MAP : Seed report

Date: 2016-12-04

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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 | 7 |
| 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 | 7 |
| grip | num\_comp | 7 |
| grip | symbol | 8 |
| grip | word\_de | 8 |
| grip | word\_im | 8 |
| grip | word\_rec | 7 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 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 | 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 | 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 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 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 | 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 | mean(sd) |
| a | Level | 43.72 (1.26) <.01 | 43.70 (1.26) <.01 | 1.68 (0.04) <.01 | 43.70 (1.26) <.01 | 1.68 (0.04) <.01 | 43.73 (1.26) <.01 | 43.71 (1.26) <.01 | 43.69 (1.26) <.01 | 43.68 (1.26) <.01 | 43.67 (1.26) <.01 | 43.70 (1.26) <.01 | 43.69 (1.26) <.01 | 43.70 (1.26) <.01 | 43.73 (1.26) <.01 | 43.72 (1.26) <.01 | 43.68 (1.26) <.01 | 43.69 (1.26) <.01 | 43.70 (1.26) <.01 | 39.03(13.59) |
| a | Slope | -0.42 (0.32) .19 | -0.41 (0.32) .19 | -0.04 (0.01) <.01 | -0.40 (0.32) .20 | -0.04 (0.01) <.01 | -0.41 (0.31) .19 | -0.41 (0.32) .20 | -0.39 (0.32) .21 | -0.40 (0.32) .21 | -0.41 (0.32) .20 | -0.40 (0.32) .20 | -0.39 (0.32) .22 | -0.51 (0.32) .11 | -0.37 (0.32) .24 | -0.40 (0.32) .20 | -0.41 (0.32) .20 | -0.41 (0.32) .20 | -0.39 (0.32) .21 | -0.37(0.12) |
| a | Level \* age | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.02 (0.00) <.01 | -0.59 (0.05) <.01 | -0.02 (0.00) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 | -0.53(0.18) |
| a | Level \* education | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 | 0.01 (0.00) <.01 | 0.38 (0.13) <.01 | 0.01 (0.00) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 | 0.39 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 | 0.34(0.12) |
| a | Level \* height | 39.57 (4.25) <.01 | 39.32 (4.22) <.01 | 1.63 (0.22) <.01 | 39.33 (4.23) <.01 | 1.63 (0.22) <.01 | 39.34 (4.23) <.01 | 39.31 (4.22) <.01 | 39.38 (4.23) <.01 | 39.30 (4.23) <.01 | 39.38 (4.23) <.01 | 39.44 (4.23) <.01 | 39.39 (4.23) <.01 | 39.56 (4.24) <.01 | 39.41 (4.23) <.01 | 39.48 (4.23) <.01 | 39.45 (4.24) <.01 | 39.51 (4.23) <.01 | 39.51 (4.23) <.01 | 35.22(12.22) |
| a | Level \* smoking | 0.37 (0.67) .58 | 0.37 (0.67) .58 | -0.09 (0.02) <.01 | 0.38 (0.67) .57 | -0.09 (0.02) <.01 | 0.36 (0.67) .59 | 0.37 (0.67) .58 | 0.38 (0.67) .57 | 0.38 (0.67) .57 | 0.37 (0.67) .57 | 0.36 (0.67) .59 | 0.37 (0.67) .58 | 0.36 (0.67) .59 | 0.36 (0.67) .58 | 0.36 (0.67) .58 | 0.37 (0.67) .58 | 0.38 (0.67) .57 | 0.37 (0.67) .58 | 0.32(0.15) |
| a | Level \* cardio | 0.46 (1.41) .75 | 0.55 (1.40) .70 | -0.06 (0.05) .23 | 0.55 (1.40) .70 | -0.06 (0.05) .22 | 0.54 (1.40) .70 | 0.55 (1.40) .70 | 0.55 (1.40) .70 | 0.53 (1.40) .70 | 0.51 (1.40) .71 | 0.54 (1.40) .70 | 0.54 (1.40) .70 | 0.61 (1.40) .66 | 0.55 (1.40) .69 | 0.53 (1.40) .70 | 0.56 (1.40) .69 | 0.50 (1.40) .72 | 0.45 (1.40) .75 | 0.47(0.19) |
| a | Level \* diabetes | -0.09 (1.21) .94 | -0.04 (1.21) .98 | -0.03 (0.04) .38 | -0.00 (1.21) .99 | -0.03 (0.04) .42 | -0.05 (1.21) .97 | -0.05 (1.21) .97 | -0.03 (1.21) .98 | -0.03 (1.21) .98 | -0.01 (1.22) .99 | -0.03 (1.21) .98 | -0.03 (1.21) .98 | -0.02 (1.21) .99 | -0.06 (1.21) .96 | -0.06 (1.21) .96 | -0.04 (1.21) .97 | -0.09 (1.21) .94 | -0.15 (1.22) .90 | -0.05(0.03) |
| a | Slope \* age | -0.02 (0.01) .06 | -0.02 (0.01) .06 | 0.00 (0.00) .09 | -0.02 (0.01) .07 | 0.00 (0.00) .08 | -0.02 (0.01) .07 | -0.02 (0.01) .06 | -0.02 (0.01) .06 | -0.02 (0.01) .06 | -0.02 (0.01) .06 | -0.02 (0.01) .06 | -0.02 (0.01) .06 | -0.02 (0.01) .10 | -0.02 (0.01) .06 | -0.02 (0.01) .06 | -0.02 (0.01) .06 | -0.02 (0.01) .06 | -0.02 (0.01) .06 | -0.02(0.01) |
| a | Slope \* education | -0.07 (0.03) .04 | -0.07 (0.03) .04 | 0.00 (0.00) .95 | -0.07 (0.03) .03 | 0.00 (0.00) .99 | -0.07 (0.03) .04 | -0.07 (0.03) .04 | -0.07 (0.03) .04 | -0.07 (0.03) .04 | -0.07 (0.03) .04 | -0.07 (0.03) .04 | -0.07 (0.03) .04 | -0.06 (0.03) .06 | -0.07 (0.03) .03 | -0.07 (0.03) .04 | -0.07 (0.03) .04 | -0.07 (0.03) .04 | -0.07 (0.03) .04 | -0.06(0.02) |
| a | Slope \* height | -1.21 (1.18) .30 | -1.16 (1.17) .32 | -0.07 (0.04) .08 | -1.14 (1.18) .33 | -0.07 (0.04) .07 | -1.16 (1.18) .33 | -1.23 (1.18) .30 | -1.16 (1.18) .33 | -1.19 (1.18) .31 | -1.30 (1.18) .27 | -1.26 (1.18) .28 | -1.18 (1.18) .32 | -1.01 (1.19) .40 | -1.29 (1.17) .27 | -1.20 (1.18) .31 | -1.13 (1.18) .34 | -1.15 (1.18) .33 | -1.17 (1.17) .32 | -1.06(0.37) |
| a | Slope \* smoking | -0.01 (0.17) .97 | 0.00 (0.17) .99 | 0.00 (0.00) .69 | 0.01 (0.17) .94 | 0.00 (0.00) .66 | 0.00 (0.17) .99 | -0.00 (0.17) .99 | -0.02 (0.17) .91 | -0.01 (0.17) .94 | -0.01 (0.17) .95 | -0.01 (0.17) .97 | -0.01 (0.17) .93 | 0.02 (0.17) .90 | -0.01 (0.17) .97 | -0.01 (0.17) .97 | -0.01 (0.17) .97 | -0.01 (0.17) .96 | -0.01 (0.17) .95 | -0.00(0.01) |
| a | Slope \* cardio | 0.13 (0.29) .64 | 0.12 (0.29) .68 | -0.01 (0.01) .15 | 0.13 (0.29) .65 | -0.01 (0.01) .17 | 0.12 (0.29) .67 | 0.12 (0.29) .68 | 0.14 (0.29) .63 | 0.12 (0.29) .67 | 0.15 (0.29) .60 | 0.14 (0.29) .62 | 0.13 (0.29) .64 | 0.11 (0.29) .69 | 0.15 (0.29) .60 | 0.14 (0.29) .63 | 0.13 (0.29) .67 | 0.10 (0.29) .72 | 0.15 (0.29) .61 | 0.12(0.05) |
| a | Slope \* diabetes | -0.28 (0.28) .32 | -0.28 (0.28) .33 | -0.01 (0.01) .55 | -0.32 (0.28) .26 | -0.01 (0.01) .46 | -0.29 (0.28) .30 | -0.29 (0.28) .30 | -0.28 (0.28) .32 | -0.29 (0.28) .29 | -0.30 (0.28) .29 | -0.29 (0.28) .31 | -0.28 (0.28) .32 | -0.28 (0.28) .31 | -0.27 (0.28) .34 | -0.29 (0.28) .30 | -0.29 (0.28) .30 | -0.29 (0.28) .30 | -0.28 (0.28) .32 | -0.26(0.09) |
| b | Level | 13.47 (0.16) <.01 | 8.98 (0.16) <.01 | 9.37 (0.16) <.01 | 32.92 (0.76) <.01 | 5.19 (0.18) <.01 | 7.28 (0.20) <.01 | 6.50 (0.16) <.01 | 7.56 (0.06) <.01 | 8.16 (0.30) <.01 | 8.49 (0.37) <.01 | 10.19 (0.37) <.01 | 9.75 (0.26) <.01 | 27.66 (0.16) <.01 | 5.04 (0.22) <.01 | 23.14 (0.77) <.01 | 35.43 (1.05) <.01 | 5.57 (0.20) <.01 | 16.83 (0.39) <.01 | --- |
| b | Slope | 0.09 (0.04) .01 | 0.07 (0.06) .29 | -0.03 (0.06) .59 | -0.04 (0.21) .86 | -0.01 (0.05) .90 | 0.04 (0.06) .45 | 0.07 (0.05) .15 | 0.02 (0.02) .33 | -0.04 (0.08) .65 | 0.28 (0.12) .02 | 0.27 (0.12) .02 | 0.04 (0.09) .69 | 0.06 (0.07) .42 | 0.04 (0.04) .36 | 0.28 (0.16) .09 | 0.52 (0.22) .02 | 0.13 (0.06) .03 | 0.41 (0.12) <.01 | --- |
| b | Level \* age | -0.02 (0.00) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.26 (0.03) <.01 | 0.00 (0.01) .66 | 0.00 (0.01) .55 | -0.00 (0.01) .53 | 0.00 (0.00) .11 | -0.01 (0.01) .27 | -0.10 (0.02) <.01 | -0.10 (0.02) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | 0.05 (0.01) <.01 | -0.18 (0.03) <.01 | -0.37 (0.04) <.01 | -0.06 (0.01) <.01 | -0.11 (0.02) <.01 | --- |
| b | Level \* education | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 | 0.08 (0.02) <.01 | 0.78 (0.08) <.01 | 0.15 (0.02) <.01 | 0.14 (0.02) <.01 | 0.12 (0.02) <.01 | 0.02 (0.00) <.01 | 0.24 (0.03) <.01 | 0.34 (0.04) <.01 | 0.34 (0.04) <.01 | 0.32 (0.02) <.01 | 0.15 (0.02) <.01 | 0.33 (0.02) <.01 | 0.52 (0.08) <.01 | 1.02 (0.10) <.01 | 0.14 (0.02) <.01 | 0.36 (0.04) <.01 | --- |
| b | Level \* height | 2.69 (0.67) <.01 | 0.38 (0.68) .58 | 0.84 (0.71) .24 | 12.74 (3.53) <.01 | 3.16 (0.82) <.01 | 3.13 (0.82) <.01 | 1.70 (0.59) <.01 | 0.39 (0.23) .10 | 3.03 (1.28) .02 | 5.51 (1.54) <.01 | 4.40 (1.42) <.01 | 4.09 (1.17) <.01 | 1.55 (0.63) .01 | 3.52 (0.87) <.01 | 13.77 (2.92) <.01 | 14.69 (3.92) <.01 | 2.73 (0.86) <.01 | 5.11 (1.62) <.01 | --- |
| b | Level \* smoking | -0.01 (0.08) .92 | 0.01 (0.10) .95 | 0.03 (0.10) .74 | -1.49 (0.46) <.01 | 0.00 (0.11) .98 | 0.00 (0.11) .97 | -0.06 (0.08) .47 | -0.03 (0.03) .33 | -0.27 (0.16) .09 | -0.05 (0.22) .81 | -0.20 (0.22) .36 | 0.00 (0.14) .99 | -0.09 (0.09) .34 | 0.10 (0.12) .45 | -0.68 (0.41) .10 | -0.77 (0.56) .17 | -0.34 (0.12) <.01 | -0.61 (0.22) .01 | --- |
| b | Level \* cardio | -0.12 (0.22) .59 | -0.27 (0.22) .22 | -0.13 (0.20) .51 | -1.52 (0.78) .05 | -0.61 (0.18) <.01 | 0.03 (0.22) .90 | -0.11 (0.15) .47 | -0.05 (0.06) .42 | 0.12 (0.32) .70 | -0.30 (0.51) .56 | -0.36 (0.50) .47 | -0.38 (0.28) .16 | -0.13 (0.17) .44 | -0.09 (0.28) .74 | -0.70 (0.84) .41 | -1.33 (1.19) .26 | -0.46 (0.28) .10 | -0.67 (0.51) .19 | --- |
| b | Level \* diabetes | -0.37 (0.17) .03 | -0.11 (0.16) .48 | 0.13 (0.15) .39 | -0.66 (0.78) .40 | 0.04 (0.20) .85 | 0.04 (0.19) .85 | -0.14 (0.15) .37 | -0.12 (0.06) .07 | -0.73 (0.29) .01 | -0.40 (0.36) .27 | -0.27 (0.36) .44 | -0.34 (0.26) .19 | -0.06 (0.17) .72 | -0.65 (0.23) <.01 | -2.16 (0.75) <.01 | -3.06 (1.01) <.01 | -0.09 (0.19) .63 | 0.12 (0.42) .78 | --- |
| b | Slope \* age | -0.00 (0.00) .15 | -0.01 (0.00) <.01 | -0.00 (0.00) .10 | -0.03 (0.01) <.01 | 0.00 (0.00) .78 | -0.00 (0.00) .70 | -0.00 (0.00) .12 | 0.00 (0.00) .62 | 0.00 (0.00) .99 | -0.01 (0.00) <.01 | -0.01 (0.00) .05 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.00 (0.00) .33 | -0.03 (0.01) <.01 | -0.06 (0.01) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | --- |
| b | Slope \* education | -0.01 (0.00) .06 | -0.00 (0.01) .55 | 0.01 (0.01) .34 | -0.00 (0.03) .97 | -0.00 (0.00) .33 | -0.00 (0.01) .40 | -0.01 (0.00) .23 | -0.00 (0.00) .37 | 0.00 (0.01) .83 | 0.02 (0.01) .06 | 0.01 (0.01) .44 | -0.00 (0.01) .74 | -0.01 (0.01) .05 | -0.00 (0.00) .86 | -0.01 (0.02) .43 | -0.05 (0.02) .05 | 0.00 (0.01) .83 | -0.00 (0.01) .73 | --- |
| b | Slope \* height | -0.29 (0.15) .05 | 0.31 (0.30) .30 | 0.24 (0.26) .36 | 0.26 (0.96) .79 | 0.12 (0.24) .63 | -0.22 (0.26) .39 | 0.20 (0.21) .36 | 0.06 (0.09) .47 | 0.27 (0.36) .46 | 0.25 (0.56) .65 | 0.22 (0.51) .67 | 0.35 (0.36) .33 | -0.02 (0.25) .94 | 0.04 (0.16) .82 | -0.16 (0.72) .82 | 2.15 (1.08) .05 | 0.10 (0.28) .71 | -0.04 (0.52) .94 | --- |
| b | Slope \* smoking | -0.00 (0.02) .91 | -0.07 (0.04) .09 | -0.05 (0.04) .22 | 0.12 (0.13) .38 | 0.00 (0.03) .93 | -0.01 (0.03) .73 | -0.04 (0.03) .21 | 0.02 (0.01) .13 | 0.06 (0.05) .20 | -0.09 (0.07) .20 | -0.05 (0.07) .46 | -0.01 (0.05) .76 | 0.02 (0.04) .63 | 0.00 (0.02) .86 | -0.10 (0.10) .33 | -0.17 (0.14) .23 | -0.01 (0.04) .74 | -0.05 (0.08) .54 | --- |
| b | Slope \* cardio | 0.03 (0.05) .60 | 0.12 (0.09) .16 | -0.03 (0.08) .70 | -0.21 (0.27) .44 | 0.21 (0.07) <.01 | -0.10 (0.06) .10 | -0.07 (0.06) .27 | 0.02 (0.02) .44 | -0.15 (0.09) .07 | -0.02 (0.15) .90 | 0.07 (0.14) .60 | -0.01 (0.11) .94 | 0.07 (0.07) .30 | -0.03 (0.05) .55 | 0.04 (0.18) .82 | 0.14 (0.26) .59 | 0.02 (0.07) .76 | -0.02 (0.15) .88 | --- |
| b | Slope \* diabetes | 0.04 (0.05) .35 | 0.07 (0.07) .38 | -0.00 (0.05) .98 | -0.08 (0.24) .75 | -0.03 (0.07) .65 | -0.01 (0.06) .79 | 0.06 (0.04) .18 | 0.02 (0.02) .43 | 0.06 (0.09) .49 | 0.11 (0.12) .34 | 0.20 (0.12) .10 | 0.02 (0.08) .85 | 0.04 (0.07) .58 | -0.02 (0.05) .64 | 0.21 (0.21) .32 | -0.27 (0.27) .32 | -0.02 (0.05) .68 | 0.08 (0.13) .55 | --- |
| a | Var (Level) | 95.59 (6.02) <.01 | 95.34 (6.01) <.01 | 0.11 (0.01) <.01 | 95.60 (6.01) <.01 | 0.11 (0.01) <.01 | 95.51 (6.01) <.01 | 95.46 (6.01) <.01 | 95.51 (6.00) <.01 | 95.46 (6.02) <.01 | 95.37 (5.99) <.01 | 95.42 (6.00) <.01 | 95.52 (6.01) <.01 | 95.50 (6.02) <.01 | 95.70 (6.03) <.01 | 95.55 (6.01) <.01 | 95.67 (6.03) <.01 | 95.59 (6.01) <.01 | 95.65 (6.02) <.01 | 84.93(30.86) |
| a | Var (Slope) | 0.78 (0.33) .02 | 0.75 (0.33) .02 | 0.00 (0.00) .52 | 0.80 (0.34) .02 | 0.00 (0.00) .41 | 0.78 (0.33) .02 | 0.78 (0.33) .02 | 0.77 (0.33) .02 | 0.77 (0.34) .02 | 0.80 (0.33) .02 | 0.80 (0.33) .02 | 0.79 (0.34) .02 | 0.79 (0.33) .01 | 0.79 (0.33) .02 | 0.79 (0.33) .02 | 0.79 (0.33) .02 | 0.79 (0.33) .02 | 0.78 (0.33) .02 | 0.70(0.25) |
| a | Var (Residual) | 19.98 (1.10) <.01 | 20.03 (1.10) <.01 | 0.03 (0.00) <.01 | 19.96 (1.10) <.01 | 0.03 (0.00) <.01 | 19.98 (1.10) <.01 | 19.98 (1.10) <.01 | 20.00 (1.10) <.01 | 20.00 (1.10) <.01 | 19.97 (1.10) <.01 | 19.97 (1.09) <.01 | 19.96 (1.10) <.01 | 20.00 (1.10) <.01 | 19.97 (1.10) <.01 | 19.96 (1.10) <.01 | 19.96 (1.10) <.01 | 19.96 (1.10) <.01 | 19.97 (1.10) <.01 | 17.76(6.45) |
| a | Covar (Level, Slope) | -1.38 (1.08) .20 | -1.28 (1.08) .23 | 0.00 (0.00) .93 | -1.48 (1.08) .17 | -0.00 (0.00) .65 | -1.38 (1.07) .20 | -1.32 (1.08) .22 | -1.42 (1.07) .19 | -1.32 (1.08) .22 | -1.38 (1.07) .20 | -1.41 (1.07) .19 | -1.38 (1.08) .20 | -1.29 (1.08) .23 | -1.45 (1.08) .18 | -1.39 (1.08) .20 | -1.38 (1.08) .20 | -1.36 (1.07) .20 | -1.34 (1.08) .21 | -1.22(0.45) |
| b | Var (Level) | 1.21 (0.19) <.01 | 1.13 (0.15) <.01 | 1.06 (0.11) <.01 | 44.37 (3.10) <.01 | 2.30 (0.16) <.01 | 2.18 (0.14) <.01 | 1.05 (0.11) <.01 | 0.12 (0.02) <.01 | 4.45 (0.34) <.01 | 10.81 (0.66) <.01 | 9.79 (0.63) <.01 | 3.08 (0.28) <.01 | 0.97 (0.14) <.01 | 3.44 (0.20) <.01 | 33.56 (2.13) <.01 | 65.55 (4.59) <.01 | 2.73 (0.19) <.01 | 9.90 (0.68) <.01 | --- |
| b | Var (Slope) | 0.04 (0.01) <.01 | 0.08 (0.03) <.01 | 0.05 (0.02) .01 | 1.16 (0.27) <.01 | 0.03 (0.01) .02 | 0.02 (0.01) .20 | 0.02 (0.01) .11 | 0.00 (0.00) .09 | 0.01 (0.03) .75 | 0.26 (0.06) <.01 | 0.22 (0.06) <.01 | 0.02 (0.03) .44 | 0.08 (0.04) .04 | 0.02 (0.01) .07 | 0.36 (0.15) .01 | 0.98 (0.31) <.01 | 0.06 (0.02) <.01 | 0.36 (0.08) <.01 | --- |
| b | Var (Residual) | 0.46 (0.02) <.01 | 2.33 (0.12) <.01 | 1.98 (0.07) <.01 | 21.50 (0.79) <.01 | 1.60 (0.06) <.01 | 1.60 (0.05) <.01 | 1.31 (0.06) <.01 | 0.21 (0.01) <.01 | 3.85 (0.16) <.01 | 5.85 (0.22) <.01 | 5.84 (0.21) <.01 | 3.33 (0.20) <.01 | 1.64 (0.08) <.01 | 0.71 (0.05) <.01 | 14.98 (0.80) <.01 | 23.68 (1.34) <.01 | 1.75 (0.08) <.01 | 5.86 (0.20) <.01 | --- |
| b | Covar (Level, Slope) | -0.10 (0.03) <.01 | 0.10 (0.05) .05 | -0.04 (0.04) .32 | -0.10 (0.63) .87 | -0.08 (0.04) .02 | -0.00 (0.03) .87 | -0.07 (0.03) .02 | -0.01 (0.01) .12 | 0.08 (0.08) .36 | 0.12 (0.15) .43 | -0.19 (0.15) .21 | -0.04 (0.08) .58 | 0.01 (0.05) .84 | -0.04 (0.03) .21 | 0.13 (0.42) .75 | 1.71 (0.83) .04 | 0.00 (0.04) .96 | -0.08 (0.17) .65 | --- |
| ab | Covar (Levels) | 0.90 (0.49) .07 | -0.06 (0.61) .92 | 0.03 (0.02) .13 | 3.97 (2.77) .15 | 0.08 (0.02) <.01 | 0.11 (0.63) .86 | 0.49 (0.52) .35 | -0.02 (0.21) .92 | 1.48 (1.08) .17 | -0.22 (1.33) .87 | -0.86 (1.32) .51 | 1.56 (0.90) .08 | -0.00 (0.55) .99 | -0.09 (0.72) .90 | 2.42 (2.53) .34 | 6.24 (3.52) .08 | 2.81 (0.68) <.01 | 5.26 (1.32) <.01 | --- |
| ab | Covar (Slopes) | 0.02 (0.03) .62 | 0.06 (0.06) .36 | -0.00 (0.00) .40 | 0.24 (0.19) .19 | 0.00 (0.00) .10 | 0.02 (0.05) .59 | 0.02 (0.04) .57 | 0.01 (0.02) .71 | 0.06 (0.07) .39 | 0.20 (0.10) .05 | 0.14 (0.09) .12 | 0.05 (0.07) .43 | 0.13 (0.07) .06 | -0.00 (0.03) .97 | 0.17 (0.14) .22 | -0.06 (0.21) .79 | 0.05 (0.04) .25 | 0.14 (0.10) .18 | --- |
| ab | Covar (Residuals) | -0.07 (0.08) .37 | 0.05 (0.19) .78 | -0.01 (0.01) .12 | 0.71 (0.58) .22 | -0.01 (0.01) .11 | 0.20 (0.15) .19 | 0.10 (0.14) .49 | 0.04 (0.05) .45 | 0.21 (0.22) .34 | 0.09 (0.30) .78 | -0.17 (0.31) .59 | -0.04 (0.26) .87 | 0.12 (0.15) .41 | -0.02 (0.11) .88 | 0.23 (0.45) .61 | 0.04 (0.61) .95 | 0.00 (0.16) .97 | 0.36 (0.31) .24 | --- |
|  | Correlation of Levels | 0.084 | -0.0058 | 0.082 | 0.061 | 0.152 | 0.0077 | 0.049 | -0.0059 | 0.072 | -0.0069 | -0.028 | 0.091 | -0.00052 | -0.0052 | 0.043 | 0.0788 | 0.17404 | 0.171 | 0.06(0.06) |
|  | Correlation of Slopes | 0.093 | 0.2391 | -Inf | 0.253 | 0.514 | 0.2232 | 0.187 | 0.1258 | 0.719 | 0.4292 | 0.338 | 0.392 | 0.53939 | -0.0084 | 0.313 | -0.0627 | 0.24513 | 0.259 | -Inf(NaN) |
|  | Correlation of Residuals | -0.025 | 0.0079 | -0.039 | 0.034 | -0.044 | 0.0354 | 0.019 | 0.0192 | 0.024 | 0.0080 | -0.015 | -0.005 | 0.02184 | -0.0045 | 0.013 | 0.0019 | 0.00085 | 0.033 | 0.00(0.02) |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1,010 | 1010.00(0.00) |
|  | occasions | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68.00(0.00) |
|  | LL | -19,875 | -22,245 | -13,000 | -26,653 | -12,922 | -21,796 | -21,157 | -17,845 | -23,105 | -24,233 | -24,165 | -22,237 | -21,628 | -20,816 | -25,728 | -26,637 | -22,012 | -24,208 | -2.168121e+04(3,900) |
|  | AIC | 39,885 | 44,626 | 26,135 | 53,443 | 25,980 | 43,728 | 42,451 | 35,826 | 46,346 | 48,602 | 48,466 | 44,610 | 43,392 | 41,767 | 51,592 | 53,411 | 44,160 | 48,553 | 4.349843e+04(7,800) |
|  | BIC | 40,220 | 44,960 | 26,470 | 53,777 | 26,315 | 44,062 | 42,785 | 36,161 | 46,680 | 48,936 | 48,800 | 44,945 | 43,726 | 42,101 | 51,926 | 53,745 | 44,494 | 48,887 | 4.383283e+04(7,800) |

## bnt

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 47.28 (0.62) <.01 | 43.93 (1.14) <.01 | 43.72 (1.26) <.01 |
| a | Slope | -0.95 (0.14) <.01 | -0.47 (0.31) .12 | -0.42 (0.32) .19 |
| a | Level \* age | -0.67 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | 39.66 (4.25) <.01 | 39.57 (4.25) <.01 |
| a | Level \* smoking | --- | --- | 0.37 (0.67) .58 |
| a | Level \* cardio | --- | --- | 0.46 (1.41) .75 |
| a | Level \* diabetes | --- | --- | -0.09 (1.21) .94 |
| a | Slope \* age | -0.02 (0.01) .11 | -0.02 (0.01) .07 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.06 (0.03) .05 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | -1.28 (1.17) .27 | -1.21 (1.18) .30 |
| a | Slope \* smoking | --- | --- | -0.01 (0.17) .97 |
| a | Slope \* cardio | --- | --- | 0.13 (0.29) .64 |
| a | Slope \* diabetes | --- | --- | -0.28 (0.28) .32 |
| b | Level | 14.14 (0.06) <.01 | 13.35 (0.14) <.01 | 13.47 (0.16) <.01 |
| b | Slope | 0.04 (0.01) <.01 | 0.11 (0.04) <.01 | 0.09 (0.04) .01 |
| b | Level \* age | -0.03 (0.00) <.01 | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 |
| b | Level \* education | --- | 0.10 (0.01) <.01 | 0.09 (0.02) <.01 |
| b | Level \* height | --- | 2.68 (0.67) <.01 | 2.69 (0.67) <.01 |
| b | Level \* smoking | --- | --- | -0.01 (0.08) .92 |
| b | Level \* cardio | --- | --- | -0.12 (0.22) .59 |
| b | Level \* diabetes | --- | --- | -0.37 (0.17) .03 |
| b | Slope \* age | -0.00 (0.00) .25 | -0.00 (0.00) .11 | -0.00 (0.00) .15 |
| b | Slope \* education | --- | -0.01 (0.00) .03 | -0.01 (0.00) .06 |
| b | Slope \* height | --- | -0.29 (0.15) .06 | -0.29 (0.15) .05 |
| b | Slope \* smoking | --- | --- | -0.00 (0.02) .91 |
| b | Slope \* cardio | --- | --- | 0.03 (0.05) .60 |
| b | Slope \* diabetes | --- | --- | 0.04 (0.05) .35 |
| a | Var (Level) | 106.65 (6.55) <.01 | 95.65 (6.03) <.01 | 95.59 (6.02) <.01 |
| a | Var (Slope) | 0.84 (0.34) .01 | 0.78 (0.33) .02 | 0.78 (0.33) .02 |
| a | Var (Residual) | 20.01 (1.10) <.01 | 19.99 (1.10) <.01 | 19.98 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.97 (1.18) .10 | -1.36 (1.08) .21 | -1.38 (1.08) .20 |
| b | Var (Level) | 1.38 (0.22) <.01 | 1.23 (0.20) <.01 | 1.21 (0.19) <.01 |
| b | Var (Slope) | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 | 0.04 (0.01) <.01 |
| b | Var (Residual) | 0.46 (0.02) <.01 | 0.46 (0.02) <.01 | 0.46 (0.02) <.01 |
| b | Covar (Level, Slope) | -0.11 (0.03) <.01 | -0.10 (0.03) <.01 | -0.10 (0.03) <.01 |
| ab | Covar (Levels) | 2.13 (0.62) <.01 | 0.91 (0.50) .07 | 0.90 (0.49) .07 |
| ab | Covar (Slopes) | 0.02 (0.03) .47 | 0.01 (0.03) .66 | 0.02 (0.03) .62 |
| ab | Covar (Residuals) | -0.07 (0.08) .38 | -0.08 (0.08) .37 | -0.07 (0.08) .37 |
|  | Correlation of Levels | 0.175 | 0.084 | 0.084 |
|  | Correlation of Slopes | 0.131 | 0.081 | 0.093 |
|  | Correlation of Residuals | -0.024 | -0.025 | -0.025 |
|  | N | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | 23 | 38 | 68 |
|  | LL | -17,387 | -18,734 | -19,875 |
|  | AIC | 34,820 | 37,544 | 39,885 |
|  | BIC | 34,933 | 37,731 | 40,220 |

## bstory\_de

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.29 (0.62) <.01 | 43.37 (1.18) <.01 | 43.93 (1.14) <.01 | 43.70 (1.26) <.01 |
| a | Slope | -0.95 (0.14) <.01 | -0.41 (0.30) .17 | -0.46 (0.30) .13 | -0.41 (0.32) .19 |
| a | Level \* age | -0.67 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.53 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.40 (4.23) <.01 | 39.32 (4.22) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.37 (0.67) .58 |
| a | Level \* cardio | --- | --- | --- | 0.55 (1.40) .70 |
| a | Level \* diabetes | --- | --- | --- | -0.04 (1.21) .98 |
| a | Slope \* age | -0.02 (0.01) .10 | -0.02 (0.01) .09 | -0.02 (0.01) .07 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .02 | -0.06 (0.03) .05 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.24 (1.16) .29 | -1.16 (1.17) .32 |
| a | Slope \* smoking | --- | --- | --- | 0.00 (0.17) .99 |
| a | Slope \* cardio | --- | --- | --- | 0.12 (0.29) .68 |
| a | Slope \* diabetes | --- | --- | --- | -0.28 (0.28) .33 |
| b | Level | 9.63 (0.08) <.01 | 8.92 (0.14) <.01 | 8.93 (0.14) <.01 | 8.98 (0.16) <.01 |
| b | Slope | 0.02 (0.03) .49 | 0.05 (0.06) .38 | 0.05 (0.06) .36 | 0.07 (0.06) .29 |
| b | Level \* age | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 |
| b | Level \* education | --- | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 | 0.09 (0.02) <.01 |
| b | Level \* height | --- | --- | 0.39 (0.68) .57 | 0.38 (0.68) .58 |
| b | Level \* smoking | --- | --- | --- | 0.01 (0.10) .95 |
| b | Level \* cardio | --- | --- | --- | -0.27 (0.22) .22 |
| b | Level \* diabetes | --- | --- | --- | -0.11 (0.16) .48 |
| 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) .57 | -0.00 (0.01) .49 | -0.00 (0.01) .55 |
| b | Slope \* height | --- | --- | 0.30 (0.30) .32 | 0.31 (0.30) .30 |
| b | Slope \* smoking | --- | --- | --- | -0.07 (0.04) .09 |
| b | Slope \* cardio | --- | --- | --- | 0.12 (0.09) .16 |
| b | Slope \* diabetes | --- | --- | --- | 0.07 (0.07) .38 |
| a | Var (Level) | 106.09 (6.51) <.01 | 103.86 (6.39) <.01 | 95.41 (6.02) <.01 | 95.34 (6.01) <.01 |
| a | Var (Slope) | 0.81 (0.34) .02 | 0.76 (0.33) .02 | 0.75 (0.33) .02 | 0.75 (0.33) .02 |
| a | Var (Residual) | 20.06 (1.10) <.01 | 20.04 (1.10) <.01 | 20.05 (1.10) <.01 | 20.03 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.86 (1.16) .11 | -1.59 (1.10) .15 | -1.28 (1.08) .24 | -1.28 (1.08) .23 |
| b | Var (Level) | 1.22 (0.15) <.01 | 1.14 (0.15) <.01 | 1.14 (0.15) <.01 | 1.13 (0.15) <.01 |
| b | Var (Slope) | 0.09 (0.03) <.01 | 0.09 (0.03) <.01 | 0.08 (0.03) <.01 | 0.08 (0.03) <.01 |
| b | Var (Residual) | 2.33 (0.12) <.01 | 2.33 (0.12) <.01 | 2.33 (0.12) <.01 | 2.33 (0.12) <.01 |
| b | Covar (Level, Slope) | 0.10 (0.06) .08 | 0.10 (0.06) .07 | 0.10 (0.06) .07 | 0.10 (0.05) .05 |
| ab | Covar (Levels) | 0.47 (0.63) .46 | -0.01 (0.62) .98 | -0.07 (0.61) .91 | -0.06 (0.61) .92 |
| ab | Covar (Slopes) | 0.06 (0.06) .38 | 0.06 (0.06) .38 | 0.06 (0.06) .38 | 0.06 (0.06) .36 |
| ab | Covar (Residuals) | 0.06 (0.19) .74 | 0.05 (0.19) .79 | 0.06 (0.19) .77 | 0.05 (0.19) .78 |
|  | Correlation of Levels | 0.0409 | -0.0012 | -0.0063 | -0.0058 |
|  | Correlation of Slopes | 0.2123 | 0.2224 | 0.2255 | 0.2391 |
|  | Correlation of Residuals | 0.0092 | 0.0075 | 0.0082 | 0.0079 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -19,733 | -22,280 | -21,103 | -22,245 |
|  | AIC | 39,511 | 44,619 | 42,282 | 44,626 |
|  | BIC | 39,624 | 44,767 | 42,469 | 44,960 |

## bstory\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 1.74 (0.02) <.01 | 1.59 (0.03) <.01 | 1.61 (0.03) <.01 | 1.68 (0.04) <.01 |
| a | Slope | -0.04 (0.00) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 |
| a | Level \* age | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 |
| a | Level \* education | --- | 0.02 (0.00) <.01 | 0.01 (0.00) <.01 | 0.01 (0.00) <.01 |
| a | Level \* height | --- | --- | 1.62 (0.22) <.01 | 1.63 (0.22) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.09 (0.02) <.01 |
| a | Level \* cardio | --- | --- | --- | -0.06 (0.05) .23 |
| a | Level \* diabetes | --- | --- | --- | -0.03 (0.04) .38 |
| a | Slope \* age | 0.00 (0.00) .05 | 0.00 (0.00) .06 | 0.00 (0.00) .12 | 0.00 (0.00) .09 |
| a | Slope \* education | --- | 0.00 (0.00) .74 | 0.00 (0.00) .96 | 0.00 (0.00) .95 |
| a | Slope \* height | --- | --- | -0.07 (0.04) .07 | -0.07 (0.04) .08 |
| a | Slope \* smoking | --- | --- | --- | 0.00 (0.00) .69 |
| a | Slope \* cardio | --- | --- | --- | -0.01 (0.01) .15 |
| a | Slope \* diabetes | --- | --- | --- | -0.01 (0.01) .55 |
| b | Level | 9.99 (0.07) <.01 | 9.41 (0.14) <.01 | 9.42 (0.14) <.01 | 9.37 (0.16) <.01 |
| b | Slope | -0.01 (0.03) .79 | -0.06 (0.06) .26 | -0.06 (0.06) .27 | -0.03 (0.06) .59 |
| b | Level \* age | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 |
| b | Level \* education | --- | 0.08 (0.02) <.01 | 0.07 (0.02) <.01 | 0.08 (0.02) <.01 |
| b | Level \* height | --- | --- | 0.86 (0.70) .22 | 0.84 (0.71) .24 |
| b | Level \* smoking | --- | --- | --- | 0.03 (0.10) .74 |
| b | Level \* cardio | --- | --- | --- | -0.13 (0.20) .51 |
| b | Level \* diabetes | --- | --- | --- | 0.13 (0.15) .39 |
| b | Slope \* age | -0.00 (0.00) .08 | -0.00 (0.00) .07 | -0.00 (0.00) .12 | -0.00 (0.00) .10 |
| b | Slope \* education | --- | 0.01 (0.01) .24 | 0.01 (0.01) .30 | 0.01 (0.01) .34 |
| b | Slope \* height | --- | --- | 0.24 (0.26) .36 | 0.24 (0.26) .36 |
| b | Slope \* smoking | --- | --- | --- | -0.05 (0.04) .22 |
| b | Slope \* cardio | --- | --- | --- | -0.03 (0.08) .70 |
| b | Slope \* diabetes | --- | --- | --- | -0.00 (0.05) .98 |
| a | Var (Level) | 0.13 (0.01) <.01 | 0.13 (0.01) <.01 | 0.11 (0.01) <.01 | 0.11 (0.01) <.01 |
| a | Var (Slope) | 0.00 (0.00) .50 | 0.00 (0.00) .50 | 0.00 (0.00) .50 | 0.00 (0.00) .52 |
| a | Var (Residual) | 0.03 (0.00) <.01 | 0.03 (0.00) <.01 | 0.03 (0.00) <.01 | 0.03 (0.00) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) .48 | -0.00 (0.00) .52 | 0.00 (0.00) .91 | 0.00 (0.00) .93 |
| b | Var (Level) | 1.12 (0.12) <.01 | 1.07 (0.12) <.01 | 1.06 (0.11) <.01 | 1.06 (0.11) <.01 |
| b | Var (Slope) | 0.05 (0.02) .01 | 0.05 (0.02) .01 | 0.05 (0.02) .01 | 0.05 (0.02) .01 |
| b | Var (Residual) | 1.98 (0.07) <.01 | 1.98 (0.07) <.01 | 1.98 (0.07) <.01 | 1.98 (0.07) <.01 |
| b | Covar (Level, Slope) | -0.04 (0.04) .35 | -0.04 (0.04) .30 | -0.04 (0.04) .31 | -0.04 (0.04) .32 |
| ab | Covar (Levels) | 0.05 (0.02) .02 | 0.03 (0.02) .10 | 0.03 (0.02) .15 | 0.03 (0.02) .13 |
| ab | Covar (Slopes) | -0.00 (0.00) .43 | -0.00 (0.00) .42 | -0.00 (0.00) .42 | -0.00 (0.00) .40 |
| ab | Covar (Residuals) | -0.01 (0.01) .11 | -0.01 (0.01) .10 | -0.01 (0.01) .11 | -0.01 (0.01) .12 |
|  | Correlation of Levels | 0.123 | 0.093 | 0.081 | 0.082 |
|  | Correlation of Slopes | -Inf | -Inf | -Inf | -Inf |
|  | Correlation of Residuals | -0.043 | -0.043 | -0.043 | -0.039 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -10,514 | -13,057 | -11,867 | -13,000 |
|  | AIC | 21,075 | 26,174 | 23,811 | 26,135 |
|  | BIC | 21,188 | 26,321 | 23,998 | 26,470 |

## categories

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.27 (0.62) <.01 | 43.38 (1.18) <.01 | 43.94 (1.14) <.01 | 43.70 (1.26) <.01 |
| a | Slope | -0.95 (0.14) <.01 | -0.41 (0.31) .18 | -0.46 (0.30) .14 | -0.40 (0.32) .20 |
| a | Level \* age | -0.67 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.52 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.41 (4.24) <.01 | 39.33 (4.23) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.38 (0.67) .57 |
| a | Level \* cardio | --- | --- | --- | 0.55 (1.40) .70 |
| a | Level \* diabetes | --- | --- | --- | -0.00 (1.21) .99 |
| a | Slope \* age | -0.02 (0.01) .12 | -0.02 (0.01) .11 | -0.02 (0.01) .08 | -0.02 (0.01) .07 |
| a | Slope \* education | --- | -0.07 (0.03) .02 | -0.07 (0.03) .04 | -0.07 (0.03) .03 |
| a | Slope \* height | --- | --- | -1.22 (1.17) .30 | -1.14 (1.18) .33 |
| a | Slope \* smoking | --- | --- | --- | 0.01 (0.17) .94 |
| a | Slope \* cardio | --- | --- | --- | 0.13 (0.29) .65 |
| a | Slope \* diabetes | --- | --- | --- | -0.32 (0.28) .26 |
| b | Level | 37.99 (0.43) <.01 | 31.62 (0.69) <.01 | 31.79 (0.69) <.01 | 32.92 (0.76) <.01 |
| b | Slope | -0.01 (0.10) .92 | -0.00 (0.20) .98 | -0.00 (0.20) .98 | -0.04 (0.21) .86 |
| b | Level \* age | -0.29 (0.04) <.01 | -0.27 (0.03) <.01 | -0.25 (0.03) <.01 | -0.26 (0.03) <.01 |
| b | Level \* education | --- | 0.85 (0.08) <.01 | 0.81 (0.08) <.01 | 0.78 (0.08) <.01 |
| b | Level \* height | --- | --- | 12.57 (3.55) <.01 | 12.74 (3.53) <.01 |
| b | Level \* smoking | --- | --- | --- | -1.49 (0.46) <.01 |
| b | Level \* cardio | --- | --- | --- | -1.52 (0.78) .05 |
| b | Level \* diabetes | --- | --- | --- | -0.66 (0.78) .40 |
| 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 | --- | 0.00 (0.02) .99 | -0.00 (0.03) .97 | -0.00 (0.03) .97 |
| b | Slope \* height | --- | --- | 0.25 (0.96) .79 | 0.26 (0.96) .79 |
| b | Slope \* smoking | --- | --- | --- | 0.12 (0.13) .38 |
| b | Slope \* cardio | --- | --- | --- | -0.21 (0.27) .44 |
| b | Slope \* diabetes | --- | --- | --- | -0.08 (0.24) .75 |
| a | Var (Level) | 106.47 (6.53) <.01 | 104.13 (6.41) <.01 | 95.65 (6.02) <.01 | 95.60 (6.01) <.01 |
| a | Var (Slope) | 0.86 (0.35) .01 | 0.81 (0.33) .01 | 0.80 (0.34) .02 | 0.80 (0.34) .02 |
| a | Var (Residual) | 20.00 (1.10) <.01 | 19.97 (1.10) <.01 | 19.98 (1.10) <.01 | 19.96 (1.10) <.01 |
| a | Covar (Level, Slope) | -2.06 (1.17) .08 | -1.78 (1.11) .11 | -1.47 (1.08) .17 | -1.48 (1.08) .17 |
| b | Var (Level) | 52.94 (3.49) <.01 | 46.13 (3.21) <.01 | 45.29 (3.16) <.01 | 44.37 (3.10) <.01 |
| b | Var (Slope) | 1.17 (0.27) <.01 | 1.17 (0.27) <.01 | 1.17 (0.27) <.01 | 1.16 (0.27) <.01 |
| b | Var (Residual) | 21.51 (0.79) <.01 | 21.50 (0.79) <.01 | 21.50 (0.79) <.01 | 21.50 (0.79) <.01 |
| b | Covar (Level, Slope) | -0.10 (0.70) .88 | -0.10 (0.64) .87 | -0.12 (0.64) .85 | -0.10 (0.63) .87 |
| ab | Covar (Levels) | 10.93 (3.04) <.01 | 6.44 (2.88) .03 | 3.68 (2.79) .19 | 3.97 (2.77) .15 |
| ab | Covar (Slopes) | 0.25 (0.19) .18 | 0.25 (0.19) .18 | 0.24 (0.19) .19 | 0.24 (0.19) .19 |
| ab | Covar (Residuals) | 0.76 (0.58) .19 | 0.71 (0.58) .22 | 0.69 (0.58) .23 | 0.71 (0.58) .22 |
|  | Correlation of Levels | 0.146 | 0.093 | 0.056 | 0.061 |
|  | Correlation of Slopes | 0.250 | 0.253 | 0.251 | 0.253 |
|  | Correlation of Residuals | 0.037 | 0.034 | 0.033 | 0.034 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -24,187 | -26,698 | -25,517 | -26,653 |
|  | AIC | 48,420 | 53,456 | 51,109 | 53,443 |
|  | BIC | 48,533 | 53,603 | 51,296 | 53,777 |

## digit\_b

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 1.74 (0.02) <.01 | 1.59 (0.03) <.01 | 1.61 (0.03) <.01 | 1.68 (0.04) <.01 |
| a | Slope | -0.04 (0.00) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 |
| a | Level \* age | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 |
| a | Level \* education | --- | 0.02 (0.00) <.01 | 0.01 (0.00) <.01 | 0.01 (0.00) <.01 |
| a | Level \* height | --- | --- | 1.61 (0.22) <.01 | 1.63 (0.22) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.09 (0.02) <.01 |
| a | Level \* cardio | --- | --- | --- | -0.06 (0.05) .22 |
| a | Level \* diabetes | --- | --- | --- | -0.03 (0.04) .42 |
| a | Slope \* age | 0.00 (0.00) .05 | 0.00 (0.00) .05 | 0.00 (0.00) .11 | 0.00 (0.00) .08 |
| a | Slope \* education | --- | 0.00 (0.00) .69 | 0.00 (0.00) .98 | 0.00 (0.00) .99 |
| a | Slope \* height | --- | --- | -0.07 (0.04) .07 | -0.07 (0.04) .07 |
| a | Slope \* smoking | --- | --- | --- | 0.00 (0.00) .66 |
| a | Slope \* cardio | --- | --- | --- | -0.01 (0.01) .17 |
| a | Slope \* diabetes | --- | --- | --- | -0.01 (0.01) .46 |
| b | Level | 6.35 (0.10) <.01 | 5.11 (0.16) <.01 | 5.16 (0.16) <.01 | 5.19 (0.18) <.01 |
| b | Slope | -0.04 (0.02) .16 | 0.00 (0.05) .99 | -0.00 (0.05) .98 | -0.01 (0.05) .90 |
| b | Level \* age | -0.01 (0.01) .39 | -0.00 (0.01) .61 | 0.00 (0.01) .86 | 0.00 (0.01) .66 |
| b | Level \* education | --- | 0.17 (0.02) <.01 | 0.15 (0.02) <.01 | 0.15 (0.02) <.01 |
| b | Level \* height | --- | --- | 3.23 (0.82) <.01 | 3.16 (0.82) <.01 |
| b | Level \* smoking | --- | --- | --- | 0.00 (0.11) .98 |
| b | Level \* cardio | --- | --- | --- | -0.61 (0.18) <.01 |
| b | Level \* diabetes | --- | --- | --- | 0.04 (0.20) .85 |
| b | Slope \* age | 0.00 (0.00) .58 | 0.00 (0.00) .65 | 0.00 (0.00) .57 | 0.00 (0.00) .78 |
| b | Slope \* education | --- | -0.00 (0.00) .35 | -0.00 (0.00) .33 | -0.00 (0.00) .33 |
| b | Slope \* height | --- | --- | 0.09 (0.24) .70 | 0.12 (0.24) .63 |
| b | Slope \* smoking | --- | --- | --- | 0.00 (0.03) .93 |
| b | Slope \* cardio | --- | --- | --- | 0.21 (0.07) <.01 |
| b | Slope \* diabetes | --- | --- | --- | -0.03 (0.07) .65 |
| a | Var (Level) | 0.13 (0.01) <.01 | 0.13 (0.01) <.01 | 0.11 (0.01) <.01 | 0.11 (0.01) <.01 |
| a | Var (Slope) | 0.00 (0.00) .40 | 0.00 (0.00) .40 | 0.00 (0.00) .50 | 0.00 (0.00) .41 |
| a | Var (Residual) | 0.03 (0.00) <.01 | 0.03 (0.00) <.01 | 0.03 (0.00) <.01 | 0.03 (0.00) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) .30 | -0.00 (0.00) .34 | 0.00 (0.00) .87 | -0.00 (0.00) .65 |
| b | Var (Level) | 2.62 (0.17) <.01 | 2.38 (0.16) <.01 | 2.31 (0.16) <.01 | 2.30 (0.16) <.01 |
| b | Var (Slope) | 0.04 (0.01) .02 | 0.04 (0.01) .02 | 0.03 (0.01) .03 | 0.03 (0.01) .02 |
| b | Var (Residual) | 1.60 (0.06) <.01 | 1.60 (0.06) <.01 | 1.61 (0.06) <.01 | 1.60 (0.06) <.01 |
| b | Covar (Level, Slope) | -0.10 (0.04) .01 | -0.09 (0.04) .02 | -0.09 (0.04) .02 | -0.08 (0.04) .02 |
| ab | Covar (Levels) | 0.14 (0.03) <.01 | 0.11 (0.03) <.01 | 0.08 (0.02) <.01 | 0.08 (0.02) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .10 | 0.00 (0.00) .10 | 0.00 (0.00) .04 | 0.00 (0.00) .10 |
| ab | Covar (Residuals) | -0.01 (0.01) .09 | -0.01 (0.01) .09 | -0.01 (0.01) .05 | -0.01 (0.01) .11 |
|  | Correlation of Levels | 0.240 | 0.200 | 0.161 | 0.152 |
|  | Correlation of Slopes | 0.500 | 0.500 | Inf | 0.514 |
|  | Correlation of Residuals | -0.044 | -0.049 | -0.053 | -0.044 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -10,460 | -12,987 | -11,793 | -12,922 |
|  | AIC | 20,966 | 26,034 | 23,662 | 25,980 |
|  | BIC | 21,079 | 26,182 | 23,849 | 26,315 |

## digit\_f

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.30 (0.62) <.01 | 43.40 (1.18) <.01 | 43.95 (1.14) <.01 | 43.73 (1.26) <.01 |
| a | Slope | -0.95 (0.14) <.01 | -0.42 (0.30) .16 | -0.46 (0.30) .13 | -0.41 (0.31) .19 |
| a | Level \* age | -0.67 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.52 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.42 (4.24) <.01 | 39.34 (4.23) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.36 (0.67) .59 |
| a | Level \* cardio | --- | --- | --- | 0.54 (1.40) .70 |
| a | Level \* diabetes | --- | --- | --- | -0.05 (1.21) .97 |
| a | Slope \* age | -0.02 (0.01) .11 | -0.02 (0.01) .10 | -0.02 (0.01) .07 | -0.02 (0.01) .07 |
| a | Slope \* education | --- | -0.07 (0.03) .03 | -0.06 (0.03) .04 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.24 (1.17) .29 | -1.16 (1.18) .33 |
| a | Slope \* smoking | --- | --- | --- | 0.00 (0.17) .99 |
| a | Slope \* cardio | --- | --- | --- | 0.12 (0.29) .67 |
| a | Slope \* diabetes | --- | --- | --- | -0.29 (0.28) .30 |
| b | Level | 8.36 (0.09) <.01 | 7.25 (0.17) <.01 | 7.29 (0.17) <.01 | 7.28 (0.20) <.01 |
| b | Slope | -0.01 (0.02) .59 | 0.03 (0.05) .56 | 0.03 (0.05) .60 | 0.04 (0.06) .45 |
| b | Level \* age | -0.00 (0.01) .62 | -0.00 (0.01) .89 | 0.00 (0.01) .56 | 0.00 (0.01) .55 |
| b | Level \* education | --- | 0.15 (0.02) <.01 | 0.14 (0.02) <.01 | 0.14 (0.02) <.01 |
| b | Level \* height | --- | --- | 3.13 (0.81) <.01 | 3.13 (0.82) <.01 |
| b | Level \* smoking | --- | --- | --- | 0.00 (0.11) .97 |
| b | Level \* cardio | --- | --- | --- | 0.03 (0.22) .90 |
| b | Level \* diabetes | --- | --- | --- | 0.04 (0.19) .85 |
| b | Slope \* age | 0.00 (0.00) .88 | -0.00 (0.00) .80 | -0.00 (0.00) .68 | -0.00 (0.00) .70 |
| b | Slope \* education | --- | -0.01 (0.01) .34 | -0.00 (0.01) .43 | -0.00 (0.01) .40 |
| b | Slope \* height | --- | --- | -0.22 (0.26) .38 | -0.22 (0.26) .39 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.03) .73 |
| b | Slope \* cardio | --- | --- | --- | -0.10 (0.06) .10 |
| b | Slope \* diabetes | --- | --- | --- | -0.01 (0.06) .79 |
| a | Var (Level) | 106.24 (6.51) <.01 | 104.01 (6.40) <.01 | 95.56 (6.02) <.01 | 95.51 (6.01) <.01 |
| a | Var (Slope) | 0.83 (0.34) .01 | 0.80 (0.33) .02 | 0.78 (0.33) .02 | 0.78 (0.33) .02 |
| a | Var (Residual) | 20.02 (1.10) <.01 | 19.99 (1.10) <.01 | 19.99 (1.10) <.01 | 19.98 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.93 (1.15) .10 | -1.68 (1.10) .13 | -1.37 (1.07) .20 | -1.38 (1.07) .20 |
| b | Var (Level) | 2.43 (0.15) <.01 | 2.23 (0.14) <.01 | 2.18 (0.14) <.01 | 2.18 (0.14) <.01 |
| b | Var (Slope) | 0.02 (0.01) .16 | 0.02 (0.01) .15 | 0.02 (0.01) .16 | 0.02 (0.01) .20 |
| b | Var (Residual) | 1.60 (0.05) <.01 | 1.59 (0.05) <.01 | 1.60 (0.05) <.01 | 1.60 (0.05) <.01 |
| b | Covar (Level, Slope) | -0.02 (0.03) .56 | -0.01 (0.03) .71 | -0.01 (0.03) .81 | -0.00 (0.03) .87 |
| ab | Covar (Levels) | 1.53 (0.70) .03 | 0.78 (0.66) .24 | 0.11 (0.63) .86 | 0.11 (0.63) .86 |
| ab | Covar (Slopes) | 0.03 (0.05) .57 | 0.02 (0.05) .60 | 0.02 (0.05) .63 | 0.02 (0.05) .59 |
| ab | Covar (Residuals) | 0.21 (0.15) .18 | 0.20 (0.15) .19 | 0.20 (0.15) .19 | 0.20 (0.15) .19 |
|  | Correlation of Levels | 0.095 | 0.051 | 0.0076 | 0.0077 |
|  | Correlation of Slopes | 0.220 | 0.201 | 0.1992 | 0.2232 |
|  | Correlation of Residuals | 0.036 | 0.036 | 0.0359 | 0.0354 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -19,302 | -21,835 | -20,652 | -21,796 |
|  | AIC | 38,651 | 43,731 | 41,380 | 43,728 |
|  | BIC | 38,764 | 43,878 | 41,567 | 44,062 |

## digit\_o

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.28 (0.62) <.01 | 43.39 (1.18) <.01 | 43.94 (1.14) <.01 | 43.71 (1.26) <.01 |
| a | Slope | -0.95 (0.15) <.01 | -0.42 (0.31) .17 | -0.46 (0.31) .14 | -0.41 (0.32) .20 |
| a | Level \* age | -0.66 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.52 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.38 (4.23) <.01 | 39.31 (4.22) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.37 (0.67) .58 |
| a | Level \* cardio | --- | --- | --- | 0.55 (1.40) .70 |
| a | Level \* diabetes | --- | --- | --- | -0.05 (1.21) .97 |
| a | Slope \* age | -0.02 (0.01) .10 | -0.02 (0.01) .09 | -0.02 (0.01) .06 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .03 | -0.06 (0.03) .05 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.30 (1.17) .26 | -1.23 (1.18) .30 |
| a | Slope \* smoking | --- | --- | --- | -0.00 (0.17) .99 |
| a | Slope \* cardio | --- | --- | --- | 0.12 (0.29) .68 |
| a | Slope \* diabetes | --- | --- | --- | -0.29 (0.28) .30 |
| b | Level | 7.34 (0.07) <.01 | 6.40 (0.14) <.01 | 6.42 (0.14) <.01 | 6.50 (0.16) <.01 |
| b | Slope | 0.01 (0.02) .55 | 0.06 (0.04) .16 | 0.06 (0.04) .16 | 0.07 (0.05) .15 |
| b | Level \* age | -0.01 (0.01) .20 | -0.01 (0.01) .34 | -0.00 (0.01) .63 | -0.00 (0.01) .53 |
| b | Level \* education | --- | 0.13 (0.02) <.01 | 0.12 (0.02) <.01 | 0.12 (0.02) <.01 |
| b | Level \* height | --- | --- | 1.68 (0.58) <.01 | 1.70 (0.59) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.06 (0.08) .47 |
| b | Level \* cardio | --- | --- | --- | -0.11 (0.15) .47 |
| b | Level \* diabetes | --- | --- | --- | -0.14 (0.15) .37 |
| b | Slope \* age | -0.00 (0.00) .08 | -0.00 (0.00) .06 | -0.00 (0.00) .11 | -0.00 (0.00) .12 |
| b | Slope \* education | --- | -0.01 (0.00) .20 | -0.01 (0.00) .18 | -0.01 (0.00) .23 |
| b | Slope \* height | --- | --- | 0.20 (0.21) .35 | 0.20 (0.21) .36 |
| b | Slope \* smoking | --- | --- | --- | -0.04 (0.03) .21 |
| b | Slope \* cardio | --- | --- | --- | -0.07 (0.06) .27 |
| b | Slope \* diabetes | --- | --- | --- | 0.06 (0.04) .18 |
| a | Var (Level) | 106.33 (6.52) <.01 | 104.01 (6.40) <.01 | 95.53 (6.02) <.01 | 95.46 (6.01) <.01 |
| a | Var (Slope) | 0.83 (0.34) .02 | 0.79 (0.33) .02 | 0.78 (0.33) .02 | 0.78 (0.33) .02 |
| a | Var (Residual) | 20.02 (1.10) <.01 | 19.98 (1.10) <.01 | 19.99 (1.10) <.01 | 19.98 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.91 (1.17) .10 | -1.64 (1.10) .14 | -1.32 (1.08) .22 | -1.32 (1.08) .22 |
| b | Var (Level) | 1.22 (0.12) <.01 | 1.08 (0.11) <.01 | 1.06 (0.11) <.01 | 1.05 (0.11) <.01 |
| b | Var (Slope) | 0.02 (0.01) .08 | 0.02 (0.01) .08 | 0.02 (0.01) .08 | 0.02 (0.01) .11 |
| b | Var (Residual) | 1.31 (0.06) <.01 | 1.31 (0.06) <.01 | 1.31 (0.06) <.01 | 1.31 (0.06) <.01 |
| b | Covar (Level, Slope) | -0.08 (0.03) .02 | -0.07 (0.03) .03 | -0.07 (0.03) .02 | -0.07 (0.03) .02 |
| ab | Covar (Levels) | 1.45 (0.57) .01 | 0.85 (0.53) .11 | 0.47 (0.53) .37 | 0.49 (0.52) .35 |
| ab | Covar (Slopes) | 0.02 (0.04) .64 | 0.02 (0.04) .62 | 0.02 (0.04) .63 | 0.02 (0.04) .57 |
| ab | Covar (Residuals) | 0.11 (0.14) .44 | 0.10 (0.14) .48 | 0.10 (0.14) .48 | 0.10 (0.14) .49 |
|  | Correlation of Levels | 0.127 | 0.08 | 0.047 | 0.049 |
|  | Correlation of Slopes | 0.138 | 0.16 | 0.149 | 0.187 |
|  | Correlation of Residuals | 0.021 | 0.02 | 0.020 | 0.019 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -18,677 | -21,200 | -20,018 | -21,157 |
|  | AIC | 37,400 | 42,460 | 40,112 | 42,451 |
|  | BIC | 37,513 | 42,607 | 40,299 | 42,785 |

## ideas

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.29 (0.62) <.01 | 43.37 (1.18) <.01 | 43.92 (1.14) <.01 | 43.69 (1.26) <.01 |
| a | Slope | -0.95 (0.14) <.01 | -0.41 (0.30) .17 | -0.45 (0.30) .13 | -0.39 (0.32) .21 |
| a | Level \* age | -0.67 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.53 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.44 (4.24) <.01 | 39.38 (4.23) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.38 (0.67) .57 |
| a | Level \* cardio | --- | --- | --- | 0.55 (1.40) .70 |
| a | Level \* diabetes | --- | --- | --- | -0.03 (1.21) .98 |
| a | Slope \* age | -0.02 (0.01) .10 | -0.02 (0.01) .09 | -0.02 (0.01) .07 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .02 | -0.07 (0.03) .04 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.23 (1.17) .29 | -1.16 (1.18) .33 |
| a | Slope \* smoking | --- | --- | --- | -0.02 (0.17) .91 |
| a | Slope \* cardio | --- | --- | --- | 0.14 (0.29) .63 |
| a | Slope \* diabetes | --- | --- | --- | -0.28 (0.28) .32 |
| b | Level | 7.65 (0.03) <.01 | 7.50 (0.06) <.01 | 7.51 (0.05) <.01 | 7.56 (0.06) <.01 |
| b | Slope | 0.02 (0.01) .05 | 0.03 (0.02) .06 | 0.03 (0.02) .06 | 0.02 (0.02) .33 |
| b | Level \* age | 0.00 (0.00) .13 | 0.00 (0.00) .10 | 0.00 (0.00) .07 | 0.00 (0.00) .11 |
| b | Level \* education | --- | 0.02 (0.00) <.01 | 0.02 (0.00) <.01 | 0.02 (0.00) <.01 |
| b | Level \* height | --- | --- | 0.38 (0.23) .10 | 0.39 (0.23) .10 |
| b | Level \* smoking | --- | --- | --- | -0.03 (0.03) .33 |
| b | Level \* cardio | --- | --- | --- | -0.05 (0.06) .42 |
| b | Level \* diabetes | --- | --- | --- | -0.12 (0.06) .07 |
| b | Slope \* age | -0.00 (0.00) .43 | -0.00 (0.00) .40 | -0.00 (0.00) .50 | 0.00 (0.00) .62 |
| b | Slope \* education | --- | -0.00 (0.00) .28 | -0.00 (0.00) .26 | -0.00 (0.00) .37 |
| b | Slope \* height | --- | --- | 0.06 (0.09) .45 | 0.06 (0.09) .47 |
| b | Slope \* smoking | --- | --- | --- | 0.02 (0.01) .13 |
| b | Slope \* cardio | --- | --- | --- | 0.02 (0.02) .44 |
| b | Slope \* diabetes | --- | --- | --- | 0.02 (0.02) .43 |
| a | Var (Level) | 106.22 (6.50) <.01 | 104.05 (6.40) <.01 | 95.56 (6.02) <.01 | 95.51 (6.00) <.01 |
| a | Var (Slope) | 0.82 (0.34) .02 | 0.79 (0.33) .02 | 0.78 (0.33) .02 | 0.77 (0.33) .02 |
| a | Var (Residual) | 20.05 (1.10) <.01 | 20.01 (1.10) <.01 | 20.01 (1.10) <.01 | 20.00 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.96 (1.15) .09 | -1.72 (1.10) .12 | -1.41 (1.07) .19 | -1.42 (1.07) .19 |
| b | Var (Level) | 0.13 (0.02) <.01 | 0.12 (0.02) <.01 | 0.12 (0.02) <.01 | 0.12 (0.02) <.01 |
| b | Var (Slope) | 0.00 (0.00) .08 | 0.00 (0.00) .08 | 0.00 (0.00) .08 | 0.00 (0.00) .09 |
| b | Var (Residual) | 0.21 (0.01) <.01 | 0.21 (0.01) <.01 | 0.21 (0.01) <.01 | 0.21 (0.01) <.01 |
| b | Covar (Level, Slope) | -0.01 (0.01) .11 | -0.01 (0.01) .11 | -0.01 (0.01) .11 | -0.01 (0.01) .12 |
| ab | Covar (Levels) | 0.16 (0.22) .46 | 0.07 (0.22) .76 | -0.02 (0.21) .91 | -0.02 (0.21) .92 |
| ab | Covar (Slopes) | 0.01 (0.02) .64 | 0.01 (0.02) .70 | 0.01 (0.02) .75 | 0.01 (0.02) .71 |
| ab | Covar (Residuals) | 0.04 (0.05) .48 | 0.04 (0.05) .47 | 0.04 (0.05) .47 | 0.04 (0.05) .45 |
|  | Correlation of Levels | 0.045 | 0.019 | -0.007 | -0.0059 |
|  | Correlation of Slopes | 0.140 | 0.125 | 0.108 | 0.1258 |
|  | Correlation of Residuals | 0.018 | 0.019 | 0.019 | 0.0192 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -15,328 | -17,883 | -16,704 | -17,845 |
|  | AIC | 30,701 | 35,826 | 33,483 | 35,826 |
|  | BIC | 30,814 | 35,973 | 33,670 | 36,161 |

## line

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.28 (0.62) <.01 | 43.35 (1.18) <.01 | 43.91 (1.14) <.01 | 43.68 (1.26) <.01 |
| a | Slope | -0.94 (0.14) <.01 | -0.41 (0.30) .18 | -0.45 (0.30) .14 | -0.40 (0.32) .21 |
| a | Level \* age | -0.67 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.53 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.38 (4.24) <.01 | 39.30 (4.23) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.38 (0.67) .57 |
| a | Level \* cardio | --- | --- | --- | 0.53 (1.40) .70 |
| a | Level \* diabetes | --- | --- | --- | -0.03 (1.21) .98 |
| a | Slope \* age | -0.02 (0.01) .11 | -0.02 (0.01) .10 | -0.02 (0.01) .07 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .03 | -0.06 (0.03) .05 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.27 (1.17) .28 | -1.19 (1.18) .31 |
| a | Slope \* smoking | --- | --- | --- | -0.01 (0.17) .94 |
| a | Slope \* cardio | --- | --- | --- | 0.12 (0.29) .67 |
| a | Slope \* diabetes | --- | --- | --- | -0.29 (0.28) .29 |
| b | Level | 9.74 (0.14) <.01 | 7.76 (0.27) <.01 | 7.80 (0.27) <.01 | 8.16 (0.30) <.01 |
| b | Slope | 0.01 (0.04) .75 | 0.00 (0.08) .96 | 0.00 (0.07) .96 | -0.04 (0.08) .65 |
| b | Level \* age | -0.02 (0.01) .18 | -0.01 (0.01) .32 | -0.01 (0.01) .58 | -0.01 (0.01) .27 |
| b | Level \* education | --- | 0.27 (0.03) <.01 | 0.26 (0.03) <.01 | 0.24 (0.03) <.01 |
| b | Level \* height | --- | --- | 2.91 (1.28) .02 | 3.03 (1.28) .02 |
| b | Level \* smoking | --- | --- | --- | -0.27 (0.16) .09 |
| b | Level \* cardio | --- | --- | --- | 0.12 (0.32) .70 |
| b | Level \* diabetes | --- | --- | --- | -0.73 (0.29) .01 |
| b | Slope \* age | -0.00 (0.00) .61 | -0.00 (0.00) .56 | -0.00 (0.00) .72 | 0.00 (0.00) .99 |
| b | Slope \* education | --- | 0.00 (0.01) .88 | 0.00 (0.01) .96 | 0.00 (0.01) .83 |
| b | Slope \* height | --- | --- | 0.29 (0.36) .42 | 0.27 (0.36) .46 |
| b | Slope \* smoking | --- | --- | --- | 0.06 (0.05) .20 |
| b | Slope \* cardio | --- | --- | --- | -0.15 (0.09) .07 |
| b | Slope \* diabetes | --- | --- | --- | 0.06 (0.09) .49 |
| a | Var (Level) | 106.28 (6.53) <.01 | 103.98 (6.41) <.01 | 95.52 (6.03) <.01 | 95.46 (6.02) <.01 |
| a | Var (Slope) | 0.81 (0.34) .02 | 0.78 (0.33) .02 | 0.77 (0.34) .02 | 0.77 (0.34) .02 |
| a | Var (Residual) | 20.05 (1.10) <.01 | 20.01 (1.10) <.01 | 20.01 (1.10) <.01 | 20.00 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.89 (1.17) .10 | -1.63 (1.11) .14 | -1.32 (1.09) .23 | -1.32 (1.08) .22 |
| b | Var (Level) | 5.22 (0.38) <.01 | 4.56 (0.34) <.01 | 4.51 (0.34) <.01 | 4.45 (0.34) <.01 |
| b | Var (Slope) | 0.01 (0.03) .66 | 0.01 (0.03) .66 | 0.01 (0.03) .66 | 0.01 (0.03) .75 |
| b | Var (Residual) | 3.85 (0.16) <.01 | 3.85 (0.16) <.01 | 3.85 (0.16) <.01 | 3.85 (0.16) <.01 |
| b | Covar (Level, Slope) | 0.07 (0.08) .41 | 0.07 (0.08) .40 | 0.07 (0.08) .43 | 0.08 (0.08) .36 |
| ab | Covar (Levels) | 3.42 (1.19) <.01 | 2.12 (1.12) .06 | 1.47 (1.10) .18 | 1.48 (1.08) .17 |
| ab | Covar (Slopes) | 0.06 (0.07) .43 | 0.06 (0.07) .41 | 0.06 (0.07) .42 | 0.06 (0.07) .39 |
| ab | Covar (Residuals) | 0.22 (0.22) .32 | 0.21 (0.22) .33 | 0.21 (0.22) .34 | 0.21 (0.22) .34 |
|  | Correlation of Levels | 0.145 | 0.097 | 0.071 | 0.072 |
|  | Correlation of Slopes | 0.553 | 0.584 | 0.569 | 0.719 |
|  | Correlation of Residuals | 0.025 | 0.024 | 0.024 | 0.024 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -20,628 | -23,145 | -21,966 | -23,105 |
|  | AIC | 41,302 | 46,350 | 44,007 | 46,346 |
|  | BIC | 41,415 | 46,497 | 44,194 | 46,680 |

## logic\_de

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.28 (0.62) <.01 | 43.35 (1.18) <.01 | 43.91 (1.14) <.01 | 43.67 (1.26) <.01 |
| a | Slope | -0.95 (0.15) <.01 | -0.42 (0.31) .17 | -0.46 (0.31) .13 | -0.41 (0.32) .20 |
| a | Level \* age | -0.67 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.53 (0.13) <.01 | 0.38 (0.13) <.01 | 0.39 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.46 (4.23) <.01 | 39.38 (4.23) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.37 (0.67) .57 |
| a | Level \* cardio | --- | --- | --- | 0.51 (1.40) .71 |
| a | Level \* diabetes | --- | --- | --- | -0.01 (1.22) .99 |
| a | Slope \* age | -0.02 (0.01) .10 | -0.02 (0.01) .09 | -0.02 (0.01) .06 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .03 | -0.07 (0.03) .05 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.38 (1.17) .24 | -1.30 (1.18) .27 |
| a | Slope \* smoking | --- | --- | --- | -0.01 (0.17) .95 |
| a | Slope \* cardio | --- | --- | --- | 0.15 (0.29) .60 |
| a | Slope \* diabetes | --- | --- | --- | -0.30 (0.28) .29 |
| b | Level | 11.01 (0.19) <.01 | 8.26 (0.32) <.01 | 8.33 (0.32) <.01 | 8.49 (0.37) <.01 |
| b | Slope | 0.44 (0.05) <.01 | 0.26 (0.11) .02 | 0.26 (0.11) .02 | 0.28 (0.12) .02 |
| 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 | --- | 0.37 (0.04) <.01 | 0.35 (0.04) <.01 | 0.34 (0.04) <.01 |
| b | Level \* height | --- | --- | 5.49 (1.54) <.01 | 5.51 (1.54) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.05 (0.22) .81 |
| b | Level \* cardio | --- | --- | --- | -0.30 (0.51) .56 |
| b | Level \* diabetes | --- | --- | --- | -0.40 (0.36) .27 |
| b | Slope \* age | -0.02 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 |
| b | Slope \* education | --- | 0.02 (0.01) .06 | 0.02 (0.01) .07 | 0.02 (0.01) .06 |
| b | Slope \* height | --- | --- | 0.26 (0.55) .64 | 0.25 (0.56) .65 |
| b | Slope \* smoking | --- | --- | --- | -0.09 (0.07) .20 |
| b | Slope \* cardio | --- | --- | --- | -0.02 (0.15) .90 |
| b | Slope \* diabetes | --- | --- | --- | 0.11 (0.12) .34 |
| a | Var (Level) | 106.25 (6.50) <.01 | 103.92 (6.38) <.01 | 95.42 (6.01) <.01 | 95.37 (5.99) <.01 |
| a | Var (Slope) | 0.85 (0.34) .01 | 0.81 (0.33) .01 | 0.80 (0.33) .02 | 0.80 (0.33) .02 |
| a | Var (Residual) | 20.01 (1.10) <.01 | 19.98 (1.10) <.01 | 19.99 (1.10) <.01 | 19.97 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.98 (1.16) .09 | -1.71 (1.10) .12 | -1.36 (1.08) .20 | -1.38 (1.07) .20 |
| b | Var (Level) | 12.26 (0.69) <.01 | 11.01 (0.67) <.01 | 10.85 (0.66) <.01 | 10.81 (0.66) <.01 |
| b | Var (Slope) | 0.27 (0.06) <.01 | 0.27 (0.06) <.01 | 0.27 (0.06) <.01 | 0.26 (0.06) <.01 |
| b | Var (Residual) | 5.86 (0.22) <.01 | 5.85 (0.22) <.01 | 5.85 (0.22) <.01 | 5.85 (0.22) <.01 |
| b | Covar (Level, Slope) | 0.20 (0.16) .21 | 0.12 (0.15) .44 | 0.11 (0.15) .47 | 0.12 (0.15) .43 |
| ab | Covar (Levels) | 2.78 (1.50) .06 | 0.92 (1.40) .51 | -0.25 (1.33) .85 | -0.22 (1.33) .87 |
| ab | Covar (Slopes) | 0.15 (0.10) .12 | 0.19 (0.10) .06 | 0.19 (0.10) .06 | 0.20 (0.10) .05 |
| ab | Covar (Residuals) | 0.11 (0.30) .71 | 0.09 (0.30) .76 | 0.08 (0.30) .78 | 0.09 (0.30) .78 |
|  | Correlation of Levels | 0.077 | 0.0272 | -0.0077 | -0.0069 |
|  | Correlation of Slopes | 0.316 | 0.4007 | 0.4086 | 0.4292 |
|  | Correlation of Residuals | 0.011 | 0.0084 | 0.0077 | 0.0080 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -21,757 | -24,271 | -23,090 | -24,233 |
|  | AIC | 43,559 | 48,603 | 46,256 | 48,602 |
|  | BIC | 43,672 | 48,750 | 46,443 | 48,936 |

## logic\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.29 (0.62) <.01 | 43.37 (1.18) <.01 | 43.92 (1.14) <.01 | 43.70 (1.26) <.01 |
| a | Slope | -0.95 (0.14) <.01 | -0.41 (0.31) .18 | -0.45 (0.30) .14 | -0.40 (0.32) .20 |
| a | Level \* age | -0.67 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.53 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.53 (4.23) <.01 | 39.44 (4.23) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.36 (0.67) .59 |
| a | Level \* cardio | --- | --- | --- | 0.54 (1.40) .70 |
| a | Level \* diabetes | --- | --- | --- | -0.03 (1.21) .98 |
| a | Slope \* age | -0.02 (0.01) .10 | -0.02 (0.01) .09 | -0.02 (0.01) .06 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .02 | -0.07 (0.03) .04 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.34 (1.17) .25 | -1.26 (1.18) .28 |
| a | Slope \* smoking | --- | --- | --- | -0.01 (0.17) .97 |
| a | Slope \* cardio | --- | --- | --- | 0.14 (0.29) .62 |
| a | Slope \* diabetes | --- | --- | --- | -0.29 (0.28) .31 |
| b | Level | 12.59 (0.18) <.01 | 9.92 (0.32) <.01 | 9.98 (0.32) <.01 | 10.19 (0.37) <.01 |
| b | Slope | 0.35 (0.05) <.01 | 0.30 (0.10) <.01 | 0.30 (0.10) <.01 | 0.27 (0.12) .02 |
| b | Level \* age | -0.11 (0.02) <.01 | -0.10 (0.02) <.01 | -0.09 (0.02) <.01 | -0.10 (0.02) <.01 |
| b | Level \* education | --- | 0.36 (0.04) <.01 | 0.34 (0.04) <.01 | 0.34 (0.04) <.01 |
| b | Level \* height | --- | --- | 4.34 (1.42) <.01 | 4.40 (1.42) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.20 (0.22) .36 |
| b | Level \* cardio | --- | --- | --- | -0.36 (0.50) .47 |
| b | Level \* diabetes | --- | --- | --- | -0.27 (0.36) .44 |
| b | Slope \* age | -0.01 (0.00) .03 | -0.01 (0.00) .03 | -0.01 (0.00) .04 | -0.01 (0.00) .05 |
| b | Slope \* education | --- | 0.01 (0.01) .55 | 0.01 (0.01) .60 | 0.01 (0.01) .44 |
| b | Slope \* height | --- | --- | 0.26 (0.51) .61 | 0.22 (0.51) .67 |
| b | Slope \* smoking | --- | --- | --- | -0.05 (0.07) .46 |
| b | Slope \* cardio | --- | --- | --- | 0.07 (0.14) .60 |
| b | Slope \* diabetes | --- | --- | --- | 0.20 (0.12) .10 |
| a | Var (Level) | 106.34 (6.51) <.01 | 103.98 (6.39) <.01 | 95.48 (6.01) <.01 | 95.42 (6.00) <.01 |
| a | Var (Slope) | 0.85 (0.34) .01 | 0.81 (0.33) .01 | 0.80 (0.33) .02 | 0.80 (0.33) .02 |
| a | Var (Residual) | 20.01 (1.10) <.01 | 19.98 (1.10) <.01 | 19.99 (1.10) <.01 | 19.97 (1.09) <.01 |
| a | Covar (Level, Slope) | -2.02 (1.17) .08 | -1.73 (1.10) .12 | -1.40 (1.08) .20 | -1.41 (1.07) .19 |
| b | Var (Level) | 11.10 (0.66) <.01 | 9.93 (0.63) <.01 | 9.83 (0.63) <.01 | 9.79 (0.63) <.01 |
| b | Var (Slope) | 0.22 (0.06) <.01 | 0.22 (0.06) <.01 | 0.22 (0.06) <.01 | 0.22 (0.06) <.01 |
| b | Var (Residual) | 5.85 (0.21) <.01 | 5.84 (0.21) <.01 | 5.84 (0.21) <.01 | 5.84 (0.21) <.01 |
| b | Covar (Level, Slope) | -0.18 (0.16) .26 | -0.19 (0.15) .20 | -0.20 (0.15) .18 | -0.19 (0.15) .21 |
| ab | Covar (Levels) | 1.87 (1.49) .21 | 0.10 (1.37) .94 | -0.90 (1.32) .49 | -0.86 (1.32) .51 |
| ab | Covar (Slopes) | 0.11 (0.09) .24 | 0.13 (0.09) .15 | 0.13 (0.09) .16 | 0.14 (0.09) .12 |
| ab | Covar (Residuals) | -0.14 (0.31) .66 | -0.16 (0.31) .60 | -0.17 (0.31) .59 | -0.17 (0.31) .59 |
|  | Correlation of Levels | 0.055 | 0.003 | -0.029 | -0.028 |
|  | Correlation of Slopes | 0.247 | 0.315 | 0.308 | 0.338 |
|  | Correlation of Residuals | -0.013 | -0.015 | -0.015 | -0.015 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -21,688 | -24,203 | -23,023 | -24,165 |
|  | AIC | 43,421 | 48,466 | 46,121 | 48,466 |
|  | BIC | 43,534 | 48,614 | 46,308 | 48,800 |

## matrices

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.27 (0.62) <.01 | 43.36 (1.18) <.01 | 43.92 (1.14) <.01 | 43.69 (1.26) <.01 |
| a | Slope | -0.94 (0.14) <.01 | -0.41 (0.31) .19 | -0.45 (0.31) .14 | -0.39 (0.32) .22 |
| a | Level \* age | -0.66 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.53 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.47 (4.24) <.01 | 39.39 (4.23) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.37 (0.67) .58 |
| a | Level \* cardio | --- | --- | --- | 0.54 (1.40) .70 |
| a | Level \* diabetes | --- | --- | --- | -0.03 (1.21) .98 |
| a | Slope \* age | -0.02 (0.01) .10 | -0.02 (0.01) .09 | -0.02 (0.01) .06 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .03 | -0.06 (0.03) .05 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.25 (1.17) .29 | -1.18 (1.18) .32 |
| a | Slope \* smoking | --- | --- | --- | -0.01 (0.17) .93 |
| a | Slope \* cardio | --- | --- | --- | 0.13 (0.29) .64 |
| a | Slope \* diabetes | --- | --- | --- | -0.28 (0.28) .32 |
| b | Level | 12.15 (0.14) <.01 | 9.57 (0.24) <.01 | 9.63 (0.24) <.01 | 9.75 (0.26) <.01 |
| b | Slope | 0.02 (0.04) .65 | 0.04 (0.08) .64 | 0.03 (0.08) .68 | 0.04 (0.09) .69 |
| b | Level \* age | -0.06 (0.01) <.01 | -0.05 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 |
| b | Level \* education | --- | 0.35 (0.02) <.01 | 0.33 (0.02) <.01 | 0.32 (0.02) <.01 |
| b | Level \* height | --- | --- | 4.10 (1.16) <.01 | 4.09 (1.17) <.01 |
| b | Level \* smoking | --- | --- | --- | 0.00 (0.14) .99 |
| b | Level \* cardio | --- | --- | --- | -0.38 (0.28) .16 |
| b | Level \* diabetes | --- | --- | --- | -0.34 (0.26) .19 |
| 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) .75 | -0.00 (0.01) .70 | -0.00 (0.01) .74 |
| b | Slope \* height | --- | --- | 0.35 (0.36) .34 | 0.35 (0.36) .33 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.05) .76 |
| b | Slope \* cardio | --- | --- | --- | -0.01 (0.11) .94 |
| b | Slope \* diabetes | --- | --- | --- | 0.02 (0.08) .85 |
| a | Var (Level) | 106.38 (6.52) <.01 | 104.06 (6.40) <.01 | 95.57 (6.02) <.01 | 95.52 (6.01) <.01 |
| a | Var (Slope) | 0.85 (0.35) .01 | 0.81 (0.33) .02 | 0.79 (0.34) .02 | 0.79 (0.34) .02 |
| a | Var (Residual) | 19.99 (1.10) <.01 | 19.96 (1.10) <.01 | 19.97 (1.10) <.01 | 19.96 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.99 (1.17) .09 | -1.69 (1.11) .13 | -1.37 (1.08) .20 | -1.38 (1.08) .20 |
| b | Var (Level) | 4.33 (0.32) <.01 | 3.20 (0.29) <.01 | 3.10 (0.29) <.01 | 3.08 (0.28) <.01 |
| b | Var (Slope) | 0.02 (0.03) .42 | 0.02 (0.03) .44 | 0.02 (0.03) .45 | 0.02 (0.03) .44 |
| b | Var (Residual) | 3.34 (0.20) <.01 | 3.34 (0.20) <.01 | 3.33 (0.20) <.01 | 3.33 (0.20) <.01 |
| b | Covar (Level, Slope) | -0.05 (0.08) .52 | -0.04 (0.08) .65 | -0.04 (0.08) .59 | -0.04 (0.08) .58 |
| ab | Covar (Levels) | 4.06 (1.04) <.01 | 2.45 (0.94) .01 | 1.54 (0.91) .09 | 1.56 (0.90) .08 |
| ab | Covar (Slopes) | 0.05 (0.07) .46 | 0.06 (0.07) .41 | 0.05 (0.07) .43 | 0.05 (0.07) .43 |
| ab | Covar (Residuals) | -0.03 (0.26) .92 | -0.05 (0.26) .85 | -0.04 (0.26) .87 | -0.04 (0.26) .87 |
|  | Correlation of Levels | 0.1894 | 0.134 | 0.090 | 0.091 |
|  | Correlation of Slopes | 0.3490 | 0.403 | 0.392 | 0.392 |
|  | Correlation of Residuals | -0.0032 | -0.006 | -0.005 | -0.005 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -19,818 | -22,280 | -21,094 | -22,237 |
|  | AIC | 39,681 | 44,620 | 42,264 | 44,610 |
|  | BIC | 39,794 | 44,767 | 42,451 | 44,945 |

## mmse

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.30 (0.62) <.01 | 43.37 (1.18) <.01 | 43.93 (1.14) <.01 | 43.70 (1.26) <.01 |
| a | Slope | -0.99 (0.14) <.01 | -0.50 (0.31) .10 | -0.54 (0.31) .08 | -0.51 (0.32) .11 |
| a | Level \* age | -0.67 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.53 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.64 (4.24) <.01 | 39.56 (4.24) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.36 (0.67) .59 |
| a | Level \* cardio | --- | --- | --- | 0.61 (1.40) .66 |
| a | Level \* diabetes | --- | --- | --- | -0.02 (1.21) .99 |
| a | Slope \* age | -0.02 (0.01) .16 | -0.02 (0.01) .14 | -0.02 (0.01) .10 | -0.02 (0.01) .10 |
| a | Slope \* education | --- | -0.07 (0.03) .04 | -0.06 (0.03) .07 | -0.06 (0.03) .06 |
| a | Slope \* height | --- | --- | -1.09 (1.18) .35 | -1.01 (1.19) .40 |
| a | Slope \* smoking | --- | --- | --- | 0.02 (0.17) .90 |
| a | Slope \* cardio | --- | --- | --- | 0.11 (0.29) .69 |
| a | Slope \* diabetes | --- | --- | --- | -0.28 (0.28) .31 |
| b | Level | 28.77 (0.07) <.01 | 27.57 (0.15) <.01 | 27.59 (0.15) <.01 | 27.66 (0.16) <.01 |
| b | Slope | -0.03 (0.02) .28 | 0.08 (0.06) .21 | 0.08 (0.06) .21 | 0.06 (0.07) .42 |
| b | Level \* age | -0.05 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 |
| b | Level \* education | --- | 0.16 (0.02) <.01 | 0.15 (0.02) <.01 | 0.15 (0.02) <.01 |
| b | Level \* height | --- | --- | 1.54 (0.63) .01 | 1.55 (0.63) .01 |
| b | Level \* smoking | --- | --- | --- | -0.09 (0.09) .34 |
| b | Level \* cardio | --- | --- | --- | -0.13 (0.17) .44 |
| b | Level \* diabetes | --- | --- | --- | -0.06 (0.17) .72 |
| 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 | --- | -0.01 (0.01) .04 | -0.01 (0.01) .04 | -0.01 (0.01) .05 |
| b | Slope \* height | --- | --- | -0.01 (0.25) .98 | -0.02 (0.25) .94 |
| b | Slope \* smoking | --- | --- | --- | 0.02 (0.04) .63 |
| b | Slope \* cardio | --- | --- | --- | 0.07 (0.07) .30 |
| b | Slope \* diabetes | --- | --- | --- | 0.04 (0.07) .58 |
| a | Var (Level) | 106.27 (6.52) <.01 | 104.05 (6.41) <.01 | 95.58 (6.03) <.01 | 95.50 (6.02) <.01 |
| a | Var (Slope) | 0.84 (0.34) .01 | 0.80 (0.32) .01 | 0.79 (0.33) .02 | 0.79 (0.33) .01 |
| a | Var (Residual) | 20.04 (1.10) <.01 | 20.01 (1.10) <.01 | 20.02 (1.10) <.01 | 20.00 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.82 (1.16) .12 | -1.58 (1.10) .15 | -1.28 (1.08) .23 | -1.29 (1.08) .23 |
| b | Var (Level) | 1.23 (0.16) <.01 | 0.99 (0.14) <.01 | 0.97 (0.14) <.01 | 0.97 (0.14) <.01 |
| b | Var (Slope) | 0.08 (0.04) .04 | 0.08 (0.04) .04 | 0.08 (0.04) .04 | 0.08 (0.04) .04 |
| b | Var (Residual) | 1.64 (0.08) <.01 | 1.64 (0.08) <.01 | 1.64 (0.08) <.01 | 1.64 (0.08) <.01 |
| b | Covar (Level, Slope) | -0.01 (0.05) .80 | 0.01 (0.05) .85 | 0.01 (0.05) .85 | 0.01 (0.05) .84 |
| ab | Covar (Levels) | 1.13 (0.61) .06 | 0.32 (0.56) .56 | -0.01 (0.56) .98 | -0.00 (0.55) .99 |
| ab | Covar (Slopes) | 0.14 (0.07) .03 | 0.13 (0.07) .05 | 0.13 (0.07) .06 | 0.13 (0.07) .06 |
| ab | Covar (Residuals) | 0.14 (0.15) .37 | 0.12 (0.15) .42 | 0.13 (0.15) .39 | 0.12 (0.15) .41 |
|  | Correlation of Levels | 0.099 | 0.032 | -0.0015 | -0.00052 |
|  | Correlation of Slopes | 0.559 | 0.542 | 0.5353 | 0.53939 |
|  | Correlation of Residuals | 0.024 | 0.021 | 0.0225 | 0.02184 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -19,154 | -21,663 | -20,484 | -21,628 |
|  | AIC | 38,353 | 43,386 | 41,044 | 43,392 |
|  | BIC | 38,466 | 43,534 | 41,231 | 43,726 |

## nart

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 47.29 (0.62) <.01 | 43.95 (1.14) <.01 | 43.73 (1.26) <.01 |
| a | Slope | -0.93 (0.14) <.01 | -0.42 (0.30) .17 | -0.37 (0.32) .24 |
| a | Level \* age | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | 39.49 (4.24) <.01 | 39.41 (4.23) <.01 |
| a | Level \* smoking | --- | --- | 0.36 (0.67) .58 |
| a | Level \* cardio | --- | --- | 0.55 (1.40) .69 |
| a | Level \* diabetes | --- | --- | -0.06 (1.21) .96 |
| a | Slope \* age | -0.02 (0.01) .10 | -0.02 (0.01) .06 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .04 | -0.07 (0.03) .03 |
| a | Slope \* height | --- | -1.37 (1.16) .24 | -1.29 (1.17) .27 |
| a | Slope \* smoking | --- | --- | -0.01 (0.17) .97 |
| a | Slope \* cardio | --- | --- | 0.15 (0.29) .60 |
| a | Slope \* diabetes | --- | --- | -0.27 (0.28) .34 |
| b | Level | 7.50 (0.12) <.01 | 4.90 (0.20) <.01 | 5.04 (0.22) <.01 |
| b | Slope | 0.03 (0.02) .10 | 0.04 (0.04) .37 | 0.04 (0.04) .36 |
| b | Level \* age | 0.04 (0.01) <.01 | 0.05 (0.01) <.01 | 0.05 (0.01) <.01 |
| b | Level \* education | --- | 0.34 (0.02) <.01 | 0.33 (0.02) <.01 |
| b | Level \* height | --- | 3.52 (0.88) <.01 | 3.52 (0.87) <.01 |
| b | Level \* smoking | --- | --- | 0.10 (0.12) .45 |
| b | Level \* cardio | --- | --- | -0.09 (0.28) .74 |
| b | Level \* diabetes | --- | --- | -0.65 (0.23) <.01 |
| b | Slope \* age | -0.00 (0.00) .28 | -0.00 (0.00) .30 | -0.00 (0.00) .33 |
| b | Slope \* education | --- | -0.00 (0.00) .90 | -0.00 (0.00) .86 |
| b | Slope \* height | --- | 0.02 (0.15) .88 | 0.04 (0.16) .82 |
| b | Slope \* smoking | --- | --- | 0.00 (0.02) .86 |
| b | Slope \* cardio | --- | --- | -0.03 (0.05) .55 |
| b | Slope \* diabetes | --- | --- | -0.02 (0.05) .64 |
| a | Var (Level) | 106.77 (6.55) <.01 | 95.75 (6.04) <.01 | 95.70 (6.03) <.01 |
| a | Var (Slope) | 0.85 (0.34) .01 | 0.78 (0.33) .02 | 0.79 (0.33) .02 |
| a | Var (Residual) | 20.01 (1.10) <.01 | 19.99 (1.10) <.01 | 19.97 (1.10) <.01 |
| a | Covar (Level, Slope) | -2.14 (1.17) .07 | -1.43 (1.08) .18 | -1.45 (1.08) .18 |
| b | Var (Level) | 4.76 (0.28) <.01 | 3.49 (0.20) <.01 | 3.44 (0.20) <.01 |
| b | Var (Slope) | 0.02 (0.01) .06 | 0.02 (0.01) .07 | 0.02 (0.01) .07 |
| b | Var (Residual) | 0.71 (0.05) <.01 | 0.71 (0.05) <.01 | 0.71 (0.05) <.01 |
| b | Covar (Level, Slope) | -0.04 (0.04) .26 | -0.04 (0.03) .22 | -0.04 (0.03) .21 |
| ab | Covar (Levels) | 2.49 (0.93) .01 | -0.08 (0.72) .91 | -0.09 (0.72) .90 |
| ab | Covar (Slopes) | -0.01 (0.03) .82 | -0.00 (0.03) .94 | -0.00 (0.03) .97 |
| ab | Covar (Residuals) | -0.01 (0.11) .91 | -0.02 (0.11) .87 | -0.02 (0.11) .88 |
|  | Correlation of Levels | 0.1105 | -0.0043 | -0.0052 |
|  | Correlation of Slopes | -0.0630 | -0.0164 | -0.0084 |
|  | Correlation of Residuals | -0.0032 | -0.0048 | -0.0045 |
|  | N | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | 23 | 38 | 68 |
|  | LL | -18,427 | -19,677 | -20,816 |
|  | AIC | 36,900 | 39,431 | 41,767 |
|  | BIC | 37,013 | 39,618 | 42,101 |

## num\_comp

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.29 (0.62) <.01 | 43.38 (1.18) <.01 | 43.94 (1.14) <.01 | 43.72 (1.26) <.01 |
| a | Slope | -0.95 (0.14) <.01 | -0.41 (0.31) .18 | -0.46 (0.31) .14 | -0.40 (0.32) .20 |
| a | Level \* age | -0.66 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.53 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.57 (4.24) <.01 | 39.48 (4.23) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.36 (0.67) .58 |
| a | Level \* cardio | --- | --- | --- | 0.53 (1.40) .70 |
| a | Level \* diabetes | --- | --- | --- | -0.06 (1.21) .96 |
| a | Slope \* age | -0.02 (0.01) .10 | -0.02 (0.01) .09 | -0.02 (0.01) .06 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .03 | -0.06 (0.03) .05 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.29 (1.17) .27 | -1.20 (1.18) .31 |
| a | Slope \* smoking | --- | --- | --- | -0.01 (0.17) .97 |
| a | Slope \* cardio | --- | --- | --- | 0.14 (0.29) .63 |
| a | Slope \* diabetes | --- | --- | --- | -0.29 (0.28) .30 |
| b | Level | 26.48 (0.36) <.01 | 21.90 (0.68) <.01 | 22.09 (0.67) <.01 | 23.14 (0.77) <.01 |
| b | Slope | 0.16 (0.08) .04 | 0.29 (0.15) .05 | 0.29 (0.15) .05 | 0.28 (0.16) .09 |
| b | Level \* age | -0.20 (0.03) <.01 | -0.19 (0.03) <.01 | -0.16 (0.03) <.01 | -0.18 (0.03) <.01 |
| b | Level \* education | --- | 0.61 (0.08) <.01 | 0.56 (0.08) <.01 | 0.52 (0.08) <.01 |
| b | Level \* height | --- | --- | 13.60 (2.91) <.01 | 13.77 (2.92) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.68 (0.41) .10 |
| b | Level \* cardio | --- | --- | --- | -0.70 (0.84) .41 |
| b | Level \* diabetes | --- | --- | --- | -2.16 (0.75) <.01 |
| 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) .30 | -0.02 (0.02) .33 | -0.01 (0.02) .43 |
| b | Slope \* height | --- | --- | -0.16 (0.72) .82 | -0.16 (0.72) .82 |
| b | Slope \* smoking | --- | --- | --- | -0.10 (0.10) .33 |
| b | Slope \* cardio | --- | --- | --- | 0.04 (0.18) .82 |
| b | Slope \* diabetes | --- | --- | --- | 0.21 (0.21) .32 |
| a | Var (Level) | 106.44 (6.52) <.01 | 104.14 (6.41) <.01 | 95.60 (6.02) <.01 | 95.55 (6.01) <.01 |
| a | Var (Slope) | 0.85 (0.34) .01 | 0.80 (0.33) .02 | 0.79 (0.34) .02 | 0.79 (0.33) .02 |
| a | Var (Residual) | 20.00 (1.10) <.01 | 19.97 (1.10) <.01 | 19.98 (1.10) <.01 | 19.96 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.99 (1.17) .09 | -1.71 (1.11) .12 | -1.38 (1.08) .20 | -1.39 (1.08) .20 |
| b | Var (Level) | 38.71 (2.37) <.01 | 35.18 (2.23) <.01 | 34.15 (2.20) <.01 | 33.56 (2.13) <.01 |
| b | Var (Slope) | 0.37 (0.15) .01 | 0.37 (0.15) .01 | 0.37 (0.15) .01 | 0.36 (0.15) .01 |
| b | Var (Residual) | 14.99 (0.80) <.01 | 14.98 (0.80) <.01 | 14.99 (0.80) <.01 | 14.98 (0.80) <.01 |
| b | Covar (Level, Slope) | -0.02 (0.44) .96 | 0.08 (0.43) .86 | 0.09 (0.43) .83 | 0.13 (0.42) .75 |
| ab | Covar (Levels) | 8.63 (2.87) <.01 | 5.42 (2.68) .04 | 2.39 (2.56) .35 | 2.42 (2.53) .34 |
| ab | Covar (Slopes) | 0.18 (0.14) .19 | 0.16 (0.14) .24 | 0.16 (0.14) .24 | 0.17 (0.14) .22 |
| ab | Covar (Residuals) | 0.20 (0.45) .66 | 0.20 (0.45) .65 | 0.22 (0.45) .63 | 0.23 (0.45) .61 |
|  | Correlation of Levels | 0.135 | 0.090 | 0.042 | 0.043 |
|  | Correlation of Slopes | 0.314 | 0.292 | 0.293 | 0.313 |
|  | Correlation of Residuals | 0.011 | 0.012 | 0.013 | 0.013 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -23,247 | -25,776 | -24,591 | -25,728 |
|  | AIC | 46,540 | 51,611 | 49,257 | 51,592 |
|  | BIC | 46,653 | 51,759 | 49,444 | 51,926 |

## symbol

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.26 (0.62) <.01 | 43.34 (1.18) <.01 | 43.91 (1.14) <.01 | 43.68 (1.26) <.01 |
| a | Slope | -0.95 (0.15) <.01 | -0.43 (0.31) .17 | -0.47 (0.31) .13 | -0.41 (0.32) .20 |
| a | Level \* age | -0.67 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.53 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.53 (4.24) <.01 | 39.45 (4.24) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.37 (0.67) .58 |
| a | Level \* cardio | --- | --- | --- | 0.56 (1.40) .69 |
| a | Level \* diabetes | --- | --- | --- | -0.04 (1.21) .97 |
| a | Slope \* age | -0.02 (0.01) .11 | -0.02 (0.01) .10 | -0.02 (0.01) .07 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .03 | -0.06 (0.03) .06 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.21 (1.17) .30 | -1.13 (1.18) .34 |
| a | Slope \* smoking | --- | --- | --- | -0.01 (0.17) .97 |
| a | Slope \* cardio | --- | --- | --- | 0.13 (0.29) .67 |
| a | Slope \* diabetes | --- | --- | --- | -0.29 (0.28) .30 |
| b | Level | 42.27 (0.52) <.01 | 33.81 (0.94) <.01 | 34.01 (0.94) <.01 | 35.43 (1.05) <.01 |
| b | Slope | 0.10 (0.11) .34 | 0.37 (0.20) .07 | 0.38 (0.20) .06 | 0.52 (0.22) .02 |
| b | Level \* age | -0.39 (0.04) <.01 | -0.37 (0.04) <.01 | -0.35 (0.04) <.01 | -0.37 (0.04) <.01 |
| b | Level \* education | --- | 1.14 (0.10) <.01 | 1.08 (0.10) <.01 | 1.02 (0.10) <.01 |
| b | Level \* height | --- | --- | 14.53 (3.90) <.01 | 14.69 (3.92) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.77 (0.56) .17 |
| b | Level \* cardio | --- | --- | --- | -1.33 (1.19) .26 |
| b | Level \* diabetes | --- | --- | --- | -3.06 (1.01) <.01 |
| b | Slope \* age | -0.06 (0.01) <.01 | -0.06 (0.01) <.01 | -0.05 (0.01) <.01 | -0.06 (0.01) <.01 |
| b | Slope \* education | --- | -0.04 (0.02) .13 | -0.04 (0.02) .08 | -0.05 (0.02) .05 |
| b | Slope \* height | --- | --- | 2.01 (1.09) .06 | 2.15 (1.08) .05 |
| b | Slope \* smoking | --- | --- | --- | -0.17 (0.14) .23 |
| b | Slope \* cardio | --- | --- | --- | 0.14 (0.26) .59 |
| b | Slope \* diabetes | --- | --- | --- | -0.27 (0.27) .32 |
| a | Var (Level) | 106.42 (6.53) <.01 | 104.23 (6.42) <.01 | 95.73 (6.04) <.01 | 95.67 (6.03) <.01 |
| a | Var (Slope) | 0.84 (0.35) .01 | 0.80 (0.33) .02 | 0.79 (0.34) .02 | 0.79 (0.33) .02 |
| a | Var (Residual) | 20.00 (1.10) <.01 | 19.96 (1.10) <.01 | 19.97 (1.10) <.01 | 19.96 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.94 (1.17) .10 | -1.68 (1.10) .13 | -1.37 (1.08) .20 | -1.38 (1.08) .20 |
| b | Var (Level) | 80.25 (5.11) <.01 | 67.98 (4.61) <.01 | 66.84 (4.60) <.01 | 65.55 (4.59) <.01 |
| b | Var (Slope) | 1.02 (0.31) <.01 | 1.02 (0.30) <.01 | 1.00 (0.30) <.01 | 0.98 (0.31) <.01 |
| b | Var (Residual) | 23.68 (1.34) <.01 | 23.66 (1.34) <.01 | 23.67 (1.34) <.01 | 23.68 (1.34) <.01 |
| b | Covar (Level, Slope) | 1.56 (0.91) .08 | 1.93 (0.84) .02 | 1.77 (0.84) .04 | 1.71 (0.83) .04 |
| ab | Covar (Levels) | 15.46 (4.04) <.01 | 9.40 (3.64) .01 | 6.23 (3.56) .08 | 6.24 (3.52) .08 |
| ab | Covar (Slopes) | -0.02 (0.21) .91 | -0.07 (0.21) .73 | -0.05 (0.21) .80 | -0.06 (0.21) .79 |
| ab | Covar (Residuals) | 0.02 (0.62) .98 | 0.03 (0.61) .96 | 0.03 (0.61) .97 | 0.04 (0.61) .95 |
|  | Correlation of Levels | 0.16726 | 0.1117 | 0.0779 | 0.0788 |
|  | Correlation of Slopes | -0.02582 | -0.0808 | -0.0587 | -0.0627 |
|  | Correlation of Residuals | 0.00083 | 0.0014 | 0.0012 | 0.0019 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -24,181 | -26,683 | -25,501 | -26,637 |
|  | AIC | 48,408 | 53,427 | 51,079 | 53,411 |
|  | BIC | 48,522 | 53,574 | 51,266 | 53,745 |

## word\_de

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.27 (0.62) <.01 | 43.34 (1.18) <.01 | 43.90 (1.14) <.01 | 43.69 (1.26) <.01 |
| a | Slope | -0.96 (0.15) <.01 | -0.42 (0.31) .17 | -0.46 (0.31) .13 | -0.41 (0.32) .20 |
| a | Level \* age | -0.67 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.53 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.58 (4.24) <.01 | 39.51 (4.23) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.38 (0.67) .57 |
| a | Level \* cardio | --- | --- | --- | 0.50 (1.40) .72 |
| a | Level \* diabetes | --- | --- | --- | -0.09 (1.21) .94 |
| a | Slope \* age | -0.02 (0.01) .10 | -0.02 (0.01) .10 | -0.02 (0.01) .07 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .03 | -0.06 (0.03) .05 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.24 (1.17) .29 | -1.15 (1.18) .33 |
| a | Slope \* smoking | --- | --- | --- | -0.01 (0.17) .96 |
| a | Slope \* cardio | --- | --- | --- | 0.10 (0.29) .72 |
| a | Slope \* diabetes | --- | --- | --- | -0.29 (0.28) .30 |
| b | Level | 6.40 (0.10) <.01 | 5.28 (0.18) <.01 | 5.32 (0.18) <.01 | 5.57 (0.20) <.01 |
| b | Slope | 0.13 (0.03) <.01 | 0.12 (0.05) .02 | 0.12 (0.05) .03 | 0.13 (0.06) .03 |
| 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 | --- | --- | 2.70 (0.87) <.01 | 2.73 (0.86) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.34 (0.12) <.01 |
| b | Level \* cardio | --- | --- | --- | -0.46 (0.28) .10 |
| b | Level \* diabetes | --- | --- | --- | -0.09 (0.19) .63 |
| 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) .78 | 0.00 (0.01) .81 | 0.00 (0.01) .83 |
| b | Slope \* height | --- | --- | 0.09 (0.28) .74 | 0.10 (0.28) .71 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.04) .74 |
| b | Slope \* cardio | --- | --- | --- | 0.02 (0.07) .76 |
| b | Slope \* diabetes | --- | --- | --- | -0.02 (0.05) .68 |
| a | Var (Level) | 106.47 (6.52) <.01 | 104.17 (6.41) <.01 | 95.67 (6.03) <.01 | 95.59 (6.01) <.01 |
| a | Var (Slope) | 0.84 (0.34) .01 | 0.80 (0.33) .02 | 0.79 (0.33) .02 | 0.79 (0.33) .02 |
| a | Var (Residual) | 20.00 (1.10) <.01 | 19.97 (1.10) <.01 | 19.98 (1.10) <.01 | 19.96 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.93 (1.17) .10 | -1.67 (1.10) .13 | -1.36 (1.08) .21 | -1.36 (1.07) .20 |
| b | Var (Level) | 3.03 (0.21) <.01 | 2.82 (0.20) <.01 | 2.78 (0.19) <.01 | 2.73 (0.19) <.01 |
| b | Var (Slope) | 0.06 (0.02) <.01 | 0.06 (0.02) <.01 | 0.06 (0.02) <.01 | 0.06 (0.02) <.01 |
| b | Var (Residual) | 1.75 (0.08) <.01 | 1.75 (0.08) <.01 | 1.75 (0.08) <.01 | 1.75 (0.08) <.01 |
| b | Covar (Level, Slope) | 0.00 (0.05) .94 | 0.00 (0.04) .96 | 0.00 (0.04) .97 | 0.00 (0.04) .96 |
| ab | Covar (Levels) | 4.05 (0.78) <.01 | 3.29 (0.74) <.01 | 2.74 (0.69) <.01 | 2.81 (0.68) <.01 |
| ab | Covar (Slopes) | 0.04 (0.04) .35 | 0.05 (0.04) .26 | 0.05 (0.04) .26 | 0.05 (0.04) .25 |
| ab | Covar (Residuals) | 0.02 (0.16) .90 | 0.02 (0.16) .90 | 0.01 (0.16) .94 | 0.00 (0.16) .97 |
|  | Correlation of Levels | 0.2254 | 0.1918 | 0.168 | 0.17404 |
|  | Correlation of Slopes | 0.1848 | 0.2387 | 0.240 | 0.24513 |
|  | Correlation of Residuals | 0.0035 | 0.0034 | 0.002 | 0.00085 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -19,515 | -22,053 | -20,875 | -22,012 |
|  | AIC | 39,076 | 44,167 | 41,826 | 44,160 |
|  | BIC | 39,190 | 44,314 | 42,013 | 44,494 |

## word\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 47.24 (0.62) <.01 | 43.32 (1.18) <.01 | 43.89 (1.14) <.01 | 43.70 (1.26) <.01 |
| a | Slope | -0.94 (0.15) <.01 | -0.40 (0.31) .19 | -0.44 (0.30) .15 | -0.39 (0.32) .21 |
| a | Level \* age | -0.66 (0.05) <.01 | -0.66 (0.05) <.01 | -0.59 (0.05) <.01 | -0.59 (0.05) <.01 |
| a | Level \* education | --- | 0.53 (0.13) <.01 | 0.38 (0.13) <.01 | 0.38 (0.13) <.01 |
| a | Level \* height | --- | --- | 39.58 (4.24) <.01 | 39.51 (4.23) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.37 (0.67) .58 |
| a | Level \* cardio | --- | --- | --- | 0.45 (1.40) .75 |
| a | Level \* diabetes | --- | --- | --- | -0.15 (1.22) .90 |
| a | Slope \* age | -0.02 (0.01) .10 | -0.02 (0.01) .09 | -0.02 (0.01) .06 | -0.02 (0.01) .06 |
| a | Slope \* education | --- | -0.07 (0.03) .02 | -0.07 (0.03) .04 | -0.07 (0.03) .04 |
| a | Slope \* height | --- | --- | -1.25 (1.16) .28 | -1.17 (1.17) .32 |
| a | Slope \* smoking | --- | --- | --- | -0.01 (0.17) .95 |
| a | Slope \* cardio | --- | --- | --- | 0.15 (0.29) .61 |
| a | Slope \* diabetes | --- | --- | --- | -0.28 (0.28) .32 |
| b | Level | 19.24 (0.19) <.01 | 16.41 (0.35) <.01 | 16.48 (0.35) <.01 | 16.83 (0.39) <.01 |
| b | Slope | 0.36 (0.05) <.01 | 0.41 (0.11) <.01 | 0.41 (0.11) <.01 | 0.41 (0.12) <.01 |
| b | Level \* age | -0.13 (0.02) <.01 | -0.12 (0.02) <.01 | -0.11 (0.02) <.01 | -0.11 (0.02) <.01 |
| b | Level \* education | --- | 0.38 (0.04) <.01 | 0.36 (0.04) <.01 | 0.36 (0.04) <.01 |
| b | Level \* height | --- | --- | 5.03 (1.64) <.01 | 5.11 (1.62) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.61 (0.22) .01 |
| b | Level \* cardio | --- | --- | --- | -0.67 (0.51) .19 |
| b | Level \* diabetes | --- | --- | --- | 0.12 (0.42) .78 |
| 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 | --- | -0.01 (0.01) .65 | -0.01 (0.01) .66 | -0.00 (0.01) .73 |
| b | Slope \* height | --- | --- | -0.03 (0.51) .96 | -0.04 (0.52) .94 |
| b | Slope \* smoking | --- | --- | --- | -0.05 (0.08) .54 |
| b | Slope \* cardio | --- | --- | --- | -0.02 (0.15) .88 |
| b | Slope \* diabetes | --- | --- | --- | 0.08 (0.13) .55 |
| a | Var (Level) | 106.50 (6.54) <.01 | 104.18 (6.42) <.01 | 95.70 (6.03) <.01 | 95.65 (6.02) <.01 |
| a | Var (Slope) | 0.83 (0.34) .01 | 0.79 (0.33) .02 | 0.78 (0.33) .02 | 0.78 (0.33) .02 |
| a | Var (Residual) | 20.01 (1.10) <.01 | 19.98 (1.10) <.01 | 19.98 (1.10) <.01 | 19.97 (1.10) <.01 |
| a | Covar (Level, Slope) | -1.92 (1.17) .10 | -1.64 (1.10) .14 | -1.33 (1.08) .22 | -1.34 (1.08) .21 |
| b | Var (Level) | 11.55 (0.74) <.01 | 10.20 (0.70) <.01 | 10.07 (0.69) <.01 | 9.90 (0.68) <.01 |
| b | Var (Slope) | 0.36 (0.08) <.01 | 0.36 (0.08) <.01 | 0.36 (0.08) <.01 | 0.36 (0.08) <.01 |
| b | Var (Residual) | 5.85 (0.20) <.01 | 5.85 (0.20) <.01 | 5.85 (0.20) <.01 | 5.86 (0.20) <.01 |
| b | Covar (Level, Slope) | -0.09 (0.18) .60 | -0.08 (0.18) .67 | -0.07 (0.18) .67 | -0.08 (0.17) .65 |
| ab | Covar (Levels) | 8.07 (1.54) <.01 | 6.13 (1.42) <.01 | 5.14 (1.33) <.01 | 5.26 (1.32) <.01 |
| ab | Covar (Slopes) | 0.13 (0.10) .21 | 0.13 (0.10) .21 | 0.13 (0.10) .20 | 0.14 (0.10) .18 |
| ab | Covar (Residuals) | 0.40 (0.31) .20 | 0.39 (0.31) .21 | 0.38 (0.31) .22 | 0.36 (0.31) .24 |
|  | Correlation of Levels | 0.230 | 0.188 | 0.166 | 0.171 |
|  | Correlation of Slopes | 0.237 | 0.239 | 0.243 | 0.259 |
|  | Correlation of Residuals | 0.037 | 0.036 | 0.035 | 0.033 |
|  | N | 1,010 | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -21,729 | -24,249 | -23,071 | -24,208 |
|  | AIC | 43,503 | 48,559 | 46,218 | 48,553 |
|  | BIC | 43,616 | 48,706 | 46,405 | 48,887 |

## word\_rec

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | ae | aeh |
| a | Level | 1.74 (0.02) <.01 | 1.59 (0.03) <.01 | 1.61 (0.03) <.01 |
| a | Slope | -0.04 (0.00) <.01 | -0.03 (0.01) <.01 | -0.04 (0.01) <.01 |
| a | Level \* age | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 |
| a | Level \* education | --- | 0.02 (0.00) <.01 | 0.01 (0.00) <.01 |
| a | Level \* height | --- | --- | 1.62 (0.22) <.01 |
| a | Level \* smoking | --- | --- | --- |
| a | Level \* cardio | --- | --- | --- |
| a | Level \* diabetes | --- | --- | --- |
| a | Slope \* age | 0.00 (0.00) .06 | 0.00 (0.00) .06 | 0.00 (0.00) .10 |
| a | Slope \* education | --- | 0.00 (0.00) .61 | 0.00 (0.00) .92 |
| a | Slope \* height | --- | --- | -0.08 (0.04) .07 |
| a | Slope \* smoking | --- | --- | --- |
| a | Slope \* cardio | --- | --- | --- |
| a | Slope \* diabetes | --- | --- | --- |
| b | Level | 9.81 (0.03) <.01 | 9.70 (0.07) <.01 | 9.71 (0.07) <.01 |
| b | Slope | 0.01 (0.01) .09 | 0.01 (0.02) .76 | 0.01 (0.02) .72 |
| b | Level \* age | -0.02 (0.00) <.01 | -0.02 (0.00) <.01 | -0.01 (0.00) <.01 |
| b | Level \* education | --- | 0.01 (0.01) .07 | 0.01 (0.01) .15 |
| b | Level \* height | --- | --- | 0.59 (0.44) .18 |
| b | Level \* smoking | --- | --- | --- |
| b | Level \* cardio | --- | --- | --- |
| b | Level \* diabetes | --- | --- | --- |
| b | Slope \* age | -0.00 (0.00) .05 | -0.00 (0.00) .05 | -0.00 (0.00) .07 |
| b | Slope \* education | --- | 0.00 (0.00) .73 | 0.00 (0.00) .88 |
| b | Slope \* height | --- | --- | 0.16 (0.12) .19 |
| b | Slope \* smoking | --- | --- | --- |
| b | Slope \* cardio | --- | --- | --- |
| b | Slope \* diabetes | --- | --- | --- |
| a | Var (Level) | 0.13 (0.01) <.01 | 0.13 (0.01) <.01 | 0.11 (0.01) <.01 |
| a | Var (Slope) | 0.00 (0.00) .43 | 0.00 (0.00) .44 | 0.00 (0.00) .44 |
| a | Var (Residual) | 0.03 (0.00) <.01 | 0.03 (0.00) <.01 | 0.03 (0.00) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) .27 | -0.00 (0.00) .32 | -0.00 (0.00) .61 |
| b | Var (Level) | 0.56 (0.15) <.01 | 0.56 (0.15) <.01 | 0.56 (0.15) <.01 |
| b | Var (Slope) | 0.00 (0.01) .70 | 0.00 (0.01) .70 | 0.00 (0.01) .71 |
| b | Var (Residual) | 0.33 (0.06) <.01 | 0.33 (0.06) <.01 | 0.33 (0.06) <.01 |
| b | Covar (Level, Slope) | 0.01 (0.03) .68 | 0.01 (0.03) .68 | 0.01 (0.03) .69 |
| ab | Covar (Levels) | 0.02 (0.02) .29 | 0.01 (0.02) .40 | 0.01 (0.01) .54 |
| ab | Covar (Slopes) | 0.00 (0.00) .90 | 0.00 (0.00) .90 | 0.00 (0.00) .90 |
| ab | Covar (Residuals) | 0.00 (0.00) .93 | 0.00 (0.00) .95 | 0.00 (0.00) .97 |
|  | Correlation of Levels | 0.062 | 0.052 | 0.036 |
|  | Correlation of Slopes | 0.000 | 0.000 | 0.000 |
|  | Correlation of Residuals | 0.000 | 0.000 | 0.000 |
|  | N | 1,010 | 1,010 | 1,010 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 |
|  | LL | -7,711 | -10,271 | -9,081 |
|  | AIC | 15,468 | 20,602 | 18,239 |
|  | BIC | 15,581 | 20,750 | 18,426 |

## Summary

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

Computed correlations:

label

process\_b

a

ae

aeh

aehplus

Correlation of Levels

bnt

0.18

.

0.08

0.08

Correlation of Levels

bstory\_de

0.04

-0.00

-0.01

-0.01

Correlation of Levels

bstory\_im

0.12

0.09

0.08

0.08

Correlation of Levels

categories

0.15

0.09

0.06

0.06

Correlation of Levels

digit\_b

0.24

0.20

0.16

0.15

Correlation of Levels

digit\_f

0.10

0.05

0.01

0.01

Correlation of Levels

digit\_o

0.13

0.08

0.05

0.05

Correlation of Levels

ideas

0.04

0.02

-0.01

-0.01

Correlation of Levels

line

0.15

0.10

0.07

0.07

Correlation of Levels

logic\_de

0.08

0.03

-0.01

-0.01

Correlation of Levels

logic\_im

0.05

0.00

-0.03

-0.03

Correlation of Levels

matrices

0.19

0.13

0.09

0.09

Correlation of Levels

mmse

0.10

0.03

-0.00

-0.00

Correlation of Levels

nart

0.11

.

-0.00

-0.01

Correlation of Levels

num\_comp

0.13

0.09

0.04

0.04

Correlation of Levels

symbol

0.17

0.11

0.08

0.08

Correlation of Levels

word\_de

0.23

0.19

0.17

0.17

Correlation of Levels

word\_im

0.23

0.19

0.17

0.17

Correlation of Levels

word\_rec

0.06

0.05

0.04

.

label

process\_b

a

ae

aeh

aehplus

Correlation of Slopes

bnt

0.13

.

0.08

0.09

Correlation of Slopes

bstory\_de

0.21

0.22

0.23

0.24

Correlation of Slopes

bstory\_im

-Inf

-Inf

-Inf

-Inf

Correlation of Slopes

categories

0.25

0.25

0.25

0.25

Correlation of Slopes

digit\_b

0.50

0.50

Inf

0.51

Correlation of Slopes

digit\_f

0.22

0.20

0.20

0.22

Correlation of Slopes

digit\_o

0.14

0.16

0.15

0.19

Correlation of Slopes

ideas

0.14

0.12

0.11

0.13

Correlation of Slopes

line

0.55

0.58

0.57

0.72

Correlation of Slopes

logic\_de

0.32

0.40

0.41

0.43

Correlation of Slopes

logic\_im

0.25

0.31

0.31

0.34

Correlation of Slopes

matrices

0.35

0.40

0.39

0.39

Correlation of Slopes

mmse

0.56

0.54

0.54

0.54

Correlation of Slopes

nart

-0.06

.

-0.02

-0.01

Correlation of Slopes

num\_comp

0.31

0.29

0.29

0.31

Correlation of Slopes

symbol

-0.03

-0.08

-0.06

-0.06

Correlation of Slopes

word\_de

0.18

0.24

0.24

0.25

Correlation of Slopes

word\_im

0.24

0.24

0.24

0.26

Correlation of Slopes

word\_rec

0.00

0.00

0.00

.

label

process\_b

a

ae

aeh

aehplus

Correlation of Residuals

bnt

-0.02

.

-0.03

-0.02

Correlation of Residuals

bstory\_de

0.01

0.01

0.01

0.01

Correlation of Residuals

bstory\_im

-0.04

-0.04

-0.04

-0.04

Correlation of Residuals

categories

0.04

0.03

0.03

0.03

Correlation of Residuals

digit\_b

-0.04

-0.05

-0.05

-0.04

Correlation of Residuals

digit\_f

0.04

0.04

0.04

0.04

Correlation of Residuals

digit\_o

0.02

0.02

0.02

0.02

Correlation of Residuals

ideas

0.02

0.02

0.02

0.02

Correlation of Residuals

line

0.03

0.02

0.02

0.02

Correlation of Residuals

logic\_de

0.01

0.01

0.01

0.01

Correlation of Residuals

logic\_im

-0.01

-0.02

-0.02

-0.02

Correlation of Residuals

matrices

-0.00

-0.01

-0.01

-0.01

Correlation of Residuals

mmse

0.02

0.02

0.02

0.02

Correlation of Residuals

nart

-0.00

.

-0.00

-0.00

Correlation of Residuals

num\_comp

0.01

0.01

0.01

0.01

Correlation of Residuals

symbol

0.00

0.00

0.00

0.00

Correlation of Residuals

word\_de

0.00

0.00

0.00

0.00

Correlation of Residuals

word\_im

0.04

0.04

0.03

0.03

Correlation of Residuals

word\_rec

0.00

0.00

0.00

.

P-values for corresponding covariances:

label

process\_b

a

ae

aeh

aehplus

Covariance of Levels

bnt

0.00

.

0.07

0.07

Covariance of Levels

bstory\_de

0.46

0.98

0.91

0.92

Covariance of Levels

bstory\_im

0.02

0.10

0.15

0.13

Covariance of Levels

categories

0.00

0.03

0.19

0.15

Covariance of Levels

digit\_b

0.00

0.00

0.00

0.00

Covariance of Levels

digit\_f

0.03

0.24

0.86

0.86

Covariance of Levels

digit\_o

0.01

0.11

0.37

0.35

Covariance of Levels

ideas

0.46

0.76

0.91

0.92

Covariance of Levels

line

0.00

0.06

0.18

0.17

Covariance of Levels

logic\_de

0.06

0.51

0.85

0.87

Covariance of Levels

logic\_im

0.21

0.94

0.49

0.51

Covariance of Levels

matrices

0.00

0.01

0.09

0.08

Covariance of Levels

mmse

0.06

0.56

0.98

0.99

Covariance of Levels

nart

0.01

.

0.91

0.90

Covariance of Levels

num\_comp

0.00

0.04

0.35

0.34

Covariance of Levels

symbol

0.00

0.01

0.08

0.08

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

0.29

0.40

0.54

.

label

process\_b

a

ae

aeh

aehplus

Covariance of Slopes

bnt

0.47

.

0.66

0.62

Covariance of Slopes

bstory\_de

0.38

0.38

0.38

0.36

Covariance of Slopes

bstory\_im

0.43

0.42

0.42

0.40

Covariance of Slopes

categories

0.18

0.18

0.19

0.19

Covariance of Slopes

digit\_b

0.10

0.10

0.04

0.10

Covariance of Slopes

digit\_f

0.57

0.60

0.63

0.59

Covariance of Slopes

digit\_o

0.64

0.62

0.63

0.57

Covariance of Slopes

ideas

0.64

0.70

0.75

0.71

Covariance of Slopes

line

0.43

0.41

0.42

0.39

Covariance of Slopes

logic\_de

0.12

0.06

0.06

0.05

Covariance of Slopes

logic\_im

0.24

0.15

0.16

0.12

Covariance of Slopes

matrices

0.46

0.41

0.43

0.43

Covariance of Slopes

mmse

0.03

0.05

0.06

0.06

Covariance of Slopes

nart

0.82

.

0.94

0.97

Covariance of Slopes

num\_comp

0.19

0.24

0.24

0.22

Covariance of Slopes

symbol

0.91

0.73

0.80

0.79

Covariance of Slopes

word\_de

0.35

0.26

0.26

0.25

Covariance of Slopes

word\_im

0.21

0.21

0.20

0.18

Covariance of Slopes

word\_rec

0.90

0.90

0.90

.

label

process\_b

a

ae

aeh

aehplus

Covariance of Residuals

bnt

0.38

.

0.37

0.37

Covariance of Residuals

bstory\_de

0.74

0.79

0.77

0.78

Covariance of Residuals

bstory\_im

0.11

0.10

0.11

0.12

Covariance of Residuals

categories

0.19

0.22

0.23

0.22

Covariance of Residuals

digit\_b

0.09

0.09

0.05

0.11

Covariance of Residuals

digit\_f

0.18

0.19

0.19

0.19

Covariance of Residuals

digit\_o

0.44

0.48

0.48

0.49

Covariance of Residuals

ideas

0.48

0.47

0.47

0.45

Covariance of Residuals

line

0.32

0.33

0.34

0.34

Covariance of Residuals

logic\_de

0.71

0.76

0.78

0.78

Covariance of Residuals

logic\_im

0.66

0.60

0.59

0.59

Covariance of Residuals

matrices

0.92

0.85

0.87

0.87

Covariance of Residuals

mmse

0.37

0.42

0.39

0.41

Covariance of Residuals

nart

0.91

.

0.87

0.88

Covariance of Residuals

num\_comp

0.66

0.65

0.63

0.61

Covariance of Residuals

symbol

0.98

0.96

0.97

0.95

Covariance of Residuals

word\_de

0.90

0.90

0.94

0.97

Covariance of Residuals

word\_im

0.20

0.21

0.22

0.24

Covariance of Residuals

word\_rec

0.93

0.95

0.97

.

# 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) |
| a | Level | 79.68 (3.03) <.01 | 79.54 (3.05) <.01 | 79.49 (3.06) <.01 | 79.54 (3.04) <.01 | 79.59 (3.03) <.01 | 79.60 (3.04) <.01 | 79.56 (3.05) <.01 | 79.39 (3.04) <.01 | 79.67 (3.04) <.01 | 79.50 (3.05) <.01 | 79.50 (3.05) <.01 | 79.56 (3.04) <.01 | 79.33 (3.04) <.01 | 79.52 (3.05) <.01 | 79.49 (3.06) <.01 | 79.53 (3.06) <.01 | 79.55 (3.06) <.01 | 79.46 (3.05) <.01 | 79.66 (3.07) <.01 | 79.54(0.09) |
| a | Slope | -2.48 (0.90) .01 | -2.47 (0.90) .01 | -2.47 (0.90) .01 | -2.44 (0.88) <.01 | -2.41 (0.87) .01 | -2.45 (0.89) .01 | -2.47 (0.89) <.01 | -2.39 (0.89) .01 | -2.46 (0.90) .01 | -2.48 (0.89) .01 | -2.46 (0.89) .01 | -2.47 (0.91) .01 | -2.45 (0.91) .01 | -2.48 (0.90) .01 | -2.52 (0.90) <.01 | -2.58 (0.89) <.01 | -2.50 (0.90) <.01 | -2.43 (0.90) .01 | -2.56 (0.90) <.01 | -2.47(0.05) |
| a | Level \* age | -1.00 (0.13) <.01 | -1.00 (0.13) <.01 | -1.00 (0.13) <.01 | -0.99 (0.13) <.01 | -1.00 (0.13) <.01 | -1.00 (0.13) <.01 | -1.00 (0.13) <.01 | -0.99 (0.13) <.01 | -1.00 (0.13) <.01 | -1.00 (0.13) <.01 | -1.00 (0.13) <.01 | -1.00 (0.13) <.01 | -1.00 (0.13) <.01 | -0.99 (0.13) <.01 | -1.00 (0.13) <.01 | -0.99 (0.13) <.01 | -1.00 (0.13) <.01 | -1.00 (0.13) <.01 | -0.99 (0.13) <.01 | -1.00(0.00) |
| a | Level \* education | -0.04 (0.27) .89 | -0.02 (0.27) .93 | -0.02 (0.27) .94 | -0.03 (0.27) .92 | -0.02 (0.27) .93 | -0.03 (0.27) .90 | -0.03 (0.27) .91 | -0.02 (0.27) .93 | -0.04 (0.27) .89 | -0.02 (0.27) .93 | -0.03 (0.27) .92 | -0.03 (0.27) .90 | -0.01 (0.27) .97 | -0.03 (0.27) .91 | -0.02 (0.27) .93 | -0.02 (0.27) .93 | -0.02 (0.27) .92 | -0.02 (0.27) .95 | -0.04 (0.27) .87 | -0.03(0.01) |
| a | Level \* height | 83.58 (11.29) <.01 | 82.87 (11.32) <.01 | 82.88 (11.33) <.01 | 83.33 (11.30) <.01 | 83.99 (11.27) <.01 | 83.60 (11.27) <.01 | 83.71 (11.27) <.01 | 83.53 (11.29) <.01 | 83.64 (11.24) <.01 | 83.59 (11.30) <.01 | 83.81 (11.31) <.01 | 84.53 (11.25) <.01 | 82.83 (11.32) <.01 | 83.40 (11.25) <.01 | 83.44 (11.25) <.01 | 82.72 (11.26) <.01 | 83.08 (11.31) <.01 | 82.72 (11.32) <.01 | 84.45 (11.36) <.01 | 83.46(0.53) |
| a | Level \* smoking | -0.19 (2.00) .92 | -0.14 (2.00) .94 | -0.12 (2.00) .95 | -0.17 (2.00) .93 | -0.19 (2.01) .92 | -0.12 (2.01) .95 | -0.16 (2.00) .94 | 0.00 (2.01) .99 | -0.16 (2.00) .94 | -0.12 (2.00) .95 | -0.15 (2.00) .94 | -0.15 (2.00) .94 | -0.09 (2.00) .96 | -0.12 (2.01) .95 | -0.12 (2.01) .95 | -0.18 (2.00) .93 | -0.16 (2.01) .94 | -0.16 (2.01) .94 | -0.17 (2.00) .93 | -0.14(0.04) |
| a | Level \* cardio | -6.04 (2.74) .03 | -6.19 (2.75) .02 | -6.26 (2.75) .02 | -6.24 (2.74) .02 | -6.19 (2.74) .02 | -6.11 (2.75) .03 | -6.24 (2.75) .02 | -6.11 (2.75) .03 | -6.21 (2.74) .02 | -6.09 (2.77) .03 | -6.16 (2.75) .02 | -6.07 (2.74) .03 | -6.11 (2.74) .03 | -6.23 (2.75) .02 | -6.26 (2.75) .02 | -6.29 (2.75) .02 | -6.22 (2.74) .02 | -6.21 (2.75) .02 | -6.34 (2.75) .02 | -6.19(0.08) |
| a | Level \* diabetes | -6.44 (2.33) .01 | -6.46 (2.32) <.01 | -6.45 (2.33) .01 | -6.41 (2.33) .01 | -6.50 (2.32) <.01 | -6.39 (2.32) .01 | -6.45 (2.33) .01 | -6.35 (2.32) .01 | -6.47 (2.33) .01 | -6.33 (2.33) .01 | -6.22 (2.33) .01 | -6.36 (2.31) .01 | -6.40 (2.32) .01 | -6.44 (2.33) .01 | -6.39 (2.32) .01 | -6.39 (2.31) .01 | -6.37 (2.35) .01 | -6.32 (2.34) .01 | -6.46 (2.34) .01 | -6.40(0.07) |
| a | Slope \* age | -0.03 (0.04) .41 | -0.03 (0.04) .40 | -0.03 (0.04) .37 | -0.04 (0.04) .35 | -0.04 (0.04) .34 | -0.03 (0.04) .39 | -0.04 (0.04) .32 | -0.03 (0.04) .40 | -0.04 (0.04) .32 | -0.03 (0.04) .41 | -0.03 (0.04) .37 | -0.03 (0.04) .47 | -0.02 (0.04) .52 | -0.04 (0.04) .35 | -0.03 (0.04) .38 | -0.04 (0.04) .29 | -0.03 (0.04) .37 | -0.03 (0.04) .37 | -0.03 (0.04) .40 | -0.03(0.00) |
| a | Slope \* education | 0.09 (0.07) .16 | 0.09 (0.07) .17 | 0.09 (0.07) .18 | 0.09 (0.07) .17 | 0.09 (0.07) .18 | 0.09 (0.07) .18 | 0.10 (0.07) .15 | 0.08 (0.07) .20 | 0.10 (0.07) .16 | 0.09 (0.07) .17 | 0.09 (0.07) .17 | 0.09 (0.07) .20 | 0.09 (0.07) .20 | 0.09 (0.07) .16 | 0.10 (0.07) .16 | 0.10 (0.07) .13 | 0.09 (0.07) .16 | 0.09 (0.07) .19 | 0.10 (0.07) .14 | 0.09(0.00) |
| a | Slope \* height | -3.40 (3.52) .33 | -3.23 (3.52) .36 | -3.29 (3.55) .35 | -2.92 (3.58) .41 | -3.68 (3.48) .29 | -3.27 (3.57) .36 | -3.23 (3.59) .37 | -3.28 (3.53) .35 | -3.22 (3.52) .36 | -3.39 (3.55) .34 | -3.39 (3.54) .34 | -3.45 (3.55) .33 | -3.54 (3.50) .31 | -3.43 (3.57) .34 | -3.41 (3.57) .34 | -3.46 (3.54) .33 | -3.27 (3.53) .35 | -3.15 (3.53) .37 | -3.92 (3.57) .27 | -3.37(0.21) |
| a | Slope \* smoking | 0.05 (0.46) .92 | 0.03 (0.46) .94 | 0.05 (0.46) .92 | 0.04 (0.46) .93 | -0.00 (0.46) .99 | 0.01 (0.46) .98 | 0.03 (0.46) .95 | -0.00 (0.46) .99 | 0.01 (0.45) .98 | 0.04 (0.46) .93 | 0.05 (0.46) .91 | 0.07 (0.46) .88 | 0.05 (0.46) .91 | 0.02 (0.45) .96 | 0.03 (0.46) .94 | 0.06 (0.46) .91 | 0.05 (0.46) .91 | 0.02 (0.46) .97 | 0.08 (0.47) .87 | 0.04(0.02) |
| a | Slope \* cardio | 0.85 (0.65) .19 | 0.86 (0.64) .18 | 0.88 (0.64) .17 | 0.80 (0.64) .21 | 0.87 (0.65) .18 | 0.86 (0.64) .18 | 0.86 (0.65) .18 | 0.81 (0.64) .20 | 0.86 (0.64) .17 | 0.81 (0.64) .21 | 0.84 (0.64) .19 | 0.83 (0.65) .20 | 0.82 (0.63) .19 | 0.90 (0.63) .15 | 0.87 (0.64) .17 | 0.88 (0.64) .17 | 0.87 (0.64) .18 | 0.86 (0.64) .18 | 0.93 (0.64) .15 | 0.86(0.03) |
| a | Slope \* diabetes | 1.18 (0.52) .02 | 1.20 (0.52) .02 | 1.21 (0.52) .02 | 1.14 (0.51) .03 | 1.25 (0.51) .01 | 1.20 (0.52) .02 | 1.15 (0.51) .02 | 1.18 (0.52) .02 | 1.18 (0.51) .02 | 1.15 (0.52) .03 | 1.16 (0.52) .02 | 1.12 (0.52) .03 | 1.11 (0.52) .03 | 1.18 (0.52) .02 | 1.22 (0.52) .02 | 1.05 (0.51) .04 | 1.16 (0.52) .02 | 1.13 (0.51) .03 | 1.26 (0.53) .02 | 1.17(0.05) |
| b | Level | 13.77 (0.29) <.01 | 8.95 (0.34) <.01 | 9.45 (0.29) <.01 | 31.35 (1.34) <.01 | 5.03 (0.31) <.01 | 7.23 (0.29) <.01 | 6.86 (0.25) <.01 | 7.78 (0.09) <.01 | 10.35 (0.51) <.01 | 7.96 (0.74) <.01 | 9.53 (0.72) <.01 | 10.97 (0.45) <.01 | 27.31 (0.30) <.01 | 4.89 (0.40) <.01 | 20.35 (1.18) <.01 | 36.04 (1.71) <.01 | 4.99 (0.33) <.01 | 15.36 (0.63) <.01 | 9.62 (0.18) <.01 | --- |
| b | Slope | 0.05 (0.05) .27 | -0.08 (0.11) .49 | -0.06 (0.10) .54 | 0.37 (0.35) .29 | 0.04 (0.10) .69 | 0.01 (0.10) .91 | -0.10 (0.08) .21 | -0.04 (0.05) .41 | -0.12 (0.15) .42 | 0.20 (0.23) .39 | 0.12 (0.21) .55 | 0.04 (0.14) .76 | 0.01 (0.13) .94 | 0.07 (0.08) .36 | 0.26 (0.31) .39 | -0.10 (0.41) .80 | 0.07 (0.11) .54 | 0.26 (0.20) .20 | 0.08 (0.06) .16 | --- |
| b | Level \* age | -0.03 (0.02) .07 | -0.07 (0.01) <.01 | -0.06 (0.01) <.01 | -0.32 (0.06) <.01 | -0.04 (0.02) <.01 | -0.04 (0.01) <.01 | -0.05 (0.01) <.01 | -0.01 (0.01) .20 | -0.02 (0.02) .30 | -0.14 (0.03) <.01 | -0.14 (0.03) <.01 | -0.08 (0.02) <.01 | -0.08 (0.02) <.01 | 0.00 (0.02) .78 | -0.16 (0.06) .01 | -0.45 (0.08) <.01 | -0.11 (0.01) <.01 | -0.16 (0.03) <.01 | -0.04 (0.01) <.01 | --- |
| b | Level \* education | 0.06 (0.02) <.01 | 0.10 (0.03) <.01 | 0.07 (0.03) .01 | 0.51 (0.12) <.01 | 0.18 (0.03) <.01 | 0.19 (0.02) <.01 | 0.10 (0.02) <.01 | 0.01 (0.01) .11 | 0.20 (0.04) <.01 | 0.24 (0.06) <.01 | 0.24 (0.06) <.01 | 0.24 (0.04) <.01 | 0.14 (0.03) <.01 | 0.34 (0.03) <.01 | 0.54 (0.10) <.01 | 0.77 (0.16) <.01 | 0.13 (0.03) <.01 | 0.31 (0.05) <.01 | 0.02 (0.02) .18 | --- |
| b | Level \* height | 2.56 (0.78) <.01 | 0.75 (1.48) .61 | 1.70 (1.19) .15 | 13.78 (6.25) .03 | -0.86 (1.22) .48 | -1.37 (1.47) .35 | 2.28 (1.03) .03 | 0.59 (0.42) .16 | 4.21 (2.40) .08 | 2.87 (3.05) .35 | 5.07 (2.96) .09 | 7.50 (2.23) <.01 | 3.19 (1.33) .02 | 1.98 (1.52) .19 | 18.30 (5.17) <.01 | 25.63 (6.91) <.01 | 0.48 (1.39) .73 | 0.68 (2.32) .77 | 1.11 (0.83) .18 | --- |
| b | Level \* smoking | 0.06 (0.13) .66 | 0.00 (0.20) .99 | 0.13 (0.16) .42 | -0.77 (0.76) .31 | 0.12 (0.17) .49 | 0.32 (0.17) .06 | 0.07 (0.13) .58 | -0.04 (0.06) .45 | -0.65 (0.28) .02 | -0.21 (0.38) .59 | 0.09 (0.38) .82 | -0.19 (0.26) .45 | 0.16 (0.19) .40 | 0.19 (0.19) .32 | 0.38 (0.70) .58 | -0.30 (0.94) .75 | -0.26 (0.18) .16 | -0.29 (0.30) .34 | -0.19 (0.11) .09 | --- |
| b | Level \* cardio | 0.00 (0.19) .99 | 0.06 (0.26) .83 | 0.08 (0.24) .73 | -0.22 (1.10) .84 | 0.16 (0.24) .51 | 0.19 (0.25) .43 | -0.06 (0.20) .77 | 0.05 (0.07) .50 | -0.19 (0.41) .65 | 0.64 (0.53) .23 | 0.47 (0.53) .37 | 0.34 (0.38) .37 | 0.17 (0.29) .54 | -0.21 (0.31) .50 | -0.34 (1.00) .73 | -0.73 (1.22) .55 | 0.07 (0.28) .81 | 0.53 (0.47) .26 | -0.05 (0.18) .77 | --- |
| b | Level \* diabetes | 0.01 (0.14) .93 | -0.16 (0.26) .53 | -0.03 (0.23) .90 | 0.24 (1.12) .83 | -0.02 (0.24) .92 | -0.38 (0.27) .16 | -0.13 (0.20) .51 | -0.07 (0.08) .40 | -0.18 (0.38) .65 | 0.90 (0.49) .07 | 0.50 (0.49) .30 | -0.11 (0.40) .78 | -0.13 (0.26) .60 | -0.17 (0.29) .56 | 1.95 (0.91) .03 | -0.06 (1.39) .97 | 0.31 (0.29) .29 | 0.74 (0.49) .14 | 0.20 (0.17) .23 | --- |
| b | Slope \* age | 0.00 (0.00) .07 | 0.01 (0.00) .04 | 0.01 (0.00) .01 | -0.03 (0.01) .10 | -0.00 (0.00) .77 | 0.00 (0.00) .80 | -0.00 (0.00) .87 | 0.00 (0.00) .07 | 0.01 (0.01) .41 | -0.00 (0.01) .61 | 0.01 (0.01) .30 | -0.00 (0.01) .49 | 0.00 (0.01) .50 | 0.00 (0.00) .95 | -0.03 (0.01) .04 | -0.06 (0.02) <.01 | 0.00 (0.00) .33 | 0.01 (0.01) .33 | 0.00 (0.00) .69 | --- |
| b | Slope \* education | -0.01 (0.00) .18 | -0.01 (0.01) .19 | -0.01 (0.01) .35 | -0.04 (0.03) .25 | -0.00 (0.01) .95 | -0.01 (0.01) .37 | 0.00 (0.01) .78 | -0.00 (0.00) .63 | 0.00 (0.01) .74 | 0.01 (0.02) .65 | -0.00 (0.02) .78 | -0.01 (0.01) .50 | -0.01 (0.01) .30 | -0.01 (0.01) .34 | -0.04 (0.03) .12 | 0.03 (0.04) .39 | -0.01 (0.01) .31 | -0.01 (0.02) .50 | -0.01 (0.01) .34 | --- |
| b | Slope \* height | -0.48 (0.18) .01 | 0.77 (0.53) .15 | -0.23 (0.47) .62 | 0.98 (1.60) .54 | 0.40 (0.42) .35 | 0.13 (0.47) .78 | 0.21 (0.36) .56 | 0.02 (0.16) .92 | 0.84 (0.66) .20 | 0.66 (0.96) .50 | -0.03 (0.92) .97 | 0.20 (0.75) .79 | -0.12 (0.67) .86 | 0.01 (0.29) .97 | -1.34 (1.44) .35 | -0.38 (1.89) .84 | 0.21 (0.49) .66 | 0.09 (0.81) .91 | -0.55 (0.27) .04 | --- |
| b | Slope \* smoking | -0.01 (0.02) .78 | -0.06 (0.07) .35 | -0.06 (0.06) .35 | 0.05 (0.22) .83 | -0.00 (0.05) .94 | 0.01 (0.05) .79 | 0.03 (0.04) .46 | 0.03 (0.02) .21 | 0.07 (0.08) .38 | 0.11 (0.12) .36 | 0.03 (0.12) .82 | 0.04 (0.07) .57 | -0.02 (0.07) .77 | 0.06 (0.03) .07 | 0.26 (0.16) .10 | -0.01 (0.20) .96 | 0.03 (0.06) .63 | -0.04 (0.11) .68 | 0.01 (0.03) .79 | --- |
| b | Slope \* cardio | -0.03 (0.04) .51 | 0.10 (0.09) .23 | -0.01 (0.09) .90 | 0.18 (0.34) .59 | -0.07 (0.08) .39 | -0.05 (0.08) .55 | 0.03 (0.07) .72 | 0.01 (0.02) .71 | 0.12 (0.14) .40 | -0.00 (0.19) .99 | -0.11 (0.17) .53 | 0.08 (0.15) .59 | -0.03 (0.10) .81 | -0.01 (0.06) .86 | 0.02 (0.22) .94 | 0.31 (0.30) .31 | 0.03 (0.07) .64 | 0.00 (0.16) .99 | 0.07 (0.05) .13 | --- |
| b | Slope \* diabetes | 0.04 (0.04) .29 | 0.08 (0.08) .32 | 0.02 (0.08) .84 | -0.62 (0.30) .04 | -0.04 (0.07) .61 | 0.10 (0.07) .18 | 0.03 (0.06) .65 | 0.02 (0.03) .57 | 0.04 (0.12) .76 | -0.03 (0.18) .88 | 0.01 (0.17) .93 | -0.03 (0.13) .82 | 0.11 (0.11) .31 | -0.07 (0.06) .25 | -0.45 (0.22) .04 | -0.67 (0.32) .04 | -0.08 (0.08) .30 | -0.16 (0.16) .32 | -0.06 (0.06) .28 | --- |
| a | Var (Level) | 222.01 (24.16) <.01 | 222.70 (24.36) <.01 | 222.76 (24.34) <.01 | 221.73 (24.23) <.01 | 221.34 (24.23) <.01 | 222.26 (24.33) <.01 | 221.94 (24.27) <.01 | 222.58 (24.26) <.01 | 222.06 (24.23) <.01 | 221.75 (24.22) <.01 | 221.94 (24.18) <.01 | 221.49 (24.24) <.01 | 221.80 (24.26) <.01 | 222.40 (24.31) <.01 | 222.37 (24.30) <.01 | 221.90 (24.29) <.01 | 222.45 (24.30) <.01 | 222.70 (24.36) <.01 | 222.59 (24.29) <.01 | 222.15(0.43) |
| a | Var (Slope) | 3.48 (1.47) .02 | 3.52 (1.48) .02 | 3.57 (1.48) .02 | 3.42 (1.45) .02 | 3.32 (1.43) .02 | 3.46 (1.46) .02 | 3.45 (1.48) .02 | 3.51 (1.46) .02 | 3.43 (1.41) .01 | 3.51 (1.49) .02 | 3.59 (1.28) <.01 | 3.57 (1.44) .01 | 3.50 (1.46) .02 | 3.44 (1.45) .02 | 3.50 (1.50) .02 | 3.61 (1.50) .02 | 3.46 (1.47) .02 | 3.46 (1.45) .02 | 3.60 (1.52) .02 | 3.50(0.07) |
| a | Var (Residual) | 32.81 (2.98) <.01 | 32.75 (2.98) <.01 | 32.69 (2.97) <.01 | 32.87 (2.98) <.01 | 32.96 (2.98) <.01 | 32.82 (2.98) <.01 | 32.80 (2.99) <.01 | 32.81 (2.98) <.01 | 32.82 (2.98) <.01 | 32.83 (3.00) <.01 | 32.69 (2.89) <.01 | 32.71 (2.95) <.01 | 32.87 (3.00) <.01 | 32.84 (2.98) <.01 | 32.76 (3.00) <.01 | 32.64 (2.97) <.01 | 32.81 (2.99) <.01 | 32.80 (2.97) <.01 | 32.70 (2.98) <.01 | 32.79(0.08) |
| a | Covar (Level, Slope) | -8.03 (3.63) .03 | -8.11 (3.63) .02 | -8.15 (3.64) .02 | -7.56 (3.64) .04 | -7.24 (3.60) .04 | -7.81 (3.61) .03 | -7.50 (3.64) .04 | -8.36 (3.68) .02 | -7.69 (3.58) .03 | -8.03 (3.63) .03 | -8.01 (3.40) .02 | -7.94 (3.58) .03 | -7.90 (3.58) .03 | -7.87 (3.60) .03 | -7.90 (3.63) .03 | -7.17 (3.62) .05 | -7.85 (3.63) .03 | -7.85 (3.66) .03 | -8.09 (3.63) .03 | -7.85(0.30) |
| b | Var (Level) | 1.16 (0.53) .03 | 1.89 (0.43) <.01 | 1.24 (0.24) <.01 | 49.55 (5.12) <.01 | 2.15 (0.24) <.01 | 2.12 (0.25) <.01 | 1.08 (0.22) <.01 | 0.15 (0.14) .28 | 4.85 (0.59) <.01 | 10.65 (1.09) <.01 | 8.63 (0.86) <.01 | 3.36 (0.53) <.01 | 2.75 (1.49) .06 | 3.45 (0.36) <.01 | 36.31 (3.47) <.01 | 70.07 (7.75) <.01 | 2.37 (0.29) <.01 | 6.37 (0.89) <.01 | 0.96 (0.25) <.01 | --- |
| b | Var (Slope) | 0.01 (0.01) .51 | 0.01 (0.04) .74 | 0.02 (0.03) .47 | 0.36 (0.34) .28 | 0.04 (0.02) .11 | 0.01 (0.02) .50 | 0.01 (0.02) .77 | 0.02 (0.02) .33 | 0.05 (0.04) .23 | 0.32 (0.11) <.01 | 0.09 (0.02) <.01 | 0.06 (0.04) .12 | 0.16 (0.10) .09 | 0.01 (0.01) .44 | 0.37 (0.26) .16 | 0.49 (0.40) .22 | 0.02 (0.02) .43 | 0.07 (0.08) .34 | 0.03 (0.02) .09 | --- |
| b | Var (Residual) | 0.39 (0.04) <.01 | 2.77 (0.23) <.01 | 2.09 (0.13) <.01 | 20.64 (1.32) <.01 | 1.57 (0.10) <.01 | 1.53 (0.10) <.01 | 1.30 (0.10) <.01 | 0.23 (0.06) <.01 | 3.44 (0.33) <.01 | 5.60 (0.37) <.01 | 6.42 (0.34) <.01 | 3.26 (0.35) <.01 | 1.93 (0.18) <.01 | 0.75 (0.09) <.01 | 14.04 (1.43) <.01 | 21.37 (1.66) <.01 | 1.74 (0.12) <.01 | 6.16 (0.34) <.01 | 0.46 (0.08) <.01 | --- |
| b | Covar (Level, Slope) | -0.04 (0.06) .43 | -0.00 (0.11) .96 | -0.05 (0.07) .45 | 0.70 (1.12) .53 | -0.01 (0.06) .82 | -0.01 (0.06) .92 | 0.01 (0.06) .92 | -0.05 (0.05) .34 | -0.22 (0.14) .11 | -0.31 (0.28) .27 | 0.14 (0.12) .23 | -0.16 (0.13) .21 | -0.43 (0.35) .22 | -0.12 (0.06) .05 | 0.17 (0.85) .84 | 1.95 (1.42) .17 | 0.02 (0.06) .72 | 0.17 (0.23) .45 | -0.11 (0.05) .04 | --- |
| ab | Covar (Levels) | 4.31 (1.42) <.01 | 2.48 (1.81) .17 | 2.01 (1.58) .20 | 8.73 (7.63) .25 | -0.45 (1.87) .81 | 1.36 (1.60) .40 | 1.37 (1.48) .35 | 1.08 (0.60) .07 | 3.49 (2.22) .12 | -1.43 (4.18) .73 | -4.02 (3.71) .28 | 4.88 (2.38) .04 | 4.58 (2.18) .04 | 1.44 (1.76) .41 | 7.35 (5.94) .22 | 21.22 (9.18) .02 | 1.42 (1.83) .44 | 4.08 (3.29) .21 | 1.59 (1.16) .17 | --- |
| ab | Covar (Slopes) | 0.02 (0.05) .69 | -0.09 (0.13) .49 | -0.14 (0.11) .23 | 0.20 (0.38) .60 | 0.06 (0.11) .55 | -0.02 (0.09) .86 | 0.02 (0.09) .84 | 0.08 (0.06) .16 | 0.01 (0.16) .92 | -0.26 (0.22) .23 | -0.44 (0.13) <.01 | 0.28 (0.13) .03 | 0.25 (0.20) .21 | 0.06 (0.07) .34 | 0.03 (0.34) .93 | 0.53 (0.48) .28 | 0.02 (0.12) .87 | -0.03 (0.22) .90 | 0.02 (0.07) .75 | --- |
| ab | Covar (Residuals) | 0.05 (0.16) .77 | 0.39 (0.43) .36 | 0.20 (0.34) .55 | 0.53 (1.25) .67 | 1.21 (0.33) <.01 | 0.40 (0.34) .25 | 0.01 (0.29) .98 | 0.02 (0.10) .82 | -0.34 (0.53) .53 | 1.09 (0.62) .08 | 0.85 (0.62) .17 | -0.06 (0.58) .92 | 0.16 (0.42) .71 | -0.04 (0.26) .88 | -0.18 (0.97) .85 | 0.95 (1.22) .43 | -0.15 (0.33) .64 | 0.83 (0.76) .27 | -0.06 (0.23) .81 | --- |
|  | Correlation of Levels | 0.268 | 0.121 | 0.121 | 0.083 | -0.021 | 0.063 | 0.0888 | 0.1843 | 0.106 | -0.03 | -0.092 | 0.1789 | 0.19 | 0.0522 | 0.0818 | 0.170 | 0.062 | 0.108 | 0.109 | 0.10(0.08) |
|  | Correlation of Slopes | 0.145 | -0.448 | -0.505 | 0.181 | 0.180 | -0.070 | 0.1223 | 0.2942 | 0.035 | -0.25 | -0.763 | 0.6110 | 0.33 | 0.3449 | 0.0282 | 0.396 | 0.081 | -0.058 | 0.063 | 0.04(0.34) |
|  | Correlation of Residuals | 0.013 | 0.041 | 0.025 | 0.020 | 0.168 | 0.056 | 0.0012 | 0.0081 | -0.032 | 0.08 | 0.059 | -0.0057 | 0.02 | -0.0079 | -0.0083 | 0.036 | -0.021 | 0.058 | -0.014 | 0.03(0.05) |
|  | N | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351 | 351.00(0.00) |
|  | occasions | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68.00(0.00) |
|  | LL | -7,213 | -8,190 | -8,008 | -9,577 | -7,960 | -7,941 | -7,756 | -6,691 | -8,385 | -8,774 | -8,792 | -8,102 | -8,076 | -7,657 | -9,324 | -9,599 | -8,012 | -8,728 | -7,280 | -8,214( 779) |
|  | AIC | 14,561 | 16,517 | 16,153 | 19,291 | 16,057 | 16,019 | 15,647 | 13,517 | 16,905 | 17,684 | 17,720 | 16,339 | 16,289 | 15,451 | 18,785 | 19,334 | 16,160 | 17,593 | 14,695 | 16,564(1,558) |
|  | BIC | 14,824 | 16,779 | 16,415 | 19,553 | 16,319 | 16,281 | 15,910 | 13,780 | 17,168 | 17,947 | 17,982 | 16,602 | 16,551 | 15,713 | 19,047 | 19,596 | 16,423 | 17,855 | 14,958 | 16,827(1,558) |

## bnt

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.44 (1.82) <.01 | 74.97 (2.97) <.01 | 76.26 (2.66) <.01 | 79.68 (3.03) <.01 |
| a | Slope | -1.50 (0.40) <.01 | -1.75 (0.60) <.01 | -1.81 (0.60) <.01 | -2.48 (0.90) .01 |
| a | Level \* age | -1.15 (0.14) <.01 | -1.17 (0.14) <.01 | -1.02 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.67 (0.28) .02 | 0.11 (0.26) .67 | -0.04 (0.27) .89 |
| a | Level \* height | --- | --- | 82.79 (11.45) <.01 | 83.58 (11.29) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.19 (2.00) .92 |
| a | Level \* cardio | --- | --- | --- | -6.04 (2.74) .03 |
| a | Level \* diabetes | --- | --- | --- | -6.44 (2.33) .01 |
| a | Slope \* age | -0.02 (0.04) .65 | -0.02 (0.04) .56 | -0.03 (0.04) .41 | -0.03 (0.04) .41 |
| a | Slope \* education | --- | 0.03 (0.06) .55 | 0.06 (0.06) .32 | 0.09 (0.07) .16 |
| a | Slope \* height | --- | --- | -3.46 (3.52) .32 | -3.40 (3.52) .33 |
| a | Slope \* smoking | --- | --- | --- | 0.05 (0.46) .92 |
| a | Slope \* cardio | --- | --- | --- | 0.85 (0.65) .19 |
| a | Slope \* diabetes | --- | --- | --- | 1.18 (0.52) .02 |
| b | Level | 14.39 (0.14) <.01 | 13.79 (0.23) <.01 | 13.82 (0.22) <.01 | 13.77 (0.29) <.01 |
| b | Slope | -0.01 (0.02) .80 | 0.06 (0.04) .12 | 0.06 (0.04) .16 | 0.05 (0.05) .27 |
| b | Level \* age | -0.03 (0.01) .03 | -0.03 (0.01) .02 | -0.03 (0.01) .04 | -0.03 (0.02) .07 |
| b | Level \* education | --- | 0.07 (0.02) <.01 | 0.06 (0.02) <.01 | 0.06 (0.02) <.01 |
| b | Level \* height | --- | --- | 2.58 (0.79) <.01 | 2.56 (0.78) <.01 |
| b | Level \* smoking | --- | --- | --- | 0.06 (0.13) .66 |
| b | Level \* cardio | --- | --- | --- | 0.00 (0.19) .99 |
| b | Level \* diabetes | --- | --- | --- | 0.01 (0.14) .93 |
| b | Slope \* age | 0.00 (0.00) .05 | 0.00 (0.00) .03 | 0.00 (0.00) .06 | 0.00 (0.00) .07 |
| b | Slope \* education | --- | -0.01 (0.00) .04 | -0.01 (0.00) .17 | -0.01 (0.00) .18 |
| b | Slope \* height | --- | --- | -0.46 (0.18) .01 | -0.48 (0.18) .01 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.02) .78 |
| b | Slope \* cardio | --- | --- | --- | -0.03 (0.04) .51 |
| b | Slope \* diabetes | --- | --- | --- | 0.04 (0.04) .29 |
| a | Var (Level) | 274.31 (28.47) <.01 | 267.94 (27.93) <.01 | 231.59 (25.09) <.01 | 222.01 (24.16) <.01 |
| a | Var (Slope) | 3.87 (1.56) .01 | 3.82 (1.56) .01 | 3.77 (1.55) .01 | 3.48 (1.47) .02 |
| a | Var (Residual) | 32.82 (2.98) <.01 | 32.81 (2.98) <.01 | 32.79 (2.98) <.01 | 32.81 (2.98) <.01 |
| a | Covar (Level, Slope) | -10.81 (4.24) .01 | -10.80 (4.21) .01 | -9.29 (3.81) .01 | -8.03 (3.63) .03 |
| b | Var (Level) | 1.28 (0.56) .02 | 1.20 (0.53) .02 | 1.16 (0.52) .03 | 1.16 (0.53) .03 |
| b | Var (Slope) | 0.01 (0.01) .40 | 0.01 (0.01) .44 | 0.01 (0.01) .52 | 0.01 (0.01) .51 |
| b | Var (Residual) | 0.39 (0.04) <.01 | 0.39 (0.04) <.01 | 0.39 (0.04) <.01 | 0.39 (0.04) <.01 |
| b | Covar (Level, Slope) | -0.06 (0.06) .33 | -0.05 (0.06) .38 | -0.04 (0.06) .45 | -0.04 (0.06) .43 |
| ab | Covar (Levels) | 6.19 (1.71) <.01 | 5.49 (1.54) <.01 | 4.31 (1.37) <.01 | 4.31 (1.42) <.01 |
| ab | Covar (Slopes) | 0.04 (0.06) .49 | 0.04 (0.05) .44 | 0.03 (0.05) .55 | 0.02 (0.05) .69 |
| ab | Covar (Residuals) | 0.04 (0.16) .81 | 0.05 (0.16) .78 | 0.05 (0.16) .75 | 0.05 (0.16) .77 |
|  | Correlation of Levels | 0.331 | 0.306 | 0.263 | 0.268 |
|  | Correlation of Slopes | 0.216 | 0.251 | 0.213 | 0.145 |
|  | Correlation of Residuals | 0.011 | 0.013 | 0.015 | 0.013 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -6,093 | -7,039 | -6,626 | -7,213 |
|  | AIC | 12,232 | 14,138 | 13,328 | 14,561 |
|  | BIC | 12,321 | 14,254 | 13,475 | 14,824 |

## bstory\_de

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.37 (1.82) <.01 | 74.84 (2.97) <.01 | 76.13 (2.66) <.01 | 79.54 (3.05) <.01 |
| a | Slope | -1.51 (0.40) <.01 | -1.73 (0.60) <.01 | -1.81 (0.61) <.01 | -2.47 (0.90) .01 |
| a | Level \* age | -1.15 (0.14) <.01 | -1.16 (0.14) <.01 | -1.02 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.68 (0.28) .01 | 0.12 (0.26) .64 | -0.02 (0.27) .93 |
| a | Level \* height | --- | --- | 82.09 (11.47) <.01 | 82.87 (11.32) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.14 (2.00) .94 |
| a | Level \* cardio | --- | --- | --- | -6.19 (2.75) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.46 (2.32) <.01 |
| a | Slope \* age | -0.02 (0.04) .63 | -0.02 (0.04) .56 | -0.03 (0.04) .40 | -0.03 (0.04) .40 |
| a | Slope \* education | --- | 0.03 (0.06) .59 | 0.06 (0.06) .33 | 0.09 (0.07) .17 |
| a | Slope \* height | --- | --- | -3.32 (3.53) .35 | -3.23 (3.52) .36 |
| a | Slope \* smoking | --- | --- | --- | 0.03 (0.46) .94 |
| a | Slope \* cardio | --- | --- | --- | 0.86 (0.64) .18 |
| a | Slope \* diabetes | --- | --- | --- | 1.20 (0.52) .02 |
| b | Level | 9.77 (0.16) <.01 | 8.89 (0.29) <.01 | 8.89 (0.29) <.01 | 8.95 (0.34) <.01 |
| b | Slope | -0.15 (0.06) .01 | -0.08 (0.09) .35 | -0.07 (0.09) .40 | -0.08 (0.11) .49 |
| b | Level \* age | -0.07 (0.01) <.01 | -0.07 (0.01) <.01 | -0.07 (0.01) <.01 | -0.07 (0.01) <.01 |
| b | Level \* education | --- | 0.11 (0.03) <.01 | 0.10 (0.03) <.01 | 0.10 (0.03) <.01 |
| b | Level \* height | --- | --- | 0.79 (1.49) .59 | 0.75 (1.48) .61 |
| b | Level \* smoking | --- | --- | --- | 0.00 (0.20) .99 |
| b | Level \* cardio | --- | --- | --- | 0.06 (0.26) .83 |
| b | Level \* diabetes | --- | --- | --- | -0.16 (0.26) .53 |
| b | Slope \* age | 0.01 (0.00) .02 | 0.01 (0.00) .02 | 0.01 (0.00) .01 | 0.01 (0.00) .04 |
| b | Slope \* education | --- | -0.01 (0.01) .29 | -0.01 (0.01) .11 | -0.01 (0.01) .19 |
| b | Slope \* height | --- | --- | 0.68 (0.52) .20 | 0.77 (0.53) .15 |
| b | Slope \* smoking | --- | --- | --- | -0.06 (0.07) .35 |
| b | Slope \* cardio | --- | --- | --- | 0.10 (0.09) .23 |
| b | Slope \* diabetes | --- | --- | --- | 0.08 (0.08) .32 |
| a | Var (Level) | 275.25 (28.72) <.01 | 268.57 (28.15) <.01 | 232.23 (25.32) <.01 | 222.70 (24.36) <.01 |
| a | Var (Slope) | 3.88 (1.58) .01 | 3.85 (1.57) .01 | 3.78 (1.56) .01 | 3.52 (1.48) .02 |
| a | Var (Residual) | 32.77 (2.97) <.01 | 32.76 (2.98) <.01 | 32.76 (2.98) <.01 | 32.75 (2.98) <.01 |
| a | Covar (Level, Slope) | -10.81 (4.28) .01 | -10.83 (4.23) .01 | -9.28 (3.82) .01 | -8.11 (3.63) .02 |
| b | Var (Level) | 2.03 (0.44) <.01 | 1.88 (0.44) <.01 | 1.88 (0.44) <.01 | 1.89 (0.43) <.01 |
| b | Var (Slope) | 0.01 (0.04) .78 | 0.01 (0.05) .79 | 0.01 (0.05) .82 | 0.01 (0.04) .74 |
| b | Var (Residual) | 2.79 (0.23) <.01 | 2.78 (0.23) <.01 | 2.78 (0.23) <.01 | 2.77 (0.23) <.01 |
| b | Covar (Level, Slope) | -0.00 (0.12) .99 | 0.01 (0.12) .96 | 0.00 (0.13) .99 | -0.00 (0.11) .96 |
| ab | Covar (Levels) | 4.12 (2.16) .06 | 3.08 (2.08) .14 | 2.40 (1.84) .19 | 2.48 (1.81) .17 |
| ab | Covar (Slopes) | -0.10 (0.14) .49 | -0.09 (0.13) .49 | -0.08 (0.14) .56 | -0.09 (0.13) .49 |
| ab | Covar (Residuals) | 0.44 (0.43) .31 | 0.43 (0.43) .31 | 0.42 (0.43) .33 | 0.39 (0.43) .36 |
|  | Correlation of Levels | 0.174 | 0.137 | 0.115 | 0.121 |
|  | Correlation of Slopes | -0.440 | -0.411 | -0.383 | -0.448 |
|  | Correlation of Residuals | 0.046 | 0.045 | 0.044 | 0.041 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -7,070 | -8,016 | -7,605 | -8,190 |
|  | AIC | 14,187 | 16,093 | 15,286 | 16,517 |
|  | BIC | 14,275 | 16,209 | 15,432 | 16,779 |

## bstory\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 2.41 (0.06) <.01 | 2.11 (0.08) <.01 | 76.10 (2.67) <.01 | 79.49 (3.06) <.01 |
| a | Slope | -0.05 (0.01) <.01 | -0.04 (0.02) .01 | -1.80 (0.61) <.01 | -2.47 (0.90) .01 |
| a | Level \* age | -0.03 (0.00) <.01 | -0.03 (0.00) <.01 | -1.01 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.04 (0.01) <.01 | 0.12 (0.26) .63 | -0.02 (0.27) .94 |
| a | Level \* height | --- | --- | 82.13 (11.47) <.01 | 82.88 (11.33) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.12 (2.00) .95 |
| a | Level \* cardio | --- | --- | --- | -6.26 (2.75) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.45 (2.33) .01 |
| a | Slope \* age | -0.00 (0.00) .37 | -0.00 (0.00) .35 | -0.03 (0.04) .37 | -0.03 (0.04) .37 |
| a | Slope \* education | --- | -0.00 (0.00) .68 | 0.06 (0.06) .34 | 0.09 (0.07) .18 |
| a | Slope \* height | --- | --- | -3.36 (3.56) .35 | -3.29 (3.55) .35 |
| a | Slope \* smoking | --- | --- | --- | 0.05 (0.46) .92 |
| a | Slope \* cardio | --- | --- | --- | 0.88 (0.64) .17 |
| a | Slope \* diabetes | --- | --- | --- | 1.21 (0.52) .02 |
| b | Level | 10.16 (0.15) <.01 | 9.54 (0.25) <.01 | 9.55 (0.25) <.01 | 9.45 (0.29) <.01 |
| b | Slope | -0.17 (0.05) <.01 | -0.10 (0.08) .22 | -0.10 (0.08) .20 | -0.06 (0.10) .54 |
| b | Level \* age | -0.06 (0.01) <.01 | -0.06 (0.01) <.01 | -0.06 (0.01) <.01 | -0.06 (0.01) <.01 |
| b | Level \* education | --- | 0.08 (0.02) <.01 | 0.07 (0.03) .01 | 0.07 (0.03) .01 |
| b | Level \* height | --- | --- | 1.77 (1.19) .14 | 1.70 (1.19) .15 |
| b | Level \* smoking | --- | --- | --- | 0.13 (0.16) .42 |
| b | Level \* cardio | --- | --- | --- | 0.08 (0.24) .73 |
| b | Level \* diabetes | --- | --- | --- | -0.03 (0.23) .90 |
| 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 | --- | -0.01 (0.01) .26 | -0.01 (0.01) .36 | -0.01 (0.01) .35 |
| b | Slope \* height | --- | --- | -0.27 (0.45) .55 | -0.23 (0.47) .62 |
| b | Slope \* smoking | --- | --- | --- | -0.06 (0.06) .35 |
| b | Slope \* cardio | --- | --- | --- | -0.01 (0.09) .90 |
| b | Slope \* diabetes | --- | --- | --- | 0.02 (0.08) .84 |
| a | Var (Level) | 0.33 (0.03) <.01 | 0.31 (0.03) <.01 | 232.41 (25.31) <.01 | 222.76 (24.34) <.01 |
| a | Var (Slope) | 0.00 (0.00) .12 | 0.00 (0.00) .12 | 3.85 (1.55) .01 | 3.57 (1.48) .02 |
| a | Var (Residual) | 0.05 (0.01) <.01 | 0.05 (0.01) <.01 | 32.69 (2.98) <.01 | 32.69 (2.97) <.01 |
| a | Covar (Level, Slope) | -0.01 (0.00) .10 | -0.01 (0.00) .10 | -9.40 (3.82) .01 | -8.15 (3.64) .02 |
| b | Var (Level) | 1.36 (0.25) <.01 | 1.27 (0.25) <.01 | 1.24 (0.24) <.01 | 1.24 (0.24) <.01 |
| b | Var (Slope) | 0.03 (0.03) .40 | 0.03 (0.03) .41 | 0.02 (0.03) .47 | 0.02 (0.03) .47 |
| b | Var (Residual) | 2.08 (0.13) <.01 | 2.08 (0.13) <.01 | 2.10 (0.13) <.01 | 2.09 (0.13) <.01 |
| b | Covar (Level, Slope) | -0.07 (0.08) .33 | -0.06 (0.08) .39 | -0.05 (0.07) .45 | -0.05 (0.07) .45 |
| ab | Covar (Levels) | 0.10 (0.07) .15 | 0.06 (0.06) .38 | 1.85 (1.59) .25 | 2.01 (1.58) .20 |
| ab | Covar (Slopes) | 0.01 (0.00) .12 | 0.01 (0.00) .13 | -0.13 (0.12) .27 | -0.14 (0.11) .23 |
| ab | Covar (Residuals) | -0.02 (0.01) .23 | -0.02 (0.01) .23 | 0.21 (0.35) .54 | 0.20 (0.34) .55 |
|  | Correlation of Levels | 0.144 | 0.089 | 0.109 | 0.121 |
|  | Correlation of Slopes | 0.816 | 0.832 | -0.468 | -0.505 |
|  | Correlation of Residuals | -0.055 | -0.055 | 0.025 | 0.025 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -3,857 | -4,800 | -7,421 | -8,008 |
|  | AIC | 7,760 | 9,660 | 14,918 | 16,153 |
|  | BIC | 7,849 | 9,776 | 15,065 | 16,415 |

## categories

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.31 (1.82) <.01 | 74.83 (2.98) <.01 | 76.12 (2.67) <.01 | 79.54 (3.04) <.01 |
| a | Slope | -1.49 (0.40) <.01 | -1.74 (0.60) <.01 | -1.81 (0.60) <.01 | -2.44 (0.88) <.01 |
| a | Level \* age | -1.14 (0.14) <.01 | -1.16 (0.14) <.01 | -1.01 (0.13) <.01 | -0.99 (0.13) <.01 |
| a | Level \* education | --- | 0.68 (0.28) .02 | 0.12 (0.26) .65 | -0.03 (0.27) .92 |
| a | Level \* height | --- | --- | 82.61 (11.46) <.01 | 83.33 (11.30) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.17 (2.00) .93 |
| a | Level \* cardio | --- | --- | --- | -6.24 (2.74) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.41 (2.33) .01 |
| a | Slope \* age | -0.02 (0.04) .52 | -0.03 (0.04) .46 | -0.03 (0.04) .34 | -0.04 (0.04) .35 |
| a | Slope \* education | --- | 0.03 (0.06) .55 | 0.06 (0.06) .33 | 0.09 (0.07) .17 |
| a | Slope \* height | --- | --- | -2.93 (3.60) .42 | -2.92 (3.58) .41 |
| a | Slope \* smoking | --- | --- | --- | 0.04 (0.46) .93 |
| a | Slope \* cardio | --- | --- | --- | 0.80 (0.64) .21 |
| a | Slope \* diabetes | --- | --- | --- | 1.14 (0.51) .03 |
| b | Level | 35.60 (0.81) <.01 | 30.65 (1.16) <.01 | 30.80 (1.14) <.01 | 31.35 (1.34) <.01 |
| b | Slope | -0.00 (0.19) .99 | 0.22 (0.32) .50 | 0.23 (0.32) .47 | 0.37 (0.35) .29 |
| b | Level \* age | -0.33 (0.06) <.01 | -0.34 (0.06) <.01 | -0.32 (0.06) <.01 | -0.32 (0.06) <.01 |
| b | Level \* education | --- | 0.61 (0.11) <.01 | 0.52 (0.12) <.01 | 0.51 (0.12) <.01 |
| b | Level \* height | --- | --- | 13.60 (6.23) .03 | 13.78 (6.25) .03 |
| b | Level \* smoking | --- | --- | --- | -0.77 (0.76) .31 |
| b | Level \* cardio | --- | --- | --- | -0.22 (1.10) .84 |
| b | Level \* diabetes | --- | --- | --- | 0.24 (1.12) .83 |
| b | Slope \* age | -0.02 (0.02) .14 | -0.02 (0.02) .14 | -0.02 (0.02) .16 | -0.03 (0.01) .10 |
| b | Slope \* education | --- | -0.03 (0.03) .41 | -0.03 (0.03) .35 | -0.04 (0.03) .25 |
| b | Slope \* height | --- | --- | 0.78 (1.63) .63 | 0.98 (1.60) .54 |
| b | Slope \* smoking | --- | --- | --- | 0.05 (0.22) .83 |
| b | Slope \* cardio | --- | --- | --- | 0.18 (0.34) .59 |
| b | Slope \* diabetes | --- | --- | --- | -0.62 (0.30) .04 |
| a | Var (Level) | 274.58 (28.66) <.01 | 268.05 (28.08) <.01 | 231.35 (25.18) <.01 | 221.73 (24.23) <.01 |
| a | Var (Slope) | 3.76 (1.52) .01 | 3.74 (1.52) .01 | 3.70 (1.52) .01 | 3.42 (1.45) .02 |
| a | Var (Residual) | 32.86 (2.97) <.01 | 32.84 (2.97) <.01 | 32.85 (2.98) <.01 | 32.87 (2.98) <.01 |
| a | Covar (Level, Slope) | -9.92 (4.27) .02 | -10.09 (4.22) .02 | -8.75 (3.82) .02 | -7.56 (3.64) .04 |
| b | Var (Level) | 55.97 (5.53) <.01 | 50.65 (5.25) <.01 | 49.71 (5.12) <.01 | 49.55 (5.12) <.01 |
| b | Var (Slope) | 0.45 (0.33) .17 | 0.43 (0.34) .20 | 0.42 (0.34) .21 | 0.36 (0.34) .28 |
| b | Var (Residual) | 20.59 (1.31) <.01 | 20.63 (1.31) <.01 | 20.62 (1.31) <.01 | 20.64 (1.32) <.01 |
| b | Covar (Level, Slope) | 0.50 (1.11) .65 | 0.74 (1.14) .52 | 0.69 (1.13) .54 | 0.70 (1.12) .53 |
| ab | Covar (Levels) | 20.65 (8.61) .02 | 14.72 (8.22) .07 | 7.73 (7.81) .32 | 8.73 (7.63) .25 |
| ab | Covar (Slopes) | 0.16 (0.37) .66 | 0.17 (0.37) .64 | 0.18 (0.38) .64 | 0.20 (0.38) .60 |
| ab | Covar (Residuals) | 0.48 (1.25) .70 | 0.50 (1.25) .69 | 0.53 (1.26) .67 | 0.53 (1.25) .67 |
|  | Correlation of Levels | 0.167 | 0.126 | 0.072 | 0.083 |
|  | Correlation of Slopes | 0.124 | 0.134 | 0.141 | 0.181 |
|  | Correlation of Residuals | 0.019 | 0.019 | 0.021 | 0.020 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -8,464 | -9,405 | -8,992 | -9,577 |
|  | AIC | 16,973 | 18,870 | 18,060 | 19,291 |
|  | BIC | 17,062 | 18,986 | 18,207 | 19,553 |

## digit\_b

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 2.41 (0.06) <.01 | 2.11 (0.08) <.01 | 76.13 (2.65) <.01 | 79.59 (3.03) <.01 |
| a | Slope | -0.05 (0.01) <.01 | -0.04 (0.02) .01 | -1.76 (0.59) <.01 | -2.41 (0.87) .01 |
| a | Level \* age | -0.03 (0.00) <.01 | -0.03 (0.00) <.01 | -1.01 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.04 (0.01) <.01 | 0.12 (0.26) .63 | -0.02 (0.27) .93 |
| a | Level \* height | --- | --- | 83.27 (11.41) <.01 | 83.99 (11.27) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.19 (2.01) .92 |
| a | Level \* cardio | --- | --- | --- | -6.19 (2.74) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.50 (2.32) <.01 |
| a | Slope \* age | -0.00 (0.00) .28 | -0.00 (0.00) .29 | -0.03 (0.04) .35 | -0.04 (0.04) .34 |
| a | Slope \* education | --- | -0.00 (0.00) .65 | 0.06 (0.06) .35 | 0.09 (0.07) .18 |
| a | Slope \* height | --- | --- | -3.81 (3.48) .28 | -3.68 (3.48) .29 |
| a | Slope \* smoking | --- | --- | --- | -0.00 (0.46) .99 |
| a | Slope \* cardio | --- | --- | --- | 0.87 (0.65) .18 |
| a | Slope \* diabetes | --- | --- | --- | 1.25 (0.51) .01 |
| b | Level | 6.59 (0.20) <.01 | 5.16 (0.27) <.01 | 5.15 (0.27) <.01 | 5.03 (0.31) <.01 |
| b | Slope | 0.03 (0.06) .56 | 0.01 (0.09) .92 | 0.01 (0.09) .91 | 0.04 (0.10) .69 |
| b | Level \* age | -0.04 (0.02) .02 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.02) <.01 |
| b | Level \* education | --- | 0.18 (0.03) <.01 | 0.18 (0.03) <.01 | 0.18 (0.03) <.01 |
| b | Level \* height | --- | --- | -0.82 (1.22) .50 | -0.86 (1.22) .48 |
| b | Level \* smoking | --- | --- | --- | 0.12 (0.17) .49 |
| b | Level \* cardio | --- | --- | --- | 0.16 (0.24) .51 |
| b | Level \* diabetes | --- | --- | --- | -0.02 (0.24) .92 |
| b | Slope \* age | -0.00 (0.00) .63 | -0.00 (0.00) .55 | -0.00 (0.00) .72 | -0.00 (0.00) .77 |
| b | Slope \* education | --- | 0.00 (0.01) .70 | 0.00 (0.01) .92 | -0.00 (0.01) .95 |
| b | Slope \* height | --- | --- | 0.41 (0.42) .33 | 0.40 (0.42) .35 |
| b | Slope \* smoking | --- | --- | --- | -0.00 (0.05) .94 |
| b | Slope \* cardio | --- | --- | --- | -0.07 (0.08) .39 |
| b | Slope \* diabetes | --- | --- | --- | -0.04 (0.07) .61 |
| a | Var (Level) | 0.33 (0.03) <.01 | 0.31 (0.03) <.01 | 231.20 (25.21) <.01 | 221.34 (24.23) <.01 |
| a | Var (Slope) | 0.00 (0.00) .17 | 0.00 (0.00) .16 | 3.62 (1.50) .02 | 3.32 (1.43) .02 |
| a | Var (Residual) | 0.05 (0.01) <.01 | 0.05 (0.01) <.01 | 32.92 (2.98) <.01 | 32.96 (2.98) <.01 |
| a | Covar (Level, Slope) | -0.01 (0.00) .12 | -0.01 (0.00) .13 | -8.56 (3.79) .02 | -7.24 (3.60) .04 |
| b | Var (Level) | 2.58 (0.26) <.01 | 2.15 (0.24) <.01 | 2.15 (0.24) <.01 | 2.15 (0.24) <.01 |
| b | Var (Slope) | 0.03 (0.02) .15 | 0.04 (0.02) .13 | 0.04 (0.02) .12 | 0.04 (0.02) .11 |
| b | Var (Residual) | 1.58 (0.10) <.01 | 1.57 (0.10) <.01 | 1.57 (0.10) <.01 | 1.57 (0.10) <.01 |
| b | Covar (Level, Slope) | 0.00 (0.06) .96 | -0.01 (0.06) .88 | -0.01 (0.06) .85 | -0.01 (0.06) .82 |
| ab | Covar (Levels) | 0.15 (0.06) .02 | 0.06 (0.06) .33 | -0.65 (1.92) .74 | -0.45 (1.87) .81 |
| ab | Covar (Slopes) | -0.00 (0.00) .67 | -0.00 (0.00) .76 | 0.06 (0.10) .55 | 0.06 (0.11) .55 |
| ab | Covar (Residuals) | -0.00 (0.01) .81 | -0.00 (0.01) .80 | 1.17 (0.33) <.01 | 1.21 (0.33) <.01 |
|  | Correlation of Levels | 0.168 | 0.073 | -0.029 | -0.021 |
|  | Correlation of Slopes | -0.243 | -0.118 | 0.172 | 0.180 |
|  | Correlation of Residuals | -0.011 | -0.011 | 0.162 | 0.168 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -3,831 | -4,757 | -7,374 | -7,960 |
|  | AIC | 7,708 | 9,574 | 14,823 | 16,057 |
|  | BIC | 7,797 | 9,690 | 14,970 | 16,319 |

## digit\_f

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.41 (1.82) <.01 | 74.89 (2.98) <.01 | 76.24 (2.66) <.01 | 79.60 (3.04) <.01 |
| a | Slope | -1.52 (0.41) <.01 | -1.73 (0.61) <.01 | -1.81 (0.61) <.01 | -2.45 (0.89) .01 |
| a | Level \* age | -1.15 (0.14) <.01 | -1.16 (0.14) <.01 | -1.01 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.68 (0.28) .01 | 0.11 (0.26) .67 | -0.03 (0.27) .90 |
| a | Level \* height | --- | --- | 82.83 (11.42) <.01 | 83.60 (11.27) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.12 (2.01) .95 |
| a | Level \* cardio | --- | --- | --- | -6.11 (2.75) .03 |
| a | Level \* diabetes | --- | --- | --- | -6.39 (2.32) .01 |
| a | Slope \* age | -0.02 (0.04) .61 | -0.02 (0.04) .56 | -0.03 (0.04) .40 | -0.03 (0.04) .39 |
| a | Slope \* education | --- | 0.03 (0.06) .62 | 0.06 (0.06) .34 | 0.09 (0.07) .18 |
| a | Slope \* height | --- | --- | -3.39 (3.56) .34 | -3.27 (3.57) .36 |
| a | Slope \* smoking | --- | --- | --- | 0.01 (0.46) .98 |
| a | Slope \* cardio | --- | --- | --- | 0.86 (0.64) .18 |
| a | Slope \* diabetes | --- | --- | --- | 1.20 (0.52) .02 |
| b | Level | 8.90 (0.18) <.01 | 7.40 (0.25) <.01 | 7.38 (0.25) <.01 | 7.23 (0.29) <.01 |
| b | Slope | -0.02 (0.04) .60 | 0.05 (0.08) .54 | 0.05 (0.08) .52 | 0.01 (0.10) .91 |
| 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 | --- | 0.18 (0.02) <.01 | 0.19 (0.02) <.01 | 0.19 (0.02) <.01 |
| b | Level \* height | --- | --- | -1.27 (1.49) .40 | -1.37 (1.47) .35 |
| b | Level \* smoking | --- | --- | --- | 0.32 (0.17) .06 |
| b | Level \* cardio | --- | --- | --- | 0.19 (0.25) .43 |
| b | Level \* diabetes | --- | --- | --- | -0.38 (0.27) .16 |
| b | Slope \* age | 0.00 (0.00) .96 | 0.00 (0.00) .94 | 0.00 (0.00) .99 | 0.00 (0.00) .80 |
| b | Slope \* education | --- | -0.01 (0.01) .32 | -0.01 (0.01) .28 | -0.01 (0.01) .37 |
| b | Slope \* height | --- | --- | 0.18 (0.46) .69 | 0.13 (0.47) .78 |
| b | Slope \* smoking | --- | --- | --- | 0.01 (0.05) .79 |
| b | Slope \* cardio | --- | --- | --- | -0.05 (0.08) .55 |
| b | Slope \* diabetes | --- | --- | --- | 0.10 (0.07) .18 |
| a | Var (Level) | 274.92 (28.64) <.01 | 268.39 (28.09) <.01 | 232.03 (25.29) <.01 | 222.26 (24.33) <.01 |
| a | Var (Slope) | 3.80 (1.53) .01 | 3.79 (1.53) .01 | 3.73 (1.52) .01 | 3.46 (1.46) .02 |
| a | Var (Residual) | 32.84 (2.98) <.01 | 32.83 (2.98) <.01 | 32.81 (2.99) <.01 | 32.82 (2.98) <.01 |
| a | Covar (Level, Slope) | -10.35 (4.26) .01 | -10.56 (4.21) .01 | -9.01 (3.79) .02 | -7.81 (3.61) .03 |
| b | Var (Level) | 2.68 (0.28) <.01 | 2.19 (0.26) <.01 | 2.18 (0.25) <.01 | 2.12 (0.25) <.01 |
| b | Var (Slope) | 0.02 (0.02) .47 | 0.02 (0.02) .49 | 0.01 (0.02) .50 | 0.01 (0.02) .50 |
| b | Var (Residual) | 1.52 (0.10) <.01 | 1.53 (0.10) <.01 | 1.53 (0.10) <.01 | 1.53 (0.10) <.01 |
| b | Covar (Level, Slope) | -0.03 (0.07) .64 | -0.01 (0.06) .85 | -0.01 (0.06) .86 | -0.01 (0.06) .92 |
| ab | Covar (Levels) | 2.90 (1.99) .14 | 1.16 (1.79) .52 | 1.64 (1.68) .33 | 1.36 (1.60) .40 |
| ab | Covar (Slopes) | 0.01 (0.09) .92 | 0.01 (0.09) .88 | 0.01 (0.09) .89 | -0.02 (0.09) .86 |
| ab | Covar (Residuals) | 0.36 (0.34) .29 | 0.36 (0.35) .30 | 0.35 (0.34) .31 | 0.40 (0.34) .25 |
|  | Correlation of Levels | 0.107 | 0.048 | 0.073 | 0.063 |
|  | Correlation of Slopes | 0.035 | 0.053 | 0.051 | -0.070 |
|  | Correlation of Residuals | 0.052 | 0.051 | 0.050 | 0.056 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -6,840 | -7,770 | -7,357 | -7,941 |
|  | AIC | 13,725 | 15,600 | 14,791 | 16,019 |
|  | BIC | 13,814 | 15,716 | 14,937 | 16,281 |

## digit\_o

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.35 (1.82) <.01 | 74.85 (2.98) <.01 | 76.13 (2.67) <.01 | 79.56 (3.05) <.01 |
| a | Slope | -1.47 (0.40) <.01 | -1.75 (0.60) <.01 | -1.83 (0.60) <.01 | -2.47 (0.89) <.01 |
| a | Level \* age | -1.15 (0.14) <.01 | -1.16 (0.14) <.01 | -1.01 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.68 (0.28) .01 | 0.12 (0.26) .66 | -0.03 (0.27) .91 |
| a | Level \* height | --- | --- | 82.99 (11.41) <.01 | 83.71 (11.27) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.16 (2.00) .94 |
| a | Level \* cardio | --- | --- | --- | -6.24 (2.75) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.45 (2.33) .01 |
| a | Slope \* age | -0.02 (0.04) .49 | -0.03 (0.04) .45 | -0.04 (0.04) .33 | -0.04 (0.04) .32 |
| a | Slope \* education | --- | 0.04 (0.06) .52 | 0.06 (0.06) .29 | 0.10 (0.07) .15 |
| a | Slope \* height | --- | --- | -3.33 (3.59) .35 | -3.23 (3.59) .37 |
| a | Slope \* smoking | --- | --- | --- | 0.03 (0.46) .95 |
| a | Slope \* cardio | --- | --- | --- | 0.86 (0.65) .18 |
| a | Slope \* diabetes | --- | --- | --- | 1.15 (0.51) .02 |
| b | Level | 7.81 (0.15) <.01 | 6.84 (0.22) <.01 | 6.86 (0.21) <.01 | 6.86 (0.25) <.01 |
| b | Slope | -0.05 (0.05) .27 | -0.06 (0.07) .36 | -0.06 (0.07) .38 | -0.10 (0.08) .21 |
| 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 | --- | 0.12 (0.02) <.01 | 0.11 (0.02) <.01 | 0.10 (0.02) <.01 |
| b | Level \* height | --- | --- | 2.31 (1.04) .03 | 2.28 (1.03) .03 |
| b | Level \* smoking | --- | --- | --- | 0.07 (0.13) .58 |
| b | Level \* cardio | --- | --- | --- | -0.06 (0.20) .77 |
| b | Level \* diabetes | --- | --- | --- | -0.13 (0.20) .51 |
| b | Slope \* age | -0.00 (0.00) .82 | -0.00 (0.00) .76 | -0.00 (0.00) .76 | -0.00 (0.00) .87 |
| b | Slope \* education | --- | 0.00 (0.01) .81 | 0.00 (0.01) .93 | 0.00 (0.01) .78 |
| b | Slope \* height | --- | --- | 0.24 (0.36) .52 | 0.21 (0.36) .56 |
| b | Slope \* smoking | --- | --- | --- | 0.03 (0.04) .46 |
| b | Slope \* cardio | --- | --- | --- | 0.03 (0.07) .72 |
| b | Slope \* diabetes | --- | --- | --- | 0.03 (0.06) .65 |
| a | Var (Level) | 274.64 (28.63) <.01 | 268.13 (28.07) <.01 | 231.64 (25.22) <.01 | 221.94 (24.27) <.01 |
| a | Var (Slope) | 3.86 (1.58) .01 | 3.83 (1.58) .01 | 3.74 (1.55) .02 | 3.45 (1.48) .02 |
| a | Var (Residual) | 32.75 (2.98) <.01 | 32.74 (2.98) <.01 | 32.78 (2.99) <.01 | 32.80 (2.99) <.01 |
| a | Covar (Level, Slope) | -10.05 (4.32) .02 | -10.30 (4.26) .02 | -8.76 (3.82) .02 | -7.50 (3.64) .04 |
| b | Var (Level) | 1.31 (0.25) <.01 | 1.11 (0.22) <.01 | 1.08 (0.22) <.01 | 1.08 (0.22) <.01 |
| b | Var (Slope) | 0.01 (0.02) .70 | 0.01 (0.02) .74 | 0.01 (0.02) .74 | 0.01 (0.02) .77 |
| b | Var (Residual) | 1.30 (0.10) <.01 | 1.30 (0.10) <.01 | 1.30 (0.10) <.01 | 1.30 (0.10) <.01 |
| b | Covar (Level, Slope) | 0.01 (0.06) .84 | 0.01 (0.06) .87 | 0.01 (0.06) .91 | 0.01 (0.06) .92 |
| ab | Covar (Levels) | 3.66 (1.85) .05 | 2.48 (1.66) .13 | 1.40 (1.55) .37 | 1.37 (1.48) .35 |
| ab | Covar (Slopes) | 0.02 (0.10) .81 | 0.03 (0.10) .80 | 0.03 (0.10) .79 | 0.02 (0.09) .84 |
| ab | Covar (Residuals) | -0.01 (0.29) .98 | -0.01 (0.29) .98 | -0.01 (0.29) .97 | 0.01 (0.29) .98 |
|  | Correlation of Levels | 0.1928 | 0.14430 | 0.0889 | 0.0888 |
|  | Correlation of Slopes | 0.1288 | 0.14844 | 0.1561 | 0.1223 |
|  | Correlation of Residuals | -0.0012 | -0.00092 | -0.0014 | 0.0012 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -6,648 | -7,583 | -7,169 | -7,756 |
|  | AIC | 13,343 | 15,226 | 14,413 | 15,647 |
|  | BIC | 13,431 | 15,342 | 14,560 | 15,910 |

## ideas

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.38 (1.82) <.01 | 74.84 (2.97) <.01 | 76.15 (2.67) <.01 | 79.39 (3.04) <.01 |
| a | Slope | -1.50 (0.41) <.01 | -1.70 (0.61) <.01 | -1.78 (0.61) <.01 | -2.39 (0.89) .01 |
| a | Level \* age | -1.14 (0.14) <.01 | -1.16 (0.14) <.01 | -1.01 (0.13) <.01 | -0.99 (0.13) <.01 |
| a | Level \* education | --- | 0.68 (0.28) .01 | 0.12 (0.26) .65 | -0.02 (0.27) .93 |
| a | Level \* height | --- | --- | 82.84 (11.46) <.01 | 83.53 (11.29) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.00 (2.01) .99 |
| a | Level \* cardio | --- | --- | --- | -6.11 (2.75) .03 |
| a | Level \* diabetes | --- | --- | --- | -6.35 (2.32) .01 |
| a | Slope \* age | -0.02 (0.04) .64 | -0.02 (0.04) .57 | -0.03 (0.04) .42 | -0.03 (0.04) .40 |
| a | Slope \* education | --- | 0.03 (0.06) .63 | 0.06 (0.06) .36 | 0.08 (0.07) .20 |
| a | Slope \* height | --- | --- | -3.40 (3.54) .34 | -3.28 (3.53) .35 |
| a | Slope \* smoking | --- | --- | --- | -0.00 (0.46) .99 |
| a | Slope \* cardio | --- | --- | --- | 0.81 (0.64) .20 |
| a | Slope \* diabetes | --- | --- | --- | 1.18 (0.52) .02 |
| b | Level | 7.88 (0.05) <.01 | 7.72 (0.08) <.01 | 7.72 (0.08) <.01 | 7.78 (0.09) <.01 |
| b | Slope | -0.03 (0.02) .16 | -0.00 (0.03) .90 | -0.00 (0.03) .91 | -0.04 (0.05) .41 |
| b | Level \* age | -0.01 (0.01) .18 | -0.01 (0.01) .16 | -0.01 (0.01) .20 | -0.01 (0.01) .20 |
| b | Level \* education | --- | 0.02 (0.01) .04 | 0.02 (0.01) .07 | 0.01 (0.01) .11 |
| b | Level \* height | --- | --- | 0.57 (0.41) .16 | 0.59 (0.42) .16 |
| b | Level \* smoking | --- | --- | --- | -0.04 (0.06) .45 |
| b | Level \* cardio | --- | --- | --- | 0.05 (0.07) .50 |
| b | Level \* diabetes | --- | --- | --- | -0.07 (0.08) .40 |
| b | Slope \* age | 0.00 (0.00) .06 | 0.00 (0.00) .07 | 0.00 (0.00) .07 | 0.00 (0.00) .07 |
| b | Slope \* education | --- | -0.00 (0.00) .41 | -0.00 (0.00) .37 | -0.00 (0.00) .63 |
| b | Slope \* height | --- | --- | 0.03 (0.16) .87 | 0.02 (0.16) .92 |
| b | Slope \* smoking | --- | --- | --- | 0.03 (0.02) .21 |
| b | Slope \* cardio | --- | --- | --- | 0.01 (0.02) .71 |
| b | Slope \* diabetes | --- | --- | --- | 0.02 (0.03) .57 |
| a | Var (Level) | 275.24 (28.64) <.01 | 268.68 (28.08) <.01 | 232.32 (25.23) <.01 | 222.58 (24.26) <.01 |
| a | Var (Slope) | 3.89 (1.52) .01 | 3.87 (1.53) .01 | 3.79 (1.51) .01 | 3.51 (1.46) .02 |
| a | Var (Residual) | 32.82 (2.97) <.01 | 32.80 (2.98) <.01 | 32.80 (2.98) <.01 | 32.81 (2.98) <.01 |
| a | Covar (Level, Slope) | -11.20 (4.30) .01 | -11.19 (4.25) .01 | -9.61 (3.83) .01 | -8.36 (3.68) .02 |
| b | Var (Level) | 0.16 (0.15) .28 | 0.16 (0.14) .28 | 0.15 (0.14) .28 | 0.15 (0.14) .28 |
| b | Var (Slope) | 0.02 (0.02) .33 | 0.02 (0.02) .33 | 0.02 (0.02) .33 | 0.02 (0.02) .33 |
| b | Var (Residual) | 0.23 (0.06) <.01 | 0.23 (0.06) <.01 | 0.23 (0.06) <.01 | 0.23 (0.06) <.01 |
| b | Covar (Level, Slope) | -0.05 (0.05) .34 | -0.05 (0.05) .34 | -0.05 (0.05) .34 | -0.05 (0.05) .34 |
| ab | Covar (Levels) | 1.57 (0.73) .03 | 1.39 (0.65) .03 | 1.11 (0.56) .05 | 1.08 (0.60) .07 |
| ab | Covar (Slopes) | 0.09 (0.06) .14 | 0.09 (0.06) .14 | 0.09 (0.06) .13 | 0.08 (0.06) .16 |
| ab | Covar (Residuals) | 0.02 (0.10) .85 | 0.02 (0.10) .87 | 0.02 (0.10) .86 | 0.02 (0.10) .82 |
|  | Correlation of Levels | 0.236 | 0.2137 | 0.1846 | 0.1843 |
|  | Correlation of Slopes | 0.315 | 0.3165 | 0.3198 | 0.2942 |
|  | Correlation of Residuals | 0.007 | 0.0059 | 0.0062 | 0.0081 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -5,567 | -6,517 | -6,105 | -6,691 |
|  | AIC | 11,181 | 13,094 | 12,285 | 13,517 |
|  | BIC | 11,270 | 13,210 | 12,432 | 13,780 |

## line

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.38 (1.82) <.01 | 74.84 (2.98) <.01 | 76.24 (2.66) <.01 | 79.67 (3.04) <.01 |
| a | Slope | -1.47 (0.40) <.01 | -1.74 (0.62) <.01 | -1.83 (0.62) <.01 | -2.46 (0.90) .01 |
| a | Level \* age | -1.14 (0.14) <.01 | -1.16 (0.14) <.01 | -1.01 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.68 (0.28) .01 | 0.11 (0.26) .67 | -0.04 (0.27) .89 |
| a | Level \* height | --- | --- | 82.87 (11.42) <.01 | 83.64 (11.24) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.16 (2.00) .94 |
| a | Level \* cardio | --- | --- | --- | -6.21 (2.74) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.47 (2.33) .01 |
| a | Slope \* age | -0.02 (0.04) .49 | -0.03 (0.04) .45 | -0.04 (0.04) .33 | -0.04 (0.04) .32 |
| a | Slope \* education | --- | 0.04 (0.06) .53 | 0.06 (0.06) .30 | 0.10 (0.07) .16 |
| a | Slope \* height | --- | --- | -3.30 (3.53) .35 | -3.22 (3.52) .36 |
| a | Slope \* smoking | --- | --- | --- | 0.01 (0.45) .98 |
| a | Slope \* cardio | --- | --- | --- | 0.86 (0.64) .17 |
| a | Slope \* diabetes | --- | --- | --- | 1.18 (0.51) .02 |
| b | Level | 11.66 (0.28) <.01 | 9.70 (0.44) <.01 | 9.74 (0.43) <.01 | 10.35 (0.51) <.01 |
| b | Slope | -0.00 (0.07) .95 | -0.04 (0.12) .71 | -0.03 (0.12) .78 | -0.12 (0.15) .42 |
| b | Level \* age | -0.02 (0.02) .46 | -0.02 (0.02) .28 | -0.02 (0.02) .44 | -0.02 (0.02) .30 |
| b | Level \* education | --- | 0.24 (0.04) <.01 | 0.22 (0.04) <.01 | 0.20 (0.04) <.01 |
| b | Level \* height | --- | --- | 4.00 (2.39) .10 | 4.21 (2.40) .08 |
| b | Level \* smoking | --- | --- | --- | -0.65 (0.28) .02 |
| b | Level \* cardio | --- | --- | --- | -0.19 (0.41) .65 |
| b | Level \* diabetes | --- | --- | --- | -0.18 (0.38) .65 |
| b | Slope \* age | 0.01 (0.01) .41 | 0.00 (0.01) .46 | 0.01 (0.01) .42 | 0.01 (0.01) .41 |
| b | Slope \* education | --- | 0.00 (0.01) .64 | 0.00 (0.01) .93 | 0.00 (0.01) .74 |
| b | Slope \* height | --- | --- | 0.82 (0.65) .21 | 0.84 (0.66) .20 |
| b | Slope \* smoking | --- | --- | --- | 0.07 (0.08) .38 |
| b | Slope \* cardio | --- | --- | --- | 0.12 (0.14) .40 |
| b | Slope \* diabetes | --- | --- | --- | 0.04 (0.12) .76 |
| a | Var (Level) | 275.19 (28.69) <.01 | 268.57 (28.11) <.01 | 231.90 (25.20) <.01 | 222.06 (24.23) <.01 |
| a | Var (Slope) | 3.81 (1.50) .01 | 3.79 (1.50) .01 | 3.71 (1.47) .01 | 3.43 (1.41) .01 |
| a | Var (Residual) | 32.79 (2.98) <.01 | 32.78 (2.98) <.01 | 32.80 (2.98) <.01 | 32.82 (2.98) <.01 |
| a | Covar (Level, Slope) | -10.17 (4.18) .01 | -10.40 (4.14) .01 | -8.94 (3.74) .02 | -7.69 (3.58) .03 |
| b | Var (Level) | 5.92 (0.74) <.01 | 5.09 (0.63) <.01 | 4.99 (0.60) <.01 | 4.85 (0.59) <.01 |
| b | Var (Slope) | 0.06 (0.05) .16 | 0.06 (0.04) .18 | 0.06 (0.04) .20 | 0.05 (0.04) .23 |
| b | Var (Residual) | 3.43 (0.33) <.01 | 3.44 (0.33) <.01 | 3.44 (0.33) <.01 | 3.44 (0.33) <.01 |
| b | Covar (Level, Slope) | -0.21 (0.15) .15 | -0.22 (0.14) .11 | -0.24 (0.14) .09 | -0.22 (0.14) .11 |
| ab | Covar (Levels) | 8.29 (2.93) <.01 | 5.88 (2.62) .02 | 3.55 (2.30) .12 | 3.49 (2.22) .12 |
| ab | Covar (Slopes) | 0.00 (0.16) .99 | 0.01 (0.16) .95 | 0.02 (0.16) .89 | 0.01 (0.16) .92 |
| ab | Covar (Residuals) | -0.32 (0.54) .56 | -0.32 (0.54) .56 | -0.32 (0.54) .55 | -0.34 (0.53) .53 |
|  | Correlation of Levels | 0.21 | 0.159 | 0.104 | 0.106 |
|  | Correlation of Slopes | 0.00 | 0.019 | 0.047 | 0.035 |
|  | Correlation of Residuals | -0.03 | -0.030 | -0.030 | -0.032 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -7,283 | -8,215 | -7,800 | -8,385 |
|  | AIC | 14,612 | 16,490 | 15,676 | 16,905 |
|  | BIC | 14,701 | 16,605 | 15,823 | 17,168 |

## logic\_de

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.40 (1.82) <.01 | 74.86 (2.97) <.01 | 76.18 (2.66) <.01 | 79.50 (3.05) <.01 |
| a | Slope | -1.52 (0.41) <.01 | -1.75 (0.60) <.01 | -1.84 (0.60) <.01 | -2.48 (0.89) .01 |
| a | Level \* age | -1.15 (0.14) <.01 | -1.16 (0.14) <.01 | -1.02 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.68 (0.28) .01 | 0.12 (0.26) .65 | -0.02 (0.27) .93 |
| a | Level \* height | --- | --- | 82.72 (11.45) <.01 | 83.59 (11.30) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.12 (2.00) .95 |
| a | Level \* cardio | --- | --- | --- | -6.09 (2.77) .03 |
| a | Level \* diabetes | --- | --- | --- | -6.33 (2.33) .01 |
| a | Slope \* age | -0.02 (0.04) .63 | -0.02 (0.04) .56 | -0.03 (0.04) .41 | -0.03 (0.04) .41 |
| a | Slope \* education | --- | 0.03 (0.06) .57 | 0.06 (0.06) .32 | 0.09 (0.07) .17 |
| a | Slope \* height | --- | --- | -3.32 (3.56) .35 | -3.39 (3.55) .34 |
| a | Slope \* smoking | --- | --- | --- | 0.04 (0.46) .93 |
| a | Slope \* cardio | --- | --- | --- | 0.81 (0.64) .21 |
| a | Slope \* diabetes | --- | --- | --- | 1.15 (0.52) .03 |
| b | Level | 10.19 (0.39) <.01 | 8.17 (0.66) <.01 | 8.20 (0.66) <.01 | 7.96 (0.74) <.01 |
| b | Slope | 0.36 (0.11) <.01 | 0.29 (0.19) .13 | 0.30 (0.19) .11 | 0.20 (0.23) .39 |
| b | Level \* age | -0.14 (0.03) <.01 | -0.14 (0.03) <.01 | -0.14 (0.03) <.01 | -0.14 (0.03) <.01 |
| b | Level \* education | --- | 0.25 (0.06) <.01 | 0.23 (0.06) <.01 | 0.24 (0.06) <.01 |
| b | Level \* height | --- | --- | 2.78 (3.09) .37 | 2.87 (3.05) .35 |
| b | Level \* smoking | --- | --- | --- | -0.21 (0.38) .59 |
| b | Level \* cardio | --- | --- | --- | 0.64 (0.53) .23 |
| b | Level \* diabetes | --- | --- | --- | 0.90 (0.49) .07 |
| b | Slope \* age | -0.01 (0.01) .45 | -0.01 (0.01) .39 | -0.01 (0.01) .45 | -0.00 (0.01) .61 |
| b | Slope \* education | --- | 0.01 (0.02) .57 | 0.00 (0.02) .77 | 0.01 (0.02) .65 |
| b | Slope \* height | --- | --- | 0.69 (0.97) .48 | 0.66 (0.96) .50 |
| b | Slope \* smoking | --- | --- | --- | 0.11 (0.12) .36 |
| b | Slope \* cardio | --- | --- | --- | -0.00 (0.19) .99 |
| b | Slope \* diabetes | --- | --- | --- | -0.03 (0.18) .88 |
| a | Var (Level) | 274.30 (28.62) <.01 | 267.65 (28.05) <.01 | 231.31 (25.19) <.01 | 221.75 (24.22) <.01 |
| a | Var (Slope) | 3.87 (1.57) .01 | 3.84 (1.57) .01 | 3.78 (1.56) .01 | 3.51 (1.49) .02 |
| a | Var (Residual) | 32.82 (2.99) <.01 | 32.82 (2.99) <.01 | 32.82 (3.00) <.01 | 32.83 (3.00) <.01 |
| a | Covar (Level, Slope) | -10.58 (4.32) .01 | -10.68 (4.26) .01 | -9.18 (3.82) .02 | -8.03 (3.63) .03 |
| b | Var (Level) | 11.77 (1.16) <.01 | 10.88 (1.08) <.01 | 10.84 (1.09) <.01 | 10.65 (1.09) <.01 |
| b | Var (Slope) | 0.33 (0.11) <.01 | 0.33 (0.11) <.01 | 0.33 (0.11) <.01 | 0.32 (0.11) <.01 |
| b | Var (Residual) | 5.59 (0.37) <.01 | 5.59 (0.37) <.01 | 5.59 (0.37) <.01 | 5.60 (0.37) <.01 |
| b | Covar (Level, Slope) | -0.27 (0.28) .34 | -0.30 (0.28) .27 | -0.31 (0.28) .26 | -0.31 (0.28) .27 |
| ab | Covar (Levels) | 0.79 (4.26) .85 | -1.58 (4.16) .70 | -3.05 (4.06) .45 | -1.43 (4.18) .73 |
| ab | Covar (Slopes) | -0.27 (0.22) .21 | -0.27 (0.22) .21 | -0.27 (0.22) .21 | -0.26 (0.22) .23 |
| ab | Covar (Residuals) | 1.14 (0.61) .06 | 1.14 (0.61) .06 | 1.14 (0.62) .07 | 1.09 (0.62) .08 |
|  | Correlation of Levels | 0.014 | -0.029 | -0.061 | -0.03 |
|  | Correlation of Slopes | -0.236 | -0.238 | -0.245 | -0.25 |
|  | Correlation of Residuals | 0.084 | 0.084 | 0.084 | 0.08 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -7,659 | -8,601 | -8,189 | -8,774 |
|  | AIC | 15,365 | 17,262 | 16,453 | 17,684 |
|  | BIC | 15,454 | 17,378 | 16,600 | 17,947 |

## logic\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.38 (1.82) <.01 | 74.86 (2.97) <.01 | 76.17 (2.66) <.01 | 79.50 (3.05) <.01 |
| a | Slope | -1.49 (0.40) <.01 | -1.70 (0.60) <.01 | -1.78 (0.60) <.01 | -2.46 (0.89) .01 |
| a | Level \* age | -1.14 (0.14) <.01 | -1.16 (0.14) <.01 | -1.01 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.68 (0.28) .01 | 0.12 (0.26) .65 | -0.03 (0.27) .92 |
| a | Level \* height | --- | --- | 83.01 (11.46) <.01 | 83.81 (11.31) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.15 (2.00) .94 |
| a | Level \* cardio | --- | --- | --- | -6.16 (2.75) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.22 (2.33) .01 |
| a | Slope \* age | -0.02 (0.04) .56 | -0.02 (0.04) .50 | -0.03 (0.04) .36 | -0.03 (0.04) .37 |
| a | Slope \* education | --- | 0.03 (0.06) .60 | 0.06 (0.06) .33 | 0.09 (0.07) .17 |
| a | Slope \* height | --- | --- | -3.36 (3.56) .34 | -3.39 (3.54) .34 |
| a | Slope \* smoking | --- | --- | --- | 0.05 (0.46) .91 |
| a | Slope \* cardio | --- | --- | --- | 0.84 (0.64) .19 |
| a | Slope \* diabetes | --- | --- | --- | 1.16 (0.52) .02 |
| b | Level | 11.95 (0.38) <.01 | 9.80 (0.63) <.01 | 9.85 (0.62) <.01 | 9.53 (0.72) <.01 |
| b | Slope | 0.09 (0.09) .30 | 0.14 (0.16) .41 | 0.14 (0.16) .40 | 0.12 (0.21) .55 |
| b | Level \* age | -0.14 (0.03) <.01 | -0.15 (0.03) <.01 | -0.14 (0.03) <.01 | -0.14 (0.03) <.01 |
| b | Level \* education | --- | 0.27 (0.06) <.01 | 0.23 (0.06) <.01 | 0.24 (0.06) <.01 |
| b | Level \* height | --- | --- | 5.08 (2.97) .09 | 5.07 (2.96) .09 |
| b | Level \* smoking | --- | --- | --- | 0.09 (0.38) .82 |
| b | Level \* cardio | --- | --- | --- | 0.47 (0.53) .37 |
| b | Level \* diabetes | --- | --- | --- | 0.50 (0.49) .30 |
| b | Slope \* age | 0.01 (0.01) .35 | 0.01 (0.01) .37 | 0.01 (0.01) .35 | 0.01 (0.01) .30 |
| b | Slope \* education | --- | -0.00 (0.02) .77 | -0.01 (0.02) .73 | -0.00 (0.02) .78 |
| b | Slope \* height | --- | --- | 0.01 (0.92) .99 | -0.03 (0.92) .97 |
| b | Slope \* smoking | --- | --- | --- | 0.03 (0.12) .82 |
| b | Slope \* cardio | --- | --- | --- | -0.11 (0.17) .53 |
| b | Slope \* diabetes | --- | --- | --- | 0.01 (0.17) .93 |
| a | Var (Level) | 274.73 (28.62) <.01 | 268.03 (28.04) <.01 | 231.54 (25.04) <.01 | 221.94 (24.18) <.01 |
| a | Var (Slope) | 3.98 (1.46) .01 | 3.94 (1.44) .01 | 3.88 (1.34) <.01 | 3.59 (1.28) <.01 |
| a | Var (Residual) | 32.66 (2.93) <.01 | 32.65 (2.93) <.01 | 32.66 (2.90) <.01 | 32.69 (2.89) <.01 |
| a | Covar (Level, Slope) | -10.68 (4.16) .01 | -10.75 (4.08) .01 | -9.22 (3.54) .01 | -8.01 (3.40) .02 |
| b | Var (Level) | 9.85 (1.03) <.01 | 8.85 (0.92) <.01 | 8.71 (0.84) <.01 | 8.63 (0.86) <.01 |
| b | Var (Slope) | 0.10 (0.04) .01 | 0.10 (0.03) <.01 | 0.10 (0.02) <.01 | 0.09 (0.02) <.01 |
| b | Var (Residual) | 6.41 (0.34) <.01 | 6.42 (0.34) <.01 | 6.42 (0.34) <.01 | 6.42 (0.34) <.01 |
| b | Covar (Level, Slope) | 0.12 (0.17) .50 | 0.14 (0.15) .36 | 0.14 (0.11) .21 | 0.14 (0.12) .23 |
| ab | Covar (Levels) | -0.26 (4.01) .95 | -2.76 (3.85) .47 | -5.24 (3.58) .14 | -4.02 (3.71) .28 |
| ab | Covar (Slopes) | -0.46 (0.14) <.01 | -0.45 (0.14) <.01 | -0.46 (0.13) <.01 | -0.44 (0.13) <.01 |
| ab | Covar (Residuals) | 0.96 (0.63) .12 | 0.94 (0.63) .14 | 0.90 (0.62) .15 | 0.85 (0.62) .17 |
|  | Correlation of Levels | -0.005 | -0.057 | -0.117 | -0.092 |
|  | Correlation of Slopes | -0.729 | -0.730 | -0.756 | -0.763 |
|  | Correlation of Residuals | 0.067 | 0.065 | 0.062 | 0.059 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -7,679 | -8,619 | -8,205 | -8,792 |
|  | AIC | 15,404 | 17,298 | 16,485 | 17,720 |
|  | BIC | 15,492 | 17,414 | 16,632 | 17,982 |

## matrices

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.38 (1.82) <.01 | 74.87 (2.98) <.01 | 76.19 (2.66) <.01 | 79.56 (3.04) <.01 |
| a | Slope | -1.52 (0.41) <.01 | -1.73 (0.62) <.01 | -1.81 (0.62) <.01 | -2.47 (0.91) .01 |
| a | Level \* age | -1.14 (0.14) <.01 | -1.16 (0.14) <.01 | -1.01 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.68 (0.28) .01 | 0.11 (0.26) .67 | -0.03 (0.27) .90 |
| a | Level \* height | --- | --- | 83.75 (11.43) <.01 | 84.53 (11.25) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.15 (2.00) .94 |
| a | Level \* cardio | --- | --- | --- | -6.07 (2.74) .03 |
| a | Level \* diabetes | --- | --- | --- | -6.36 (2.31) .01 |
| a | Slope \* age | -0.02 (0.04) .63 | -0.02 (0.04) .60 | -0.03 (0.04) .46 | -0.03 (0.04) .47 |
| a | Slope \* education | --- | 0.03 (0.06) .63 | 0.06 (0.06) .36 | 0.09 (0.07) .20 |
| a | Slope \* height | --- | --- | -3.49 (3.54) .32 | -3.45 (3.55) .33 |
| a | Slope \* smoking | --- | --- | --- | 0.07 (0.46) .88 |
| a | Slope \* cardio | --- | --- | --- | 0.83 (0.65) .20 |
| a | Slope \* diabetes | --- | --- | --- | 1.12 (0.52) .03 |
| b | Level | 13.08 (0.28) <.01 | 10.71 (0.40) <.01 | 10.82 (0.38) <.01 | 10.97 (0.45) <.01 |
| b | Slope | -0.01 (0.08) .92 | 0.09 (0.13) .49 | 0.09 (0.13) .48 | 0.04 (0.14) .76 |
| b | Level \* age | -0.08 (0.02) <.01 | -0.09 (0.02) <.01 | -0.07 (0.02) <.01 | -0.08 (0.02) <.01 |
| b | Level \* education | --- | 0.29 (0.04) <.01 | 0.24 (0.04) <.01 | 0.24 (0.04) <.01 |
| b | Level \* height | --- | --- | 7.43 (2.24) <.01 | 7.50 (2.23) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.19 (0.26) .45 |
| b | Level \* cardio | --- | --- | --- | 0.34 (0.38) .37 |
| b | Level \* diabetes | --- | --- | --- | -0.11 (0.40) .78 |
| b | Slope \* age | -0.00 (0.01) .51 | -0.00 (0.01) .54 | -0.00 (0.01) .52 | -0.00 (0.01) .49 |
| b | Slope \* education | --- | -0.01 (0.01) .37 | -0.01 (0.01) .41 | -0.01 (0.01) .50 |
| b | Slope \* height | --- | --- | 0.19 (0.73) .80 | 0.20 (0.75) .79 |
| b | Slope \* smoking | --- | --- | --- | 0.04 (0.07) .57 |
| b | Slope \* cardio | --- | --- | --- | 0.08 (0.15) .59 |
| b | Slope \* diabetes | --- | --- | --- | -0.03 (0.13) .82 |
| a | Var (Level) | 275.03 (28.67) <.01 | 268.38 (28.11) <.01 | 231.15 (25.18) <.01 | 221.49 (24.24) <.01 |
| a | Var (Slope) | 3.95 (1.54) .01 | 3.94 (1.55) .01 | 3.85 (1.52) .01 | 3.57 (1.44) .01 |
| a | Var (Residual) | 32.65 (2.96) <.01 | 32.67 (2.96) <.01 | 32.70 (2.96) <.01 | 32.71 (2.95) <.01 |
| a | Covar (Level, Slope) | -10.47 (4.22) .01 | -10.75 (4.18) .01 | -9.12 (3.74) .01 | -7.94 (3.58) .03 |
| b | Var (Level) | 4.96 (0.71) <.01 | 3.71 (0.60) <.01 | 3.38 (0.53) <.01 | 3.36 (0.53) <.01 |
| b | Var (Slope) | 0.07 (0.05) .14 | 0.07 (0.04) .13 | 0.06 (0.04) .12 | 0.06 (0.04) .12 |
| b | Var (Residual) | 3.25 (0.35) <.01 | 3.25 (0.35) <.01 | 3.26 (0.35) <.01 | 3.26 (0.35) <.01 |
| b | Covar (Level, Slope) | -0.22 (0.17) .19 | -0.17 (0.14) .22 | -0.16 (0.13) .21 | -0.16 (0.13) .21 |
| ab | Covar (Levels) | 11.36 (3.08) <.01 | 8.18 (2.78) <.01 | 4.77 (2.47) .05 | 4.88 (2.38) .04 |
| ab | Covar (Slopes) | 0.27 (0.14) .05 | 0.28 (0.14) .04 | 0.29 (0.14) .03 | 0.28 (0.13) .03 |
| ab | Covar (Residuals) | -0.03 (0.59) .96 | -0.03 (0.59) .96 | -0.03 (0.59) .96 | -0.06 (0.58) .92 |
|  | Correlation of Levels | 0.3077 | 0.2590 | 0.171 | 0.1789 |
|  | Correlation of Slopes | 0.5168 | 0.5432 | 0.589 | 0.6110 |
|  | Correlation of Residuals | -0.0027 | -0.0029 | -0.003 | -0.0057 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -7,011 | -7,934 | -7,515 | -8,102 |
|  | AIC | 14,069 | 15,928 | 15,107 | 16,339 |
|  | BIC | 14,157 | 16,044 | 15,254 | 16,602 |

## mmse

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.32 (1.82) <.01 | 74.68 (2.97) <.01 | 75.99 (2.67) <.01 | 79.33 (3.04) <.01 |
| a | Slope | -1.55 (0.41) <.01 | -1.71 (0.61) <.01 | -1.80 (0.62) <.01 | -2.45 (0.91) .01 |
| a | Level \* age | -1.15 (0.14) <.01 | -1.16 (0.14) <.01 | -1.02 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.70 (0.28) .01 | 0.14 (0.26) .60 | -0.01 (0.27) .97 |
| a | Level \* height | --- | --- | 81.96 (11.45) <.01 | 82.83 (11.32) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.09 (2.00) .96 |
| a | Level \* cardio | --- | --- | --- | -6.11 (2.74) .03 |
| a | Level \* diabetes | --- | --- | --- | -6.40 (2.32) .01 |
| a | Slope \* age | -0.01 (0.04) .76 | -0.01 (0.04) .72 | -0.02 (0.04) .55 | -0.02 (0.04) .52 |
| a | Slope \* education | --- | 0.02 (0.06) .68 | 0.05 (0.06) .38 | 0.09 (0.07) .20 |
| a | Slope \* height | --- | --- | -3.62 (3.49) .30 | -3.54 (3.50) .31 |
| a | Slope \* smoking | --- | --- | --- | 0.05 (0.46) .91 |
| a | Slope \* cardio | --- | --- | --- | 0.82 (0.63) .19 |
| a | Slope \* diabetes | --- | --- | --- | 1.11 (0.52) .03 |
| b | Level | 28.67 (0.17) <.01 | 27.38 (0.28) <.01 | 27.41 (0.28) <.01 | 27.31 (0.30) <.01 |
| b | Slope | -0.08 (0.06) .18 | 0.04 (0.11) .74 | 0.04 (0.10) .74 | 0.01 (0.13) .94 |
| b | Level \* age | -0.09 (0.02) <.01 | -0.09 (0.02) <.01 | -0.09 (0.02) <.01 | -0.08 (0.02) <.01 |
| b | Level \* education | --- | 0.16 (0.03) <.01 | 0.14 (0.03) <.01 | 0.14 (0.03) <.01 |
| b | Level \* height | --- | --- | 3.24 (1.33) .01 | 3.19 (1.33) .02 |
| b | Level \* smoking | --- | --- | --- | 0.16 (0.19) .40 |
| b | Level \* cardio | --- | --- | --- | 0.17 (0.29) .54 |
| b | Level \* diabetes | --- | --- | --- | -0.13 (0.26) .60 |
| b | Slope \* age | 0.00 (0.01) .46 | 0.00 (0.01) .47 | 0.00 (0.01) .51 | 0.00 (0.01) .50 |
| b | Slope \* education | --- | -0.01 (0.01) .19 | -0.01 (0.01) .21 | -0.01 (0.01) .30 |
| b | Slope \* height | --- | --- | -0.09 (0.67) .89 | -0.12 (0.67) .86 |
| b | Slope \* smoking | --- | --- | --- | -0.02 (0.07) .77 |
| b | Slope \* cardio | --- | --- | --- | -0.03 (0.10) .81 |
| b | Slope \* diabetes | --- | --- | --- | 0.11 (0.11) .31 |
| a | Var (Level) | 274.43 (28.62) <.01 | 267.53 (28.01) <.01 | 231.38 (25.21) <.01 | 221.80 (24.26) <.01 |
| a | Var (Slope) | 3.87 (1.54) .01 | 3.86 (1.54) .01 | 3.77 (1.53) .01 | 3.50 (1.46) .02 |
| a | Var (Residual) | 32.87 (2.99) <.01 | 32.87 (3.00) <.01 | 32.88 (3.00) <.01 | 32.87 (3.00) <.01 |
| a | Covar (Level, Slope) | -10.64 (4.23) .01 | -10.73 (4.15) .01 | -9.08 (3.73) .01 | -7.90 (3.58) .03 |
| b | Var (Level) | 3.20 (1.59) .04 | 2.82 (1.50) .06 | 2.76 (1.48) .06 | 2.75 (1.49) .06 |
| b | Var (Slope) | 0.17 (0.09) .06 | 0.17 (0.09) .07 | 0.17 (0.09) .07 | 0.16 (0.10) .09 |
| b | Var (Residual) | 1.92 (0.17) <.01 | 1.93 (0.18) <.01 | 1.93 (0.18) <.01 | 1.93 (0.18) <.01 |
| b | Covar (Level, Slope) | -0.47 (0.36) .19 | -0.45 (0.36) .21 | -0.44 (0.35) .21 | -0.43 (0.35) .22 |
| ab | Covar (Levels) | 7.77 (2.63) <.01 | 6.18 (2.40) .01 | 4.53 (2.13) .03 | 4.58 (2.18) .04 |
| ab | Covar (Slopes) | 0.27 (0.20) .17 | 0.29 (0.20) .15 | 0.28 (0.20) .15 | 0.25 (0.20) .21 |
| ab | Covar (Residuals) | 0.14 (0.42) .75 | 0.15 (0.42) .72 | 0.15 (0.42) .72 | 0.16 (0.42) .71 |
|  | Correlation of Levels | 0.262 | 0.225 | 0.179 | 0.19 |
|  | Correlation of Slopes | 0.335 | 0.363 | 0.357 | 0.33 |
|  | Correlation of Residuals | 0.017 | 0.019 | 0.019 | 0.02 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -6,963 | -7,902 | -7,490 | -8,076 |
|  | AIC | 13,973 | 15,864 | 15,055 | 16,289 |
|  | BIC | 14,062 | 15,980 | 15,202 | 16,551 |

## nart

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.35 (1.82) <.01 | 74.81 (2.98) <.01 | 76.11 (2.67) <.01 | 79.52 (3.05) <.01 |
| a | Slope | -1.49 (0.41) <.01 | -1.73 (0.61) <.01 | -1.81 (0.62) <.01 | -2.48 (0.90) .01 |
| a | Level \* age | -1.14 (0.14) <.01 | -1.16 (0.14) <.01 | -1.01 (0.13) <.01 | -0.99 (0.13) <.01 |
| a | Level \* education | --- | 0.68 (0.28) .01 | 0.12 (0.26) .65 | -0.03 (0.27) .91 |
| a | Level \* height | --- | --- | 82.73 (11.38) <.01 | 83.40 (11.25) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.12 (2.01) .95 |
| a | Level \* cardio | --- | --- | --- | -6.23 (2.75) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.44 (2.33) .01 |
| a | Slope \* age | -0.02 (0.04) .56 | -0.02 (0.04) .52 | -0.03 (0.04) .37 | -0.04 (0.04) .35 |
| a | Slope \* education | --- | 0.03 (0.06) .57 | 0.06 (0.06) .31 | 0.09 (0.07) .16 |
| a | Slope \* height | --- | --- | -3.56 (3.59) .32 | -3.43 (3.57) .34 |
| a | Slope \* smoking | --- | --- | --- | 0.02 (0.45) .96 |
| a | Slope \* cardio | --- | --- | --- | 0.90 (0.63) .15 |
| a | Slope \* diabetes | --- | --- | --- | 1.18 (0.52) .02 |
| b | Level | 7.75 (0.22) <.01 | 4.93 (0.32) <.01 | 4.95 (0.32) <.01 | 4.89 (0.40) <.01 |
| b | Slope | 0.04 (0.04) .28 | 0.09 (0.07) .18 | 0.09 (0.07) .18 | 0.07 (0.08) .36 |
| b | Level \* age | 0.01 (0.02) .68 | -0.00 (0.02) .92 | 0.00 (0.02) .90 | 0.00 (0.02) .78 |
| b | Level \* education | --- | 0.35 (0.03) <.01 | 0.34 (0.03) <.01 | 0.34 (0.03) <.01 |
| b | Level \* height | --- | --- | 2.09 (1.53) .17 | 1.98 (1.52) .19 |
| b | Level \* smoking | --- | --- | --- | 0.19 (0.19) .32 |
| b | Level \* cardio | --- | --- | --- | -0.21 (0.31) .50 |
| b | Level \* diabetes | --- | --- | --- | -0.17 (0.29) .56 |
| b | Slope \* age | -0.00 (0.00) .85 | -0.00 (0.00) .85 | -0.00 (0.00) .84 | 0.00 (0.00) .95 |
| b | Slope \* education | --- | -0.01 (0.01) .33 | -0.01 (0.01) .34 | -0.01 (0.01) .34 |
| b | Slope \* height | --- | --- | 0.05 (0.28) .85 | 0.01 (0.29) .97 |
| b | Slope \* smoking | --- | --- | --- | 0.06 (0.03) .07 |
| b | Slope \* cardio | --- | --- | --- | -0.01 (0.06) .86 |
| b | Slope \* diabetes | --- | --- | --- | -0.07 (0.06) .25 |
| a | Var (Level) | 275.10 (28.66) <.01 | 268.48 (28.08) <.01 | 232.18 (25.27) <.01 | 222.40 (24.31) <.01 |
| a | Var (Slope) | 3.82 (1.53) .01 | 3.81 (1.54) .01 | 3.72 (1.51) .01 | 3.44 (1.45) .02 |
| a | Var (Residual) | 32.87 (2.98) <.01 | 32.84 (2.97) <.01 | 32.85 (2.98) <.01 | 32.84 (2.98) <.01 |
| a | Covar (Level, Slope) | -10.59 (4.24) .01 | -10.78 (4.20) .01 | -9.16 (3.77) .01 | -7.87 (3.60) .03 |
| b | Var (Level) | 5.17 (0.54) <.01 | 3.47 (0.35) <.01 | 3.44 (0.35) <.01 | 3.45 (0.36) <.01 |
| b | Var (Slope) | 0.01 (0.01) .49 | 0.01 (0.01) .51 | 0.01 (0.01) .49 | 0.01 (0.01) .44 |
| b | Var (Residual) | 0.76 (0.09) <.01 | 0.76 (0.09) <.01 | 0.76 (0.09) <.01 | 0.75 (0.09) <.01 |
| b | Covar (Level, Slope) | -0.12 (0.07) .08 | -0.09 (0.05) .08 | -0.09 (0.05) .08 | -0.12 (0.06) .05 |
| ab | Covar (Levels) | 6.38 (2.50) .01 | 2.96 (1.97) .13 | 1.80 (1.77) .31 | 1.44 (1.76) .41 |
| ab | Covar (Slopes) | 0.06 (0.06) .37 | 0.06 (0.06) .30 | 0.07 (0.06) .31 | 0.06 (0.07) .34 |
| ab | Covar (Residuals) | -0.01 (0.26) .96 | -0.02 (0.26) .93 | -0.04 (0.26) .89 | -0.04 (0.26) .88 |
|  | Correlation of Levels | 0.1692 | 0.0971 | 0.0637 | 0.0522 |
|  | Correlation of Slopes | 0.3700 | 0.4298 | 0.4416 | 0.3449 |
|  | Correlation of Residuals | -0.0028 | -0.0046 | -0.0072 | -0.0079 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -6,593 | -7,486 | -7,074 | -7,657 |
|  | AIC | 13,232 | 15,033 | 14,224 | 15,451 |
|  | BIC | 13,321 | 15,149 | 14,371 | 15,713 |

## num\_comp

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| a | Level | 80.35 (1.82) <.01 | 76.11 (2.68) <.01 | 79.49 (3.06) <.01 |
| a | Slope | -1.51 (0.41) <.01 | -1.85 (0.61) <.01 | -2.52 (0.90) <.01 |
| a | Level \* age | -1.15 (0.14) <.01 | -1.01 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.12 (0.26) .64 | -0.02 (0.27) .93 |
| a | Level \* height | --- | 82.88 (11.39) <.01 | 83.44 (11.25) <.01 |
| a | Level \* smoking | --- | --- | -0.12 (2.01) .95 |
| a | Level \* cardio | --- | --- | -6.26 (2.75) .02 |
| a | Level \* diabetes | --- | --- | -6.39 (2.32) .01 |
| a | Slope \* age | -0.02 (0.04) .58 | -0.03 (0.04) .38 | -0.03 (0.04) .38 |
| a | Slope \* education | --- | 0.06 (0.06) .30 | 0.10 (0.07) .16 |
| a | Slope \* height | --- | -3.52 (3.58) .33 | -3.41 (3.57) .34 |
| a | Slope \* smoking | --- | --- | 0.03 (0.46) .94 |
| a | Slope \* cardio | --- | --- | 0.87 (0.64) .17 |
| a | Slope \* diabetes | --- | --- | 1.22 (0.52) .02 |
| b | Level | 26.07 (0.69) <.01 | 21.29 (1.01) <.01 | 20.35 (1.18) <.01 |
| b | Slope | -0.06 (0.15) .67 | 0.33 (0.26) .20 | 0.26 (0.31) .39 |
| b | Level \* age | -0.19 (0.06) <.01 | -0.17 (0.06) <.01 | -0.16 (0.06) .01 |
| b | Level \* education | --- | 0.50 (0.10) <.01 | 0.54 (0.10) <.01 |
| b | Level \* height | --- | 18.45 (5.18) <.01 | 18.30 (5.17) <.01 |
| b | Level \* smoking | --- | --- | 0.38 (0.70) .58 |
| b | Level \* cardio | --- | --- | -0.34 (1.00) .73 |
| b | Level \* diabetes | --- | --- | 1.95 (0.91) .03 |
| b | Slope \* age | -0.03 (0.01) .02 | -0.03 (0.01) .02 | -0.03 (0.01) .04 |
| b | Slope \* education | --- | -0.04 (0.03) .14 | -0.04 (0.03) .12 |
| b | Slope \* height | --- | -1.28 (1.46) .38 | -1.34 (1.44) .35 |
| b | Slope \* smoking | --- | --- | 0.26 (0.16) .10 |
| b | Slope \* cardio | --- | --- | 0.02 (0.22) .94 |
| b | Slope \* diabetes | --- | --- | -0.45 (0.22) .04 |
| a | Var (Level) | 275.40 (28.64) <.01 | 232.10 (25.26) <.01 | 222.37 (24.30) <.01 |
| a | Var (Slope) | 3.92 (1.60) .01 | 3.79 (1.58) .02 | 3.50 (1.50) .02 |
| a | Var (Residual) | 32.74 (2.99) <.01 | 32.75 (3.00) <.01 | 32.76 (3.00) <.01 |
| a | Covar (Level, Slope) | -10.73 (4.29) .01 | -9.25 (3.82) .01 | -7.90 (3.63) .03 |
| b | Var (Level) | 43.98 (3.93) <.01 | 36.95 (3.46) <.01 | 36.31 (3.47) <.01 |
| b | Var (Slope) | 0.49 (0.28) .08 | 0.47 (0.27) .08 | 0.37 (0.26) .16 |
| b | Var (Residual) | 13.98 (1.44) <.01 | 13.93 (1.42) <.01 | 14.04 (1.43) <.01 |
| b | Covar (Level, Slope) | -0.42 (0.98) .67 | 0.10 (0.88) .91 | 0.17 (0.85) .84 |
| ab | Covar (Levels) | 21.49 (7.04) <.01 | 5.82 (5.93) .33 | 7.35 (5.94) .22 |
| ab | Covar (Slopes) | 0.00 (0.36) .99 | -0.01 (0.35) .97 | 0.03 (0.34) .93 |
| ab | Covar (Residuals) | -0.15 (0.97) .87 | -0.12 (0.97) .91 | -0.18 (0.97) .85 |
|  | Correlation of Levels | 0.1953 | 0.0628 | 0.0818 |
|  | Correlation of Slopes | 0.0022 | -0.0083 | 0.0282 |
|  | Correlation of Residuals | -0.0072 | -0.0054 | -0.0083 |
|  | N | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | 23 | 38 | 68 |
|  | LL | -8,219 | -8,741 | -9,324 |
|  | AIC | 16,485 | 17,558 | 18,785 |
|  | BIC | 16,574 | 17,705 | 19,047 |

## symbol

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.29 (1.82) <.01 | 74.83 (2.98) <.01 | 76.24 (2.66) <.01 | 79.53 (3.06) <.01 |
| a | Slope | -1.52 (0.40) <.01 | -1.86 (0.60) <.01 | -1.83 (0.62) <.01 | -2.58 (0.89) <.01 |
| a | Level \* age | -1.14 (0.14) <.01 | -1.16 (0.14) <.01 | -1.01 (0.13) <.01 | -0.99 (0.13) <.01 |
| a | Level \* education | --- | 0.67 (0.28) .02 | 0.11 (0.26) .67 | -0.02 (0.27) .93 |
| a | Level \* height | --- | --- | 82.87 (11.42) <.01 | 82.72 (11.26) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.18 (2.00) .93 |
| a | Level \* cardio | --- | --- | --- | -6.29 (2.75) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.39 (2.31) .01 |
| a | Slope \* age | -0.03 (0.04) .42 | -0.03 (0.04) .39 | -0.04 (0.04) .33 | -0.04 (0.04) .29 |
| a | Slope \* education | --- | 0.04 (0.06) .44 | 0.06 (0.06) .30 | 0.10 (0.07) .13 |
| a | Slope \* height | --- | --- | -3.30 (3.53) .35 | -3.46 (3.54) .33 |
| a | Slope \* smoking | --- | --- | --- | 0.06 (0.46) .91 |
| a | Slope \* cardio | --- | --- | --- | 0.88 (0.64) .17 |
| a | Slope \* diabetes | --- | --- | --- | 1.05 (0.51) .04 |
| b | Level | 42.97 (1.03) <.01 | 35.40 (1.52) <.01 | 9.74 (0.43) <.01 | 36.04 (1.71) <.01 |
| b | Slope | 0.01 (0.19) .95 | -0.29 (0.34) .40 | -0.03 (0.12) .78 | -0.10 (0.41) .80 |
| b | Level \* age | -0.47 (0.08) <.01 | -0.49 (0.08) <.01 | -0.02 (0.02) .44 | -0.45 (0.08) <.01 |
| b | Level \* education | --- | 0.94 (0.15) <.01 | 0.22 (0.04) <.01 | 0.77 (0.16) <.01 |
| b | Level \* height | --- | --- | 4.00 (2.39) .10 | 25.63 (6.91) <.01 |
| b | Level \* smoking | --- | --- | --- | -0.30 (0.94) .75 |
| b | Level \* cardio | --- | --- | --- | -0.73 (1.22) .55 |
| b | Level \* diabetes | --- | --- | --- | -0.06 (1.39) .97 |
| b | Slope \* age | -0.06 (0.02) <.01 | -0.06 (0.02) <.01 | 0.01 (0.01) .42 | -0.06 (0.02) <.01 |
| b | Slope \* education | --- | 0.04 (0.04) .28 | 0.00 (0.01) .93 | 0.03 (0.04) .39 |
| b | Slope \* height | --- | --- | 0.82 (0.65) .21 | -0.38 (1.89) .84 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.20) .96 |
| b | Slope \* cardio | --- | --- | --- | 0.31 (0.30) .31 |
| b | Slope \* diabetes | --- | --- | --- | -0.67 (0.32) .04 |
| a | Var (Level) | 274.89 (28.61) <.01 | 268.44 (28.07) <.01 | 231.90 (25.20) <.01 | 221.90 (24.29) <.01 |
| a | Var (Slope) | 3.99 (1.58) .01 | 3.96 (1.57) .01 | 3.71 (1.47) .01 | 3.61 (1.50) .02 |
| a | Var (Residual) | 32.61 (2.96) <.01 | 32.61 (2.96) <.01 | 32.80 (2.98) <.01 | 32.64 (2.97) <.01 |
| a | Covar (Level, Slope) | -9.48 (4.27) .03 | -9.88 (4.21) .02 | -8.94 (3.74) .02 | -7.17 (3.62) .05 |
| b | Var (Level) | 86.20 (8.89) <.01 | 73.82 (7.98) <.01 | 4.99 (0.60) <.01 | 70.07 (7.75) <.01 |
| b | Var (Slope) | 0.65 (0.45) .15 | 0.63 (0.44) .15 | 0.06 (0.04) .20 | 0.49 (0.40) .22 |
| b | Var (Residual) | 21.22 (1.65) <.01 | 21.24 (1.65) <.01 | 3.44 (0.33) <.01 | 21.37 (1.66) <.01 |
| b | Covar (Level, Slope) | 2.31 (1.57) .14 | 1.74 (1.48) .24 | -0.24 (0.14) .09 | 1.95 (1.42) .17 |
| ab | Covar (Levels) | 43.83 (11.11) <.01 | 34.64 (10.58) <.01 | 3.55 (2.30) .12 | 21.22 (9.18) .02 |
| ab | Covar (Slopes) | 0.55 (0.51) .28 | 0.54 (0.51) .30 | 0.02 (0.16) .89 | 0.53 (0.48) .28 |
| ab | Covar (Residuals) | 0.95 (1.22) .43 | 0.96 (1.22) .43 | -0.32 (0.54) .55 | 0.95 (1.22) .43 |
|  | Correlation of Levels | 0.285 | 0.246 | 0.104 | 0.170 |
|  | Correlation of Slopes | 0.343 | 0.340 | 0.047 | 0.396 |
|  | Correlation of Residuals | 0.036 | 0.036 | -0.030 | 0.036 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -8,495 | -9,428 | -7,800 | -9,599 |
|  | AIC | 17,036 | 18,915 | 15,676 | 19,334 |
|  | BIC | 17,125 | 19,031 | 15,823 | 19,596 |

## word\_de

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.38 (1.82) <.01 | 74.85 (2.98) <.01 | 76.15 (2.67) <.01 | 79.55 (3.06) <.01 |
| a | Slope | -1.51 (0.41) <.01 | -1.75 (0.61) <.01 | -1.83 (0.61) <.01 | -2.50 (0.90) <.01 |
| a | Level \* age | -1.15 (0.14) <.01 | -1.16 (0.14) <.01 | -1.01 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.68 (0.28) .01 | 0.12 (0.26) .64 | -0.02 (0.27) .92 |
| a | Level \* height | --- | --- | 82.33 (11.47) <.01 | 83.08 (11.31) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.16 (2.01) .94 |
| a | Level \* cardio | --- | --- | --- | -6.22 (2.74) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.37 (2.35) .01 |
| a | Slope \* age | -0.02 (0.04) .56 | -0.02 (0.04) .50 | -0.03 (0.04) .36 | -0.03 (0.04) .37 |
| a | Slope \* education | --- | 0.03 (0.06) .56 | 0.06 (0.06) .32 | 0.09 (0.07) .16 |
| a | Slope \* height | --- | --- | -3.29 (3.53) .35 | -3.27 (3.53) .35 |
| a | Slope \* smoking | --- | --- | --- | 0.05 (0.46) .91 |
| a | Slope \* cardio | --- | --- | --- | 0.87 (0.64) .18 |
| a | Slope \* diabetes | --- | --- | --- | 1.16 (0.52) .02 |
| b | Level | 5.94 (0.18) <.01 | 4.89 (0.28) <.01 | 4.90 (0.28) <.01 | 4.99 (0.33) <.01 |
| b | Slope | 0.00 (0.05) .95 | 0.06 (0.08) .44 | 0.07 (0.08) .42 | 0.07 (0.11) .54 |
| b | Level \* age | -0.10 (0.01) <.01 | -0.11 (0.01) <.01 | -0.10 (0.01) <.01 | -0.11 (0.01) <.01 |
| b | Level \* education | --- | 0.13 (0.03) <.01 | 0.13 (0.03) <.01 | 0.13 (0.03) <.01 |
| b | Level \* height | --- | --- | 0.40 (1.39) .77 | 0.48 (1.39) .73 |
| b | Level \* smoking | --- | --- | --- | -0.26 (0.18) .16 |
| b | Level \* cardio | --- | --- | --- | 0.07 (0.28) .81 |
| b | Level \* diabetes | --- | --- | --- | 0.31 (0.29) .29 |
| b | Slope \* age | 0.00 (0.00) .36 | 0.00 (0.00) .34 | 0.00 (0.00) .29 | 0.00 (0.00) .33 |
| b | Slope \* education | --- | -0.01 (0.01) .37 | -0.01 (0.01) .30 | -0.01 (0.01) .31 |
| b | Slope \* height | --- | --- | 0.19 (0.48) .69 | 0.21 (0.49) .66 |
| b | Slope \* smoking | --- | --- | --- | 0.03 (0.06) .63 |
| b | Slope \* cardio | --- | --- | --- | 0.03 (0.07) .64 |
| b | Slope \* diabetes | --- | --- | --- | -0.08 (0.08) .30 |
| a | Var (Level) | 275.05 (28.72) <.01 | 268.40 (28.14) <.01 | 232.03 (25.28) <.01 | 222.45 (24.30) <.01 |
| a | Var (Slope) | 3.82 (1.55) .01 | 3.80 (1.54) .01 | 3.74 (1.54) .01 | 3.46 (1.47) .02 |
| a | Var (Residual) | 32.83 (2.98) <.01 | 32.81 (2.98) <.01 | 32.80 (2.99) <.01 | 32.81 (2.99) <.01 |
| a | Covar (Level, Slope) | -10.42 (4.27) .01 | -10.53 (4.22) .01 | -9.05 (3.81) .02 | -7.85 (3.63) .03 |
| b | Var (Level) | 2.65 (0.30) <.01 | 2.41 (0.30) <.01 | 2.41 (0.30) <.01 | 2.37 (0.29) <.01 |
| b | Var (Slope) | 0.02 (0.02) .42 | 0.02 (0.02) .41 | 0.02 (0.02) .42 | 0.02 (0.02) .43 |
| b | Var (Residual) | 1.73 (0.12) <.01 | 1.74 (0.12) <.01 | 1.74 (0.12) <.01 | 1.74 (0.12) <.01 |
| b | Covar (Level, Slope) | 0.01 (0.07) .89 | 0.02 (0.07) .73 | 0.02 (0.07) .77 | 0.02 (0.06) .72 |
| ab | Covar (Levels) | 2.51 (2.02) .21 | 1.24 (1.97) .53 | 0.84 (1.86) .65 | 1.42 (1.83) .44 |
| ab | Covar (Slopes) | 0.01 (0.12) .95 | 0.01 (0.12) .92 | 0.01 (0.12) .91 | 0.02 (0.12) .87 |
| ab | Covar (Residuals) | -0.16 (0.33) .63 | -0.16 (0.33) .62 | -0.15 (0.33) .65 | -0.15 (0.33) .64 |
|  | Correlation of Levels | 0.093 | 0.049 | 0.036 | 0.062 |
|  | Correlation of Slopes | 0.030 | 0.043 | 0.052 | 0.081 |
|  | Correlation of Residuals | -0.021 | -0.022 | -0.020 | -0.021 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -6,895 | -7,838 | -7,426 | -8,012 |
|  | AIC | 13,836 | 15,736 | 14,929 | 16,160 |
|  | BIC | 13,925 | 15,852 | 15,075 | 16,423 |

## word\_im

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 80.33 (1.82) <.01 | 74.78 (2.98) <.01 | 76.09 (2.67) <.01 | 79.46 (3.05) <.01 |
| a | Slope | -1.51 (0.41) <.01 | -1.73 (0.61) <.01 | -1.81 (0.61) <.01 | -2.43 (0.90) .01 |
| a | Level \* age | -1.14 (0.14) <.01 | -1.16 (0.14) <.01 | -1.01 (0.13) <.01 | -1.00 (0.13) <.01 |
| a | Level \* education | --- | 0.69 (0.28) .01 | 0.13 (0.26) .63 | -0.02 (0.27) .95 |
| a | Level \* height | --- | --- | 81.99 (11.47) <.01 | 82.72 (11.32) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.16 (2.01) .94 |
| a | Level \* cardio | --- | --- | --- | -6.21 (2.75) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.32 (2.34) .01 |
| a | Slope \* age | -0.02 (0.04) .58 | -0.02 (0.04) .53 | -0.03 (0.04) .38 | -0.03 (0.04) .37 |
| a | Slope \* education | --- | 0.03 (0.06) .60 | 0.06 (0.06) .34 | 0.09 (0.07) .19 |
| a | Slope \* height | --- | --- | -3.17 (3.53) .37 | -3.15 (3.53) .37 |
| a | Slope \* smoking | --- | --- | --- | 0.02 (0.46) .97 |
| a | Slope \* cardio | --- | --- | --- | 0.86 (0.64) .18 |
| a | Slope \* diabetes | --- | --- | --- | 1.13 (0.51) .03 |
| b | Level | 17.89 (0.34) <.01 | 15.45 (0.54) <.01 | 15.46 (0.55) <.01 | 15.36 (0.63) <.01 |
| b | Slope | 0.09 (0.10) .36 | 0.17 (0.16) .29 | 0.17 (0.16) .29 | 0.26 (0.20) .20 |
| b | Level \* age | -0.15 (0.03) <.01 | -0.16 (0.02) <.01 | -0.16 (0.02) <.01 | -0.16 (0.03) <.01 |
| b | Level \* education | --- | 0.30 (0.05) <.01 | 0.30 (0.05) <.01 | 0.31 (0.05) <.01 |
| b | Level \* height | --- | --- | 0.62 (2.32) .79 | 0.68 (2.32) .77 |
| b | Level \* smoking | --- | --- | --- | -0.29 (0.30) .34 |
| b | Level \* cardio | --- | --- | --- | 0.53 (0.47) .26 |
| b | Level \* diabetes | --- | --- | --- | 0.74 (0.49) .14 |
| b | Slope \* age | 0.01 (0.01) .24 | 0.01 (0.01) .27 | 0.01 (0.01) .25 | 0.01 (0.01) .33 |
| b | Slope \* education | --- | -0.01 (0.01) .60 | -0.01 (0.02) .59 | -0.01 (0.02) .50 |
| b | Slope \* height | --- | --- | 0.01 (0.78) .99 | 0.09 (0.81) .91 |
| b | Slope \* smoking | --- | --- | --- | -0.04 (0.11) .68 |
| b | Slope \* cardio | --- | --- | --- | 0.00 (0.16) .99 |
| b | Slope \* diabetes | --- | --- | --- | -0.16 (0.16) .32 |
| a | Var (Level) | 275.00 (28.78) <.01 | 268.30 (28.19) <.01 | 232.16 (25.32) <.01 | 222.70 (24.36) <.01 |
| a | Var (Slope) | 3.77 (1.49) .01 | 3.77 (1.52) .01 | 3.72 (1.51) .01 | 3.46 (1.45) .02 |
| a | Var (Residual) | 32.86 (2.96) <.01 | 32.83 (2.97) <.01 | 32.81 (2.97) <.01 | 32.80 (2.97) <.01 |
| a | Covar (Level, Slope) | -10.20 (4.31) .02 | -10.39 (4.26) .01 | -9.00 (3.85) .02 | -7.85 (3.66) .03 |
| b | Var (Level) | 7.62 (0.90) <.01 | 6.52 (0.88) <.01 | 6.53 (0.88) <.01 | 6.37 (0.89) <.01 |
| b | Var (Slope) | 0.02 (0.06) .74 | 0.07 (0.07) .33 | 0.07 (0.07) .32 | 0.07 (0.08) .34 |
| b | Var (Residual) | 6.26 (0.34) <.01 | 6.17 (0.34) <.01 | 6.16 (0.34) <.01 | 6.16 (0.34) <.01 |
| b | Covar (Level, Slope) | 0.25 (0.21) .24 | 0.18 (0.23) .44 | 0.16 (0.23) .47 | 0.17 (0.23) .45 |
| ab | Covar (Levels) | 6.50 (3.73) .08 | 3.61 (3.53) .31 | 2.82 (3.31) .39 | 4.08 (3.29) .21 |
| ab | Covar (Slopes) | -0.04 (0.13) .73 | -0.03 (0.23) .89 | -0.04 (0.22) .86 | -0.03 (0.22) .90 |
| ab | Covar (Residuals) | 0.95 (0.73) .19 | 0.92 (0.75) .22 | 0.91 (0.75) .23 | 0.83 (0.76) .27 |
|  | Correlation of Levels | 0.142 | 0.086 | 0.073 | 0.108 |
|  | Correlation of Slopes | -0.160 | -0.058 | -0.074 | -0.058 |
|  | Correlation of Residuals | 0.066 | 0.065 | 0.064 | 0.058 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -7,620 | -8,555 | -8,143 | -8,728 |
|  | AIC | 15,286 | 17,170 | 16,363 | 17,593 |
|  | BIC | 15,375 | 17,286 | 16,509 | 17,855 |

## word\_rec

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| a | Level | 2.41 (0.06) <.01 | 2.10 (0.08) <.01 | 76.20 (2.67) <.01 | 79.66 (3.07) <.01 |
| a | Slope | -0.05 (0.01) <.01 | -0.04 (0.02) .02 | -1.83 (0.60) <.01 | -2.56 (0.90) <.01 |
| a | Level \* age | -0.03 (0.00) <.01 | -0.03 (0.00) <.01 | -1.01 (0.13) <.01 | -0.99 (0.13) <.01 |
| a | Level \* education | --- | 0.04 (0.01) <.01 | 0.10 (0.26) .69 | -0.04 (0.27) .87 |
| a | Level \* height | --- | --- | 83.65 (11.50) <.01 | 84.45 (11.36) <.01 |
| a | Level \* smoking | --- | --- | --- | -0.17 (2.00) .93 |
| a | Level \* cardio | --- | --- | --- | -6.34 (2.75) .02 |
| a | Level \* diabetes | --- | --- | --- | -6.46 (2.34) .01 |
| a | Slope \* age | -0.00 (0.00) .33 | -0.00 (0.00) .33 | -0.03 (0.04) .40 | -0.03 (0.04) .40 |
| a | Slope \* education | --- | -0.00 (0.00) .57 | 0.06 (0.06) .28 | 0.10 (0.07) .14 |
| a | Slope \* height | --- | --- | -3.91 (3.58) .27 | -3.92 (3.57) .27 |
| a | Slope \* smoking | --- | --- | --- | 0.08 (0.47) .87 |
| a | Slope \* cardio | --- | --- | --- | 0.93 (0.64) .15 |
| a | Slope \* diabetes | --- | --- | --- | 1.26 (0.53) .02 |
| b | Level | 9.77 (0.08) <.01 | 9.51 (0.14) <.01 | 9.53 (0.14) <.01 | 9.62 (0.18) <.01 |
| b | Slope | 0.02 (0.02) .53 | 0.09 (0.05) .06 | 0.08 (0.05) .10 | 0.08 (0.06) .16 |
| 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 | --- | 0.03 (0.02) .06 | 0.02 (0.02) .15 | 0.02 (0.02) .18 |
| b | Level \* height | --- | --- | 1.07 (0.82) .19 | 1.11 (0.83) .18 |
| b | Level \* smoking | --- | --- | --- | -0.19 (0.11) .09 |
| b | Level \* cardio | --- | --- | --- | -0.05 (0.18) .77 |
| b | Level \* diabetes | --- | --- | --- | 0.20 (0.17) .23 |
| b | Slope \* age | 0.00 (0.00) .37 | 0.00 (0.00) .32 | 0.00 (0.00) .52 | 0.00 (0.00) .69 |
| b | Slope \* education | --- | -0.01 (0.01) .09 | -0.01 (0.01) .35 | -0.01 (0.01) .34 |
| b | Slope \* height | --- | --- | -0.60 (0.27) .03 | -0.55 (0.27) .04 |
| b | Slope \* smoking | --- | --- | --- | 0.01 (0.03) .79 |
| b | Slope \* cardio | --- | --- | --- | 0.07 (0.05) .13 |
| b | Slope \* diabetes | --- | --- | --- | -0.06 (0.06) .28 |
| a | Var (Level) | 0.33 (0.03) <.01 | 0.31 (0.03) <.01 | 232.09 (25.22) <.01 | 222.59 (24.29) <.01 |
| a | Var (Slope) | 0.00 (0.00) .12 | 0.00 (0.00) .12 | 3.87 (1.59) .01 | 3.60 (1.52) .02 |
| a | Var (Residual) | 0.05 (0.01) <.01 | 0.05 (0.01) <.01 | 32.70 (2.99) <.01 | 32.70 (2.98) <.01 |
| a | Covar (Level, Slope) | -0.01 (0.00) .09 | -0.01 (0.00) .09 | -9.32 (3.82) .01 | -8.09 (3.63) .03 |
| b | Var (Level) | 0.99 (0.26) <.01 | 0.98 (0.25) <.01 | 0.97 (0.25) <.01 | 0.96 (0.25) <.01 |
| b | Var (Slope) | 0.04 (0.02) .08 | 0.03 (0.02) .10 | 0.03 (0.02) .10 | 0.03 (0.02) .09 |
| b | Var (Residual) | 0.46 (0.08) <.01 | 0.46 (0.08) <.01 | 0.46 (0.08) <.01 | 0.46 (0.08) <.01 |
| b | Covar (Level, Slope) | -0.12 (0.06) .05 | -0.11 (0.06) .05 | -0.11 (0.06) .05 | -0.11 (0.05) .04 |
| ab | Covar (Levels) | 0.03 (0.04) .46 | 0.01 (0.04) .78 | 1.27 (1.15) .27 | 1.59 (1.16) .17 |
| ab | Covar (Slopes) | -0.00 (0.00) .33 | -0.00 (0.00) .30 | 0.01 (0.07) .86 | 0.02 (0.07) .75 |
| ab | Covar (Residuals) | 0.01 (0.01) .24 | 0.01 (0.01) .23 | -0.04 (0.23) .86 | -0.06 (0.23) .81 |
|  | Correlation of Levels | 0.054 | 0.024 | 0.084 | 0.109 |
|  | Correlation of Slopes | -0.359 | -0.364 | 0.034 | 0.063 |
|  | Correlation of Residuals | 0.062 | 0.062 | -0.011 | -0.014 |
|  | N | 351 | 351 | 351 | 351 |
|  | occasions | 5 | 5 | 5 | 5 |
|  | parameters | 23 | 30 | 38 | 68 |
|  | LL | -3,129 | -4,075 | -6,697 | -7,280 |
|  | AIC | 6,304 | 8,210 | 13,469 | 14,695 |
|  | BIC | 6,392 | 8,326 | 13,616 | 14,958 |

## Summary

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

Computed correlations:

label

process\_b

a

ae

aeh

aehplus

Correlation of Levels

bnt

0.33

0.31

0.26

0.27

Correlation of Levels

bstory\_de

0.17

0.14

0.11

0.12

Correlation of Levels

bstory\_im

0.14

0.09

0.11

0.12

Correlation of Levels

categories

0.17

0.13

0.07

0.08

Correlation of Levels

digit\_b

0.17

0.07

-0.03

-0.02

Correlation of Levels

digit\_f

0.11

0.05

0.07

0.06

Correlation of Levels

digit\_o

0.19

0.14

0.09

0.09

Correlation of Levels

ideas

0.24

0.21

0.18

0.18

Correlation of Levels

line

0.21

0.16

0.10

0.11

Correlation of Levels

logic\_de

0.01

-0.03

-0.06

-0.03

Correlation of Levels

logic\_im

-0.00

-0.06

-0.12

-0.09

Correlation of Levels

matrices

0.31

0.26

0.17

0.18

Correlation of Levels

mmse

0.26

0.22

0.18

0.19

Correlation of Levels

nart

0.17

0.10

0.06

0.05

Correlation of Levels

num\_comp

0.20

.

0.06

0.08

Correlation of Levels

symbol

0.28

0.25

0.10

0.17

Correlation of Levels

word\_de

0.09

0.05

0.04

0.06

Correlation of Levels

word\_im

0.14

0.09

0.07

0.11

Correlation of Levels

word\_rec

0.05

0.02

0.08

0.11

label

process\_b

a

ae

aeh

aehplus

Correlation of Slopes

bnt

0.22

0.25

0.21

0.15

Correlation of Slopes

bstory\_de

-0.44

-0.41

-0.38

-0.45

Correlation of Slopes

bstory\_im

0.82

0.83

-0.47

-0.50

Correlation of Slopes

categories

0.12

0.13

0.14

0.18

Correlation of Slopes

digit\_b

-0.24

-0.12

0.17

0.18

Correlation of Slopes

digit\_f

0.04

0.05

0.05

-0.07

Correlation of Slopes

digit\_o

0.13

0.15

0.16

0.12

Correlation of Slopes

ideas

0.32

0.32

0.32

0.29

Correlation of Slopes

line

0.00

0.02

0.05

0.04

Correlation of Slopes

logic\_de

-0.24

-0.24

-0.25

-0.25

Correlation of Slopes

logic\_im

-0.73

-0.73

-0.76

-0.76

Correlation of Slopes

matrices

0.52

0.54

0.59

0.61

Correlation of Slopes

mmse

0.33

0.36

0.36

0.33

Correlation of Slopes

nart

0.37

0.43

0.44

0.34

Correlation of Slopes

num\_comp

0.00

.

-0.01

0.03

Correlation of Slopes

symbol

0.34

0.34

0.05

0.40

Correlation of Slopes

word\_de

0.03

0.04

0.05

0.08

Correlation of Slopes

word\_im

-0.16

-0.06

-0.07

-0.06

Correlation of Slopes

word\_rec

-0.36

-0.36

0.03

0.06

label

process\_b

a

ae

aeh

aehplus

Correlation of Residuals

bnt

0.01

0.01

0.01

0.01

Correlation of Residuals

bstory\_de

0.05

0.05

0.04

0.04

Correlation of Residuals

bstory\_im

-0.05

-0.05

0.03

0.02

Correlation of Residuals

categories

0.02

0.02

0.02

0.02

Correlation of Residuals

digit\_b

-0.01

-0.01

0.16

0.17

Correlation of Residuals

digit\_f

0.05

0.05

0.05

0.06

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

-0.03

-0.03

-0.03

-0.03

Correlation of Residuals

logic\_de

0.08

0.08

0.08

0.08

Correlation of Residuals

logic\_im

0.07

0.06

0.06

0.06

Correlation of Residuals

matrices

-0.00

-0.00

-0.00

-0.01

Correlation of Residuals

mmse

0.02

0.02

0.02

0.02

Correlation of Residuals

nart

-0.00

-0.00

-0.01

-0.01

Correlation of Residuals

num\_comp

-0.01

.

-0.01

-0.01

Correlation of Residuals

symbol

0.04

0.04

-0.03

0.04

Correlation of Residuals

word\_de

-0.02

-0.02

-0.02

-0.02

Correlation of Residuals

word\_im

0.07

0.07

0.06

0.06

Correlation of Residuals

word\_rec

0.06

0.06

-0.01

-0.01

P-values for corresponding covariances:

label

process\_b

a

ae

aeh

aehplus

Covariance of Levels

bnt

0.00

0.00

0.00

0.00

Covariance of Levels

bstory\_de

0.06

0.14

0.19

0.17

Covariance of Levels

bstory\_im

0.15

0.38

0.25

0.20

Covariance of Levels

categories

0.02

0.07

0.32

0.25

Covariance of Levels

digit\_b

0.02

0.33

0.74

0.81

Covariance of Levels

digit\_f

0.14

0.52

0.33

0.40

Covariance of Levels

digit\_o

0.05

0.13

0.37

0.35

Covariance of Levels

ideas

0.03

0.03

0.05

0.07

Covariance of Levels

line

0.00

0.02

0.12

0.12

Covariance of Levels

logic\_de

0.85

0.70

0.45

0.73

Covariance of Levels

logic\_im

0.95

0.47

0.14

0.28

Covariance of Levels

matrices

0.00

0.00

0.05

0.04

Covariance of Levels

mmse

0.00

0.01

0.03

0.04

Covariance of Levels

nart

0.01

0.13

0.31

0.41

Covariance of Levels

num\_comp

0.00

.

0.33

0.22

Covariance of Levels

symbol

0.00

0.00

0.12

0.02

Covariance of Levels

word\_de

0.21

0.53

0.65

0.44

Covariance of Levels

word\_im

0.08

0.31

0.39

0.21

Covariance of Levels

word\_rec

0.46

0.78

0.27

0.17

label

process\_b

a

ae

aeh

aehplus

Covariance of Slopes

bnt

0.49

0.44

0.55

0.69

Covariance of Slopes

bstory\_de

0.49

0.49

0.56

0.49

Covariance of Slopes

bstory\_im

0.12

0.13

0.27

0.23

Covariance of Slopes

categories

0.66

0.64

0.64

0.60

Covariance of Slopes

digit\_b

0.67

0.76

0.55

0.55

Covariance of Slopes

digit\_f

0.92

0.88

0.89

0.86

Covariance of Slopes

digit\_o

0.81

0.80

0.79

0.84

Covariance of Slopes

ideas

0.14

0.14

0.13

0.16

Covariance of Slopes

line

1.00

0.95

0.89

0.92

Covariance of Slopes

logic\_de

0.21

0.21

0.21

0.23

Covariance of Slopes

logic\_im

0.00

0.00

0.00

0.00

Covariance of Slopes

matrices

0.05

0.04

0.03

0.03

Covariance of Slopes

mmse

0.17

0.15

0.15

0.21

Covariance of Slopes

nart

0.37

0.30

0.31

0.34

Covariance of Slopes

num\_comp

0.99

.

0.97

0.93

Covariance of Slopes

symbol

0.28

0.30

0.89

0.28

Covariance of Slopes

word\_de

0.95

0.92

0.91

0.87

Covariance of Slopes

word\_im

0.73

0.89

0.86

0.90

Covariance of Slopes

word\_rec

0.33

0.30

0.86

0.75

label

process\_b

a

ae

aeh

aehplus

Covariance of Residuals

bnt

0.81

0.78

0.75

0.77

Covariance of Residuals

bstory\_de

0.31

0.31

0.33

0.36

Covariance of Residuals

bstory\_im

0.23

0.23

0.54

0.55

Covariance of Residuals

categories

0.70

0.69

0.67

0.67

Covariance of Residuals

digit\_b

0.81

0.80

0.00

0.00

Covariance of Residuals

digit\_f

0.29

0.30

0.31

0.25

Covariance of Residuals

digit\_o

0.98

0.98

0.97

0.98

Covariance of Residuals

ideas

0.85

0.87

0.86

0.82

Covariance of Residuals

line

0.56

0.56

0.55

0.53

Covariance of Residuals

logic\_de

0.06

0.06

0.07

0.08

Covariance of Residuals

logic\_im

0.12

0.14

0.15

0.17

Covariance of Residuals

matrices

0.96

0.96

0.96

0.92

Covariance of Residuals

mmse

0.75

0.72

0.72

0.71

Covariance of Residuals

nart

0.96

0.93

0.89

0.88

Covariance of Residuals

num\_comp

0.87

.

0.91

0.85

Covariance of Residuals

symbol

0.43

0.43

0.55

0.43

Covariance of Residuals

word\_de

0.63

0.62

0.65

0.64

Covariance of Residuals

word\_im

0.19

0.22

0.23

0.27

Covariance of Residuals

word\_rec

0.24

0.23

0.86

0.81

#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