EAS : Seed report

Date: 2016-12-04

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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 |
| pef | block | 7 |
| pef | bnt | 2 |
| pef | categories | 2 |
| pef | digit\_tot | 9 |
| pef | fas | 2 |
| pef | logic\_tot | 2 |
| pef | mmse | 2 |
| pef | symbol | 10 |
| pef | trailsb | 8 |
| pef | waisvocab | 2 |
| pef | word\_im | 2 |

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

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

# female

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

Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| process | label | block | bnt | categories | digit\_tot | fas | logic\_tot | mmse | symbol | trailsb | waisvocab | word\_im | mean(sd) |
| ab | Covar (Levels) | 90.07 (75.15) .23 | 38.07 (22.34) .09 | 82.62 (74.98) .27 | -28.45 (25.50) .26 | 29.54 (106.47) .78 | 81.32 (54.69) .14 | 20.91 (12.09) .08 | 201.39 (111.31) .07 | -818.94 (707.87) .25 | -19.45 (84.84) .82 | 56.00 (53.81) .30 | --- |
| ab | Covar (Slopes) | -0.30 (2.64) .91 | -0.45 (1.15) .69 | -1.22 (3.96) .76 | -0.76 (1.13) .50 | -2.18 (3.08) .48 | 0.53 (2.48) .83 | 0.11 (0.49) .82 | 1.93 (2.81) .49 | -5.32 (37.39) .89 | -0.45 (3.31) .89 | 0.42 (2.30) .85 | --- |
| ab | Covar (Residuals) | 3.98 (17.73) .82 | 1.66 (7.29) .82 | -9.54 (13.85) .49 | 4.25 (7.08) .55 | 1.28 (24.00) .96 | 17.14 (16.31) .29 | -0.07 (3.23) .98 | 2.81 (22.77) .90 | -68.68 (221.61) .76 | 4.30 (29.43) .88 | 5.89 (12.58) .64 | --- |
| er | Corr (Levels) | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| a | Level | 342.20 (26.25) <.01 | 341.34 (26.84) <.01 | 343.84 (25.16) <.01 | 343.60 (25.89) <.01 | 343.58 (24.89) <.01 | 341.08 (25.69) <.01 | 342.91 (27.58) <.01 | 342.45 (25.32) <.01 | 340.94 (26.56) <.01 | 341.80 (26.74) <.01 | 343.01 (25.95) <.01 | 342.43(1.05) |
| a | Slope | -27.18 (7.83) <.01 | -26.24 (7.22) <.01 | -28.00 (7.73) <.01 | -28.01 (7.20) <.01 | -28.26 (7.60) <.01 | -26.25 (7.30) <.01 | -27.53 (8.51) <.01 | -27.33 (6.77) <.01 | -26.21 (7.99) <.01 | -26.55 (7.16) <.01 | -27.63 (7.10) <.01 | -27.20(0.77) |
| a | Level \* age | -4.25 (1.85) .02 | -4.28 (1.90) .02 | -4.29 (1.84) .02 | -4.33 (1.86) .02 | -4.27 (1.92) .03 | -4.25 (1.81) .02 | -4.29 (1.87) .02 | -4.23 (1.80) .02 | -4.19 (2.02) .04 | -4.26 (1.82) .02 | -4.23 (1.92) .03 | -4.26(0.04) |
| a | Level \* education | -1.87 (2.75) .50 | -1.81 (2.92) .54 | -2.00 (2.77) .47 | -1.84 (2.93) .53 | -1.82 (2.71) .50 | -1.77 (2.82) .53 | -1.87 (2.76) .50 | -1.85 (2.72) .50 | -1.72 (2.70) .52 | -1.83 (2.70) .50 | -1.86 (2.69) .49 | -1.84(0.07) |
| a | Level \* height | 0.37 (1.31) .78 | 0.41 (1.30) .75 | 0.39 (1.24) .75 | 0.42 (1.26) .73 | 0.42 (1.33) .76 | 0.40 (1.20) .74 | 0.40 (1.20) .73 | 0.42 (1.22) .73 | 0.46 (1.27) .72 | 0.42 (1.21) .73 | 0.41 (1.28) .75 | 0.41(0.02) |
| a | Level \* smoking | -0.48 (13.03) .97 | -0.02 (17.75) .99 | -0.81 (14.50) .95 | -0.66 (15.24) .96 | -0.92 (16.73) .96 | -0.50 (13.62) .97 | -0.48 (13.74) .97 | -0.39 (15.10) .98 | -0.21 (15.50) .99 | -0.30 (16.89) .99 | -0.66 (12.57) .96 | -0.49(0.26) |
| a | Level \* cardio | -22.81 (36.56) .53 | -20.09 (27.01) .46 | -23.40 (25.18) .35 | -23.32 (29.17) .42 | -22.96 (25.21) .36 | -20.77 (33.81) .54 | -22.51 (24.46) .36 | -22.98 (28.80) .42 | -23.02 (29.25) .43 | -21.77 (27.24) .42 | -22.63 (26.79) .40 | -22.39(1.07) |
| a | Level \* diabetes | -25.83 (26.42) .33 | -27.08 (25.93) .30 | -26.05 (26.77) .33 | -25.87 (26.09) .32 | -25.73 (26.01) .32 | -25.45 (28.04) .36 | -25.80 (27.88) .35 | -25.69 (25.50) .31 | -26.52 (24.59) .28 | -25.80 (25.71) .32 | -26.22 (25.16) .30 | -26.00(0.46) |
| a | Slope \* age | 0.15 (0.50) .76 | 0.16 (0.51) .75 | 0.19 (0.51) .71 | 0.22 (0.52) .68 | 0.18 (0.54) .73 | 0.15 (0.53) .78 | 0.15 (0.50) .77 | 0.15 (0.53) .78 | 0.11 (0.66) .87 | 0.16 (0.61) .80 | 0.12 (0.53) .82 | 0.16(0.03) |
| a | Slope \* education | 0.56 (0.85) .51 | 0.49 (0.86) .57 | 0.61 (0.90) .50 | 0.52 (0.84) .54 | 0.52 (0.81) .52 | 0.48 (0.90) .59 | 0.57 (0.96) .55 | 0.54 (0.81) .50 | 0.45 (0.90) .62 | 0.51 (0.85) .55 | 0.54 (0.81) .50 | 0.53(0.05) |
| a | Slope \* height | 0.63 (0.29) .03 | 0.62 (0.30) .04 | 0.63 (0.31) .05 | 0.60 (0.35) .09 | 0.62 (0.31) .04 | 0.61 (0.29) .03 | 0.61 (0.31) .05 | 0.61 (0.32) .05 | 0.57 (0.34) .10 | 0.61 (0.31) .05 | 0.61 (0.32) .06 | 0.61(0.02) |
| a | Slope \* smoking | 1.86 (3.28) .57 | 1.61 (4.82) .74 | 2.05 (3.42) .55 | 1.95 (3.42) .57 | 2.19 (3.87) .57 | 1.77 (3.35) .60 | 1.90 (3.18) .55 | 1.89 (3.69) .61 | 1.77 (4.27) .68 | 1.62 (4.35) .71 | 1.94 (2.57) .45 | 1.87(0.17) |
| a | Slope \* cardio | 3.10 (10.80) .77 | 1.03 (9.56) .91 | 3.72 (8.39) .66 | 3.89 (9.43) .68 | 3.28 (8.14) .69 | 1.94 (13.93) .89 | 3.48 (10.03) .73 | 3.40 (10.31) .74 | 3.38 (9.52) .72 | 2.49 (10.46) .81 | 3.67 (9.11) .69 | 3.03(0.87) |
| a | Slope \* diabetes | -0.78 (9.39) .93 | -0.02 (9.06) .99 | -0.81 (9.12) .93 | -0.57 (7.49) .94 | -0.60 (8.78) .95 | -0.90 (9.06) .92 | -0.63 (9.50) .95 | -0.90 (8.61) .92 | -0.32 (8.49) .97 | -0.79 (8.83) .93 | -0.77 (8.39) .93 | -0.64(0.27) |
| b | Level | 18.12 (2.53) <.01 | 10.70 (0.73) <.01 | 38.24 (2.76) <.01 | 13.55 (0.99) <.01 | 30.06 (3.79) <.01 | 18.13 (2.35) <.01 | 26.06 (0.36) <.01 | 41.02 (3.20) <.01 | 166.61 (22.47) <.01 | 35.21 (3.12) <.01 | 33.09 (1.52) <.01 | --- |
| b | Slope | 1.18 (0.49) .02 | -0.03 (0.22) .89 | -0.64 (0.68) .35 | 0.28 (0.22) .20 | 0.60 (0.78) .44 | 0.01 (0.46) .99 | 0.06 (0.09) .51 | 0.38 (0.59) .52 | 1.23 (6.88) .86 | 0.12 (0.76) .88 | 0.44 (0.46) .34 | --- |
| b | Level \* age | -0.12 (0.16) .46 | -0.04 (0.06) .47 | -0.36 (0.18) .05 | -0.06 (0.07) .40 | -0.31 (0.27) .25 | -0.13 (0.14) .36 | -0.01 (0.03) .85 | -0.42 (0.26) .11 | 1.95 (1.50) .19 | -0.20 (0.27) .46 | -0.22 (0.10) .03 | --- |
| b | Level \* education | 0.94 (0.27) <.01 | 0.26 (0.07) <.01 | 0.71 (0.29) .01 | 0.28 (0.09) <.01 | 1.24 (0.40) <.01 | 0.74 (0.23) <.01 | 0.09 (0.04) .03 | 1.79 (0.35) <.01 | -7.85 (2.29) <.01 | 1.83 (0.35) <.01 | 0.25 (0.15) .10 | --- |
| b | Level \* height | -0.01 (0.11) .94 | 0.00 (0.03) .97 | -0.14 (0.12) .27 | 0.03 (0.04) .46 | -0.13 (0.19) .50 | 0.10 (0.10) .31 | 0.01 (0.02) .56 | 0.05 (0.18) .77 | 0.23 (0.89) .80 | -0.08 (0.16) .60 | 0.02 (0.07) .80 | --- |
| b | Level \* smoking | 1.68 (1.48) .25 | 0.40 (0.28) .15 | 1.31 (1.40) .35 | 0.38 (0.54) .48 | 2.97 (1.70) .08 | 0.51 (1.21) .67 | 0.24 (0.26) .37 | 2.33 (2.11) .27 | -10.65 (10.53) .31 | 1.20 (1.23) .33 | -0.21 (0.90) .81 | --- |
| b | Level \* cardio | -0.14 (3.31) .97 | -0.85 (0.48) .08 | 1.00 (2.96) .73 | -0.28 (1.09) .80 | -1.98 (3.76) .60 | 0.44 (2.94) .88 | -0.12 (0.25) .63 | -5.00 (6.64) .45 | 25.78 (18.22) .16 | 3.39 (4.26) .42 | 1.43 (2.23) .52 | --- |
| b | Level \* diabetes | -4.54 (2.63) .08 | -1.67 (0.50) <.01 | -5.21 (2.32) .02 | -1.65 (0.84) .05 | -6.79 (2.89) .02 | -1.30 (2.29) .57 | -0.14 (0.35) .68 | -6.98 (2.60) .01 | 34.98 (20.40) .09 | -4.77 (2.58) .06 | -0.86 (1.43) .55 | --- |
| b | Slope \* age | -0.05 (0.03) .08 | -0.01 (0.01) .26 | -0.03 (0.04) .48 | -0.02 (0.02) .25 | -0.08 (0.04) .06 | -0.01 (0.03) .69 | -0.01 (0.00) .27 | -0.05 (0.03) .15 | 0.14 (0.39) .73 | -0.02 (0.05) .68 | -0.05 (0.02) .03 | --- |
| b | Slope \* education | -0.10 (0.05) .06 | 0.00 (0.02) .93 | 0.07 (0.06) .27 | -0.02 (0.02) .42 | 0.04 (0.08) .64 | -0.00 (0.05) .98 | 0.00 (0.01) .82 | -0.06 (0.08) .42 | 0.18 (0.68) .79 | 0.02 (0.08) .84 | -0.02 (0.04) .65 | --- |
| b | Slope \* height | -0.01 (0.02) .56 | 0.00 (0.01) .88 | 0.02 (0.03) .51 | -0.01 (0.01) .11 | 0.01 (0.02) .80 | -0.01 (0.02) .61 | -0.00 (0.00) .41 | 0.01 (0.03) .84 | -0.06 (0.24) .82 | 0.02 (0.02) .33 | -0.02 (0.02) .28 | --- |
| b | Slope \* smoking | -0.16 (0.30) .59 | 0.03 (0.12) .80 | -0.12 (0.43) .78 | -0.01 (0.13) .95 | -0.10 (0.40) .81 | 0.02 (0.33) .95 | -0.02 (0.06) .79 | 0.04 (0.42) .92 | -0.63 (3.38) .85 | -0.05 (0.43) .91 | 0.03 (0.24) .89 | --- |
| b | Slope \* cardio | -0.18 (1.01) .86 | 0.21 (0.24) .38 | 0.04 (0.64) .95 | -0.13 (0.36) .71 | 0.05 (0.67) .94 | 0.20 (0.90) .82 | -0.03 (0.06) .67 | 0.03 (0.99) .97 | -1.40 (5.83) .81 | -0.65 (0.85) .45 | -0.38 (0.28) .17 | --- |
| b | Slope \* diabetes | 0.24 (0.47) .60 | -0.02 (0.13) .90 | 0.06 (0.63) .92 | 0.08 (0.17) .62 | 0.34 (0.62) .58 | -0.02 (0.42) .96 | 0.00 (0.07) .95 | -0.14 (0.45) .75 | 0.87 (6.36) .89 | -0.18 (0.57) .75 | -0.39 (0.34) .26 | --- |
| a | Var (Level) | 4757.17 (1058.63) <.01 | 4795.15 (1076.44) <.01 | 4731.45 (1077.23) <.01 | 4696.38 (1063.62) <.01 | 4694.15 (1112.43) <.01 | 4740.04 (1119.15) <.01 | 4730.52 (1018.57) <.01 | 4717.27 (1064.59) <.01 | 4770.99 (1064.73) <.01 | 4757.94 (1098.51) <.01 | 4701.59 (1031.13) <.01 | 4735.70(32.52) |
| a | Var (Slope) | 63.00 (37.32) .09 | 67.61 (40.63) .10 | 60.59 (48.50) .21 | 54.89 (37.53) .14 | 57.15 (40.44) .16 | 63.25 (44.38) .15 | 59.69 (36.71) .10 | 60.58 (40.98) .14 | 66.24 (44.04) .13 | 62.67 (50.67) .22 | 61.35 (40.06) .13 | 61.55(3.66) |
| a | Var (Residual) | 1641.56 (98.64) <.01 | 1634.34 (88.65) <.01 | 1646.80 (102.90) <.01 | 1644.36 (122.02) <.01 | 1641.68 (91.23) <.01 | 1643.43 (100.58) <.01 | 1642.49 (83.24) <.01 | 1638.82 (92.29) <.01 | 1629.70 (85.33) <.01 | 1638.40 (117.93) <.01 | 1638.12 (121.06) <.01 | 1639.97(4.84) |
| b | Var (Level) | 46.55 (9.62) <.01 | 2.83 (0.85) <.01 | 56.55 (11.05) <.01 | 5.80 (1.38) <.01 | 104.84 (23.99) <.01 | 22.45 (5.18) <.01 | 0.97 (0.25) <.01 | 105.78 (18.62) <.01 | 2288.23 (751.49) <.01 | 80.50 (16.25) <.01 | 11.85 (3.03) <.01 | --- |
| b | Var (Slope) | 0.11 (0.30) .71 | 0.03 (0.03) .35 | 0.91 (0.45) .04 | 0.06 (0.05) .21 | 0.31 (0.51) .54 | 0.11 (0.20) .58 | 0.00 (0.01) .71 | 0.24 (0.43) .59 | 8.22 (27.63) .77 | 0.12 (0.50) .81 | 0.16 (0.21) .46 | --- |
| b | Var (Residual) | 19.91 (1.67) <.01 | 1.71 (0.13) <.01 | 15.62 (1.36) <.01 | 2.39 (0.24) <.01 | 25.13 (2.10) <.01 | 14.44 (1.31) <.01 | 0.56 (0.03) <.01 | 28.79 (2.17) <.01 | 1484.54 (82.45) <.01 | 29.60 (2.39) <.01 | 10.06 (0.78) <.01 | --- |
| a | Covar (Level, Slope) | -364.07 (164.22) .03 | -378.74 (175.52) .03 | -356.83 (169.03) .04 | -327.77 (157.85) .04 | -333.56 (170.01) .05 | -363.80 (181.81) .04 | -348.69 (157.32) .03 | -346.09 (168.50) .04 | -369.10 (186.23) .05 | -359.97 (174.02) .04 | -339.53 (149.29) .02 | -353.47(15.76) |
| b | Covar (Level, Slope) | -1.01 (1.65) .54 | 0.21 (0.17) .20 | -0.26 (1.55) .87 | 0.03 (0.18) .86 | 1.46 (2.93) .62 | 0.57 (0.94) .54 | 0.00 (0.03) .98 | -0.06 (2.60) .98 | 54.37 (152.31) .72 | -1.88 (2.29) .41 | 1.03 (0.71) .15 | --- |
|  | Correlation of Levels | 0.191 | 0.327 | 0.160 | -0.172 | 0.0421 | 0.25 | 0.3084 | 0.285 | -0.248 | -0.031 | 0.237 | 0.12(0.20) |
|  | Correlation of Slopes | -0.114 | -0.307 | -0.165 | -0.422 | -0.5167 | 0.20 | 0.2576 | 0.511 | -0.228 | -0.162 | 0.135 | -0.07(0.31) |
|  | Correlation of Residuals | 0.022 | 0.031 | -0.059 | 0.068 | 0.0063 | 0.11 | -0.0024 | 0.013 | -0.044 | 0.020 | 0.046 | 0.02(0.05) |
|  | N | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150 | 150.00(0.00) |
|  | occasions | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -4,401 | -3,668 | -4,387 | -3,766 | -4,528 | -4,277 | -3,301 | -4,554 | -5,694 | -4,533 | -4,223 | -4,303( 618) |
|  | AIC | 8,884 | 7,418 | 8,855 | 7,614 | 9,139 | 8,636 | 6,685 | 9,190 | 11,470 | 9,148 | 8,528 | 8,688(1,236) |
|  | BIC | 9,007 | 7,541 | 8,979 | 7,737 | 9,262 | 8,759 | 6,808 | 9,313 | 11,593 | 9,271 | 8,652 | 8,811(1,236) |

## block

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

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

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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  
  
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|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 98.99 (49.69) .05 | 104.78 (52.19) .04 | 90.07 (75.15) .23 | 88.17 (79.03) .26 |
| ab | Covar (Slopes) | 3.73 (1.23) <.01 | 0.21 (1.09) .85 | -0.30 (2.64) .91 | 0.44 (2.21) .84 |
| ab | Covar (Residuals) | -0.39 (9.43) .97 | -1.25 (10.27) .90 | 3.98 (17.73) .82 | 0.44 (16.60) .98 |
| er | Corr (Levels) | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- |
| a | Level | 310.35 (17.37) <.01 | 333.07 (17.93) <.01 | 342.20 (26.25) <.01 | 339.07 (26.69) <.01 |
| a | Slope | -10.71 (4.20) .01 | -26.73 (4.00) <.01 | -27.18 (7.83) <.01 | -26.99 (7.29) <.01 |
| a | Level \* age | -4.09 (1.22) <.01 | -4.25 (1.29) <.01 | -4.25 (1.85) .02 | -4.40 (1.80) .01 |
| a | Level \* education | 0.89 (1.78) .62 | -1.60 (1.88) .39 | -1.87 (2.75) .50 | -2.11 (2.71) .44 |
| a | Level \* height | --- | 0.55 (0.85) .52 | 0.37 (1.31) .78 | 0.32 (1.30) .81 |
| a | Level \* smoking | --- | --- | -0.48 (13.03) .97 | -0.33 (13.19) .98 |
| a | Level \* cardio | --- | --- | -22.81 (36.56) .53 | -22.61 (36.18) .53 |
| a | Level \* diabetes | --- | --- | -25.83 (26.42) .33 | -27.79 (25.94) .28 |
| a | Slope \* age | -0.24 (0.26) .35 | 0.19 (0.26) .46 | 0.15 (0.50) .76 | 0.19 (0.42) .64 |
| a | Slope \* education | -0.40 (0.41) .33 | 0.60 (0.45) .19 | 0.56 (0.85) .51 | 0.74 (0.76) .33 |
| a | Slope \* height | --- | 0.55 (0.20) .01 | 0.63 (0.29) .03 | 0.64 (0.29) .02 |
| a | Slope \* smoking | --- | --- | 1.86 (3.28) .57 | 1.88 (3.05) .54 |
| a | Slope \* cardio | --- | --- | 3.10 (10.80) .77 | 2.31 (10.17) .82 |
| a | Slope \* diabetes | --- | --- | -0.78 (9.39) .93 | -0.18 (9.68) .98 |
| b | Level | 13.93 (0.95) <.01 | 18.43 (1.90) <.01 | 18.12 (2.53) <.01 | 19.33 (2.75) <.01 |
| b | Slope | 1.12 (0.20) <.01 | 0.73 (0.37) .05 | 1.18 (0.49) .02 | 0.73 (0.49) .14 |
| b | Level \* age | -0.16 (0.07) .02 | -0.12 (0.15) .41 | -0.12 (0.16) .46 | -0.14 (0.16) .39 |
| b | Level \* education | 1.06 (0.11) <.01 | 0.92 (0.21) <.01 | 0.94 (0.27) <.01 | 0.88 (0.26) <.01 |
| b | Level \* height | --- | -0.01 (0.09) .89 | -0.01 (0.11) .94 | -0.01 (0.11) .96 |
| b | Level \* smoking | --- | --- | 1.68 (1.48) .25 | 1.51 (1.45) .30 |
| b | Level \* cardio | --- | --- | -0.14 (3.31) .97 | -0.29 (2.93) .92 |
| b | Level \* diabetes | --- | --- | -4.54 (2.63) .08 | -4.30 (2.58) .10 |
| b | Slope \* age | -0.03 (0.01) .04 | -0.04 (0.02) .10 | -0.05 (0.03) .08 | -0.04 (0.03) .17 |
| b | Slope \* education | -0.08 (0.02) <.01 | -0.07 (0.04) .09 | -0.10 (0.05) .06 | -0.07 (0.05) .18 |
| b | Slope \* height | --- | -0.01 (0.01) .48 | -0.01 (0.02) .56 | -0.01 (0.02) .63 |
| b | Slope \* smoking | --- | --- | -0.16 (0.30) .59 | -0.10 (0.28) .73 |
| b | Slope \* cardio | --- | --- | -0.18 (1.01) .86 | -0.07 (0.87) .94 |
| b | Slope \* diabetes | --- | --- | 0.24 (0.47) .60 | 0.16 (0.47) .73 |
| a | Var (Level) | 5212.32 (755.47) <.01 | 4780.41 (801.53) <.01 | 4757.17 (1058.63) <.01 | 4629.68 (1058.37) <.01 |
| a | Var (Slope) | 119.91 (37.08) <.01 | 44.62 (31.72) .16 | 63.00 (37.32) .09 | 38.91 (32.62) .23 |
| a | Var (Residual) | 1695.37 (386.98) <.01 | 1703.01 (503.91) <.01 | 1641.56 (98.64) <.01 | 1689.57 (104.83) <.01 |
| b | Var (Level) | 54.09 (4.90) <.01 | 51.46 (8.54) <.01 | 46.55 (9.62) <.01 | 46.15 (9.21) <.01 |
| b | Var (Slope) | 0.26 (0.11) .01 | 0.16 (0.14) .26 | 0.11 (0.30) .71 | 0.14 (0.24) .57 |
| b | Var (Residual) | 21.49 (1.14) <.01 | 19.77 (1.49) <.01 | 19.91 (1.67) <.01 | 19.77 (1.58) <.01 |
| a | Covar (Level, Slope) | -454.24 (161.68) <.01 | -312.88 (173.77) .07 | -364.07 (164.22) .03 | -307.89 (149.73) .04 |
| b | Covar (Level, Slope) | -2.10 (0.56) <.01 | -1.21 (0.93) .19 | -1.01 (1.65) .54 | -0.91 (1.46) .53 |
|  | Correlation of Levels | 0.186 | 0.2113 | 0.191 | 0.1907 |
|  | Correlation of Slopes | 0.671 | 0.0781 | -0.114 | 0.1912 |
|  | Correlation of Residuals | -0.002 | -0.0068 | 0.022 | 0.0024 |
|  | N | 563 | 150 | 150 | 150 |
|  | occasions | 9 | 8 | 7 | 8 |
|  | parameters | 25 | 29 | 41 | 45 |
|  | LL | -9,195 | -4,535 | -4,401 | -4,524 |
|  | AIC | 18,439 | 9,128 | 8,884 | 9,138 |
|  | BIC | 18,548 | 9,216 | 9,007 | 9,273 |

## bnt

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

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

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|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 38.07 (22.34) .09 |
| ab | Covar (Slopes) | -0.45 (1.15) .69 |
| ab | Covar (Residuals) | 1.66 (7.29) .82 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 341.34 (26.84) <.01 |
| a | Slope | -26.24 (7.22) <.01 |
| a | Level \* age | -4.28 (1.90) .02 |
| a | Level \* education | -1.81 (2.92) .54 |
| a | Level \* height | 0.41 (1.30) .75 |
| a | Level \* smoking | -0.02 (17.75) .99 |
| a | Level \* cardio | -20.09 (27.01) .46 |
| a | Level \* diabetes | -27.08 (25.93) .30 |
| a | Slope \* age | 0.16 (0.51) .75 |
| a | Slope \* education | 0.49 (0.86) .57 |
| a | Slope \* height | 0.62 (0.30) .04 |
| a | Slope \* smoking | 1.61 (4.82) .74 |
| a | Slope \* cardio | 1.03 (9.56) .91 |
| a | Slope \* diabetes | -0.02 (9.06) .99 |
| b | Level | 10.70 (0.73) <.01 |
| b | Slope | -0.03 (0.22) .89 |
| b | Level \* age | -0.04 (0.06) .47 |
| b | Level \* education | 0.26 (0.07) <.01 |
| b | Level \* height | 0.00 (0.03) .97 |
| b | Level \* smoking | 0.40 (0.28) .15 |
| b | Level \* cardio | -0.85 (0.48) .08 |
| b | Level \* diabetes | -1.67 (0.50) <.01 |
| b | Slope \* age | -0.01 (0.01) .26 |
| b | Slope \* education | 0.00 (0.02) .93 |
| b | Slope \* height | 0.00 (0.01) .88 |
| b | Slope \* smoking | 0.03 (0.12) .80 |
| b | Slope \* cardio | 0.21 (0.24) .38 |
| b | Slope \* diabetes | -0.02 (0.13) .90 |
| a | Var (Level) | 4795.15 (1076.44) <.01 |
| a | Var (Slope) | 67.61 (40.63) .10 |
| a | Var (Residual) | 1634.34 (88.65) <.01 |
| b | Var (Level) | 2.83 (0.85) <.01 |
| b | Var (Slope) | 0.03 (0.03) .35 |
| b | Var (Residual) | 1.71 (0.13) <.01 |
| a | Covar (Level, Slope) | -378.74 (175.52) .03 |
| b | Covar (Level, Slope) | 0.21 (0.17) .20 |
|  | Correlation of Levels | 0.327 |
|  | Correlation of Slopes | -0.307 |
|  | Correlation of Residuals | 0.031 |
|  | N | 150 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -3,668 |
|  | AIC | 7,418 |
|  | BIC | 7,541 |

## categories

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

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| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 82.62 (74.98) .27 |
| ab | Covar (Slopes) | -1.22 (3.96) .76 |
| ab | Covar (Residuals) | -9.54 (13.85) .49 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 343.84 (25.16) <.01 |
| a | Slope | -28.00 (7.73) <.01 |
| a | Level \* age | -4.29 (1.84) .02 |
| a | Level \* education | -2.00 (2.77) .47 |
| a | Level \* height | 0.39 (1.24) .75 |
| a | Level \* smoking | -0.81 (14.50) .95 |
| a | Level \* cardio | -23.40 (25.18) .35 |
| a | Level \* diabetes | -26.05 (26.77) .33 |
| a | Slope \* age | 0.19 (0.51) .71 |
| a | Slope \* education | 0.61 (0.90) .50 |
| a | Slope \* height | 0.63 (0.31) .05 |
| a | Slope \* smoking | 2.05 (3.42) .55 |
| a | Slope \* cardio | 3.72 (8.39) .66 |
| a | Slope \* diabetes | -0.81 (9.12) .93 |
| b | Level | 38.24 (2.76) <.01 |
| b | Slope | -0.64 (0.68) .35 |
| b | Level \* age | -0.36 (0.18) .05 |
| b | Level \* education | 0.71 (0.29) .01 |
| b | Level \* height | -0.14 (0.12) .27 |
| b | Level \* smoking | 1.31 (1.40) .35 |
| b | Level \* cardio | 1.00 (2.96) .73 |
| b | Level \* diabetes | -5.21 (2.32) .02 |
| b | Slope \* age | -0.03 (0.04) .48 |
| b | Slope \* education | 0.07 (0.06) .27 |
| b | Slope \* height | 0.02 (0.03) .51 |
| b | Slope \* smoking | -0.12 (0.43) .78 |
| b | Slope \* cardio | 0.04 (0.64) .95 |
| b | Slope \* diabetes | 0.06 (0.63) .92 |
| a | Var (Level) | 4731.45 (1077.23) <.01 |
| a | Var (Slope) | 60.59 (48.50) .21 |
| a | Var (Residual) | 1646.80 (102.90) <.01 |
| b | Var (Level) | 56.55 (11.05) <.01 |
| b | Var (Slope) | 0.91 (0.45) .04 |
| b | Var (Residual) | 15.62 (1.36) <.01 |
| a | Covar (Level, Slope) | -356.83 (169.03) .04 |
| b | Covar (Level, Slope) | -0.26 (1.55) .87 |
|  | Correlation of Levels | 0.160 |
|  | Correlation of Slopes | -0.165 |
|  | Correlation of Residuals | -0.059 |
|  | N | 150 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -4,387 |
|  | AIC | 8,855 |
|  | BIC | 8,979 |

## digit\_tot

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

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| --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus |
| ab | Covar (Levels) | 3.51 (31.06) .91 | -1.14 (29.85) .97 | -17.42 (25.92) .50 | -28.45 (25.50) .26 |
| ab | Covar (Slopes) | 1.22 (1.07) .25 | 1.09 (1.06) .30 | -0.75 (0.90) .40 | -0.76 (1.13) .50 |
| ab | Covar (Residuals) | 0.68 (3.87) .86 | 0.61 (3.87) .88 | 4.47 (6.59) .50 | 4.25 (7.08) .55 |
| er | Corr (Levels) | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- |
| a | Level | 317.52 (14.43) <.01 | 312.29 (21.04) <.01 | 335.31 (24.64) <.01 | 343.60 (25.89) <.01 |
| a | Slope | -12.73 (3.31) <.01 | -9.96 (5.25) .06 | -27.66 (5.42) <.01 | -28.01 (7.20) <.01 |
| a | Level \* age | -3.97 (1.40) <.01 | -4.01 (1.42) <.01 | -4.40 (1.76) .01 | -4.33 (1.86) .02 |
| a | Level \* education | --- | 0.90 (2.26) .69 | -1.64 (2.81) .56 | -1.84 (2.93) .53 |
| a | Level \* height | --- | --- | 0.54 (1.19) .65 | 0.42 (1.26) .73 |
| a | Level \* smoking | --- | --- | --- | -0.66 (15.24) .96 |
| a | Level \* cardio | --- | --- | --- | -23.32 (29.17) .42 |
| a | Level \* diabetes | --- | --- | --- | -25.87 (26.09) .32 |
| a | Slope \* age | -0.30 (0.36) .41 | -0.29 (0.36) .42 | 0.28 (0.42) .50 | 0.22 (0.52) .68 |
| a | Slope \* education | --- | -0.46 (0.62) .46 | 0.58 (0.70) .41 | 0.52 (0.84) .54 |
| a | Slope \* height | --- | --- | 0.56 (0.30) .06 | 0.60 (0.35) .09 |
| a | Slope \* smoking | --- | --- | --- | 1.95 (3.42) .57 |
| a | Slope \* cardio | --- | --- | --- | 3.89 (9.43) .68 |
| a | Slope \* diabetes | --- | --- | --- | -0.57 (7.49) .94 |
| b | Level | 13.52 (0.30) <.01 | 11.20 (0.41) <.01 | 13.40 (0.88) <.01 | 13.55 (0.99) <.01 |
| b | Slope | 0.25 (0.07) <.01 | 0.36 (0.11) <.01 | 0.20 (0.18) .27 | 0.28 (0.22) .20 |
| b | Level \* age | -0.04 (0.03) .21 | -0.03 (0.03) .28 | -0.07 (0.06) .29 | -0.06 (0.07) .40 |
| b | Level \* education | --- | 0.37 (0.04) <.01 | 0.29 (0.09) <.01 | 0.28 (0.09) <.01 |
| b | Level \* height | --- | --- | 0.03 (0.04) .56 | 0.03 (0.04) .46 |
| b | Level \* smoking | --- | --- | --- | 0.38 (0.54) .48 |
| b | Level \* cardio | --- | --- | --- | -0.28 (1.09) .80 |
| b | Level \* diabetes | --- | --- | --- | -1.65 (0.84) .05 |
| b | Slope \* age | -0.01 (0.01) .27 | -0.01 (0.01) .26 | -0.01 (0.01) .32 | -0.02 (0.02) .25 |
| b | Slope \* education | --- | -0.02 (0.01) .12 | -0.02 (0.02) .41 | -0.02 (0.02) .42 |
| b | Slope \* height | --- | --- | -0.01 (0.01) .19 | -0.01 (0.01) .11 |
| b | Slope \* smoking | --- | --- | --- | -0.01 (0.13) .95 |
| b | Slope \* cardio | --- | --- | --- | -0.13 (0.36) .71 |
| b | Slope \* diabetes | --- | --- | --- | 0.08 (0.17) .62 |
| a | Var (Level) | 5464.40 (916.46) <.01 | 5443.31 (927.60) <.01 | 4799.93 (1076.88) <.01 | 4696.38 (1063.62) <.01 |
| a | Var (Slope) | 160.62 (41.39) <.01 | 156.69 (41.65) <.01 | 41.29 (28.58) .15 | 54.89 (37.53) .14 |
| a | Var (Residual) | 1625.55 (61.70) <.01 | 1623.78 (63.01) <.01 | 1700.25 (104.06) <.01 | 1644.36 (122.02) <.01 |
| b | Var (Level) | 10.64 (0.82) <.01 | 9.06 (0.73) <.01 | 6.39 (1.23) <.01 | 5.80 (1.38) <.01 |
| b | Var (Slope) | 0.10 (0.03) <.01 | 0.10 (0.03) <.01 | 0.05 (0.04) .16 | 0.06 (0.05) .21 |
| b | Var (Residual) | 2.69 (0.13) <.01 | 2.69 (0.13) <.01 | 2.39 (0.22) <.01 | 2.39 (0.24) <.01 |
| a | Covar (Level, Slope) | -565.27 (163.30) <.01 | -552.12 (169.75) <.01 | -302.37 (132.32) .02 | -327.77 (157.85) .04 |
| b | Covar (Level, Slope) | -0.37 (0.16) .02 | -0.30 (0.14) .04 | 0.02 (0.15) .89 | 0.03 (0.18) .86 |
|  | Correlation of Levels | 0.015 | -0.0051 | -0.099 | -0.172 |
|  | Correlation of Slopes | 0.305 | 0.2791 | -0.513 | -0.422 |
|  | Correlation of Residuals | 0.010 | 0.0092 | 0.070 | 0.068 |
|  | N | 595 | 595 | 150 | 150 |
|  | occasions | 8 | 8 | 8 | 7 |
|  | parameters | 21 | 25 | 29 | 41 |
|  | LL | -7,635 | -7,596 | -3,870 | -3,766 |
|  | AIC | 15,312 | 15,241 | 7,797 | 7,614 |
|  | BIC | 15,404 | 15,351 | 7,884 | 7,737 |

## fas

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

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 | aehplus |
| ab | Covar (Levels) | 29.54 (106.47) .78 |
| ab | Covar (Slopes) | -2.18 (3.08) .48 |
| ab | Covar (Residuals) | 1.28 (24.00) .96 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 343.58 (24.89) <.01 |
| a | Slope | -28.26 (7.60) <.01 |
| a | Level \* age | -4.27 (1.92) .03 |
| a | Level \* education | -1.82 (2.71) .50 |
| a | Level \* height | 0.42 (1.33) .76 |
| a | Level \* smoking | -0.92 (16.73) .96 |
| a | Level \* cardio | -22.96 (25.21) .36 |
| a | Level \* diabetes | -25.73 (26.01) .32 |
| a | Slope \* age | 0.18 (0.54) .73 |
| a | Slope \* education | 0.52 (0.81) .52 |
| a | Slope \* height | 0.62 (0.31) .04 |
| a | Slope \* smoking | 2.19 (3.87) .57 |
| a | Slope \* cardio | 3.28 (8.14) .69 |
| a | Slope \* diabetes | -0.60 (8.78) .95 |
| b | Level | 30.06 (3.79) <.01 |
| b | Slope | 0.60 (0.78) .44 |
| b | Level \* age | -0.31 (0.27) .25 |
| b | Level \* education | 1.24 (0.40) <.01 |
| b | Level \* height | -0.13 (0.19) .50 |
| b | Level \* smoking | 2.97 (1.70) .08 |
| b | Level \* cardio | -1.98 (3.76) .60 |
| b | Level \* diabetes | -6.79 (2.89) .02 |
| b | Slope \* age | -0.08 (0.04) .06 |
| b | Slope \* education | 0.04 (0.08) .64 |
| b | Slope \* height | 0.01 (0.02) .80 |
| b | Slope \* smoking | -0.10 (0.40) .81 |
| b | Slope \* cardio | 0.05 (0.67) .94 |
| b | Slope \* diabetes | 0.34 (0.62) .58 |
| a | Var (Level) | 4694.15 (1112.43) <.01 |
| a | Var (Slope) | 57.15 (40.44) .16 |
| a | Var (Residual) | 1641.68 (91.23) <.01 |
| b | Var (Level) | 104.84 (23.99) <.01 |
| b | Var (Slope) | 0.31 (0.51) .54 |
| b | Var (Residual) | 25.13 (2.10) <.01 |
| a | Covar (Level, Slope) | -333.56 (170.01) .05 |
| b | Covar (Level, Slope) | 1.46 (2.93) .62 |
|  | Correlation of Levels | 0.0421 |
|  | Correlation of Slopes | -0.5167 |
|  | Correlation of Residuals | 0.0063 |
|  | N | 150 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -4,528 |
|  | AIC | 9,139 |
|  | BIC | 9,262 |

## logic\_tot

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

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 | aehplus |
| ab | Covar (Levels) | 81.32 (54.69) .14 |
| ab | Covar (Slopes) | 0.53 (2.48) .83 |
| ab | Covar (Residuals) | 17.14 (16.31) .29 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 341.08 (25.69) <.01 |
| a | Slope | -26.25 (7.30) <.01 |
| a | Level \* age | -4.25 (1.81) .02 |
| a | Level \* education | -1.77 (2.82) .53 |
| a | Level \* height | 0.40 (1.20) .74 |
| a | Level \* smoking | -0.50 (13.62) .97 |
| a | Level \* cardio | -20.77 (33.81) .54 |
| a | Level \* diabetes | -25.45 (28.04) .36 |
| a | Slope \* age | 0.15 (0.53) .78 |
| a | Slope \* education | 0.48 (0.90) .59 |
| a | Slope \* height | 0.61 (0.29) .03 |
| a | Slope \* smoking | 1.77 (3.35) .60 |
| a | Slope \* cardio | 1.94 (13.93) .89 |
| a | Slope \* diabetes | -0.90 (9.06) .92 |
| b | Level | 18.13 (2.35) <.01 |
| b | Slope | 0.01 (0.46) .99 |
| b | Level \* age | -0.13 (0.14) .36 |
| b | Level \* education | 0.74 (0.23) <.01 |
| b | Level \* height | 0.10 (0.10) .31 |
| b | Level \* smoking | 0.51 (1.21) .67 |
| b | Level \* cardio | 0.44 (2.94) .88 |
| b | Level \* diabetes | -1.30 (2.29) .57 |
| b | Slope \* age | -0.01 (0.03) .69 |
| b | Slope \* education | -0.00 (0.05) .98 |
| b | Slope \* height | -0.01 (0.02) .61 |
| b | Slope \* smoking | 0.02 (0.33) .95 |
| b | Slope \* cardio | 0.20 (0.90) .82 |
| b | Slope \* diabetes | -0.02 (0.42) .96 |
| a | Var (Level) | 4740.04 (1119.15) <.01 |
| a | Var (Slope) | 63.25 (44.38) .15 |
| a | Var (Residual) | 1643.43 (100.58) <.01 |
| b | Var (Level) | 22.45 (5.18) <.01 |
| b | Var (Slope) | 0.11 (0.20) .58 |
| b | Var (Residual) | 14.44 (1.31) <.01 |
| a | Covar (Level, Slope) | -363.80 (181.81) .04 |
| b | Covar (Level, Slope) | 0.57 (0.94) .54 |
|  | Correlation of Levels | 0.25 |
|  | Correlation of Slopes | 0.20 |
|  | Correlation of Residuals | 0.11 |
|  | N | 150 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -4,277 |
|  | AIC | 8,636 |
|  | BIC | 8,759 |

## mmse

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

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 | aehplus |
| ab | Covar (Levels) | 20.91 (12.09) .08 |
| ab | Covar (Slopes) | 0.11 (0.49) .82 |
| ab | Covar (Residuals) | -0.07 (3.23) .98 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 342.91 (27.58) <.01 |
| a | Slope | -27.53 (8.51) <.01 |
| a | Level \* age | -4.29 (1.87) .02 |
| a | Level \* education | -1.87 (2.76) .50 |
| a | Level \* height | 0.40 (1.20) .73 |
| a | Level \* smoking | -0.48 (13.74) .97 |
| a | Level \* cardio | -22.51 (24.46) .36 |
| a | Level \* diabetes | -25.80 (27.88) .35 |
| a | Slope \* age | 0.15 (0.50) .77 |
| a | Slope \* education | 0.57 (0.96) .55 |
| a | Slope \* height | 0.61 (0.31) .05 |
| a | Slope \* smoking | 1.90 (3.18) .55 |
| a | Slope \* cardio | 3.48 (10.03) .73 |
| a | Slope \* diabetes | -0.63 (9.50) .95 |
| b | Level | 26.06 (0.36) <.01 |
| b | Slope | 0.06 (0.09) .51 |
| b | Level \* age | -0.01 (0.03) .85 |
| b | Level \* education | 0.09 (0.04) .03 |
| b | Level \* height | 0.01 (0.02) .56 |
| b | Level \* smoking | 0.24 (0.26) .37 |
| b | Level \* cardio | -0.12 (0.25) .63 |
| b | Level \* diabetes | -0.14 (0.35) .68 |
| b | Slope \* age | -0.01 (0.00) .27 |
| b | Slope \* education | 0.00 (0.01) .82 |
| b | Slope \* height | -0.00 (0.00) .41 |
| b | Slope \* smoking | -0.02 (0.06) .79 |
| b | Slope \* cardio | -0.03 (0.06) .67 |
| b | Slope \* diabetes | 0.00 (0.07) .95 |
| a | Var (Level) | 4730.52 (1018.57) <.01 |
| a | Var (Slope) | 59.69 (36.71) .10 |
| a | Var (Residual) | 1642.49 (83.24) <.01 |
| b | Var (Level) | 0.97 (0.25) <.01 |
| b | Var (Slope) | 0.00 (0.01) .71 |
| b | Var (Residual) | 0.56 (0.03) <.01 |
| a | Covar (Level, Slope) | -348.69 (157.32) .03 |
| b | Covar (Level, Slope) | 0.00 (0.03) .98 |
|  | Correlation of Levels | 0.3084 |
|  | Correlation of Slopes | 0.2576 |
|  | Correlation of Residuals | -0.0024 |
|  | N | 150 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -3,301 |
|  | AIC | 6,685 |
|  | BIC | 6,808 |

## symbol

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

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 | aehplus | full |
| ab | Covar (Levels) | 331.92 (108.27) <.01 | 342.04 (106.57) <.01 | 262.59 (126.47) .04 | 201.39 (111.31) .07 | 213.34 (123.52) .08 |
| ab | Covar (Slopes) | 10.97 (3.34) <.01 | 12.46 (4.36) <.01 | 3.53 (4.39) .42 | 1.93 (2.81) .49 | 2.56 (4.92) .60 |
| ab | Covar (Residuals) | -1.96 (15.87) .90 | 1.80 (16.40) .91 | -2.03 (23.02) .93 | 2.81 (22.77) .90 | -2.07 (24.58) .93 |
| er | Corr (Levels) | --- | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- | --- |
| a | Level | 311.44 (13.06) <.01 | 293.53 (20.69) <.01 | 327.85 (24.34) <.01 | 342.45 (25.32) <.01 | 333.18 (26.59) <.01 |
| a | Slope | -11.58 (2.77) <.01 | -5.54 (5.62) .32 | -23.55 (7.43) <.01 | -27.33 (6.77) <.01 | -23.53 (9.30) .01 |
| a | Level \* age | -4.29 (1.33) <.01 | -3.86 (1.41) .01 | -4.09 (1.78) .02 | -4.23 (1.80) .02 | -4.27 (1.83) .02 |
| a | Level \* education | --- | 1.19 (2.35) .61 | -1.15 (2.70) .67 | -1.85 (2.72) .50 | -1.61 (2.76) .56 |
| a | Level \* height | --- | --- | 0.37 (1.15) .75 | 0.42 (1.22) .73 | 0.13 (1.22) .91 |
| a | Level \* smoking | --- | --- | --- | -0.39 (15.10) .98 | 0.00 (15.99) .99 |
| a | Level \* cardio | --- | --- | --- | -22.98 (28.80) .42 | -24.20 (31.60) .44 |
| a | Level \* diabetes | --- | --- | --- | -25.69 (25.50) .31 | -24.36 (26.24) .35 |
| a | Slope \* age | -0.23 (0.34) .51 | -0.40 (0.41) .34 | 0.11 (0.56) .84 | 0.15 (0.53) .78 | 0.14 (0.62) .83 |
| a | Slope \* education | --- | -0.42 (0.73) .56 | 0.29 (0.91) .75 | 0.54 (0.81) .50 | 0.41 (0.98) .68 |
| a | Slope \* height | --- | --- | 0.64 (0.40) .11 | 0.61 (0.32) .05 | 0.73 (0.41) .08 |
| a | Slope \* smoking | --- | --- | --- | 1.89 (3.69) .61 | 1.75 (5.38) .74 |
| a | Slope \* cardio | --- | --- | --- | 3.40 (10.31) .74 | 3.07 (11.47) .79 |
| a | Slope \* diabetes | --- | --- | --- | -0.90 (8.61) .92 | -2.07 (9.40) .83 |
| b | Level | 45.33 (1.24) <.01 | 32.42 (1.63) <.01 | 39.06 (3.07) <.01 | 41.02 (3.20) <.01 | 40.57 (3.68) <.01 |
| b | Slope | 0.54 (0.21) .01 | 1.16 (0.44) .01 | 0.56 (0.59) .34 | 0.38 (0.59) .52 | 0.62 (0.78) .42 |
| b | Level \* age | -0.59 (0.13) <.01 | -0.57 (0.11) <.01 | -0.35 (0.27) .20 | -0.42 (0.26) .11 | -0.38 (0.28) .17 |
| b | Level \* education | --- | 2.02 (0.17) <.01 | 1.89 (0.35) <.01 | 1.79 (0.35) <.01 | 1.79 (0.38) <.01 |
| b | Level \* height | --- | --- | 0.08 (0.18) .66 | 0.05 (0.18) .77 | 0.05 (0.19) .78 |
| b | Level \* smoking | --- | --- | --- | 2.33 (2.11) .27 | 2.19 (2.01) .27 |
| b | Level \* cardio | --- | --- | --- | -5.00 (6.64) .45 | -4.96 (8.15) .54 |
| b | Level \* diabetes | --- | --- | --- | -6.98 (2.60) .01 | -6.75 (2.82) .02 |
| b | Slope \* age | -0.06 (0.02) .02 | -0.04 (0.03) .09 | -0.06 (0.04) .08 | -0.05 (0.03) .15 | -0.06 (0.04) .12 |
| b | Slope \* education | --- | -0.09 (0.05) .06 | -0.06 (0.07) .40 | -0.06 (0.08) .42 | -0.06 (0.09) .48 |
| b | Slope \* height | --- | --- | 0.00 (0.03) .90 | 0.01 (0.03) .84 | 0.00 (0.04) .91 |
| b | Slope \* smoking | --- | --- | --- | 0.04 (0.42) .92 | 0.09 (0.48) .85 |
| b | Slope \* cardio | --- | --- | --- | 0.03 (0.99) .97 | 0.00 (1.37) .99 |
| b | Slope \* diabetes | --- | --- | --- | -0.14 (0.45) .75 | -0.24 (0.56) .66 |
| a | Var (Level) | 5314.26 (886.62) <.01 | 5924.42 (1072.31) <.01 | 4906.13 (1072.06) <.01 | 4717.27 (1064.59) <.01 | 4692.97 (1099.11) <.01 |
| a | Var (Slope) | 152.53 (39.36) <.01 | 257.04 (66.08) <.01 | 117.67 (64.73) .07 | 60.58 (40.98) .14 | 102.83 (69.68) .14 |
| a | Var (Residual) | 1665.82 (53.18) <.01 | 1539.24 (60.16) <.01 | 1618.46 (83.00) <.01 | 1638.82 (92.29) <.01 | 1617.21 (98.54) <.01 |
| b | Var (Level) | 189.81 (14.19) <.01 | 143.96 (11.26) <.01 | 127.61 (23.26) <.01 | 105.78 (18.62) <.01 | 114.18 (21.13) <.01 |
| b | Var (Slope) | 1.31 (0.28) <.01 | 1.77 (0.39) <.01 | 0.36 (0.50) .47 | 0.24 (0.43) .59 | 0.45 (0.63) .47 |
| b | Var (Residual) | 31.68 (1.23) <.01 | 30.30 (1.32) <.01 | 28.75 (2.01) <.01 | 28.79 (2.17) <.01 | 28.50 (2.24) <.01 |
| a | Covar (Level, Slope) | -520.59 (153.38) <.01 | -811.76 (241.28) <.01 | -416.41 (219.35) .06 | -346.09 (168.50) .04 | -385.95 (225.58) .09 |
| b | Covar (Level, Slope) | -6.08 (2.24) .01 | -5.11 (2.05) .01 | -1.49 (3.01) .62 | -0.06 (2.60) .98 | -2.31 (3.06) .45 |
|  | Correlation of Levels | 0.3305 | 0.3704 | 0.3319 | 0.285 | 0.2914 |
|  | Correlation of Slopes | 0.7770 | 0.5831 | 0.5397 | 0.511 | 0.3750 |
|  | Correlation of Residuals | -0.0085 | 0.0084 | -0.0094 | 0.013 | -0.0096 |
|  | N | 592 | 592 | 150 | 150 | 150 |
|  | occasions | 9 | 7 | 6 | 7 | 6 |
|  | parameters | 21 | 25 | 29 | 41 | 45 |
|  | LL | -10,104 | -9,446 | -4,340 | -4,554 | -4,326 |
|  | AIC | 20,249 | 18,943 | 8,738 | 9,190 | 8,742 |
|  | BIC | 20,341 | 19,052 | 8,826 | 9,313 | 8,878 |

## trailsb

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

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | -1437.76 (540.87) .01 | -1308.71 (509.10) .01 | -1005.15 (664.43) .13 | -818.94 (707.87) .25 | -731.95 (659.29) .27 |
| ab | Covar (Slopes) | -11.72 (15.69) .46 | -11.07 (16.06) .49 | -4.41 (27.72) .87 | -5.32 (37.39) .89 | -0.25 (28.09) .99 |
| ab | Covar (Residuals) | 17.39 (148.22) .91 | 13.54 (154.65) .93 | -80.60 (224.45) .72 | -68.68 (221.61) .76 | -80.64 (247.59) .74 |
| er | Corr (Levels) | --- | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- | --- |
| a | Level | 319.62 (13.00) <.01 | 313.50 (20.64) <.01 | 332.19 (25.63) <.01 | 340.94 (26.56) <.01 | 338.48 (26.86) <.01 |
| a | Slope | -14.42 (2.89) <.01 | -11.07 (4.82) .02 | -25.89 (6.46) <.01 | -26.21 (7.99) <.01 | -26.65 (7.66) <.01 |
| a | Level \* age | -4.57 (1.31) <.01 | -4.50 (1.31) <.01 | -4.17 (1.83) .02 | -4.19 (2.02) .04 | -4.35 (1.93) .02 |
| a | Level \* education | --- | 1.07 (2.21) .63 | -1.56 (2.65) .56 | -1.72 (2.70) .52 | -2.06 (2.57) .42 |
| a | Level \* height | --- | --- | 0.60 (1.18) .61 | 0.46 (1.27) .72 | 0.35 (1.24) .78 |
| a | Level \* smoking | --- | --- | --- | -0.21 (15.50) .99 | -0.14 (16.04) .99 |
| a | Level \* cardio | --- | --- | --- | -23.02 (29.25) .43 | -22.83 (30.59) .46 |
| a | Level \* diabetes | --- | --- | --- | -26.52 (24.59) .28 | -28.03 (25.56) .27 |
| a | Slope \* age | -0.13 (0.33) .69 | -0.15 (0.33) .64 | 0.14 (0.44) .76 | 0.11 (0.66) .87 | 0.15 (0.53) .77 |
| a | Slope \* education | --- | -0.54 (0.58) .35 | 0.54 (0.70) .44 | 0.45 (0.90) .62 | 0.70 (0.75) .35 |
| a | Slope \* height | --- | --- | 0.51 (0.27) .05 | 0.57 (0.34) .10 | 0.61 (0.28) .03 |
| a | Slope \* smoking | --- | --- | --- | 1.77 (4.27) .68 | 1.88 (4.02) .64 |
| a | Slope \* cardio | --- | --- | --- | 3.38 (9.52) .72 | 2.44 (9.21) .79 |
| a | Slope \* diabetes | --- | --- | --- | -0.32 (8.49) .97 | -0.06 (9.22) .99 |
| b | Level | 125.49 (7.24) <.01 | 175.12 (7.45) <.01 | 171.28 (18.58) <.01 | 166.61 (22.47) <.01 | 172.13 (21.87) <.01 |
| b | Slope | 0.80 (1.30) .54 | -0.55 (2.05) .79 | 2.42 (5.06) .63 | 1.23 (6.88) .86 | 2.73 (6.22) .66 |
| b | Level \* age | 2.50 (0.64) <.01 | 2.31 (0.58) <.01 | 1.63 (1.38) .24 | 1.95 (1.50) .19 | 2.06 (1.48) .16 |
| b | Level \* education | --- | -7.73 (0.90) <.01 | -7.82 (2.03) <.01 | -7.85 (2.29) <.01 | -7.32 (2.27) <.01 |
| b | Level \* height | --- | --- | -0.04 (0.78) .96 | 0.23 (0.89) .80 | 0.27 (0.92) .76 |
| b | Level \* smoking | --- | --- | --- | -10.65 (10.53) .31 | -11.97 (9.91) .23 |
| b | Level \* cardio | --- | --- | --- | 25.78 (18.22) .16 | 29.70 (21.00) .16 |
| b | Level \* diabetes | --- | --- | --- | 34.98 (20.40) .09 | 33.33 (17.81) .06 |
| b | Slope \* age | 0.29 (0.14) .04 | 0.30 (0.14) .04 | 0.21 (0.27) .43 | 0.14 (0.39) .73 | 0.19 (0.34) .58 |
| b | Slope \* education | --- | 0.20 (0.21) .33 | -0.05 (0.57) .93 | 0.18 (0.68) .79 | -0.11 (0.61) .86 |
| b | Slope \* height | --- | --- | 0.02 (0.18) .89 | -0.06 (0.24) .82 | -0.01 (0.22) .97 |
| b | Slope \* smoking | --- | --- | --- | -0.63 (3.38) .85 | -0.31 (2.98) .92 |
| b | Slope \* cardio | --- | --- | --- | -1.40 (5.83) .81 | -2.00 (6.44) .76 |
| b | Slope \* diabetes | --- | --- | --- | 0.87 (6.36) .89 | 2.66 (5.06) .60 |
| a | Var (Level) | 5503.46 (922.85) <.01 | 5447.84 (926.92) <.01 | 4821.22 (1077.52) <.01 | 4770.99 (1064.73) <.01 | 4624.91 (1121.08) <.01 |
| a | Var (Slope) | 130.76 (35.96) <.01 | 124.33 (35.54) <.01 | 48.62 (27.63) .08 | 66.24 (44.04) .13 | 39.51 (33.94) .24 |
| a | Var (Residual) | 1683.17 (52.72) <.01 | 1681.28 (52.10) <.01 | 1690.11 (79.14) <.01 | 1629.70 (85.33) <.01 | 1684.30 (89.20) <.01 |
| b | Var (Level) | 3389.97 (471.25) <.01 | 2698.95 (377.73) <.01 | 2724.82 (689.38) <.01 | 2288.23 (751.49) <.01 | 2258.31 (713.54) <.01 |
| b | Var (Slope) | 6.98 (9.28) .45 | 7.33 (9.45) .44 | 7.46 (16.87) .66 | 8.22 (27.63) .77 | 5.73 (18.88) .76 |
| b | Var (Residual) | 1740.06 (48.32) <.01 | 1740.02 (48.04) <.01 | 1478.80 (71.16) <.01 | 1484.54 (82.45) <.01 | 1475.00 (76.52) <.01 |
| a | Covar (Level, Slope) | -518.71 (152.31) <.01 | -491.83 (158.00) <.01 | -324.32 (139.94) .02 | -369.10 (186.23) .05 | -305.61 (167.55) .07 |
| b | Covar (Level, Slope) | 32.29 (68.53) .64 | 45.66 (66.49) .49 | 49.10 (103.59) .64 | 54.37 (152.31) .72 | 46.60 (133.62) .73 |
|  | Correlation of Levels | -0.33 | -0.3413 | -0.277 | -0.248 | -0.226 |
|  | Correlation of Slopes | -0.39 | -0.3667 | -0.231 | -0.228 | -0.016 |
|  | Correlation of Residuals | 0.01 | 0.0079 | -0.051 | -0.044 | -0.051 |
|  | N | 580 | 580 | 150 | 150 | 150 |
|  | occasions | 9 | 9 | 8 | 7 | 8 |
|  | parameters | 21 | 25 | 29 | 41 | 45 |
|  | LL | -13,187 | -13,142 | -5,891 | -5,694 | -5,875 |
|  | AIC | 26,416 | 26,333 | 11,840 | 11,470 | 11,840 |
|  | BIC | 26,507 | 26,442 | 11,928 | 11,593 | 11,975 |

## waisvocab

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

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

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

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| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | -19.45 (84.84) .82 |
| ab | Covar (Slopes) | -0.45 (3.31) .89 |
| ab | Covar (Residuals) | 4.30 (29.43) .88 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 341.80 (26.74) <.01 |
| a | Slope | -26.55 (7.16) <.01 |
| a | Level \* age | -4.26 (1.82) .02 |
| a | Level \* education | -1.83 (2.70) .50 |
| a | Level \* height | 0.42 (1.21) .73 |
| a | Level \* smoking | -0.30 (16.89) .99 |
| a | Level \* cardio | -21.77 (27.24) .42 |
| a | Level \* diabetes | -25.80 (25.71) .32 |
| a | Slope \* age | 0.16 (0.61) .80 |
| a | Slope \* education | 0.51 (0.85) .55 |
| a | Slope \* height | 0.61 (0.31) .05 |
| a | Slope \* smoking | 1.62 (4.35) .71 |
| a | Slope \* cardio | 2.49 (10.46) .81 |
| a | Slope \* diabetes | -0.79 (8.83) .93 |
| b | Level | 35.21 (3.12) <.01 |
| b | Slope | 0.12 (0.76) .88 |
| b | Level \* age | -0.20 (0.27) .46 |
| b | Level \* education | 1.83 (0.35) <.01 |
| b | Level \* height | -0.08 (0.16) .60 |
| b | Level \* smoking | 1.20 (1.23) .33 |
| b | Level \* cardio | 3.39 (4.26) .42 |
| b | Level \* diabetes | -4.77 (2.58) .06 |
| b | Slope \* age | -0.02 (0.05) .68 |
| b | Slope \* education | 0.02 (0.08) .84 |
| b | Slope \* height | 0.02 (0.02) .33 |
| b | Slope \* smoking | -0.05 (0.43) .91 |
| b | Slope \* cardio | -0.65 (0.85) .45 |
| b | Slope \* diabetes | -0.18 (0.57) .75 |
| a | Var (Level) | 4757.94 (1098.51) <.01 |
| a | Var (Slope) | 62.67 (50.67) .22 |
| a | Var (Residual) | 1638.40 (117.93) <.01 |
| b | Var (Level) | 80.50 (16.25) <.01 |
| b | Var (Slope) | 0.12 (0.50) .81 |
| b | Var (Residual) | 29.60 (2.39) <.01 |
| a | Covar (Level, Slope) | -359.97 (174.02) .04 |
| b | Covar (Level, Slope) | -1.88 (2.29) .41 |
|  | Correlation of Levels | -0.031 |
|  | Correlation of Slopes | -0.162 |
|  | Correlation of Residuals | 0.020 |
|  | N | 150 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -4,533 |
|  | AIC | 9,148 |
|  | BIC | 9,271 |

## word\_im

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

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  
  
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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

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| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 56.00 (53.81) .30 |
| ab | Covar (Slopes) | 0.42 (2.30) .85 |
| ab | Covar (Residuals) | 5.89 (12.58) .64 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 343.01 (25.95) <.01 |
| a | Slope | -27.63 (7.10) <.01 |
| a | Level \* age | -4.23 (1.92) .03 |
| a | Level \* education | -1.86 (2.69) .49 |
| a | Level \* height | 0.41 (1.28) .75 |
| a | Level \* smoking | -0.66 (12.57) .96 |
| a | Level \* cardio | -22.63 (26.79) .40 |
| a | Level \* diabetes | -26.22 (25.16) .30 |
| a | Slope \* age | 0.12 (0.53) .82 |
| a | Slope \* education | 0.54 (0.81) .50 |
| a | Slope \* height | 0.61 (0.32) .06 |
| a | Slope \* smoking | 1.94 (2.57) .45 |
| a | Slope \* cardio | 3.67 (9.11) .69 |
| a | Slope \* diabetes | -0.77 (8.39) .93 |
| b | Level | 33.09 (1.52) <.01 |
| b | Slope | 0.44 (0.46) .34 |
| b | Level \* age | -0.22 (0.10) .03 |
| b | Level \* education | 0.25 (0.15) .10 |
| b | Level \* height | 0.02 (0.07) .80 |
| b | Level \* smoking | -0.21 (0.90) .81 |
| b | Level \* cardio | 1.43 (2.23) .52 |
| b | Level \* diabetes | -0.86 (1.43) .55 |
| b | Slope \* age | -0.05 (0.02) .03 |
| b | Slope \* education | -0.02 (0.04) .65 |
| b | Slope \* height | -0.02 (0.02) .28 |
| b | Slope \* smoking | 0.03 (0.24) .89 |
| b | Slope \* cardio | -0.38 (0.28) .17 |
| b | Slope \* diabetes | -0.39 (0.34) .26 |
| a | Var (Level) | 4701.59 (1031.13) <.01 |
| a | Var (Slope) | 61.35 (40.06) .13 |
| a | Var (Residual) | 1638.12 (121.06) <.01 |
| b | Var (Level) | 11.85 (3.03) <.01 |
| b | Var (Slope) | 0.16 (0.21) .46 |
| b | Var (Residual) | 10.06 (0.78) <.01 |
| a | Covar (Level, Slope) | -339.53 (149.29) .02 |
| b | Covar (Level, Slope) | 1.03 (0.71) .15 |
|  | Correlation of Levels | 0.237 |
|  | Correlation of Slopes | 0.135 |
|  | Correlation of Residuals | 0.046 |
|  | N | 150 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -4,223 |
|  | AIC | 8,528 |
|  | BIC | 8,652 |

## Summary

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

Computed correlations:

label

process\_b

a

ae

aeh

aehplus

full

Correlation of Levels

block

.

0.19

0.21

0.19

0.19

Correlation of Levels

bnt

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0.33

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Correlation of Levels

categories

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0.16

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Correlation of Levels

digit\_tot

0.01

-0.01

-0.10

-0.17

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Correlation of Levels

fas

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0.04

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Correlation of Levels

logic\_tot

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0.25

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Correlation of Levels

mmse

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0.31

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Correlation of Levels

symbol

0.33

0.37

0.33

0.29

0.29

Correlation of Levels

trailsb

-0.33

-0.34

-0.28

-0.25

-0.23

Correlation of Levels

waisvocab

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-0.03

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Correlation of Levels

word\_im

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0.24

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label

process\_b

a

ae

aeh

aehplus

full

Correlation of Slopes

block

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0.67

0.08

-0.11

0.19

Correlation of Slopes

bnt

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-0.31

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Correlation of Slopes

categories

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-0.16

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Correlation of Slopes

digit\_tot

0.31

0.28

-0.51

-0.42

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Correlation of Slopes

fas

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-0.52

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Correlation of Slopes

logic\_tot

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0.20

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Correlation of Slopes

mmse

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Correlation of Slopes

symbol

0.78

0.58

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0.51

0.37

Correlation of Slopes

trailsb

-0.39

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-0.23

-0.23

-0.02

Correlation of Slopes

waisvocab

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Correlation of Slopes

word\_im

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label

process\_b

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aeh

aehplus

full

Correlation of Residuals

block

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Correlation of Residuals

bnt

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Correlation of Residuals

categories

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Correlation of Residuals

digit\_tot

0.01

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Correlation of Residuals

fas

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Correlation of Residuals

logic\_tot

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Correlation of Residuals

mmse

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Correlation of Residuals

symbol

-0.01

0.01

-0.01

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-0.01

Correlation of Residuals

trailsb

0.01

0.01

-0.05

-0.04

-0.05

Correlation of Residuals

waisvocab

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0.02

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Correlation of Residuals

word\_im

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0.05

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P-values for corresponding covariances:

label

process\_b

a

ae

aeh

aehplus

full

Covariance of Levels

block

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0.05

0.04

0.23

0.26

Covariance of Levels

bnt

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Covariance of Levels

categories

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0.27

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Covariance of Levels

digit\_tot

0.91

0.97

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Covariance of Levels

fas

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0.78

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Covariance of Levels

logic\_tot

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Covariance of Levels

mmse

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Covariance of Levels

symbol

0.00

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0.07

0.08

Covariance of Levels

trailsb

0.01

0.01

0.13

0.25

0.27

Covariance of Levels

waisvocab

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0.82

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Covariance of Levels

word\_im

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label

process\_b

a

ae

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aehplus

full

Covariance of Slopes

block

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0.00

0.85

0.91

0.84

Covariance of Slopes

bnt

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0.69

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Covariance of Slopes

categories

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0.76

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Covariance of Slopes

digit\_tot

0.25

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0.40

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Covariance of Slopes

fas

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0.48

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Covariance of Slopes

logic\_tot

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0.83

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Covariance of Slopes

mmse

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0.82

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Covariance of Slopes

symbol

0.00

0.00

0.42

0.49

0.60

Covariance of Slopes

trailsb

0.46

0.49

0.87

0.89

0.99

Covariance of Slopes

waisvocab

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0.89

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Covariance of Slopes

word\_im

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0.85

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label

process\_b

a

ae

aeh

aehplus

full

Covariance of Residuals

block

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0.97

0.90

0.82

0.98

Covariance of Residuals

bnt

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0.82

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Covariance of Residuals

categories

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0.49

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Covariance of Residuals

digit\_tot

0.86

0.88

0.50

0.55

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Covariance of Residuals

fas

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Covariance of Residuals

logic\_tot

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0.29

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Covariance of Residuals

mmse

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0.98

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Covariance of Residuals

symbol

0.90

0.91

0.93

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0.93

Covariance of Residuals

trailsb

0.91

0.93

0.72

0.76

0.74

Covariance of Residuals

waisvocab

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Covariance of Residuals

word\_im

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0.64

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# male

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

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  
  
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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 | block | bnt | categories | digit\_tot | fas | logic\_tot | mmse | symbol | waisvocab | word\_im | mean(sd) |
| ab | Covar (Levels) | -113.69 (321.74) .72 | -15.17 (69.84) .83 | -152.56 (325.26) .64 | -87.85 (126.88) .49 | -84.00 (457.25) .85 | -120.30 (194.44) .54 | 3.42 (39.86) .93 | 6.90 (344.49) .98 | 83.95 (266.36) .75 | -104.53 (135.95) .44 | --- |
| ab | Covar (Slopes) | 0.31 (15.23) .98 | -0.34 (3.37) .92 | -1.41 (14.54) .92 | -3.94 (6.14) .52 | -6.28 (19.83) .75 | 5.46 (7.82) .48 | 1.42 (2.61) .59 | 1.26 (13.53) .93 | 8.26 (15.29) .59 | 0.97 (8.38) .91 | --- |
| ab | Covar (Residuals) | 6.46 (46.91) .89 | 6.53 (19.29) .73 | 14.05 (48.44) .77 | 17.02 (16.32) .30 | -1.30 (74.41) .99 | 17.12 (36.61) .64 | 6.43 (8.88) .47 | -23.96 (53.19) .65 | -12.48 (71.63) .86 | -7.70 (41.14) .85 | --- |
| er | Corr (Levels) | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| a | Level | 460.36 (99.06) <.01 | 451.32 (104.56) <.01 | 450.57 (123.22) <.01 | 460.92 (105.03) <.01 | 448.83 (103.35) <.01 | 456.86 (98.09) <.01 | 452.80 (113.83) <.01 | 457.18 (97.64) <.01 | 446.64 (99.26) <.01 | 449.55 (84.58) <.01 | 453.50(5.00) |
| a | Slope | -36.40 (27.45) .18 | -31.11 (27.68) .26 | -31.45 (30.40) .30 | -39.42 (29.44) .18 | -30.09 (32.83) .36 | -34.53 (35.23) .33 | -33.81 (30.08) .26 | -34.05 (26.54) .20 | -28.48 (39.16) .47 | -30.32 (29.44) .30 | -32.97(3.32) |
| a | Level \* age | -6.37 (6.29) .31 | -5.23 (5.34) .33 | -5.69 (6.36) .37 | -5.18 (6.57) .43 | -5.25 (6.02) .38 | -5.34 (6.24) .39 | -5.17 (6.51) .43 | -5.51 (5.67) .33 | -5.14 (7.89) .52 | -5.07 (5.39) .35 | -5.40(0.39) |
| a | Level \* education | 5.31 (9.61) .58 | 5.08 (9.56) .59 | 5.74 (11.10) .60 | 4.01 (9.32) .67 | 5.25 (9.24) .57 | 4.78 (9.01) .60 | 5.14 (10.16) .61 | 4.83 (8.19) .56 | 5.44 (8.22) .51 | 5.19 (8.85) .56 | 5.08(0.47) |
| a | Level \* height | 3.39 (4.74) .47 | 2.76 (4.27) .52 | 2.50 (4.13) .55 | 2.79 (3.29) .40 | 2.68 (3.96) .50 | 2.37 (3.88) .54 | 2.46 (3.41) .47 | 2.54 (3.58) .48 | 2.78 (3.35) .41 | 2.74 (3.88) .48 | 2.70(0.28) |
| a | Level \* smoking | -35.37 (73.79) .63 | -33.61 (74.75) .65 | -32.54 (70.17) .64 | -37.95 (67.06) .57 | -31.45 (61.98) .61 | -36.01 (70.96) .61 | -33.55 (80.02) .68 | -38.90 (76.04) .61 | -32.63 (68.90) .64 | -35.04 (56.82) .54 | -34.70(2.42) |
| a | Level \* cardio | -20.22 (72.78) .78 | -23.03 (69.47) .74 | -23.81 (85.55) .78 | -30.13 (76.67) .69 | -23.77 (70.83) .74 | -22.74 (72.43) .75 | -27.24 (80.99) .74 | -20.74 (72.43) .78 | -21.65 (83.24) .80 | -23.28 (74.16) .75 | -23.66(2.99) |
| a | Level \* diabetes | -17.74 (72.05) .80 | -15.09 (64.83) .82 | -15.04 (54.75) .78 | -12.29 (63.86) .85 | -15.79 (55.07) .77 | -14.61 (54.25) .79 | -15.10 (65.94) .82 | -16.69 (51.98) .75 | -14.85 (58.90) .80 | -13.98 (60.54) .82 | -15.12(1.47) |
| a | Slope \* age | 1.07 (1.62) .51 | 0.36 (1.72) .84 | 0.71 (1.88) .70 | 0.56 (2.25) .80 | 0.44 (1.91) .82 | 0.54 (1.88) .78 | 0.49 (1.76) .78 | 0.57 (1.70) .74 | 0.35 (2.52) .89 | 0.32 (2.10) .88 | 0.54(0.22) |
| a | Slope \* education | -0.28 (2.50) .91 | -0.20 (2.23) .93 | -0.59 (2.61) .82 | 0.52 (2.10) .80 | -0.34 (2.49) .89 | -0.07 (2.57) .98 | -0.23 (2.64) .93 | -0.13 (2.18) .95 | -0.42 (2.44) .86 | -0.28 (2.28) .90 | -0.20(0.29) |
| a | Slope \* height | -0.06 (1.53) .97 | 0.32 (1.45) .82 | 0.48 (1.42) .73 | 0.38 (1.08) .72 | 0.40 (1.46) .78 | 0.62 (1.43) .66 | 0.54 (1.16) .64 | 0.55 (1.15) .64 | 0.33 (1.22) .79 | 0.36 (1.66) .83 | 0.39(0.19) |
| a | Slope \* smoking | 8.55 (13.40) .52 | 8.07 (14.12) .57 | 7.94 (13.58) .56 | 9.89 (17.73) .58 | 6.80 (15.82) .67 | 9.02 (17.20) .60 | 8.16 (14.71) .58 | 10.46 (17.99) .56 | 7.58 (16.50) .65 | 8.99 (15.01) .55 | 8.55(1.08) |
| a | Slope \* cardio | -4.58 (16.59) .78 | -0.81 (17.68) .96 | -0.72 (15.06) .96 | 5.32 (17.93) .77 | -0.26 (17.75) .99 | -1.98 (21.64) .93 | 1.41 (17.95) .94 | -1.88 (24.54) .94 | -1.89 (18.12) .92 | -0.93 (20.93) .96 | -0.63(2.59) |
| a | Slope \* diabetes | 1.56 (19.14) .94 | -0.25 (22.35) .99 | -0.36 (17.61) .98 | -0.68 (16.56) .97 | 0.05 (15.55) .99 | -0.22 (18.16) .99 | -0.09 (19.09) .99 | 1.36 (15.23) .93 | -0.62 (19.97) .97 | -1.02 (17.87) .95 | -0.03(0.84) |
| b | Level | 23.86 (7.73) <.01 | 11.05 (1.68) <.01 | 29.14 (8.42) <.01 | 12.95 (3.50) <.01 | 25.03 (7.40) <.01 | 15.38 (5.50) <.01 | 26.59 (0.70) <.01 | 40.48 (9.13) <.01 | 33.85 (6.89) <.01 | 34.65 (2.99) <.01 | --- |
| b | Slope | 1.57 (1.75) .37 | 0.23 (0.39) .56 | 1.06 (1.70) .53 | -0.14 (0.65) .83 | 1.33 (1.56) .40 | 1.77 (1.15) .12 | -0.02 (0.31) .95 | 0.66 (2.08) .75 | 1.52 (2.29) .51 | -0.02 (1.22) .99 | --- |
| b | Level \* age | 0.24 (0.44) .59 | 0.03 (0.09) .71 | -0.16 (0.45) .73 | -0.03 (0.16) .84 | -0.04 (0.46) .93 | -0.08 (0.30) .78 | -0.00 (0.04) .97 | -0.18 (0.38) .64 | 0.39 (0.36) .28 | -0.22 (0.19) .24 | --- |
| b | Level \* education | 0.63 (0.50) .21 | 0.10 (0.12) .38 | 1.14 (0.66) .08 | 0.33 (0.25) .18 | 1.62 (0.52) <.01 | 0.86 (0.33) .01 | 0.07 (0.06) .24 | 1.32 (0.81) .10 | 1.59 (0.57) .01 | 0.06 (0.24) .80 | --- |
| b | Level \* height | 0.06 (0.19) .76 | 0.00 (0.06) .95 | -0.10 (0.24) .68 | -0.14 (0.08) .06 | -0.36 (0.30) .23 | 0.09 (0.17) .57 | 0.00 (0.03) .98 | 0.10 (0.23) .67 | 0.03 (0.30) .92 | -0.13 (0.12) .28 | --- |
| b | Level \* smoking | -4.09 (3.46) .24 | 0.99 (0.95) .30 | 3.53 (5.66) .53 | 1.31 (1.70) .44 | 1.82 (4.25) .67 | -0.08 (3.31) .98 | -0.22 (0.42) .60 | 0.42 (5.41) .94 | -1.36 (4.00) .73 | -1.84 (1.93) .34 | --- |
| b | Level \* cardio | 0.28 (3.57) .94 | -0.36 (1.09) .74 | -0.66 (7.67) .93 | 0.68 (1.61) .67 | 0.66 (7.36) .93 | 1.25 (2.63) .63 | -0.03 (0.56) .95 | -4.72 (5.51) .39 | -4.18 (11.15) .71 | 1.42 (3.38) .68 | --- |
| b | Level \* diabetes | -3.43 (3.99) .39 | -0.04 (0.91) .96 | -0.75 (3.69) .84 | -1.14 (1.81) .53 | -5.58 (4.16) .18 | 0.86 (3.04) .78 | -0.04 (0.45) .92 | -4.19 (4.86) .39 | 1.26 (4.67) .79 | -0.77 (3.00) .80 | --- |
| b | Slope \* age | -0.08 (0.10) .39 | -0.02 (0.03) .43 | -0.06 (0.08) .47 | 0.02 (0.04) .65 | 0.00 (0.07) .99 | -0.09 (0.08) .23 | -0.00 (0.02) .84 | -0.02 (0.08) .82 | -0.10 (0.09) .29 | -0.03 (0.06) .63 | --- |
| b | Slope \* education | -0.11 (0.11) .33 | -0.01 (0.02) .71 | -0.15 (0.14) .29 | 0.00 (0.04) .96 | -0.15 (0.16) .34 | -0.13 (0.07) .08 | -0.00 (0.02) .90 | -0.17 (0.18) .34 | -0.09 (0.18) .63 | -0.01 (0.08) .88 | --- |
| b | Slope \* height | -0.04 (0.05) .36 | 0.01 (0.02) .76 | -0.02 (0.07) .78 | 0.01 (0.02) .56 | 0.01 (0.07) .83 | -0.02 (0.04) .64 | -0.00 (0.01) .93 | 0.01 (0.07) .88 | -0.03 (0.08) .74 | -0.03 (0.04) .45 | --- |
| b | Slope \* smoking | 0.32 (0.82) .70 | -0.23 (0.19) .22 | -0.37 (1.10) .73 | -0.20 (0.34) .56 | 0.08 (0.91) .93 | -0.07 (0.72) .92 | 0.07 (0.14) .60 | -0.08 (0.98) .93 | 0.08 (1.19) .95 | 0.25 (0.61) .68 | --- |
| b | Slope \* cardio | 0.24 (1.40) .86 | 0.04 (0.39) .92 | 0.19 (1.43) .89 | -0.06 (0.59) .93 | -0.47 (1.34) .72 | -0.49 (1.10) .66 | 0.02 (0.19) .90 | 0.57 (1.62) .72 | 0.15 (2.47) .95 | 0.12 (1.18) .92 | --- |
| b | Slope \* diabetes | -0.56 (1.01) .58 | 0.06 (0.28) .82 | 0.16 (0.93) .86 | -0.02 (0.49) .97 | -0.26 (0.79) .74 | 0.82 (0.88) .35 | 0.01 (0.17) .94 | 0.19 (1.05) .86 | -0.41 (1.25) .74 | 0.22 (0.68) .74 | --- |
| a | Var (Level) | 13435.43 (5867.31) .02 | 12826.85 (5567.93) .02 | 12987.75 (5824.20) .03 | 12845.30 (6509.86) .05 | 13100.68 (6328.99) .04 | 12861.00 (7065.11) .07 | 13498.16 (7104.04) .06 | 13294.09 (5899.23) .02 | 12975.71 (7229.06) .07 | 12974.88 (6225.91) .04 | 13079.99(246.08) |
| a | Var (Slope) | 186.34 (228.03) .41 | 186.00 (272.20) .49 | 180.45 (291.64) .54 | 263.99 (478.72) .58 | 200.08 (318.09) .53 | 176.62 (314.29) .57 | 222.00 (310.45) .47 | 217.96 (300.61) .47 | 201.13 (316.58) .52 | 189.58 (259.16) .46 | 202.42(26.38) |
| a | Var (Residual) | 3592.55 (504.56) <.01 | 3441.14 (698.92) <.01 | 3468.52 (625.64) <.01 | 3384.90 (413.30) <.01 | 3410.14 (480.58) <.01 | 3460.22 (747.13) <.01 | 3440.49 (552.54) <.01 | 3478.41 (692.94) <.01 | 3382.29 (556.56) <.01 | 3437.01 (511.92) <.01 | 3449.57(59.93) |
| b | Var (Level) | 40.24 (21.78) .06 | 1.95 (1.35) .15 | 64.45 (21.43) <.01 | 10.34 (3.83) .01 | 95.09 (39.59) .02 | 28.36 (13.93) .04 | 0.30 (0.42) .48 | 69.21 (30.38) .02 | 44.82 (33.02) .17 | 8.95 (7.39) .23 | --- |
| b | Var (Slope) | 0.03 (0.68) .96 | 0.03 (0.05) .63 | 0.87 (0.95) .35 | 0.08 (0.08) .34 | 0.45 (0.84) .59 | 0.38 (0.55) .50 | 0.01 (0.03) .72 | 1.12 (0.96) .24 | 0.41 (1.84) .82 | 0.08 (0.31) .80 | --- |
| b | Var (Residual) | 24.10 (2.87) <.01 | 1.60 (0.24) <.01 | 20.44 (4.21) <.01 | 2.53 (0.44) <.01 | 25.75 (3.79) <.01 | 13.52 (2.34) <.01 | 0.67 (0.13) <.01 | 25.64 (4.23) <.01 | 40.84 (4.96) <.01 | 10.63 (1.90) <.01 | --- |
| a | Covar (Level, Slope) | -1102.79 (1117.31) .32 | -942.73 (1018.78) .35 | -969.01 (954.07) .31 | -982.32 (1315.12) .46 | -1010.84 (1177.12) .39 | -918.32 (1230.92) .46 | -1146.23 (1383.22) .41 | -1123.34 (1211.07) .35 | -986.44 (1199.61) .41 | -980.51 (1067.92) .36 | -1016.25(79.18) |
| b | Covar (Level, Slope) | -0.25 (3.45) .94 | 0.11 (0.20) .59 | -5.52 (3.64) .13 | -0.53 (0.62) .39 | 0.56 (6.82) .93 | -1.25 (2.61) .63 | 0.03 (0.11) .80 | 0.66 (4.91) .89 | -1.22 (7.89) .88 | 0.52 (1.47) .73 | --- |
|  | Correlation of Levels | -0.155 | -0.096 | -0.167 | -0.24 | -0.0753 | -0.199 | 0.054 | 0.0072 | 0.110 | -0.31 | -0.11(0.13) |
|  | Correlation of Slopes | 0.125 | -0.155 | -0.112 | -0.86 | -0.6585 | 0.671 | 0.906 | 0.0805 | 0.907 | 0.25 | 0.12(0.60) |
|  | Correlation of Residuals | 0.022 | 0.088 | 0.053 | 0.18 | -0.0044 | 0.079 | 0.134 | -0.0802 | -0.034 | -0.04 | 0.04(0.08) |
|  | N | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72 | 72.00(0.00) |
|  | occasions | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -2,459 | -2,029 | -2,448 | -2,113 | -2,505 | -2,375 | -1,861 | -2,504 | -2,537 | -2,338 | -2,317(234) |
|  | AIC | 5,000 | 4,139 | 4,978 | 4,308 | 5,093 | 4,833 | 3,805 | 5,090 | 5,156 | 4,758 | 4,716(468) |
|  | BIC | 5,093 | 4,233 | 5,072 | 4,401 | 5,186 | 4,926 | 3,898 | 5,183 | 5,250 | 4,852 | 4,809(468) |

## block

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

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

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | ae | aeh | aehplus |
| ab | Covar (Levels) | -122.43 (137.12) .37 | -89.80 (125.58) .47 | -113.69 (321.74) .72 |
| ab | Covar (Slopes) | -0.17 (3.37) .96 | -0.13 (18.94) .99 | 0.31 (15.23) .98 |
| ab | Covar (Residuals) | 7.05 (22.67) .76 | 28.00 (36.76) .45 | 6.46 (46.91) .89 |
| er | Corr (Levels) | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- |
| a | Level | 468.26 (40.46) <.01 | 412.91 (49.38) <.01 | 460.36 (99.06) <.01 |
| a | Slope | -18.94 (8.62) .03 | -29.25 (10.46) <.01 | -36.40 (27.45) .18 |
| a | Level \* age | -4.66 (2.91) .11 | -5.16 (3.10) .10 | -6.37 (6.29) .31 |
| a | Level \* education | 0.38 (4.09) .93 | 5.99 (4.49) .18 | 5.31 (9.61) .58 |
| a | Level \* height | --- | 3.87 (2.76) .16 | 3.39 (4.74) .47 |
| a | Level \* smoking | --- | --- | -35.37 (73.79) .63 |
| a | Level \* cardio | --- | --- | -20.22 (72.78) .78 |
| a | Level \* diabetes | --- | --- | -17.74 (72.05) .80 |
| a | Slope \* age | -0.19 (0.61) .76 | 0.61 (0.79) .44 | 1.07 (1.62) .51 |
| a | Slope \* education | -0.02 (1.00) .98 | 0.36 (1.10) .74 | -0.28 (2.50) .91 |
| a | Slope \* height | --- | -0.64 (1.35) .63 | -0.06 (1.53) .97 |
| a | Slope \* smoking | --- | --- | 8.55 (13.40) .52 |
| a | Slope \* cardio | --- | --- | -4.58 (16.59) .78 |
| a | Slope \* diabetes | --- | --- | 1.56 (19.14) .94 |
| b | Level | 20.52 (1.03) <.01 | 19.31 (3.81) <.01 | 23.86 (7.73) <.01 |
| b | Slope | 0.90 (0.26) <.01 | 1.57 (1.53) .31 | 1.57 (1.75) .37 |
| b | Level \* age | -0.02 (0.11) .88 | 0.31 (0.35) .38 | 0.24 (0.44) .59 |
| b | Level \* education | 0.01 (0.03) .86 | 0.73 (0.30) .02 | 0.63 (0.50) .21 |
| b | Level \* height | --- | 0.01 (0.28) .97 | 0.06 (0.19) .76 |
| b | Level \* smoking | --- | --- | -4.09 (3.46) .24 |
| b | Level \* cardio | --- | --- | 0.28 (3.57) .94 |
| b | Level \* diabetes | --- | --- | -3.43 (3.99) .39 |
| b | Slope \* age | -0.05 (0.02) <.01 | -0.08 (0.17) .62 | -0.08 (0.10) .39 |
| b | Slope \* education | -0.00 (0.03) .97 | -0.10 (0.12) .42 | -0.11 (0.11) .33 |
| b | Slope \* height | --- | -0.04 (0.14) .81 | -0.04 (0.05) .36 |
| b | Slope \* smoking | --- | --- | 0.32 (0.82) .70 |
| b | Slope \* cardio | --- | --- | 0.24 (1.40) .86 |
| b | Slope \* diabetes | --- | --- | -0.56 (1.01) .58 |
| a | Var (Level) | 12369.76 (3034.59) <.01 | 12541.22 (3161.93) <.01 | 13435.43 (5867.31) .02 |
| a | Var (Slope) | 207.90 (118.40) .08 | 204.82 (213.03) .34 | 186.34 (228.03) .41 |
| a | Var (Residual) | 4750.71 (840.79) <.01 | 4397.04 (1166.62) <.01 | 3592.55 (504.56) <.01 |
| b | Var (Level) | 76.62 (7.95) <.01 | 46.25 (13.11) <.01 | 40.24 (21.78) .06 |
| b | Var (Slope) | 0.15 (0.15) .31 | 0.03 (7.94) .99 | 0.03 (0.68) .96 |
| b | Var (Residual) | 22.19 (1.50) <.01 | 23.78 (9.55) .01 | 24.10 (2.87) <.01 |
| a | Covar (Level, Slope) | -767.90 (619.22) .21 | -776.24 (651.36) .23 | -1102.79 (1117.31) .32 |
| b | Covar (Level, Slope) | -2.12 (1.19) .07 | 0.01 (12.80) .99 | -0.25 (3.45) .94 |
|  | Correlation of Levels | -0.126 | -0.118 | -0.155 |
|  | Correlation of Slopes | -0.031 | -0.052 | 0.125 |
|  | Correlation of Residuals | 0.022 | 0.087 | 0.022 |
|  | N | 350 | 72 | 72 |
|  | occasions | 9 | 8 | 7 |
|  | parameters | 25 | 29 | 41 |
|  | LL | -5,823 | -2,542 | -2,459 |
|  | AIC | 11,697 | 5,143 | 5,000 |
|  | BIC | 11,793 | 5,209 | 5,093 |

## bnt

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

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 | aehplus |
| ab | Covar (Levels) | -15.17 (69.84) .83 |
| ab | Covar (Slopes) | -0.34 (3.37) .92 |
| ab | Covar (Residuals) | 6.53 (19.29) .73 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 451.32 (104.56) <.01 |
| a | Slope | -31.11 (27.68) .26 |
| a | Level \* age | -5.23 (5.34) .33 |
| a | Level \* education | 5.08 (9.56) .59 |
| a | Level \* height | 2.76 (4.27) .52 |
| a | Level \* smoking | -33.61 (74.75) .65 |
| a | Level \* cardio | -23.03 (69.47) .74 |
| a | Level \* diabetes | -15.09 (64.83) .82 |
| a | Slope \* age | 0.36 (1.72) .84 |
| a | Slope \* education | -0.20 (2.23) .93 |
| a | Slope \* height | 0.32 (1.45) .82 |
| a | Slope \* smoking | 8.07 (14.12) .57 |
| a | Slope \* cardio | -0.81 (17.68) .96 |
| a | Slope \* diabetes | -0.25 (22.35) .99 |
| b | Level | 11.05 (1.68) <.01 |
| b | Slope | 0.23 (0.39) .56 |
| b | Level \* age | 0.03 (0.09) .71 |
| b | Level \* education | 0.10 (0.12) .38 |
| b | Level \* height | 0.00 (0.06) .95 |
| b | Level \* smoking | 0.99 (0.95) .30 |
| b | Level \* cardio | -0.36 (1.09) .74 |
| b | Level \* diabetes | -0.04 (0.91) .96 |
| b | Slope \* age | -0.02 (0.03) .43 |
| b | Slope \* education | -0.01 (0.02) .71 |
| b | Slope \* height | 0.01 (0.02) .76 |
| b | Slope \* smoking | -0.23 (0.19) .22 |
| b | Slope \* cardio | 0.04 (0.39) .92 |
| b | Slope \* diabetes | 0.06 (0.28) .82 |
| a | Var (Level) | 12826.85 (5567.93) .02 |
| a | Var (Slope) | 186.00 (272.20) .49 |
| a | Var (Residual) | 3441.14 (698.92) <.01 |
| b | Var (Level) | 1.95 (1.35) .15 |
| b | Var (Slope) | 0.03 (0.05) .63 |
| b | Var (Residual) | 1.60 (0.24) <.01 |
| a | Covar (Level, Slope) | -942.73 (1018.78) .35 |
| b | Covar (Level, Slope) | 0.11 (0.20) .59 |
|  | Correlation of Levels | -0.096 |
|  | Correlation of Slopes | -0.155 |
|  | Correlation of Residuals | 0.088 |
|  | N | 72 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -2,029 |
|  | AIC | 4,139 |
|  | BIC | 4,233 |

## categories

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

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 | aehplus |
| ab | Covar (Levels) | -152.56 (325.26) .64 |
| ab | Covar (Slopes) | -1.41 (14.54) .92 |
| ab | Covar (Residuals) | 14.05 (48.44) .77 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 450.57 (123.22) <.01 |
| a | Slope | -31.45 (30.40) .30 |
| a | Level \* age | -5.69 (6.36) .37 |
| a | Level \* education | 5.74 (11.10) .60 |
| a | Level \* height | 2.50 (4.13) .55 |
| a | Level \* smoking | -32.54 (70.17) .64 |
| a | Level \* cardio | -23.81 (85.55) .78 |
| a | Level \* diabetes | -15.04 (54.75) .78 |
| a | Slope \* age | 0.71 (1.88) .70 |
| a | Slope \* education | -0.59 (2.61) .82 |
| a | Slope \* height | 0.48 (1.42) .73 |
| a | Slope \* smoking | 7.94 (13.58) .56 |
| a | Slope \* cardio | -0.72 (15.06) .96 |
| a | Slope \* diabetes | -0.36 (17.61) .98 |
| b | Level | 29.14 (8.42) <.01 |
| b | Slope | 1.06 (1.70) .53 |
| b | Level \* age | -0.16 (0.45) .73 |
| b | Level \* education | 1.14 (0.66) .08 |
| b | Level \* height | -0.10 (0.24) .68 |
| b | Level \* smoking | 3.53 (5.66) .53 |
| b | Level \* cardio | -0.66 (7.67) .93 |
| b | Level \* diabetes | -0.75 (3.69) .84 |
| b | Slope \* age | -0.06 (0.08) .47 |
| b | Slope \* education | -0.15 (0.14) .29 |
| b | Slope \* height | -0.02 (0.07) .78 |
| b | Slope \* smoking | -0.37 (1.10) .73 |
| b | Slope \* cardio | 0.19 (1.43) .89 |
| b | Slope \* diabetes | 0.16 (0.93) .86 |
| a | Var (Level) | 12987.75 (5824.20) .03 |
| a | Var (Slope) | 180.45 (291.64) .54 |
| a | Var (Residual) | 3468.52 (625.64) <.01 |
| b | Var (Level) | 64.45 (21.43) <.01 |
| b | Var (Slope) | 0.87 (0.95) .35 |
| b | Var (Residual) | 20.44 (4.21) <.01 |
| a | Covar (Level, Slope) | -969.01 (954.07) .31 |
| b | Covar (Level, Slope) | -5.52 (3.64) .13 |
|  | Correlation of Levels | -0.167 |
|  | Correlation of Slopes | -0.112 |
|  | Correlation of Residuals | 0.053 |
|  | N | 72 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -2,448 |
|  | AIC | 4,978 |
|  | BIC | 5,072 |

## digit\_tot

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

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  
  
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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

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Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
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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 | aehplus | full |
| ab | Covar (Levels) | -70.53 (80.52) .38 | -79.11 (82.09) .34 | -103.44 (109.85) .35 | -87.85 (126.88) .49 | -81.43 (142.00) .57 |
| ab | Covar (Slopes) | -1.66 (2.07) .42 | -1.73 (2.25) .44 | -5.04 (4.14) .22 | -3.94 (6.14) .52 | -4.07 (5.22) .43 |
| ab | Covar (Residuals) | 16.61 (8.93) .06 | 16.90 (9.43) .07 | 21.52 (14.71) .14 | 17.02 (16.32) .30 | 20.51 (20.13) .31 |
| er | Corr (Levels) | --- | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- | --- |
| a | Level | 454.79 (29.61) <.01 | 436.64 (46.16) <.01 | 412.12 (66.58) <.01 | 460.92 (105.03) <.01 | 477.18 (153.24) <.01 |
| a | Slope | -15.22 (9.10) .10 | -12.33 (13.96) .38 | -31.06 (27.15) .25 | -39.42 (29.44) .18 | -37.62 (40.31) .35 |
| a | Level \* age | -3.64 (3.32) .27 | -3.64 (3.30) .27 | -4.29 (5.78) .46 | -5.18 (6.57) .43 | -5.20 (7.38) .48 |
| a | Level \* education | --- | 2.45 (5.00) .62 | 4.90 (7.21) .50 | 4.01 (9.32) .67 | 3.62 (9.86) .71 |
| a | Level \* height | --- | --- | 3.31 (3.02) .27 | 2.79 (3.29) .40 | 3.48 (4.64) .45 |
| a | Level \* smoking | --- | --- | --- | -37.95 (67.06) .57 | -42.30 (110.78) .70 |
| a | Level \* cardio | --- | --- | --- | -30.13 (76.67) .69 | -30.08 (93.01) .75 |
| a | Level \* diabetes | --- | --- | --- | -12.29 (63.86) .85 | -1.12 (61.35) .98 |
| a | Slope \* age | -0.56 (0.94) .55 | -0.56 (1.01) .58 | 0.34 (2.25) .88 | 0.56 (2.25) .80 | 0.45 (2.93) .88 |
| a | Slope \* education | --- | -0.39 (1.08) .72 | 0.98 (1.57) .53 | 0.52 (2.10) .80 | 1.15 (2.42) .64 |
| a | Slope \* height | --- | --- | -0.19 (0.98) .85 | 0.38 (1.08) .72 | -0.20 (2.08) .92 |
| a | Slope \* smoking | --- | --- | --- | 9.89 (17.73) .58 | 5.88 (23.22) .80 |
| a | Slope \* cardio | --- | --- | --- | 5.32 (17.93) .77 | 9.02 (23.38) .70 |
| a | Slope \* diabetes | --- | --- | --- | -0.68 (16.56) .97 | -3.37 (20.12) .87 |
| b | Level | 13.76 (0.39) <.01 | 13.75 (0.40) <.01 | 14.09 (2.16) <.01 | 12.95 (3.50) <.01 | 13.69 (3.84) <.01 |
| b | Slope | 0.19 (0.08) .02 | 0.16 (0.11) .14 | -0.34 (0.42) .42 | -0.14 (0.65) .83 | -0.31 (0.80) .70 |
| b | Level \* age | -0.03 (0.04) .50 | -0.03 (0.04) .50 | -0.06 (0.14) .69 | -0.03 (0.16) .84 | -0.04 (0.19) .83 |
| b | Level \* education | --- | 0.00 (0.01) .98 | 0.29 (0.19) .13 | 0.33 (0.25) .18 | 0.33 (0.26) .20 |
| b | Level \* height | --- | --- | -0.15 (0.07) .03 | -0.14 (0.08) .06 | -0.12 (0.09) .15 |
| b | Level \* smoking | --- | --- | --- | 1.31 (1.70) .44 | 0.91 (1.95) .64 |
| b | Level \* cardio | --- | --- | --- | 0.68 (1.61) .67 | 0.66 (1.78) .71 |
| b | Level \* diabetes | --- | --- | --- | -1.14 (1.81) .53 | -0.82 (1.92) .67 |
| b | Slope \* age | -0.00 (0.01) .62 | -0.00 (0.01) .63 | 0.02 (0.03) .49 | 0.02 (0.04) .65 | 0.02 (0.04) .67 |
| b | Slope \* education | --- | 0.00 (0.01) .70 | 0.01 (0.03) .84 | 0.00 (0.04) .96 | 0.00 (0.05) .98 |
| b | Slope \* height | --- | --- | 0.01 (0.01) .40 | 0.01 (0.02) .56 | 0.00 (0.02) .91 |
| b | Slope \* smoking | --- | --- | --- | -0.20 (0.34) .56 | -0.09 (0.38) .81 |
| b | Slope \* cardio | --- | --- | --- | -0.06 (0.59) .93 | 0.03 (0.64) .96 |
| b | Slope \* diabetes | --- | --- | --- | -0.02 (0.49) .97 | -0.10 (0.58) .86 |
| a | Var (Level) | 12724.37 (3116.69) <.01 | 12613.78 (3355.28) <.01 | 12625.82 (5395.72) .02 | 12845.30 (6509.86) .05 | 12472.82 (8409.86) .14 |
| a | Var (Slope) | 282.59 (137.18) .04 | 288.30 (153.70) .06 | 375.76 (442.97) .40 | 263.99 (478.72) .58 | 366.50 (775.59) .64 |
| a | Var (Residual) | 4844.77 (353.36) <.01 | 4854.50 (356.20) <.01 | 4192.50 (487.00) <.01 | 3384.90 (413.30) <.01 | 4119.94 (715.76) <.01 |
| b | Var (Level) | 12.48 (1.25) <.01 | 12.48 (1.25) <.01 | 11.10 (3.37) <.01 | 10.34 (3.83) .01 | 10.46 (4.10) .01 |
| b | Var (Slope) | 0.02 (0.03) .40 | 0.02 (0.03) .37 | 0.10 (0.08) .21 | 0.08 (0.08) .34 | 0.05 (0.12) .66 |
| b | Var (Residual) | 3.10 (0.17) <.01 | 3.09 (0.17) <.01 | 2.48 (0.37) <.01 | 2.53 (0.44) <.01 | 2.56 (0.42) <.01 |
| a | Covar (Level, Slope) | -980.03 (477.68) .04 | -985.11 (503.33) .05 | -931.01 (1187.26) .43 | -982.32 (1315.12) .46 | -1003.17 (1990.62) .61 |
| b | Covar (Level, Slope) | -0.34 (0.19) .07 | -0.36 (0.19) .06 | -0.62 (0.55) .26 | -0.53 (0.62) .39 | -0.51 (0.77) .50 |
|  | Correlation of Levels | -0.18 | -0.20 | -0.28 | -0.24 | -0.23 |
|  | Correlation of Slopes | -0.67 | -0.66 | -0.81 | -0.86 | -0.94 |
|  | Correlation of Residuals | 0.14 | 0.14 | 0.21 | 0.18 | 0.20 |
|  | N | 379 | 379 | 72 | 72 | 72 |
|  | occasions | 8 | 8 | 7 | 7 | 8 |
|  | parameters | 21 | 25 | 29 | 41 | 45 |
|  | LL | -4,878 | -4,877 | -2,147 | -2,113 | -2,175 |
|  | AIC | 9,798 | 9,805 | 4,352 | 4,308 | 4,439 |
|  | BIC | 9,881 | 9,903 | 4,418 | 4,401 | 4,542 |

## fas

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

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 | aehplus |
| ab | Covar (Levels) | -84.00 (457.25) .85 |
| ab | Covar (Slopes) | -6.28 (19.83) .75 |
| ab | Covar (Residuals) | -1.30 (74.41) .99 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 448.83 (103.35) <.01 |
| a | Slope | -30.09 (32.83) .36 |
| a | Level \* age | -5.25 (6.02) .38 |
| a | Level \* education | 5.25 (9.24) .57 |
| a | Level \* height | 2.68 (3.96) .50 |
| a | Level \* smoking | -31.45 (61.98) .61 |
| a | Level \* cardio | -23.77 (70.83) .74 |
| a | Level \* diabetes | -15.79 (55.07) .77 |
| a | Slope \* age | 0.44 (1.91) .82 |
| a | Slope \* education | -0.34 (2.49) .89 |
| a | Slope \* height | 0.40 (1.46) .78 |
| a | Slope \* smoking | 6.80 (15.82) .67 |
| a | Slope \* cardio | -0.26 (17.75) .99 |
| a | Slope \* diabetes | 0.05 (15.55) .99 |
| b | Level | 25.03 (7.40) <.01 |
| b | Slope | 1.33 (1.56) .40 |
| b | Level \* age | -0.04 (0.46) .93 |
| b | Level \* education | 1.62 (0.52) <.01 |
| b | Level \* height | -0.36 (0.30) .23 |
| b | Level \* smoking | 1.82 (4.25) .67 |
| b | Level \* cardio | 0.66 (7.36) .93 |
| b | Level \* diabetes | -5.58 (4.16) .18 |
| b | Slope \* age | 0.00 (0.07) .99 |
| b | Slope \* education | -0.15 (0.16) .34 |
| b | Slope \* height | 0.01 (0.07) .83 |
| b | Slope \* smoking | 0.08 (0.91) .93 |
| b | Slope \* cardio | -0.47 (1.34) .72 |
| b | Slope \* diabetes | -0.26 (0.79) .74 |
| a | Var (Level) | 13100.68 (6328.99) .04 |
| a | Var (Slope) | 200.08 (318.09) .53 |
| a | Var (Residual) | 3410.14 (480.58) <.01 |
| b | Var (Level) | 95.09 (39.59) .02 |
| b | Var (Slope) | 0.45 (0.84) .59 |
| b | Var (Residual) | 25.75 (3.79) <.01 |
| a | Covar (Level, Slope) | -1010.84 (1177.12) .39 |
| b | Covar (Level, Slope) | 0.56 (6.82) .93 |
|  | Correlation of Levels | -0.0753 |
|  | Correlation of Slopes | -0.6585 |
|  | Correlation of Residuals | -0.0044 |
|  | N | 72 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -2,505 |
|  | AIC | 5,093 |
|  | BIC | 5,186 |

## logic\_tot

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

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 | aehplus |
| ab | Covar (Levels) | -120.30 (194.44) .54 |
| ab | Covar (Slopes) | 5.46 (7.82) .48 |
| ab | Covar (Residuals) | 17.12 (36.61) .64 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 456.86 (98.09) <.01 |
| a | Slope | -34.53 (35.23) .33 |
| a | Level \* age | -5.34 (6.24) .39 |
| a | Level \* education | 4.78 (9.01) .60 |
| a | Level \* height | 2.37 (3.88) .54 |
| a | Level \* smoking | -36.01 (70.96) .61 |
| a | Level \* cardio | -22.74 (72.43) .75 |
| a | Level \* diabetes | -14.61 (54.25) .79 |
| a | Slope \* age | 0.54 (1.88) .78 |
| a | Slope \* education | -0.07 (2.57) .98 |
| a | Slope \* height | 0.62 (1.43) .66 |
| a | Slope \* smoking | 9.02 (17.20) .60 |
| a | Slope \* cardio | -1.98 (21.64) .93 |
| a | Slope \* diabetes | -0.22 (18.16) .99 |
| b | Level | 15.38 (5.50) <.01 |
| b | Slope | 1.77 (1.15) .12 |
| b | Level \* age | -0.08 (0.30) .78 |
| b | Level \* education | 0.86 (0.33) .01 |
| b | Level \* height | 0.09 (0.17) .57 |
| b | Level \* smoking | -0.08 (3.31) .98 |
| b | Level \* cardio | 1.25 (2.63) .63 |
| b | Level \* diabetes | 0.86 (3.04) .78 |
| b | Slope \* age | -0.09 (0.08) .23 |
| b | Slope \* education | -0.13 (0.07) .08 |
| b | Slope \* height | -0.02 (0.04) .64 |
| b | Slope \* smoking | -0.07 (0.72) .92 |
| b | Slope \* cardio | -0.49 (1.10) .66 |
| b | Slope \* diabetes | 0.82 (0.88) .35 |
| a | Var (Level) | 12861.00 (7065.11) .07 |
| a | Var (Slope) | 176.62 (314.29) .57 |
| a | Var (Residual) | 3460.22 (747.13) <.01 |
| b | Var (Level) | 28.36 (13.93) .04 |
| b | Var (Slope) | 0.38 (0.55) .50 |
| b | Var (Residual) | 13.52 (2.34) <.01 |
| a | Covar (Level, Slope) | -918.32 (1230.92) .46 |
| b | Covar (Level, Slope) | -1.25 (2.61) .63 |
|  | Correlation of Levels | -0.199 |
|  | Correlation of Slopes | 0.671 |
|  | Correlation of Residuals | 0.079 |
|  | N | 72 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -2,375 |
|  | AIC | 4,833 |
|  | BIC | 4,926 |

## mmse

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

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  
  
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Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
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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  
  
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Warning in FUN(newX[, i], ...): no non-missing arguments to min; returning Inf  
  
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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 | aehplus |
| ab | Covar (Levels) | 3.42 (39.86) .93 |
| ab | Covar (Slopes) | 1.42 (2.61) .59 |
| ab | Covar (Residuals) | 6.43 (8.88) .47 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 452.80 (113.83) <.01 |
| a | Slope | -33.81 (30.08) .26 |
| a | Level \* age | -5.17 (6.51) .43 |
| a | Level \* education | 5.14 (10.16) .61 |
| a | Level \* height | 2.46 (3.41) .47 |
| a | Level \* smoking | -33.55 (80.02) .68 |
| a | Level \* cardio | -27.24 (80.99) .74 |
| a | Level \* diabetes | -15.10 (65.94) .82 |
| a | Slope \* age | 0.49 (1.76) .78 |
| a | Slope \* education | -0.23 (2.64) .93 |
| a | Slope \* height | 0.54 (1.16) .64 |
| a | Slope \* smoking | 8.16 (14.71) .58 |
| a | Slope \* cardio | 1.41 (17.95) .94 |
| a | Slope \* diabetes | -0.09 (19.09) .99 |
| b | Level | 26.59 (0.70) <.01 |
| b | Slope | -0.02 (0.31) .95 |
| b | Level \* age | -0.00 (0.04) .97 |
| b | Level \* education | 0.07 (0.06) .24 |
| b | Level \* height | 0.00 (0.03) .98 |
| b | Level \* smoking | -0.22 (0.42) .60 |
| b | Level \* cardio | -0.03 (0.56) .95 |
| b | Level \* diabetes | -0.04 (0.45) .92 |
| b | Slope \* age | -0.00 (0.02) .84 |
| b | Slope \* education | -0.00 (0.02) .90 |
| b | Slope \* height | -0.00 (0.01) .93 |
| b | Slope \* smoking | 0.07 (0.14) .60 |
| b | Slope \* cardio | 0.02 (0.19) .90 |
| b | Slope \* diabetes | 0.01 (0.17) .94 |
| a | Var (Level) | 13498.16 (7104.04) .06 |
| a | Var (Slope) | 222.00 (310.45) .47 |
| a | Var (Residual) | 3440.49 (552.54) <.01 |
| b | Var (Level) | 0.30 (0.42) .48 |
| b | Var (Slope) | 0.01 (0.03) .72 |
| b | Var (Residual) | 0.67 (0.13) <.01 |
| a | Covar (Level, Slope) | -1146.23 (1383.22) .41 |
| b | Covar (Level, Slope) | 0.03 (0.11) .80 |
|  | Correlation of Levels | 0.054 |
|  | Correlation of Slopes | 0.906 |
|  | Correlation of Residuals | 0.134 |
|  | N | 72 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -1,861 |
|  | AIC | 3,805 |
|  | BIC | 3,898 |

## symbol

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

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

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

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|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | ae | aeh | aehplus | full |
| ab | Covar (Levels) | 202.38 (275.03) .46 | 254.31 (324.72) .43 | 22.35 (219.05) .92 | 6.90 (344.49) .98 | -11.37 (340.76) .97 |
| ab | Covar (Slopes) | 2.17 (6.18) .72 | 11.27 (11.71) .34 | -5.65 (15.36) .71 | 1.26 (13.53) .93 | -4.70 (22.26) .83 |
| ab | Covar (Residuals) | 14.26 (33.02) .67 | 5.07 (40.65) .90 | 17.96 (55.65) .75 | -23.96 (53.19) .65 | 16.72 (82.66) .84 |
| er | Corr (Levels) | --- | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- | --- |
| a | Level | 449.90 (33.34) <.01 | 439.83 (55.76) <.01 | 407.42 (64.29) <.01 | 457.18 (97.64) <.01 | 464.53 (143.13) <.01 |
| a | Slope | -14.85 (9.59) .12 | -12.82 (18.01) .48 | -26.04 (33.48) .44 | -34.05 (26.54) .20 | -26.95 (47.63) .57 |
| a | Level \* age | -4.76 (3.32) .15 | -4.45 (3.68) .23 | -4.66 (4.87) .34 | -5.51 (5.67) .33 | -5.39 (5.87) .36 |
| a | Level \* education | --- | 0.40 (5.41) .94 | 6.08 (6.40) .34 | 4.83 (8.19) .56 | 5.15 (10.03) .61 |
| a | Level \* height | --- | --- | 3.20 (2.81) .25 | 2.54 (3.58) .48 | 3.20 (3.90) .41 |
| a | Level \* smoking | --- | --- | --- | -38.90 (76.04) .61 | -35.26 (87.59) .69 |
| a | Level \* cardio | --- | --- | --- | -20.74 (72.43) .78 | -14.15 (84.51) .87 |
| a | Level \* diabetes | --- | --- | --- | -16.69 (51.98) .75 | -12.34 (59.41) .83 |
| a | Slope \* age | -0.24 (0.95) .80 | -0.40 (1.19) .74 | 0.35 (2.02) .86 | 0.57 (1.70) .74 | 0.39 (2.67) .88 |
| a | Slope \* education | --- | 0.05 (1.41) .97 | 0.22 (2.00) .91 | -0.13 (2.18) .95 | 0.17 (2.46) .94 |
| a | Slope \* height | --- | --- | -0.20 (1.07) .85 | 0.55 (1.15) .64 | -0.11 (1.59) .95 |
| a | Slope \* smoking | --- | --- | --- | 10.46 (17.99) .56 | 2.26 (22.21) .92 |
| a | Slope \* cardio | --- | --- | --- | -1.88 (24.54) .94 | -4.20 (47.52) .93 |
| a | Slope \* diabetes | --- | --- | --- | 1.36 (15.23) .93 | 1.49 (26.15) .95 |
| b | Level | 39.50 (1.32) <.01 | 38.47 (1.48) <.01 | 39.17 (4.82) <.01 | 40.48 (9.13) <.01 | 40.53 (9.49) <.01 |
| b | Slope | 0.47 (0.34) .16 | 1.05 (0.67) .12 | 0.68 (1.62) .68 | 0.66 (2.08) .75 | 0.49 (2.27) .83 |
| b | Level \* age | -0.29 (0.14) .04 | -0.26 (0.14) .06 | -0.20 (0.32) .53 | -0.18 (0.38) .64 | -0.18 (0.39) .64 |
| b | Level \* education | --- | -0.02 (0.08) .83 | 1.27 (0.58) .03 | 1.32 (0.81) .10 | 1.25 (0.74) .09 |
| b | Level \* height | --- | --- | 0.09 (0.25) .73 | 0.10 (0.23) .67 | 0.09 (0.26) .73 |
| b | Level \* smoking | --- | --- | --- | 0.42 (5.41) .94 | 0.13 (5.51) .98 |
| b | Level \* cardio | --- | --- | --- | -4.72 (5.51) .39 | -4.51 (6.34) .48 |
| b | Level \* diabetes | --- | --- | --- | -4.19 (4.86) .39 | -4.21 (4.69) .37 |
| b | Slope \* age | -0.06 (0.04) .11 | -0.07 (0.04) .09 | -0.02 (0.08) .83 | -0.02 (0.08) .82 | -0.02 (0.10) .87 |
| b | Slope \* education | --- | 0.01 (0.08) .91 | -0.14 (0.16) .39 | -0.17 (0.18) .34 | -0.14 (0.20) .50 |
| b | Slope \* height | --- | --- | 0.01 (0.06) .84 | 0.01 (0.07) .88 | 0.01 (0.08) .86 |
| b | Slope \* smoking | --- | --- | --- | -0.08 (0.98) .93 | 0.09 (1.10) .94 |
| b | Slope \* cardio | --- | --- | --- | 0.57 (1.62) .72 | 0.42 (1.71) .81 |
| b | Slope \* diabetes | --- | --- | --- | 0.19 (1.05) .86 | 0.14 (1.32) .91 |
| a | Var (Level) | 12660.93 (3253.44) <.01 | 11511.62 (3715.95) <.01 | 11004.88 (4343.89) .01 | 13294.09 (5899.23) .02 | 10422.16 (6299.55) .10 |
| a | Var (Slope) | 238.03 (126.63) .06 | 216.25 (303.90) .48 | 154.46 (356.16) .66 | 217.96 (300.61) .47 | 143.87 (587.66) .81 |
| a | Var (Residual) | 4727.66 (346.59) <.01 | 5679.66 (579.35) <.01 | 4601.12 (707.03) <.01 | 3478.41 (692.94) <.01 | 4614.54 (1247.23) <.01 |
| b | Var (Level) | 156.18 (16.60) <.01 | 147.53 (16.95) <.01 | 75.96 (27.20) <.01 | 69.21 (30.38) .02 | 69.55 (34.24) .04 |
| b | Var (Slope) | 1.44 (0.38) <.01 | 2.02 (0.88) .02 | 1.94 (1.40) .17 | 1.12 (0.96) .24 | 1.85 (1.81) .31 |
| b | Var (Residual) | 28.87 (1.38) <.01 | 28.37 (1.67) <.01 | 24.22 (3.16) <.01 | 25.64 (4.23) <.01 | 24.27 (4.44) <.01 |
| a | Covar (Level, Slope) | -883.37 (461.78) .06 | -693.83 (897.24) .44 | -394.50 (907.27) .66 | -1123.34 (1211.07) .35 | -365.61 (1543.45) .81 |
| b | Covar (Level, Slope) | -3.58 (2.42) .14 | -2.40 (3.71) .52 | -0.59 (4.64) .90 | 0.66 (4.91) .89 | -0.09 (5.94) .99 |
|  | Correlation of Levels | 0.144 | 0.195 | 0.024 | 0.0072 | -0.013 |
|  | Correlation of Slopes | 0.118 | 0.538 | -0.327 | 0.0805 | -0.288 |
|  | Correlation of Residuals | 0.039 | 0.013 | 0.054 | -0.0802 | 0.050 |
|  | N | 377 | 377 | 72 | 72 | 72 |
|  | occasions | 9 | 5 | 6 | 7 | 6 |
|  | parameters | 21 | 25 | 29 | 41 | 45 |
|  | LL | -6,302 | -5,301 | -2,420 | -2,504 | -2,416 |
|  | AIC | 12,646 | 10,651 | 4,898 | 5,090 | 4,922 |
|  | BIC | 12,728 | 10,750 | 4,964 | 5,183 | 5,024 |

## trailsb

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

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 | ae | aeh | full |
| ab | Covar (Levels) | -9.52 (1556.25) .99 | 956.14 (1283.00) .46 | 1129.70 (2255.92) .62 |
| ab | Covar (Slopes) | 20.77 (31.42) .51 | 11.70 (68.11) .86 | 20.02 (163.04) .90 |
| ab | Covar (Residuals) | 4.79 (289.00) .99 | -267.66 (634.01) .67 | -284.29 (1021.38) .78 |
| er | Corr (Levels) | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- |
| a | Level | 449.46 (48.72) <.01 | 413.57 (61.67) <.01 | 467.80 (151.55) <.01 |
| a | Slope | -16.65 (13.61) .22 | -29.16 (30.96) .35 | -29.38 (50.40) .56 |
| a | Level \* age | -4.54 (3.23) .16 | -4.87 (5.25) .35 | -5.54 (8.93) .54 |
| a | Level \* education | 1.16 (5.44) .83 | 5.80 (6.35) .36 | 4.81 (8.00) .55 |
| a | Level \* height | --- | 3.09 (3.19) .33 | 3.10 (4.75) .52 |
| a | Level \* smoking | --- | --- | -35.41 (103.71) .73 |
| a | Level \* cardio | --- | --- | -18.28 (77.44) .81 |
| a | Level \* diabetes | --- | --- | 0.61 (77.01) .99 |
| a | Slope \* age | -0.19 (0.88) .83 | 0.43 (2.02) .83 | 0.44 (3.12) .89 |
| a | Slope \* education | -0.01 (1.19) .99 | 0.40 (1.97) .84 | 0.38 (2.20) .86 |
| a | Slope \* height | --- | -0.12 (1.03) .91 | -0.07 (1.61) .97 |
| a | Slope \* smoking | --- | --- | 3.21 (24.96) .90 |
| a | Slope \* cardio | --- | --- | -1.17 (24.21) .96 |
| a | Slope \* diabetes | --- | --- | -5.08 (33.70) .88 |
| b | Level | 131.50 (9.85) <.01 | 159.64 (30.56) <.01 | 160.29 (70.48) .02 |
| b | Slope | 2.26 (3.10) .47 | -0.02 (9.19) .99 | 2.94 (17.25) .86 |
| b | Level \* age | 1.90 (0.82) .02 | 1.11 (2.27) .62 | 1.09 (3.22) .74 |
| b | Level \* education | 0.29 (0.37) .43 | -6.50 (3.32) .05 | -6.31 (5.10) .22 |
| b | Level \* height | --- | -0.66 (1.39) .64 | -0.57 (2.04) .78 |
| b | Level \* smoking | --- | --- | -3.09 (45.38) .95 |
| b | Level \* cardio | --- | --- | 24.23 (34.58) .48 |
| b | Level \* diabetes | --- | --- | 3.59 (25.26) .89 |
| b | Slope \* age | 0.14 (0.20) .49 | 0.19 (0.57) .74 | 0.10 (0.74) .89 |
| b | Slope \* education | -0.18 (0.34) .60 | 0.30 (0.82) .71 | 0.17 (1.08) .88 |
| b | Slope \* height | --- | 0.42 (0.32) .19 | 0.38 (0.48) .43 |
| b | Slope \* smoking | --- | --- | -1.94 (11.21) .86 |
| b | Slope \* cardio | --- | --- | -9.06 (11.69) .44 |
| b | Slope \* diabetes | --- | --- | 4.74 (7.00) .50 |
| a | Var (Level) | 12270.35 (3595.63) <.01 | 12393.75 (4933.39) .01 | 11597.20 (5921.83) .05 |
| a | Var (Slope) | 203.13 (111.33) .07 | 244.43 (352.12) .49 | 226.60 (632.86) .72 |
| a | Var (Residual) | 4774.16 (348.56) <.01 | 4309.09 (496.84) <.01 | 4301.06 (654.03) <.01 |
| b | Var (Level) | 3968.80 (636.03) <.01 | 1632.33 (733.60) .03 | 1526.70 (862.93) .08 |
| b | Var (Slope) | 35.32 (14.12) .01 | 34.69 (29.95) .25 | 13.39 (37.07) .72 |
| b | Var (Residual) | 1554.35 (56.69) <.01 | 1652.60 (158.73) <.01 | 1674.38 (205.62) <.01 |
| a | Covar (Level, Slope) | -760.94 (503.61) .13 | -812.64 (1069.79) .45 | -695.74 (1812.17) .70 |
| b | Covar (Level, Slope) | -147.56 (91.75) .11 | -106.16 (171.63) .54 | -67.38 (195.07) .73 |
|  | Correlation of Levels | -0.0014 | 0.21 | 0.27 |
|  | Correlation of Slopes | 0.2452 | 0.13 | 0.36 |
|  | Correlation of Residuals | 0.0018 | -0.10 | -0.11 |
|  | N | 368 | 72 | 72 |
|  | occasions | 9 | 8 | 8 |
|  | parameters | 25 | 29 | 45 |
|  | LL | -8,270 | -3,279 | -3,271 |
|  | AIC | 16,590 | 6,616 | 6,631 |
|  | BIC | 16,688 | 6,682 | 6,734 |

## waisvocab

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

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

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| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 83.95 (266.36) .75 |
| ab | Covar (Slopes) | 8.26 (15.29) .59 |
| ab | Covar (Residuals) | -12.48 (71.63) .86 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 446.64 (99.26) <.01 |
| a | Slope | -28.48 (39.16) .47 |
| a | Level \* age | -5.14 (7.89) .52 |
| a | Level \* education | 5.44 (8.22) .51 |
| a | Level \* height | 2.78 (3.35) .41 |
| a | Level \* smoking | -32.63 (68.90) .64 |
| a | Level \* cardio | -21.65 (83.24) .80 |
| a | Level \* diabetes | -14.85 (58.90) .80 |
| a | Slope \* age | 0.35 (2.52) .89 |
| a | Slope \* education | -0.42 (2.44) .86 |
| a | Slope \* height | 0.33 (1.22) .79 |
| a | Slope \* smoking | 7.58 (16.50) .65 |
| a | Slope \* cardio | -1.89 (18.12) .92 |
| a | Slope \* diabetes | -0.62 (19.97) .97 |
| b | Level | 33.85 (6.89) <.01 |
| b | Slope | 1.52 (2.29) .51 |
| b | Level \* age | 0.39 (0.36) .28 |
| b | Level \* education | 1.59 (0.57) .01 |
| b | Level \* height | 0.03 (0.30) .92 |
| b | Level \* smoking | -1.36 (4.00) .73 |
| b | Level \* cardio | -4.18 (11.15) .71 |
| b | Level \* diabetes | 1.26 (4.67) .79 |
| b | Slope \* age | -0.10 (0.09) .29 |
| b | Slope \* education | -0.09 (0.18) .63 |
| b | Slope \* height | -0.03 (0.08) .74 |
| b | Slope \* smoking | 0.08 (1.19) .95 |
| b | Slope \* cardio | 0.15 (2.47) .95 |
| b | Slope \* diabetes | -0.41 (1.25) .74 |
| a | Var (Level) | 12975.71 (7229.06) .07 |
| a | Var (Slope) | 201.13 (316.58) .52 |
| a | Var (Residual) | 3382.29 (556.56) <.01 |
| b | Var (Level) | 44.82 (33.02) .17 |
| b | Var (Slope) | 0.41 (1.84) .82 |
| b | Var (Residual) | 40.84 (4.96) <.01 |
| a | Covar (Level, Slope) | -986.44 (1199.61) .41 |
| b | Covar (Level, Slope) | -1.22 (7.89) .88 |
|  | Correlation of Levels | 0.110 |
|  | Correlation of Slopes | 0.907 |
|  | Correlation of Residuals | -0.034 |
|  | N | 72 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -2,537 |
|  | AIC | 5,156 |
|  | BIC | 5,250 |

## word\_im

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

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

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| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | -104.53 (135.95) .44 |
| ab | Covar (Slopes) | 0.97 (8.38) .91 |
| ab | Covar (Residuals) | -7.70 (41.14) .85 |
| er | Corr (Levels) | --- |
| er | Corr (Slopes) | --- |
| er | Corr (Residuals) | --- |
| a | Level | 449.55 (84.58) <.01 |
| a | Slope | -30.32 (29.44) .30 |
| a | Level \* age | -5.07 (5.39) .35 |
| a | Level \* education | 5.19 (8.85) .56 |
| a | Level \* height | 2.74 (3.88) .48 |
| a | Level \* smoking | -35.04 (56.82) .54 |
| a | Level \* cardio | -23.28 (74.16) .75 |
| a | Level \* diabetes | -13.98 (60.54) .82 |
| a | Slope \* age | 0.32 (2.10) .88 |
| a | Slope \* education | -0.28 (2.28) .90 |
| a | Slope \* height | 0.36 (1.66) .83 |
| a | Slope \* smoking | 8.99 (15.01) .55 |
| a | Slope \* cardio | -0.93 (20.93) .96 |
| a | Slope \* diabetes | -1.02 (17.87) .95 |
| b | Level | 34.65 (2.99) <.01 |
| b | Slope | -0.02 (1.22) .99 |
| b | Level \* age | -0.22 (0.19) .24 |
| b | Level \* education | 0.06 (0.24) .80 |
| b | Level \* height | -0.13 (0.12) .28 |
| b | Level \* smoking | -1.84 (1.93) .34 |
| b | Level \* cardio | 1.42 (3.38) .68 |
| b | Level \* diabetes | -0.77 (3.00) .80 |
| b | Slope \* age | -0.03 (0.06) .63 |
| b | Slope \* education | -0.01 (0.08) .88 |
| b | Slope \* height | -0.03 (0.04) .45 |
| b | Slope \* smoking | 0.25 (0.61) .68 |
| b | Slope \* cardio | 0.12 (1.18) .92 |
| b | Slope \* diabetes | 0.22 (0.68) .74 |
| a | Var (Level) | 12974.88 (6225.91) .04 |
| a | Var (Slope) | 189.58 (259.16) .46 |
| a | Var (Residual) | 3437.01 (511.92) <.01 |
| b | Var (Level) | 8.95 (7.39) .23 |
| b | Var (Slope) | 0.08 (0.31) .80 |
| b | Var (Residual) | 10.63 (1.90) <.01 |
| a | Covar (Level, Slope) | -980.51 (1067.92) .36 |
| b | Covar (Level, Slope) | 0.52 (1.47) .73 |
|  | Correlation of Levels | -0.31 |
|  | Correlation of Slopes | 0.25 |
|  | Correlation of Residuals | -0.04 |
|  | N | 72 |
|  | occasions | 7 |
|  | parameters | 41 |
|  | LL | -2,338 |
|  | AIC | 4,758 |
|  | BIC | 4,852 |

## Summary

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

Computed correlations:

label

process\_b

a

ae

aeh

aehplus

full

Correlation of Levels

block

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-0.13

-0.12

-0.15

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Correlation of Levels

bnt

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-0.10

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Correlation of Levels

categories

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-0.17

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Correlation of Levels

digit\_tot

-0.18

-0.20

-0.28

-0.24

-0.23

Correlation of Levels

fas

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-0.08

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Correlation of Levels

logic\_tot

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-0.20

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Correlation of Levels

mmse

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0.05

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Correlation of Levels

symbol

0.14

0.20

0.02

0.01

-0.01

Correlation of Levels

trailsb

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-0.00

0.21

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0.27

Correlation of Levels

waisvocab

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0.11

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Correlation of Levels

word\_im

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-0.31

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label

process\_b

a

ae

aeh

aehplus

full

Correlation of Slopes

block

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-0.03

-0.05

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Correlation of Slopes

bnt

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-0.15

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Correlation of Slopes

categories

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-0.11

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Correlation of Slopes

digit\_tot

-0.67

-0.66

-0.81

-0.86

-0.94

Correlation of Slopes

fas

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-0.66

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Correlation of Slopes

logic\_tot

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0.67

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Correlation of Slopes

mmse

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0.91

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Correlation of Slopes

symbol

0.12

0.54

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0.08

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Correlation of Slopes

trailsb

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Correlation of Slopes

waisvocab

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Correlation of Slopes

word\_im

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label

process\_b

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aehplus

full

Correlation of Residuals

block

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Correlation of Residuals

bnt

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Correlation of Residuals

categories

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Correlation of Residuals

digit\_tot

0.14

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Correlation of Residuals

fas

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Correlation of Residuals

logic\_tot

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Correlation of Residuals

mmse

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Correlation of Residuals

symbol

0.04

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-0.08

0.05

Correlation of Residuals

trailsb

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-0.11

Correlation of Residuals

waisvocab

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-0.03

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Correlation of Residuals

word\_im

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P-values for corresponding covariances:

label

process\_b

a

ae

aeh

aehplus

full

Covariance of Levels

block

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0.37

0.47

0.72

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Covariance of Levels

bnt

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0.83

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Covariance of Levels

categories

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0.64

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Covariance of Levels

digit\_tot

0.38

0.34

0.35

0.49

0.57

Covariance of Levels

fas

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0.85

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Covariance of Levels

logic\_tot

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0.54

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Covariance of Levels

mmse

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0.93

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Covariance of Levels

symbol

0.46

0.43

0.92

0.98

0.97

Covariance of Levels

trailsb

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0.99

0.46

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0.62

Covariance of Levels

waisvocab

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0.75

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Covariance of Levels

word\_im

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0.44

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label

process\_b

a

ae

aeh

aehplus

full

Covariance of Slopes

block

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0.96

0.99

0.98

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Covariance of Slopes

bnt

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0.92

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Covariance of Slopes

categories

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0.92

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Covariance of Slopes

digit\_tot

0.42

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0.22

0.52

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Covariance of Slopes

fas

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0.75

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Covariance of Slopes

logic\_tot

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0.48

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Covariance of Slopes

mmse

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0.59

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Covariance of Slopes

symbol

0.72

0.34

0.71

0.93

0.83

Covariance of Slopes

trailsb

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0.90

Covariance of Slopes

waisvocab

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Covariance of Slopes

word\_im

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0.91

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label

process\_b

a

ae

aeh

aehplus

full

Covariance of Residuals

block

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0.76

0.45

0.89

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Covariance of Residuals

bnt

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0.73

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Covariance of Residuals

categories

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0.77

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Covariance of Residuals

digit\_tot

0.06

0.07

0.14

0.30

0.31

Covariance of Residuals

fas

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0.99

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Covariance of Residuals

logic\_tot

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0.64

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Covariance of Residuals

mmse

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0.47

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Covariance of Residuals

symbol

0.67

0.90

0.75

0.65

0.84

Covariance of Residuals

trailsb

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0.99

0.67

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0.78

Covariance of Residuals

waisvocab

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0.86

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Covariance of Residuals

word\_im

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0.85

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#Session Info

R version 3.3.1 (2016-06-21)  
Platform: x86\_64-w64-mingw32/x64 (64-bit)  
Running under: Windows >= 8 x64 (build 9200)  
  
locale:  
[1] LC\_COLLATE=English\_United States.1252 LC\_CTYPE=English\_United States.1252 LC\_MONETARY=English\_United States.1252  
[4] LC\_NUMERIC=C LC\_TIME=English\_United States.1252   
  
attached base packages:  
[1] stats graphics grDevices utils datasets methods base   
  
other attached packages:  
[1] knitr\_1.14 ggplot2\_2.2.0 IalsaSynthesis\_0.1.8.9000 MplusAutomation\_0.6-4   
[5] magrittr\_1.5   
  
loaded via a namespace (and not attached):  
 [1] Rcpp\_0.12.7 formatR\_1.4 plyr\_1.8.4 highr\_0.6 tools\_3.3.1 boot\_1.3-18   
 [7] digest\_0.6.10 evaluate\_0.10 tibble\_1.2 gtable\_0.2.0 lattice\_0.20-34 texreg\_1.36.7   
[13] DBI\_0.5-1 yaml\_2.1.13 proto\_0.3-10 coda\_0.18-1 dplyr\_0.5.0 stringr\_1.1.0   
[19] htmlwidgets\_0.7 grid\_3.3.1 DT\_0.2 data.table\_1.9.6 R6\_2.2.0 rmarkdown\_1.1   
[25] gsubfn\_0.6-6 pander\_0.6.0 tidyr\_0.6.0 reshape2\_1.4.1 readr\_1.0.0 scales\_0.4.1   
[31] htmltools\_0.3.5 rsconnect\_0.5 assertthat\_0.1 testit\_0.5 colorspace\_1.2-7 xtable\_1.8-2   
[37] stringi\_1.1.2 lazyeval\_0.2.0 munsell\_0.4.3 chron\_2.3-47