01 |
| a | Level \* age | -1.09 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.67 (0.27) .01 | 0.19 (0.24) .44 | 0.11 (0.25) .66 |
| a | Level \* height | --- | --- | 87.39 (10.60) <.01 | 89.21 (10.64) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.79 (1.82) .66 |
| a | Level \* cardio | --- | --- | --- | -3.69 (2.25) .10 |
| a | Level \* diabetes | --- | --- | --- | -3.12 (2.18) .15 |
| a | Slope \* age | -0.04 (0.03) .23 | -0.04 (0.03) .20 | -0.05 (0.03) .14 | -0.05 (0.04) .17 |
| a | Slope \* education | --- | 0.04 (0.06) .49 | 0.05 (0.06) .42 | 0.06 (0.06) .31 |
| a | Slope \* height | --- | --- | -1.81 (2.76) .51 | -1.71 (2.90) .56 |
| a | Slope \* smoking | --- | --- | --- | 0.09 (0.43) .83 |
| a | Slope \* cardio | --- | --- | --- | 0.53 (0.49) .29 |
| a | Slope \* diabetes | --- | --- | --- | 0.52 (0.45) .25 |
| b | Level | 6.54 (0.20) <.01 | 4.95 (0.28) <.01 | 4.93 (0.28) <.01 | 4.73 (0.34) <.01 |
| b | Slope | 0.03 (0.05) .60 | -0.00 (0.08) .98 | 0.01 (0.08) .89 | 0.11 (0.10) .24 |
| b | Level \* age | -0.03 (0.02) .04 | -0.04 (0.01) .02 | -0.04 (0.01) .02 | -0.03 (0.02) .04 |
| b | Level \* education | --- | 0.19 (0.03) <.01 | 0.19 (0.03) <.01 | 0.20 (0.03) <.01 |
| b | Level \* height | --- | --- | 0.38 (1.42) .79 | 0.45 (1.46) .76 |
| b | Level \* smoking | --- | --- | --- | 0.15 (0.21) .49 |
| b | Level \* cardio | --- | --- | --- | 0.25 (0.22) .27 |
| b | Level \* diabetes | --- | --- | --- | 0.04 (0.23) .84 |
| b | Slope \* age | -0.00 (0.00) .68 | -0.00 (0.00) .54 | -0.00 (0.00) .54 | -0.00 (0.00) .31 |
| b | Slope \* education | --- | 0.00 (0.01) .60 | 0.00 (0.01) .89 | -0.00 (0.01) .55 |
| b | Slope \* height | --- | --- | 0.68 (0.39) .08 | 0.70 (0.41) .08 |
| b | Slope \* smoking | --- | --- | --- | -0.02 (0.06) .70 |
| b | Slope \* cardio | --- | --- | --- | -0.02 (0.07) .76 |
| b | Slope \* diabetes | --- | --- | --- | -0.05 (0.06) .45 |
| a | Var (Level) | 265.28 (27.41) <.01 | 259.39 (27.28) <.01 | 217.09 (24.23) <.01 | 217.34 (25.52) <.01 |
| a | Var (Slope) | 3.62 (1.40) .01 | 3.61 (1.40) .01 | 3.62 (1.40) .01 | 2.22 (0.85) .01 |
| a | Var (Residual) | 33.45 (2.84) <.01 | 33.44 (2.85) <.01 | 33.46 (2.86) <.01 | 32.27 (2.90) <.01 |
| b | Var (Level) | 2.90 (0.28) <.01 | 2.44 (0.25) <.01 | 2.45 (0.25) <.01 | 2.54 (0.27) <.01 |
| b | Var (Slope) | 0.03 (0.02) .14 | 0.03 (0.02) .13 | 0.03 (0.02) .14 | 0.02 (0.02) .28 |
| b | Var (Residual) | 1.57 (0.09) <.01 | 1.57 (0.09) <.01 | 1.57 (0.09) <.01 | 1.57 (0.09) <.01 |
| a | Covar (Level, Slope) | -8.89 (3.96) .02 | -9.23 (3.95) .02 | -8.20 (3.62) .02 | -6.00 (3.45) .08 |
| b | Covar (Level, Slope) | -0.00 (0.06) .95 | -0.02 (0.06) .74 | -0.02 (0.06) .72 | -0.03 (0.06) .59 |
|  | Correlation of Levels | 0.070 | 0.011 | -0.0018 | 0.025 |
|  | Correlation of Slopes | 0.075 | 0.094 | 0.1292 | 0.031 |
|  | Correlation of Residuals | 0.127 | 0.127 | 0.1224 | 0.128 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -6,107 | -6,078 | -6,008 | -5,566 |
|  | AIC | 12,256 | 12,206 | 12,073 | 11,213 |
|  | BIC | 12,337 | 12,302 | 12,185 | 11,368 |

## digit\_f

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 3.63 (1.91) .06 | 1.92 (1.72) .26 | 1.57 (1.56) .31 | 1.78 (1.67) .28 |
| ab | Covar (Slopes) | 0.06 (0.08) .48 | 0.06 (0.08) .46 | 0.05 (0.08) .48 | 0.04 (0.08) .61 |
| ab | Covar (Residuals) | 0.15 (0.35) .67 | 0.15 (0.35) .66 | 0.14 (0.35) .69 | 0.05 (0.36) .88 |
| er | Corr (Levels) | 0.13 (0.07) .05 | 0.08 (0.07) .26 | 0.07 (0.07) .31 | 0.08 (0.08) .28 |
| er | Corr (Slopes) | 0.37 (0.52) .48 | 0.40 (0.52) .44 | 0.38 (0.56) .50 | 0.25 (0.51) .62 |
| er | Corr (Residuals) | 0.02 (0.05) .66 | 0.02 (0.05) .66 | 0.02 (0.05) .68 | 0.01 (0.05) .88 |
| a | Level | 79.79 (1.75) <.01 | 74.34 (2.95) <.01 | 76.15 (2.57) <.01 | 77.28 (2.74) <.01 |
| a | Slope | -1.39 (0.37) <.01 | -1.72 (0.60) <.01 | -1.71 (0.61) <.01 | -1.94 (0.76) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.66 (0.27) .01 | 0.18 (0.24) .46 | 0.10 (0.25) .68 |
| a | Level \* height | --- | --- | 87.12 (10.59) <.01 | 88.87 (10.64) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.84 (1.82) .64 |
| a | Level \* cardio | --- | --- | --- | -3.65 (2.26) .11 |
| a | Level \* diabetes | --- | --- | --- | -3.01 (2.18) .17 |
| a | Slope \* age | -0.04 (0.03) .25 | -0.04 (0.03) .21 | -0.05 (0.03) .16 | -0.05 (0.03) .17 |
| a | Slope \* education | --- | 0.04 (0.06) .47 | 0.05 (0.06) .42 | 0.06 (0.06) .32 |
| a | Slope \* height | --- | --- | -1.38 (2.79) .62 | -1.28 (2.95) .66 |
| a | Slope \* smoking | --- | --- | --- | 0.10 (0.44) .82 |
| a | Slope \* cardio | --- | --- | --- | 0.52 (0.49) .28 |
| a | Slope \* diabetes | --- | --- | --- | 0.46 (0.45) .30 |
| b | Level | 8.93 (0.17) <.01 | 7.29 (0.25) <.01 | 7.21 (0.25) <.01 | 7.01 (0.30) <.01 |
| b | Slope | -0.05 (0.04) .27 | 0.00 (0.08) .96 | 0.02 (0.08) .83 | 0.14 (0.10) .15 |
| b | Level \* age | -0.04 (0.02) .01 | -0.04 (0.01) <.01 | -0.05 (0.01) <.01 | -0.04 (0.01) <.01 |
| b | Level \* education | --- | 0.20 (0.02) <.01 | 0.21 (0.02) <.01 | 0.20 (0.02) <.01 |
| b | Level \* height | --- | --- | 0.10 (1.41) .94 | 0.36 (1.43) .80 |
| b | Level \* smoking | --- | --- | --- | 0.43 (0.21) .04 |
| b | Level \* cardio | --- | --- | --- | 0.22 (0.23) .34 |
| b | Level \* diabetes | --- | --- | --- | -0.14 (0.23) .54 |
| b | Slope \* age | 0.00 (0.00) .59 | 0.00 (0.00) .65 | 0.00 (0.00) .62 | -0.00 (0.00) .79 |
| b | Slope \* education | --- | -0.00 (0.01) .51 | -0.01 (0.01) .38 | -0.01 (0.01) .17 |
| b | Slope \* height | --- | --- | 0.22 (0.40) .58 | 0.11 (0.41) .78 |
| b | Slope \* smoking | --- | --- | --- | -0.08 (0.06) .16 |
| b | Slope \* cardio | --- | --- | --- | -0.08 (0.07) .23 |
| b | Slope \* diabetes | --- | --- | --- | 0.01 (0.06) .81 |
| a | Var (Level) | 265.22 (27.36) <.01 | 259.55 (27.28) <.01 | 217.41 (24.28) <.01 | 217.79 (25.56) <.01 |
| a | Var (Slope) | 3.60 (1.38) .01 | 3.59 (1.39) .01 | 3.61 (1.39) .01 | 2.23 (0.86) .01 |
| a | Var (Residual) | 33.45 (2.85) <.01 | 33.46 (2.85) <.01 | 33.47 (2.86) <.01 | 32.27 (2.90) <.01 |
| b | Var (Level) | 2.76 (0.28) <.01 | 2.25 (0.25) <.01 | 2.18 (0.24) <.01 | 2.15 (0.26) <.01 |
| b | Var (Slope) | 0.01 (0.02) .71 | 0.01 (0.01) .70 | 0.01 (0.02) .73 | 0.01 (0.02) .56 |
| b | Var (Residual) | 1.59 (0.10) <.01 | 1.60 (0.10) <.01 | 1.60 (0.10) <.01 | 1.51 (0.09) <.01 |
| a | Covar (Level, Slope) | -8.70 (3.96) .03 | -9.11 (3.94) .02 | -8.25 (3.62) .02 | -6.22 (3.47) .07 |
| b | Covar (Level, Slope) | -0.01 (0.06) .90 | 0.00 (0.05) .94 | 0.01 (0.05) .83 | -0.02 (0.06) .72 |
|  | Correlation of Levels | 0.134 | 0.079 | 0.072 | 0.0822 |
|  | Correlation of Slopes | 0.374 | 0.395 | 0.367 | 0.2505 |
|  | Correlation of Residuals | 0.021 | 0.021 | 0.019 | 0.0076 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -6,091 | -6,062 | -5,990 | -5,523 |
|  | AIC | 12,223 | 12,174 | 12,038 | 11,129 |
|  | BIC | 12,304 | 12,270 | 12,149 | 11,283 |

## digit\_o

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 3.25 (1.78) .07 | 2.19 (1.67) .19 | 0.71 (1.52) .64 | 0.80 (1.59) .61 |
| ab | Covar (Slopes) | -0.01 (0.09) .92 | -0.01 (0.09) .93 | -0.01 (0.09) .88 | -0.04 (0.08) .64 |
| ab | Covar (Residuals) | -0.07 (0.27) .79 | -0.07 (0.27) .80 | -0.08 (0.27) .77 | 0.00 (0.28) .99 |
| er | Corr (Levels) | 0.17 (0.09) .05 | 0.12 (0.09) .17 | 0.04 (0.09) .64 | 0.05 (0.10) .61 |
| er | Corr (Slopes) | -0.07 (0.67) .92 | -0.06 (0.72) .93 | -0.10 (0.74) .89 | -0.35 (0.78) .66 |
| er | Corr (Residuals) | -0.01 (0.04) .79 | -0.01 (0.04) .80 | -0.01 (0.04) .77 | 0.00 (0.04) .99 |
| a | Level | 79.74 (1.75) <.01 | 74.34 (2.95) <.01 | 76.16 (2.58) <.01 | 77.35 (2.74) <.01 |
| a | Slope | -1.38 (0.37) <.01 | -1.76 (0.59) <.01 | -1.75 (0.60) <.01 | -1.98 (0.75) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.65 (0.27) .02 | 0.17 (0.24) .48 | 0.10 (0.25) .68 |
| a | Level \* height | --- | --- | 87.15 (10.57) <.01 | 88.80 (10.61) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.82 (1.82) .65 |
| a | Level \* cardio | --- | --- | --- | -3.68 (2.26) .10 |
| a | Level \* diabetes | --- | --- | --- | -3.08 (2.19) .16 |
| a | Slope \* age | -0.04 (0.03) .22 | -0.04 (0.03) .19 | -0.05 (0.03) .15 | -0.05 (0.04) .18 |
| a | Slope \* education | --- | 0.05 (0.06) .40 | 0.05 (0.06) .38 | 0.06 (0.06) .28 |
| a | Slope \* height | --- | --- | -1.24 (2.79) .66 | -1.10 (2.91) .70 |
| a | Slope \* smoking | --- | --- | --- | 0.09 (0.43) .83 |
| a | Slope \* cardio | --- | --- | --- | 0.50 (0.49) .30 |
| a | Slope \* diabetes | --- | --- | --- | 0.46 (0.45) .31 |
| b | Level | 7.74 (0.14) <.01 | 6.76 (0.22) <.01 | 6.79 (0.21) <.01 | 6.89 (0.25) <.01 |
| b | Slope | -0.03 (0.04) .40 | -0.06 (0.06) .36 | -0.05 (0.06) .44 | -0.04 (0.08) .62 |
| b | Level \* age | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 |
| b | Level \* education | --- | 0.12 (0.02) <.01 | 0.10 (0.02) <.01 | 0.10 (0.02) <.01 |
| b | Level \* height | --- | --- | 2.59 (1.10) .02 | 2.91 (1.11) .01 |
| b | Level \* smoking | --- | --- | --- | -0.02 (0.16) .92 |
| b | Level \* cardio | --- | --- | --- | 0.20 (0.19) .28 |
| b | Level \* diabetes | --- | --- | --- | -0.19 (0.17) .27 |
| b | Slope \* age | -0.00 (0.00) .39 | -0.00 (0.00) .31 | -0.00 (0.00) .29 | -0.00 (0.00) .20 |
| b | Slope \* education | --- | 0.00 (0.01) .59 | 0.00 (0.01) .69 | 0.01 (0.01) .37 |
| b | Slope \* height | --- | --- | 0.10 (0.31) .76 | 0.06 (0.33) .84 |
| b | Slope \* smoking | --- | --- | --- | -0.00 (0.05) .97 |
| b | Slope \* cardio | --- | --- | --- | -0.02 (0.06) .66 |
| b | Slope \* diabetes | --- | --- | --- | -0.03 (0.05) .52 |
| a | Var (Level) | 265.23 (27.39) <.01 | 259.58 (27.30) <.01 | 217.32 (24.27) <.01 | 217.78 (25.56) <.01 |
| a | Var (Slope) | 3.67 (1.43) .01 | 3.64 (1.42) .01 | 3.68 (1.43) .01 | 2.25 (0.87) .01 |
| a | Var (Residual) | 33.42 (2.86) <.01 | 33.42 (2.86) <.01 | 33.44 (2.87) <.01 | 32.25 (2.90) <.01 |
| b | Var (Level) | 1.39 (0.25) <.01 | 1.21 (0.23) <.01 | 1.17 (0.23) <.01 | 1.20 (0.23) <.01 |
| b | Var (Slope) | 0.00 (0.02) .80 | 0.00 (0.02) .82 | 0.00 (0.02) .82 | 0.00 (0.01) .75 |
| b | Var (Residual) | 1.25 (0.09) <.01 | 1.25 (0.09) <.01 | 1.25 (0.09) <.01 | 1.19 (0.07) <.01 |
| a | Covar (Level, Slope) | -8.72 (4.04) .03 | -9.12 (4.01) .02 | -8.42 (3.69) .02 | -6.21 (3.52) .08 |
| b | Covar (Level, Slope) | 0.01 (0.06) .81 | 0.01 (0.06) .91 | 0.01 (0.06) .92 | 0.01 (0.05) .91 |
|  | Correlation of Levels | 0.169 | 0.124 | 0.044 | 0.04940 |
|  | Correlation of Slopes | -0.066 | -0.059 | -0.103 | -0.34861 |
|  | Correlation of Residuals | -0.011 | -0.011 | -0.013 | 0.00049 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -5,844 | -5,823 | -5,754 | -5,310 |
|  | AIC | 11,730 | 11,696 | 11,566 | 10,701 |
|  | BIC | 11,811 | 11,793 | 11,677 | 10,856 |

## ideas

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 1.64 (0.66) .01 | 1.49 (0.60) .01 | 0.99 (0.48) .04 | 1.04 (0.56) .06 |
| ab | Covar (Slopes) | 0.06 (0.05) .20 | 0.06 (0.05) .19 | 0.05 (0.05) .25 | 0.02 (0.04) .54 |
| ab | Covar (Residuals) | -0.05 (0.09) .59 | -0.05 (0.09) .58 | -0.05 (0.09) .59 | -0.11 (0.08) .14 |
| er | Corr (Levels) | 0.24 (0.06) <.01 | 0.22 (0.06) <.01 | 0.16 (0.05) <.01 | 0.16 (0.05) <.01 |
| er | Corr (Slopes) | 0.22 (0.16) .16 | 0.22 (0.16) .15 | 0.19 (0.15) .21 | 0.10 (0.15) .51 |
| er | Corr (Residuals) | -0.02 (0.04) .59 | -0.02 (0.04) .58 | -0.02 (0.04) .59 | -0.05 (0.03) .13 |
| a | Level | 79.74 (1.75) <.01 | 74.26 (2.94) <.01 | 76.07 (2.57) <.01 | 77.16 (2.74) <.01 |
| a | Slope | -1.35 (0.37) <.01 | -1.66 (0.58) <.01 | -1.64 (0.59) .01 | -1.92 (0.77) .01 |
| a | Level \* age | -1.09 (0.13) <.01 | -1.10 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.66 (0.27) .01 | 0.18 (0.24) .45 | 0.11 (0.25) .66 |
| a | Level \* height | --- | --- | 87.02 (10.62) <.01 | 88.56 (10.66) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.92 (1.82) .61 |
| a | Level \* cardio | --- | --- | --- | -3.61 (2.25) .11 |
| a | Level \* diabetes | --- | --- | --- | -2.98 (2.19) .17 |
| a | Slope \* age | -0.04 (0.03) .23 | -0.04 (0.03) .19 | -0.05 (0.03) .14 | -0.05 (0.04) .17 |
| a | Slope \* education | --- | 0.04 (0.06) .48 | 0.05 (0.06) .44 | 0.06 (0.06) .31 |
| a | Slope \* height | --- | --- | -1.54 (2.78) .58 | -1.19 (2.91) .68 |
| a | Slope \* smoking | --- | --- | --- | 0.09 (0.44) .84 |
| a | Slope \* cardio | --- | --- | --- | 0.48 (0.49) .32 |
| a | Slope \* diabetes | --- | --- | --- | 0.48 (0.46) .30 |
| b | Level | 7.88 (0.04) <.01 | 7.74 (0.08) <.01 | 7.74 (0.08) <.01 | 7.72 (0.09) <.01 |
| b | Slope | -0.02 (0.02) .21 | -0.02 (0.03) .65 | -0.01 (0.03) .81 | -0.00 (0.04) .97 |
| b | Level \* age | -0.01 (0.01) .14 | -0.01 (0.01) .14 | -0.01 (0.01) .15 | -0.01 (0.01) .28 |
| b | Level \* education | --- | 0.02 (0.01) .09 | 0.02 (0.01) .09 | 0.02 (0.01) .07 |
| b | Level \* height | --- | --- | 0.63 (0.39) .10 | 0.83 (0.41) .04 |
| b | Level \* smoking | --- | --- | --- | -0.07 (0.07) .35 |
| b | Level \* cardio | --- | --- | --- | 0.08 (0.07) .27 |
| b | Level \* diabetes | --- | --- | --- | -0.02 (0.07) .81 |
| b | Slope \* age | 0.00 (0.00) .07 | 0.00 (0.00) .09 | 0.00 (0.00) .08 | 0.00 (0.00) .11 |
| b | Slope \* education | --- | -0.00 (0.00) .86 | -0.00 (0.00) .70 | -0.00 (0.00) .35 |
| b | Slope \* height | --- | --- | -0.08 (0.14) .56 | -0.16 (0.14) .28 |
| b | Slope \* smoking | --- | --- | --- | 0.04 (0.03) .15 |
| b | Slope \* cardio | --- | --- | --- | -0.01 (0.02) .71 |
| b | Slope \* diabetes | --- | --- | --- | 0.00 (0.03) .98 |
| a | Var (Level) | 265.62 (27.42) <.01 | 259.83 (27.32) <.01 | 217.68 (24.31) <.01 | 218.11 (25.58) <.01 |
| a | Var (Slope) | 3.64 (1.36) .01 | 3.63 (1.37) .01 | 3.63 (1.37) .01 | 2.26 (0.87) .01 |
| a | Var (Residual) | 33.47 (2.85) <.01 | 33.45 (2.85) <.01 | 33.48 (2.86) <.01 | 32.23 (2.90) <.01 |
| b | Var (Level) | 0.18 (0.14) .21 | 0.17 (0.14) .21 | 0.17 (0.14) .22 | 0.20 (0.15) .19 |
| b | Var (Slope) | 0.02 (0.02) .25 | 0.02 (0.02) .24 | 0.02 (0.02) .26 | 0.03 (0.02) .23 |
| b | Var (Residual) | 0.21 (0.05) <.01 | 0.21 (0.05) <.01 | 0.21 (0.05) <.01 | 0.18 (0.05) <.01 |
| a | Covar (Level, Slope) | -9.37 (3.96) .02 | -9.58 (3.95) .01 | -8.62 (3.62) .02 | -6.31 (3.48) .07 |
| b | Covar (Level, Slope) | -0.05 (0.05) .26 | -0.05 (0.05) .26 | -0.05 (0.05) .27 | -0.06 (0.05) .22 |
|  | Correlation of Levels | 0.239 | 0.222 | 0.164 | 0.159 |
|  | Correlation of Slopes | 0.221 | 0.222 | 0.191 | 0.103 |
|  | Correlation of Residuals | -0.019 | -0.019 | -0.019 | -0.046 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -4,646 | -4,639 | -4,571 | -4,177 |
|  | AIC | 9,334 | 9,327 | 9,199 | 8,436 |
|  | BIC | 9,415 | 9,424 | 9,311 | 8,590 |

## line

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 7.32 (2.63) <.01 | 5.09 (2.43) .04 | 1.47 (2.04) .47 | 1.74 (2.12) .41 |
| ab | Covar (Slopes) | 0.04 (0.15) .80 | 0.05 (0.15) .75 | 0.02 (0.15) .90 | -0.06 (0.14) .68 |
| ab | Covar (Residuals) | -0.39 (0.51) .44 | -0.39 (0.51) .44 | -0.35 (0.50) .48 | -0.26 (0.51) .60 |
| er | Corr (Levels) | 0.19 (0.06) <.01 | 0.14 (0.07) .03 | 0.05 (0.06) .47 | 0.06 (0.07) .41 |
| er | Corr (Slopes) | 0.08 (0.31) .80 | 0.10 (0.31) .75 | 0.04 (0.34) .90 | -0.18 (0.42) .68 |
| er | Corr (Residuals) | -0.04 (0.05) .43 | -0.04 (0.05) .43 | -0.03 (0.05) .48 | -0.03 (0.05) .60 |
| a | Level | 79.78 (1.75) <.01 | 74.31 (2.94) <.01 | 76.14 (2.57) <.01 | 77.30 (2.74) <.01 |
| a | Slope | -1.38 (0.37) <.01 | -1.73 (0.61) <.01 | -1.71 (0.62) .01 | -1.96 (0.76) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.66 (0.27) .01 | 0.18 (0.24) .47 | 0.10 (0.25) .67 |
| a | Level \* height | --- | --- | 87.09 (10.62) <.01 | 88.78 (10.65) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.84 (1.82) .65 |
| a | Level \* cardio | --- | --- | --- | -3.73 (2.25) .10 |
| a | Level \* diabetes | --- | --- | --- | -3.06 (2.19) .16 |
| a | Slope \* age | -0.04 (0.03) .23 | -0.04 (0.03) .20 | -0.05 (0.03) .15 | -0.05 (0.03) .18 |
| a | Slope \* education | --- | 0.04 (0.06) .44 | 0.05 (0.06) .40 | 0.06 (0.06) .28 |
| a | Slope \* height | --- | --- | -1.56 (2.77) .57 | -1.42 (2.92) .63 |
| a | Slope \* smoking | --- | --- | --- | 0.12 (0.44) .78 |
| a | Slope \* cardio | --- | --- | --- | 0.54 (0.48) .27 |
| a | Slope \* diabetes | --- | --- | --- | 0.48 (0.46) .29 |
| b | Level | 11.59 (0.26) <.01 | 9.55 (0.43) <.01 | 9.63 (0.43) <.01 | 10.30 (0.50) <.01 |
| b | Slope | 0.03 (0.07) .67 | -0.02 (0.12) .87 | 0.03 (0.12) .79 | -0.02 (0.14) .91 |
| b | Level \* age | -0.01 (0.02) .64 | -0.02 (0.02) .47 | -0.01 (0.02) .73 | -0.02 (0.02) .38 |
| b | Level \* education | --- | 0.25 (0.04) <.01 | 0.22 (0.04) <.01 | 0.21 (0.05) <.01 |
| b | Level \* height | --- | --- | 4.60 (2.22) .04 | 5.35 (2.28) .02 |
| b | Level \* smoking | --- | --- | --- | -0.85 (0.30) <.01 |
| b | Level \* cardio | --- | --- | --- | -0.00 (0.35) .99 |
| b | Level \* diabetes | --- | --- | --- | -0.35 (0.34) .31 |
| b | Slope \* age | 0.00 (0.01) .87 | 0.00 (0.01) .98 | 0.00 (0.01) .91 | 0.00 (0.01) .82 |
| b | Slope \* education | --- | 0.01 (0.01) .54 | 0.00 (0.01) .96 | 0.00 (0.01) .98 |
| b | Slope \* height | --- | --- | 0.88 (0.55) .11 | 0.98 (0.57) .09 |
| b | Slope \* smoking | --- | --- | --- | 0.00 (0.09) .95 |
| b | Slope \* cardio | --- | --- | --- | 0.12 (0.12) .32 |
| b | Slope \* diabetes | --- | --- | --- | 0.05 (0.10) .58 |
| a | Var (Level) | 265.57 (27.43) <.01 | 259.77 (27.31) <.01 | 217.60 (24.27) <.01 | 217.67 (25.54) <.01 |
| a | Var (Slope) | 3.64 (1.37) .01 | 3.64 (1.37) .01 | 3.66 (1.38) .01 | 2.27 (0.87) .01 |
| a | Var (Residual) | 33.44 (2.85) <.01 | 33.42 (2.85) <.01 | 33.45 (2.86) <.01 | 32.24 (2.90) <.01 |
| b | Var (Level) | 5.64 (0.68) <.01 | 4.85 (0.57) <.01 | 4.64 (0.55) <.01 | 4.47 (0.56) <.01 |
| b | Var (Slope) | 0.07 (0.04) .11 | 0.07 (0.04) .12 | 0.05 (0.04) .18 | 0.04 (0.04) .23 |
| b | Var (Residual) | 3.35 (0.30) <.01 | 3.35 (0.30) <.01 | 3.31 (0.30) <.01 | 3.28 (0.30) <.01 |
| a | Covar (Level, Slope) | -8.97 (3.93) .02 | -9.34 (3.92) .02 | -8.53 (3.61) .02 | -6.27 (3.45) .07 |
| b | Covar (Level, Slope) | -0.15 (0.13) .25 | -0.17 (0.12) .16 | -0.20 (0.12) .11 | -0.21 (0.12) .08 |
|  | Correlation of Levels | 0.189 | 0.143 | 0.046 | 0.056 |
|  | Correlation of Slopes | 0.076 | 0.098 | 0.041 | -0.175 |
|  | Correlation of Residuals | -0.037 | -0.037 | -0.033 | -0.026 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -6,549 | -6,523 | -6,434 | -5,949 |
|  | AIC | 13,140 | 13,096 | 12,926 | 11,980 |
|  | BIC | 13,221 | 13,192 | 13,038 | 12,134 |

## logic\_de

Gender = *male*; Process (a) = *grip*; Process (b) = *logic\_de*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | -0.32 (4.16) .94 | -2.59 (4.02) .52 | -4.74 (3.75) .20 | -2.80 (4.09) .49 |
| ab | Covar (Slopes) | -0.03 (0.20) .88 | -0.04 (0.20) .86 | -0.06 (0.20) .75 | -0.05 (0.18) .77 |
| ab | Covar (Residuals) | 0.63 (0.61) .30 | 0.63 (0.61) .30 | 0.60 (0.61) .32 | 0.60 (0.60) .32 |
| er | Corr (Levels) | -0.01 (0.08) .94 | -0.05 (0.08) .52 | -0.10 (0.08) .20 | -0.06 (0.08) .49 |
| er | Corr (Slopes) | -0.03 (0.18) .88 | -0.03 (0.19) .86 | -0.06 (0.19) .75 | -0.07 (0.23) .77 |
| er | Corr (Residuals) | 0.05 (0.04) .30 | 0.04 (0.04) .30 | 0.04 (0.04) .32 | 0.04 (0.04) .32 |
| a | Level | 79.78 (1.75) <.01 | 74.33 (2.95) <.01 | 76.17 (2.58) <.01 | 77.30 (2.73) <.01 |
| a | Slope | -1.40 (0.38) <.01 | -1.70 (0.60) <.01 | -1.70 (0.61) <.01 | -1.97 (0.76) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.01 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.66 (0.27) .01 | 0.18 (0.24) .47 | 0.10 (0.25) .68 |
| a | Level \* height | --- | --- | 87.19 (10.59) <.01 | 88.85 (10.63) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.87 (1.82) .63 |
| a | Level \* cardio | --- | --- | --- | -3.62 (2.27) .11 |
| a | Level \* diabetes | --- | --- | --- | -3.05 (2.19) .16 |
| a | Slope \* age | -0.04 (0.03) .26 | -0.04 (0.03) .21 | -0.05 (0.03) .16 | -0.04 (0.03) .19 |
| a | Slope \* education | --- | 0.04 (0.06) .47 | 0.05 (0.06) .42 | 0.07 (0.06) .28 |
| a | Slope \* height | --- | --- | -1.62 (2.80) .56 | -1.54 (2.92) .60 |
| a | Slope \* smoking | --- | --- | --- | 0.11 (0.44) .81 |
| a | Slope \* cardio | --- | --- | --- | 0.53 (0.49) .28 |
| a | Slope \* diabetes | --- | --- | --- | 0.47 (0.46) .30 |
| b | Level | 10.04 (0.37) <.01 | 7.85 (0.67) <.01 | 7.83 (0.67) <.01 | 7.58 (0.84) <.01 |
| b | Slope | 0.37 (0.10) <.01 | 0.23 (0.18) .19 | 0.26 (0.17) .14 | 0.17 (0.23) .47 |
| b | Level \* age | -0.11 (0.03) <.01 | -0.12 (0.03) <.01 | -0.12 (0.03) <.01 | -0.12 (0.03) <.01 |
| b | Level \* education | --- | 0.26 (0.06) <.01 | 0.26 (0.06) <.01 | 0.27 (0.07) <.01 |
| b | Level \* height | --- | --- | 2.32 (3.00) .44 | 2.17 (3.01) .47 |
| b | Level \* smoking | --- | --- | --- | -0.05 (0.43) .91 |
| b | Level \* cardio | --- | --- | --- | 0.68 (0.49) .17 |
| b | Level \* diabetes | --- | --- | --- | 0.66 (0.47) .15 |
| b | Slope \* age | -0.01 (0.01) .17 | -0.01 (0.01) .12 | -0.01 (0.01) .15 | -0.01 (0.01) .12 |
| b | Slope \* education | --- | 0.02 (0.02) .27 | 0.01 (0.02) .42 | 0.02 (0.02) .39 |
| b | Slope \* height | --- | --- | 0.35 (0.89) .70 | 0.55 (0.86) .53 |
| b | Slope \* smoking | --- | --- | --- | 0.07 (0.13) .59 |
| b | Slope \* cardio | --- | --- | --- | 0.23 (0.15) .13 |
| b | Slope \* diabetes | --- | --- | --- | -0.08 (0.15) .60 |
| a | Var (Level) | 265.22 (27.40) <.01 | 259.36 (27.30) <.01 | 217.09 (24.25) <.01 | 217.40 (25.52) <.01 |
| a | Var (Slope) | 3.69 (1.42) .01 | 3.67 (1.43) .01 | 3.69 (1.43) .01 | 2.24 (0.86) .01 |
| a | Var (Residual) | 33.44 (2.86) <.01 | 33.43 (2.86) <.01 | 33.46 (2.87) <.01 | 32.28 (2.91) <.01 |
| b | Var (Level) | 11.45 (1.12) <.01 | 10.55 (1.03) <.01 | 10.46 (1.04) <.01 | 10.73 (1.09) <.01 |
| b | Var (Slope) | 0.32 (0.10) <.01 | 0.31 (0.10) <.01 | 0.30 (0.10) <.01 | 0.29 (0.10) <.01 |
| b | Var (Residual) | 5.67 (0.36) <.01 | 5.68 (0.36) <.01 | 5.66 (0.36) <.01 | 5.54 (0.37) <.01 |
| a | Covar (Level, Slope) | -9.24 (4.00) .02 | -9.53 (3.98) .02 | -8.56 (3.64) .02 | -6.20 (3.42) .07 |
| b | Covar (Level, Slope) | -0.20 (0.25) .44 | -0.27 (0.25) .28 | -0.25 (0.25) .31 | -0.31 (0.26) .22 |
|  | Correlation of Levels | -0.0059 | -0.049 | -0.100 | -0.058 |
|  | Correlation of Slopes | -0.0288 | -0.034 | -0.060 | -0.067 |
|  | Correlation of Residuals | 0.0457 | 0.046 | 0.044 | 0.045 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -6,978 | -6,960 | -6,883 | -6,379 |
|  | AIC | 13,999 | 13,971 | 13,825 | 12,841 |
|  | BIC | 14,079 | 14,067 | 13,936 | 12,995 |

## logic\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | -1.72 (3.96) .66 | -4.24 (3.80) .26 | -7.40 (3.47) .03 | -5.23 (3.88) .18 |
| ab | Covar (Slopes) | -0.36 (0.16) .03 | -0.35 (0.16) .03 | -0.36 (0.15) .02 | -0.22 (0.17) .19 |
| ab | Covar (Residuals) | 0.74 (0.66) .27 | 0.70 (0.66) .29 | 0.62 (0.66) .35 | 0.57 (0.67) .40 |
| er | Corr (Levels) | -0.03 (0.08) .66 | -0.09 (0.08) .26 | -0.18 (0.08) .03 | -0.12 (0.09) .17 |
| er | Corr (Slopes) | -0.58 (0.23) .01 | -0.57 (0.24) .02 | -0.60 (0.20) <.01 | -0.48 (0.38) .22 |
| er | Corr (Residuals) | 0.05 (0.04) .27 | 0.05 (0.04) .30 | 0.04 (0.04) .35 | 0.04 (0.05) .40 |
| a | Level | 79.79 (1.75) <.01 | 74.37 (2.94) <.01 | 76.22 (2.57) <.01 | 77.32 (2.73) <.01 |
| a | Slope | -1.39 (0.37) <.01 | -1.70 (0.59) <.01 | -1.70 (0.60) <.01 | -1.98 (0.75) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.65 (0.27) .01 | 0.17 (0.24) .48 | 0.10 (0.25) .69 |
| a | Level \* height | --- | --- | 87.56 (10.57) <.01 | 89.23 (10.61) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.88 (1.82) .63 |
| a | Level \* cardio | --- | --- | --- | -3.60 (2.27) .11 |
| a | Level \* diabetes | --- | --- | --- | -2.96 (2.20) .18 |
| a | Slope \* age | -0.04 (0.03) .25 | -0.04 (0.03) .21 | -0.05 (0.03) .15 | -0.04 (0.03) .19 |
| a | Slope \* education | --- | 0.04 (0.06) .45 | 0.05 (0.06) .40 | 0.07 (0.06) .26 |
| a | Slope \* height | --- | --- | -1.65 (2.80) .56 | -1.63 (2.91) .58 |
| a | Slope \* smoking | --- | --- | --- | 0.12 (0.44) .79 |
| a | Slope \* cardio | --- | --- | --- | 0.50 (0.49) .31 |
| a | Slope \* diabetes | --- | --- | --- | 0.48 (0.46) .29 |
| b | Level | 11.86 (0.35) <.01 | 9.39 (0.63) <.01 | 9.43 (0.63) <.01 | 9.25 (0.79) <.01 |
| b | Slope | 0.18 (0.08) .03 | 0.18 (0.16) .26 | 0.20 (0.16) .21 | 0.22 (0.20) .27 |
| b | Level \* age | -0.13 (0.03) <.01 | -0.13 (0.03) <.01 | -0.13 (0.03) <.01 | -0.13 (0.03) <.01 |
| b | Level \* education | --- | 0.30 (0.06) <.01 | 0.28 (0.06) <.01 | 0.28 (0.07) <.01 |
| b | Level \* height | --- | --- | 4.05 (2.94) .17 | 3.83 (2.94) .19 |
| b | Level \* smoking | --- | --- | --- | 0.06 (0.41) .88 |
| b | Level \* cardio | --- | --- | --- | 0.59 (0.48) .21 |
| b | Level \* diabetes | --- | --- | --- | 0.55 (0.45) .22 |
| b | Slope \* age | 0.00 (0.01) .99 | -0.00 (0.01) .94 | 0.00 (0.01) .99 | -0.00 (0.01) .76 |
| b | Slope \* education | --- | 0.00 (0.02) .95 | -0.00 (0.02) .92 | -0.00 (0.02) .96 |
| b | Slope \* height | --- | --- | -0.03 (0.79) .97 | 0.17 (0.77) .82 |
| b | Slope \* smoking | --- | --- | --- | 0.02 (0.12) .85 |
| b | Slope \* cardio | --- | --- | --- | 0.06 (0.15) .70 |
| b | Slope \* diabetes | --- | --- | --- | -0.16 (0.14) .25 |
| a | Var (Level) | 265.39 (27.43) <.01 | 259.49 (27.33) <.01 | 217.00 (24.21) <.01 | 217.62 (25.56) <.01 |
| a | Var (Slope) | 3.76 (1.40) .01 | 3.73 (1.40) .01 | 3.76 (1.40) .01 | 2.31 (0.87) .01 |
| a | Var (Residual) | 33.35 (2.85) <.01 | 33.36 (2.85) <.01 | 33.37 (2.86) <.01 | 32.17 (2.90) <.01 |
| b | Var (Level) | 9.46 (1.02) <.01 | 8.31 (0.90) <.01 | 8.12 (0.88) <.01 | 8.49 (0.99) <.01 |
| b | Var (Slope) | 0.10 (0.05) .06 | 0.10 (0.05) .06 | 0.10 (0.04) .02 | 0.09 (0.09) .31 |
| b | Var (Residual) | 6.53 (0.34) <.01 | 6.54 (0.34) <.01 | 6.51 (0.33) <.01 | 6.39 (0.37) <.01 |
| a | Covar (Level, Slope) | -9.40 (3.98) .02 | -9.62 (3.96) .01 | -8.64 (3.60) .02 | -6.28 (3.42) .07 |
| b | Covar (Level, Slope) | 0.09 (0.19) .63 | 0.09 (0.18) .63 | 0.10 (0.16) .52 | 0.04 (0.22) .87 |
|  | Correlation of Levels | -0.034 | -0.091 | -0.176 | -0.12 |
|  | Correlation of Slopes | -0.577 | -0.571 | -0.603 | -0.48 |
|  | Correlation of Residuals | 0.050 | 0.047 | 0.042 | 0.04 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -7,001 | -6,979 | -6,899 | -6,398 |
|  | AIC | 14,043 | 14,009 | 13,855 | 12,877 |
|  | BIC | 14,124 | 14,105 | 13,967 | 13,032 |

## matrices

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 9.71 (2.84) <.01 | 6.96 (2.64) .01 | 1.84 (2.12) .38 | 1.54 (2.09) .46 |
| ab | Covar (Slopes) | 0.25 (0.12) .04 | 0.26 (0.12) .03 | 0.26 (0.12) .03 | 0.25 (0.11) .02 |
| ab | Covar (Residuals) | -0.15 (0.52) .77 | -0.15 (0.52) .78 | -0.15 (0.52) .78 | -0.20 (0.54) .71 |
| er | Corr (Levels) | 0.27 (0.07) <.01 | 0.22 (0.07) <.01 | 0.07 (0.08) .37 | 0.06 (0.08) .45 |
| er | Corr (Slopes) | 0.58 (0.25) .02 | 0.59 (0.26) .02 | 0.60 (0.25) .02 | 0.75 (0.12) <.01 |
| er | Corr (Residuals) | -0.01 (0.05) .77 | -0.01 (0.05) .78 | -0.01 (0.05) .78 | -0.02 (0.05) .71 |
| a | Level | 79.79 (1.75) <.01 | 74.31 (2.94) <.01 | 76.15 (2.57) <.01 | 77.30 (2.74) <.01 |
| a | Slope | -1.41 (0.37) <.01 | -1.70 (0.60) <.01 | -1.68 (0.61) .01 | -1.93 (0.76) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.66 (0.27) .01 | 0.18 (0.24) .47 | 0.10 (0.25) .67 |
| a | Level \* height | --- | --- | 87.17 (10.59) <.01 | 88.78 (10.64) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.85 (1.82) .64 |
| a | Level \* cardio | --- | --- | --- | -3.64 (2.26) .11 |
| a | Level \* diabetes | --- | --- | --- | -3.06 (2.18) .16 |
| a | Slope \* age | -0.04 (0.03) .24 | -0.04 (0.03) .22 | -0.05 (0.03) .18 | -0.04 (0.04) .22 |
| a | Slope \* education | --- | 0.04 (0.06) .51 | 0.04 (0.06) .47 | 0.06 (0.06) .37 |
| a | Slope \* height | --- | --- | -1.39 (2.78) .62 | -1.09 (2.94) .71 |
| a | Slope \* smoking | --- | --- | --- | 0.13 (0.44) .76 |
| a | Slope \* cardio | --- | --- | --- | 0.50 (0.49) .31 |
| a | Slope \* diabetes | --- | --- | --- | 0.40 (0.46) .38 |
| b | Level | 13.07 (0.26) <.01 | 10.74 (0.41) <.01 | 10.88 (0.38) <.01 | 10.99 (0.46) <.01 |
| b | Slope | 0.03 (0.07) .71 | 0.10 (0.12) .42 | 0.10 (0.12) .43 | 0.06 (0.16) .69 |
| b | Level \* age | -0.07 (0.02) <.01 | -0.08 (0.02) <.01 | -0.07 (0.02) <.01 | -0.07 (0.02) <.01 |
| b | Level \* education | --- | 0.28 (0.04) <.01 | 0.24 (0.04) <.01 | 0.24 (0.04) <.01 |
| b | Level \* height | --- | --- | 8.65 (2.17) <.01 | 9.20 (2.21) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.50 (0.28) .07 |
| b | Level \* cardio | --- | --- | --- | 0.60 (0.31) .05 |
| b | Level \* diabetes | --- | --- | --- | -0.06 (0.33) .86 |
| b | Slope \* age | -0.01 (0.01) .32 | -0.01 (0.01) .31 | -0.01 (0.01) .27 | -0.01 (0.01) .26 |
| b | Slope \* education | --- | -0.01 (0.01) .53 | -0.01 (0.01) .61 | -0.01 (0.01) .60 |
| b | Slope \* height | --- | --- | -0.17 (0.77) .82 | -0.31 (0.80) .70 |
| b | Slope \* smoking | --- | --- | --- | 0.14 (0.09) .12 |
| b | Slope \* cardio | --- | --- | --- | 0.02 (0.11) .85 |
| b | Slope \* diabetes | --- | --- | --- | -0.04 (0.10) .67 |
| a | Var (Level) | 265.18 (27.41) <.01 | 259.45 (27.32) <.01 | 217.18 (24.29) <.01 | 217.56 (25.59) <.01 |
| a | Var (Slope) | 3.74 (1.39) .01 | 3.74 (1.39) .01 | 3.77 (1.40) .01 | 2.35 (0.79) <.01 |
| a | Var (Residual) | 33.29 (2.81) <.01 | 33.28 (2.81) <.01 | 33.31 (2.83) <.01 | 32.11 (2.82) <.01 |
| b | Var (Level) | 4.89 (0.66) <.01 | 3.85 (0.57) <.01 | 3.32 (0.48) <.01 | 3.14 (0.45) <.01 |
| b | Var (Slope) | 0.05 (0.03) .15 | 0.05 (0.03) .13 | 0.05 (0.03) .13 | 0.04 (0.02) .06 |
| b | Var (Residual) | 3.05 (0.31) <.01 | 3.05 (0.31) <.01 | 3.05 (0.31) <.01 | 3.13 (0.32) <.01 |
| a | Covar (Level, Slope) | -8.73 (3.93) .03 | -9.19 (3.93) .02 | -8.44 (3.60) .02 | -6.20 (3.38) .07 |
| b | Covar (Level, Slope) | -0.16 (0.14) .25 | -0.15 (0.12) .24 | -0.12 (0.11) .27 | -0.07 (0.10) .44 |
|  | Correlation of Levels | 0.270 | 0.220 | 0.069 | 0.059 |
|  | Correlation of Slopes | 0.582 | 0.597 | 0.599 | 0.756 |
|  | Correlation of Residuals | -0.015 | -0.015 | -0.015 | -0.020 |
|  | N | 336 | 336 | 331 | 308 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -6,253 | -6,222 | -6,138 | -5,694 |
|  | AIC | 12,548 | 12,494 | 12,335 | 11,470 |
|  | BIC | 12,628 | 12,589 | 12,445 | 11,622 |

## mmse

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 6.63 (2.59) .01 | 5.29 (2.38) .03 | 3.55 (2.09) .09 | 4.00 (2.30) .08 |
| ab | Covar (Slopes) | 0.27 (0.19) .16 | 0.29 (0.20) .14 | 0.28 (0.20) .14 | 0.30 (0.17) .08 |
| ab | Covar (Residuals) | 0.01 (0.40) .98 | 0.01 (0.40) .98 | 0.01 (0.40) .99 | 0.01 (0.41) .98 |
| er | Corr (Levels) | 0.23 (0.07) <.01 | 0.20 (0.07) <.01 | 0.15 (0.07) .03 | 0.17 (0.07) .01 |
| er | Corr (Slopes) | 0.40 (0.30) .18 | 0.43 (0.29) .13 | 0.42 (0.29) .14 | 0.69 (0.23) <.01 |
| er | Corr (Residuals) | 0.00 (0.05) .98 | 0.00 (0.05) .98 | 0.00 (0.05) .99 | 0.00 (0.05) .98 |
| a | Level | 79.69 (1.75) <.01 | 74.11 (2.94) <.01 | 75.96 (2.57) <.01 | 77.09 (2.74) <.01 |
| a | Slope | -1.41 (0.37) <.01 | -1.68 (0.62) .01 | -1.68 (0.62) .01 | -1.97 (0.77) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.01 (0.12) <.01 | -0.97 (0.12) <.01 |
| a | Level \* education | --- | 0.67 (0.27) .01 | 0.19 (0.24) .43 | 0.13 (0.25) .61 |
| a | Level \* height | --- | --- | 86.79 (10.57) <.01 | 88.39 (10.60) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.82 (1.81) .65 |
| a | Level \* cardio | --- | --- | --- | -3.58 (2.24) .11 |
| a | Level \* diabetes | --- | --- | --- | -3.08 (2.18) .16 |
| a | Slope \* age | -0.04 (0.03) .29 | -0.04 (0.03) .26 | -0.04 (0.03) .20 | -0.04 (0.04) .28 |
| a | Slope \* education | --- | 0.04 (0.06) .53 | 0.05 (0.06) .45 | 0.06 (0.06) .32 |
| a | Slope \* height | --- | --- | -1.82 (2.77) .51 | -1.75 (2.94) .55 |
| a | Slope \* smoking | --- | --- | --- | 0.14 (0.44) .75 |
| a | Slope \* cardio | --- | --- | --- | 0.46 (0.48) .35 |
| a | Slope \* diabetes | --- | --- | --- | 0.40 (0.45) .38 |
| b | Level | 28.62 (0.17) <.01 | 27.38 (0.30) <.01 | 27.43 (0.30) <.01 | 27.36 (0.32) <.01 |
| b | Slope | -0.07 (0.05) .13 | -0.03 (0.10) .79 | -0.04 (0.10) .73 | -0.01 (0.12) .90 |
| b | Level \* age | -0.08 (0.02) <.01 | -0.08 (0.02) <.01 | -0.08 (0.02) <.01 | -0.08 (0.02) <.01 |
| b | Level \* education | --- | 0.15 (0.03) <.01 | 0.13 (0.03) <.01 | 0.14 (0.03) <.01 |
| b | Level \* height | --- | --- | 2.85 (1.28) .03 | 3.03 (1.30) .02 |
| b | Level \* smoking | --- | --- | --- | -0.09 (0.24) .71 |
| b | Level \* cardio | --- | --- | --- | 0.28 (0.27) .30 |
| b | Level \* diabetes | --- | --- | --- | 0.02 (0.21) .94 |
| b | Slope \* age | 0.00 (0.01) .96 | -0.00 (0.01) .92 | -0.00 (0.01) .83 | -0.00 (0.01) .59 |
| b | Slope \* education | --- | -0.00 (0.01) .67 | -0.00 (0.01) .73 | -0.01 (0.01) .53 |
| b | Slope \* height | --- | --- | 0.05 (0.55) .93 | 0.01 (0.55) .99 |
| b | Slope \* smoking | --- | --- | --- | -0.02 (0.08) .79 |
| b | Slope \* cardio | --- | --- | --- | 0.10 (0.08) .21 |
| b | Slope \* diabetes | --- | --- | --- | 0.06 (0.08) .43 |
| a | Var (Level) | 264.88 (27.32) <.01 | 258.86 (27.17) <.01 | 216.65 (24.16) <.01 | 216.88 (25.41) <.01 |
| a | Var (Slope) | 3.68 (1.40) .01 | 3.70 (1.39) .01 | 3.69 (1.40) .01 | 2.29 (0.86) .01 |
| a | Var (Residual) | 33.45 (2.85) <.01 | 33.45 (2.85) <.01 | 33.47 (2.87) <.01 | 32.33 (2.85) <.01 |
| b | Var (Level) | 3.04 (1.57) .05 | 2.74 (1.48) .06 | 2.72 (1.49) .07 | 2.48 (1.49) .10 |
| b | Var (Slope) | 0.12 (0.07) .10 | 0.13 (0.08) .11 | 0.12 (0.08) .12 | 0.08 (0.07) .22 |
| b | Var (Residual) | 1.89 (0.16) <.01 | 1.90 (0.16) <.01 | 1.90 (0.16) <.01 | 1.93 (0.17) <.01 |
| a | Covar (Level, Slope) | -8.86 (4.01) .03 | -9.30 (3.95) .02 | -8.23 (3.60) .02 | -6.03 (3.43) .08 |
| b | Covar (Level, Slope) | -0.32 (0.32) .31 | -0.34 (0.32) .29 | -0.33 (0.32) .30 | -0.26 (0.30) .39 |
|  | Correlation of Levels | 0.234 | 0.199 | 0.14605 | 0.1723 |
|  | Correlation of Slopes | 0.402 | 0.431 | 0.42635 | 0.6926 |
|  | Correlation of Residuals | 0.001 | 0.001 | 0.00075 | 0.0014 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -6,197 | -6,179 | -6,110 | -5,649 |
|  | AIC | 12,436 | 12,408 | 12,278 | 11,381 |
|  | BIC | 12,517 | 12,504 | 12,389 | 11,535 |

## nart

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 7.40 (2.49) <.01 | 4.33 (2.08) .04 | 2.69 (1.78) .13 | 3.38 (1.83) .06 |
| ab | Covar (Slopes) | 0.08 (0.06) .22 | 0.09 (0.06) .15 | 0.09 (0.06) .16 | 0.08 (0.07) .23 |
| ab | Covar (Residuals) | -0.08 (0.25) .74 | -0.09 (0.25) .72 | -0.11 (0.25) .66 | -0.14 (0.27) .60 |
| er | Corr (Levels) | 0.20 (0.06) <.01 | 0.14 (0.06) .03 | 0.10 (0.06) .12 | 0.12 (0.06) .06 |
| er | Corr (Slopes) | 0.31 (0.27) .25 | 0.35 (0.27) .18 | 0.35 (0.27) .20 | 0.38 (0.33) .25 |
| er | Corr (Residuals) | -0.02 (0.05) .74 | -0.02 (0.05) .72 | -0.02 (0.05) .66 | -0.03 (0.06) .59 |
| a | Level | 79.77 (1.75) <.01 | 74.22 (2.95) <.01 | 76.06 (2.58) <.01 | 77.23 (2.74) <.01 |
| a | Slope | -1.38 (0.37) <.01 | -1.67 (0.61) .01 | -1.66 (0.62) .01 | -1.92 (0.75) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.97 (0.12) <.01 |
| a | Level \* education | --- | 0.67 (0.27) .01 | 0.19 (0.24) .45 | 0.12 (0.25) .64 |
| a | Level \* height | --- | --- | 87.03 (10.56) <.01 | 88.59 (10.60) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.78 (1.82) .67 |
| a | Level \* cardio | --- | --- | --- | -3.68 (2.26) .10 |
| a | Level \* diabetes | --- | --- | --- | -3.09 (2.18) .16 |
| a | Slope \* age | -0.04 (0.03) .25 | -0.04 (0.03) .21 | -0.05 (0.03) .15 | -0.04 (0.03) .19 |
| a | Slope \* education | --- | 0.04 (0.06) .49 | 0.05 (0.06) .44 | 0.06 (0.06) .33 |
| a | Slope \* height | --- | --- | -1.51 (2.75) .58 | -1.36 (2.87) .64 |
| a | Slope \* smoking | --- | --- | --- | 0.19 (0.43) .66 |
| a | Slope \* cardio | --- | --- | --- | 0.50 (0.49) .30 |
| a | Slope \* diabetes | --- | --- | --- | 0.47 (0.45) .30 |
| b | Level | 7.71 (0.22) <.01 | 4.82 (0.34) <.01 | 4.84 (0.34) <.01 | 5.08 (0.41) <.01 |
| b | Slope | 0.06 (0.04) .07 | 0.13 (0.07) .06 | 0.14 (0.07) .05 | 0.12 (0.08) .15 |
| b | Level \* age | 0.02 (0.02) .40 | 0.01 (0.02) .57 | 0.01 (0.02) .45 | 0.01 (0.02) .54 |
| b | Level \* education | --- | 0.35 (0.03) <.01 | 0.34 (0.03) <.01 | 0.31 (0.04) <.01 |
| b | Level \* height | --- | --- | 2.67 (1.66) .11 | 2.75 (1.67) .10 |
| b | Level \* smoking | --- | --- | --- | 0.17 (0.24) .47 |
| b | Level \* cardio | --- | --- | --- | -0.02 (0.27) .95 |
| b | Level \* diabetes | --- | --- | --- | -0.08 (0.25) .76 |
| b | Slope \* age | -0.00 (0.00) .25 | -0.00 (0.00) .24 | -0.00 (0.00) .22 | -0.00 (0.00) .22 |
| b | Slope \* education | --- | -0.01 (0.01) .22 | -0.01 (0.01) .20 | -0.01 (0.01) .36 |
| b | Slope \* height | --- | --- | 0.09 (0.26) .73 | 0.10 (0.27) .71 |
| b | Slope \* smoking | --- | --- | --- | 0.02 (0.04) .61 |
| b | Slope \* cardio | --- | --- | --- | 0.04 (0.05) .40 |
| b | Slope \* diabetes | --- | --- | --- | -0.06 (0.05) .28 |
| a | Var (Level) | 265.63 (27.39) <.01 | 259.80 (27.28) <.01 | 217.52 (24.28) <.01 | 218.25 (25.54) <.01 |
| a | Var (Slope) | 3.63 (1.39) .01 | 3.64 (1.39) .01 | 3.65 (1.39) .01 | 2.30 (0.86) .01 |
| a | Var (Residual) | 33.48 (2.86) <.01 | 33.45 (2.85) <.01 | 33.49 (2.87) <.01 | 32.26 (2.90) <.01 |
| b | Var (Level) | 5.33 (0.54) <.01 | 3.77 (0.37) <.01 | 3.69 (0.38) <.01 | 3.56 (0.40) <.01 |
| b | Var (Slope) | 0.02 (0.01) .24 | 0.02 (0.01) .23 | 0.02 (0.01) .24 | 0.02 (0.02) .21 |
| b | Var (Residual) | 0.73 (0.09) <.01 | 0.73 (0.09) <.01 | 0.73 (0.09) <.01 | 0.74 (0.10) <.01 |
| a | Covar (Level, Slope) | -9.10 (3.94) .02 | -9.47 (3.93) .02 | -8.55 (3.61) .02 | -6.53 (3.46) .06 |
| b | Covar (Level, Slope) | -0.15 (0.07) .04 | -0.13 (0.06) .04 | -0.13 (0.06) .04 | -0.15 (0.07) .04 |
|  | Correlation of Levels | 0.197 | 0.138 | 0.095 | 0.121 |
|  | Correlation of Slopes | 0.310 | 0.358 | 0.353 | 0.378 |
|  | Correlation of Residuals | -0.017 | -0.018 | -0.022 | -0.029 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -5,784 | -5,726 | -5,656 | -5,236 |
|  | AIC | 11,610 | 11,502 | 11,369 | 10,554 |
|  | BIC | 11,691 | 11,598 | 11,481 | 10,709 |

## num\_comp

Gender = *male*; Process (a) = *grip*; Process (b) = *num\_comp*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 19.03 (6.78) <.01 | 13.62 (6.21) .03 | 2.43 (5.66) .67 | 3.24 (5.94) .58 |
| ab | Covar (Slopes) | -0.05 (0.32) .87 | -0.04 (0.31) .89 | -0.06 (0.31) .84 | -0.18 (0.31) .56 |
| ab | Covar (Residuals) | 0.38 (0.90) .67 | 0.39 (0.90) .66 | 0.42 (0.89) .63 | 0.67 (0.92) .47 |
| er | Corr (Levels) | 0.18 (0.06) <.01 | 0.14 (0.06) .02 | 0.03 (0.06) .67 | 0.04 (0.07) .58 |
| er | Corr (Slopes) | -0.04 (0.26) .87 | -0.04 (0.26) .89 | -0.05 (0.26) .84 | -0.21 (0.35) .54 |
| er | Corr (Residuals) | 0.02 (0.04) .67 | 0.02 (0.04) .66 | 0.02 (0.04) .63 | 0.03 (0.04) .47 |
| a | Level | 79.78 (1.75) <.01 | 74.30 (2.95) <.01 | 76.11 (2.58) <.01 | 77.29 (2.75) <.01 |
| a | Slope | -1.41 (0.37) <.01 | -1.77 (0.59) <.01 | -1.75 (0.61) <.01 | -2.00 (0.75) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.66 (0.27) .01 | 0.18 (0.24) .46 | 0.11 (0.25) .67 |
| a | Level \* height | --- | --- | 87.07 (10.58) <.01 | 88.51 (10.61) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.86 (1.82) .64 |
| a | Level \* cardio | --- | --- | --- | -3.72 (2.26) .10 |
| a | Level \* diabetes | --- | --- | --- | -3.06 (2.18) .16 |
| a | Slope \* age | -0.04 (0.03) .24 | -0.04 (0.03) .20 | -0.05 (0.03) .16 | -0.05 (0.04) .18 |
| a | Slope \* education | --- | 0.05 (0.06) .42 | 0.05 (0.06) .39 | 0.07 (0.06) .27 |
| a | Slope \* height | --- | --- | -1.65 (2.79) .56 | -1.29 (2.91) .66 |
| a | Slope \* smoking | --- | --- | --- | 0.10 (0.43) .81 |
| a | Slope \* cardio | --- | --- | --- | 0.52 (0.49) .29 |
| a | Slope \* diabetes | --- | --- | --- | 0.48 (0.45) .28 |
| b | Level | 26.06 (0.65) <.01 | 20.86 (1.03) <.01 | 21.21 (1.01) <.01 | 21.20 (1.29) <.01 |
| b | Slope | -0.05 (0.13) .69 | 0.27 (0.25) .28 | 0.31 (0.25) .21 | 0.34 (0.32) .28 |
| b | Level \* age | -0.18 (0.06) <.01 | -0.19 (0.05) <.01 | -0.17 (0.05) <.01 | -0.18 (0.06) <.01 |
| b | Level \* education | --- | 0.62 (0.10) <.01 | 0.53 (0.10) <.01 | 0.53 (0.11) <.01 |
| b | Level \* height | --- | --- | 17.34 (5.06) <.01 | 16.76 (5.10) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.61 (0.78) .43 |
| b | Level \* cardio | --- | --- | --- | 0.57 (0.85) .51 |
| b | Level \* diabetes | --- | --- | --- | 1.38 (0.86) .11 |
| b | Slope \* age | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) .01 | -0.03 (0.01) .01 |
| b | Slope \* education | --- | -0.04 (0.03) .15 | -0.04 (0.03) .11 | -0.05 (0.03) .07 |
| b | Slope \* height | --- | --- | -0.13 (1.07) .90 | 0.26 (1.10) .82 |
| b | Slope \* smoking | --- | --- | --- | 0.27 (0.18) .14 |
| b | Slope \* cardio | --- | --- | --- | -0.14 (0.19) .47 |
| b | Slope \* diabetes | --- | --- | --- | -0.21 (0.18) .26 |
| a | Var (Level) | 265.85 (27.41) <.01 | 260.07 (27.32) <.01 | 217.81 (24.32) <.01 | 218.02 (25.61) <.01 |
| a | Var (Slope) | 3.67 (1.43) .01 | 3.65 (1.43) .01 | 3.66 (1.44) .01 | 2.21 (0.87) .01 |
| a | Var (Residual) | 33.45 (2.87) <.01 | 33.45 (2.86) <.01 | 33.47 (2.88) <.01 | 32.31 (2.91) <.01 |
| b | Var (Level) | 42.13 (3.76) <.01 | 37.15 (3.39) <.01 | 35.53 (3.21) <.01 | 35.12 (3.29) <.01 |
| b | Var (Slope) | 0.40 (0.26) .12 | 0.38 (0.25) .13 | 0.38 (0.25) .13 | 0.35 (0.26) .18 |
| b | Var (Residual) | 13.85 (1.55) <.01 | 13.84 (1.55) <.01 | 13.70 (1.54) <.01 | 13.74 (1.64) <.01 |
| a | Covar (Level, Slope) | -9.25 (3.99) .02 | -9.52 (3.97) .02 | -8.65 (3.65) .02 | -6.26 (3.45) .07 |
| b | Covar (Level, Slope) | -0.29 (0.92) .75 | 0.00 (0.82) .99 | -0.09 (0.82) .91 | -0.15 (0.81) .85 |
|  | Correlation of Levels | 0.180 | 0.139 | 0.028 | 0.037 |
|  | Correlation of Slopes | -0.042 | -0.035 | -0.054 | -0.211 |
|  | Correlation of Residuals | 0.018 | 0.018 | 0.020 | 0.032 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -7,573 | -7,553 | -7,466 | -6,923 |
|  | AIC | 15,189 | 15,157 | 14,989 | 13,928 |
|  | BIC | 15,270 | 15,253 | 15,101 | 14,082 |

## symbol

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 41.45 (10.99) <.01 | 33.09 (10.53) <.01 | 16.43 (9.09) .07 | 16.04 (9.44) .09 |
| ab | Covar (Slopes) | 0.76 (0.46) .10 | 0.74 (0.46) .11 | 0.74 (0.46) .11 | 0.60 (0.42) .16 |
| ab | Covar (Residuals) | -0.06 (1.16) .96 | -0.04 (1.16) .97 | -0.04 (1.15) .97 | -0.24 (1.11) .83 |
| er | Corr (Levels) | 0.27 (0.06) <.01 | 0.23 (0.06) <.01 | 0.13 (0.07) .06 | 0.13 (0.07) .07 |
| er | Corr (Slopes) | 0.43 (0.24) .08 | 0.43 (0.25) .08 | 0.43 (0.25) .09 | 0.49 (0.32) .13 |
| er | Corr (Residuals) | -0.00 (0.04) .96 | -0.00 (0.04) .97 | -0.00 (0.04) .97 | -0.01 (0.04) .83 |
| a | Level | 79.73 (1.75) <.01 | 74.28 (2.94) <.01 | 76.06 (2.58) <.01 | 77.27 (2.74) <.01 |
| a | Slope | -1.47 (0.37) <.01 | -1.84 (0.59) <.01 | -1.84 (0.60) <.01 | -1.99 (0.74) .01 |
| a | Level \* age | -1.09 (0.13) <.01 | -1.10 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.66 (0.27) .01 | 0.19 (0.24) .44 | 0.12 (0.25) .64 |
| a | Level \* height | --- | --- | 86.21 (10.61) <.01 | 87.87 (10.65) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.74 (1.82) .68 |
| a | Level \* cardio | --- | --- | --- | -3.73 (2.27) .10 |
| a | Level \* diabetes | --- | --- | --- | -3.04 (2.19) .16 |
| a | Slope \* age | -0.05 (0.03) .17 | -0.05 (0.03) .15 | -0.05 (0.03) .12 | -0.05 (0.04) .14 |
| a | Slope \* education | --- | 0.05 (0.06) .40 | 0.06 (0.06) .36 | 0.06 (0.06) .31 |
| a | Slope \* height | --- | --- | -1.74 (2.75) .52 | -1.36 (2.90) .64 |
| a | Slope \* smoking | --- | --- | --- | 0.10 (0.43) .83 |
| a | Slope \* cardio | --- | --- | --- | 0.50 (0.49) .31 |
| a | Slope \* diabetes | --- | --- | --- | 0.37 (0.45) .41 |
| b | Level | 42.74 (0.99) <.01 | 35.00 (1.57) <.01 | 35.23 (1.52) <.01 | 35.63 (1.92) <.01 |
| b | Slope | 0.04 (0.17) .81 | -0.38 (0.31) .22 | -0.32 (0.32) .33 | -0.17 (0.43) .69 |
| b | Level \* age | -0.45 (0.08) <.01 | -0.47 (0.07) <.01 | -0.45 (0.07) <.01 | -0.46 (0.07) <.01 |
| b | Level \* education | --- | 0.93 (0.15) <.01 | 0.85 (0.15) <.01 | 0.86 (0.16) <.01 |
| b | Level \* height | --- | --- | 21.77 (6.29) <.01 | 22.13 (6.41) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.85 (1.07) .43 |
| b | Level \* cardio | --- | --- | --- | 0.85 (1.13) .45 |
| b | Level \* diabetes | --- | --- | --- | 0.05 (1.25) .97 |
| b | Slope \* age | -0.05 (0.02) <.01 | -0.05 (0.02) <.01 | -0.05 (0.02) <.01 | -0.05 (0.02) <.01 |
| b | Slope \* education | --- | 0.05 (0.03) .10 | 0.04 (0.03) .23 | 0.02 (0.04) .57 |
| b | Slope \* height | --- | --- | 1.66 (1.55) .28 | 2.28 (1.60) .15 |
| b | Slope \* smoking | --- | --- | --- | 0.09 (0.23) .71 |
| b | Slope \* cardio | --- | --- | --- | 0.15 (0.27) .59 |
| b | Slope \* diabetes | --- | --- | --- | -0.23 (0.28) .40 |
| a | Var (Level) | 265.43 (27.41) <.01 | 259.76 (27.34) <.01 | 217.31 (24.36) <.01 | 217.79 (25.64) <.01 |
| a | Var (Slope) | 3.68 (1.42) .01 | 3.67 (1.41) .01 | 3.70 (1.42) .01 | 2.23 (0.85) .01 |
| a | Var (Residual) | 33.43 (2.84) <.01 | 33.41 (2.84) <.01 | 33.46 (2.86) <.01 | 32.34 (2.89) <.01 |
| b | Var (Level) | 89.36 (8.74) <.01 | 78.09 (7.83) <.01 | 72.63 (7.09) <.01 | 71.24 (7.28) <.01 |
| b | Var (Slope) | 0.86 (0.43) .04 | 0.82 (0.41) .05 | 0.80 (0.41) .05 | 0.67 (0.41) .10 |
| b | Var (Residual) | 19.73 (1.52) <.01 | 19.77 (1.52) <.01 | 19.79 (1.53) <.01 | 20.00 (1.61) <.01 |
| a | Covar (Level, Slope) | -7.98 (3.96) .04 | -8.49 (3.94) .03 | -7.84 (3.62) .03 | -5.66 (3.44) .10 |
| b | Covar (Level, Slope) | 1.93 (1.48) .19 | 1.10 (1.41) .43 | 0.93 (1.36) .49 | 1.35 (1.37) .32 |
|  | Correlation of Levels | 0.2691 | 0.2323 | 0.1308 | 0.1287 |
|  | Correlation of Slopes | 0.4292 | 0.4294 | 0.4311 | 0.4895 |
|  | Correlation of Residuals | -0.0022 | -0.0018 | -0.0017 | -0.0093 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -7,871 | -7,847 | -7,763 | -7,201 |
|  | AIC | 15,784 | 15,745 | 15,584 | 14,485 |
|  | BIC | 15,865 | 15,841 | 15,695 | 14,640 |

## word\_de

Gender = *male*; Process (a) = *grip*; Process (b) = *word\_de*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 1.75 (1.93) .36 | 0.48 (1.85) .80 | -1.01 (1.62) .53 | -0.57 (1.68) .73 |
| ab | Covar (Slopes) | 0.01 (0.12) .91 | 0.02 (0.12) .87 | 0.03 (0.12) .83 | -0.03 (0.10) .77 |
| ab | Covar (Residuals) | -0.14 (0.32) .65 | -0.15 (0.32) .64 | -0.15 (0.32) .63 | -0.12 (0.31) .70 |
| er | Corr (Levels) | 0.06 (0.07) .36 | 0.02 (0.07) .80 | -0.04 (0.07) .53 | -0.02 (0.07) .73 |
| er | Corr (Slopes) | 0.03 (0.31) .91 | 0.05 (0.30) .87 | 0.07 (0.30) .83 | -0.12 (0.42) .78 |
| er | Corr (Residuals) | -0.02 (0.04) .65 | -0.02 (0.04) .64 | -0.02 (0.04) .63 | -0.02 (0.04) .71 |
| a | Level | 79.76 (1.75) <.01 | 74.31 (2.94) <.01 | 76.13 (2.58) <.01 | 77.22 (2.75) <.01 |
| a | Slope | -1.42 (0.38) <.01 | -1.76 (0.60) <.01 | -1.74 (0.61) <.01 | -1.97 (0.77) .01 |
| a | Level \* age | -1.09 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.66 (0.27) .01 | 0.18 (0.24) .46 | 0.11 (0.25) .67 |
| a | Level \* height | --- | --- | 86.77 (10.63) <.01 | 88.31 (10.66) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.90 (1.82) .62 |
| a | Level \* cardio | --- | --- | --- | -3.60 (2.26) .11 |
| a | Level \* diabetes | --- | --- | --- | -2.96 (2.19) .18 |
| a | Slope \* age | -0.04 (0.03) .22 | -0.04 (0.03) .19 | -0.05 (0.03) .14 | -0.05 (0.04) .18 |
| a | Slope \* education | --- | 0.05 (0.06) .43 | 0.05 (0.06) .40 | 0.06 (0.06) .28 |
| a | Slope \* height | --- | --- | -1.33 (2.78) .63 | -1.18 (2.95) .69 |
| a | Slope \* smoking | --- | --- | --- | 0.08 (0.44) .86 |
| a | Slope \* cardio | --- | --- | --- | 0.47 (0.49) .34 |
| a | Slope \* diabetes | --- | --- | --- | 0.43 (0.45) .34 |
| b | Level | 5.92 (0.18) <.01 | 4.74 (0.29) <.01 | 4.74 (0.29) <.01 | 4.81 (0.37) <.01 |
| b | Slope | 0.03 (0.05) .52 | 0.05 (0.08) .59 | 0.05 (0.09) .57 | 0.09 (0.11) .41 |
| b | Level \* age | -0.10 (0.01) <.01 | -0.10 (0.01) <.01 | -0.10 (0.01) <.01 | -0.10 (0.01) <.01 |
| b | Level \* education | --- | 0.14 (0.03) <.01 | 0.14 (0.03) <.01 | 0.14 (0.03) <.01 |
| b | Level \* height | --- | --- | 1.24 (1.33) .35 | 1.60 (1.36) .24 |
| b | Level \* smoking | --- | --- | --- | -0.21 (0.22) .35 |
| b | Level \* cardio | --- | --- | --- | 0.23 (0.24) .35 |
| b | Level \* diabetes | --- | --- | --- | 0.24 (0.26) .35 |
| b | Slope \* age | 0.00 (0.00) .70 | 0.00 (0.00) .74 | 0.00 (0.00) .70 | 0.00 (0.00) .84 |
| b | Slope \* education | --- | -0.00 (0.01) .88 | -0.00 (0.01) .78 | -0.00 (0.01) .70 |
| b | Slope \* height | --- | --- | 0.16 (0.47) .74 | 0.25 (0.46) .58 |
| b | Slope \* smoking | --- | --- | --- | -0.06 (0.07) .37 |
| b | Slope \* cardio | --- | --- | --- | 0.08 (0.07) .23 |
| b | Slope \* diabetes | --- | --- | --- | -0.10 (0.07) .14 |
| a | Var (Level) | 265.35 (27.46) <.01 | 259.57 (27.36) <.01 | 217.40 (24.31) <.01 | 217.78 (25.58) <.01 |
| a | Var (Slope) | 3.66 (1.42) .01 | 3.64 (1.42) .01 | 3.69 (1.43) .01 | 2.24 (0.87) .01 |
| a | Var (Residual) | 33.44 (2.85) <.01 | 33.42 (2.85) <.01 | 33.44 (2.86) <.01 | 32.28 (2.91) <.01 |
| b | Var (Level) | 2.78 (0.31) <.01 | 2.50 (0.30) <.01 | 2.46 (0.30) <.01 | 2.46 (0.31) <.01 |
| b | Var (Slope) | 0.04 (0.02) .06 | 0.04 (0.02) .07 | 0.04 (0.02) .06 | 0.03 (0.02) .20 |
| b | Var (Residual) | 1.67 (0.11) <.01 | 1.67 (0.11) <.01 | 1.67 (0.11) <.01 | 1.68 (0.12) <.01 |
| a | Covar (Level, Slope) | -8.85 (4.01) .03 | -9.22 (3.99) .02 | -8.50 (3.68) .02 | -6.16 (3.50) .08 |
| b | Covar (Level, Slope) | -0.01 (0.08) .93 | -0.01 (0.07) .92 | -0.01 (0.07) .91 | 0.01 (0.07) .91 |
|  | Correlation of Levels | 0.065 | 0.019 | -0.044 | -0.025 |
|  | Correlation of Slopes | 0.033 | 0.051 | 0.065 | -0.120 |
|  | Correlation of Residuals | -0.019 | -0.020 | -0.020 | -0.016 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -6,133 | -6,117 | -6,046 | -5,597 |
|  | AIC | 12,308 | 12,283 | 12,149 | 11,277 |
|  | BIC | 12,389 | 12,380 | 12,261 | 11,432 |

## word\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 4.95 (3.59) .17 | 1.97 (3.29) .55 | -0.24 (2.98) .94 | -0.25 (3.08) .93 |
| ab | Covar (Slopes) | 0.02 (0.20) .91 | 0.03 (0.20) .88 | 0.05 (0.20) .81 | -0.13 (0.16) .41 |
| ab | Covar (Residuals) | 1.04 (0.71) .14 | 1.05 (0.71) .14 | 0.97 (0.70) .17 | 0.95 (0.68) .16 |
| er | Corr (Levels) | 0.11 (0.08) .16 | 0.05 (0.08) .54 | -0.01 (0.08) .94 | -0.01 (0.08) .93 |
| er | Corr (Slopes) | 0.05 (0.41) .91 | 0.06 (0.41) .88 | 0.10 (0.39) .80 | -0.34 (0.38) .38 |
| er | Corr (Residuals) | 0.07 (0.05) .14 | 0.07 (0.05) .13 | 0.07 (0.05) .16 | 0.07 (0.05) .16 |
| a | Level | 79.73 (1.74) <.01 | 74.24 (2.94) <.01 | 76.08 (2.58) <.01 | 77.23 (2.74) <.01 |
| a | Slope | -1.41 (0.38) <.01 | -1.71 (0.61) <.01 | -1.70 (0.62) .01 | -1.96 (0.76) .01 |
| a | Level \* age | -1.09 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.66 (0.27) .01 | 0.18 (0.25) .45 | 0.11 (0.25) .65 |
| a | Level \* height | --- | --- | 86.69 (10.60) <.01 | 88.33 (10.66) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.83 (1.82) .65 |
| a | Level \* cardio | --- | --- | --- | -3.63 (2.27) .11 |
| a | Level \* diabetes | --- | --- | --- | -2.95 (2.19) .18 |
| a | Slope \* age | -0.04 (0.03) .25 | -0.04 (0.03) .21 | -0.05 (0.03) .15 | -0.04 (0.04) .20 |
| a | Slope \* education | --- | 0.04 (0.06) .49 | 0.05 (0.06) .44 | 0.06 (0.06) .32 |
| a | Slope \* height | --- | --- | -1.33 (2.77) .63 | -1.13 (2.92) .70 |
| a | Slope \* smoking | --- | --- | --- | 0.08 (0.44) .86 |
| a | Slope \* cardio | --- | --- | --- | 0.50 (0.49) .30 |
| a | Slope \* diabetes | --- | --- | --- | 0.42 (0.44) .35 |
| b | Level | 17.91 (0.32) <.01 | 15.17 (0.55) <.01 | 15.14 (0.55) <.01 | 15.43 (0.69) <.01 |
| b | Slope | 0.20 (0.08) .02 | 0.19 (0.15) .20 | 0.17 (0.15) .24 | 0.18 (0.20) .38 |
| b | Level \* age | -0.14 (0.03) <.01 | -0.15 (0.02) <.01 | -0.15 (0.02) <.01 | -0.15 (0.03) <.01 |
| b | Level \* education | --- | 0.33 (0.05) <.01 | 0.33 (0.05) <.01 | 0.30 (0.06) <.01 |
| b | Level \* height | --- | --- | 1.86 (2.24) .41 | 2.00 (2.29) .38 |
| b | Level \* smoking | --- | --- | --- | -0.27 (0.37) .46 |
| b | Level \* cardio | --- | --- | --- | 0.23 (0.41) .58 |
| b | Level \* diabetes | --- | --- | --- | 0.38 (0.44) .38 |
| b | Slope \* age | 0.00 (0.01) .82 | 0.00 (0.01) .92 | 0.00 (0.01) .94 | -0.00 (0.01) .93 |
| b | Slope \* education | --- | 0.00 (0.02) .88 | 0.00 (0.02) .82 | 0.01 (0.02) .60 |
| b | Slope \* height | --- | --- | -0.12 (0.76) .87 | 0.04 (0.77) .96 |
| b | Slope \* smoking | --- | --- | --- | -0.05 (0.12) .70 |
| b | Slope \* cardio | --- | --- | --- | 0.13 (0.14) .35 |
| b | Slope \* diabetes | --- | --- | --- | -0.16 (0.13) .21 |
| a | Var (Level) | 264.87 (27.48) <.01 | 258.97 (27.36) <.01 | 217.03 (24.32) <.01 | 217.78 (25.64) <.01 |
| a | Var (Slope) | 3.56 (1.38) .01 | 3.56 (1.38) .01 | 3.60 (1.39) .01 | 2.15 (0.83) .01 |
| a | Var (Residual) | 33.58 (2.86) <.01 | 33.55 (2.86) <.01 | 33.56 (2.87) <.01 | 32.37 (2.89) <.01 |
| b | Var (Level) | 7.95 (0.90) <.01 | 6.50 (0.85) <.01 | 6.45 (0.85) <.01 | 6.35 (0.85) <.01 |
| b | Var (Slope) | 0.07 (0.06) .30 | 0.07 (0.07) .30 | 0.07 (0.06) .27 | 0.07 (0.05) .19 |
| b | Var (Residual) | 6.08 (0.33) <.01 | 6.10 (0.34) <.01 | 6.06 (0.33) <.01 | 6.04 (0.33) <.01 |
| a | Covar (Level, Slope) | -8.65 (4.05) .03 | -9.03 (4.02) .02 | -8.36 (3.70) .02 | -5.98 (3.50) .09 |
| b | Covar (Level, Slope) | 0.35 (0.22) .11 | 0.33 (0.22) .13 | 0.32 (0.22) .14 | 0.28 (0.20) .16 |
|  | Correlation of Levels | 0.108 | 0.048 | -0.0063 | -0.0068 |
|  | Correlation of Slopes | 0.047 | 0.061 | 0.0988 | -0.3398 |
|  | Correlation of Residuals | 0.073 | 0.073 | 0.0680 | 0.0680 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -6,933 | -6,908 | -6,831 | -6,329 |
|  | AIC | 13,909 | 13,865 | 13,719 | 12,740 |
|  | BIC | 13,990 | 13,961 | 13,831 | 12,895 |

## word\_rec

Gender = *male*; Process (a) = *grip*; Process (b) = *word\_rec*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 1.81 (1.22) .14 | 1.47 (1.21) .22 | 0.57 (0.90) .53 | 0.85 (1.00) .40 |
| ab | Covar (Slopes) | 0.06 (0.06) .28 | 0.07 (0.06) .22 | 0.06 (0.06) .30 | 0.03 (0.06) .60 |
| ab | Covar (Residuals) | -0.12 (0.22) .58 | -0.11 (0.22) .60 | -0.11 (0.21) .62 | -0.07 (0.22) .76 |
| er | Corr (Levels) | 0.11 (0.07) .10 | 0.09 (0.07) .19 | 0.04 (0.06) .52 | 0.06 (0.07) .38 |
| er | Corr (Slopes) | 0.18 (0.17) .27 | 0.21 (0.16) .20 | 0.17 (0.17) .30 | 0.11 (0.21) .60 |
| er | Corr (Residuals) | -0.03 (0.06) .58 | -0.03 (0.06) .60 | -0.03 (0.06) .62 | -0.02 (0.06) .76 |
| a | Level | 79.78 (1.75) <.01 | 74.39 (2.95) <.01 | 76.19 (2.58) <.01 | 77.45 (2.76) <.01 |
| a | Slope | -1.38 (0.37) <.01 | -1.73 (0.60) <.01 | -1.71 (0.61) <.01 | -2.01 (0.76) .01 |
| a | Level \* age | -1.10 (0.13) <.01 | -1.11 (0.13) <.01 | -1.00 (0.12) <.01 | -0.96 (0.12) <.01 |
| a | Level \* education | --- | 0.65 (0.27) .02 | 0.17 (0.24) .49 | 0.09 (0.25) .71 |
| a | Level \* height | --- | --- | 87.60 (10.63) <.01 | 89.26 (10.67) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.82 (1.82) .65 |
| a | Level \* cardio | --- | --- | --- | -3.76 (2.26) .10 |
| a | Level \* diabetes | --- | --- | --- | -3.13 (2.20) .15 |
| a | Slope \* age | -0.04 (0.03) .27 | -0.04 (0.03) .22 | -0.05 (0.03) .16 | -0.04 (0.03) .19 |
| a | Slope \* education | --- | 0.05 (0.06) .42 | 0.05 (0.06) .38 | 0.07 (0.06) .27 |
| a | Slope \* height | --- | --- | -1.87 (2.80) .50 | -1.50 (2.93) .61 |
| a | Slope \* smoking | --- | --- | --- | 0.12 (0.44) .78 |
| a | Slope \* cardio | --- | --- | --- | 0.55 (0.49) .27 |
| a | Slope \* diabetes | --- | --- | --- | 0.50 (0.45) .27 |
| b | Level | 9.76 (0.08) <.01 | 9.45 (0.15) <.01 | 9.42 (0.15) <.01 | 9.38 (0.20) <.01 |
| b | Slope | 0.02 (0.02) .30 | 0.06 (0.05) .23 | 0.05 (0.05) .27 | 0.08 (0.06) .23 |
| b | Level \* age | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 |
| b | Level \* education | --- | 0.04 (0.02) .02 | 0.04 (0.02) .02 | 0.04 (0.02) .01 |
| b | Level \* height | --- | --- | 0.88 (0.70) .21 | 0.84 (0.74) .25 |
| b | Level \* smoking | --- | --- | --- | -0.21 (0.14) .13 |
| b | Level \* cardio | --- | --- | --- | 0.10 (0.16) .54 |
| b | Level \* diabetes | --- | --- | --- | 0.25 (0.14) .06 |
| b | Slope \* age | 0.00 (0.00) .70 | 0.00 (0.00) .70 | 0.00 (0.00) .74 | 0.00 (0.00) .88 |
| b | Slope \* education | --- | -0.00 (0.00) .48 | -0.00 (0.01) .62 | -0.00 (0.01) .45 |
| b | Slope \* height | --- | --- | -0.38 (0.24) .11 | -0.33 (0.24) .17 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.04) .73 |
| b | Slope \* cardio | --- | --- | --- | 0.07 (0.04) .11 |
| b | Slope \* diabetes | --- | --- | --- | -0.03 (0.04) .43 |
| a | Var (Level) | 265.50 (27.44) <.01 | 259.66 (27.33) <.01 | 217.22 (24.28) <.01 | 217.77 (25.60) <.01 |
| a | Var (Slope) | 3.76 (1.46) .01 | 3.75 (1.46) .01 | 3.73 (1.45) .01 | 2.27 (0.88) .01 |
| a | Var (Residual) | 33.38 (2.85) <.01 | 33.36 (2.85) <.01 | 33.39 (2.87) <.01 | 32.21 (2.91) <.01 |
| b | Var (Level) | 0.97 (0.25) <.01 | 0.95 (0.24) <.01 | 0.89 (0.23) <.01 | 0.91 (0.24) <.01 |
| b | Var (Slope) | 0.03 (0.02) .06 | 0.03 (0.02) .07 | 0.03 (0.02) .07 | 0.03 (0.02) .07 |
| b | Var (Residual) | 0.44 (0.07) <.01 | 0.44 (0.07) <.01 | 0.44 (0.07) <.01 | 0.45 (0.08) <.01 |
| a | Covar (Level, Slope) | -9.47 (4.01) .02 | -9.65 (3.99) .02 | -8.49 (3.63) .02 | -6.21 (3.45) .07 |
| b | Covar (Level, Slope) | -0.11 (0.06) .05 | -0.11 (0.06) .05 | -0.10 (0.05) .06 | -0.10 (0.05) .05 |
|  | Correlation of Levels | 0.113 | 0.093 | 0.041 | 0.060 |
|  | Correlation of Slopes | 0.184 | 0.211 | 0.173 | 0.111 |
|  | Correlation of Residuals | -0.031 | -0.029 | -0.028 | -0.018 |
|  | N | 349 | 349 | 344 | 321 |
|  | occasions | 4 | 4 | 4 | 4 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -5,298 | -5,291 | -5,217 | -4,838 |
|  | AIC | 10,638 | 10,633 | 10,491 | 9,759 |
|  | BIC | 10,719 | 10,729 | 10,603 | 9,914 |

## Summary

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

Computed correlations:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Correlation of Levels | bnt | 0.27 | 0.25 | 0.19 | 0.19 |
| Correlation of Levels | bstory\_de | 0.17 | 0.13 | 0.10 | 0.09 |
| Correlation of Levels | bstory\_im | 0.25 | 0.21 | 0.15 | 0.14 |
| Correlation of Levels | categories | 0.12 | 0.09 | 0.01 | 0.01 |
| Correlation of Levels | digit\_b | 0.07 | 0.01 | -0.00 | 0.02 |
| Correlation of Levels | digit\_f | 0.13 | 0.08 | 0.07 | 0.08 |
| Correlation of Levels | digit\_o | 0.17 | 0.12 | 0.04 | 0.05 |
| Correlation of Levels | ideas | 0.24 | 0.22 | 0.16 | 0.16 |
| Correlation of Levels | line | 0.19 | 0.14 | 0.05 | 0.06 |
| Correlation of Levels | logic\_de | -0.01 | -0.05 | -0.10 | -0.06 |
| Correlation of Levels | logic\_im | -0.03 | -0.09 | -0.18 | -0.12 |
| Correlation of Levels | matrices | 0.27 | 0.22 | 0.07 | 0.06 |
| Correlation of Levels | mmse | 0.23 | 0.20 | 0.15 | 0.17 |
| Correlation of Levels | nart | 0.20 | 0.14 | 0.09 | 0.12 |
| Correlation of Levels | num\_comp | 0.18 | 0.14 | 0.03 | 0.04 |
| Correlation of Levels | symbol | 0.27 | 0.23 | 0.13 | 0.13 |
| Correlation of Levels | word\_de | 0.06 | 0.02 | -0.04 | -0.02 |
| Correlation of Levels | word\_im | 0.11 | 0.05 | -0.01 | -0.01 |
| Correlation of Levels | word\_rec | 0.11 | 0.09 | 0.04 | 0.06 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Correlation of Slopes | bnt | 0.48 | 0.53 | 0.67 | 0.77 |
| Correlation of Slopes | bstory\_de | -0.52 | -0.51 | -0.50 | -0.56 |
| Correlation of Slopes | bstory\_im | -0.20 | -0.18 | -0.18 | -0.03 |
| Correlation of Slopes | categories | 0.26 | 0.27 | 0.27 | 0.25 |
| Correlation of Slopes | digit\_b | 0.08 | 0.09 | 0.13 | 0.03 |
| Correlation of Slopes | digit\_f | 0.37 | 0.40 | 0.37 | 0.25 |
| Correlation of Slopes | digit\_o | -0.07 | -0.06 | -0.10 | -0.35 |
| Correlation of Slopes | ideas | 0.22 | 0.22 | 0.19 | 0.10 |
| Correlation of Slopes | line | 0.08 | 0.10 | 0.04 | -0.18 |
| Correlation of Slopes | logic\_de | -0.03 | -0.03 | -0.06 | -0.07 |
| Correlation of Slopes | logic\_im | -0.58 | -0.57 | -0.60 | -0.48 |
| Correlation of Slopes | matrices | 0.58 | 0.60 | 0.60 | 0.76 |
| Correlation of Slopes | mmse | 0.40 | 0.43 | 0.43 | 0.69 |
| Correlation of Slopes | nart | 0.31 | 0.36 | 0.35 | 0.38 |
| Correlation of Slopes | num\_comp | -0.04 | -0.04 | -0.05 | -0.21 |
| Correlation of Slopes | symbol | 0.43 | 0.43 | 0.43 | 0.49 |
| Correlation of Slopes | word\_de | 0.03 | 0.05 | 0.07 | -0.12 |
| Correlation of Slopes | word\_im | 0.05 | 0.06 | 0.10 | -0.34 |
| Correlation of Slopes | word\_rec | 0.18 | 0.21 | 0.17 | 0.11 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Correlation of Residuals | bnt | 0.03 | 0.03 | 0.02 | 0.03 |
| Correlation of Residuals | bstory\_de | 0.04 | 0.04 | 0.04 | 0.04 |
| Correlation of Residuals | bstory\_im | 0.01 | 0.01 | 0.01 | 0.01 |
| Correlation of Residuals | categories | -0.02 | -0.02 | -0.02 | -0.04 |
| Correlation of Residuals | digit\_b | 0.13 | 0.13 | 0.12 | 0.13 |
| Correlation of Residuals | digit\_f | 0.02 | 0.02 | 0.02 | 0.01 |
| Correlation of Residuals | digit\_o | -0.01 | -0.01 | -0.01 | 0.00 |
| Correlation of Residuals | ideas | -0.02 | -0.02 | -0.02 | -0.05 |
| Correlation of Residuals | line | -0.04 | -0.04 | -0.03 | -0.03 |
| Correlation of Residuals | logic\_de | 0.05 | 0.05 | 0.04 | 0.04 |
| Correlation of Residuals | logic\_im | 0.05 | 0.05 | 0.04 | 0.04 |
| Correlation of Residuals | matrices | -0.02 | -0.01 | -0.01 | -0.02 |
| Correlation of Residuals | mmse | 0.00 | 0.00 | 0.00 | 0.00 |
| Correlation of Residuals | nart | -0.02 | -0.02 | -0.02 | -0.03 |
| Correlation of Residuals | num\_comp | 0.02 | 0.02 | 0.02 | 0.03 |
| Correlation of Residuals | symbol | -0.00 | -0.00 | -0.00 | -0.01 |
| Correlation of Residuals | word\_de | -0.02 | -0.02 | -0.02 | -0.02 |
| Correlation of Residuals | word\_im | 0.07 | 0.07 | 0.07 | 0.07 |
| Correlation of Residuals | word\_rec | -0.03 | -0.03 | -0.03 | -0.02 |

P-values for corresponding covariances:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Covariance of Levels | bnt | 0.00 | 0.00 | 0.01 | 0.02 |
| Covariance of Levels | bstory\_de | 0.07 | 0.18 | 0.29 | 0.31 |
| Covariance of Levels | bstory\_im | 0.01 | 0.04 | 0.14 | 0.17 |
| Covariance of Levels | categories | 0.07 | 0.22 | 0.91 | 0.86 |
| Covariance of Levels | digit\_b | 0.36 | 0.89 | 0.98 | 0.77 |
| Covariance of Levels | digit\_f | 0.06 | 0.26 | 0.31 | 0.28 |
| Covariance of Levels | digit\_o | 0.07 | 0.19 | 0.64 | 0.61 |
| Covariance of Levels | ideas | 0.01 | 0.01 | 0.04 | 0.06 |
| Covariance of Levels | line | 0.00 | 0.04 | 0.47 | 0.41 |
| Covariance of Levels | logic\_de | 0.94 | 0.52 | 0.20 | 0.49 |
| Covariance of Levels | logic\_im | 0.66 | 0.26 | 0.03 | 0.18 |
| Covariance of Levels | matrices | 0.00 | 0.01 | 0.38 | 0.46 |
| Covariance of Levels | mmse | 0.01 | 0.03 | 0.09 | 0.08 |
| Covariance of Levels | nart | 0.00 | 0.04 | 0.13 | 0.06 |
| Covariance of Levels | num\_comp | 0.00 | 0.03 | 0.67 | 0.58 |
| Covariance of Levels | symbol | 0.00 | 0.00 | 0.07 | 0.09 |
| Covariance of Levels | word\_de | 0.36 | 0.80 | 0.53 | 0.73 |
| Covariance of Levels | word\_im | 0.17 | 0.55 | 0.94 | 0.93 |
| Covariance of Levels | word\_rec | 0.14 | 0.22 | 0.53 | 0.40 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Covariance of Slopes | bnt | 0.32 | 0.27 | 0.25 | 0.05 |
| Covariance of Slopes | bstory\_de | 0.30 | 0.31 | 0.47 | 0.50 |
| Covariance of Slopes | bstory\_im | 0.69 | 0.72 | 0.73 | 0.96 |
| Covariance of Slopes | categories | 0.24 | 0.21 | 0.20 | 0.35 |
| Covariance of Slopes | digit\_b | 0.80 | 0.74 | 0.65 | 0.95 |
| Covariance of Slopes | digit\_f | 0.48 | 0.46 | 0.48 | 0.61 |
| Covariance of Slopes | digit\_o | 0.92 | 0.93 | 0.88 | 0.64 |
| Covariance of Slopes | ideas | 0.20 | 0.19 | 0.25 | 0.54 |
| Covariance of Slopes | line | 0.80 | 0.75 | 0.90 | 0.68 |
| Covariance of Slopes | logic\_de | 0.88 | 0.86 | 0.75 | 0.77 |
| Covariance of Slopes | logic\_im | 0.03 | 0.03 | 0.02 | 0.19 |
| Covariance of Slopes | matrices | 0.04 | 0.03 | 0.03 | 0.02 |
| Covariance of Slopes | mmse | 0.16 | 0.14 | 0.14 | 0.08 |
| Covariance of Slopes | nart | 0.22 | 0.15 | 0.16 | 0.23 |
| Covariance of Slopes | num\_comp | 0.87 | 0.89 | 0.84 | 0.56 |
| Covariance of Slopes | symbol | 0.10 | 0.11 | 0.11 | 0.16 |
| Covariance of Slopes | word\_de | 0.91 | 0.87 | 0.83 | 0.77 |
| Covariance of Slopes | word\_im | 0.91 | 0.88 | 0.81 | 0.41 |
| Covariance of Slopes | word\_rec | 0.28 | 0.22 | 0.30 | 0.60 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus |
| Covariance of Residuals | bnt | 0.57 | 0.56 | 0.59 | 0.42 |
| Covariance of Residuals | bstory\_de | 0.37 | 0.38 | 0.38 | 0.34 |
| Covariance of Residuals | bstory\_im | 0.75 | 0.76 | 0.79 | 0.85 |
| Covariance of Residuals | categories | 0.65 | 0.67 | 0.62 | 0.46 |
| Covariance of Residuals | digit\_b | 0.00 | 0.01 | 0.01 | 0.01 |
| Covariance of Residuals | digit\_f | 0.67 | 0.66 | 0.69 | 0.88 |
| Covariance of Residuals | digit\_o | 0.79 | 0.80 | 0.77 | 0.99 |
| Covariance of Residuals | ideas | 0.59 | 0.58 | 0.59 | 0.14 |
| Covariance of Residuals | line | 0.44 | 0.44 | 0.48 | 0.60 |
| Covariance of Residuals | logic\_de | 0.30 | 0.30 | 0.32 | 0.32 |
| Covariance of Residuals | logic\_im | 0.27 | 0.29 | 0.35 | 0.40 |
| Covariance of Residuals | matrices | 0.77 | 0.78 | 0.78 | 0.71 |
| Covariance of Residuals | mmse | 0.98 | 0.98 | 0.99 | 0.98 |
| Covariance of Residuals | nart | 0.74 | 0.72 | 0.66 | 0.60 |
| Covariance of Residuals | num\_comp | 0.67 | 0.66 | 0.63 | 0.47 |
| Covariance of Residuals | symbol | 0.96 | 0.97 | 0.97 | 0.83 |
| Covariance of Residuals | word\_de | 0.65 | 0.64 | 0.63 | 0.70 |
| Covariance of Residuals | word\_im | 0.14 | 0.14 | 0.17 | 0.16 |
| Covariance of Residuals | word\_rec | 0.58 | 0.60 | 0.62 | 0.76 |

#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\_2.2.0 IalsaSynthesis\_0.1.8.9000 MplusAutomation\_0.6-4   
[5] magrittr\_1.5   
  
loaded via a namespace (and not attached):  
 [1] Rcpp\_0.12.7 formatR\_1.4 plyr\_1.8.4 highr\_0.6 tools\_3.3.1 boot\_1.3-18   
 [7] digest\_0.6.10 evaluate\_0.10 tibble\_1.2 gtable\_0.2.0 lattice\_0.20-34 texreg\_1.36.7   
[13] DBI\_0.5-1 yaml\_2.1.13 proto\_0.3-10 coda\_0.18-1 dplyr\_0.5.0 stringr\_1.1.0   
[19] htmlwidgets\_0.7 grid\_3.3.1 DT\_0.2 data.table\_1.9.6 R6\_2.2.0 rmarkdown\_1.1   
[25] gsubfn\_0.6-6 pander\_0.6.0 tidyr\_0.6.0 reshape2\_1.4.1 readr\_1.0.0 scales\_0.4.1   
[31] htmltools\_0.3.5 rsconnect\_0.5 assertthat\_0.1 testit\_0.5 colorspace\_1.2-7 xtable\_1.8-2   
[37] stringi\_1.1.2 lazyeval\_0.2.0 munsell\_0.4.3 chron\_2.3-47