EAS : Seed report

Date: 2017-01-26

Table of Contents

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

# Available models

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

|  |  |  |
| --- | --- | --- |
| process\_a | process\_b | n\_models |
| grip | block | 10 |
| grip | bnt | 10 |
| grip | categories | 10 |
| grip | digit\_tot | 10 |
| grip | fas | 10 |
| grip | information | 8 |
| grip | logic\_tot | 9 |
| grip | mmse | 10 |
| grip | symbol | 10 |
| grip | trailsb | 10 |
| grip | waisvocab | 10 |
| grip | word\_im | 2 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| eas | female | a | grip | block | 1 |
| eas | female | a | grip | bnt | 1 |
| eas | female | a | grip | categories | 1 |
| eas | female | a | grip | digit\_tot | 1 |
| eas | female | a | grip | fas | 1 |
| eas | female | a | grip | information | 1 |
| eas | female | a | grip | logic\_tot | 1 |
| eas | female | a | grip | mmse | 1 |
| eas | female | a | grip | symbol | 1 |
| eas | female | a | grip | trailsb | 1 |
| eas | female | a | grip | waisvocab | 1 |
| eas | female | ae | grip | block | 1 |
| eas | female | ae | grip | bnt | 1 |
| eas | female | ae | grip | categories | 1 |
| eas | female | ae | grip | digit\_tot | 1 |
| eas | female | ae | grip | fas | 1 |
| eas | female | ae | grip | information | 1 |
| eas | female | ae | grip | logic\_tot | 1 |
| eas | female | ae | grip | mmse | 1 |
| eas | female | ae | grip | symbol | 1 |
| eas | female | ae | grip | trailsb | 1 |
| eas | female | ae | grip | waisvocab | 1 |
| eas | female | aeh | grip | block | 1 |
| eas | female | aeh | grip | bnt | 1 |
| eas | female | aeh | grip | categories | 1 |
| eas | female | aeh | grip | digit\_tot | 1 |
| eas | female | aeh | grip | fas | 1 |
| eas | female | aeh | grip | information | 1 |
| eas | female | aeh | grip | logic\_tot | 1 |
| eas | female | aeh | grip | mmse | 1 |
| eas | female | aeh | grip | symbol | 1 |
| eas | female | aeh | grip | trailsb | 1 |
| eas | female | aeh | grip | waisvocab | 1 |
| eas | female | aehplus | grip | block | 1 |
| eas | female | aehplus | grip | bnt | 1 |
| eas | female | aehplus | grip | categories | 1 |
| eas | female | aehplus | grip | digit\_tot | 1 |
| eas | female | aehplus | grip | fas | 1 |
| eas | female | aehplus | grip | logic\_tot | 1 |
| eas | female | aehplus | grip | mmse | 1 |
| eas | female | aehplus | grip | symbol | 1 |
| eas | female | aehplus | grip | trailsb | 1 |
| eas | female | aehplus | grip | waisvocab | 1 |
| eas | female | aehplus | grip | word\_im | 1 |
| eas | female | full | grip | block | 1 |
| eas | female | full | grip | bnt | 1 |
| eas | female | full | grip | categories | 1 |
| eas | female | full | grip | digit\_tot | 1 |
| eas | female | full | grip | fas | 1 |
| eas | female | full | grip | information | 1 |
| eas | female | full | grip | logic\_tot | 1 |
| eas | female | full | grip | mmse | 1 |
| eas | female | full | grip | symbol | 1 |
| eas | female | full | grip | trailsb | 1 |
| eas | female | full | grip | waisvocab | 1 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| eas | male | a | grip | block | 1 |
| eas | male | a | grip | bnt | 1 |
| eas | male | a | grip | categories | 1 |
| eas | male | a | grip | digit\_tot | 1 |
| eas | male | a | grip | fas | 1 |
| eas | male | a | grip | information | 1 |
| eas | male | a | grip | logic\_tot | 1 |
| eas | male | a | grip | mmse | 1 |
| eas | male | a | grip | symbol | 1 |
| eas | male | a | grip | trailsb | 1 |
| eas | male | a | grip | waisvocab | 1 |
| eas | male | ae | grip | block | 1 |
| eas | male | ae | grip | bnt | 1 |
| eas | male | ae | grip | categories | 1 |
| eas | male | ae | grip | digit\_tot | 1 |
| eas | male | ae | grip | fas | 1 |
| eas | male | ae | grip | information | 1 |
| eas | male | ae | grip | logic\_tot | 1 |
| eas | male | ae | grip | mmse | 1 |
| eas | male | ae | grip | symbol | 1 |
| eas | male | ae | grip | trailsb | 1 |
| eas | male | ae | grip | waisvocab | 1 |
| eas | male | aeh | grip | block | 1 |
| eas | male | aeh | grip | bnt | 1 |
| eas | male | aeh | grip | categories | 1 |
| eas | male | aeh | grip | digit\_tot | 1 |
| eas | male | aeh | grip | fas | 1 |
| eas | male | aeh | grip | information | 1 |
| eas | male | aeh | grip | mmse | 1 |
| eas | male | aeh | grip | symbol | 1 |
| eas | male | aeh | grip | trailsb | 1 |
| eas | male | aeh | grip | waisvocab | 1 |
| eas | male | aehplus | grip | block | 1 |
| eas | male | aehplus | grip | bnt | 1 |
| eas | male | aehplus | grip | categories | 1 |
| eas | male | aehplus | grip | digit\_tot | 1 |
| eas | male | aehplus | grip | fas | 1 |
| eas | male | aehplus | grip | logic\_tot | 1 |
| eas | male | aehplus | grip | mmse | 1 |
| eas | male | aehplus | grip | symbol | 1 |
| eas | male | aehplus | grip | trailsb | 1 |
| eas | male | aehplus | grip | waisvocab | 1 |
| eas | male | aehplus | grip | word\_im | 1 |
| eas | male | full | grip | block | 1 |
| eas | male | full | grip | bnt | 1 |
| eas | male | full | grip | categories | 1 |
| eas | male | full | grip | digit\_tot | 1 |
| eas | male | full | grip | fas | 1 |
| eas | male | full | grip | information | 1 |
| eas | male | full | grip | logic\_tot | 1 |
| eas | male | full | grip | mmse | 1 |
| eas | male | full | grip | symbol | 1 |
| eas | male | full | grip | trailsb | 1 |
| eas | male | full | grip | waisvocab | 1 |

# female

Gender = *female*; Model type: *aehplus*; Process (a) = *grip*; Process (b): *block*, *bnt*, *categories*, *digit\_tot*, *fas*, *information*, *logic\_tot*, *mmse*, *symbol*, *trailsb*, *waisvocab*, *word\_im*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| process | label | block | bnt | categories | digit\_tot | fas | logic\_tot | mmse | symbol | trailsb | waisvocab | word\_im | mean(sd) |
| ab | Covar (Levels) | 6.94 (5.97) .24 | 1.75 (1.60) .28 | 2.88 (4.99) .56 | -0.45 (2.25) .84 | 12.14 (8.12) .14 | -2.26 (3.85) .56 | 1.25 (1.15) .28 | 18.82 (8.86) .03 | -25.61 (42.55) .55 | 6.49 (7.71) .40 | 2.33 (4.21) .58 | --- |
| ab | Covar (Slopes) | 0.78 (0.44) .07 | -0.08 (0.13) .55 | 0.24 (0.43) .58 | 0.46 (0.17) .01 | 0.22 (0.53) .68 | 0.06 (0.29) .84 | -0.04 (0.10) .68 | 2.04 (0.58) <.01 | 8.76 (4.43) .05 | 0.19 (0.46) .68 | -0.05 (0.32) .88 | --- |
| ab | Covar (Residuals) | 0.25 (0.99) .80 | 0.20 (0.22) .37 | -0.59 (0.70) .40 | -0.12 (0.30) .69 | 0.19 (1.06) .86 | 0.73 (0.84) .39 | -0.01 (0.21) .98 | -0.50 (0.99) .61 | 13.85 (8.16) .09 | -0.37 (1.51) .80 | 0.97 (0.73) .18 | --- |
| er | Corr (Levels) | 0.18 (0.15) .23 | 0.16 (0.15) .26 | 0.08 (0.14) .56 | -0.03 (0.15) .84 | 0.22 (0.14) .12 | -0.09 (0.15) .56 | 0.22 (0.20) .27 | 0.28 (0.12) .02 | -0.10 (0.18) .55 | 0.12 (0.15) .40 | 0.10 (0.19) .57 | --- |
| er | Corr (Slopes) | 0.55 (0.28) .05 | -0.43 (0.82) .59 | 0.21 (0.38) .58 | 0.83 (0.27) <.01 | 0.14 (0.35) .69 | 0.13 (0.66) .84 | -0.39 (1.06) .71 | 0.84 (0.20) <.01 | 0.82 (0.34) .02 | 0.25 (0.64) .69 | -0.09 (0.60) .88 | --- |
| er | Corr (Residuals) | 0.02 (0.10) .80 | 0.06 (0.07) .38 | -0.06 (0.07) .40 | -0.03 (0.08) .69 | 0.02 (0.09) .86 | 0.08 (0.09) .39 | -0.00 (0.10) .98 | -0.04 (0.08) .61 | 0.15 (0.08) .08 | -0.03 (0.10) .80 | 0.12 (0.09) .18 | --- |
| a | Level | 18.20 (1.59) <.01 | 18.41 (1.60) <.01 | 18.75 (1.55) <.01 | 18.59 (1.58) <.01 | 18.51 (1.60) <.01 | 18.70 (1.56) <.01 | 18.26 (1.59) <.01 | 18.25 (1.56) <.01 | 19.06 (1.69) <.01 | 18.54 (1.64) <.01 | 18.81 (1.59) <.01 | 18.55(0.27) |
| a | Slope | -0.80 (0.55) .15 | -0.94 (0.56) .10 | -1.21 (0.56) .03 | -0.85 (0.59) .15 | -1.01 (0.55) .07 | -1.05 (0.55) .06 | -0.83 (0.62) .18 | -0.94 (0.55) .09 | -1.19 (0.57) .04 | -0.99 (0.57) .08 | -1.00 (0.57) .08 | -0.98(0.13) |
| a | Level \* age | 0.14 (0.12) .25 | 0.12 (0.12) .34 | 0.13 (0.12) .27 | 0.14 (0.12) .24 | 0.13 (0.12) .28 | 0.13 (0.12) .31 | 0.13 (0.12) .28 | 0.14 (0.12) .25 | 0.07 (0.12) .56 | 0.14 (0.12) .23 | 0.13 (0.12) .30 | 0.13(0.02) |
| a | Level \* education | -0.17 (0.15) .27 | -0.15 (0.15) .31 | -0.19 (0.15) .21 | -0.16 (0.16) .30 | -0.15 (0.16) .34 | -0.16 (0.16) .31 | -0.14 (0.15) .34 | -0.19 (0.15) .21 | -0.18 (0.16) .27 | -0.17 (0.16) .28 | -0.19 (0.15) .22 | -0.17(0.02) |
| a | Level \* height | 0.24 (0.07) <.01 | 0.24 (0.07) <.01 | 0.24 (0.07) <.01 | 0.26 (0.07) <.01 | 0.24 (0.07) <.01 | 0.24 (0.07) <.01 | 0.24 (0.07) <.01 | 0.25 (0.07) <.01 | 0.23 (0.07) <.01 | 0.24 (0.07) <.01 | 0.25 (0.07) <.01 | 0.24(0.01) |
| a | Level \* smoking | 0.80 (1.00) .42 | 0.77 (0.90) .39 | 0.84 (0.93) .36 | 1.02 (0.97) .29 | 0.79 (0.95) .41 | 0.87 (0.86) .31 | 0.93 (0.92) .31 | 0.92 (0.80) .25 | 0.74 (1.00) .46 | 0.96 (0.98) .33 | 0.76 (0.89) .39 | 0.85(0.09) |
| a | Level \* cardio | 1.18 (2.32) .61 | 1.46 (2.22) .51 | 1.53 (1.99) .44 | 1.42 (2.16) .51 | 1.50 (1.92) .43 | 1.33 (1.84) .47 | 1.47 (1.92) .44 | 1.37 (2.00) .49 | 0.90 (2.15) .68 | 1.25 (1.86) .50 | 1.44 (1.83) .43 | 1.35(0.19) |
| a | Level \* diabetes | -2.82 (1.70) .10 | -2.25 (1.86) .23 | -2.78 (1.74) .11 | -2.73 (1.74) .12 | -2.55 (1.71) .14 | -2.79 (1.77) .12 | -2.85 (1.72) .10 | -2.90 (1.73) .09 | -2.45 (1.82) .18 | -2.48 (1.74) .15 | -2.71 (1.75) .12 | -2.67(0.20) |
| a | Slope \* age | -0.10 (0.04) <.01 | -0.09 (0.04) .02 | -0.09 (0.04) .02 | -0.11 (0.04) <.01 | -0.09 (0.04) .01 | -0.09 (0.04) .02 | -0.09 (0.04) .02 | -0.10 (0.04) .01 | -0.07 (0.04) .06 | -0.10 (0.04) .01 | -0.10 (0.04) .01 | -0.09(0.01) |
| a | Slope \* education | 0.06 (0.05) .27 | 0.05 (0.06) .32 | 0.07 (0.05) .18 | 0.05 (0.06) .38 | 0.06 (0.06) .33 | 0.05 (0.06) .34 | 0.05 (0.06) .45 | 0.07 (0.06) .20 | 0.07 (0.06) .24 | 0.06 (0.06) .28 | 0.06 (0.06) .29 | 0.06(0.01) |
| a | Slope \* height | -0.01 (0.03) .75 | -0.01 (0.03) .76 | -0.00 (0.03) .88 | -0.04 (0.03) .21 | -0.01 (0.03) .75 | -0.01 (0.04) .75 | -0.01 (0.03) .72 | -0.02 (0.04) .49 | 0.00 (0.03) .99 | -0.01 (0.03) .73 | -0.02 (0.04) .54 | -0.01(0.01) |
| a | Slope \* smoking | -0.05 (0.38) .90 | -0.11 (0.39) .78 | -0.10 (0.39) .80 | -0.16 (0.39) .69 | -0.11 (0.38) .78 | -0.12 (0.39) .77 | -0.12 (0.41) .76 | -0.15 (0.35) .66 | -0.07 (0.39) .85 | -0.15 (0.38) .70 | -0.12 (0.38) .75 | -0.11(0.03) |
| a | Slope \* cardio | -0.26 (0.81) .75 | -0.35 (0.72) .63 | -0.36 (0.69) .60 | -0.38 (0.73) .60 | -0.35 (0.76) .65 | -0.30 (0.62) .63 | -0.40 (0.82) .62 | -0.31 (0.78) .69 | -0.25 (0.71) .72 | -0.28 (0.65) .66 | -0.31 (0.65) .64 | -0.32(0.05) |
| a | Slope \* diabetes | 0.34 (0.52) .52 | 0.22 (0.55) .69 | 0.40 (0.52) .44 | 0.33 (0.52) .52 | 0.28 (0.52) .59 | 0.34 (0.52) .51 | 0.32 (0.51) .53 | 0.44 (0.51) .39 | 0.22 (0.53) .67 | 0.26 (0.52) .61 | 0.32 (0.52) .54 | 0.32(0.07) |
| b | Level | 15.57 (1.64) <.01 | 10.36 (0.43) <.01 | 37.52 (1.38) <.01 | 12.16 (0.62) <.01 | 28.07 (2.10) <.01 | 17.88 (1.13) <.01 | 25.61 (0.27) <.01 | 35.75 (2.51) <.01 | 151.57 (11.61) <.01 | 36.12 (1.89) <.01 | 34.10 (0.94) <.01 | --- |
| b | Slope | 1.06 (0.48) .03 | 0.04 (0.12) .77 | -0.62 (0.38) .10 | 0.31 (0.16) .05 | 0.41 (0.54) .45 | -0.13 (0.36) .72 | 0.06 (0.08) .41 | 1.25 (0.63) .05 | 2.63 (3.90) .50 | -0.78 (0.56) .16 | 0.22 (0.32) .48 | --- |
| b | Level \* age | -0.16 (0.11) .14 | -0.06 (0.03) .04 | -0.29 (0.10) <.01 | -0.04 (0.04) .36 | -0.21 (0.14) .11 | -0.26 (0.07) <.01 | -0.00 (0.02) .77 | -0.41 (0.15) .01 | 2.79 (0.76) <.01 | 0.03 (0.14) .80 | -0.16 (0.07) .02 | --- |
| b | Level \* education | 0.95 (0.16) <.01 | 0.28 (0.04) <.01 | 0.68 (0.14) <.01 | 0.29 (0.06) <.01 | 1.29 (0.20) <.01 | 0.68 (0.11) <.01 | 0.13 (0.02) <.01 | 1.56 (0.23) <.01 | -6.54 (1.13) <.01 | 1.65 (0.20) <.01 | 0.09 (0.10) .36 | --- |
| b | Level \* height | -0.06 (0.13) .62 | -0.01 (0.03) .70 | -0.13 (0.10) .17 | 0.05 (0.05) .29 | -0.15 (0.15) .33 | 0.02 (0.08) .77 | 0.00 (0.02) .80 | 0.01 (0.20) .94 | 0.55 (0.95) .56 | -0.02 (0.15) .90 | 0.07 (0.08) .40 | --- |
| b | Level \* smoking | 0.54 (0.56) .34 | 0.05 (0.17) .78 | 0.42 (0.60) .49 | 0.24 (0.34) .48 | 1.08 (0.98) .27 | 0.62 (0.47) .19 | 0.16 (0.17) .34 | 1.08 (1.04) .30 | -4.92 (5.47) .37 | 0.47 (1.07) .66 | -1.09 (0.41) .01 | --- |
| b | Level \* cardio | -0.39 (1.15) .74 | 0.03 (0.25) .92 | 0.15 (1.23) .90 | -0.48 (0.51) .34 | 0.43 (1.48) .77 | -1.11 (0.96) .25 | -0.09 (0.16) .59 | -2.59 (1.88) .17 | 10.52 (6.55) .11 | -0.50 (1.30) .70 | 0.68 (1.13) .55 | --- |
| b | Level \* diabetes | -4.14 (1.38) <.01 | -0.81 (0.39) .04 | -3.73 (1.23) <.01 | -1.33 (0.56) .02 | -4.55 (1.84) .01 | 0.22 (1.10) .84 | -0.33 (0.21) .11 | -4.50 (1.93) .02 | 28.74 (10.37) .01 | -2.87 (1.76) .10 | -1.15 (0.97) .24 | --- |
| b | Slope \* age | -0.03 (0.03) .36 | -0.01 (0.01) .16 | -0.04 (0.02) .08 | -0.01 (0.01) .30 | -0.03 (0.03) .26 | 0.00 (0.02) .99 | -0.00 (0.00) .30 | -0.09 (0.04) .01 | 0.11 (0.24) .66 | -0.02 (0.04) .49 | -0.07 (0.02) <.01 | --- |
| b | Slope \* education | -0.07 (0.04) .09 | 0.00 (0.01) .98 | 0.06 (0.04) .14 | -0.01 (0.02) .38 | 0.05 (0.06) .38 | 0.04 (0.03) .21 | -0.00 (0.01) .82 | -0.00 (0.06) .95 | 0.02 (0.35) .96 | 0.06 (0.06) .31 | 0.03 (0.03) .37 | --- |
| b | Slope \* height | -0.00 (0.04) .95 | 0.00 (0.01) .67 | 0.02 (0.03) .35 | -0.02 (0.01) .08 | 0.04 (0.04) .28 | 0.00 (0.02) .93 | -0.00 (0.01) .72 | -0.01 (0.04) .73 | -0.14 (0.38) .72 | 0.00 (0.04) .93 | -0.03 (0.02) .15 | --- |
| b | Slope \* smoking | -0.12 (0.23) .61 | 0.01 (0.08) .86 | -0.05 (0.24) .84 | -0.00 (0.10) .97 | 0.01 (0.32) .98 | -0.16 (0.23) .49 | -0.01 (0.05) .85 | 0.16 (0.34) .63 | -0.43 (2.30) .85 | 0.13 (0.33) .70 | 0.02 (0.20) .91 | --- |
| b | Slope \* cardio | -0.20 (0.31) .53 | -0.00 (0.10) .97 | 0.07 (0.29) .80 | 0.01 (0.11) .92 | -0.34 (0.30) .26 | 0.45 (0.28) .11 | -0.08 (0.04) .08 | 0.04 (0.46) .93 | 1.48 (2.16) .49 | -0.16 (0.45) .73 | -0.04 (0.23) .86 | --- |
| b | Slope \* diabetes | 0.62 (0.37) .10 | -0.02 (0.10) .86 | -0.05 (0.33) .88 | 0.15 (0.14) .29 | -0.19 (0.40) .64 | -0.31 (0.30) .31 | 0.01 (0.07) .88 | -0.84 (0.48) .08 | 0.23 (3.55) .95 | 0.21 (0.47) .65 | -0.29 (0.26) .25 | --- |
| a | Var (Level) | 30.62 (6.04) <.01 | 30.69 (5.97) <.01 | 29.89 (6.03) <.01 | 31.07 (5.96) <.01 | 31.15 (6.06) <.01 | 30.53 (5.98) <.01 | 31.07 (5.91) <.01 | 31.17 (6.04) <.01 | 30.85 (6.40) <.01 | 30.18 (5.95) <.01 | 31.03 (6.14) <.01 | 30.75(0.42) |
| a | Var (Slope) | 2.41 (0.66) <.01 | 2.30 (0.62) <.01 | 2.08 (0.57) <.01 | 2.42 (0.64) <.01 | 2.22 (0.58) <.01 | 2.13 (0.63) <.01 | 2.34 (0.64) <.01 | 2.57 (0.69) <.01 | 2.27 (0.60) <.01 | 2.13 (0.61) <.01 | 2.21 (0.61) <.01 | 2.28(0.15) |
| a | Var (Residual) | 5.14 (0.32) <.01 | 5.09 (0.32) <.01 | 5.09 (0.35) <.01 | 5.03 (0.35) <.01 | 5.07 (0.34) <.01 | 5.09 (0.33) <.01 | 5.14 (0.34) <.01 | 5.26 (0.36) <.01 | 5.18 (0.33) <.01 | 5.13 (0.32) <.01 | 5.08 (0.34) <.01 | 5.12(0.06) |
| b | Var (Level) | 47.31 (6.53) <.01 | 3.67 (0.59) <.01 | 40.55 (5.65) <.01 | 7.46 (0.92) <.01 | 100.49 (13.20) <.01 | 21.68 (3.86) <.01 | 1.00 (0.18) <.01 | 142.39 (16.37) <.01 | 1937.23 (454.58) <.01 | 90.01 (13.30) <.01 | 16.08 (2.81) <.01 | --- |
| b | Var (Slope) | 0.84 (0.45) .06 | 0.01 (0.03) .66 | 0.62 (0.30) .04 | 0.13 (0.06) .03 | 1.05 (0.63) .09 | 0.10 (0.29) .73 | 0.00 (0.01) .69 | 2.29 (0.74) <.01 | 50.84 (35.47) .15 | 0.26 (0.65) .68 | 0.13 (0.29) .65 | --- |
| b | Var (Residual) | 20.02 (0.99) <.01 | 1.89 (0.10) <.01 | 17.36 (0.98) <.01 | 2.65 (0.15) <.01 | 27.86 (1.57) <.01 | 15.80 (0.88) <.01 | 0.82 (0.04) <.01 | 28.31 (1.48) <.01 | 1743.30 (79.01) <.01 | 41.03 (1.81) <.01 | 12.95 (0.63) <.01 | --- |
| a | Covar (Level, Slope) | -4.58 (1.83) .01 | -4.25 (1.75) .01 | -3.58 (1.66) .03 | -4.25 (1.72) .01 | -4.10 (1.69) .01 | -3.79 (1.80) .04 | -4.42 (1.74) .01 | -4.95 (1.93) .01 | -4.20 (1.80) .02 | -3.78 (1.79) .04 | -3.97 (1.69) .02 | -4.17(0.39) |
| b | Covar (Level, Slope) | -1.60 (1.46) .27 | 0.08 (0.12) .50 | 1.67 (1.16) .15 | -0.14 (0.20) .47 | 0.80 (2.48) .75 | 0.30 (0.86) .73 | 0.05 (0.04) .22 | -5.92 (2.89) .04 | 23.61 (117.17) .84 | -1.49 (2.60) .57 | 0.82 (0.86) .34 | --- |
|  | Correlation of Levels | 0.182 | 0.165 | 0.083 | -0.030 | 0.217 | -0.088 | 0.2250 | 0.282 | -0.10 | 0.125 | 0.105 | 0.11(0.13) |
|  | Correlation of Slopes | 0.553 | -0.440 | 0.211 | 0.827 | 0.142 | 0.132 | -0.4132 | 0.841 | 0.82 | 0.252 | -0.091 | 0.26(0.46) |
|  | Correlation of Residuals | 0.025 | 0.064 | -0.063 | -0.032 | 0.016 | 0.081 | -0.0029 | -0.041 | 0.15 | -0.026 | 0.120 | 0.03(0.07) |
|  | N | 351 | 363 | 363 | 363 | 360 | 360 | 363 | 363 | 362 | 363 | 363 | 361.27(3.61) |
|  | occasions | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43.00(0.00) |
|  | LL | -5,845 | -4,530 | -6,034 | -4,838 | -6,234 | -5,621 | -4,003 | -6,426 | -8,661 | -6,528 | -5,749 | -5,861(1,229) |
|  | AIC | 11,776 | 9,146 | 12,153 | 9,762 | 12,553 | 11,329 | 8,092 | 12,939 | 17,409 | 13,141 | 11,584 | 11,808(2,459) |
|  | BIC | 11,942 | 9,313 | 12,321 | 9,929 | 12,720 | 11,496 | 8,259 | 13,106 | 17,576 | 13,309 | 11,752 | 11,975(2,459) |

## block

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 1.21 (5.02) .81 | 1.87 (4.99) .71 | 8.31 (5.15) .11 | 6.94 (5.97) .24 | 5.36 (5.50) .33 |
| ab | Covar (Slopes) | 0.44 (0.19) .02 | 0.43 (0.19) .02 | 0.01 (0.11) .89 | 0.78 (0.44) .07 | 0.01 (0.11) .94 |
| ab | Covar (Residuals) | 0.12 (0.94) .90 | 0.17 (0.97) .86 | -0.15 (1.08) .89 | 0.25 (0.99) .80 | -0.06 (1.18) .96 |
| er | Corr (Levels) | --- | --- | --- | 0.18 (0.15) .23 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.55 (0.28) .05 | --- |
| er | Corr (Residuals) | --- | --- | --- | 0.02 (0.10) .80 | --- |
| a | Level | 18.44 (0.95) <.01 | 18.74 (1.33) <.01 | 18.36 (1.56) <.01 | 18.20 (1.59) <.01 | 18.35 (1.78) <.01 |
| a | Slope | -0.78 (0.22) <.01 | -0.88 (0.35) .01 | -2.22 (0.37) <.01 | -0.80 (0.55) .15 | -2.27 (0.42) <.01 |
| a | Level \* age | -0.01 (0.11) .96 | -0.00 (0.11) .99 | 0.08 (0.12) .53 | 0.14 (0.12) .25 | 0.06 (0.13) .65 |
| a | Level \* education | --- | -0.06 (0.14) .68 | -0.11 (0.15) .46 | -0.17 (0.15) .27 | -0.13 (0.15) .40 |
| a | Level \* height | --- | --- | 0.21 (0.07) <.01 | 0.24 (0.07) <.01 | 0.20 (0.07) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.80 (1.00) .42 | 0.97 (0.73) .18 |
| a | Level \* cardio | --- | --- | --- | 1.18 (2.32) .61 | 0.09 (2.53) .97 |
| a | Level \* diabetes | --- | --- | --- | -2.82 (1.70) .10 | -2.17 (1.61) .18 |
| a | Slope \* age | -0.06 (0.02) .01 | -0.06 (0.02) .01 | -0.06 (0.03) .04 | -0.10 (0.04) <.01 | -0.06 (0.03) .07 |
| a | Slope \* education | --- | 0.02 (0.04) .69 | 0.08 (0.04) .02 | 0.06 (0.05) .27 | 0.09 (0.04) .02 |
| a | Slope \* height | --- | --- | -0.01 (0.01) .68 | -0.01 (0.03) .75 | -0.01 (0.02) .76 |
| a | Slope \* smoking | --- | --- | --- | -0.05 (0.38) .90 | -0.01 (0.31) .98 |
| a | Slope \* cardio | --- | --- | --- | -0.26 (0.81) .75 | 0.28 (0.45) .52 |
| a | Slope \* diabetes | --- | --- | --- | 0.34 (0.52) .52 | 0.20 (0.36) .57 |
| b | Level | 20.66 (0.81) <.01 | 13.98 (1.12) <.01 | 18.35 (2.41) <.01 | 15.57 (1.64) <.01 | 19.26 (2.70) <.01 |
| b | Slope | 0.64 (0.18) <.01 | 1.08 (0.26) <.01 | 0.78 (0.39) .04 | 1.06 (0.48) .03 | 0.76 (0.47) .10 |
| b | Level \* age | -0.18 (0.09) .03 | -0.16 (0.08) .04 | -0.11 (0.17) .50 | -0.16 (0.11) .14 | -0.14 (0.17) .44 |
| b | Level \* education | --- | 1.05 (0.12) <.01 | 0.91 (0.25) <.01 | 0.95 (0.16) <.01 | 0.87 (0.27) <.01 |
| b | Level \* height | --- | --- | -0.01 (0.12) .95 | -0.06 (0.13) .62 | -0.00 (0.12) .98 |
| b | Level \* smoking | --- | --- | --- | 0.54 (0.56) .34 | 1.52 (1.53) .32 |
| b | Level \* cardio | --- | --- | --- | -0.39 (1.15) .74 | -0.28 (2.51) .91 |
| b | Level \* diabetes | --- | --- | --- | -4.14 (1.38) <.01 | -4.31 (2.45) .08 |
| b | Slope \* age | -0.03 (0.02) .13 | -0.03 (0.02) .12 | -0.04 (0.03) .11 | -0.03 (0.03) .36 | -0.04 (0.03) .15 |
| b | Slope \* education | --- | -0.07 (0.03) .01 | -0.07 (0.04) .15 | -0.07 (0.04) .09 | -0.07 (0.05) .17 |
| b | Slope \* height | --- | --- | -0.01 (0.02) .62 | -0.00 (0.04) .95 | -0.01 (0.02) .60 |
| b | Slope \* smoking | --- | --- | --- | -0.12 (0.23) .61 | -0.10 (0.27) .70 |
| b | Slope \* cardio | --- | --- | --- | -0.20 (0.31) .53 | -0.07 (0.78) .92 |
| b | Slope \* diabetes | --- | --- | --- | 0.62 (0.37) .10 | 0.17 (0.42) .69 |
| a | Var (Level) | 33.68 (4.91) <.01 | 33.55 (4.91) <.01 | 25.50 (4.96) <.01 | 30.62 (6.04) <.01 | 24.01 (5.24) <.01 |
| a | Var (Slope) | 1.06 (0.33) <.01 | 1.10 (0.34) <.01 | 0.18 (0.15) .22 | 2.41 (0.66) <.01 | 0.16 (0.16) .30 |
| a | Var (Residual) | 6.93 (0.39) <.01 | 6.89 (0.39) <.01 | 5.87 (0.43) <.01 | 5.14 (0.32) <.01 | 5.89 (0.46) <.01 |
| b | Var (Level) | 66.81 (5.43) <.01 | 54.23 (4.95) <.01 | 51.76 (9.24) <.01 | 47.31 (6.53) <.01 | 46.45 (9.85) <.01 |
| b | Var (Slope) | 0.35 (0.14) .01 | 0.29 (0.14) .03 | 0.16 (0.20) .42 | 0.84 (0.45) .06 | 0.14 (0.22) .51 |
| b | Var (Residual) | 21.59 (0.88) <.01 | 21.55 (0.89) <.01 | 19.80 (1.42) <.01 | 20.02 (0.99) <.01 | 19.80 (1.47) <.01 |
| a | Covar (Level, Slope) | -2.39 (1.08) .03 | -2.45 (1.13) .03 | -1.05 (0.84) .21 | -4.58 (1.83) .01 | -1.01 (0.93) .28 |
| b | Covar (Level, Slope) | -3.03 (0.90) <.01 | -2.19 (0.85) .01 | -1.31 (1.37) .34 | -1.60 (1.46) .27 | -1.00 (1.44) .49 |
|  | Correlation of Levels | 0.026 | 0.044 | 0.229 | 0.182 | 0.1606 |
|  | Correlation of Slopes | 0.716 | 0.762 | 0.088 | 0.553 | 0.0590 |
|  | Correlation of Residuals | 0.010 | 0.014 | -0.014 | 0.025 | -0.0059 |
|  | N | 563 | 563 | 150 | 351 | 150 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -7,354 | -7,309 | -3,258 | -5,845 | -3,248 |
|  | AIC | 14,750 | 14,668 | 6,573 | 11,776 | 6,585 |
|  | BIC | 14,841 | 14,777 | 6,660 | 11,942 | 6,721 |

## bnt

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 3.07 (1.36) .02 | 3.08 (1.29) .02 | 3.69 (1.53) .02 | 1.75 (1.60) .28 | 2.63 (1.52) .08 |
| ab | Covar (Slopes) | 0.01 (0.05) .86 | 0.01 (0.05) .88 | 0.03 (0.06) .68 | -0.08 (0.13) .55 | 0.03 (0.07) .69 |
| ab | Covar (Residuals) | 0.13 (0.22) .55 | 0.14 (0.22) .54 | 0.02 (0.23) .91 | 0.20 (0.22) .37 | 0.04 (0.25) .89 |
| er | Corr (Levels) | --- | --- | --- | 0.16 (0.15) .26 | --- |
| er | Corr (Slopes) | --- | --- | --- | -0.43 (0.82) .59 | --- |
| er | Corr (Residuals) | --- | --- | --- | 0.06 (0.07) .38 | --- |
| a | Level | 18.58 (0.94) <.01 | 18.76 (1.31) <.01 | 18.32 (1.60) <.01 | 18.41 (1.60) <.01 | 18.38 (1.88) <.01 |
| a | Slope | -0.94 (0.25) <.01 | -1.05 (0.38) .01 | -2.17 (0.40) <.01 | -0.94 (0.56) .10 | -2.27 (0.48) <.01 |
| a | Level \* age | -0.04 (0.10) .73 | -0.03 (0.11) .77 | 0.08 (0.13) .55 | 0.12 (0.12) .34 | 0.06 (0.14) .65 |
| a | Level \* education | --- | -0.03 (0.14) .85 | -0.11 (0.15) .46 | -0.15 (0.15) .31 | -0.14 (0.15) .35 |
| a | Level \* height | --- | --- | 0.20 (0.07) <.01 | 0.24 (0.07) <.01 | 0.20 (0.07) .01 |
| a | Level \* smoking | --- | --- | --- | 0.77 (0.90) .39 | 0.94 (1.00) .35 |
| a | Level \* cardio | --- | --- | --- | 1.46 (2.22) .51 | 0.35 (2.69) .90 |
| a | Level \* diabetes | --- | --- | --- | -2.25 (1.86) .23 | -2.13 (1.76) .23 |
| a | Slope \* age | -0.05 (0.02) .03 | -0.05 (0.03) .04 | -0.07 (0.03) .03 | -0.09 (0.04) .02 | -0.06 (0.03) .06 |
| a | Slope \* education | --- | 0.02 (0.04) .67 | 0.09 (0.04) .02 | 0.05 (0.06) .32 | 0.10 (0.04) .02 |
| a | Slope \* height | --- | --- | -0.01 (0.02) .74 | -0.01 (0.03) .76 | -0.00 (0.02) .83 |
| a | Slope \* smoking | --- | --- | --- | -0.11 (0.39) .78 | 0.00 (0.30) .99 |
| a | Slope \* cardio | --- | --- | --- | -0.35 (0.72) .63 | 0.35 (0.55) .52 |
| a | Slope \* diabetes | --- | --- | --- | 0.22 (0.55) .69 | 0.16 (0.39) .68 |
| b | Level | 11.88 (0.25) <.01 | 9.83 (0.29) <.01 | 10.37 (0.74) <.01 | 10.36 (0.43) <.01 | 10.85 (0.73) <.01 |
| b | Slope | -0.02 (0.05) .67 | 0.02 (0.07) .74 | -0.01 (0.13) .93 | 0.04 (0.12) .77 | -0.09 (0.17) .62 |
| b | Level \* age | -0.06 (0.02) .01 | -0.06 (0.02) .01 | -0.04 (0.05) .38 | -0.06 (0.03) .04 | -0.05 (0.06) .32 |
| b | Level \* education | --- | 0.32 (0.03) <.01 | 0.29 (0.07) <.01 | 0.28 (0.04) <.01 | 0.26 (0.07) <.01 |
| b | Level \* height | --- | --- | 0.01 (0.03) .76 | -0.01 (0.03) .70 | 0.01 (0.03) .85 |
| b | Level \* smoking | --- | --- | --- | 0.05 (0.17) .78 | 0.44 (0.24) .06 |
| b | Level \* cardio | --- | --- | --- | 0.03 (0.25) .92 | -0.80 (0.45) .07 |
| b | Level \* diabetes | --- | --- | --- | -0.81 (0.39) .04 | -1.64 (0.45) <.01 |
| b | Slope \* age | -0.01 (0.00) .14 | -0.01 (0.00) .12 | -0.01 (0.01) .35 | -0.01 (0.01) .16 | -0.01 (0.01) .47 |
| b | Slope \* education | --- | -0.01 (0.01) .40 | -0.00 (0.02) .78 | 0.00 (0.01) .98 | 0.00 (0.02) .96 |
| b | Slope \* height | --- | --- | -0.00 (0.01) .85 | 0.00 (0.01) .67 | 0.00 (0.01) .98 |
| b | Slope \* smoking | --- | --- | --- | 0.01 (0.08) .86 | 0.01 (0.11) .89 |
| b | Slope \* cardio | --- | --- | --- | -0.00 (0.10) .97 | 0.20 (0.19) .30 |
| b | Slope \* diabetes | --- | --- | --- | -0.02 (0.10) .86 | -0.03 (0.12) .81 |
| a | Var (Level) | 33.34 (5.04) <.01 | 33.06 (5.00) <.01 | 25.74 (5.49) <.01 | 30.69 (5.97) <.01 | 24.32 (6.04) <.01 |
| a | Var (Slope) | 0.99 (0.30) <.01 | 1.02 (0.31) <.01 | 0.22 (0.18) .21 | 2.30 (0.62) <.01 | 0.21 (0.21) .32 |
| a | Var (Residual) | 6.94 (0.39) <.01 | 6.92 (0.39) <.01 | 5.75 (0.42) <.01 | 5.09 (0.32) <.01 | 5.77 (0.44) <.01 |
| b | Var (Level) | 5.56 (0.51) <.01 | 4.33 (0.41) <.01 | 3.48 (0.85) <.01 | 3.67 (0.59) <.01 | 2.70 (0.78) <.01 |
| b | Var (Slope) | 0.01 (0.01) .57 | 0.01 (0.01) .54 | 0.02 (0.03) .40 | 0.01 (0.03) .66 | 0.03 (0.03) .36 |
| b | Var (Residual) | 1.94 (0.08) <.01 | 1.93 (0.08) <.01 | 1.79 (0.14) <.01 | 1.89 (0.10) <.01 | 1.75 (0.16) <.01 |
| a | Covar (Level, Slope) | -2.05 (1.09) .06 | -2.06 (1.13) .07 | -1.16 (0.94) .22 | -4.25 (1.75) .01 | -1.14 (1.12) .31 |
| b | Covar (Level, Slope) | 0.03 (0.08) .66 | 0.06 (0.07) .41 | 0.21 (0.14) .12 | 0.08 (0.12) .50 | 0.24 (0.14) .08 |
|  | Correlation of Levels | 0.225 | 0.258 | 0.3898 | 0.165 | 0.325 |
|  | Correlation of Slopes | 0.090 | 0.073 | 0.3630 | -0.440 | 0.370 |
|  | Correlation of Residuals | 0.035 | 0.037 | 0.0078 | 0.064 | 0.011 |
|  | N | 594 | 594 | 150 | 363 | 150 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -5,551 | -5,495 | -2,505 | -4,530 | -2,489 |
|  | AIC | 11,143 | 11,039 | 5,069 | 9,146 | 5,068 |
|  | BIC | 11,235 | 11,149 | 5,156 | 9,313 | 5,204 |

## categories

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 5.18 (4.77) .28 | 5.41 (4.90) .27 | 8.14 (5.47) .14 | 2.88 (4.99) .56 | 5.70 (5.66) .31 |
| ab | Covar (Slopes) | 0.05 (0.22) .82 | 0.05 (0.21) .80 | 0.15 (0.20) .46 | 0.24 (0.43) .58 | 0.16 (0.25) .52 |
| ab | Covar (Residuals) | -0.77 (0.68) .26 | -0.80 (0.69) .25 | -0.49 (0.71) .49 | -0.59 (0.70) .40 | -0.48 (0.83) .56 |
| er | Corr (Levels) | --- | --- | --- | 0.08 (0.14) .56 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.21 (0.38) .58 | --- |
| er | Corr (Residuals) | --- | --- | --- | -0.06 (0.07) .40 | --- |
| a | Level | 18.65 (0.96) <.01 | 18.97 (1.34) <.01 | 18.47 (1.47) <.01 | 18.75 (1.55) <.01 | 18.51 (1.65) <.01 |
| a | Slope | -0.98 (0.23) <.01 | -1.14 (0.35) <.01 | -2.23 (0.38) <.01 | -1.21 (0.56) .03 | -2.35 (0.49) <.01 |
| a | Level \* age | -0.03 (0.11) .81 | -0.02 (0.11) .85 | 0.08 (0.12) .48 | 0.13 (0.12) .27 | 0.07 (0.13) .59 |
| a | Level \* education | --- | -0.05 (0.14) .72 | -0.13 (0.14) .37 | -0.19 (0.15) .21 | -0.16 (0.15) .30 |
| a | Level \* height | --- | --- | 0.21 (0.07) <.01 | 0.24 (0.07) <.01 | 0.20 (0.07) .01 |
| a | Level \* smoking | --- | --- | --- | 0.84 (0.93) .36 | 0.92 (1.00) .35 |
| a | Level \* cardio | --- | --- | --- | 1.53 (1.99) .44 | 0.32 (2.20) .88 |
| a | Level \* diabetes | --- | --- | --- | -2.78 (1.74) .11 | -2.31 (1.67) .17 |
| a | Slope \* age | -0.06 (0.02) .03 | -0.06 (0.03) .03 | -0.07 (0.03) .02 | -0.09 (0.04) .02 | -0.07 (0.04) .06 |
| a | Slope \* education | --- | 0.02 (0.04) .56 | 0.10 (0.04) .01 | 0.07 (0.05) .18 | 0.11 (0.04) .01 |
| a | Slope \* height | --- | --- | -0.01 (0.02) .73 | -0.00 (0.03) .88 | -0.01 (0.02) .78 |
| a | Slope \* smoking | --- | --- | --- | -0.10 (0.39) .80 | 0.01 (0.30) .97 |
| a | Slope \* cardio | --- | --- | --- | -0.36 (0.69) .60 | 0.33 (0.49) .50 |
| a | Slope \* diabetes | --- | --- | --- | 0.40 (0.52) .44 | 0.29 (0.40) .47 |
| b | Level | 40.57 (0.75) <.01 | 35.66 (1.05) <.01 | 37.52 (2.56) <.01 | 37.52 (1.38) <.01 | 38.49 (2.80) <.01 |
| b | Slope | -0.27 (0.20) .17 | -0.57 (0.29) .05 | -0.70 (0.62) .26 | -0.62 (0.38) .10 | -0.56 (0.66) .40 |
| b | Level \* age | -0.28 (0.08) <.01 | -0.26 (0.08) <.01 | -0.32 (0.20) .10 | -0.29 (0.10) <.01 | -0.35 (0.20) .09 |
| b | Level \* education | --- | 0.78 (0.10) <.01 | 0.77 (0.26) <.01 | 0.68 (0.14) <.01 | 0.72 (0.29) .01 |
| b | Level \* height | --- | --- | -0.11 (0.14) .45 | -0.13 (0.10) .17 | -0.10 (0.15) .50 |
| b | Level \* smoking | --- | --- | --- | 0.42 (0.60) .49 | 0.80 (1.30) .54 |
| b | Level \* cardio | --- | --- | --- | 0.15 (1.23) .90 | 1.09 (3.05) .72 |
| b | Level \* diabetes | --- | --- | --- | -3.73 (1.23) <.01 | -4.99 (2.31) .03 |
| b | Slope \* age | -0.04 (0.02) .06 | -0.04 (0.02) .07 | -0.03 (0.04) .49 | -0.04 (0.02) .08 | -0.03 (0.04) .56 |
| b | Slope \* education | --- | 0.04 (0.03) .14 | 0.07 (0.06) .25 | 0.06 (0.04) .14 | 0.07 (0.06) .29 |
| b | Slope \* height | --- | --- | 0.00 (0.03) .87 | 0.02 (0.03) .35 | 0.01 (0.04) .84 |
| b | Slope \* smoking | --- | --- | --- | -0.05 (0.24) .84 | 0.05 (0.40) .89 |
| b | Slope \* cardio | --- | --- | --- | 0.07 (0.29) .80 | 0.04 (0.66) .95 |
| b | Slope \* diabetes | --- | --- | --- | -0.05 (0.33) .88 | 0.02 (0.68) .98 |
| a | Var (Level) | 33.80 (4.88) <.01 | 33.65 (4.88) <.01 | 25.45 (4.89) <.01 | 29.89 (6.03) <.01 | 23.85 (5.43) <.01 |
| a | Var (Slope) | 0.95 (0.27) <.01 | 0.96 (0.28) <.01 | 0.20 (0.15) .20 | 2.08 (0.57) <.01 | 0.18 (0.16) .28 |
| a | Var (Residual) | 6.89 (0.39) <.01 | 6.87 (0.39) <.01 | 5.78 (0.44) <.01 | 5.09 (0.35) <.01 | 5.81 (0.48) <.01 |
| b | Var (Level) | 60.37 (4.98) <.01 | 52.97 (4.46) <.01 | 58.86 (10.51) <.01 | 40.55 (5.65) <.01 | 54.17 (10.90) <.01 |
| b | Var (Slope) | 0.75 (0.17) <.01 | 0.76 (0.16) <.01 | 0.91 (0.34) .01 | 0.62 (0.30) .04 | 0.89 (0.47) .06 |
| b | Var (Residual) | 17.95 (0.80) <.01 | 17.91 (0.80) <.01 | 17.31 (1.30) <.01 | 17.36 (0.98) <.01 | 17.27 (1.76) <.01 |
| a | Covar (Level, Slope) | -1.93 (1.03) .06 | -1.92 (1.05) .07 | -1.04 (0.85) .22 | -3.58 (1.66) .03 | -0.96 (1.00) .34 |
| b | Covar (Level, Slope) | 0.34 (0.75) .65 | 0.01 (0.69) .99 | 0.25 (1.47) .87 | 1.67 (1.16) .15 | 0.18 (1.72) .92 |
|  | Correlation of Levels | 0.115 | 0.128 | 0.210 | 0.083 | 0.158 |
|  | Correlation of Slopes | 0.057 | 0.062 | 0.355 | 0.211 | 0.408 |
|  | Correlation of Residuals | -0.069 | -0.072 | -0.049 | -0.063 | -0.048 |
|  | N | 593 | 593 | 150 | 363 | 150 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -7,625 | -7,588 | -3,266 | -6,034 | -3,256 |
|  | AIC | 15,293 | 15,226 | 6,591 | 12,153 | 6,602 |
|  | BIC | 15,385 | 15,335 | 6,678 | 12,321 | 6,737 |

## digit\_tot

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | -1.88 (2.17) .39 | -1.59 (2.10) .45 | -0.61 (1.85) .74 | -0.45 (2.25) .84 | -1.55 (1.80) .39 |
| ab | Covar (Slopes) | 0.18 (0.08) .03 | 0.18 (0.09) .05 | -0.02 (0.06) .76 | 0.46 (0.17) .01 | -0.02 (0.06) .80 |
| ab | Covar (Residuals) | 0.13 (0.24) .60 | 0.13 (0.24) .58 | 0.07 (0.29) .80 | -0.12 (0.30) .69 | 0.07 (0.31) .83 |
| er | Corr (Levels) | --- | --- | --- | -0.03 (0.15) .84 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.83 (0.27) <.01 | --- |
| er | Corr (Residuals) | --- | --- | --- | -0.03 (0.08) .69 | --- |
| a | Level | 18.86 (0.95) <.01 | 19.26 (1.32) <.01 | 18.41 (1.44) <.01 | 18.59 (1.58) <.01 | 18.40 (1.78) <.01 |
| a | Slope | -0.87 (0.24) <.01 | -0.95 (0.38) .01 | -2.20 (0.42) <.01 | -0.85 (0.59) .15 | -2.26 (0.48) <.01 |
| a | Level \* age | -0.03 (0.11) .79 | -0.03 (0.11) .80 | 0.07 (0.12) .57 | 0.14 (0.12) .24 | 0.04 (0.12) .71 |
| a | Level \* education | --- | -0.07 (0.14) .63 | -0.10 (0.14) .47 | -0.16 (0.16) .30 | -0.13 (0.15) .40 |
| a | Level \* height | --- | --- | 0.21 (0.08) .01 | 0.26 (0.07) <.01 | 0.20 (0.09) .02 |
| a | Level \* smoking | --- | --- | --- | 1.02 (0.97) .29 | 0.96 (0.96) .32 |
| a | Level \* cardio | --- | --- | --- | 1.42 (2.16) .51 | 0.22 (2.35) .92 |
| a | Level \* diabetes | --- | --- | --- | -2.73 (1.74) .12 | -2.26 (1.72) .19 |
| a | Slope \* age | -0.06 (0.03) .02 | -0.06 (0.03) .02 | -0.05 (0.03) .04 | -0.11 (0.04) <.01 | -0.05 (0.02) .05 |
| a | Slope \* education | --- | 0.01 (0.04) .78 | 0.08 (0.04) .05 | 0.05 (0.06) .38 | 0.09 (0.04) .05 |
| a | Slope \* height | --- | --- | -0.00 (0.02) .76 | -0.04 (0.03) .21 | -0.00 (0.02) .80 |
| a | Slope \* smoking | --- | --- | --- | -0.16 (0.39) .69 | -0.01 (0.26) .96 |
| a | Slope \* cardio | --- | --- | --- | -0.38 (0.73) .60 | 0.37 (0.43) .40 |
| a | Slope \* diabetes | --- | --- | --- | 0.33 (0.52) .52 | 0.24 (0.35) .49 |
| b | Level | 13.56 (0.30) <.01 | 11.29 (0.41) <.01 | 13.43 (0.87) <.01 | 12.16 (0.62) <.01 | 13.59 (1.04) <.01 |
| b | Slope | 0.23 (0.07) <.01 | 0.30 (0.10) <.01 | 0.17 (0.17) .32 | 0.31 (0.16) .05 | 0.20 (0.22) .35 |
| b | Level \* age | -0.04 (0.03) .20 | -0.03 (0.03) .27 | -0.07 (0.06) .27 | -0.04 (0.04) .36 | -0.08 (0.07) .25 |
| b | Level \* education | --- | 0.36 (0.04) <.01 | 0.29 (0.09) <.01 | 0.29 (0.06) <.01 | 0.28 (0.10) <.01 |
| b | Level \* height | --- | --- | 0.02 (0.05) .64 | 0.05 (0.05) .29 | 0.02 (0.05) .66 |
| b | Level \* smoking | --- | --- | --- | 0.24 (0.34) .48 | 0.40 (0.55) .46 |
| b | Level \* cardio | --- | --- | --- | -0.48 (0.51) .34 | -0.38 (0.94) .69 |
| b | Level \* diabetes | --- | --- | --- | -1.33 (0.56) .02 | -1.61 (0.84) .05 |
| b | Slope \* age | -0.01 (0.01) .31 | -0.01 (0.01) .29 | -0.01 (0.01) .38 | -0.01 (0.01) .30 | -0.01 (0.02) .41 |
| b | Slope \* education | --- | -0.01 (0.01) .32 | -0.01 (0.02) .46 | -0.01 (0.02) .38 | -0.02 (0.02) .41 |
| b | Slope \* height | --- | --- | -0.01 (0.01) .32 | -0.02 (0.01) .08 | -0.01 (0.01) .29 |
| b | Slope \* smoking | --- | --- | --- | -0.00 (0.10) .97 | -0.01 (0.14) .92 |
| b | Slope \* cardio | --- | --- | --- | 0.01 (0.11) .92 | -0.10 (0.28) .71 |
| b | Slope \* diabetes | --- | --- | --- | 0.15 (0.14) .29 | 0.05 (0.16) .74 |
| a | Var (Level) | 33.52 (4.85) <.01 | 33.38 (4.84) <.01 | 25.66 (4.97) <.01 | 31.07 (5.96) <.01 | 24.13 (5.67) <.01 |
| a | Var (Slope) | 1.11 (0.32) <.01 | 1.13 (0.33) <.01 | 0.18 (0.15) .23 | 2.42 (0.64) <.01 | 0.16 (0.16) .34 |
| a | Var (Residual) | 6.87 (0.39) <.01 | 6.85 (0.39) <.01 | 5.82 (0.43) <.01 | 5.03 (0.35) <.01 | 5.86 (0.48) <.01 |
| b | Var (Level) | 10.66 (0.84) <.01 | 9.14 (0.74) <.01 | 6.42 (1.34) <.01 | 7.46 (0.92) <.01 | 5.88 (1.48) <.01 |
| b | Var (Slope) | 0.11 (0.03) <.01 | 0.10 (0.03) <.01 | 0.05 (0.03) .09 | 0.13 (0.06) .03 | 0.05 (0.04) .18 |
| b | Var (Residual) | 2.68 (0.12) <.01 | 2.68 (0.12) <.01 | 2.40 (0.17) <.01 | 2.65 (0.15) <.01 | 2.40 (0.18) <.01 |
| a | Covar (Level, Slope) | -2.27 (1.12) .04 | -2.27 (1.12) .04 | -1.06 (0.89) .23 | -4.25 (1.72) .01 | -1.01 (1.06) .34 |
| b | Covar (Level, Slope) | -0.38 (0.15) .01 | -0.32 (0.14) .02 | 0.02 (0.17) .91 | -0.14 (0.20) .47 | 0.02 (0.20) .90 |
|  | Correlation of Levels | -0.099 | -0.091 | -0.047 | -0.030 | -0.130 |
|  | Correlation of Slopes | 0.521 | 0.523 | -0.190 | 0.827 | -0.184 |
|  | Correlation of Residuals | 0.030 | 0.031 | 0.020 | -0.032 | 0.018 |
|  | N | 595 | 595 | 150 | 363 | 150 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -5,945 | -5,906 | -2,594 | -4,838 | -2,582 |
|  | AIC | 11,931 | 11,861 | 5,246 | 9,762 | 5,254 |
|  | BIC | 12,023 | 11,971 | 5,334 | 9,929 | 5,389 |

## fas

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 14.66 (7.03) .04 | 14.54 (6.56) .03 | 13.16 (7.72) .09 | 12.14 (8.12) .14 | 8.27 (8.50) .33 |
| ab | Covar (Slopes) | 0.33 (0.21) .12 | 0.33 (0.21) .12 | 0.04 (0.16) .80 | 0.22 (0.53) .68 | 0.03 (0.19) .86 |
| ab | Covar (Residuals) | 0.63 (0.83) .45 | 0.66 (0.84) .43 | 0.76 (1.00) .45 | 0.19 (1.06) .86 | 0.77 (1.14) .50 |
| er | Corr (Levels) | --- | --- | --- | 0.22 (0.14) .12 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.14 (0.35) .69 | --- |
| er | Corr (Residuals) | --- | --- | --- | 0.02 (0.09) .86 | --- |
| a | Level | 18.54 (0.97) <.01 | 18.73 (1.36) <.01 | 18.41 (1.48) <.01 | 18.51 (1.60) <.01 | 18.42 (1.82) <.01 |
| a | Slope | -0.97 (0.23) <.01 | -1.12 (0.35) <.01 | -2.22 (0.41) <.01 | -1.01 (0.55) .07 | -2.32 (0.43) <.01 |
| a | Level \* age | -0.01 (0.11) .91 | 0.00 (0.11) .99 | 0.08 (0.12) .49 | 0.13 (0.12) .28 | 0.07 (0.12) .60 |
| a | Level \* education | --- | -0.04 (0.14) .80 | -0.12 (0.15) .43 | -0.15 (0.16) .34 | -0.14 (0.15) .36 |
| a | Level \* height | --- | --- | 0.21 (0.07) <.01 | 0.24 (0.07) <.01 | 0.20 (0.08) .01 |
| a | Level \* smoking | --- | --- | --- | 0.79 (0.95) .41 | 0.94 (0.97) .34 |
| a | Level \* cardio | --- | --- | --- | 1.50 (1.92) .43 | 0.24 (2.29) .92 |
| a | Level \* diabetes | --- | --- | --- | -2.55 (1.71) .14 | -2.24 (1.60) .16 |
| a | Slope \* age | -0.06 (0.02) .02 | -0.06 (0.02) .02 | -0.06 (0.03) .03 | -0.09 (0.04) .01 | -0.06 (0.03) .05 |
| a | Slope \* education | --- | 0.02 (0.04) .54 | 0.09 (0.04) .03 | 0.06 (0.06) .33 | 0.10 (0.04) .02 |
| a | Slope \* height | --- | --- | -0.00 (0.02) .79 | -0.01 (0.03) .75 | -0.00 (0.02) .84 |
| a | Slope \* smoking | --- | --- | --- | -0.11 (0.38) .78 | 0.02 (0.31) .96 |
| a | Slope \* cardio | --- | --- | --- | -0.35 (0.76) .65 | 0.27 (0.57) .63 |
| a | Slope \* diabetes | --- | --- | --- | 0.28 (0.52) .59 | 0.30 (0.35) .40 |
| b | Level | 34.12 (1.08) <.01 | 24.08 (1.46) <.01 | 29.49 (3.49) <.01 | 28.07 (2.10) <.01 | 30.45 (3.98) <.01 |
| b | Slope | 0.58 (0.20) <.01 | 0.66 (0.31) .03 | 0.55 (0.62) .37 | 0.41 (0.54) .45 | 0.59 (0.78) .45 |
| b | Level \* age | -0.11 (0.12) .35 | -0.07 (0.10) .48 | -0.30 (0.26) .25 | -0.21 (0.14) .11 | -0.34 (0.29) .25 |
| b | Level \* education | --- | 1.56 (0.15) <.01 | 1.36 (0.35) <.01 | 1.29 (0.20) <.01 | 1.27 (0.36) <.01 |
| b | Level \* height | --- | --- | -0.10 (0.18) .56 | -0.15 (0.15) .33 | -0.11 (0.20) .58 |
| b | Level \* smoking | --- | --- | --- | 1.08 (0.98) .27 | 2.93 (1.66) .08 |
| b | Level \* cardio | --- | --- | --- | 0.43 (1.48) .77 | -1.92 (3.47) .58 |
| b | Level \* diabetes | --- | --- | --- | -4.55 (1.84) .01 | -7.04 (2.83) .01 |
| b | Slope \* age | -0.03 (0.02) .07 | -0.03 (0.02) .06 | -0.07 (0.03) .06 | -0.03 (0.03) .26 | -0.06 (0.04) .08 |
| b | Slope \* education | --- | -0.01 (0.03) .69 | 0.02 (0.06) .77 | 0.05 (0.06) .38 | 0.02 (0.07) .76 |
| b | Slope \* height | --- | --- | 0.00 (0.02) .99 | 0.04 (0.04) .28 | 0.00 (0.02) .98 |
| b | Slope \* smoking | --- | --- | --- | 0.01 (0.32) .98 | -0.09 (0.41) .83 |
| b | Slope \* cardio | --- | --- | --- | -0.34 (0.30) .26 | 0.07 (0.73) .92 |
| b | Slope \* diabetes | --- | --- | --- | -0.19 (0.40) .64 | 0.50 (0.60) .41 |
| a | Var (Level) | 34.13 (5.09) <.01 | 34.04 (5.10) <.01 | 25.36 (4.79) <.01 | 31.15 (6.06) <.01 | 23.81 (5.09) <.01 |
| a | Var (Slope) | 0.98 (0.27) <.01 | 1.00 (0.28) <.01 | 0.19 (0.17) .26 | 2.22 (0.58) <.01 | 0.18 (0.18) .34 |
| a | Var (Residual) | 6.92 (0.39) <.01 | 6.89 (0.39) <.01 | 5.76 (0.47) <.01 | 5.07 (0.34) <.01 | 5.78 (0.58) <.01 |
| b | Var (Level) | 142.84 (12.10) <.01 | 114.39 (9.32) <.01 | 114.60 (21.09) <.01 | 100.49 (13.20) <.01 | 99.42 (22.80) <.01 |
| b | Var (Slope) | 0.30 (0.22) .18 | 0.29 (0.22) .19 | 0.18 (0.32) .57 | 1.05 (0.63) .09 | 0.22 (0.40) .57 |
| b | Var (Residual) | 28.55 (1.24) <.01 | 28.53 (1.24) <.01 | 25.83 (1.93) <.01 | 27.86 (1.57) <.01 | 25.52 (1.99) <.01 |
| a | Covar (Level, Slope) | -2.12 (1.09) .05 | -2.14 (1.11) .05 | -0.96 (0.94) .31 | -4.10 (1.69) .01 | -0.87 (1.04) .40 |
| b | Covar (Level, Slope) | 0.16 (1.32) .90 | 0.47 (1.15) .68 | 2.10 (2.16) .33 | 0.80 (2.48) .75 | 2.71 (2.70) .32 |
|  | Correlation of Levels | 0.210 | 0.233 | 0.244 | 0.217 | 0.170 |
|  | Correlation of Slopes | 0.612 | 0.620 | 0.227 | 0.142 | 0.171 |
|  | Correlation of Residuals | 0.045 | 0.047 | 0.062 | 0.016 | 0.063 |
|  | N | 571 | 571 | 150 | 360 | 150 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -7,853 | -7,798 | -3,393 | -6,234 | -3,380 |
|  | AIC | 15,748 | 15,646 | 6,844 | 12,553 | 6,850 |
|  | BIC | 15,839 | 15,754 | 6,931 | 12,720 | 6,985 |

## information

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

Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf

Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf

Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf

Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf

Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf

Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | full |
| ab | Covar (Levels) | -1.79 (4.31) .68 | -0.93 (4.32) .83 | 0.93 (4.12) .82 | -0.63 (4.34) .88 |
| ab | Covar (Slopes) | -0.35 (0.20) .08 | -0.33 (0.20) .10 | -0.11 (0.28) .70 | -0.07 (0.30) .81 |
| ab | Covar (Residuals) | 0.13 (0.46) .78 | 0.12 (0.46) .79 | 0.68 (0.58) .24 | 0.69 (0.63) .27 |
| er | Corr (Levels) | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- |
| a | Level | 18.14 (1.04) <.01 | 18.43 (1.43) <.01 | 18.34 (1.47) <.01 | 18.38 (1.71) <.01 |
| a | Slope | -0.78 (0.27) <.01 | -0.85 (0.41) .04 | -2.15 (0.41) <.01 | -2.24 (0.48) <.01 |
| a | Level \* age | 0.01 (0.11) .91 | 0.02 (0.11) .88 | 0.09 (0.12) .48 | 0.07 (0.13) .60 |
| a | Level \* education | --- | -0.04 (0.14) .76 | -0.12 (0.15) .43 | -0.14 (0.15) .38 |
| a | Level \* height | --- | --- | 0.22 (0.07) <.01 | 0.21 (0.07) <.01 |
| a | Level \* smoking | --- | --- | --- | 0.97 (1.02) .34 |
| a | Level \* cardio | --- | --- | --- | 0.27 (2.85) .92 |
| a | Level \* diabetes | --- | --- | --- | -2.19 (1.63) .18 |
| a | Slope \* age | -0.06 (0.03) .03 | -0.06 (0.03) .04 | -0.07 (0.03) .03 | -0.07 (0.04) .07 |
| a | Slope \* education | --- | 0.01 (0.05) .76 | 0.09 (0.05) .06 | 0.10 (0.06) .08 |
| a | Slope \* height | --- | --- | -0.01 (0.01) .51 | -0.01 (0.02) .56 |
| a | Slope \* smoking | --- | --- | --- | -0.02 (0.35) .95 |
| a | Slope \* cardio | --- | --- | --- | 0.32 (0.65) .63 |
| a | Slope \* diabetes | --- | --- | --- | 0.22 (0.39) .57 |
| b | Level | 19.53 (0.59) <.01 | 15.60 (0.72) <.01 | 12.80 (1.62) <.01 | 13.26 (2.36) <.01 |
| b | Slope | -0.44 (0.15) <.01 | -0.54 (0.23) .02 | 0.10 (0.52) .85 | 0.33 (0.72) .65 |
| b | Level \* age | -0.04 (0.06) .43 | -0.04 (0.05) .47 | -0.13 (0.12) .29 | -0.13 (0.14) .33 |
| b | Level \* education | --- | 0.65 (0.08) <.01 | 0.88 (0.20) <.01 | 0.88 (0.24) <.01 |
| b | Level \* height | --- | --- | -0.02 (0.06) .74 | -0.01 (0.08) .88 |
| b | Level \* smoking | --- | --- | --- | 0.30 (0.86) .73 |
| b | Level \* cardio | --- | --- | --- | 0.83 (1.57) .60 |
| b | Level \* diabetes | --- | --- | --- | -2.50 (1.55) .11 |
| b | Slope \* age | 0.01 (0.01) .62 | 0.01 (0.01) .57 | 0.01 (0.03) .76 | 0.01 (0.04) .82 |
| b | Slope \* education | --- | 0.01 (0.02) .61 | -0.03 (0.05) .55 | -0.04 (0.06) .47 |
| b | Slope \* height | --- | --- | 0.01 (0.02) .61 | 0.01 (0.03) .80 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.37) .98 |
| b | Slope \* cardio | --- | --- | --- | -0.24 (0.32) .46 |
| b | Slope \* diabetes | --- | --- | --- | -0.28 (0.57) .62 |
| a | Var (Level) | 34.89 (5.19) <.01 | 34.99 (5.21) <.01 | 26.70 (5.01) <.01 | 25.20 (5.45) <.01 |
| a | Var (Slope) | 1.46 (0.42) <.01 | 1.45 (0.44) <.01 | 0.28 (0.17) .11 | 0.25 (0.20) .21 |
| a | Var (Residual) | 6.58 (0.41) <.01 | 6.57 (0.40) <.01 | 5.70 (0.43) <.01 | 5.74 (0.48) <.01 |
| b | Var (Level) | 26.84 (3.05) <.01 | 21.91 (2.50) <.01 | 12.62 (3.70) <.01 | 11.45 (3.87) <.01 |
| b | Var (Slope) | 0.27 (0.12) .02 | 0.25 (0.11) .02 | 0.10 (0.28) .73 | 0.08 (0.30) .80 |
| b | Var (Residual) | 8.54 (0.39) <.01 | 8.54 (0.39) <.01 | 7.42 (0.78) <.01 | 7.40 (0.83) <.01 |
| a | Covar (Level, Slope) | -3.29 (1.39) .02 | -3.29 (1.40) .02 | -1.50 (0.92) .10 | -1.45 (1.05) .17 |
| b | Covar (Level, Slope) | -0.93 (0.52) .07 | -0.93 (0.46) .04 | 0.60 (0.85) .48 | 0.50 (0.97) .60 |
|  | Correlation of Levels | -0.058 | -0.034 | 0.051 | -0.037 |
|  | Correlation of Slopes | -0.563 | -0.539 | -0.654 | -0.526 |
|  | Correlation of Residuals | 0.017 | 0.016 | 0.105 | 0.105 |
|  | N | 538 | 538 | 145 | 145 |
|  | occasions | 7 | 7 | 7 | 7 |
|  | parameters | 21 | 25 | 29 | 45 |
|  | LL | -5,917 | -5,867 | -2,313 | -2,303 |
|  | AIC | 11,876 | 11,785 | 4,684 | 4,696 |
|  | BIC | 11,966 | 11,892 | 4,771 | 4,830 |

## logic\_tot

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 4.32 (3.53) .22 | 4.39 (3.33) .19 | 3.52 (4.37) .42 | -2.26 (3.85) .56 | 2.46 (4.54) .59 |
| ab | Covar (Slopes) | 0.15 (0.12) .18 | 0.16 (0.12) .17 | 0.02 (0.15) .87 | 0.06 (0.29) .84 | 0.03 (0.18) .88 |
| ab | Covar (Residuals) | 0.36 (0.64) .57 | 0.35 (0.64) .58 | 0.56 (0.79) .47 | 0.73 (0.84) .39 | 0.49 (0.85) .56 |
| er | Corr (Levels) | --- | --- | --- | -0.09 (0.15) .56 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.13 (0.66) .84 | --- |
| er | Corr (Residuals) | --- | --- | --- | 0.08 (0.09) .39 | --- |
| a | Level | 18.71 (0.97) <.01 | 18.94 (1.31) <.01 | 18.41 (1.49) <.01 | 18.70 (1.56) <.01 | 18.42 (1.65) <.01 |
| a | Slope | -0.98 (0.23) <.01 | -1.10 (0.34) <.01 | -2.19 (0.36) <.01 | -1.05 (0.55) .06 | -2.29 (0.48) <.01 |
| a | Level \* age | -0.03 (0.11) .77 | -0.03 (0.11) .79 | 0.08 (0.13) .54 | 0.13 (0.12) .31 | 0.06 (0.13) .67 |
| a | Level \* education | --- | -0.04 (0.14) .79 | -0.12 (0.15) .43 | -0.16 (0.16) .31 | -0.14 (0.15) .36 |
| a | Level \* height | --- | --- | 0.20 (0.07) <.01 | 0.24 (0.07) <.01 | 0.20 (0.08) .01 |
| a | Level \* smoking | --- | --- | --- | 0.87 (0.86) .31 | 0.95 (0.75) .20 |
| a | Level \* cardio | --- | --- | --- | 1.33 (1.84) .47 | 0.13 (2.94) .96 |
| a | Level \* diabetes | --- | --- | --- | -2.79 (1.77) .12 | -2.08 (1.63) .20 |
| a | Slope \* age | -0.05 (0.02) .03 | -0.05 (0.02) .03 | -0.06 (0.03) .03 | -0.09 (0.04) .02 | -0.06 (0.03) .05 |
| a | Slope \* education | --- | 0.02 (0.04) .68 | 0.09 (0.04) .02 | 0.05 (0.06) .34 | 0.10 (0.04) .02 |
| a | Slope \* height | --- | --- | -0.00 (0.02) .81 | -0.01 (0.04) .75 | -0.00 (0.02) .88 |
| a | Slope \* smoking | --- | --- | --- | -0.12 (0.39) .77 | -0.00 (0.29) .99 |
| a | Slope \* cardio | --- | --- | --- | -0.30 (0.62) .63 | 0.43 (0.54) .43 |
| a | Slope \* diabetes | --- | --- | --- | 0.34 (0.52) .51 | 0.17 (0.36) .63 |
| b | Level | 21.56 (0.57) <.01 | 16.51 (0.80) <.01 | 18.03 (1.89) <.01 | 17.88 (1.13) <.01 | 18.14 (2.13) <.01 |
| b | Slope | 0.16 (0.14) .27 | 0.06 (0.22) .78 | 0.04 (0.35) .90 | -0.13 (0.36) .72 | 0.13 (0.49) .80 |
| b | Level \* age | -0.22 (0.06) <.01 | -0.21 (0.06) <.01 | -0.11 (0.12) .38 | -0.26 (0.07) <.01 | -0.12 (0.13) .34 |
| b | Level \* education | --- | 0.79 (0.08) <.01 | 0.73 (0.20) <.01 | 0.68 (0.11) <.01 | 0.71 (0.22) <.01 |
| b | Level \* height | --- | --- | 0.09 (0.10) .37 | 0.02 (0.08) .77 | 0.09 (0.10) .41 |
| b | Level \* smoking | --- | --- | --- | 0.62 (0.47) .19 | 0.64 (1.13) .57 |
| b | Level \* cardio | --- | --- | --- | -1.11 (0.96) .25 | 0.35 (3.31) .92 |
| b | Level \* diabetes | --- | --- | --- | 0.22 (1.10) .84 | -1.08 (1.94) .58 |
| b | Slope \* age | -0.01 (0.01) .31 | -0.01 (0.02) .37 | -0.02 (0.03) .53 | 0.00 (0.02) .99 | -0.01 (0.03) .64 |
| b | Slope \* education | --- | 0.01 (0.02) .54 | 0.00 (0.03) .95 | 0.04 (0.03) .21 | 0.01 (0.04) .83 |
| b | Slope \* height | --- | --- | -0.01 (0.02) .71 | 0.00 (0.02) .93 | -0.00 (0.02) .88 |
| b | Slope \* smoking | --- | --- | --- | -0.16 (0.23) .49 | -0.03 (0.28) .90 |
| b | Slope \* cardio | --- | --- | --- | 0.45 (0.28) .11 | 0.27 (0.81) .74 |
| b | Slope \* diabetes | --- | --- | --- | -0.31 (0.30) .31 | -0.08 (0.47) .86 |
| a | Var (Level) | 33.13 (4.76) <.01 | 32.96 (4.75) <.01 | 26.08 (4.89) <.01 | 30.53 (5.98) <.01 | 24.70 (5.21) <.01 |
| a | Var (Slope) | 0.94 (0.26) <.01 | 0.94 (0.27) <.01 | 0.22 (0.17) .20 | 2.13 (0.63) <.01 | 0.21 (0.20) .28 |
| a | Var (Residual) | 6.94 (0.40) <.01 | 6.93 (0.40) <.01 | 5.80 (0.43) <.01 | 5.09 (0.33) <.01 | 5.82 (0.49) <.01 |
| b | Var (Level) | 30.61 (3.74) <.01 | 23.26 (3.12) <.01 | 22.81 (6.08) <.01 | 21.68 (3.86) <.01 | 21.85 (6.33) <.01 |
| b | Var (Slope) | 0.15 (0.09) .09 | 0.14 (0.09) .11 | 0.12 (0.12) .28 | 0.10 (0.29) .73 | 0.09 (0.14) .50 |
| b | Var (Residual) | 15.52 (0.71) <.01 | 15.51 (0.72) <.01 | 14.59 (1.22) <.01 | 15.80 (0.88) <.01 | 14.58 (1.34) <.01 |
| a | Covar (Level, Slope) | -1.86 (1.02) .07 | -1.83 (1.03) .08 | -1.30 (0.93) .16 | -3.79 (1.80) .04 | -1.32 (1.03) .20 |
| b | Covar (Level, Slope) | 0.01 (0.68) .99 | 0.00 (0.60) .99 | 0.60 (0.92) .51 | 0.30 (0.86) .73 | 0.70 (1.01) .49 |
|  | Correlation of Levels | 0.136 | 0.158 | 0.145 | -0.088 | 0.106 |
|  | Correlation of Slopes | 0.411 | 0.430 | 0.151 | 0.132 | 0.192 |
|  | Correlation of Residuals | 0.035 | 0.034 | 0.061 | 0.081 | 0.054 |
|  | N | 554 | 554 | 150 | 360 | 150 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -6,942 | -6,883 | -3,133 | -5,621 | -3,125 |
|  | AIC | 13,926 | 13,815 | 6,325 | 11,329 | 6,340 |
|  | BIC | 14,016 | 13,923 | 6,412 | 11,496 | 6,475 |

## mmse

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 2.31 (1.23) .06 | 2.62 (1.37) .06 | 1.75 (0.91) .05 | 1.25 (1.15) .28 | 1.47 (0.91) .11 |
| ab | Covar (Slopes) | 0.03 (0.03) .38 | 0.04 (0.04) .30 | 0.01 (0.02) .49 | -0.04 (0.10) .68 | 0.01 (0.03) .58 |
| ab | Covar (Residuals) | 0.00 (0.20) .99 | -0.01 (0.19) .97 | -0.06 (0.18) .75 | -0.01 (0.21) .98 | -0.06 (0.20) .76 |
| er | Corr (Levels) | --- | --- | --- | 0.22 (0.20) .27 | --- |
| er | Corr (Slopes) | --- | --- | --- | -0.39 (1.06) .71 | --- |
| er | Corr (Residuals) | --- | --- | --- | -0.00 (0.10) .98 | --- |
| a | Level | 18.48 (0.95) <.01 | 19.51 (1.34) <.01 | 18.38 (1.48) <.01 | 18.26 (1.59) <.01 | 18.38 (1.69) <.01 |
| a | Slope | -0.90 (0.23) <.01 | -1.22 (0.37) <.01 | -2.15 (0.43) <.01 | -0.83 (0.62) .18 | -2.21 (0.49) <.01 |
| a | Level \* age | -0.04 (0.10) .72 | -0.04 (0.10) .70 | 0.07 (0.12) .54 | 0.13 (0.12) .28 | 0.06 (0.13) .65 |
| a | Level \* education | --- | -0.16 (0.16) .31 | -0.12 (0.15) .42 | -0.14 (0.15) .34 | -0.14 (0.15) .35 |
| a | Level \* height | --- | --- | 0.20 (0.07) <.01 | 0.24 (0.07) <.01 | 0.20 (0.08) .01 |
| a | Level \* smoking | --- | --- | --- | 0.93 (0.92) .31 | 0.95 (0.87) .28 |
| a | Level \* cardio | --- | --- | --- | 1.47 (1.92) .44 | 0.20 (2.55) .94 |
| a | Level \* diabetes | --- | --- | --- | -2.85 (1.72) .10 | -2.19 (1.68) .19 |
| a | Slope \* age | -0.05 (0.02) .04 | -0.05 (0.03) .06 | -0.06 (0.03) .05 | -0.09 (0.04) .02 | -0.06 (0.03) .06 |
| a | Slope \* education | --- | 0.05 (0.04) .28 | 0.09 (0.04) .04 | 0.05 (0.06) .45 | 0.10 (0.05) .04 |
| a | Slope \* height | --- | --- | -0.00 (0.02) .78 | -0.01 (0.03) .72 | -0.00 (0.02) .83 |
| a | Slope \* smoking | --- | --- | --- | -0.12 (0.41) .76 | -0.01 (0.34) .98 |
| a | Slope \* cardio | --- | --- | --- | -0.40 (0.82) .62 | 0.32 (0.58) .59 |
| a | Slope \* diabetes | --- | --- | --- | 0.32 (0.51) .53 | 0.20 (0.42) .63 |
| b | Level | 26.28 (0.17) <.01 | 26.42 (0.17) <.01 | 26.03 (0.32) <.01 | 25.61 (0.27) <.01 | 25.99 (0.40) <.01 |
| b | Slope | 0.05 (0.03) .11 | -0.01 (0.04) .78 | 0.09 (0.07) .20 | 0.06 (0.08) .41 | 0.11 (0.09) .25 |
| b | Level \* age | -0.02 (0.01) .16 | -0.02 (0.01) .11 | -0.00 (0.03) .88 | -0.00 (0.02) .77 | -0.00 (0.03) .87 |
| b | Level \* education | --- | -0.02 (0.00) <.01 | 0.10 (0.04) <.01 | 0.13 (0.02) <.01 | 0.10 (0.04) .01 |
| b | Level \* height | --- | --- | 0.01 (0.02) .53 | 0.00 (0.02) .80 | 0.01 (0.02) .61 |
| b | Level \* smoking | --- | --- | --- | 0.16 (0.17) .34 | 0.21 (0.26) .42 |
| b | Level \* cardio | --- | --- | --- | -0.09 (0.16) .59 | -0.10 (0.33) .77 |
| b | Level \* diabetes | --- | --- | --- | -0.33 (0.21) .11 | -0.18 (0.37) .62 |
| b | Slope \* age | -0.00 (0.00) .15 | -0.00 (0.00) .24 | -0.01 (0.00) .29 | -0.00 (0.00) .30 | -0.01 (0.01) .35 |
| b | Slope \* education | --- | 0.01 (0.00) .05 | -0.00 (0.01) .56 | -0.00 (0.01) .82 | -0.00 (0.01) .61 |
| b | Slope \* height | --- | --- | -0.00 (0.00) .44 | -0.00 (0.01) .72 | -0.00 (0.00) .53 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.05) .85 | -0.01 (0.06) .88 |
| b | Slope \* cardio | --- | --- | --- | -0.08 (0.04) .08 | -0.04 (0.08) .64 |
| b | Slope \* diabetes | --- | --- | --- | 0.01 (0.07) .88 | 0.03 (0.08) .76 |
| a | Var (Level) | 34.44 (5.01) <.01 | 34.63 (5.07) <.01 | 25.84 (4.92) <.01 | 31.07 (5.91) <.01 | 24.35 (5.17) <.01 |
| a | Var (Slope) | 1.00 (0.29) <.01 | 1.04 (0.31) <.01 | 0.21 (0.18) .23 | 2.34 (0.64) <.01 | 0.20 (0.19) .29 |
| a | Var (Residual) | 6.97 (0.39) <.01 | 6.94 (0.39) <.01 | 5.78 (0.50) <.01 | 5.14 (0.34) <.01 | 5.78 (0.54) <.01 |
| b | Var (Level) | 2.34 (0.19) <.01 | 2.32 (0.20) <.01 | 1.04 (0.25) <.01 | 1.00 (0.18) <.01 | 1.00 (0.26) <.01 |
| b | Var (Slope) | 0.01 (0.00) .05 | 0.01 (0.00) .02 | 0.01 (0.01) .15 | 0.00 (0.01) .69 | 0.01 (0.01) .24 |
| b | Var (Residual) | 0.82 (0.03) <.01 | 0.82 (0.03) <.01 | 0.56 (0.03) <.01 | 0.82 (0.04) <.01 | 0.56 (0.04) <.01 |
| a | Covar (Level, Slope) | -2.26 (1.11) .04 | -2.35 (1.16) .04 | -1.18 (0.90) .19 | -4.42 (1.74) .01 | -1.14 (0.98) .24 |
| b | Covar (Level, Slope) | -0.04 (0.03) .13 | -0.06 (0.03) .06 | -0.01 (0.03) .69 | 0.05 (0.04) .22 | -0.01 (0.03) .72 |
|  | Correlation of Levels | 0.26 | 0.2916 | 0.337 | 0.2250 | 0.297 |
|  | Correlation of Slopes | 0.35 | 0.3815 | 0.341 | -0.4132 | 0.371 |
|  | Correlation of Residuals | 0.00 | -0.0029 | -0.032 | -0.0029 | -0.034 |
|  | N | 600 | 600 | 150 | 363 | 150 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -4,862 | -4,853 | -2,112 | -4,003 | -2,105 |
|  | AIC | 9,766 | 9,756 | 4,281 | 8,092 | 4,299 |
|  | BIC | 9,858 | 9,866 | 4,369 | 8,259 | 4,435 |

## symbol

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 13.04 (7.66) .09 | 13.16 (7.08) .06 | 17.73 (7.91) .02 | 18.82 (8.86) .03 | 13.84 (8.06) .09 |
| ab | Covar (Slopes) | 0.74 (0.29) .01 | 0.70 (0.29) .01 | -0.02 (0.19) .92 | 2.04 (0.58) <.01 | -0.01 (0.17) .96 |
| ab | Covar (Residuals) | -0.45 (1.03) .67 | -0.38 (1.02) .71 | -0.97 (1.06) .36 | -0.50 (0.99) .61 | -1.10 (1.14) .33 |
| er | Corr (Levels) | --- | --- | --- | 0.28 (0.12) .02 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.84 (0.20) <.01 | --- |
| er | Corr (Residuals) | --- | --- | --- | -0.04 (0.08) .61 | --- |
| a | Level | 18.41 (0.94) <.01 | 18.47 (1.33) <.01 | 18.50 (1.57) <.01 | 18.25 (1.56) <.01 | 18.58 (1.78) <.01 |
| a | Slope | -0.82 (0.22) <.01 | -0.88 (0.33) .01 | -2.32 (0.39) <.01 | -0.94 (0.55) .09 | -2.44 (0.49) <.01 |
| a | Level \* age | -0.03 (0.10) .80 | -0.02 (0.10) .83 | 0.07 (0.12) .59 | 0.14 (0.12) .25 | 0.05 (0.13) .71 |
| a | Level \* education | --- | -0.03 (0.14) .85 | -0.12 (0.14) .40 | -0.19 (0.15) .21 | -0.15 (0.15) .30 |
| a | Level \* height | --- | --- | 0.20 (0.07) .01 | 0.25 (0.07) <.01 | 0.19 (0.07) .01 |
| a | Level \* smoking | --- | --- | --- | 0.92 (0.80) .25 | 0.93 (0.87) .29 |
| a | Level \* cardio | --- | --- | --- | 1.37 (2.00) .49 | 0.07 (2.46) .98 |
| a | Level \* diabetes | --- | --- | --- | -2.90 (1.73) .09 | -2.10 (1.66) .20 |
| a | Slope \* age | -0.06 (0.02) .02 | -0.06 (0.02) .02 | -0.05 (0.03) .07 | -0.10 (0.04) .01 | -0.05 (0.03) .13 |
| a | Slope \* education | --- | 0.01 (0.04) .76 | 0.09 (0.04) .01 | 0.07 (0.06) .20 | 0.11 (0.04) .01 |
| a | Slope \* height | --- | --- | 0.00 (0.02) .88 | -0.02 (0.04) .49 | 0.00 (0.02) .84 |
| a | Slope \* smoking | --- | --- | --- | -0.15 (0.35) .66 | 0.03 (0.25) .89 |
| a | Slope \* cardio | --- | --- | --- | -0.31 (0.78) .69 | 0.37 (0.46) .42 |
| a | Slope \* diabetes | --- | --- | --- | 0.44 (0.51) .39 | 0.14 (0.39) .71 |
| b | Level | 45.29 (1.26) <.01 | 32.70 (1.64) <.01 | 39.84 (3.03) <.01 | 35.75 (2.51) <.01 | 41.13 (3.30) <.01 |
| b | Slope | 0.57 (0.23) .01 | 0.99 (0.42) .02 | 0.20 (0.50) .69 | 1.25 (0.63) .05 | 0.36 (0.57) .53 |
| b | Level \* age | -0.61 (0.13) <.01 | -0.57 (0.11) <.01 | -0.37 (0.25) .14 | -0.41 (0.15) .01 | -0.41 (0.27) .14 |
| b | Level \* education | --- | 2.00 (0.18) <.01 | 1.83 (0.34) <.01 | 1.56 (0.23) <.01 | 1.72 (0.36) <.01 |
| b | Level \* height | --- | --- | 0.08 (0.20) .67 | 0.01 (0.20) .94 | 0.06 (0.21) .79 |
| b | Level \* smoking | --- | --- | --- | 1.08 (1.04) .30 | 2.34 (2.30) .31 |
| b | Level \* cardio | --- | --- | --- | -2.59 (1.88) .17 | -5.06 (6.10) .41 |
| b | Level \* diabetes | --- | --- | --- | -4.50 (1.93) .02 | -6.74 (2.64) .01 |
| b | Slope \* age | -0.05 (0.02) .05 | -0.05 (0.02) .05 | -0.05 (0.03) .08 | -0.09 (0.04) .01 | -0.05 (0.03) .12 |
| b | Slope \* education | --- | -0.07 (0.05) .14 | -0.03 (0.06) .61 | -0.00 (0.06) .95 | -0.03 (0.07) .66 |
| b | Slope \* height | --- | --- | 0.00 (0.03) .96 | -0.01 (0.04) .73 | 0.00 (0.03) .88 |
| b | Slope \* smoking | --- | --- | --- | 0.16 (0.34) .63 | 0.03 (0.36) .93 |
| b | Slope \* cardio | --- | --- | --- | 0.04 (0.46) .93 | 0.05 (0.58) .93 |
| b | Slope \* diabetes | --- | --- | --- | -0.84 (0.48) .08 | -0.24 (0.48) .62 |
| a | Var (Level) | 33.68 (4.89) <.01 | 33.61 (4.88) <.01 | 24.48 (4.70) <.01 | 31.17 (6.04) <.01 | 22.67 (4.74) <.01 |
| a | Var (Slope) | 1.01 (0.29) <.01 | 1.08 (0.31) <.01 | 0.16 (0.15) .27 | 2.57 (0.69) <.01 | 0.13 (0.15) .38 |
| a | Var (Residual) | 7.04 (0.39) <.01 | 6.99 (0.39) <.01 | 5.79 (0.43) <.01 | 5.26 (0.36) <.01 | 5.84 (0.46) <.01 |
| b | Var (Level) | 190.76 (14.65) <.01 | 144.40 (11.18) <.01 | 127.72 (21.21) <.01 | 142.39 (16.37) <.01 | 112.58 (19.46) <.01 |
| b | Var (Slope) | 1.47 (0.33) <.01 | 1.41 (0.32) <.01 | 0.16 (0.30) .59 | 2.29 (0.74) <.01 | 0.13 (0.34) .69 |
| b | Var (Residual) | 30.80 (1.32) <.01 | 30.69 (1.29) <.01 | 28.59 (1.85) <.01 | 28.31 (1.48) <.01 | 28.59 (1.96) <.01 |
| a | Covar (Level, Slope) | -2.29 (1.02) .02 | -2.44 (1.08) .02 | -0.58 (0.82) .48 | -4.95 (1.93) .01 | -0.45 (0.84) .59 |
| b | Covar (Level, Slope) | -6.47 (2.38) .01 | -4.72 (1.93) .01 | -1.09 (2.53) .67 | -5.92 (2.89) .04 | -1.42 (2.56) .58 |
|  | Correlation of Levels | 0.16 | 0.189 | 0.317 | 0.282 | 0.274 |
|  | Correlation of Slopes | 0.60 | 0.570 | -0.113 | 0.841 | -0.068 |
|  | Correlation of Residuals | -0.03 | -0.026 | -0.075 | -0.041 | -0.085 |
|  | N | 592 | 592 | 150 | 363 | 150 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -8,204 | -8,130 | -3,413 | -6,426 | -3,397 |
|  | AIC | 16,450 | 16,310 | 6,884 | 12,939 | 6,883 |
|  | BIC | 16,542 | 16,420 | 6,971 | 13,106 | 7,019 |

## trailsb

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | -94.42 (42.25) .02 | -95.03 (39.91) .02 | -97.38 (41.28) .02 | -25.61 (42.55) .55 | -76.10 (40.31) .06 |
| ab | Covar (Slopes) | -0.20 (1.26) .88 | -0.16 (1.29) .90 | -0.52 (1.35) .70 | 8.76 (4.43) .05 | -0.54 (1.86) .77 |
| ab | Covar (Residuals) | 11.79 (7.50) .12 | 11.43 (7.72) .14 | 12.61 (7.29) .08 | 13.85 (8.16) .09 | 12.28 (8.00) .12 |
| er | Corr (Levels) | --- | --- | --- | -0.10 (0.18) .55 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.82 (0.34) .02 | --- |
| er | Corr (Residuals) | --- | --- | --- | 0.15 (0.08) .08 | --- |
| a | Level | 18.75 (0.94) <.01 | 18.93 (1.32) <.01 | 18.52 (1.52) <.01 | 19.06 (1.69) <.01 | 18.62 (1.80) <.01 |
| a | Slope | -1.03 (0.23) <.01 | -1.15 (0.36) <.01 | -2.37 (0.40) <.01 | -1.19 (0.57) .04 | -2.49 (0.45) <.01 |
| a | Level \* age | -0.06 (0.10) .56 | -0.06 (0.10) .59 | 0.07 (0.12) .58 | 0.07 (0.12) .56 | 0.06 (0.13) .67 |
| a | Level \* education | --- | -0.02 (0.14) .86 | -0.11 (0.15) .45 | -0.18 (0.16) .27 | -0.14 (0.15) .35 |
| a | Level \* height | --- | --- | 0.21 (0.07) <.01 | 0.23 (0.07) <.01 | 0.20 (0.07) .01 |
| a | Level \* smoking | --- | --- | --- | 0.74 (1.00) .46 | 0.92 (0.90) .31 |
| a | Level \* cardio | --- | --- | --- | 0.90 (2.15) .68 | 0.01 (2.35) .99 |
| a | Level \* diabetes | --- | --- | --- | -2.45 (1.82) .18 | -2.13 (1.80) .24 |
| a | Slope \* age | -0.05 (0.02) .04 | -0.05 (0.03) .05 | -0.06 (0.03) .09 | -0.07 (0.04) .06 | -0.06 (0.04) .14 |
| a | Slope \* education | --- | 0.02 (0.04) .65 | 0.10 (0.04) .01 | 0.07 (0.06) .24 | 0.11 (0.04) .02 |
| a | Slope \* height | --- | --- | -0.00 (0.02) .94 | 0.00 (0.03) .99 | -0.00 (0.02) .95 |
| a | Slope \* smoking | --- | --- | --- | -0.07 (0.39) .85 | 0.05 (0.32) .88 |
| a | Slope \* cardio | --- | --- | --- | -0.25 (0.71) .72 | 0.14 (0.70) .84 |
| a | Slope \* diabetes | --- | --- | --- | 0.22 (0.53) .67 | 0.16 (0.43) .71 |
| b | Level | 124.61 (7.18) <.01 | 171.99 (7.57) <.01 | 169.04 (17.51) <.01 | 151.57 (11.61) <.01 | 170.18 (20.40) <.01 |
| b | Slope | 1.36 (1.36) .32 | 1.42 (2.08) .49 | 4.13 (4.63) .37 | 2.63 (3.90) .50 | 4.30 (5.92) .47 |
| b | Level \* age | 2.59 (0.64) <.01 | 2.42 (0.58) <.01 | 1.66 (1.29) .20 | 2.79 (0.76) <.01 | 2.09 (1.38) .13 |
| b | Level \* education | --- | -7.39 (0.90) <.01 | -7.49 (1.90) <.01 | -6.54 (1.13) <.01 | -7.03 (2.10) <.01 |
| b | Level \* height | --- | --- | 0.01 (0.78) .99 | 0.55 (0.95) .56 | 0.30 (0.85) .72 |
| b | Level \* smoking | --- | --- | --- | -4.92 (5.47) .37 | -11.83 (8.00) .14 |
| b | Level \* cardio | --- | --- | --- | 10.52 (6.55) .11 | 30.05 (17.34) .08 |
| b | Level \* diabetes | --- | --- | --- | 28.74 (10.37) .01 | 32.66 (19.20) .09 |
| b | Slope \* age | 0.24 (0.14) .08 | 0.23 (0.14) .09 | 0.18 (0.29) .53 | 0.11 (0.24) .66 | 0.17 (0.30) .57 |
| b | Slope \* education | --- | -0.01 (0.22) .97 | -0.27 (0.55) .63 | 0.02 (0.35) .96 | -0.30 (0.60) .62 |
| b | Slope \* height | --- | --- | -0.01 (0.21) .95 | -0.14 (0.38) .72 | -0.03 (0.23) .89 |
| b | Slope \* smoking | --- | --- | --- | -0.43 (2.30) .85 | -0.47 (2.92) .87 |
| b | Slope \* cardio | --- | --- | --- | 1.48 (2.16) .49 | -2.30 (7.65) .76 |
| b | Slope \* diabetes | --- | --- | --- | 0.23 (3.55) .95 | 2.91 (4.98) .56 |
| a | Var (Level) | 32.88 (4.86) <.01 | 32.69 (4.83) <.01 | 23.96 (4.77) <.01 | 30.85 (6.40) <.01 | 22.39 (4.82) <.01 |
| a | Var (Slope) | 0.95 (0.28) <.01 | 0.96 (0.29) <.01 | 0.17 (0.14) .24 | 2.27 (0.60) <.01 | 0.16 (0.19) .41 |
| a | Var (Residual) | 6.94 (0.39) <.01 | 6.93 (0.39) <.01 | 5.78 (0.41) <.01 | 5.18 (0.33) <.01 | 5.78 (0.45) <.01 |
| b | Var (Level) | 3274.22 (472.45) <.01 | 2634.93 (383.90) <.01 | 2643.78 (708.72) <.01 | 1937.23 (454.58) <.01 | 2214.11 (677.82) <.01 |
| b | Var (Slope) | 5.19 (9.82) .60 | 5.42 (10.40) .60 | 4.78 (16.04) .77 | 50.84 (35.47) .15 | 3.96 (18.42) .83 |
| b | Var (Residual) | 1751.22 (48.70) <.01 | 1752.99 (48.11) <.01 | 1483.51 (73.87) <.01 | 1743.30 (79.01) <.01 | 1475.93 (85.63) <.01 |
| a | Covar (Level, Slope) | -1.74 (1.01) .08 | -1.73 (1.07) .10 | -0.34 (0.81) .68 | -4.20 (1.80) .02 | -0.29 (0.82) .72 |
| b | Covar (Level, Slope) | 70.21 (75.97) .35 | 68.33 (70.81) .34 | 82.20 (107.55) .44 | 23.61 (117.17) .84 | 67.87 (118.34) .57 |
|  | Correlation of Levels | -0.288 | -0.324 | -0.39 | -0.10 | -0.34 |
|  | Correlation of Slopes | -0.089 | -0.071 | -0.58 | 0.82 | -0.69 |
|  | Correlation of Residuals | 0.107 | 0.104 | 0.14 | 0.15 | 0.13 |
|  | N | 580 | 580 | 150 | 362 | 150 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -11,229 | -11,184 | -4,606 | -8,661 | -4,590 |
|  | AIC | 22,500 | 22,417 | 9,271 | 17,409 | 9,270 |
|  | BIC | 22,591 | 22,527 | 9,358 | 17,576 | 9,405 |

## waisvocab

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 10.89 (6.84) .11 | 11.81 (6.81) .08 | 9.70 (6.16) .12 | 6.49 (7.71) .40 | 6.71 (7.09) .34 |
| ab | Covar (Slopes) | 0.18 (0.20) .38 | 0.22 (0.19) .26 | 0.17 (0.19) .38 | 0.19 (0.46) .68 | 0.17 (0.22) .44 |
| ab | Covar (Residuals) | -1.11 (1.25) .37 | -1.18 (1.28) .36 | -1.17 (1.13) .30 | -0.37 (1.51) .80 | -1.11 (1.29) .39 |
| er | Corr (Levels) | --- | --- | --- | 0.12 (0.15) .40 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.25 (0.64) .69 | --- |
| er | Corr (Residuals) | --- | --- | --- | -0.03 (0.10) .80 | --- |
| a | Level | 18.70 (0.96) <.01 | 18.95 (1.33) <.01 | 18.32 (1.51) <.01 | 18.54 (1.64) <.01 | 18.25 (1.93) <.01 |
| a | Slope | -0.96 (0.23) <.01 | -1.09 (0.34) <.01 | -2.14 (0.41) <.01 | -0.99 (0.57) .08 | -2.15 (0.48) <.01 |
| a | Level \* age | -0.01 (0.11) .93 | 0.00 (0.11) .98 | 0.08 (0.12) .50 | 0.14 (0.12) .23 | 0.06 (0.13) .62 |
| a | Level \* education | --- | -0.04 (0.14) .74 | -0.12 (0.15) .44 | -0.17 (0.16) .28 | -0.14 (0.16) .38 |
| a | Level \* height | --- | --- | 0.21 (0.07) <.01 | 0.24 (0.07) <.01 | 0.20 (0.08) .01 |
| a | Level \* smoking | --- | --- | --- | 0.96 (0.98) .33 | 1.00 (1.05) .34 |
| a | Level \* cardio | --- | --- | --- | 1.25 (1.86) .50 | 0.37 (2.23) .87 |
| a | Level \* diabetes | --- | --- | --- | -2.48 (1.74) .15 | -2.10 (1.70) .22 |
| a | Slope \* age | -0.06 (0.02) .02 | -0.06 (0.02) .01 | -0.06 (0.03) .03 | -0.10 (0.04) .01 | -0.06 (0.03) .05 |
| a | Slope \* education | --- | 0.02 (0.04) .62 | 0.09 (0.04) .03 | 0.06 (0.06) .28 | 0.10 (0.04) .03 |
| a | Slope \* height | --- | --- | -0.00 (0.02) .78 | -0.01 (0.03) .73 | -0.00 (0.02) .83 |
| a | Slope \* smoking | --- | --- | --- | -0.15 (0.38) .70 | -0.03 (0.34) .92 |
| a | Slope \* cardio | --- | --- | --- | -0.28 (0.65) .66 | 0.18 (0.84) .83 |
| a | Slope \* diabetes | --- | --- | --- | 0.26 (0.52) .61 | 0.18 (0.38) .64 |
| b | Level | 44.72 (1.09) <.01 | 32.80 (1.25) <.01 | 34.64 (2.72) <.01 | 36.12 (1.89) <.01 | 35.99 (3.32) <.01 |
| b | Slope | 0.08 (0.21) .68 | -0.21 (0.32) .51 | -0.00 (0.62) .99 | -0.78 (0.56) .16 | 0.06 (0.79) .94 |
| b | Level \* age | 0.04 (0.11) .74 | 0.07 (0.09) .43 | -0.11 (0.25) .64 | 0.03 (0.14) .80 | -0.13 (0.28) .65 |
| b | Level \* education | --- | 1.89 (0.14) <.01 | 1.83 (0.29) <.01 | 1.65 (0.20) <.01 | 1.82 (0.33) <.01 |
| b | Level \* height | --- | --- | -0.07 (0.14) .62 | -0.02 (0.15) .90 | -0.03 (0.16) .84 |
| b | Level \* smoking | --- | --- | --- | 0.47 (1.07) .66 | 1.07 (1.50) .48 |
| b | Level \* cardio | --- | --- | --- | -0.50 (1.30) .70 | 3.60 (3.87) .35 |
| b | Level \* diabetes | --- | --- | --- | -2.87 (1.76) .10 | -4.51 (2.53) .07 |
| b | Slope \* age | -0.05 (0.02) .01 | -0.05 (0.02) .02 | -0.04 (0.04) .28 | -0.02 (0.04) .49 | -0.04 (0.05) .35 |
| b | Slope \* education | --- | 0.04 (0.04) .26 | 0.03 (0.06) .58 | 0.06 (0.06) .31 | 0.02 (0.07) .82 |
| b | Slope \* height | --- | --- | 0.01 (0.02) .57 | 0.00 (0.04) .93 | 0.01 (0.03) .77 |
| b | Slope \* smoking | --- | --- | --- | 0.13 (0.33) .70 | -0.01 (0.37) .98 |
| b | Slope \* cardio | --- | --- | --- | -0.16 (0.45) .73 | -0.65 (1.15) .57 |
| b | Slope \* diabetes | --- | --- | --- | 0.21 (0.47) .65 | -0.21 (0.59) .72 |
| a | Var (Level) | 33.67 (4.84) <.01 | 33.44 (4.83) <.01 | 25.94 (5.03) <.01 | 30.18 (5.95) <.01 | 24.58 (5.57) <.01 |
| a | Var (Slope) | 0.95 (0.28) <.01 | 0.97 (0.30) <.01 | 0.23 (0.19) .22 | 2.13 (0.61) <.01 | 0.23 (0.21) .27 |
| a | Var (Residual) | 6.92 (0.38) <.01 | 6.88 (0.38) <.01 | 5.73 (0.43) <.01 | 5.13 (0.32) <.01 | 5.72 (0.46) <.01 |
| b | Var (Level) | 139.79 (12.65) <.01 | 96.26 (8.78) <.01 | 84.88 (15.39) <.01 | 90.01 (13.30) <.01 | 78.52 (16.54) <.01 |
| b | Var (Slope) | 0.21 (0.28) .45 | 0.16 (0.26) .55 | 0.23 (0.36) .52 | 0.26 (0.65) .68 | 0.21 (0.39) .59 |
| b | Var (Residual) | 39.80 (1.37) <.01 | 39.67 (1.35) <.01 | 30.04 (1.99) <.01 | 41.03 (1.81) <.01 | 29.78 (2.06) <.01 |
| a | Covar (Level, Slope) | -1.92 (1.01) .06 | -1.90 (1.05) .07 | -1.24 (0.94) .18 | -3.78 (1.79) .04 | -1.23 (1.00) .22 |
| b | Covar (Level, Slope) | -1.94 (1.65) .24 | -2.05 (1.38) .14 | -1.78 (2.10) .40 | -1.49 (2.60) .57 | -1.65 (2.50) .51 |
|  | Correlation of Levels | 0.159 | 0.208 | 0.207 | 0.125 | 0.153 |
|  | Correlation of Slopes | 0.411 | 0.562 | 0.737 | 0.252 | 0.766 |
|  | Correlation of Residuals | -0.067 | -0.071 | -0.089 | -0.026 | -0.085 |
|  | N | 594 | 594 | 150 | 363 | 150 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -8,289 | -8,181 | -3,402 | -6,528 | -3,390 |
|  | AIC | 16,620 | 16,412 | 6,862 | 13,141 | 6,871 |
|  | BIC | 16,712 | 16,522 | 6,949 | 13,309 | 7,006 |

## word\_im

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

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 2.33 (4.21) .58 |
| ab | Covar (Slopes) | -0.05 (0.32) .88 |
| ab | Covar (Residuals) | 0.97 (0.73) .18 |
| er | Corr (Levels) | 0.10 (0.19) .57 |
| er | Corr (Slopes) | -0.09 (0.60) .88 |
| er | Corr (Residuals) | 0.12 (0.09) .18 |
| a | Level | 18.81 (1.59) <.01 |
| a | Slope | -1.00 (0.57) .08 |
| a | Level \* age | 0.13 (0.12) .30 |
| a | Level \* education | -0.19 (0.15) .22 |
| a | Level \* height | 0.25 (0.07) <.01 |
| a | Level \* smoking | 0.76 (0.89) .39 |
| a | Level \* cardio | 1.44 (1.83) .43 |
| a | Level \* diabetes | -2.71 (1.75) .12 |
| a | Slope \* age | -0.10 (0.04) .01 |
| a | Slope \* education | 0.06 (0.06) .29 |
| a | Slope \* height | -0.02 (0.04) .54 |
| a | Slope \* smoking | -0.12 (0.38) .75 |
| a | Slope \* cardio | -0.31 (0.65) .64 |
| a | Slope \* diabetes | 0.32 (0.52) .54 |
| b | Level | 34.10 (0.94) <.01 |
| b | Slope | 0.22 (0.32) .48 |
| b | Level \* age | -0.16 (0.07) .02 |
| b | Level \* education | 0.09 (0.10) .36 |
| b | Level \* height | 0.07 (0.08) .40 |
| b | Level \* smoking | -1.09 (0.41) .01 |
| b | Level \* cardio | 0.68 (1.13) .55 |
| b | Level \* diabetes | -1.15 (0.97) .24 |
| b | Slope \* age | -0.07 (0.02) <.01 |
| b | Slope \* education | 0.03 (0.03) .37 |
| b | Slope \* height | -0.03 (0.02) .15 |
| b | Slope \* smoking | 0.02 (0.20) .91 |
| b | Slope \* cardio | -0.04 (0.23) .86 |
| b | Slope \* diabetes | -0.29 (0.26) .25 |
| a | Var (Level) | 31.03 (6.14) <.01 |
| a | Var (Slope) | 2.21 (0.61) <.01 |
| a | Var (Residual) | 5.08 (0.34) <.01 |
| b | Var (Level) | 16.08 (2.81) <.01 |
| b | Var (Slope) | 0.13 (0.29) .65 |
| b | Var (Residual) | 12.95 (0.63) <.01 |
| a | Covar (Level, Slope) | -3.97 (1.69) .02 |
| b | Covar (Level, Slope) | 0.82 (0.86) .34 |
|  | Correlation of Levels | 0.105 |
|  | Correlation of Slopes | -0.091 |
|  | Correlation of Residuals | 0.120 |
|  | N | 363 |
|  | occasions | 5 |
|  | parameters | 43 |
|  | LL | -5,749 |
|  | AIC | 11,584 |
|  | BIC | 11,752 |

## Summary

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

Computed correlations:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Correlation of Levels | block | 0.03 | 0.04 | 0.23 | 0.18 | 0.16 |
| Correlation of Levels | bnt | 0.23 | 0.26 | 0.39 | 0.17 | 0.33 |
| Correlation of Levels | categories | 0.11 | 0.13 | 0.21 | 0.08 | 0.16 |
| Correlation of Levels | digit\_tot | -0.10 | -0.09 | -0.05 | -0.03 | -0.13 |
| Correlation of Levels | fas | 0.21 | 0.23 | 0.24 | 0.22 | 0.17 |
| Correlation of Levels | information | -0.06 | -0.03 | 0.05 | . | -0.04 |
| Correlation of Levels | logic\_tot | 0.14 | 0.16 | 0.14 | -0.09 | 0.11 |
| Correlation of Levels | mmse | 0.26 | 0.29 | 0.34 | 0.23 | 0.30 |
| Correlation of Levels | symbol | 0.16 | 0.19 | 0.32 | 0.28 | 0.27 |
| Correlation of Levels | trailsb | -0.29 | -0.32 | -0.39 | -0.10 | -0.34 |
| Correlation of Levels | waisvocab | 0.16 | 0.21 | 0.21 | 0.12 | 0.15 |
| Correlation of Levels | word\_im | . | . | . | 0.10 | . |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Correlation of Slopes | block | 0.72 | 0.76 | 0.09 | 0.55 | 0.06 |
| Correlation of Slopes | bnt | 0.09 | 0.07 | 0.36 | -0.44 | 0.37 |
| Correlation of Slopes | categories | 0.06 | 0.06 | 0.36 | 0.21 | 0.41 |
| Correlation of Slopes | digit\_tot | 0.52 | 0.52 | -0.19 | 0.83 | -0.18 |
| Correlation of Slopes | fas | 0.61 | 0.62 | 0.23 | 0.14 | 0.17 |
| Correlation of Slopes | information | -0.56 | -0.54 | -0.65 | . | -0.53 |
| Correlation of Slopes | logic\_tot | 0.41 | 0.43 | 0.15 | 0.13 | 0.19 |
| Correlation of Slopes | mmse | 0.35 | 0.38 | 0.34 | -0.41 | 0.37 |
| Correlation of Slopes | symbol | 0.60 | 0.57 | -0.11 | 0.84 | -0.07 |
| Correlation of Slopes | trailsb | -0.09 | -0.07 | -0.58 | 0.82 | -0.69 |
| Correlation of Slopes | waisvocab | 0.41 | 0.56 | 0.74 | 0.25 | 0.77 |
| Correlation of Slopes | word\_im | . | . | . | -0.09 | . |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Correlation of Residuals | block | 0.01 | 0.01 | -0.01 | 0.02 | -0.01 |
| Correlation of Residuals | bnt | 0.04 | 0.04 | 0.01 | 0.06 | 0.01 |
| Correlation of Residuals | categories | -0.07 | -0.07 | -0.05 | -0.06 | -0.05 |
| Correlation of Residuals | digit\_tot | 0.03 | 0.03 | 0.02 | -0.03 | 0.02 |
| Correlation of Residuals | fas | 0.04 | 0.05 | 0.06 | 0.02 | 0.06 |
| Correlation of Residuals | information | 0.02 | 0.02 | 0.11 | . | 0.11 |
| Correlation of Residuals | logic\_tot | 0.03 | 0.03 | 0.06 | 0.08 | 0.05 |
| Correlation of Residuals | mmse | 0.00 | -0.00 | -0.03 | -0.00 | -0.03 |
| Correlation of Residuals | symbol | -0.03 | -0.03 | -0.08 | -0.04 | -0.09 |
| Correlation of Residuals | trailsb | 0.11 | 0.10 | 0.14 | 0.15 | 0.13 |
| Correlation of Residuals | waisvocab | -0.07 | -0.07 | -0.09 | -0.03 | -0.08 |
| Correlation of Residuals | word\_im | . | . | . | 0.12 | . |

P-values for corresponding covariances:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Covariance of Levels | block | 0.81 | 0.71 | 0.11 | 0.24 | 0.33 |
| Covariance of Levels | bnt | 0.02 | 0.02 | 0.02 | 0.28 | 0.08 |
| Covariance of Levels | categories | 0.28 | 0.27 | 0.14 | 0.56 | 0.31 |
| Covariance of Levels | digit\_tot | 0.39 | 0.45 | 0.74 | 0.84 | 0.39 |
| Covariance of Levels | fas | 0.04 | 0.03 | 0.09 | 0.14 | 0.33 |
| Covariance of Levels | information | 0.68 | 0.83 | 0.82 | . | 0.88 |
| Covariance of Levels | logic\_tot | 0.22 | 0.19 | 0.42 | 0.56 | 0.59 |
| Covariance of Levels | mmse | 0.06 | 0.06 | 0.05 | 0.28 | 0.11 |
| Covariance of Levels | symbol | 0.09 | 0.06 | 0.02 | 0.03 | 0.09 |
| Covariance of Levels | trailsb | 0.02 | 0.02 | 0.02 | 0.55 | 0.06 |
| Covariance of Levels | waisvocab | 0.11 | 0.08 | 0.12 | 0.40 | 0.34 |
| Covariance of Levels | word\_im | . | . | . | 0.58 | . |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Covariance of Slopes | block | 0.02 | 0.02 | 0.89 | 0.07 | 0.94 |
| Covariance of Slopes | bnt | 0.86 | 0.88 | 0.68 | 0.55 | 0.69 |
| Covariance of Slopes | categories | 0.82 | 0.80 | 0.46 | 0.58 | 0.52 |
| Covariance of Slopes | digit\_tot | 0.03 | 0.05 | 0.76 | 0.01 | 0.80 |
| Covariance of Slopes | fas | 0.12 | 0.12 | 0.80 | 0.68 | 0.86 |
| Covariance of Slopes | information | 0.08 | 0.10 | 0.70 | . | 0.81 |
| Covariance of Slopes | logic\_tot | 0.18 | 0.17 | 0.87 | 0.84 | 0.88 |
| Covariance of Slopes | mmse | 0.38 | 0.30 | 0.49 | 0.68 | 0.58 |
| Covariance of Slopes | symbol | 0.01 | 0.01 | 0.92 | 0.00 | 0.96 |
| Covariance of Slopes | trailsb | 0.88 | 0.90 | 0.70 | 0.05 | 0.77 |
| Covariance of Slopes | waisvocab | 0.38 | 0.26 | 0.38 | 0.68 | 0.44 |
| Covariance of Slopes | word\_im | . | . | . | 0.88 | . |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Covariance of Residuals | block | 0.90 | 0.86 | 0.89 | 0.80 | 0.96 |
| Covariance of Residuals | bnt | 0.55 | 0.54 | 0.91 | 0.37 | 0.89 |
| Covariance of Residuals | categories | 0.26 | 0.25 | 0.49 | 0.40 | 0.56 |
| Covariance of Residuals | digit\_tot | 0.60 | 0.58 | 0.80 | 0.69 | 0.83 |
| Covariance of Residuals | fas | 0.45 | 0.43 | 0.45 | 0.86 | 0.50 |
| Covariance of Residuals | information | 0.78 | 0.79 | 0.24 | . | 0.27 |
| Covariance of Residuals | logic\_tot | 0.57 | 0.58 | 0.47 | 0.39 | 0.56 |
| Covariance of Residuals | mmse | 1.00 | 0.97 | 0.75 | 0.98 | 0.76 |
| Covariance of Residuals | symbol | 0.67 | 0.71 | 0.36 | 0.61 | 0.33 |
| Covariance of Residuals | trailsb | 0.12 | 0.14 | 0.08 | 0.09 | 0.12 |
| Covariance of Residuals | waisvocab | 0.37 | 0.36 | 0.30 | 0.80 | 0.39 |
| Covariance of Residuals | word\_im | . | . | . | 0.18 | . |

# male

Gender = *male*; Model type: *aehplus*; Process (a) = *grip*; Process (b): *block*, *bnt*, *categories*, *digit\_tot*, *fas*, *information*, *logic\_tot*, *mmse*, *symbol*, *trailsb*, *waisvocab*, *word\_im*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| process | label | block | bnt | categories | digit\_tot | fas | logic\_tot | mmse | symbol | trailsb | waisvocab | word\_im | mean(sd) |
| ab | Covar (Levels) | 3.94 (13.52) .77 | -1.25 (4.34) .77 | 3.04 (11.79) .80 | 0.85 (4.79) .86 | -2.14 (11.20) .85 | -3.83 (8.66) .66 | -0.10 (3.04) .97 | -6.69 (18.32) .71 | 65.59 (99.53) .51 | 6.82 (19.57) .73 | -5.96 (7.58) .43 | --- |
| ab | Covar (Slopes) | 0.44 (0.71) .54 | -0.02 (0.20) .91 | 1.33 (0.79) .09 | 0.10 (0.33) .75 | 0.59 (0.97) .54 | 0.03 (0.58) .95 | -0.03 (0.18) .86 | 2.09 (1.20) .08 | -2.80 (5.96) .64 | -0.01 (1.25) .99 | 0.32 (0.50) .52 | --- |
| ab | Covar (Residuals) | 0.07 (2.20) .98 | -0.29 (0.63) .65 | -2.01 (2.28) .38 | 0.14 (0.77) .86 | -1.73 (2.65) .51 | 1.94 (1.67) .24 | 0.34 (0.49) .50 | 0.43 (2.60) .87 | -4.35 (23.71) .85 | -3.58 (4.03) .38 | 1.04 (1.72) .54 | --- |
| er | Corr (Levels) | 0.08 (0.29) .77 | -0.11 (0.38) .77 | 0.07 (0.26) .80 | 0.04 (0.25) .86 | -0.04 (0.19) .85 | -0.12 (0.26) .66 | -0.02 (0.50) .97 | -0.11 (0.29) .71 | 0.23 (0.33) .49 | 0.12 (0.34) .73 | -0.26 (0.31) .41 | --- |
| er | Corr (Slopes) | 0.64 (1.24) .60 | -0.18 (1.82) .92 | 0.87 (0.55) .11 | 0.28 (0.90) .75 | 0.66 (1.21) .58 | 0.03 (0.49) .95 | -0.33 (2.08) .88 | 0.92 (0.50) .07 | -0.37 (0.81) .65 | -0.02 (1.37) .99 | 0.39 (0.61) .53 | --- |
| er | Corr (Residuals) | 0.00 (0.12) .98 | -0.06 (0.12) .64 | -0.12 (0.13) .37 | 0.02 (0.11) .86 | -0.08 (0.12) .51 | 0.13 (0.11) .24 | 0.09 (0.13) .50 | 0.02 (0.12) .87 | -0.03 (0.16) .85 | -0.13 (0.14) .37 | 0.07 (0.12) .54 | --- |
| a | Level | 37.18 (4.24) <.01 | 37.11 (4.12) <.01 | 37.58 (3.74) <.01 | 37.53 (3.71) <.01 | 37.20 (4.53) <.01 | 37.10 (3.79) <.01 | 36.75 (4.40) <.01 | 37.98 (4.04) <.01 | 37.94 (4.07) <.01 | 36.74 (4.02) <.01 | 37.75 (4.04) <.01 | 37.35(0.44) |
| a | Slope | -0.80 (1.34) .55 | -0.89 (1.35) .51 | -1.07 (1.10) .33 | -1.08 (1.13) .34 | -0.75 (1.29) .56 | -0.82 (1.23) .51 | -0.74 (1.31) .57 | -1.17 (1.14) .31 | -1.12 (1.21) .35 | -0.72 (1.24) .56 | -0.74 (1.32) .57 | -0.90(0.17) |
| a | Level \* age | -0.50 (0.26) .06 | -0.45 (0.25) .07 | -0.49 (0.23) .03 | -0.51 (0.22) .02 | -0.50 (0.24) .04 | -0.49 (0.21) .02 | -0.47 (0.24) .04 | -0.45 (0.24) .06 | -0.48 (0.24) .04 | -0.48 (0.23) .03 | -0.51 (0.23) .02 | -0.48(0.02) |
| a | Level \* education | -0.35 (0.33) .29 | -0.38 (0.38) .32 | -0.38 (0.31) .23 | -0.35 (0.32) .27 | -0.32 (0.33) .32 | -0.32 (0.34) .34 | -0.32 (0.37) .38 | -0.45 (0.34) .18 | -0.39 (0.35) .27 | -0.31 (0.34) .36 | -0.38 (0.34) .26 | -0.36(0.04) |
| a | Level \* height | 0.27 (0.17) .12 | 0.29 (0.17) .09 | 0.31 (0.17) .07 | 0.28 (0.17) .11 | 0.26 (0.19) .16 | 0.27 (0.17) .11 | 0.28 (0.17) .09 | 0.29 (0.18) .10 | 0.27 (0.17) .13 | 0.29 (0.18) .10 | 0.33 (0.16) .04 | 0.29(0.02) |
| a | Level \* smoking | -0.69 (2.57) .79 | -0.52 (2.47) .83 | -0.52 (2.36) .83 | -0.78 (2.35) .74 | -0.91 (2.55) .72 | -1.04 (2.40) .66 | -0.54 (2.44) .83 | -0.51 (2.44) .84 | -1.14 (2.54) .65 | -0.59 (2.60) .82 | -0.80 (2.42) .74 | -0.73(0.22) |
| a | Level \* cardio | 0.77 (2.39) .75 | 0.73 (2.35) .76 | 0.42 (2.14) .84 | 0.53 (2.71) .84 | 0.93 (2.20) .67 | 0.76 (2.17) .73 | 0.72 (2.27) .75 | 1.09 (2.29) .64 | 0.71 (2.30) .76 | 0.74 (2.35) .75 | 1.46 (2.03) .47 | 0.80(0.28) |
| a | Level \* diabetes | -1.11 (2.84) .70 | -1.26 (2.61) .63 | -1.23 (2.50) .62 | -1.27 (2.75) .64 | -1.11 (2.96) .71 | -0.62 (2.49) .80 | -1.26 (2.60) .63 | -1.18 (2.82) .68 | -1.23 (2.78) .66 | -1.24 (2.63) .64 | -0.75 (2.50) .76 | -1.12(0.22) |
| a | Slope \* age | -0.08 (0.09) .33 | -0.10 (0.08) .21 | -0.09 (0.07) .22 | -0.08 (0.07) .25 | -0.10 (0.08) .23 | -0.09 (0.07) .25 | -0.10 (0.08) .24 | -0.10 (0.08) .20 | -0.09 (0.08) .27 | -0.09 (0.08) .27 | -0.09 (0.08) .27 | -0.09(0.01) |
| a | Slope \* education | -0.03 (0.10) .75 | -0.02 (0.12) .88 | 0.00 (0.09) .99 | -0.02 (0.10) .85 | -0.03 (0.09) .71 | -0.04 (0.11) .70 | -0.04 (0.11) .75 | 0.01 (0.10) .91 | -0.01 (0.11) .89 | -0.04 (0.10) .73 | -0.03 (0.10) .76 | -0.02(0.02) |
| a | Slope \* height | -0.02 (0.06) .79 | -0.02 (0.06) .68 | -0.05 (0.06) .34 | -0.03 (0.06) .60 | -0.03 (0.06) .64 | -0.02 (0.06) .70 | -0.03 (0.06) .64 | -0.03 (0.06) .61 | -0.02 (0.06) .76 | -0.03 (0.06) .66 | -0.05 (0.06) .37 | -0.03(0.01) |
| a | Slope \* smoking | 0.28 (0.81) .73 | 0.22 (0.79) .78 | 0.11 (0.70) .88 | 0.32 (0.70) .64 | 0.20 (0.79) .80 | 0.38 (0.73) .60 | 0.24 (0.72) .74 | 0.23 (0.75) .76 | 0.40 (0.75) .60 | 0.26 (0.76) .73 | 0.31 (0.75) .68 | 0.27(0.08) |
| a | Slope \* cardio | -0.04 (0.75) .96 | 0.04 (0.72) .96 | 0.13 (0.67) .84 | 0.07 (0.79) .93 | -0.06 (0.69) .94 | 0.00 (0.73) .99 | -0.01 (0.74) .99 | -0.12 (0.70) .86 | 0.00 (0.74) .99 | 0.01 (0.75) .99 | -0.19 (0.66) .78 | -0.01(0.09) |
| a | Slope \* diabetes | -0.52 (0.77) .50 | -0.42 (0.72) .56 | -0.38 (0.65) .56 | -0.48 (0.72) .51 | -0.40 (0.89) .65 | -0.58 (0.74) .43 | -0.45 (0.75) .55 | -0.48 (0.80) .55 | -0.51 (0.83) .54 | -0.48 (0.73) .51 | -0.61 (0.74) .41 | -0.48(0.07) |
| b | Level | 15.93 (2.67) <.01 | 10.85 (0.64) <.01 | 29.83 (2.76) <.01 | 12.18 (1.05) <.01 | 20.34 (4.09) <.01 | 13.74 (1.96) <.01 | 25.48 (0.46) <.01 | 32.32 (3.26) <.01 | 164.27 (17.04) <.01 | 36.66 (3.10) <.01 | 31.03 (1.68) <.01 | --- |
| b | Slope | 1.86 (0.70) .01 | 0.10 (0.20) .64 | 0.75 (0.69) .28 | 0.30 (0.26) .24 | 1.67 (0.81) .04 | 1.89 (0.62) <.01 | 0.22 (0.16) .17 | 0.85 (0.88) .33 | 2.48 (5.30) .64 | 0.03 (0.90) .97 | -0.12 (0.54) .83 | --- |
| b | Level \* age | 0.00 (0.15) .99 | -0.04 (0.04) .36 | -0.18 (0.14) .19 | -0.01 (0.06) .81 | 0.29 (0.20) .14 | 0.03 (0.11) .78 | 0.01 (0.02) .70 | -0.22 (0.17) .18 | 1.64 (1.04) .12 | 0.37 (0.18) .04 | -0.23 (0.09) .01 | --- |
| b | Level \* education | 1.01 (0.24) <.01 | 0.19 (0.05) <.01 | 0.91 (0.21) <.01 | 0.30 (0.08) <.01 | 1.66 (0.34) <.01 | 0.86 (0.16) <.01 | 0.15 (0.04) <.01 | 1.52 (0.28) <.01 | -6.11 (1.48) <.01 | 1.53 (0.28) <.01 | 0.26 (0.13) .05 | --- |
| b | Level \* height | -0.09 (0.19) .62 | 0.00 (0.07) .98 | -0.01 (0.16) .93 | -0.15 (0.06) .01 | -0.35 (0.29) .23 | 0.09 (0.13) .51 | 0.00 (0.04) .99 | 0.05 (0.31) .87 | -0.28 (1.52) .85 | 0.08 (0.33) .80 | -0.23 (0.12) .05 | --- |
| b | Level \* smoking | -1.88 (1.71) .27 | 0.63 (0.39) .11 | 2.94 (1.65) .07 | 1.06 (0.71) .13 | 3.87 (2.34) .10 | 1.59 (1.26) .21 | 0.03 (0.28) .90 | -0.92 (2.20) .68 | -0.40 (11.81) .97 | -1.12 (2.15) .60 | -0.10 (0.97) .91 | --- |
| b | Level \* cardio | -1.32 (1.43) .36 | 0.10 (0.37) .79 | 1.45 (1.35) .29 | -0.96 (0.60) .11 | -1.18 (1.67) .48 | 0.10 (0.87) .91 | 0.00 (0.22) .98 | -2.82 (1.62) .08 | 2.93 (10.29) .78 | 0.82 (1.66) .62 | 1.53 (0.70) .03 | --- |
| b | Level \* diabetes | 0.86 (1.87) .64 | -0.68 (0.49) .16 | -2.47 (1.79) .17 | -1.20 (0.73) .10 | -5.63 (2.35) .02 | -0.88 (1.23) .47 | -0.42 (0.25) .10 | -3.43 (2.33) .14 | 2.69 (11.73) .82 | -2.45 (2.26) .28 | -2.73 (0.98) <.01 | --- |
| b | Slope \* age | -0.08 (0.04) .04 | -0.01 (0.01) .43 | -0.05 (0.04) .16 | -0.00 (0.01) .75 | -0.05 (0.04) .25 | -0.10 (0.04) <.01 | -0.02 (0.01) .02 | -0.07 (0.04) .12 | 0.22 (0.30) .46 | -0.08 (0.05) .11 | -0.01 (0.03) .59 | --- |
| b | Slope \* education | -0.07 (0.06) .26 | -0.01 (0.02) .67 | -0.06 (0.05) .29 | -0.01 (0.02) .65 | -0.12 (0.07) .08 | -0.14 (0.05) .01 | -0.01 (0.01) .26 | -0.02 (0.08) .79 | -0.16 (0.47) .73 | 0.02 (0.08) .77 | -0.00 (0.04) .93 | --- |
| b | Slope \* height | -0.02 (0.04) .58 | 0.01 (0.01) .53 | -0.05 (0.04) .27 | 0.01 (0.02) .41 | 0.05 (0.08) .54 | -0.00 (0.05) .93 | -0.00 (0.01) .73 | 0.03 (0.08) .66 | 0.43 (0.36) .23 | -0.01 (0.07) .92 | -0.01 (0.04) .74 | --- |
| b | Slope \* smoking | 0.36 (0.42) .40 | -0.16 (0.11) .17 | -0.52 (0.39) .19 | -0.15 (0.15) .31 | -0.40 (0.46) .39 | -0.27 (0.35) .44 | 0.00 (0.09) .99 | 0.15 (0.54) .78 | -4.00 (3.32) .23 | 0.04 (0.55) .94 | 0.16 (0.32) .62 | --- |
| b | Slope \* cardio | 0.18 (0.33) .59 | 0.02 (0.12) .84 | 0.16 (0.38) .68 | 0.20 (0.13) .10 | 0.56 (0.46) .22 | -0.14 (0.31) .66 | -0.02 (0.08) .80 | 0.23 (0.52) .66 | -1.07 (3.25) .74 | -0.46 (0.49) .34 | -0.16 (0.24) .50 | --- |
| b | Slope \* diabetes | -0.78 (0.46) .09 | 0.15 (0.14) .27 | -0.01 (0.49) .98 | 0.03 (0.16) .87 | -0.55 (0.54) .31 | 0.58 (0.44) .19 | 0.09 (0.08) .31 | 0.43 (0.60) .47 | 6.72 (3.53) .06 | -0.63 (0.58) .27 | 0.51 (0.34) .13 | --- |
| a | Var (Level) | 35.44 (13.39) .01 | 35.68 (12.68) <.01 | 32.45 (12.94) .01 | 35.68 (12.45) <.01 | 34.62 (13.82) .01 | 35.06 (12.15) <.01 | 36.62 (13.21) .01 | 36.82 (14.24) .01 | 36.13 (12.31) <.01 | 35.76 (13.46) .01 | 37.61 (13.59) .01 | 35.63(1.34) |
| a | Var (Slope) | 2.22 (1.40) .11 | 2.15 (1.24) .08 | 1.90 (1.26) .13 | 2.06 (1.21) .09 | 2.03 (1.26) .11 | 2.41 (1.31) .07 | 2.40 (1.41) .09 | 2.42 (1.37) .08 | 2.27 (1.27) .07 | 2.21 (1.29) .09 | 2.54 (1.30) .05 | 2.24(0.19) |
| a | Var (Residual) | 15.59 (1.90) <.01 | 15.65 (2.18) <.01 | 16.11 (2.26) <.01 | 15.60 (1.82) <.01 | 15.87 (2.03) <.01 | 15.49 (1.87) <.01 | 15.38 (1.95) <.01 | 15.45 (1.85) <.01 | 15.52 (1.92) <.01 | 15.61 (2.02) <.01 | 15.49 (1.88) <.01 | 15.61(0.21) |
| b | Var (Level) | 63.68 (10.95) <.01 | 3.50 (0.75) <.01 | 61.20 (10.47) <.01 | 10.39 (1.84) <.01 | 100.59 (19.36) <.01 | 30.84 (6.53) <.01 | 1.00 (0.29) <.01 | 103.58 (17.71) <.01 | 2280.99 (497.62) <.01 | 91.05 (17.09) <.01 | 14.23 (4.44) <.01 | --- |
| b | Var (Slope) | 0.21 (0.57) .71 | 0.01 (0.05) .90 | 1.23 (0.65) .06 | 0.07 (0.07) .35 | 0.39 (0.91) .67 | 0.59 (0.35) .09 | 0.00 (0.02) .84 | 2.11 (1.02) .04 | 25.38 (31.63) .42 | 0.38 (1.05) .72 | 0.27 (0.32) .40 | --- |
| b | Var (Residual) | 22.23 (1.61) <.01 | 1.75 (0.14) <.01 | 18.61 (1.24) <.01 | 3.10 (0.23) <.01 | 30.54 (2.61) <.01 | 14.09 (1.01) <.01 | 1.00 (0.04) <.01 | 27.82 (1.76) <.01 | 1490.96 (70.81) <.01 | 47.75 (2.90) <.01 | 12.76 (0.84) <.01 | --- |
| a | Covar (Level, Slope) | -4.89 (3.75) .19 | -4.86 (3.33) .14 | -3.72 (3.37) .27 | -4.53 (3.19) .15 | -4.28 (3.57) .23 | -5.11 (3.42) .14 | -5.31 (3.77) .16 | -5.51 (3.88) .16 | -5.03 (3.40) .14 | -4.91 (3.65) .18 | -5.67 (3.71) .13 | -4.89(0.56) |
| b | Covar (Level, Slope) | -1.03 (2.42) .67 | 0.07 (0.14) .62 | -4.33 (2.29) .06 | -0.51 (0.36) .16 | 0.47 (3.65) .90 | -1.10 (1.57) .48 | 0.02 (0.07) .81 | -0.99 (3.41) .77 | -14.83 (112.29) .90 | -2.03 (4.00) .61 | 0.20 (0.98) .83 | --- |
|  | Correlation of Levels | 0.0829 | -0.112 | 0.068 | 0.044 | -0.036 | -0.117 | -0.016 | -0.108 | 0.228 | 0.120 | -0.258 | -0.01(0.14) |
|  | Correlation of Slopes | 0.6388 | -0.179 | 0.874 | 0.281 | 0.664 | 0.028 | -0.327 | 0.925 | -0.369 | -0.016 | 0.387 | 0.26(0.47) |
|  | Correlation of Residuals | 0.0036 | -0.056 | -0.116 | 0.020 | -0.079 | 0.131 | 0.086 | 0.021 | -0.029 | -0.131 | 0.074 | -0.01(0.08) |
|  | N | 210 | 222 | 222 | 222 | 222 | 217 | 222 | 221 | 221 | 222 | 222 | 220.27(3.72) |
|  | occasions | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43.00(0.00) |
|  | LL | -3,700 | -2,818 | -3,805 | -3,076 | -3,911 | -3,492 | -2,555 | -3,979 | -5,384 | -4,119 | -3,577 | -3,674( 753) |
|  | AIC | 7,486 | 5,722 | 7,697 | 6,238 | 7,909 | 7,069 | 5,197 | 8,045 | 10,853 | 8,324 | 7,241 | 7,435(1,506) |
|  | BIC | 7,630 | 5,868 | 7,843 | 6,384 | 8,055 | 7,215 | 5,343 | 8,191 | 10,999 | 8,470 | 7,387 | 7,581(1,506) |

## block

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | -2.84 (11.29) .80 | -0.61 (11.96) .96 | 5.90 (12.81) .64 | 3.94 (13.52) .77 | 6.01 (15.37) .70 |
| ab | Covar (Slopes) | 0.38 (0.28) .18 | 0.40 (0.37) .28 | 0.36 (0.65) .58 | 0.44 (0.71) .54 | 0.13 (1.05) .90 |
| ab | Covar (Residuals) | 0.65 (1.81) .72 | 0.65 (1.83) .72 | 0.07 (3.13) .98 | 0.07 (2.20) .98 | 0.20 (3.85) .96 |
| er | Corr (Levels) | --- | --- | --- | 0.08 (0.29) .77 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.64 (1.24) .60 | --- |
| er | Corr (Residuals) | --- | --- | --- | 0.00 (0.12) .98 | --- |
| a | Level | 34.86 (1.66) <.01 | 36.28 (2.85) <.01 | 35.66 (3.57) <.01 | 37.18 (4.24) <.01 | 37.95 (5.47) <.01 |
| a | Slope | -1.02 (0.44) .02 | -0.97 (0.74) .19 | -1.82 (1.18) .12 | -0.80 (1.34) .55 | -2.83 (1.45) .05 |
| a | Level \* age | -0.53 (0.19) <.01 | -0.53 (0.19) <.01 | -0.52 (0.26) .04 | -0.50 (0.26) .06 | -0.57 (0.32) .08 |
| a | Level \* education | --- | -0.20 (0.30) .51 | -0.24 (0.36) .51 | -0.35 (0.33) .29 | -0.28 (0.46) .54 |
| a | Level \* height | --- | --- | 0.22 (0.17) .19 | 0.27 (0.17) .12 | 0.22 (0.20) .27 |
| a | Level \* smoking | --- | --- | --- | -0.69 (2.57) .79 | -0.82 (3.85) .83 |
| a | Level \* cardio | --- | --- | --- | 0.77 (2.39) .75 | -0.10 (5.16) .98 |
| a | Level \* diabetes | --- | --- | --- | -1.11 (2.84) .70 | 0.24 (3.75) .95 |
| a | Slope \* age | -0.08 (0.05) .11 | -0.08 (0.05) .10 | -0.05 (0.09) .56 | -0.08 (0.09) .33 | -0.03 (0.11) .77 |
| a | Slope \* education | --- | -0.00 (0.09) .96 | 0.01 (0.11) .95 | -0.03 (0.10) .75 | 0.04 (0.11) .74 |
| a | Slope \* height | --- | --- | -0.01 (0.06) .88 | -0.02 (0.06) .79 | -0.00 (0.06) .95 |
| a | Slope \* smoking | --- | --- | --- | 0.28 (0.81) .73 | 0.57 (1.11) .60 |
| a | Slope \* cardio | --- | --- | --- | -0.04 (0.75) .96 | 0.76 (1.27) .55 |
| a | Slope \* diabetes | --- | --- | --- | -0.52 (0.77) .50 | -0.65 (0.87) .45 |
| b | Level | 20.37 (1.04) <.01 | 20.28 (1.09) <.01 | 19.13 (5.31) <.01 | 15.93 (2.67) <.01 | 22.47 (8.67) .01 |
| b | Slope | 1.00 (0.23) <.01 | 1.04 (0.33) <.01 | 1.64 (1.00) .10 | 1.86 (0.70) .01 | 1.17 (1.41) .41 |
| b | Level \* age | 0.00 (0.11) .99 | 0.00 (0.11) .99 | 0.33 (0.38) .38 | 0.00 (0.15) .99 | 0.28 (0.49) .57 |
| b | Level \* education | --- | 0.01 (0.04) .82 | 0.74 (0.46) .11 | 1.01 (0.24) <.01 | 0.58 (0.61) .34 |
| b | Level \* height | --- | --- | 0.01 (0.16) .93 | -0.09 (0.19) .62 | 0.06 (0.22) .78 |
| b | Level \* smoking | --- | --- | --- | -1.88 (1.71) .27 | -3.32 (3.33) .32 |
| b | Level \* cardio | --- | --- | --- | -1.32 (1.43) .36 | -0.50 (4.78) .92 |
| b | Level \* diabetes | --- | --- | --- | 0.86 (1.87) .64 | -4.31 (4.10) .29 |
| b | Slope \* age | -0.06 (0.02) .01 | -0.06 (0.02) .01 | -0.09 (0.07) .20 | -0.08 (0.04) .04 | -0.08 (0.09) .35 |
| b | Slope \* education | --- | -0.01 (0.04) .88 | -0.10 (0.09) .28 | -0.07 (0.06) .26 | -0.08 (0.10) .42 |
| b | Slope \* height | --- | --- | -0.04 (0.04) .35 | -0.02 (0.04) .58 | -0.04 (0.06) .41 |
| b | Slope \* smoking | --- | --- | --- | 0.36 (0.42) .40 | 0.34 (0.93) .71 |
| b | Slope \* cardio | --- | --- | --- | 0.18 (0.33) .59 | 0.31 (1.43) .83 |
| b | Slope \* diabetes | --- | --- | --- | -0.78 (0.46) .09 | -0.56 (1.05) .60 |
| a | Var (Level) | 38.76 (11.36) <.01 | 37.47 (11.65) <.01 | 29.14 (13.21) .03 | 35.44 (13.39) .01 | 25.69 (17.42) .14 |
| a | Var (Slope) | 1.29 (0.61) .04 | 1.28 (0.63) .04 | 1.30 (1.09) .23 | 2.22 (1.40) .11 | 0.53 (1.09) .62 |
| a | Var (Residual) | 17.02 (1.50) <.01 | 17.02 (1.53) <.01 | 16.24 (2.74) <.01 | 15.59 (1.90) <.01 | 17.50 (4.23) <.01 |
| b | Var (Level) | 77.78 (8.78) <.01 | 77.40 (8.74) <.01 | 47.37 (18.47) .01 | 63.68 (10.95) <.01 | 41.03 (23.38) .08 |
| b | Var (Slope) | 0.22 (0.22) .32 | 0.19 (0.24) .43 | 0.13 (0.56) .82 | 0.21 (0.57) .71 | 0.06 (0.78) .94 |
| b | Var (Residual) | 22.15 (1.14) <.01 | 22.20 (1.15) <.01 | 23.47 (2.31) <.01 | 22.23 (1.61) <.01 | 23.58 (2.94) <.01 |
| a | Covar (Level, Slope) | -3.18 (2.26) .16 | -3.19 (2.37) .18 | -3.15 (3.28) .34 | -4.89 (3.75) .19 | -1.89 (4.26) .66 |
| b | Covar (Level, Slope) | -2.52 (1.44) .08 | -2.39 (1.51) .11 | -0.33 (2.79) .91 | -1.03 (2.42) .67 | -0.90 (4.06) .82 |
|  | Correlation of Levels | -0.052 | -0.011 | 0.1587 | 0.0829 | 0.1851 |
|  | Correlation of Slopes | 0.710 | 0.805 | 0.8937 | 0.6388 | 0.7040 |
|  | Correlation of Residuals | 0.034 | 0.034 | 0.0035 | 0.0036 | 0.0098 |
|  | N | 350 | 350 | 72 | 210 | 72 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -4,678 | -4,676 | -1,859 | -3,700 | -1,849 |
|  | AIC | 9,398 | 9,402 | 3,777 | 7,486 | 3,787 |
|  | BIC | 9,479 | 9,498 | 3,843 | 7,630 | 3,890 |

## bnt

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | -1.30 (4.49) .77 | -1.04 (4.70) .83 | -0.83 (3.40) .81 | -1.25 (4.34) .77 | -0.91 (4.29) .83 |
| ab | Covar (Slopes) | -0.03 (0.10) .74 | -0.04 (0.11) .74 | -0.02 (0.17) .92 | -0.02 (0.20) .91 | 0.03 (0.23) .89 |
| ab | Covar (Residuals) | -0.44 (0.49) .37 | -0.44 (0.49) .36 | -0.12 (0.65) .86 | -0.29 (0.63) .65 | -0.00 (0.74) .99 |
| er | Corr (Levels) | --- | --- | --- | -0.11 (0.38) .77 | --- |
| er | Corr (Slopes) | --- | --- | --- | -0.18 (1.82) .92 | --- |
| er | Corr (Residuals) | --- | --- | --- | -0.06 (0.12) .64 | --- |
| a | Level | 34.94 (1.94) <.01 | 36.42 (2.74) <.01 | 35.66 (3.40) <.01 | 37.11 (4.12) <.01 | 38.13 (6.44) <.01 |
| a | Slope | -1.23 (0.50) .01 | -1.17 (0.73) .11 | -1.81 (1.29) .16 | -0.89 (1.35) .51 | -2.89 (1.64) .08 |
| a | Level \* age | -0.51 (0.18) <.01 | -0.51 (0.18) <.01 | -0.53 (0.21) .01 | -0.45 (0.25) .07 | -0.57 (0.26) .03 |
| a | Level \* education | --- | -0.20 (0.28) .47 | -0.23 (0.35) .51 | -0.38 (0.38) .32 | -0.30 (0.55) .59 |
| a | Level \* height | --- | --- | 0.21 (0.17) .21 | 0.29 (0.17) .09 | 0.22 (0.22) .30 |
| a | Level \* smoking | --- | --- | --- | -0.52 (2.47) .83 | -0.92 (3.11) .77 |
| a | Level \* cardio | --- | --- | --- | 0.73 (2.35) .76 | -0.08 (3.40) .98 |
| a | Level \* diabetes | --- | --- | --- | -1.26 (2.61) .63 | 0.14 (3.60) .97 |
| a | Slope \* age | -0.08 (0.05) .12 | -0.08 (0.05) .10 | -0.05 (0.08) .53 | -0.10 (0.08) .21 | -0.03 (0.10) .76 |
| a | Slope \* education | --- | -0.01 (0.07) .93 | 0.00 (0.12) .99 | -0.02 (0.12) .88 | 0.05 (0.15) .76 |
| a | Slope \* height | --- | --- | -0.00 (0.06) .96 | -0.02 (0.06) .68 | -0.01 (0.07) .93 |
| a | Slope \* smoking | --- | --- | --- | 0.22 (0.79) .78 | 0.61 (0.82) .46 |
| a | Slope \* cardio | --- | --- | --- | 0.04 (0.72) .96 | 0.74 (1.25) .55 |
| a | Slope \* diabetes | --- | --- | --- | -0.42 (0.72) .56 | -0.58 (1.18) .62 |
| b | Level | 12.06 (0.29) <.01 | 12.05 (0.30) <.01 | 11.90 (0.94) <.01 | 10.85 (0.64) <.01 | 10.75 (2.12) <.01 |
| b | Slope | -0.02 (0.08) .83 | -0.02 (0.11) .84 | 0.08 (0.31) .78 | 0.10 (0.20) .64 | 0.41 (0.56) .47 |
| b | Level \* age | -0.01 (0.03) .65 | -0.01 (0.03) .64 | 0.02 (0.07) .78 | -0.04 (0.04) .36 | 0.05 (0.09) .59 |
| b | Level \* education | --- | 0.00 (0.01) .98 | 0.08 (0.08) .37 | 0.19 (0.05) <.01 | 0.10 (0.17) .54 |
| b | Level \* height | --- | --- | 0.01 (0.05) .82 | 0.00 (0.07) .98 | -0.00 (0.07) .98 |
| b | Level \* smoking | --- | --- | --- | 0.63 (0.39) .11 | 1.04 (1.12) .35 |
| b | Level \* cardio | --- | --- | --- | 0.10 (0.37) .79 | -0.28 (1.03) .78 |
| b | Level \* diabetes | --- | --- | --- | -0.68 (0.49) .16 | -0.54 (0.94) .56 |
| b | Slope \* age | -0.01 (0.01) .13 | -0.01 (0.01) .14 | -0.02 (0.02) .31 | -0.01 (0.01) .43 | -0.03 (0.03) .31 |
| b | Slope \* education | --- | 0.00 (0.01) .97 | -0.00 (0.02) .85 | -0.01 (0.02) .67 | -0.01 (0.04) .82 |
| b | Slope \* height | --- | --- | 0.00 (0.01) .73 | 0.01 (0.01) .53 | 0.01 (0.03) .70 |
| b | Slope \* smoking | --- | --- | --- | -0.16 (0.11) .17 | -0.26 (0.27) .33 |
| b | Slope \* cardio | --- | --- | --- | 0.02 (0.12) .84 | -0.00 (0.37) .99 |
| b | Slope \* diabetes | --- | --- | --- | 0.15 (0.14) .27 | 0.29 (0.32) .36 |
| a | Var (Level) | 40.08 (12.51) <.01 | 38.82 (13.43) <.01 | 28.02 (12.47) .02 | 35.68 (12.68) <.01 | 24.72 (19.07) .20 |
| a | Var (Slope) | 1.20 (0.58) .04 | 1.20 (0.61) .05 | 1.16 (1.17) .32 | 2.15 (1.24) .08 | 0.34 (0.89) .70 |
| a | Var (Residual) | 17.18 (1.55) <.01 | 17.16 (1.62) <.01 | 16.51 (3.04) <.01 | 15.65 (2.18) <.01 | 18.09 (3.94) <.01 |
| b | Var (Level) | 4.52 (0.55) <.01 | 4.49 (0.55) <.01 | 1.80 (0.92) .05 | 3.50 (0.75) <.01 | 1.65 (1.27) .19 |
| b | Var (Slope) | 0.00 (0.02) .75 | 0.00 (0.02) .83 | 0.02 (0.04) .62 | 0.01 (0.05) .90 | 0.02 (0.07) .72 |
| b | Var (Residual) | 1.96 (0.10) <.01 | 1.97 (0.10) <.01 | 1.67 (0.17) <.01 | 1.75 (0.14) <.01 | 1.59 (0.21) <.01 |
| a | Covar (Level, Slope) | -3.28 (2.39) .17 | -3.29 (2.46) .18 | -2.76 (2.58) .28 | -4.86 (3.33) .14 | -1.55 (3.14) .62 |
| b | Covar (Level, Slope) | 0.04 (0.10) .71 | 0.04 (0.10) .65 | 0.16 (0.17) .36 | 0.07 (0.14) .62 | 0.19 (0.21) .38 |
|  | Correlation of Levels | -0.097 | -0.079 | -0.117 | -0.112 | -0.14302 |
|  | Correlation of Slopes | -0.426 | -0.600 | -0.125 | -0.179 | 0.36319 |
|  | Correlation of Residuals | -0.075 | -0.077 | -0.022 | -0.056 | -0.00093 |
|  | N | 376 | 376 | 72 | 222 | 72 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -3,520 | -3,517 | -1,418 | -2,818 | -1,409 |
|  | AIC | 7,082 | 7,084 | 2,894 | 5,722 | 2,907 |
|  | BIC | 7,164 | 7,182 | 2,960 | 5,868 | 3,010 |

## categories

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | -10.71 (7.85) .17 | -7.45 (9.01) .41 | -10.19 (11.17) .36 | 3.04 (11.79) .80 | -8.98 (15.01) .55 |
| ab | Covar (Slopes) | -0.20 (0.35) .57 | -0.24 (0.36) .50 | -0.48 (0.73) .51 | 1.33 (0.79) .09 | -0.25 (0.95) .79 |
| ab | Covar (Residuals) | -0.38 (1.54) .81 | -0.34 (1.56) .83 | 1.34 (2.11) .52 | -2.01 (2.28) .38 | 1.70 (2.74) .54 |
| er | Corr (Levels) | --- | --- | --- | 0.07 (0.26) .80 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.87 (0.55) .11 | --- |
| er | Corr (Residuals) | --- | --- | --- | -0.12 (0.13) .37 | --- |
| a | Level | 35.05 (1.94) <.01 | 37.06 (2.77) <.01 | 35.81 (3.95) <.01 | 37.58 (3.74) <.01 | 38.21 (7.26) <.01 |
| a | Slope | -1.20 (0.52) .02 | -0.96 (0.67) .15 | -1.91 (1.20) .11 | -1.07 (1.10) .33 | -3.01 (1.91) .12 |
| a | Level \* age | -0.51 (0.20) .01 | -0.50 (0.20) .01 | -0.55 (0.23) .02 | -0.49 (0.23) .03 | -0.60 (0.29) .04 |
| a | Level \* education | --- | -0.29 (0.30) .34 | -0.22 (0.39) .57 | -0.38 (0.31) .23 | -0.26 (0.54) .63 |
| a | Level \* height | --- | --- | 0.20 (0.15) .19 | 0.31 (0.17) .07 | 0.21 (0.24) .37 |
| a | Level \* smoking | --- | --- | --- | -0.52 (2.36) .83 | -0.81 (3.92) .84 |
| a | Level \* cardio | --- | --- | --- | 0.42 (2.14) .84 | -0.11 (4.05) .98 |
| a | Level \* diabetes | --- | --- | --- | -1.23 (2.50) .62 | 0.29 (4.42) .95 |
| a | Slope \* age | -0.08 (0.06) .15 | -0.09 (0.06) .12 | -0.04 (0.09) .68 | -0.09 (0.07) .22 | -0.01 (0.11) .93 |
| a | Slope \* education | --- | -0.02 (0.07) .72 | -0.00 (0.11) .98 | 0.00 (0.09) .99 | 0.03 (0.12) .82 |
| a | Slope \* height | --- | --- | 0.00 (0.06) .95 | -0.05 (0.06) .34 | -0.00 (0.07) .97 |
| a | Slope \* smoking | --- | --- | --- | 0.11 (0.70) .88 | 0.61 (0.89) .50 |
| a | Slope \* cardio | --- | --- | --- | 0.13 (0.67) .84 | 0.78 (1.06) .46 |
| a | Slope \* diabetes | --- | --- | --- | -0.38 (0.65) .56 | -0.67 (0.92) .46 |
| b | Level | 37.01 (0.97) <.01 | 36.82 (1.02) <.01 | 33.29 (4.62) <.01 | 29.83 (2.76) <.01 | 32.16 (10.01) <.01 |
| b | Slope | -0.26 (0.24) .28 | -0.15 (0.36) .66 | 0.36 (0.99) .71 | 0.75 (0.69) .28 | 0.51 (2.25) .82 |
| b | Level \* age | -0.20 (0.10) .05 | -0.20 (0.10) .05 | -0.26 (0.37) .49 | -0.18 (0.14) .19 | -0.22 (0.53) .68 |
| b | Level \* education | --- | 0.02 (0.04) .61 | 0.95 (0.46) .04 | 0.91 (0.21) <.01 | 1.05 (0.76) .17 |
| b | Level \* height | --- | --- | -0.10 (0.16) .55 | -0.01 (0.16) .93 | -0.10 (0.25) .68 |
| b | Level \* smoking | --- | --- | --- | 2.94 (1.65) .07 | 2.73 (5.83) .64 |
| b | Level \* cardio | --- | --- | --- | 1.45 (1.35) .29 | -0.07 (7.27) .99 |
| b | Level \* diabetes | --- | --- | --- | -2.47 (1.79) .17 | -0.03 (4.92) .99 |
| b | Slope \* age | -0.04 (0.02) .14 | -0.04 (0.02) .13 | -0.03 (0.07) .63 | -0.05 (0.04) .16 | -0.04 (0.10) .67 |
| b | Slope \* education | --- | -0.01 (0.04) .70 | -0.11 (0.09) .25 | -0.06 (0.05) .29 | -0.12 (0.17) .50 |
| b | Slope \* height | --- | --- | -0.01 (0.04) .77 | -0.05 (0.04) .27 | -0.01 (0.07) .84 |
| b | Slope \* smoking | --- | --- | --- | -0.52 (0.39) .19 | -0.33 (1.10) .76 |
| b | Slope \* cardio | --- | --- | --- | 0.16 (0.38) .68 | 0.16 (1.19) .90 |
| b | Slope \* diabetes | --- | --- | --- | -0.01 (0.49) .98 | 0.13 (0.88) .88 |
| a | Var (Level) | 38.08 (11.74) <.01 | 36.86 (11.81) <.01 | 26.20 (12.41) .04 | 32.45 (12.94) .01 | 25.60 (16.54) .12 |
| a | Var (Slope) | 1.06 (0.57) .06 | 1.08 (0.58) .06 | 0.94 (1.24) .45 | 1.90 (1.26) .13 | 0.49 (1.23) .69 |
| a | Var (Residual) | 17.27 (1.48) <.01 | 17.18 (1.47) <.01 | 17.01 (3.08) <.01 | 16.11 (2.26) <.01 | 18.02 (3.19) <.01 |
| b | Var (Level) | 70.31 (7.48) <.01 | 69.81 (7.59) <.01 | 65.35 (16.75) <.01 | 61.20 (10.47) <.01 | 61.50 (27.35) .02 |
| b | Var (Slope) | 0.69 (0.24) <.01 | 0.66 (0.25) .01 | 0.76 (0.69) .27 | 1.23 (0.65) .06 | 0.76 (1.08) .48 |
| b | Var (Residual) | 20.72 (1.13) <.01 | 20.73 (1.14) <.01 | 20.71 (2.85) <.01 | 18.61 (1.24) <.01 | 20.56 (4.74) <.01 |
| a | Covar (Level, Slope) | -2.64 (2.13) .21 | -2.73 (2.16) .20 | -2.19 (3.19) .49 | -3.72 (3.37) .27 | -1.99 (4.11) .63 |
| b | Covar (Level, Slope) | -3.92 (1.19) <.01 | -3.76 (1.28) <.01 | -5.17 (3.68) .16 | -4.33 (2.29) .06 | -4.94 (5.80) .39 |
|  | Correlation of Levels | -0.21 | -0.147 | -0.246 | 0.068 | -0.226 |
|  | Correlation of Slopes | -0.23 | -0.283 | -0.566 | 0.874 | -0.414 |
|  | Correlation of Residuals | -0.02 | -0.018 | 0.072 | -0.116 | 0.088 |
|  | N | 376 | 376 | 72 | 222 | 72 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -4,870 | -4,867 | -1,840 | -3,805 | -1,834 |
|  | AIC | 9,781 | 9,784 | 3,737 | 7,697 | 3,758 |
|  | BIC | 9,864 | 9,883 | 3,803 | 7,843 | 3,860 |

## digit\_tot

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 0.38 (3.25) .91 | 1.48 (3.38) .66 | 3.05 (4.63) .51 | 0.85 (4.79) .86 | 2.40 (6.66) .72 |
| ab | Covar (Slopes) | 0.07 (0.09) .47 | 0.05 (0.10) .62 | 0.00 (0.22) .99 | 0.10 (0.33) .75 | -0.02 (0.31) .94 |
| ab | Covar (Residuals) | 0.33 (0.59) .58 | 0.31 (0.61) .61 | -0.19 (0.76) .80 | 0.14 (0.77) .86 | -0.05 (1.03) .96 |
| er | Corr (Levels) | --- | --- | --- | 0.04 (0.25) .86 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.28 (0.90) .75 | --- |
| er | Corr (Residuals) | --- | --- | --- | 0.02 (0.11) .86 | --- |
| a | Level | 34.76 (1.58) <.01 | 37.56 (2.54) <.01 | 35.70 (3.32) <.01 | 37.53 (3.71) <.01 | 38.07 (6.01) <.01 |
| a | Slope | -1.17 (0.41) <.01 | -0.97 (0.67) .15 | -1.81 (1.30) .16 | -1.08 (1.13) .34 | -2.87 (1.61) .07 |
| a | Level \* age | -0.54 (0.17) <.01 | -0.53 (0.17) <.01 | -0.52 (0.21) .01 | -0.51 (0.22) .02 | -0.57 (0.30) .06 |
| a | Level \* education | --- | -0.39 (0.28) .16 | -0.24 (0.34) .49 | -0.35 (0.32) .27 | -0.30 (0.58) .60 |
| a | Level \* height | --- | --- | 0.22 (0.16) .17 | 0.28 (0.17) .11 | 0.23 (0.21) .27 |
| a | Level \* smoking | --- | --- | --- | -0.78 (2.35) .74 | -0.81 (3.49) .82 |
| a | Level \* cardio | --- | --- | --- | 0.53 (2.71) .84 | -0.05 (5.34) .99 |
| a | Level \* diabetes | --- | --- | --- | -1.27 (2.75) .64 | 0.23 (3.38) .95 |
| a | Slope \* age | -0.07 (0.05) .11 | -0.08 (0.05) .08 | -0.05 (0.09) .55 | -0.08 (0.07) .25 | -0.03 (0.11) .78 |
| a | Slope \* education | --- | -0.02 (0.07) .78 | 0.00 (0.12) .98 | -0.02 (0.10) .85 | 0.05 (0.15) .76 |
| a | Slope \* height | --- | --- | -0.01 (0.06) .90 | -0.03 (0.06) .60 | -0.01 (0.07) .84 |
| a | Slope \* smoking | --- | --- | --- | 0.32 (0.70) .64 | 0.55 (1.00) .58 |
| a | Slope \* cardio | --- | --- | --- | 0.07 (0.79) .93 | 0.76 (1.24) .54 |
| a | Slope \* diabetes | --- | --- | --- | -0.48 (0.72) .51 | -0.64 (0.92) .48 |
| b | Level | 13.76 (0.39) <.01 | 13.74 (0.40) <.01 | 13.86 (2.04) <.01 | 12.18 (1.05) <.01 | 13.65 (4.00) <.01 |
| b | Slope | 0.19 (0.08) .02 | 0.17 (0.11) .13 | -0.22 (0.44) .62 | 0.30 (0.26) .24 | -0.28 (0.77) .71 |
| b | Level \* age | -0.03 (0.04) .50 | -0.03 (0.04) .51 | -0.04 (0.12) .76 | -0.01 (0.06) .81 | -0.03 (0.16) .84 |
| b | Level \* education | --- | 0.00 (0.01) .93 | 0.29 (0.18) .10 | 0.30 (0.08) <.01 | 0.32 (0.26) .22 |
| b | Level \* height | --- | --- | -0.14 (0.07) .05 | -0.15 (0.06) .01 | -0.12 (0.09) .15 |
| b | Level \* smoking | --- | --- | --- | 1.06 (0.71) .13 | 0.94 (1.89) .62 |
| b | Level \* cardio | --- | --- | --- | -0.96 (0.60) .11 | 0.55 (2.08) .79 |
| b | Level \* diabetes | --- | --- | --- | -1.20 (0.73) .10 | -0.87 (1.69) .61 |
| b | Slope \* age | -0.00 (0.01) .61 | -0.00 (0.01) .63 | 0.01 (0.03) .66 | -0.00 (0.01) .75 | 0.01 (0.04) .73 |
| b | Slope \* education | --- | 0.00 (0.01) .76 | 0.00 (0.03) .90 | -0.01 (0.02) .65 | 0.00 (0.04) .91 |
| b | Slope \* height | --- | --- | 0.01 (0.01) .53 | 0.01 (0.02) .41 | 0.00 (0.02) .93 |
| b | Slope \* smoking | --- | --- | --- | -0.15 (0.15) .31 | -0.10 (0.27) .70 |
| b | Slope \* cardio | --- | --- | --- | 0.20 (0.13) .10 | 0.09 (0.65) .89 |
| b | Slope \* diabetes | --- | --- | --- | 0.03 (0.16) .87 | -0.08 (0.47) .86 |
| a | Var (Level) | 38.00 (10.99) <.01 | 37.26 (11.33) <.01 | 27.77 (11.17) .01 | 35.68 (12.45) <.01 | 25.69 (14.11) .07 |
| a | Var (Slope) | 1.11 (0.56) .05 | 1.15 (0.58) .05 | 1.20 (1.05) .26 | 2.06 (1.21) .09 | 0.50 (1.29) .70 |
| a | Var (Residual) | 17.35 (1.49) <.01 | 17.22 (1.48) <.01 | 16.52 (2.26) <.01 | 15.60 (1.82) <.01 | 17.76 (3.42) <.01 |
| b | Var (Level) | 12.55 (1.25) <.01 | 12.53 (1.26) <.01 | 10.62 (2.91) <.01 | 10.39 (1.84) <.01 | 10.23 (3.89) .01 |
| b | Var (Slope) | 0.02 (0.03) .35 | 0.03 (0.03) .33 | 0.04 (0.04) .41 | 0.07 (0.07) .35 | 0.03 (0.09) .71 |
| b | Var (Residual) | 3.09 (0.17) <.01 | 3.09 (0.17) <.01 | 2.66 (0.28) <.01 | 3.10 (0.23) <.01 | 2.62 (0.41) <.01 |
| a | Covar (Level, Slope) | -2.84 (2.13) .18 | -3.05 (2.24) .17 | -2.80 (2.71) .30 | -4.53 (3.19) .15 | -1.97 (3.80) .60 |
| b | Covar (Level, Slope) | -0.36 (0.19) .06 | -0.38 (0.19) .05 | -0.44 (0.41) .28 | -0.51 (0.36) .16 | -0.44 (0.65) .50 |
|  | Correlation of Levels | 0.017 | 0.068 | 0.178 | 0.044 | 0.1479 |
|  | Correlation of Slopes | 0.423 | 0.301 | 0.015 | 0.281 | -0.1915 |
|  | Correlation of Residuals | 0.045 | 0.043 | -0.028 | 0.020 | -0.0078 |
|  | N | 379 | 379 | 72 | 222 | 72 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -3,840 | -3,836 | -1,503 | -3,076 | -1,495 |
|  | AIC | 7,721 | 7,721 | 3,063 | 6,238 | 3,081 |
|  | BIC | 7,804 | 7,820 | 3,130 | 6,384 | 3,183 |

## fas

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | -5.16 (9.16) .57 | 1.28 (9.77) .90 | -14.68 (12.06) .22 | -2.14 (11.20) .85 | -15.29 (17.88) .39 |
| ab | Covar (Slopes) | 0.00 (0.41) .99 | 0.00 (0.43) .99 | -0.37 (0.77) .63 | 0.59 (0.97) .54 | -0.24 (0.77) .76 |
| ab | Covar (Residuals) | 0.43 (1.81) .81 | 0.33 (1.83) .86 | -0.40 (2.81) .89 | -1.73 (2.65) .51 | -0.61 (4.23) .88 |
| er | Corr (Levels) | --- | --- | --- | -0.04 (0.19) .85 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.66 (1.21) .58 | --- |
| er | Corr (Residuals) | --- | --- | --- | -0.08 (0.12) .51 | --- |
| a | Level | 34.93 (1.88) <.01 | 37.57 (2.85) <.01 | 35.77 (3.62) <.01 | 37.20 (4.53) <.01 | 37.75 (5.54) <.01 |
| a | Slope | -1.15 (0.47) .01 | -0.92 (0.71) .20 | -1.88 (1.10) .09 | -0.75 (1.29) .56 | -2.70 (1.71) .12 |
| a | Level \* age | -0.53 (0.19) <.01 | -0.51 (0.19) .01 | -0.52 (0.26) .04 | -0.50 (0.24) .04 | -0.56 (0.37) .13 |
| a | Level \* education | --- | -0.39 (0.29) .18 | -0.25 (0.30) .41 | -0.32 (0.33) .32 | -0.29 (0.51) .57 |
| a | Level \* height | --- | --- | 0.22 (0.16) .17 | 0.26 (0.19) .16 | 0.22 (0.19) .23 |
| a | Level \* smoking | --- | --- | --- | -0.91 (2.55) .72 | -0.69 (3.40) .84 |
| a | Level \* cardio | --- | --- | --- | 0.93 (2.20) .67 | -0.14 (3.77) .97 |
| a | Level \* diabetes | --- | --- | --- | -1.11 (2.96) .71 | 0.12 (5.58) .98 |
| a | Slope \* age | -0.08 (0.06) .15 | -0.09 (0.06) .12 | -0.05 (0.10) .60 | -0.10 (0.08) .23 | -0.03 (0.11) .77 |
| a | Slope \* education | --- | -0.02 (0.07) .73 | 0.01 (0.10) .91 | -0.03 (0.09) .71 | 0.04 (0.12) .73 |
| a | Slope \* height | --- | --- | -0.01 (0.06) .88 | -0.03 (0.06) .64 | -0.01 (0.06) .91 |
| a | Slope \* smoking | --- | --- | --- | 0.20 (0.79) .80 | 0.50 (1.00) .62 |
| a | Slope \* cardio | --- | --- | --- | -0.06 (0.69) .94 | 0.74 (1.18) .53 |
| a | Slope \* diabetes | --- | --- | --- | -0.40 (0.89) .65 | -0.56 (1.06) .59 |
| b | Level | 31.26 (1.46) <.01 | 31.22 (1.52) <.01 | 25.71 (5.00) <.01 | 20.34 (4.09) <.01 | 27.81 (8.43) <.01 |
| b | Slope | 0.32 (0.28) .24 | 0.31 (0.43) .48 | 1.31 (1.04) .21 | 1.67 (0.81) .04 | 1.03 (1.62) .53 |
| b | Level \* age | 0.19 (0.15) .19 | 0.19 (0.15) .19 | -0.06 (0.38) .88 | 0.29 (0.20) .14 | -0.08 (0.41) .85 |
| b | Level \* education | --- | 0.00 (0.05) .96 | 1.53 (0.52) <.01 | 1.66 (0.34) <.01 | 1.58 (0.59) .01 |
| b | Level \* height | --- | --- | -0.34 (0.30) .25 | -0.35 (0.29) .23 | -0.31 (0.36) .38 |
| b | Level \* smoking | --- | --- | --- | 3.87 (2.34) .10 | 0.54 (4.57) .91 |
| b | Level \* cardio | --- | --- | --- | -1.18 (1.67) .48 | 1.62 (8.67) .85 |
| b | Level \* diabetes | --- | --- | --- | -5.63 (2.35) .02 | -5.24 (6.46) .42 |
| b | Slope \* age | -0.02 (0.03) .55 | -0.02 (0.03) .55 | -0.01 (0.06) .86 | -0.05 (0.04) .25 | 0.00 (0.08) .99 |
| b | Slope \* education | --- | 0.00 (0.05) .93 | -0.13 (0.11) .24 | -0.12 (0.07) .08 | -0.14 (0.12) .25 |
| b | Slope \* height | --- | --- | 0.00 (0.05) .95 | 0.05 (0.08) .54 | -0.00 (0.07) .94 |
| b | Slope \* smoking | --- | --- | --- | -0.40 (0.46) .39 | 0.30 (0.76) .69 |
| b | Slope \* cardio | --- | --- | --- | 0.56 (0.46) .22 | -0.56 (2.14) .79 |
| b | Slope \* diabetes | --- | --- | --- | -0.55 (0.54) .31 | -0.06 (1.10) .96 |
| a | Var (Level) | 37.65 (12.87) <.01 | 37.00 (13.14) <.01 | 26.30 (17.00) .12 | 34.62 (13.82) .01 | 24.89 (22.04) .26 |
| a | Var (Slope) | 1.13 (0.62) .07 | 1.17 (0.63) .06 | 0.93 (1.19) .44 | 2.03 (1.26) .11 | 0.43 (1.40) .76 |
| a | Var (Residual) | 17.27 (1.52) <.01 | 17.10 (1.50) <.01 | 16.97 (2.74) <.01 | 15.87 (2.03) <.01 | 17.81 (4.76) <.01 |
| b | Var (Level) | 138.01 (14.87) <.01 | 137.76 (15.11) <.01 | 100.55 (29.94) <.01 | 100.59 (19.36) <.01 | 92.84 (40.42) .02 |
| b | Var (Slope) | 0.51 (0.36) .16 | 0.50 (0.39) .19 | 0.56 (0.77) .46 | 0.39 (0.91) .67 | 0.54 (0.90) .55 |
| b | Var (Residual) | 29.59 (1.59) <.01 | 29.63 (1.64) <.01 | 24.86 (3.20) <.01 | 30.54 (2.61) <.01 | 24.84 (4.40) <.01 |
| a | Covar (Level, Slope) | -2.75 (2.49) .27 | -2.98 (2.52) .24 | -2.14 (3.76) .57 | -4.28 (3.57) .23 | -1.63 (5.32) .76 |
| b | Covar (Level, Slope) | -1.97 (2.26) .38 | -1.96 (2.43) .42 | 0.92 (5.06) .85 | 0.47 (3.65) .90 | 0.61 (6.58) .93 |
|  | Correlation of Levels | -0.072 | 0.0179 | -0.285 | -0.036 | -0.318 |
|  | Correlation of Slopes | 0.004 | 0.0039 | -0.509 | 0.664 | -0.499 |
|  | Correlation of Residuals | 0.019 | 0.0145 | -0.019 | -0.079 | -0.029 |
|  | N | 358 | 358 | 72 | 222 | 72 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -4,969 | -4,966 | -1,901 | -3,911 | -1,895 |
|  | AIC | 9,980 | 9,982 | 3,860 | 7,909 | 3,879 |
|  | BIC | 10,062 | 10,079 | 3,926 | 8,055 | 3,982 |

## information

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

Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf

Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf

Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf

Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf

Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf

Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf

Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf  
  
Warning in FUN(newX[, i], ...): no non-missing arguments to max; returning -Inf

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | full |
| ab | Covar (Levels) | 0.18 (6.82) .98 | 3.20 (7.69) .68 | 1.94 (5.50) .72 | 1.59 (8.04) .84 |
| ab | Covar (Slopes) | -0.60 (0.34) .08 | -0.65 (0.34) .06 | 0.06 (0.51) .91 | 0.04 (0.70) .96 |
| ab | Covar (Residuals) | -0.30 (0.88) .74 | -0.05 (0.90) .96 | -0.04 (1.19) .97 | 0.12 (1.92) .95 |
| er | Corr (Levels) | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- |
| a | Level | 33.52 (1.73) <.01 | 36.63 (2.99) <.01 | 35.69 (3.19) <.01 | 37.92 (5.93) <.01 |
| a | Slope | -0.88 (0.53) .10 | -0.49 (0.77) .52 | -1.83 (1.23) .14 | -2.80 (1.90) .14 |
| a | Level \* age | -0.50 (0.19) .01 | -0.49 (0.19) .01 | -0.52 (0.23) .02 | -0.57 (0.39) .14 |
| a | Level \* education | --- | -0.40 (0.35) .24 | -0.23 (0.34) .49 | -0.28 (0.51) .59 |
| a | Level \* height | --- | --- | 0.21 (0.18) .22 | 0.23 (0.21) .29 |
| a | Level \* smoking | --- | --- | --- | -0.82 (4.00) .84 |
| a | Level \* cardio | --- | --- | --- | 0.06 (3.00) .98 |
| a | Level \* diabetes | --- | --- | --- | 0.14 (3.14) .96 |
| a | Slope \* age | -0.08 (0.06) .19 | -0.08 (0.06) .18 | -0.05 (0.09) .58 | -0.03 (0.14) .84 |
| a | Slope \* education | --- | -0.07 (0.08) .43 | 0.00 (0.13) .99 | 0.04 (0.17) .84 |
| a | Slope \* height | --- | --- | -0.00 (0.07) .94 | -0.01 (0.07) .91 |
| a | Slope \* smoking | --- | --- | --- | 0.57 (1.20) .63 |
| a | Slope \* cardio | --- | --- | --- | 0.66 (1.49) .66 |
| a | Slope \* diabetes | --- | --- | --- | -0.60 (1.40) .67 |
| b | Level | 22.50 (0.52) <.01 | 23.15 (0.57) <.01 | 17.09 (2.40) <.01 | 16.91 (4.23) <.01 |
| b | Slope | -0.60 (0.18) <.01 | -1.26 (0.26) <.01 | -0.62 (0.67) .35 | -0.36 (1.40) .79 |
| b | Level \* age | 0.01 (0.05) .83 | 0.01 (0.05) .86 | -0.05 (0.16) .74 | -0.02 (0.25) .93 |
| b | Level \* education | --- | -0.10 (0.03) <.01 | 0.66 (0.25) .01 | 0.67 (0.36) .06 |
| b | Level \* height | --- | --- | -0.04 (0.13) .76 | -0.05 (0.20) .81 |
| b | Level \* smoking | --- | --- | --- | 0.07 (2.22) .97 |
| b | Level \* cardio | --- | --- | --- | -1.32 (2.72) .63 |
| b | Level \* diabetes | --- | --- | --- | -1.64 (2.92) .57 |
| b | Slope \* age | 0.00 (0.02) .97 | 0.00 (0.02) .82 | 0.01 (0.04) .74 | 0.00 (0.06) .93 |
| b | Slope \* education | --- | 0.10 (0.03) <.01 | 0.04 (0.07) .56 | 0.04 (0.12) .75 |
| b | Slope \* height | --- | --- | 0.01 (0.03) .78 | 0.01 (0.06) .82 |
| b | Slope \* smoking | --- | --- | --- | 0.05 (0.56) .92 |
| b | Slope \* cardio | --- | --- | --- | -0.07 (0.90) .94 |
| b | Slope \* diabetes | --- | --- | --- | 0.01 (0.89) .99 |
| a | Var (Level) | 41.04 (11.44) <.01 | 39.45 (11.55) <.01 | 27.95 (10.65) .01 | 25.45 (16.74) .13 |
| a | Var (Slope) | 2.35 (1.05) .02 | 2.19 (1.10) .05 | 1.26 (1.09) .25 | 0.56 (1.34) .68 |
| a | Var (Residual) | 15.41 (1.48) <.01 | 15.47 (1.47) <.01 | 16.50 (2.92) <.01 | 17.66 (4.00) <.01 |
| b | Var (Level) | 17.99 (2.37) <.01 | 18.78 (2.47) <.01 | 6.29 (4.10) .12 | 5.43 (5.68) .34 |
| b | Var (Slope) | 0.26 (0.10) .01 | 0.21 (0.08) .01 | 0.02 (0.25) .93 | 0.02 (0.26) .94 |
| b | Var (Residual) | 6.64 (0.28) <.01 | 6.79 (0.28) <.01 | 5.22 (0.56) <.01 | 5.19 (0.66) <.01 |
| a | Covar (Level, Slope) | -5.34 (3.06) .08 | -4.63 (3.14) .14 | -2.83 (2.79) .31 | -1.88 (4.26) .66 |
| b | Covar (Level, Slope) | -0.16 (0.41) .69 | -0.68 (0.41) .10 | 0.13 (0.78) .87 | 0.13 (1.11) .91 |
|  | Correlation of Levels | 0.0067 | 0.1176 | 0.1460 | 0.136 |
|  | Correlation of Slopes | -0.7630 | -0.9673 | 0.3571 | 0.349 |
|  | Correlation of Residuals | -0.0293 | -0.0048 | -0.0041 | 0.013 |
|  | N | 353 | 353 | 72 | 72 |
|  | occasions | 7 | 7 | 7 | 7 |
|  | parameters | 21 | 25 | 29 | 45 |
|  | LL | -3,771 | -3,759 | -1,330 | -1,324 |
|  | AIC | 7,585 | 7,568 | 2,719 | 2,739 |
|  | BIC | 7,666 | 7,664 | 2,785 | 2,841 |

## logic\_tot

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aehplus | full |
| ab | Covar (Levels) | -6.91 (7.31) .34 | -3.95 (7.59) .60 | -3.83 (8.66) .66 | -2.61 (13.05) .84 |
| ab | Covar (Slopes) | -0.09 (0.30) .76 | -0.07 (0.28) .81 | 0.03 (0.58) .95 | -0.14 (0.72) .85 |
| ab | Covar (Residuals) | 2.31 (1.50) .12 | 2.28 (1.50) .13 | 1.94 (1.67) .24 | 2.48 (3.21) .44 |
| er | Corr (Levels) | --- | --- | -0.12 (0.26) .66 | --- |
| er | Corr (Slopes) | --- | --- | 0.03 (0.49) .95 | --- |
| er | Corr (Residuals) | --- | --- | 0.13 (0.11) .24 | --- |
| a | Level | 35.06 (1.58) <.01 | 37.28 (2.58) <.01 | 37.10 (3.79) <.01 | 38.26 (5.97) <.01 |
| a | Slope | -1.20 (0.46) .01 | -0.85 (0.67) .20 | -0.82 (1.23) .51 | -3.01 (1.49) .04 |
| a | Level \* age | -0.52 (0.17) <.01 | -0.51 (0.17) <.01 | -0.49 (0.21) .02 | -0.58 (0.35) .09 |
| a | Level \* education | --- | -0.32 (0.28) .25 | -0.32 (0.34) .34 | -0.28 (0.53) .60 |
| a | Level \* height | --- | --- | 0.27 (0.17) .11 | 0.23 (0.21) .28 |
| a | Level \* smoking | --- | --- | -1.04 (2.40) .66 | -0.91 (3.62) .80 |
| a | Level \* cardio | --- | --- | 0.76 (2.17) .73 | -0.15 (3.46) .96 |
| a | Level \* diabetes | --- | --- | -0.62 (2.49) .80 | 0.44 (4.02) .91 |
| a | Slope \* age | -0.08 (0.05) .11 | -0.09 (0.05) .07 | -0.09 (0.07) .25 | -0.02 (0.12) .89 |
| a | Slope \* education | --- | -0.04 (0.07) .54 | -0.04 (0.11) .70 | 0.03 (0.14) .81 |
| a | Slope \* height | --- | --- | -0.02 (0.06) .70 | -0.01 (0.07) .91 |
| a | Slope \* smoking | --- | --- | 0.38 (0.73) .60 | 0.60 (0.98) .54 |
| a | Slope \* cardio | --- | --- | 0.00 (0.73) .99 | 0.73 (1.01) .47 |
| a | Slope \* diabetes | --- | --- | -0.58 (0.74) .43 | -0.77 (1.84) .68 |
| b | Level | 20.75 (0.79) <.01 | 20.28 (0.82) <.01 | 13.74 (1.96) <.01 | 15.18 (5.93) .01 |
| b | Slope | 0.66 (0.24) .01 | 1.11 (0.30) <.01 | 1.89 (0.62) <.01 | 1.63 (1.29) .21 |
| b | Level \* age | -0.12 (0.08) .14 | -0.12 (0.08) .14 | 0.03 (0.11) .78 | -0.11 (0.37) .77 |
| b | Level \* education | --- | 0.07 (0.03) .05 | 0.86 (0.16) <.01 | 0.86 (0.41) .04 |
| b | Level \* height | --- | --- | 0.09 (0.13) .51 | 0.08 (0.17) .61 |
| b | Level \* smoking | --- | --- | 1.59 (1.26) .21 | 0.10 (3.19) .97 |
| b | Level \* cardio | --- | --- | 0.10 (0.87) .91 | 1.06 (3.27) .75 |
| b | Level \* diabetes | --- | --- | -0.88 (1.23) .47 | 1.36 (2.84) .63 |
| b | Slope \* age | -0.08 (0.02) <.01 | -0.08 (0.02) <.01 | -0.10 (0.04) <.01 | -0.08 (0.06) .22 |
| b | Slope \* education | --- | -0.06 (0.03) .02 | -0.14 (0.05) .01 | -0.13 (0.08) .11 |
| b | Slope \* height | --- | --- | -0.00 (0.05) .93 | -0.01 (0.05) .74 |
| b | Slope \* smoking | --- | --- | -0.27 (0.35) .44 | -0.06 (0.57) .92 |
| b | Slope \* cardio | --- | --- | -0.14 (0.31) .66 | -0.46 (1.12) .68 |
| b | Slope \* diabetes | --- | --- | 0.58 (0.44) .19 | 0.53 (0.98) .59 |
| a | Var (Level) | 37.84 (11.27) <.01 | 36.75 (11.19) <.01 | 35.06 (12.15) <.01 | 25.52 (14.82) .08 |
| a | Var (Slope) | 1.24 (0.58) .03 | 1.33 (0.62) .03 | 2.41 (1.31) .07 | 0.52 (1.05) .62 |
| a | Var (Residual) | 17.11 (1.43) <.01 | 16.95 (1.43) <.01 | 15.49 (1.87) <.01 | 17.55 (3.53) <.01 |
| b | Var (Level) | 37.58 (4.84) <.01 | 36.23 (4.82) <.01 | 30.84 (6.53) <.01 | 25.41 (13.20) .05 |
| b | Var (Slope) | 0.40 (0.18) .03 | 0.29 (0.18) .10 | 0.59 (0.35) .09 | 0.12 (0.38) .76 |
| b | Var (Residual) | 14.54 (0.88) <.01 | 14.55 (0.89) <.01 | 14.09 (1.01) <.01 | 14.46 (2.63) <.01 |
| a | Covar (Level, Slope) | -2.96 (2.22) .18 | -3.19 (2.27) .16 | -5.11 (3.42) .14 | -1.80 (3.66) .62 |
| b | Covar (Level, Slope) | -1.28 (0.98) .19 | -0.62 (1.01) .54 | -1.10 (1.57) .48 | -0.46 (2.33) .84 |
|  | Correlation of Levels | -0.18 | -0.11 | -0.117 | -0.10 |
|  | Correlation of Slopes | -0.13 | -0.11 | 0.028 | -0.55 |
|  | Correlation of Residuals | 0.15 | 0.15 | 0.131 | 0.16 |
|  | N | 349 | 349 | 217 | 72 |
|  | occasions | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 43 | 45 |
|  | LL | -4,375 | -4,369 | -3,492 | -1,767 |
|  | AIC | 8,791 | 8,789 | 7,069 | 3,623 |
|  | BIC | 8,872 | 8,885 | 7,215 | 3,726 |

## mmse

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | -0.68 (3.01) .82 | -0.29 (3.02) .92 | -0.15 (1.42) .91 | -0.10 (3.04) .97 | -0.28 (2.06) .89 |
| ab | Covar (Slopes) | 0.02 (0.08) .83 | 0.02 (0.08) .76 | 0.07 (0.12) .56 | -0.03 (0.18) .86 | 0.06 (0.15) .72 |
| ab | Covar (Residuals) | 0.17 (0.40) .68 | 0.16 (0.41) .69 | 0.12 (0.33) .72 | 0.34 (0.49) .50 | 0.08 (0.47) .87 |
| er | Corr (Levels) | --- | --- | --- | -0.02 (0.50) .97 | --- |
| er | Corr (Slopes) | --- | --- | --- | -0.33 (2.08) .88 | --- |
| er | Corr (Residuals) | --- | --- | --- | 0.09 (0.13) .50 | --- |
| a | Level | 34.94 (1.92) <.01 | 36.10 (2.84) <.01 | 35.72 (3.49) <.01 | 36.75 (4.40) <.01 | 37.67 (6.16) <.01 |
| a | Slope | -1.13 (0.48) .02 | -1.08 (0.67) .11 | -1.90 (1.21) .12 | -0.74 (1.31) .57 | -2.65 (2.41) .27 |
| a | Level \* age | -0.52 (0.18) <.01 | -0.51 (0.18) <.01 | -0.52 (0.21) .01 | -0.47 (0.24) .04 | -0.55 (0.30) .07 |
| a | Level \* education | --- | -0.17 (0.32) .59 | -0.23 (0.33) .48 | -0.32 (0.37) .38 | -0.28 (0.51) .58 |
| a | Level \* height | --- | --- | 0.20 (0.15) .18 | 0.28 (0.17) .09 | 0.20 (0.22) .36 |
| a | Level \* smoking | --- | --- | --- | -0.54 (2.44) .83 | -0.70 (3.64) .85 |
| a | Level \* cardio | --- | --- | --- | 0.72 (2.27) .75 | -0.27 (5.51) .96 |
| a | Level \* diabetes | --- | --- | --- | -1.26 (2.60) .63 | -0.07 (3.45) .98 |
| a | Slope \* age | -0.08 (0.05) .12 | -0.09 (0.05) .11 | -0.05 (0.09) .61 | -0.10 (0.08) .24 | -0.04 (0.12) .77 |
| a | Slope \* education | --- | -0.00 (0.07) .97 | 0.00 (0.12) .99 | -0.04 (0.11) .75 | 0.04 (0.16) .82 |
| a | Slope \* height | --- | --- | 0.00 (0.06) .96 | -0.03 (0.06) .64 | 0.01 (0.09) .94 |
| a | Slope \* smoking | --- | --- | --- | 0.24 (0.72) .74 | 0.48 (1.10) .66 |
| a | Slope \* cardio | --- | --- | --- | -0.01 (0.74) .99 | 0.84 (1.91) .66 |
| a | Slope \* diabetes | --- | --- | --- | -0.45 (0.75) .55 | -0.45 (1.58) .78 |
| b | Level | 26.18 (0.19) <.01 | 26.21 (0.19) <.01 | 26.47 (0.42) <.01 | 25.48 (0.46) <.01 | 26.85 (0.98) <.01 |
| b | Slope | 0.10 (0.05) .06 | 0.10 (0.06) .11 | -0.00 (0.17) .99 | 0.22 (0.16) .17 | -0.02 (0.34) .96 |
| b | Level \* age | -0.00 (0.02) .96 | -0.00 (0.02) .93 | 0.00 (0.04) .94 | 0.01 (0.02) .70 | -0.00 (0.04) .94 |
| b | Level \* education | --- | -0.00 (0.01) .78 | 0.07 (0.05) .16 | 0.15 (0.04) <.01 | 0.06 (0.08) .43 |
| b | Level \* height | --- | --- | 0.00 (0.02) .94 | 0.00 (0.04) .99 | -0.00 (0.04) .98 |
| b | Level \* smoking | --- | --- | --- | 0.03 (0.28) .90 | -0.29 (0.54) .59 |
| b | Level \* cardio | --- | --- | --- | 0.00 (0.22) .98 | 0.14 (0.75) .85 |
| b | Level \* diabetes | --- | --- | --- | -0.42 (0.25) .10 | -0.03 (0.46) .94 |
| b | Slope \* age | -0.01 (0.00) .01 | -0.01 (0.00) .01 | -0.00 (0.01) .74 | -0.02 (0.01) .02 | -0.00 (0.02) .83 |
| b | Slope \* education | --- | -0.00 (0.01) .91 | 0.00 (0.02) .96 | -0.01 (0.01) .26 | 0.00 (0.02) .98 |
| b | Slope \* height | --- | --- | -0.00 (0.01) .90 | -0.00 (0.01) .73 | 0.00 (0.01) .96 |
| b | Slope \* smoking | --- | --- | --- | 0.00 (0.09) .99 | 0.06 (0.16) .73 |
| b | Slope \* cardio | --- | --- | --- | -0.02 (0.08) .80 | -0.03 (0.21) .88 |
| b | Slope \* diabetes | --- | --- | --- | 0.09 (0.08) .31 | 0.04 (0.18) .81 |
| a | Var (Level) | 38.98 (11.34) <.01 | 37.93 (11.62) <.01 | 28.42 (11.13) .01 | 36.62 (13.21) .01 | 26.75 (19.56) .17 |
| a | Var (Slope) | 1.19 (0.60) .05 | 1.20 (0.61) .05 | 1.46 (1.10) .18 | 2.40 (1.41) .09 | 0.76 (1.23) .54 |
| a | Var (Residual) | 17.12 (1.49) <.01 | 17.09 (1.49) <.01 | 16.04 (2.43) <.01 | 15.38 (1.95) <.01 | 17.16 (3.79) <.01 |
| b | Var (Level) | 1.81 (0.23) <.01 | 1.75 (0.22) <.01 | 0.31 (0.24) .21 | 1.00 (0.29) <.01 | 0.28 (0.40) .47 |
| b | Var (Slope) | 0.00 (0.01) .47 | 0.00 (0.00) .70 | 0.01 (0.02) .66 | 0.00 (0.02) .84 | 0.01 (0.03) .74 |
| b | Var (Residual) | 0.98 (0.03) <.01 | 0.99 (0.03) <.01 | 0.66 (0.06) <.01 | 1.00 (0.04) <.01 | 0.66 (0.08) <.01 |
| a | Covar (Level, Slope) | -3.01 (2.17) .17 | -3.06 (2.19) .16 | -3.05 (2.61) .24 | -5.31 (3.77) .16 | -2.37 (4.12) .57 |
| b | Covar (Level, Slope) | -0.02 (0.05) .71 | -0.00 (0.04) .93 | 0.03 (0.06) .61 | 0.02 (0.07) .81 | 0.03 (0.08) .71 |
|  | Correlation of Levels | -0.081 | -0.036 | -0.053 | -0.016 | -0.103 |
|  | Correlation of Slopes | 0.261 | 0.469 | 0.594 | -0.327 | 0.667 |
|  | Correlation of Residuals | 0.040 | 0.039 | 0.037 | 0.086 | 0.023 |
|  | N | 383 | 383 | 72 | 222 | 72 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -3,140 | -3,136 | -1,240 | -2,555 | -1,235 |
|  | AIC | 6,323 | 6,323 | 2,538 | 5,197 | 2,560 |
|  | BIC | 6,406 | 6,421 | 2,604 | 5,343 | 2,662 |

## symbol

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | -6.10 (15.37) .69 | 2.12 (15.40) .89 | -6.69 (12.35) .59 | -6.69 (18.32) .71 | -6.31 (17.69) .72 |
| ab | Covar (Slopes) | 0.77 (0.49) .11 | 0.83 (0.57) .14 | 0.84 (0.98) .40 | 2.09 (1.20) .08 | 0.68 (1.47) .64 |
| ab | Covar (Residuals) | 2.43 (1.78) .17 | 2.49 (1.83) .17 | 1.50 (2.57) .56 | 0.43 (2.60) .87 | 1.61 (3.56) .65 |
| er | Corr (Levels) | --- | --- | --- | -0.11 (0.29) .71 | --- |
| er | Corr (Slopes) | --- | --- | --- | 0.92 (0.50) .07 | --- |
| er | Corr (Residuals) | --- | --- | --- | 0.02 (0.12) .87 | --- |
| a | Level | 34.59 (1.79) <.01 | 37.64 (2.67) <.01 | 35.65 (3.29) <.01 | 37.98 (4.04) <.01 | 37.63 (5.06) <.01 |
| a | Slope | -1.01 (0.45) .02 | -1.16 (0.75) .12 | -1.82 (1.22) .13 | -1.17 (1.14) .31 | -2.59 (1.71) .13 |
| a | Level \* age | -0.49 (0.18) .01 | -0.48 (0.18) .01 | -0.50 (0.26) .05 | -0.45 (0.24) .06 | -0.54 (0.34) .11 |
| a | Level \* education | --- | -0.45 (0.28) .11 | -0.24 (0.33) .46 | -0.45 (0.34) .18 | -0.28 (0.44) .53 |
| a | Level \* height | --- | --- | 0.20 (0.15) .17 | 0.29 (0.18) .10 | 0.20 (0.19) .29 |
| a | Level \* smoking | --- | --- | --- | -0.51 (2.44) .84 | -0.75 (3.57) .83 |
| a | Level \* cardio | --- | --- | --- | 1.09 (2.29) .64 | 0.03 (5.09) .99 |
| a | Level \* diabetes | --- | --- | --- | -1.18 (2.82) .68 | 0.08 (3.82) .98 |
| a | Slope \* age | -0.10 (0.05) .07 | -0.10 (0.05) .06 | -0.06 (0.10) .54 | -0.10 (0.08) .20 | -0.05 (0.13) .73 |
| a | Slope \* education | --- | 0.03 (0.08) .73 | 0.01 (0.11) .89 | 0.01 (0.10) .91 | 0.04 (0.14) .78 |
| a | Slope \* height | --- | --- | 0.00 (0.05) .96 | -0.03 (0.06) .61 | 0.01 (0.08) .94 |
| a | Slope \* smoking | --- | --- | --- | 0.23 (0.75) .76 | 0.51 (1.07) .64 |
| a | Slope \* cardio | --- | --- | --- | -0.12 (0.70) .86 | 0.65 (1.59) .68 |
| a | Slope \* diabetes | --- | --- | --- | -0.48 (0.80) .55 | -0.54 (1.02) .60 |
| b | Level | 39.37 (1.32) <.01 | 38.89 (1.45) <.01 | 38.35 (4.97) <.01 | 32.32 (3.26) <.01 | 39.35 (11.12) <.01 |
| b | Slope | 0.54 (0.35) .12 | 1.08 (0.63) .09 | 1.12 (1.45) .44 | 0.85 (0.88) .33 | 1.08 (1.93) .57 |
| b | Level \* age | -0.29 (0.14) .04 | -0.28 (0.14) .04 | -0.12 (0.35) .73 | -0.22 (0.17) .18 | -0.09 (0.45) .84 |
| b | Level \* education | --- | 0.07 (0.08) .37 | 1.36 (0.56) .01 | 1.52 (0.28) <.01 | 1.33 (0.78) .09 |
| b | Level \* height | --- | --- | 0.12 (0.26) .63 | 0.05 (0.31) .87 | 0.11 (0.41) .79 |
| b | Level \* smoking | --- | --- | --- | -0.92 (2.20) .68 | 0.63 (6.79) .93 |
| b | Level \* cardio | --- | --- | --- | -2.82 (1.62) .08 | -5.41 (9.34) .56 |
| b | Level \* diabetes | --- | --- | --- | -3.43 (2.33) .14 | -4.65 (5.06) .36 |
| b | Slope \* age | -0.06 (0.04) .10 | -0.06 (0.04) .09 | -0.05 (0.08) .54 | -0.07 (0.04) .12 | -0.06 (0.09) .54 |
| b | Slope \* education | --- | -0.08 (0.07) .30 | -0.18 (0.15) .21 | -0.02 (0.08) .79 | -0.18 (0.17) .30 |
| b | Slope \* height | --- | --- | -0.01 (0.06) .92 | 0.03 (0.08) .66 | 0.00 (0.09) .96 |
| b | Slope \* smoking | --- | --- | --- | 0.15 (0.54) .78 | -0.11 (1.08) .92 |
| b | Slope \* cardio | --- | --- | --- | 0.23 (0.52) .66 | 0.89 (1.43) .53 |
| b | Slope \* diabetes | --- | --- | --- | 0.43 (0.60) .47 | 0.34 (1.16) .77 |
| a | Var (Level) | 39.73 (12.17) <.01 | 38.54 (12.42) <.01 | 28.41 (12.54) .02 | 36.82 (14.24) .01 | 26.70 (17.78) .13 |
| a | Var (Slope) | 1.45 (0.66) .03 | 1.46 (0.68) .03 | 1.47 (1.10) .18 | 2.42 (1.37) .08 | 0.89 (1.46) .54 |
| a | Var (Residual) | 16.97 (1.40) <.01 | 16.93 (1.39) <.01 | 16.20 (2.22) <.01 | 15.45 (1.85) <.01 | 16.98 (3.21) <.01 |
| b | Var (Level) | 155.78 (16.55) <.01 | 153.01 (16.58) <.01 | 80.33 (30.73) .01 | 103.58 (17.71) <.01 | 71.40 (33.97) .04 |
| b | Var (Slope) | 1.59 (0.42) <.01 | 1.40 (0.41) <.01 | 1.33 (0.71) .06 | 2.11 (1.02) .04 | 1.15 (0.99) .25 |
| b | Var (Residual) | 28.72 (1.46) <.01 | 28.79 (1.46) <.01 | 25.48 (2.70) <.01 | 27.82 (1.76) <.01 | 25.64 (3.37) <.01 |
| a | Covar (Level, Slope) | -3.77 (2.50) .13 | -3.84 (2.55) .13 | -3.09 (2.83) .28 | -5.51 (3.88) .16 | -2.45 (4.09) .55 |
| b | Covar (Level, Slope) | -3.68 (2.60) .16 | -2.21 (3.04) .47 | -1.09 (4.07) .79 | -0.99 (3.41) .77 | 0.11 (5.92) .98 |
|  | Correlation of Levels | -0.078 | 0.028 | -0.140 | -0.108 | -0.144 |
|  | Correlation of Slopes | 0.507 | 0.583 | 0.599 | 0.925 | 0.669 |
|  | Correlation of Residuals | 0.110 | 0.113 | 0.074 | 0.021 | 0.077 |
|  | N | 377 | 377 | 72 | 221 | 72 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -5,148 | -5,145 | -1,902 | -3,979 | -1,897 |
|  | AIC | 10,338 | 10,339 | 3,862 | 8,045 | 3,884 |
|  | BIC | 10,420 | 10,437 | 3,928 | 8,191 | 3,986 |

## trailsb

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 89.08 (95.55) .35 | 49.98 (102.29) .62 | 44.47 (78.36) .57 | 65.59 (99.53) .51 | 49.05 (80.46) .54 |
| ab | Covar (Slopes) | -1.21 (3.14) .70 | -1.10 (3.71) .77 | -2.70 (5.96) .65 | -2.80 (5.96) .64 | 0.39 (4.31) .93 |
| ab | Covar (Residuals) | -10.03 (19.46) .61 | -9.62 (19.68) .62 | -12.10 (28.17) .67 | -4.35 (23.71) .85 | -12.56 (34.89) .72 |
| er | Corr (Levels) | --- | --- | --- | 0.23 (0.33) .49 | --- |
| er | Corr (Slopes) | --- | --- | --- | -0.37 (0.81) .65 | --- |
| er | Corr (Residuals) | --- | --- | --- | -0.03 (0.16) .85 | --- |
| a | Level | 35.25 (1.69) <.01 | 37.56 (2.72) <.01 | 35.93 (3.66) <.01 | 37.94 (4.07) <.01 | 38.70 (5.83) <.01 |
| a | Slope | -1.21 (0.42) <.01 | -1.03 (0.72) .15 | -1.94 (1.14) .09 | -1.12 (1.21) .35 | -3.24 (1.37) .02 |
| a | Level \* age | -0.52 (0.18) <.01 | -0.51 (0.18) <.01 | -0.53 (0.23) .02 | -0.48 (0.24) .04 | -0.61 (0.26) .02 |
| a | Level \* education | --- | -0.34 (0.29) .25 | -0.24 (0.37) .51 | -0.39 (0.35) .27 | -0.30 (0.48) .53 |
| a | Level \* height | --- | --- | 0.21 (0.15) .17 | 0.27 (0.17) .13 | 0.23 (0.19) .23 |
| a | Level \* smoking | --- | --- | --- | -1.14 (2.54) .65 | -1.12 (3.56) .75 |
| a | Level \* cardio | --- | --- | --- | 0.71 (2.30) .76 | -0.14 (3.11) .96 |
| a | Level \* diabetes | --- | --- | --- | -1.23 (2.78) .66 | 0.67 (3.20) .83 |
| a | Slope \* age | -0.08 (0.05) .11 | -0.09 (0.05) .09 | -0.05 (0.08) .55 | -0.09 (0.08) .27 | -0.01 (0.08) .93 |
| a | Slope \* education | --- | -0.02 (0.08) .80 | 0.01 (0.12) .95 | -0.01 (0.11) .89 | 0.05 (0.11) .69 |
| a | Slope \* height | --- | --- | -0.00 (0.05) .95 | -0.02 (0.06) .76 | -0.01 (0.06) .84 |
| a | Slope \* smoking | --- | --- | --- | 0.40 (0.75) .60 | 0.74 (0.85) .38 |
| a | Slope \* cardio | --- | --- | --- | 0.00 (0.74) .99 | 0.76 (0.83) .36 |
| a | Slope \* diabetes | --- | --- | --- | -0.51 (0.83) .54 | -0.87 (1.28) .50 |
| b | Level | 133.22 (9.45) <.01 | 130.33 (10.04) <.01 | 162.11 (28.69) <.01 | 164.27 (17.04) <.01 | 160.35 (61.41) .01 |
| b | Slope | 1.23 (2.12) .56 | 3.13 (3.46) .36 | -1.54 (9.18) .87 | 2.48 (5.30) .64 | 2.45 (16.05) .88 |
| b | Level \* age | 1.98 (0.83) .02 | 1.98 (0.83) .02 | 0.97 (2.02) .63 | 1.64 (1.04) .12 | 0.93 (2.97) .76 |
| b | Level \* education | --- | 0.39 (0.40) .33 | -6.59 (3.48) .06 | -6.11 (1.48) <.01 | -6.29 (6.24) .31 |
| b | Level \* height | --- | --- | -0.72 (1.35) .59 | -0.28 (1.52) .85 | -0.65 (1.89) .73 |
| b | Level \* smoking | --- | --- | --- | -0.40 (11.81) .97 | -1.68 (30.89) .96 |
| b | Level \* cardio | --- | --- | --- | 2.93 (10.29) .78 | 25.34 (29.77) .40 |
| b | Level \* diabetes | --- | --- | --- | 2.69 (11.73) .82 | 6.17 (31.23) .84 |
| b | Slope \* age | 0.10 (0.21) .63 | 0.10 (0.22) .65 | 0.27 (0.54) .62 | 0.22 (0.30) .46 | 0.21 (0.86) .81 |
| b | Slope \* education | --- | -0.28 (0.37) .46 | 0.36 (0.85) .67 | -0.16 (0.47) .73 | 0.17 (1.46) .91 |
| b | Slope \* height | --- | --- | 0.46 (0.33) .16 | 0.43 (0.36) .23 | 0.43 (0.51) .41 |
| b | Slope \* smoking | --- | --- | --- | -4.00 (3.32) .23 | -2.66 (7.27) .71 |
| b | Slope \* cardio | --- | --- | --- | -1.07 (3.25) .74 | -9.90 (11.02) .37 |
| b | Slope \* diabetes | --- | --- | --- | 6.72 (3.53) .06 | 3.34 (11.40) .77 |
| a | Var (Level) | 38.73 (11.37) <.01 | 37.23 (11.51) <.01 | 27.58 (11.82) .02 | 36.13 (12.31) <.01 | 21.67 (13.78) .12 |
| a | Var (Slope) | 1.15 (0.61) .06 | 1.16 (0.62) .06 | 1.12 (1.00) .26 | 2.27 (1.27) .07 | 0.02 (0.64) .97 |
| a | Var (Residual) | 17.26 (1.53) <.01 | 17.16 (1.55) <.01 | 16.68 (2.29) <.01 | 15.52 (1.92) <.01 | 18.86 (3.63) <.01 |
| b | Var (Level) | 3975.53 (618.02) <.01 | 4001.86 (629.89) <.01 | 1682.19 (730.13) .02 | 2280.99 (497.62) <.01 | 1542.39 (1061.17) .15 |
| b | Var (Slope) | 44.12 (14.53) <.01 | 48.24 (16.27) <.01 | 43.50 (26.37) .10 | 25.38 (31.63) .42 | 23.00 (49.35) .64 |
| b | Var (Residual) | 1533.28 (54.62) <.01 | 1529.41 (55.66) <.01 | 1632.78 (134.45) <.01 | 1490.96 (70.81) <.01 | 1637.84 (162.88) <.01 |
| a | Covar (Level, Slope) | -2.93 (2.25) .19 | -2.95 (2.28) .20 | -2.64 (2.71) .33 | -5.03 (3.40) .14 | -0.47 (2.75) .86 |
| b | Covar (Level, Slope) | -145.94 (81.22) .07 | -173.24 (94.41) .07 | -129.12 (127.44) .31 | -14.83 (112.29) .90 | -83.40 (222.11) .71 |
|  | Correlation of Levels | 0.227 | 0.129 | 0.206 | 0.228 | 0.268 |
|  | Correlation of Slopes | -0.170 | -0.147 | -0.387 | -0.369 | 0.563 |
|  | Correlation of Residuals | -0.062 | -0.059 | -0.073 | -0.029 | -0.071 |
|  | N | 368 | 368 | 72 | 221 | 72 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -7,089 | -7,085 | -2,594 | -5,384 | -2,587 |
|  | AIC | 14,221 | 14,221 | 5,246 | 10,853 | 5,264 |
|  | BIC | 14,303 | 14,318 | 5,312 | 10,999 | 5,366 |

## waisvocab

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | -2.61 (17.42) .88 | 9.60 (19.37) .62 | -2.35 (14.66) .87 | 6.82 (19.57) .73 | -4.38 (18.70) .81 |
| ab | Covar (Slopes) | 0.29 (0.35) .41 | 0.21 (0.42) .61 | 0.62 (0.78) .42 | -0.01 (1.25) .99 | 0.36 (0.85) .67 |
| ab | Covar (Residuals) | -1.85 (2.98) .53 | -1.50 (3.07) .62 | -1.47 (4.52) .74 | -3.58 (4.03) .38 | -1.63 (6.35) .80 |
| er | Corr (Levels) | --- | --- | --- | 0.12 (0.34) .73 | --- |
| er | Corr (Slopes) | --- | --- | --- | -0.02 (1.37) .99 | --- |
| er | Corr (Residuals) | --- | --- | --- | -0.13 (0.14) .37 | --- |
| a | Level | 35.23 (1.61) <.01 | 38.37 (2.71) <.01 | 35.66 (3.17) <.01 | 36.74 (4.02) <.01 | 37.72 (6.02) <.01 |
| a | Slope | -1.19 (0.43) .01 | -1.06 (0.66) .11 | -1.82 (1.18) .12 | -0.72 (1.24) .56 | -2.68 (1.84) .15 |
| a | Level \* age | -0.54 (0.17) <.01 | -0.51 (0.17) <.01 | -0.52 (0.22) .02 | -0.48 (0.23) .03 | -0.56 (0.29) .05 |
| a | Level \* education | --- | -0.48 (0.31) .12 | -0.23 (0.35) .50 | -0.31 (0.34) .36 | -0.27 (0.47) .56 |
| a | Level \* height | --- | --- | 0.22 (0.17) .20 | 0.29 (0.18) .10 | 0.23 (0.22) .30 |
| a | Level \* smoking | --- | --- | --- | -0.59 (2.60) .82 | -0.71 (3.45) .84 |
| a | Level \* cardio | --- | --- | --- | 0.74 (2.35) .75 | 0.00 (3.44) .99 |
| a | Level \* diabetes | --- | --- | --- | -1.24 (2.63) .64 | 0.07 (3.54) .98 |
| a | Slope \* age | -0.08 (0.05) .09 | -0.09 (0.05) .08 | -0.05 (0.09) .56 | -0.09 (0.08) .27 | -0.04 (0.12) .76 |
| a | Slope \* education | --- | -0.01 (0.07) .88 | 0.00 (0.12) .97 | -0.04 (0.10) .73 | 0.03 (0.16) .84 |
| a | Slope \* height | --- | --- | -0.01 (0.07) .86 | -0.03 (0.06) .66 | -0.01 (0.09) .91 |
| a | Slope \* smoking | --- | --- | --- | 0.26 (0.76) .73 | 0.50 (0.99) .61 |
| a | Slope \* cardio | --- | --- | --- | 0.01 (0.75) .99 | 0.67 (1.24) .59 |
| a | Slope \* diabetes | --- | --- | --- | -0.48 (0.73) .51 | -0.55 (1.10) .61 |
| b | Level | 43.71 (1.32) <.01 | 44.88 (1.42) <.01 | 32.18 (4.18) <.01 | 36.66 (3.10) <.01 | 34.23 (7.47) <.01 |
| b | Slope | -0.19 (0.31) .53 | -1.36 (0.47) <.01 | 1.45 (1.34) .28 | 0.03 (0.90) .97 | 1.19 (2.05) .56 |
| b | Level \* age | 0.43 (0.14) <.01 | 0.42 (0.14) <.01 | 0.41 (0.30) .17 | 0.37 (0.18) .04 | 0.38 (0.36) .29 |
| b | Level \* education | --- | -0.16 (0.06) <.01 | 1.65 (0.43) <.01 | 1.53 (0.28) <.01 | 1.58 (0.56) <.01 |
| b | Level \* height | --- | --- | 0.04 (0.25) .89 | 0.08 (0.33) .80 | 0.05 (0.33) .88 |
| b | Level \* smoking | --- | --- | --- | -1.12 (2.15) .60 | -1.58 (4.38) .72 |
| b | Level \* cardio | --- | --- | --- | 0.82 (1.66) .62 | -3.89 (7.90) .62 |
| b | Level \* diabetes | --- | --- | --- | -2.45 (2.26) .28 | 1.51 (3.74) .69 |
| b | Slope \* age | -0.06 (0.03) .06 | -0.06 (0.03) .10 | -0.10 (0.08) .24 | -0.08 (0.05) .11 | -0.08 (0.12) .49 |
| b | Slope \* education | --- | 0.17 (0.06) <.01 | -0.09 (0.12) .48 | 0.02 (0.08) .77 | -0.08 (0.18) .65 |
| b | Slope \* height | --- | --- | -0.02 (0.06) .71 | -0.01 (0.07) .92 | -0.04 (0.09) .70 |
| b | Slope \* smoking | --- | --- | --- | 0.04 (0.55) .94 | 0.21 (0.85) .80 |
| b | Slope \* cardio | --- | --- | --- | -0.46 (0.49) .34 | -0.07 (2.03) .97 |
| b | Slope \* diabetes | --- | --- | --- | -0.63 (0.58) .27 | -0.59 (0.96) .54 |
| a | Var (Level) | 40.30 (12.17) <.01 | 38.54 (12.39) <.01 | 29.70 (12.11) .01 | 35.76 (13.46) .01 | 27.96 (18.53) .13 |
| a | Var (Slope) | 1.13 (0.54) .04 | 1.16 (0.56) .04 | 1.33 (1.04) .20 | 2.21 (1.29) .09 | 0.73 (1.19) .54 |
| a | Var (Residual) | 17.12 (1.45) <.01 | 17.03 (1.44) <.01 | 16.24 (3.23) <.01 | 15.61 (2.02) <.01 | 17.18 (4.36) <.01 |
| b | Var (Level) | 140.74 (16.43) <.01 | 147.80 (17.52) <.01 | 48.70 (24.95) .05 | 91.05 (17.09) <.01 | 46.51 (31.98) .15 |
| b | Var (Slope) | 0.49 (0.39) .21 | 0.68 (0.40) .09 | 0.43 (0.81) .60 | 0.38 (1.05) .72 | 0.41 (1.51) .79 |
| b | Var (Residual) | 49.82 (2.31) <.01 | 49.89 (2.32) <.01 | 40.51 (4.31) <.01 | 47.75 (2.90) <.01 | 40.46 (5.19) <.01 |
| a | Covar (Level, Slope) | -3.06 (2.18) .16 | -3.08 (2.21) .16 | -3.40 (2.70) .21 | -4.91 (3.65) .18 | -2.68 (4.11) .51 |
| b | Covar (Level, Slope) | -2.02 (2.33) .38 | -5.66 (2.78) .04 | -1.43 (4.04) .72 | -2.03 (4.00) .61 | -1.64 (6.48) .80 |
|  | Correlation of Levels | -0.035 | 0.127 | -0.062 | 0.120 | -0.121 |
|  | Correlation of Slopes | 0.385 | 0.241 | 0.827 | -0.016 | 0.667 |
|  | Correlation of Residuals | -0.063 | -0.052 | -0.057 | -0.131 | -0.062 |
|  | N | 377 | 377 | 72 | 222 | 72 |
|  | occasions | 8 | 8 | 8 | 5 | 8 |
|  | parameters | 21 | 25 | 29 | 43 | 45 |
|  | LL | -5,344 | -5,336 | -1,935 | -4,119 | -1,930 |
|  | AIC | 10,731 | 10,721 | 3,929 | 8,324 | 3,950 |
|  | BIC | 10,813 | 10,819 | 3,995 | 8,470 | 4,053 |

## word\_im

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

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | -5.96 (7.58) .43 |
| ab | Covar (Slopes) | 0.32 (0.50) .52 |
| ab | Covar (Residuals) | 1.04 (1.72) .54 |
| er | Corr (Levels) | -0.26 (0.31) .41 |
| er | Corr (Slopes) | 0.39 (0.61) .53 |
| er | Corr (Residuals) | 0.07 (0.12) .54 |
| a | Level | 37.75 (4.04) <.01 |
| a | Slope | -0.74 (1.32) .57 |
| a | Level \* age | -0.51 (0.23) .02 |
| a | Level \* education | -0.38 (0.34) .26 |
| a | Level \* height | 0.33 (0.16) .04 |
| a | Level \* smoking | -0.80 (2.42) .74 |
| a | Level \* cardio | 1.46 (2.03) .47 |
| a | Level \* diabetes | -0.75 (2.50) .76 |
| a | Slope \* age | -0.09 (0.08) .27 |
| a | Slope \* education | -0.03 (0.10) .76 |
| a | Slope \* height | -0.05 (0.06) .37 |
| a | Slope \* smoking | 0.31 (0.75) .68 |
| a | Slope \* cardio | -0.19 (0.66) .78 |
| a | Slope \* diabetes | -0.61 (0.74) .41 |
| b | Level | 31.03 (1.68) <.01 |
| b | Slope | -0.12 (0.54) .83 |
| b | Level \* age | -0.23 (0.09) .01 |
| b | Level \* education | 0.26 (0.13) .05 |
| b | Level \* height | -0.23 (0.12) .05 |
| b | Level \* smoking | -0.10 (0.97) .91 |
| b | Level \* cardio | 1.53 (0.70) .03 |
| b | Level \* diabetes | -2.73 (0.98) <.01 |
| b | Slope \* age | -0.01 (0.03) .59 |
| b | Slope \* education | -0.00 (0.04) .93 |
| b | Slope \* height | -0.01 (0.04) .74 |
| b | Slope \* smoking | 0.16 (0.32) .62 |
| b | Slope \* cardio | -0.16 (0.24) .50 |
| b | Slope \* diabetes | 0.51 (0.34) .13 |
| a | Var (Level) | 37.61 (13.59) .01 |
| a | Var (Slope) | 2.54 (1.30) .05 |
| a | Var (Residual) | 15.49 (1.88) <.01 |
| b | Var (Level) | 14.23 (4.44) <.01 |
| b | Var (Slope) | 0.27 (0.32) .40 |
| b | Var (Residual) | 12.76 (0.84) <.01 |
| a | Covar (Level, Slope) | -5.67 (3.71) .13 |
| b | Covar (Level, Slope) | 0.20 (0.98) .83 |
|  | Correlation of Levels | -0.258 |
|  | Correlation of Slopes | 0.387 |
|  | Correlation of Residuals | 0.074 |
|  | N | 222 |
|  | occasions | 5 |
|  | parameters | 43 |
|  | LL | -3,577 |
|  | AIC | 7,241 |
|  | BIC | 7,387 |

## Summary

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

Computed correlations:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Correlation of Levels | block | -0.05 | -0.01 | 0.16 | 0.08 | 0.19 |
| Correlation of Levels | bnt | -0.10 | -0.08 | -0.12 | -0.11 | -0.14 |
| Correlation of Levels | categories | -0.21 | -0.15 | -0.25 | 0.07 | -0.23 |
| Correlation of Levels | digit\_tot | 0.02 | 0.07 | 0.18 | 0.04 | 0.15 |
| Correlation of Levels | fas | -0.07 | 0.02 | -0.29 | -0.04 | -0.32 |
| Correlation of Levels | information | 0.01 | 0.12 | 0.15 | . | 0.14 |
| Correlation of Levels | logic\_tot | -0.18 | -0.11 | . | -0.12 | -0.10 |
| Correlation of Levels | mmse | -0.08 | -0.04 | -0.05 | -0.02 | -0.10 |
| Correlation of Levels | symbol | -0.08 | 0.03 | -0.14 | -0.11 | -0.14 |
| Correlation of Levels | trailsb | 0.23 | 0.13 | 0.21 | 0.23 | 0.27 |
| Correlation of Levels | waisvocab | -0.03 | 0.13 | -0.06 | 0.12 | -0.12 |
| Correlation of Levels | word\_im | . | . | . | -0.26 | . |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Correlation of Slopes | block | 0.71 | 0.81 | 0.89 | 0.64 | 0.70 |
| Correlation of Slopes | bnt | -0.43 | -0.60 | -0.12 | -0.18 | 0.36 |
| Correlation of Slopes | categories | -0.23 | -0.28 | -0.57 | 0.87 | -0.41 |
| Correlation of Slopes | digit\_tot | 0.42 | 0.30 | 0.01 | 0.28 | -0.19 |
| Correlation of Slopes | fas | 0.00 | 0.00 | -0.51 | 0.66 | -0.50 |
| Correlation of Slopes | information | -0.76 | -0.97 | 0.36 | . | 0.35 |
| Correlation of Slopes | logic\_tot | -0.13 | -0.11 | . | 0.03 | -0.55 |
| Correlation of Slopes | mmse | 0.26 | 0.47 | 0.59 | -0.33 | 0.67 |
| Correlation of Slopes | symbol | 0.51 | 0.58 | 0.60 | 0.93 | 0.67 |
| Correlation of Slopes | trailsb | -0.17 | -0.15 | -0.39 | -0.37 | 0.56 |
| Correlation of Slopes | waisvocab | 0.39 | 0.24 | 0.83 | -0.02 | 0.67 |
| Correlation of Slopes | word\_im | . | . | . | 0.39 | . |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Correlation of Residuals | block | 0.03 | 0.03 | 0.00 | 0.00 | 0.01 |
| Correlation of Residuals | bnt | -0.08 | -0.08 | -0.02 | -0.06 | -0.00 |
| Correlation of Residuals | categories | -0.02 | -0.02 | 0.07 | -0.12 | 0.09 |
| Correlation of Residuals | digit\_tot | 0.04 | 0.04 | -0.03 | 0.02 | -0.01 |
| Correlation of Residuals | fas | 0.02 | 0.01 | -0.02 | -0.08 | -0.03 |
| Correlation of Residuals | information | -0.03 | -0.00 | -0.00 | . | 0.01 |
| Correlation of Residuals | logic\_tot | 0.15 | 0.15 | . | 0.13 | 0.16 |
| Correlation of Residuals | mmse | 0.04 | 0.04 | 0.04 | 0.09 | 0.02 |
| Correlation of Residuals | symbol | 0.11 | 0.11 | 0.07 | 0.02 | 0.08 |
| Correlation of Residuals | trailsb | -0.06 | -0.06 | -0.07 | -0.03 | -0.07 |
| Correlation of Residuals | waisvocab | -0.06 | -0.05 | -0.06 | -0.13 | -0.06 |
| Correlation of Residuals | word\_im | . | . | . | 0.07 | . |

P-values for corresponding covariances:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Covariance of Levels | block | 0.80 | 0.96 | 0.64 | 0.77 | 0.70 |
| Covariance of Levels | bnt | 0.77 | 0.83 | 0.81 | 0.77 | 0.83 |
| Covariance of Levels | categories | 0.17 | 0.41 | 0.36 | 0.80 | 0.55 |
| Covariance of Levels | digit\_tot | 0.91 | 0.66 | 0.51 | 0.86 | 0.72 |
| Covariance of Levels | fas | 0.57 | 0.90 | 0.22 | 0.85 | 0.39 |
| Covariance of Levels | information | 0.98 | 0.68 | 0.72 | . | 0.84 |
| Covariance of Levels | logic\_tot | 0.34 | 0.60 | . | 0.66 | 0.84 |
| Covariance of Levels | mmse | 0.82 | 0.92 | 0.91 | 0.97 | 0.89 |
| Covariance of Levels | symbol | 0.69 | 0.89 | 0.59 | 0.71 | 0.72 |
| Covariance of Levels | trailsb | 0.35 | 0.62 | 0.57 | 0.51 | 0.54 |
| Covariance of Levels | waisvocab | 0.88 | 0.62 | 0.87 | 0.73 | 0.81 |
| Covariance of Levels | word\_im | . | . | . | 0.43 | . |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Covariance of Slopes | block | 0.18 | 0.28 | 0.58 | 0.54 | 0.90 |
| Covariance of Slopes | bnt | 0.74 | 0.74 | 0.92 | 0.91 | 0.89 |
| Covariance of Slopes | categories | 0.57 | 0.50 | 0.51 | 0.09 | 0.79 |
| Covariance of Slopes | digit\_tot | 0.47 | 0.62 | 0.99 | 0.75 | 0.94 |
| Covariance of Slopes | fas | 0.99 | 0.99 | 0.63 | 0.54 | 0.76 |
| Covariance of Slopes | information | 0.08 | 0.06 | 0.91 | . | 0.96 |
| Covariance of Slopes | logic\_tot | 0.76 | 0.81 | . | 0.95 | 0.85 |
| Covariance of Slopes | mmse | 0.83 | 0.76 | 0.56 | 0.86 | 0.72 |
| Covariance of Slopes | symbol | 0.11 | 0.14 | 0.40 | 0.08 | 0.64 |
| Covariance of Slopes | trailsb | 0.70 | 0.77 | 0.65 | 0.64 | 0.93 |
| Covariance of Slopes | waisvocab | 0.41 | 0.61 | 0.42 | 0.99 | 0.67 |
| Covariance of Slopes | word\_im | . | . | . | 0.52 | . |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| label | process\_b | a | ae | aeh | aehplus | full |
| Covariance of Residuals | block | 0.72 | 0.72 | 0.98 | 0.98 | 0.96 |
| Covariance of Residuals | bnt | 0.37 | 0.36 | 0.86 | 0.65 | 0.99 |
| Covariance of Residuals | categories | 0.81 | 0.83 | 0.52 | 0.38 | 0.54 |
| Covariance of Residuals | digit\_tot | 0.58 | 0.61 | 0.80 | 0.86 | 0.96 |
| Covariance of Residuals | fas | 0.81 | 0.86 | 0.89 | 0.51 | 0.88 |
| Covariance of Residuals | information | 0.74 | 0.96 | 0.97 | . | 0.95 |
| Covariance of Residuals | logic\_tot | 0.12 | 0.13 | . | 0.24 | 0.44 |
| Covariance of Residuals | mmse | 0.68 | 0.69 | 0.72 | 0.50 | 0.87 |
| Covariance of Residuals | symbol | 0.17 | 0.17 | 0.56 | 0.87 | 0.65 |
| Covariance of Residuals | trailsb | 0.61 | 0.62 | 0.67 | 0.85 | 0.72 |
| Covariance of Residuals | waisvocab | 0.53 | 0.62 | 0.74 | 0.38 | 0.80 |
| Covariance of Residuals | word\_im | . | . | . | 0.54 | . |

#Session Info

R version 3.3.2 (2016-10-31)  
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] grid stats graphics grDevices utils datasets methods base   
  
other attached packages:  
[1] knitr\_1.15.1 IalsaSynthesis\_0.1.8.9000 MplusAutomation\_0.6-4 ggplot2\_2.2.1   
[5] forestplot\_1.7 checkmate\_1.8.2 magrittr\_1.5   
  
loaded via a namespace (and not attached):  
 [1] Rcpp\_0.12.8 munsell\_0.4.3 testit\_0.6 xtable\_1.8-2 lattice\_0.20-34 colorspace\_1.3-2  
 [7] R6\_2.2.0 highr\_0.6 plyr\_1.8.4 stringr\_1.1.0 dplyr\_0.5.0 tools\_3.3.2   
[13] DT\_0.2 gtable\_0.2.0 texreg\_1.36.18 coda\_0.19-1 DBI\_0.5-1 htmltools\_0.3.5   
[19] yaml\_2.1.14 lazyeval\_0.2.0 assertthat\_0.1 digest\_0.6.11 rprojroot\_1.1 tibble\_1.2   
[25] readr\_1.0.0 tidyr\_0.6.1 htmlwidgets\_0.8 evaluate\_0.10 gsubfn\_0.6-6 rmarkdown\_1.3   
[31] stringi\_1.1.2 pander\_0.6.0 scales\_0.4.1 backports\_1.0.4 boot\_1.3-18 proto\_1.0.0