OCTO : Seed Report

Date: 2016-10-10

Table of Contents

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

# Available models

Study **OCTO** contains the following outcome pairs: NULL

|  |  |  |
| --- | --- | --- |
| process\_a | process\_b | n\_models |
| pef | block | 8 |
| pef | digit\_b | 6 |
| pef | digit\_f | 6 |
| pef | fig\_logic | 4 |
| pef | mir | 4 |
| pef | prose\_im | 8 |
| pef | symbol | 6 |

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

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

# female

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| process | label | block | digit\_b | digit\_f | prose\_im | symbol | mean(sd) |
| a | Level | 328.19(8.75), <.01 | 327.58(8.82), <.01 | 327.37(8.78), <.01 | 327.36(8.75), <.01 | 327.75(8.80), <.01 | 327.65(0.34) |
| a | Slope | -7.21(1.40), <.01 | -7.04(1.42), <.01 | -7.01(1.42), <.01 | -7.03(1.41), <.01 | -7.13(1.40), <.01 | -7.08(0.09) |
| a | Level \* age | -6.38(1.88), <.01 | -6.30(1.90), <.01 | -6.15(1.89), <.01 | -6.21(1.90), <.01 | -6.37(1.88), <.01 | -6.28(0.10) |
| a | Level \* education | 5.51(2.65), .04 | 5.77(2.65), .03 | 5.56(2.66), .04 | 5.76(2.67), .03 | 5.64(2.69), .04 | 5.65(0.12) |
| a | Level \* height | 2.71(0.99), .01 | 2.61(0.99), .01 | 2.63(0.99), .01 | 2.63(0.99), .01 | 2.68(0.98), .01 | 2.65(0.04) |
| a | Level \* smoking | -35.17(12.79), .01 | -34.62(12.73), .01 | -34.95(12.81), .01 | -35.27(12.76), .01 | -35.14(12.64), <.01 | -35.03(0.26) |
| a | Level \* cardio | 2.72(10.13), .79 | 2.15(10.19), .83 | 3.03(10.23), .77 | 2.73(10.15), .79 | 2.08(10.17), .84 | 2.54(0.41) |
| a | Level \* diabetes | 4.02(16.34), .81 | 3.28(16.52), .84 | 3.40(16.72), .84 | 1.95(16.70), .91 | 3.77(16.59), .82 | 3.28(0.80) |
| a | Slope \* age | 0.81(0.36), .02 | 0.95(0.36), .01 | 0.98(0.35), .01 | 0.93(0.37), .01 | 0.97(0.35), <.01 | 0.93(0.07) |
| a | Slope \* education | -0.16(0.45), .72 | -0.26(0.46), .57 | -0.26(0.46), .56 | -0.24(0.46), .60 | -0.19(0.47), .69 | -0.22(0.05) |
| a | Slope \* height | -0.22(0.19), .25 | -0.21(0.20), .27 | -0.21(0.20), .29 | -0.21(0.20), .29 | -0.21(0.20), .28 | -0.21(0.00) |
| a | Slope \* smoking | -3.73(2.06), .07 | -3.37(2.04), .10 | -3.28(2.09), .12 | -3.36(2.03), .10 | -3.19(2.05), .12 | -3.38(0.20) |
| a | Slope \* cardio | -2.74(1.61), .09 | -2.70(1.68), .11 | -2.82(1.69), .09 | -2.75(1.66), .10 | -2.84(1.69), .09 | -2.77(0.06) |
| a | Slope \* diabetes | 3.44(3.31), .30 | 4.09(3.66), .26 | 3.67(3.60), .31 | 4.10(3.58), .25 | 3.83(3.48), .27 | 3.83(0.28) |
| b | Level | 14.81(0.75), <.01 | 3.86(0.13), <.01 | 5.67(0.12), <.01 | 11.15(0.40), <.01 | 28.46(1.19), <.01 | --- |
| b | Slope | -0.19(0.10), .07 | -0.08(0.03), <.01 | -0.07(0.02), <.01 | -0.04(0.07), .53 | -0.10(0.19), .62 | --- |
| b | Level \* age | -0.59(0.14), <.01 | -0.10(0.02), <.01 | -0.08(0.02), <.01 | -0.25(0.08), <.01 | -0.80(0.26), <.01 | --- |
| b | Level \* education | 0.78(0.19), <.01 | 0.12(0.04), <.01 | 0.14(0.03), <.01 | 0.46(0.10), <.01 | 1.66(0.37), <.01 | --- |
| b | Level \* height | -0.02(0.06), .80 | -0.00(0.01), .75 | 0.01(0.01), .46 | 0.01(0.04), .76 | 0.08(0.11), .48 | --- |
| b | Level \* smoking | -1.36(0.96), .16 | -0.32(0.19), .09 | -0.15(0.14), .28 | 0.26(0.49), .60 | -0.69(1.67), .68 | --- |
| b | Level \* cardio | -0.22(0.80), .78 | 0.06(0.14), .69 | 0.05(0.12), .67 | 0.21(0.43), .61 | 0.94(1.27), .46 | --- |
| b | Level \* diabetes | 1.66(2.31), .47 | -0.10(0.29), .75 | 0.08(0.26), .76 | -1.80(1.14), .11 | -2.41(3.15), .44 | --- |
| b | Slope \* age | 0.01(0.02), .73 | 0.01(0.01), .14 | 0.00(0.00), .52 | 0.02(0.02), .14 | 0.00(0.04), .98 | --- |
| b | Slope \* education | -0.04(0.03), .19 | 0.00(0.01), .98 | -0.01(0.00), .01 | -0.04(0.02), .03 | -0.05(0.06), .43 | --- |
| b | Slope \* height | 0.01(0.01), .10 | 0.00(0.00), .57 | -0.00(0.00), .38 | 0.01(0.01), .37 | 0.01(0.02), .43 | --- |
| b | Slope \* smoking | 0.06(0.14), .67 | 0.04(0.03), .12 | 0.05(0.03), .08 | -0.13(0.10), .18 | -0.30(0.27), .27 | --- |
| b | Slope \* cardio | -0.18(0.12), .12 | -0.04(0.03), .23 | -0.00(0.02), .84 | -0.06(0.09), .47 | -0.78(0.19), <.01 | --- |
| b | Slope \* diabetes | 0.07(0.20), .71 | 0.05(0.06), .38 | 0.01(0.05), .91 | 0.11(0.19), .56 | 1.76(0.44), <.01 | --- |
| a | Var (Level) | 4208.44(502.14), <.01 | 4241.11(510.56), <.01 | 4245.53(511.12), <.01 | 4267.99(513.74), <.01 | 4257.36(501.41), <.01 | 4244.09(22.52) |
| a | Var (Slope) | 26.21(14.79), .08 | 29.10(16.04), .07 | 29.67(15.84), .06 | 29.02(16.16), .07 | 28.33(14.13), .04 | 28.46(1.35) |
| a | Var (Residual) | 2131.44(186.35), <.01 | 2111.34(184.87), <.01 | 2113.16(184.42), <.01 | 2107.34(186.01), <.01 | 2110.74(182.56), <.01 | 2114.80(9.54) |
| a | Covar (Level, Slope) | -144.55(83.22), .08 | -159.22(86.13), .06 | -166.11(86.49), .06 | -160.95(87.45), .07 | -159.72(81.41), .05 | -158.11(8.06) |
| b | Var (Level) | 30.25(3.13), <.01 | 0.52(0.12), <.01 | 0.55(0.07), <.01 | 7.80(1.04), <.01 | 67.85(7.76), <.01 | --- |
| b | Var (Slope) | 0.15(0.08), .05 | 0.00(0.00), .11 | 0.01(0.00), .04 | 0.08(0.03), .01 | 0.41(0.13), <.01 | --- |
| b | Var (Residual) | 10.94(0.83), <.01 | 1.18(0.09), <.01 | 0.61(0.04), <.01 | 4.32(0.38), <.01 | 27.74(2.32), <.01 | --- |
| b | Covar (Level, Slope) | -0.83(0.40), .04 | -0.01(0.01), .31 | -0.04(0.01), <.01 | -0.40(0.15), .01 | -2.21(0.89), .01 | --- |
| ab | Covar (Levels) | 83.65(32.97), .01 | 8.74(5.74), .13 | -0.26(4.91), .96 | 28.79(16.85), .09 | 202.30(47.72), <.01 | --- |
| ab | Covar (Slopes) | 0.04(0.68), .96 | 0.04(0.12), .76 | -0.12(0.12), .31 | -0.08(0.54), .88 | 2.24(1.04), .03 | --- |
| ab | Covar (Residuals) | 22.75(9.67), .02 | 0.82(2.44), .74 | 0.45(1.90), .81 | 7.21(5.67), .20 | 8.29(13.50), .54 | --- |
|  | Correlation of Levels | 0.234 | 0.187 | -0.0054 | 0.158 | 0.376 | 0.19(0.14) |
|  | Correlation of Slopes | 0.018 | 0.153 | -0.2939 | -0.051 | 0.659 | 0.10(0.35) |
|  | Correlation of Residuals | 0.149 | 0.017 | 0.0124 | 0.076 | 0.034 | 0.06(0.06) |
|  | N | 271 | 275 | 275 | 267 | 263 | 270.20(5.22) |
|  | occasions | 5 | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -6,356 | -5,434 | -5,192 | -5,845 | -6,368 | -5,839( 531) |
|  | AIC | 12,794 | 10,951 | 10,465 | 11,773 | 12,817 | 11,760(1,063) |
|  | BIC | 12,941 | 11,099 | 10,614 | 11,920 | 12,964 | 11,908(1,062) |

## block

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus | full | mean(sd) |
| a | Level | 312.13(7.11), <.01 | 318.41(7.77), <.01 | 328.19(8.75), <.01 | 330.41(20.45), <.01 | 322.28(8.54) |
| a | Slope | -8.86(1.10), <.01 | -9.21(1.12), <.01 | -7.21(1.40), <.01 | -7.68(3.27), .02 | -8.24(0.95) |
| a | Level \* age | -6.37(1.91), <.01 | -5.57(2.02), .01 | -6.38(1.88), <.01 | -6.74(1.88), <.01 | -6.27(0.49) |
| a | Level \* education | --- | 3.09(2.51), .22 | 5.51(2.65), .04 | 7.78(3.99), .05 | 5.46(2.34) |
| a | Level \* height | --- | 2.62(1.06), .01 | 2.71(0.99), .01 | --- | 2.66(0.06) |
| a | Level \* smoking | --- | --- | -35.17(12.79), .01 | -20.00(6.33), <.01 | -27.59(10.73) |
| a | Level \* cardio | --- | --- | 2.72(10.13), .79 | --- | 2.72(NA) |
| a | Level \* diabetes | --- | --- | 4.02(16.34), .81 | --- | 4.02(NA) |
| a | Slope \* age | 0.96(0.36), .01 | 0.87(0.35), .01 | 0.81(0.36), .02 | 0.83(0.36), .02 | 0.87(0.07) |
| a | Slope \* education | --- | -0.31(0.38), .41 | -0.16(0.45), .72 | 0.04(0.65), .95 | -0.14(0.17) |
| a | Slope \* height | --- | -0.24(0.20), .24 | -0.22(0.19), .25 | --- | -0.23(0.01) |
| a | Slope \* smoking | --- | --- | -3.73(2.06), .07 | -1.83(1.16), .11 | -2.78(1.34) |
| a | Slope \* cardio | --- | --- | -2.74(1.61), .09 | --- | -2.74(NA) |
| a | Slope \* diabetes | --- | --- | 3.44(3.31), .30 | --- | 3.44(NA) |
| b | Level | 14.34(0.58), <.01 | 14.35(0.66), <.01 | 14.81(0.75), <.01 | 17.75(1.66), <.01 | 15.31(1.64) |
| b | Slope | -0.27(0.08), <.01 | -0.25(0.09), <.01 | -0.19(0.10), .07 | -0.64(0.26), .01 | -0.34(0.20) |
| b | Level \* age | -0.61(0.14), <.01 | -0.55(0.16), <.01 | -0.59(0.14), <.01 | -0.57(0.14), <.01 | -0.58(0.03) |
| b | Level \* education | --- | 0.70(0.21), <.01 | 0.78(0.19), <.01 | 0.90(0.28), <.01 | 0.79(0.10) |
| b | Level \* height | --- | -0.01(0.07), .85 | -0.02(0.06), .80 | --- | -0.01(0.00) |
| b | Level \* smoking | --- | --- | -1.36(0.96), .16 | -1.14(0.47), .02 | -1.25(0.16) |
| b | Level \* cardio | --- | --- | -0.22(0.80), .78 | --- | -0.22(NA) |
| b | Level \* diabetes | --- | --- | 1.66(2.31), .47 | --- | 1.66(NA) |
| b | Slope \* age | 0.00(0.02), .92 | 0.00(0.02), .81 | 0.01(0.02), .73 | 0.00(0.02), .99 | 0.00(0.00) |
| b | Slope \* education | --- | -0.04(0.04), .32 | -0.04(0.03), .19 | -0.02(0.05), .70 | -0.03(0.01) |
| b | Slope \* height | --- | 0.01(0.01), .10 | 0.01(0.01), .10 | --- | 0.01(0.00) |
| b | Slope \* smoking | --- | --- | 0.06(0.14), .67 | 0.09(0.08), .28 | 0.08(0.02) |
| b | Slope \* cardio | --- | --- | -0.18(0.12), .12 | --- | -0.18(NA) |
| b | Slope \* diabetes | --- | --- | 0.07(0.20), .71 | --- | 0.07(NA) |
| a | Var (Level) | 4810.25(557.67), <.01 | 4414.60(523.24), <.01 | 4208.44(502.14), <.01 | 4465.51(547.54), <.01 | 4474.70(249.79) |
| a | Var (Slope) | 32.16(15.87), .04 | 29.50(15.72), .06 | 26.21(14.79), .08 | 28.34(15.24), .06 | 29.05(2.48) |
| a | Var (Residual) | 2116.72(185.76), <.01 | 2139.35(188.77), <.01 | 2131.44(186.35), <.01 | 2128.65(187.41), <.01 | 2129.04(9.38) |
| a | Covar (Level, Slope) | -157.51(97.50), .11 | -133.19(92.99), .15 | -144.55(83.22), .08 | -148.63(93.39), .11 | -145.97(10.09) |
| b | Var (Level) | 34.18(3.29), <.01 | 30.61(3.30), <.01 | 30.25(3.13), <.01 | 30.53(3.18), <.01 | 31.39(1.86) |
| b | Var (Slope) | 0.17(0.07), .01 | 0.16(0.07), .03 | 0.15(0.08), .05 | 0.16(0.07), .02 | 0.16(0.01) |
| b | Var (Residual) | 10.74(0.80), <.01 | 10.95(0.84), <.01 | 10.94(0.83), <.01 | 10.75(0.80), <.01 | 10.84(0.12) |
| b | Covar (Level, Slope) | -0.99(0.38), .01 | -0.86(0.38), .02 | -0.83(0.40), .04 | -0.82(0.37), .03 | -0.88(0.08) |
| ab | Covar (Levels) | 116.45(37.13), <.01 | 91.86(35.32), .01 | 83.65(32.97), .01 | 88.69(34.78), .01 | 95.16(14.59) |
| ab | Covar (Slopes) | 0.26(0.68), .70 | 0.27(0.64), .68 | 0.04(0.68), .96 | 0.14(0.70), .84 | 0.18(0.11) |
| ab | Covar (Residuals) | 22.30(9.42), .02 | 23.17(9.72), .02 | 22.75(9.67), .02 | 21.56(9.44), .02 | 22.45(0.69) |
|  | Correlation of Levels | 0.29 | 0.25 | 0.234 | 0.240 | 0.25(0.02) |
|  | Correlation of Slopes | 0.11 | 0.12 | 0.018 | 0.065 | 0.08(0.05) |
|  | Correlation of Residuals | 0.15 | 0.15 | 0.149 | 0.143 | 0.15(0.00) |
|  | N | 293 | 272 | 271 | 289 | 281.25(11.38) |
|  | occasions | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 21 | NA | 41 | 37 | 33.00(10.58) |
|  | LL | -6,578 | -6,378 | -6,356 | -6,514 | -6,456(107) |
|  | AIC | 13,198 | 12,814 | 12,794 | 13,101 | 12,977(204) |
|  | BIC | 13,275 | 12,919 | 12,941 | 13,237 | 13,093(189) |

## digit\_b

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus | mean(sd) |
| a | Level | 310.92(7.16), <.01 | 317.61(7.89), <.01 | 327.58(8.82), <.01 | 318.70(8.39) |
| a | Slope | -8.50(1.10), <.01 | -8.93(1.11), <.01 | -7.04(1.42), <.01 | -8.16(0.99) |
| a | Level \* age | -5.83(1.93), <.01 | -5.45(2.07), .01 | -6.30(1.90), <.01 | -5.86(0.43) |
| a | Level \* education | --- | 3.44(2.53), .17 | 5.77(2.65), .03 | 4.61(1.65) |
| a | Level \* height | --- | 2.53(1.06), .02 | 2.61(0.99), .01 | 2.57(0.06) |
| a | Level \* smoking | --- | --- | -34.62(12.73), .01 | -34.62(NA) |
| a | Level \* cardio | --- | --- | 2.15(10.19), .83 | 2.15(NA) |
| a | Level \* diabetes | --- | --- | 3.28(16.52), .84 | 3.28(NA) |
| a | Slope \* age | 1.08(0.36), <.01 | 1.00(0.34), <.01 | 0.95(0.36), .01 | 1.01(0.07) |
| a | Slope \* education | --- | -0.38(0.38), .32 | -0.26(0.46), .57 | -0.32(0.08) |
| a | Slope \* height | --- | -0.23(0.21), .27 | -0.21(0.20), .27 | -0.22(0.01) |
| a | Slope \* smoking | --- | --- | -3.37(2.04), .10 | -3.37(NA) |
| a | Slope \* cardio | --- | --- | -2.70(1.68), .11 | -2.70(NA) |
| a | Slope \* diabetes | --- | --- | 4.09(3.66), .26 | 4.09(NA) |
| b | Level | 3.73(0.10), <.01 | 3.79(0.12), <.01 | 3.86(0.13), <.01 | 3.80(0.06) |
| b | Slope | -0.08(0.02), <.01 | -0.09(0.02), <.01 | -0.08(0.03), <.01 | -0.08(0.00) |
| b | Level \* age | -0.07(0.02), <.01 | -0.09(0.03), <.01 | -0.10(0.02), <.01 | -0.09(0.01) |
| b | Level \* education | --- | 0.10(0.03), .01 | 0.12(0.04), <.01 | 0.11(0.02) |
| b | Level \* height | --- | -0.00(0.01), .75 | -0.00(0.01), .75 | -0.00(0.00) |
| b | Level \* smoking | --- | --- | -0.32(0.19), .09 | -0.32(NA) |
| b | Level \* cardio | --- | --- | 0.06(0.14), .69 | 0.06(NA) |
| b | Level \* diabetes | --- | --- | -0.10(0.29), .75 | -0.10(NA) |
| b | Slope \* age | 0.00(0.00), .40 | 0.01(0.01), .15 | 0.01(0.01), .14 | 0.01(0.00) |
| b | Slope \* education | --- | 0.00(0.01), .56 | 0.00(0.01), .98 | 0.00(0.00) |
| b | Slope \* height | --- | 0.00(0.00), .59 | 0.00(0.00), .57 | 0.00(0.00) |
| b | Slope \* smoking | --- | --- | 0.04(0.03), .12 | 0.04(NA) |
| b | Slope \* cardio | --- | --- | -0.04(0.03), .23 | -0.04(NA) |
| b | Slope \* diabetes | --- | --- | 0.05(0.06), .38 | 0.05(NA) |
| a | Var (Level) | 4826.43(560.12), <.01 | 4445.65(530.00), <.01 | 4241.11(510.56), <.01 | 4504.40(297.05) |
| a | Var (Slope) | 34.60(16.27), .03 | 32.53(16.56), .05 | 29.10(16.04), .07 | 32.08(2.78) |
| a | Var (Residual) | 2106.44(185.04), <.01 | 2119.80(185.45), <.01 | 2111.34(184.87), <.01 | 2112.52(6.76) |
| a | Covar (Level, Slope) | -173.90(97.72), .07 | -148.15(95.57), .12 | -159.22(86.13), .06 | -160.42(12.92) |
| b | Var (Level) | 0.59(0.13), <.01 | 0.53(0.15), <.01 | 0.52(0.12), <.01 | 0.54(0.04) |
| b | Var (Slope) | 0.00(0.00), .33 | 0.00(0.00), .29 | 0.00(0.00), .11 | 0.00(0.00) |
| b | Var (Residual) | 1.16(0.09), <.01 | 1.18(0.10), <.01 | 1.18(0.09), <.01 | 1.17(0.01) |
| b | Covar (Level, Slope) | -0.01(0.02), .39 | -0.02(0.02), .32 | -0.01(0.01), .31 | -0.02(0.00) |
| ab | Covar (Levels) | 10.77(6.50), .10 | 10.36(6.31), .10 | 8.74(5.74), .13 | 9.96(1.07) |
| ab | Covar (Slopes) | 0.02(0.18), .92 | 0.05(0.16), .77 | 0.04(0.12), .76 | 0.03(0.01) |
| ab | Covar (Residuals) | 0.33(2.56), .90 | 0.51(2.67), .85 | 0.82(2.44), .74 | 0.55(0.25) |
|  | Correlation of Levels | 0.2026 | 0.21 | 0.187 | 0.20(0.01) |
|  | Correlation of Slopes | 0.0559 | 0.18 | 0.153 | 0.13(0.07) |
|  | Correlation of Residuals | 0.0066 | 0.01 | 0.017 | 0.01(0.01) |
|  | N | 299 | 276 | 275 | 283.33(13.58) |
|  | occasions | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | 41 | 41.00(NA) |
|  | LL | -5,619 | -5,455 | -5,434 | -5,503(101) |
|  | AIC | 11,280 | 10,967 | 10,951 | 11,066(186) |
|  | BIC | 11,358 | 11,072 | 11,099 | 11,177(158) |

## digit\_f

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus | mean(sd) |
| a | Level | 317.58(7.80), <.01 | 317.58(7.80), <.01 | 327.37(8.78), <.01 | 320.84(5.65) |
| a | Slope | -8.87(1.11), <.01 | -8.87(1.11), <.01 | -7.01(1.42), <.01 | -8.25(1.08) |
| a | Level \* age | -5.27(2.06), .01 | -5.27(2.06), .01 | -6.15(1.89), <.01 | -5.56(0.51) |
| a | Level \* education | 3.15(2.52), .21 | 3.15(2.52), .21 | 5.56(2.66), .04 | 3.95(1.40) |
| a | Level \* height | 2.55(1.06), .02 | 2.55(1.06), .02 | 2.63(0.99), .01 | 2.58(0.05) |
| a | Level \* smoking | --- | --- | -34.95(12.81), .01 | -34.95(NA) |
| a | Level \* cardio | --- | --- | 3.03(10.23), .77 | 3.03(NA) |
| a | Level \* diabetes | --- | --- | 3.40(16.72), .84 | 3.40(NA) |
| a | Slope \* age | 1.02(0.34), <.01 | 1.02(0.34), <.01 | 0.98(0.35), .01 | 1.01(0.03) |
| a | Slope \* education | -0.38(0.38), .32 | -0.38(0.38), .32 | -0.26(0.46), .56 | -0.34(0.06) |
| a | Slope \* height | -0.23(0.21), .28 | -0.23(0.21), .28 | -0.21(0.20), .29 | -0.22(0.01) |
| a | Slope \* smoking | --- | --- | -3.28(2.09), .12 | -3.28(NA) |
| a | Slope \* cardio | --- | --- | -2.82(1.69), .09 | -2.82(NA) |
| a | Slope \* diabetes | --- | --- | 3.67(3.60), .31 | 3.67(NA) |
| b | Level | 5.66(0.11), <.01 | 5.66(0.11), <.01 | 5.67(0.12), <.01 | 5.66(0.01) |
| b | Slope | -0.06(0.02), <.01 | -0.06(0.02), <.01 | -0.07(0.02), <.01 | -0.07(0.01) |
| b | Level \* age | -0.08(0.02), <.01 | -0.08(0.02), <.01 | -0.08(0.02), <.01 | -0.08(0.00) |
| b | Level \* education | 0.13(0.03), <.01 | 0.13(0.03), <.01 | 0.14(0.03), <.01 | 0.13(0.01) |
| b | Level \* height | 0.01(0.01), .49 | 0.01(0.01), .49 | 0.01(0.01), .46 | 0.01(0.00) |
| b | Level \* smoking | --- | --- | -0.15(0.14), .28 | -0.15(NA) |
| b | Level \* cardio | --- | --- | 0.05(0.12), .67 | 0.05(NA) |
| b | Level \* diabetes | --- | --- | 0.08(0.26), .76 | 0.08(NA) |
| b | Slope \* age | 0.00(0.00), .65 | 0.00(0.00), .65 | 0.00(0.00), .52 | 0.00(0.00) |
| b | Slope \* education | -0.01(0.00), .05 | -0.01(0.00), .05 | -0.01(0.00), .01 | -0.01(0.00) |
| b | Slope \* height | -0.00(0.00), .40 | -0.00(0.00), .40 | -0.00(0.00), .38 | -0.00(0.00) |
| b | Slope \* smoking | --- | --- | 0.05(0.03), .08 | 0.05(NA) |
| b | Slope \* cardio | --- | --- | -0.00(0.02), .84 | -0.00(NA) |
| b | Slope \* diabetes | --- | --- | 0.01(0.05), .91 | 0.01(NA) |
| a | Var (Level) | 4452.36(532.25), <.01 | 4452.36(532.25), <.01 | 4245.53(511.12), <.01 | 4383.41(119.41) |
| a | Var (Slope) | 33.19(16.50), .04 | 33.19(16.50), .04 | 29.67(15.84), .06 | 32.02(2.04) |
| a | Var (Residual) | 2121.24(185.44), <.01 | 2121.24(185.44), <.01 | 2113.16(184.42), <.01 | 2118.55(4.66) |
| a | Covar (Level, Slope) | -156.21(95.74), .10 | -156.21(95.74), .10 | -166.11(86.49), .06 | -159.51(5.72) |
| b | Var (Level) | 0.55(0.07), <.01 | 0.55(0.07), <.01 | 0.55(0.07), <.01 | 0.55(0.00) |
| b | Var (Slope) | 0.01(0.00), .04 | 0.01(0.00), .04 | 0.01(0.00), .04 | 0.01(0.00) |
| b | Var (Residual) | 0.61(0.04), <.01 | 0.61(0.04), <.01 | 0.61(0.04), <.01 | 0.61(0.00) |
| b | Covar (Level, Slope) | -0.04(0.01), .01 | -0.04(0.01), .01 | -0.04(0.01), <.01 | -0.04(0.00) |
| ab | Covar (Levels) | 1.31(5.01), .79 | 1.31(5.01), .79 | -0.26(4.91), .96 | 0.79(0.91) |
| ab | Covar (Slopes) | -0.13(0.12), .29 | -0.13(0.12), .29 | -0.12(0.12), .31 | -0.13(0.00) |
| ab | Covar (Residuals) | 0.31(1.92), .87 | 0.31(1.92), .87 | 0.45(1.90), .81 | 0.36(0.08) |
|  | Correlation of Levels | 0.0266 | 0.0266 | -0.0054 | 0.02(0.02) |
|  | Correlation of Slopes | -0.2913 | -0.2913 | -0.2939 | -0.29(0.00) |
|  | Correlation of Residuals | 0.0086 | 0.0086 | 0.0124 | 0.01(0.00) |
|  | N | 276 | 276 | 275 | 275.67(0.58) |
|  | occasions | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | 41 | 41.00(NA) |
|  | LL | -5,211 | -5,211 | -5,192 | -5,205(11) |
|  | AIC | 10,480 | 10,480 | 10,465 | 10,475( 8) |
|  | BIC | 10,585 | 10,585 | 10,614 | 10,594(17) |

## fig\_logic

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | mean(sd) |
| a | Level | 311.71(7.14), <.01 | 318.23(7.80), <.01 | 314.97(4.61) |
| a | Slope | -8.61(1.11), <.01 | -8.98(1.12), <.01 | -8.80(0.26) |
| a | Level \* age | -5.98(1.92), <.01 | -5.44(2.05), .01 | -5.71(0.38) |
| a | Level \* education | --- | 3.23(2.51), .20 | 3.23(NA) |
| a | Level \* height | --- | 2.58(1.06), .01 | 2.58(NA) |
| a | Level \* smoking | --- | --- | --,p= ---- |
| a | Level \* cardio | --- | --- | --,p= ---- |
| a | Level \* diabetes | --- | --- | --,p= ---- |
| a | Slope \* age | 1.10(0.36), <.01 | 1.00(0.34), <.01 | 1.05(0.07) |
| a | Slope \* education | --- | -0.37(0.38), .33 | -0.37(NA) |
| a | Slope \* height | --- | -0.24(0.21), .25 | -0.24(NA) |
| a | Slope \* smoking | --- | --- | --,p= ---- |
| a | Slope \* cardio | --- | --- | --,p= ---- |
| a | Slope \* diabetes | --- | --- | --,p= ---- |
| b | Level | 16.57(0.39), <.01 | 16.66(0.40), <.01 | 16.62(0.07) |
| b | Slope | -0.07(0.07), .33 | -0.05(0.08), .52 | -0.06(0.01) |
| b | Level \* age | -0.25(0.09), <.01 | -0.26(0.10), .01 | -0.25(0.00) |
| b | Level \* education | --- | 0.22(0.12), .07 | 0.22(NA) |
| b | Level \* height | --- | -0.01(0.05), .74 | -0.01(NA) |
| b | Level \* smoking | --- | --- | --,p= ---- |
| b | Level \* cardio | --- | --- | --,p= ---- |
| b | Level \* diabetes | --- | --- | --,p= ---- |
| b | Slope \* age | -0.00(0.02), .85 | -0.00(0.02), .85 | -0.00(0.00) |
| b | Slope \* education | --- | -0.02(0.03), .51 | -0.02(NA) |
| b | Slope \* height | --- | 0.01(0.01), .45 | 0.01(NA) |
| b | Slope \* smoking | --- | --- | --,p= ---- |
| b | Slope \* cardio | --- | --- | --,p= ---- |
| b | Slope \* diabetes | --- | --- | --,p= ---- |
| a | Var (Level) | 4837.50(557.41), <.01 | 4451.45(528.76), <.01 | 4644.47(272.98) |
| a | Var (Slope) | 34.69(16.31), .03 | 32.45(16.52), .05 | 33.57(1.58) |
| a | Var (Residual) | 2103.22(184.08), <.01 | 2119.44(185.06), <.01 | 2111.33(11.47) |
| a | Covar (Level, Slope) | -176.36(98.13), .07 | -151.03(95.99), .12 | -163.70(17.91) |
| b | Var (Level) | 8.59(1.36), <.01 | 7.76(1.21), <.01 | 8.18(0.59) |
| b | Var (Slope) | 0.08(0.04), .07 | 0.09(0.05), .06 | 0.08(0.00) |
| b | Var (Residual) | 8.03(0.63), <.01 | 8.02(0.60), <.01 | 8.02(0.00) |
| b | Covar (Level, Slope) | -0.36(0.19), .06 | -0.36(0.18), .05 | -0.36(0.00) |
| ab | Covar (Levels) | 49.67(22.80), .03 | 40.41(23.29), .08 | 45.04(6.55) |
| ab | Covar (Slopes) | 0.09(0.69), .90 | 0.10(0.72), .88 | 0.10(0.01) |
| ab | Covar (Residuals) | 3.83(7.91), .63 | 3.09(8.14), .70 | 3.46(0.53) |
|  | Correlation of Levels | 0.244 | 0.217 | 0.23(0.02) |
|  | Correlation of Slopes | 0.053 | 0.062 | 0.06(0.01) |
|  | Correlation of Residuals | 0.029 | 0.024 | 0.03(0.00) |
|  | N | 284 | 268 | 276.00(11.31) |
|  | occasions | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | --,p= ---- |
|  | LL | -6,051 | -5,892 | -5,972(112) |
|  | AIC | 12,144 | 11,842 | 11,993(214) |
|  | BIC | 12,221 | 11,946 | 12,084(194) |

## mir

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | mean(sd) |
| a | Level | 311.04(7.11), <.01 | 317.75(7.82), <.01 | 314.39(4.75) |
| a | Slope | -8.41(1.10), <.01 | -8.90(1.10), <.01 | -8.66(0.34) |
| a | Level \* age | -5.93(1.93), <.01 | -5.41(2.06), .01 | -5.67(0.37) |
| a | Level \* education | --- | 3.29(2.51), .19 | 3.29(NA) |
| a | Level \* height | --- | 2.52(1.06), .02 | 2.52(NA) |
| a | Level \* smoking | --- | --- | --,p= ---- |
| a | Level \* cardio | --- | --- | --,p= ---- |
| a | Level \* diabetes | --- | --- | --,p= ---- |
| a | Slope \* age | 1.00(0.38), .01 | 0.92(0.37), .01 | 0.96(0.06) |
| a | Slope \* education | --- | -0.26(0.38), .50 | -0.26(NA) |
| a | Slope \* height | --- | -0.24(0.21), .25 | -0.24(NA) |
| a | Slope \* smoking | --- | --- | --,p= ---- |
| a | Slope \* cardio | --- | --- | --,p= ---- |
| a | Slope \* diabetes | --- | --- | --,p= ---- |
| b | Level | 7.62(0.19), <.01 | 7.79(0.18), <.01 | 7.70(0.12) |
| b | Slope | -0.06(0.05), .22 | -0.05(0.05), .28 | -0.05(0.00) |
| b | Level \* age | -0.15(0.05), <.01 | -0.16(0.05), <.01 | -0.15(0.00) |
| b | Level \* education | --- | 0.03(0.07), .68 | 0.03(NA) |
| b | Level \* height | --- | -0.01(0.02), .45 | -0.01(NA) |
| b | Level \* smoking | --- | --- | --,p= ---- |
| b | Level \* cardio | --- | --- | --,p= ---- |
| b | Level \* diabetes | --- | --- | --,p= ---- |
| b | Slope \* age | -0.02(0.01), .12 | -0.02(0.01), .18 | -0.02(0.00) |
| b | Slope \* education | --- | -0.01(0.02), .71 | -0.01(NA) |
| b | Slope \* height | --- | 0.00(0.01), .38 | 0.00(NA) |
| b | Slope \* smoking | --- | --- | --,p= ---- |
| b | Slope \* cardio | --- | --- | --,p= ---- |
| b | Slope \* diabetes | --- | --- | --,p= ---- |
| a | Var (Level) | 4855.37(562.46), <.01 | 4455.71(528.11), <.01 | 4655.54(282.60) |
| a | Var (Slope) | 32.46(16.64), .05 | 30.44(16.47), .06 | 31.45(1.43) |
| a | Var (Residual) | 2112.86(185.23), <.01 | 2127.15(186.88), <.01 | 2120.00(10.10) |
| a | Covar (Level, Slope) | -166.05(101.90), .10 | -138.59(97.13), .15 | -152.32(19.42) |
| b | Var (Level) | 3.18(0.53), <.01 | 2.44(0.48), <.01 | 2.81(0.52) |
| b | Var (Slope) | 0.09(0.02), <.01 | 0.09(0.02), <.01 | 0.09(0.00) |
| b | Var (Residual) | 1.88(0.16), <.01 | 1.85(0.17), <.01 | 1.86(0.03) |
| b | Covar (Level, Slope) | -0.03(0.07), .66 | -0.02(0.07), .81 | -0.02(0.01) |
| ab | Covar (Levels) | 19.86(12.58), .11 | 13.27(10.63), .21 | 16.57(4.66) |
| ab | Covar (Slopes) | 0.42(0.43), .33 | 0.44(0.44), .32 | 0.43(0.01) |
| ab | Covar (Residuals) | 3.65(3.68), .32 | 3.47(3.92), .38 | 3.56(0.13) |
|  | Correlation of Levels | 0.160 | 0.127 | 0.14(0.02) |
|  | Correlation of Slopes | 0.244 | 0.263 | 0.25(0.01) |
|  | Correlation of Residuals | 0.058 | 0.055 | 0.06(0.00) |
|  | N | 293 | 271 | 282.00(15.56) |
|  | occasions | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | --,p= ---- |
|  | LL | -5,878 | -5,691 | -5,785(133) |
|  | AIC | 11,799 | 11,439 | 11,619(254) |
|  | BIC | 11,876 | 11,544 | 11,710(235) |

## prose\_im

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus | full | mean(sd) |
| a | Level | 310.75(7.12), <.01 | 317.44(7.80), <.01 | 327.36(8.75), <.01 | 337.33(26.67), <.01 | 323.22(11.62) |
| a | Slope | -8.45(1.11), <.01 | -8.90(1.12), <.01 | -7.03(1.41), <.01 | -9.23(3.68), .01 | -8.40(0.97) |
| a | Level \* age | -5.87(1.91), <.01 | -5.38(2.05), .01 | -6.21(1.90), <.01 | -15.85(8.10), .05 | -8.33(5.03) |
| a | Level \* education | --- | 3.28(2.54), .20 | 5.76(2.67), .03 | -1.13(11.90), .92 | 2.64(3.49) |
| a | Level \* height | --- | 2.54(1.06), .02 | 2.63(0.99), .01 | --- | 2.59(0.06) |
| a | Level \* smoking | --- | --- | -35.27(12.76), .01 | --- | -35.27(NA) |
| a | Level \* cardio | --- | --- | 2.73(10.15), .79 | --- | 2.73(NA) |
| a | Level \* diabetes | --- | --- | 1.95(16.70), .91 | --- | 1.95(NA) |
| a | Slope \* age | 1.08(0.37), <.01 | 0.99(0.36), .01 | 0.93(0.37), .01 | 1.10(1.40), .43 | 1.02(0.08) |
| a | Slope \* education | --- | -0.34(0.38), .36 | -0.24(0.46), .60 | -0.76(1.52), .62 | -0.45(0.28) |
| a | Slope \* height | --- | -0.23(0.21), .27 | -0.21(0.20), .29 | --- | -0.22(0.02) |
| a | Slope \* smoking | --- | --- | -3.36(2.03), .10 | --- | -3.36(NA) |
| a | Slope \* cardio | --- | --- | -2.75(1.66), .10 | --- | -2.75(NA) |
| a | Slope \* diabetes | --- | --- | 4.10(3.58), .25 | --- | 4.10(NA) |
| b | Level | 11.13(0.31), <.01 | 11.30(0.34), <.01 | 11.15(0.40), <.01 | 13.17(1.08), <.01 | 11.69(0.99) |
| b | Slope | -0.12(0.06), .04 | -0.10(0.05), .06 | -0.04(0.07), .53 | -0.20(0.17), .24 | -0.12(0.07) |
| b | Level \* age | -0.27(0.08), <.01 | -0.28(0.08), <.01 | -0.25(0.08), <.01 | -0.39(0.28), .17 | -0.29(0.06) |
| b | Level \* education | --- | 0.47(0.11), <.01 | 0.46(0.10), <.01 | -0.06(0.49), .91 | 0.29(0.30) |
| b | Level \* height | --- | 0.01(0.04), .79 | 0.01(0.04), .76 | --- | 0.01(0.00) |
| b | Level \* smoking | --- | --- | 0.26(0.49), .60 | --- | 0.26(NA) |
| b | Level \* cardio | --- | --- | 0.21(0.43), .61 | --- | 0.21(NA) |
| b | Level \* diabetes | --- | --- | -1.80(1.14), .11 | --- | -1.80(NA) |
| b | Slope \* age | 0.02(0.02), .17 | 0.03(0.01), .06 | 0.02(0.02), .14 | -0.04(0.07), .60 | 0.01(0.03) |
| b | Slope \* education | --- | -0.05(0.02), .01 | -0.04(0.02), .03 | -0.05(0.08), .51 | -0.05(0.00) |
| b | Slope \* height | --- | 0.01(0.01), .35 | 0.01(0.01), .37 | --- | 0.01(0.00) |
| b | Slope \* smoking | --- | --- | -0.13(0.10), .18 | --- | -0.13(NA) |
| b | Slope \* cardio | --- | --- | -0.06(0.09), .47 | --- | -0.06(NA) |
| b | Slope \* diabetes | --- | --- | 0.11(0.19), .56 | --- | 0.11(NA) |
| a | Var (Level) | 4855.17(560.20), <.01 | 4471.46(532.50), <.01 | 4267.99(513.74), <.01 | 4735.04(558.71), <.01 | 4582.41(263.86) |
| a | Var (Slope) | 34.86(16.30), .03 | 32.86(16.67), .05 | 29.02(16.16), .07 | 34.21(17.33), .05 | 32.74(2.62) |
| a | Var (Residual) | 2097.00(185.26), <.01 | 2111.63(186.41), <.01 | 2107.34(186.01), <.01 | 2095.59(185.44), <.01 | 2102.89(7.83) |
| a | Covar (Level, Slope) | -172.74(97.64), .08 | -148.82(96.42), .12 | -160.95(87.45), .07 | -166.64(99.86), .10 | -162.29(10.19) |
| b | Var (Level) | 9.71(1.18), <.01 | 8.00(1.02), <.01 | 7.80(1.04), <.01 | 7.98(1.01), <.01 | 8.37(0.90) |
| b | Var (Slope) | 0.11(0.04), .01 | 0.09(0.03), .01 | 0.08(0.03), .01 | 0.08(0.03), .01 | 0.09(0.01) |
| b | Var (Residual) | 4.35(0.38), <.01 | 4.33(0.38), <.01 | 4.32(0.38), <.01 | 4.33(0.37), <.01 | 4.33(0.01) |
| b | Covar (Level, Slope) | -0.54(0.18), <.01 | -0.42(0.15), <.01 | -0.40(0.15), .01 | -0.39(0.14), .01 | -0.44(0.07) |
| ab | Covar (Levels) | 33.88(18.89), .07 | 23.60(17.91), .19 | 28.79(16.85), .09 | 24.09(17.44), .17 | 27.59(4.80) |
| ab | Covar (Slopes) | 0.11(0.56), .85 | 0.10(0.57), .86 | -0.08(0.54), .88 | -0.01(0.52), .99 | 0.03(0.09) |
| ab | Covar (Residuals) | 7.21(5.58), .20 | 7.11(6.22), .25 | 7.21(5.67), .20 | 6.29(5.61), .26 | 6.96(0.44) |
|  | Correlation of Levels | 0.156 | 0.125 | 0.158 | 0.1240 | 0.14(0.02) |
|  | Correlation of Slopes | 0.055 | 0.059 | -0.051 | -0.0035 | 0.01(0.05) |
|  | Correlation of Residuals | 0.076 | 0.074 | 0.076 | 0.0661 | 0.07(0.00) |
|  | N | 289 | 268 | 267 | 286 | 277.50(11.62) |
|  | occasions | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | 41 | NA | 41.00(NA) |
|  | LL | -6,071 | -5,868 | -5,845 | -6,033 | -5,955(114) |
|  | AIC | 12,185 | 11,794 | 11,773 | 12,157 | 11,977(224) |
|  | BIC | 12,262 | 11,898 | 11,920 | 12,321 | 12,100(222) |

## symbol

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus | mean(sd) |
| a | Level | 310.77(7.14), <.01 | 317.53(7.81), <.01 | 327.75(8.80), <.01 | 318.68(8.55) |
| a | Slope | -8.43(1.10), <.01 | -8.93(1.08), <.01 | -7.13(1.40), <.01 | -8.16(0.93) |
| a | Level \* age | -6.17(1.91), <.01 | -5.53(2.03), .01 | -6.37(1.88), <.01 | -6.02(0.44) |
| a | Level \* education | --- | 3.21(2.56), .21 | 5.64(2.69), .04 | 4.42(1.71) |
| a | Level \* height | --- | 2.59(1.05), .01 | 2.68(0.98), .01 | 2.63(0.06) |
| a | Level \* smoking | --- | --- | -35.14(12.64), <.01 | -35.14(NA) |
| a | Level \* cardio | --- | --- | 2.08(10.17), .84 | 2.08(NA) |
| a | Level \* diabetes | --- | --- | 3.77(16.59), .82 | 3.77(NA) |
| a | Slope \* age | 1.12(0.35), <.01 | 1.03(0.33), <.01 | 0.97(0.35), <.01 | 1.04(0.07) |
| a | Slope \* education | --- | -0.28(0.40), .49 | -0.19(0.47), .69 | -0.23(0.06) |
| a | Slope \* height | --- | -0.24(0.21), .26 | -0.21(0.20), .28 | -0.22(0.02) |
| a | Slope \* smoking | --- | --- | -3.19(2.05), .12 | -3.19(NA) |
| a | Slope \* cardio | --- | --- | -2.84(1.69), .09 | -2.84(NA) |
| a | Slope \* diabetes | --- | --- | 3.83(3.48), .27 | 3.83(NA) |
| b | Level | 28.41(1.01), <.01 | 28.60(1.07), <.01 | 28.46(1.19), <.01 | 28.49(0.10) |
| b | Slope | -0.49(0.15), <.01 | -0.49(0.15), <.01 | -0.10(0.19), .62 | -0.36(0.23) |
| b | Level \* age | -0.90(0.26), <.01 | -0.81(0.28), <.01 | -0.80(0.26), <.01 | -0.84(0.06) |
| b | Level \* education | --- | 1.57(0.37), <.01 | 1.66(0.37), <.01 | 1.61(0.07) |
| b | Level \* height | --- | 0.08(0.12), .52 | 0.08(0.11), .48 | 0.08(0.00) |
| b | Level \* smoking | --- | --- | -0.69(1.67), .68 | -0.69(NA) |
| b | Level \* cardio | --- | --- | 0.94(1.27), .46 | 0.94(NA) |
| b | Level \* diabetes | --- | --- | -2.41(3.15), .44 | -2.41(NA) |
| b | Slope \* age | 0.01(0.04), .84 | 0.02(0.04), .62 | 0.00(0.04), .98 | 0.01(0.01) |
| b | Slope \* education | --- | -0.03(0.06), .61 | -0.05(0.06), .43 | -0.04(0.01) |
| b | Slope \* height | --- | 0.01(0.02), .56 | 0.01(0.02), .43 | 0.01(0.00) |
| b | Slope \* smoking | --- | --- | -0.30(0.27), .27 | -0.30(NA) |
| b | Slope \* cardio | --- | --- | -0.78(0.19), <.01 | -0.78(NA) |
| b | Slope \* diabetes | --- | --- | 1.76(0.44), <.01 | 1.76(NA) |
| a | Var (Level) | 4843.85(550.92), <.01 | 4462.18(518.63), <.01 | 4257.36(501.41), <.01 | 4521.13(297.65) |
| a | Var (Slope) | 32.79(14.30), .02 | 31.45(14.50), .03 | 28.33(14.13), .04 | 30.85(2.29) |
| a | Var (Residual) | 2111.20(183.83), <.01 | 2120.80(184.28), <.01 | 2110.74(182.56), <.01 | 2114.25(5.68) |
| a | Covar (Level, Slope) | -170.91(92.41), .06 | -150.20(90.32), .10 | -159.72(81.41), .05 | -160.28(10.36) |
| b | Var (Level) | 84.39(9.01), <.01 | 67.92(7.94), <.01 | 67.85(7.76), <.01 | 73.39(9.53) |
| b | Var (Slope) | 0.62(0.16), <.01 | 0.62(0.15), <.01 | 0.41(0.13), <.01 | 0.55(0.12) |
| b | Var (Residual) | 28.13(2.37), <.01 | 27.89(2.33), <.01 | 27.74(2.32), <.01 | 27.92(0.20) |
| b | Covar (Level, Slope) | -3.04(0.94), <.01 | -2.66(0.87), <.01 | -2.21(0.89), .01 | -2.64(0.41) |
| ab | Covar (Levels) | 247.25(53.52), <.01 | 203.08(47.84), <.01 | 202.30(47.72), <.01 | 217.54(25.73) |
| ab | Covar (Slopes) | 3.00(1.09), .01 | 3.02(1.10), .01 | 2.24(1.04), .03 | 2.76(0.44) |
| ab | Covar (Residuals) | 9.30(13.79), .50 | 9.97(14.57), .49 | 8.29(13.50), .54 | 9.19(0.85) |
|  | Correlation of Levels | 0.387 | 0.369 | 0.376 | 0.38(0.01) |
|  | Correlation of Slopes | 0.667 | 0.684 | 0.659 | 0.67(0.01) |
|  | Correlation of Residuals | 0.038 | 0.041 | 0.034 | 0.04(0.00) |
|  | N | 278 | 264 | 263 | 268.33(8.39) |
|  | occasions | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | 41 | 41.00(NA) |
|  | LL | -6,592 | -6,397 | -6,368 | -6,452(122) |
|  | AIC | 13,225 | 12,852 | 12,817 | 12,965(226) |
|  | BIC | 13,302 | 12,955 | 12,964 | 13,074(197) |

## Summary

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus | full |
| Correlation of Levels | block | 0.29 | 0.25 | 0.23 | 0.24 |
| Correlation of Levels | digit\_b | 0.20 | 0.21 | 0.19 | . |
| Correlation of Levels | digit\_f | 0.03 | 0.03 | -0.01 | . |
| Correlation of Levels | fig\_logic | 0.24 | 0.22 | . | . |
| Correlation of Levels | mir | 0.16 | 0.13 | . | . |
| Correlation of Levels | prose\_im | 0.16 | 0.12 | 0.16 | 0.12 |
| Correlation of Levels | symbol | 0.39 | 0.37 | 0.38 | . |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus | full |
| Correlation of Slopes | block | 0.11 | 0.12 | 0.02 | 0.06 |
| Correlation of Slopes | digit\_b | 0.06 | 0.18 | 0.15 | . |
| Correlation of Slopes | digit\_f | -0.29 | -0.29 | -0.29 | . |
| Correlation of Slopes | fig\_logic | 0.05 | 0.06 | . | . |
| Correlation of Slopes | mir | 0.24 | 0.26 | . | . |
| Correlation of Slopes | prose\_im | 0.05 | 0.06 | -0.05 | -0.00 |
| Correlation of Slopes | symbol | 0.67 | 0.68 | 0.66 | . |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus | full |
| Correlation of Residuals | block | 0.15 | 0.15 | 0.15 | 0.14 |
| Correlation of Residuals | digit\_b | 0.01 | 0.01 | 0.02 | . |
| Correlation of Residuals | digit\_f | 0.01 | 0.01 | 0.01 | . |
| Correlation of Residuals | fig\_logic | 0.03 | 0.02 | . | . |
| Correlation of Residuals | mir | 0.06 | 0.06 | . | . |
| Correlation of Residuals | prose\_im | 0.08 | 0.07 | 0.08 | 0.07 |
| Correlation of Residuals | symbol | 0.04 | 0.04 | 0.03 | . |

# male

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

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| process | label | block | digit\_b | digit\_f | prose\_im | symbol | mean(sd) |
| a | Level | 464.58(23.32), <.01 | 466.55(23.55), <.01 | 469.38(23.60), <.01 | 465.57(23.57), <.01 | 463.73(23.41), <.01 | 465.96(2.18) |
| a | Slope | -3.65(3.42), .29 | -3.18(3.63), .38 | -4.53(3.48), .19 | -3.29(3.71), .38 | -3.27(3.62), .37 | -3.58(0.56) |
| a | Level \* age | -12.12(4.20), <.01 | -11.58(4.09), <.01 | -11.48(4.15), .01 | -12.13(4.14), <.01 | -11.96(4.16), <.01 | -11.85(0.31) |
| a | Level \* education | 6.95(2.11), <.01 | 6.77(2.12), <.01 | 6.98(2.10), <.01 | 7.03(2.10), <.01 | 6.98(2.11), <.01 | 6.94(0.10) |
| a | Level \* height | 2.11(1.48), .15 | 2.04(1.48), .17 | 2.11(1.50), .16 | 2.12(1.47), .15 | 2.10(1.47), .15 | 2.09(0.03) |
| a | Level \* smoking | -32.02(21.78), .14 | -33.68(21.90), .12 | -36.65(21.80), .09 | -33.30(21.76), .13 | -31.07(21.41), .15 | -33.35(2.12) |
| a | Level \* cardio | -21.12(19.57), .28 | -22.01(19.62), .26 | -22.91(19.64), .24 | -21.06(19.60), .28 | -20.79(19.62), .29 | -21.58(0.87) |
| a | Level \* diabetes | 43.86(26.90), .10 | 41.15(26.42), .12 | 43.66(27.32), .11 | 39.26(28.12), .16 | 44.25(27.02), .10 | 42.44(2.15) |
| a | Slope \* age | 0.14(0.96), .88 | 0.02(0.95), .98 | 0.18(0.96), .85 | 0.14(0.95), .88 | 0.26(0.94), .78 | 0.15(0.09) |
| a | Slope \* education | -0.36(0.59), .54 | -0.48(0.58), .41 | -0.44(0.56), .44 | -0.40(0.58), .48 | -0.43(0.54), .43 | -0.42(0.04) |
| a | Slope \* height | 0.23(0.26), .38 | 0.26(0.26), .33 | 0.28(0.26), .29 | 0.22(0.26), .39 | 0.27(0.26), .29 | 0.25(0.03) |
| a | Slope \* smoking | -4.95(3.41), .15 | -5.16(3.57), .15 | -5.22(3.35), .12 | -5.28(3.40), .12 | -5.73(3.34), .09 | -5.27(0.29) |
| a | Slope \* cardio | -2.46(3.04), .42 | -2.87(3.18), .37 | -1.79(2.97), .55 | -2.61(3.15), .41 | -2.60(2.97), .38 | -2.47(0.41) |
| a | Slope \* diabetes | -6.08(4.09), .14 | -4.40(4.19), .29 | -5.16(3.79), .17 | -5.43(4.28), .20 | -6.18(3.92), .12 | -5.45(0.73) |
| b | Level | 16.78(1.48), <.01 | 3.97(0.26), <.01 | 6.02(0.25), <.01 | 11.03(0.76), <.01 | 31.50(2.41), <.01 | --- |
| b | Slope | -0.42(0.17), .01 | -0.06(0.09), .47 | -0.10(0.06), .08 | 0.13(0.16), .40 | -0.54(0.33), .10 | --- |
| b | Level \* age | -0.49(0.22), .03 | -0.08(0.04), .08 | -0.02(0.03), .41 | -0.27(0.12), .02 | -0.67(0.37), .07 | --- |
| b | Level \* education | 0.62(0.19), <.01 | 0.12(0.03), <.01 | 0.07(0.02), .01 | 0.42(0.09), <.01 | 1.71(0.24), <.01 | --- |
| b | Level \* height | 0.15(0.09), .08 | 0.00(0.02), .90 | 0.01(0.01), .42 | 0.01(0.06), .91 | 0.25(0.12), .04 | --- |
| b | Level \* smoking | -3.60(1.44), .01 | -0.19(0.28), .49 | -0.47(0.23), .04 | -0.82(0.80), .30 | -5.97(2.28), .01 | --- |
| b | Level \* cardio | -0.78(1.11), .49 | -0.57(0.24), .02 | -0.01(0.19), .94 | -0.48(0.69), .49 | -1.66(1.77), .35 | --- |
| b | Level \* diabetes | -2.36(1.29), .07 | -0.30(0.43), .49 | -0.04(0.27), .89 | 0.87(0.93), .35 | -1.92(2.27), .40 | --- |
| b | Slope \* age | 0.04(0.03), .19 | 0.00(0.01), .91 | -0.01(0.01), .08 | -0.00(0.05), .91 | 0.04(0.07), .54 | --- |
| b | Slope \* education | 0.02(0.04), .61 | -0.00(0.01), .72 | 0.01(0.01), .21 | -0.01(0.01), .63 | 0.02(0.05), .73 | --- |
| b | Slope \* height | -0.00(0.01), .77 | 0.01(0.00), .10 | -0.00(0.00), .18 | 0.01(0.01), .20 | -0.02(0.02), .29 | --- |
| b | Slope \* smoking | 0.02(0.15), .91 | -0.04(0.08), .64 | 0.06(0.05), .21 | -0.15(0.12), .23 | 0.10(0.31), .74 | --- |
| b | Slope \* cardio | -0.15(0.16), .35 | 0.09(0.06), .11 | -0.02(0.04), .52 | -0.16(0.11), .13 | -0.14(0.26), .59 | --- |
| b | Slope \* diabetes | 0.33(0.29), .26 | -0.03(0.12), .78 | 0.00(0.05), .96 | -0.20(0.18), .26 | -0.20(0.49), .68 | --- |
| a | Var (Level) | 8396.19(1398.80), <.01 | 8379.63(1437.60), <.01 | 8305.93(1369.68), <.01 | 8318.76(1411.15), <.01 | 8372.76(1412.60), <.01 | 8354.65(39.81) |
| a | Var (Slope) | 37.14(18.63), .05 | 38.96(23.14), .09 | 27.92(11.78), .02 | 35.05(21.25), .10 | 39.41(16.27), .01 | 35.70(4.68) |
| a | Var (Residual) | 3322.17(419.52), <.01 | 3327.42(416.10), <.01 | 3391.62(399.44), <.01 | 3350.55(427.87), <.01 | 3295.66(403.32), <.01 | 3337.48(36.01) |
| a | Covar (Level, Slope) | -296.60(139.36), .03 | -300.33(163.59), .07 | -274.76(121.89), .02 | -285.99(152.20), .06 | -281.62(135.62), .04 | -287.86(10.56) |
| b | Var (Level) | 32.27(4.94), <.01 | 1.07(0.26), <.01 | 0.81(0.17), <.01 | 10.17(1.71), <.01 | 73.70(10.62), <.01 | --- |
| b | Var (Slope) | 0.05(0.05), .27 | 0.02(0.01), .17 | 0.01(0.00), <.01 | 0.01(0.01), .22 | 0.47(0.22), .03 | --- |
| b | Var (Residual) | 9.21(1.01), <.01 | 0.95(0.14), <.01 | 0.52(0.07), <.01 | 4.11(0.63), <.01 | 17.14(2.12), <.01 | --- |
| b | Covar (Level, Slope) | -0.06(0.41), .88 | -0.09(0.05), .06 | -0.07(0.02), <.01 | -0.16(0.16), .31 | -3.00(1.07), <.01 | --- |
| ab | Covar (Levels) | 158.68(59.03), .01 | 28.91(13.02), .03 | -7.21(10.70), .50 | 63.89(39.48), .11 | 244.57(90.32), .01 | --- |
| ab | Covar (Slopes) | 1.05(0.81), .19 | 0.33(0.37), .38 | 0.36(0.19), .05 | -0.17(0.42), .68 | 3.13(1.56), .04 | --- |
| ab | Covar (Residuals) | 19.93(11.14), .07 | -5.13(4.88), .29 | 0.45(2.34), .85 | 11.87(14.47), .41 | -9.63(18.28), .60 | --- |
|  | Correlation of Levels | 0.30 | 0.305 | -0.088 | 0.22 | 0.311 | 0.21(0.17) |
|  | Correlation of Slopes | 0.75 | 0.363 | 0.620 | -0.25 | 0.727 | 0.44(0.42) |
|  | Correlation of Residuals | 0.11 | -0.091 | 0.011 | 0.10 | -0.041 | 0.02(0.09) |
|  | N | 136 | 138 | 138 | 136 | 133 | 136.20(2.05) |
|  | occasions | 5 | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -3,179 | -2,724 | -2,614 | -2,871 | -3,202 | -2,918(265) |
|  | AIC | 6,440 | 5,529 | 5,310 | 5,823 | 6,486 | 5,918(530) |
|  | BIC | 6,559 | 5,649 | 5,430 | 5,943 | 6,604 | 6,037(530) |

## block

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus | full | mean(sd) |
| a | Level | 430.61(15.04), <.01 | 434.69(16.27), <.01 | 464.58(23.32), <.01 | 453.26(45.59), <.01 | 445.78(15.94) |
| a | Slope | -10.48(2.34), <.01 | -10.22(2.26), <.01 | -3.65(3.42), .29 | -1.07(7.43), .88 | -6.36(4.73) |
| a | Level \* age | -12.89(4.19), <.01 | -12.51(4.23), <.01 | -12.12(4.20), <.01 | -11.86(4.08), <.01 | -12.35(0.45) |
| a | Level \* education | --- | 6.39(1.95), <.01 | 6.95(2.11), <.01 | 6.10(2.94), .04 | 6.48(0.43) |
| a | Level \* height | --- | 1.86(1.44), .20 | 2.11(1.48), .15 | --- | 1.98(0.17) |
| a | Level \* smoking | --- | --- | -32.02(21.78), .14 | -12.65(9.20), .17 | -22.34(13.69) |
| a | Level \* cardio | --- | --- | -21.12(19.57), .28 | --- | -21.12(NA) |
| a | Level \* diabetes | --- | --- | 43.86(26.90), .10 | --- | 43.86(NA) |
| a | Slope \* age | 0.74(0.89), .40 | 0.76(0.90), .40 | 0.14(0.96), .88 | 0.31(0.95), .74 | 0.49(0.31) |
| a | Slope \* education | --- | -0.43(0.60), .48 | -0.36(0.59), .54 | -0.25(1.30), .85 | -0.35(0.09) |
| a | Slope \* height | --- | 0.17(0.24), .47 | 0.23(0.26), .38 | --- | 0.20(0.04) |
| a | Slope \* smoking | --- | --- | -4.95(3.41), .15 | -1.20(1.56), .44 | -3.07(2.65) |
| a | Slope \* cardio | --- | --- | -2.46(3.04), .42 | --- | -2.46(NA) |
| a | Slope \* diabetes | --- | --- | -6.08(4.09), .14 | --- | -6.08(NA) |
| b | Level | 13.25(0.88), <.01 | 13.57(0.90), <.01 | 16.78(1.48), <.01 | 16.09(2.63), <.01 | 14.92(1.77) |
| b | Slope | -0.47(0.10), <.01 | -0.48(0.11), <.01 | -0.42(0.17), .01 | -0.23(0.29), .42 | -0.40(0.12) |
| b | Level \* age | -0.53(0.22), .02 | -0.49(0.24), .04 | -0.49(0.22), .03 | -0.46(0.21), .03 | -0.49(0.03) |
| b | Level \* education | --- | 0.56(0.21), .01 | 0.62(0.19), <.01 | 0.65(0.35), .06 | 0.61(0.04) |
| b | Level \* height | --- | 0.15(0.09), .10 | 0.15(0.09), .08 | --- | 0.15(0.00) |
| b | Level \* smoking | --- | --- | -3.60(1.44), .01 | -1.58(0.61), .01 | -2.59(1.43) |
| b | Level \* cardio | --- | --- | -0.78(1.11), .49 | --- | -0.78(NA) |
| b | Level \* diabetes | --- | --- | -2.36(1.29), .07 | --- | -2.36(NA) |
| b | Slope \* age | 0.04(0.03), .17 | 0.06(0.03), .09 | 0.04(0.03), .19 | 0.06(0.03), .05 | 0.05(0.01) |
| b | Slope \* education | --- | 0.03(0.04), .52 | 0.02(0.04), .61 | -0.08(0.07), .22 | -0.01(0.06) |
| b | Slope \* height | --- | -0.01(0.01), .60 | -0.00(0.01), .77 | --- | -0.01(0.00) |
| b | Slope \* smoking | --- | --- | 0.02(0.15), .91 | 0.02(0.07), .74 | 0.02(0.01) |
| b | Slope \* cardio | --- | --- | -0.15(0.16), .35 | --- | -0.15(NA) |
| b | Slope \* diabetes | --- | --- | 0.33(0.29), .26 | --- | 0.33(NA) |
| a | Var (Level) | 9797.10(1518.91), <.01 | 8792.77(1435.27), <.01 | 8396.19(1398.80), <.01 | 9168.60(1431.36), <.01 | 9038.66(595.92) |
| a | Var (Slope) | 39.26(21.76), .07 | 39.02(21.70), .07 | 37.14(18.63), .05 | 33.59(20.21), .10 | 37.25(2.62) |
| a | Var (Residual) | 3395.41(423.66), <.01 | 3381.56(497.26), <.01 | 3322.17(419.52), <.01 | 3376.31(420.93), <.01 | 3368.86(32.15) |
| a | Covar (Level, Slope) | -293.48(164.06), .07 | -263.62(141.14), .06 | -296.60(139.36), .03 | -271.20(149.72), .07 | -281.23(16.30) |
| b | Var (Level) | 44.12(5.63), <.01 | 35.81(5.58), <.01 | 32.27(4.94), <.01 | 37.39(4.81), <.01 | 37.40(4.97) |
| b | Var (Slope) | 0.06(0.07), .37 | 0.04(0.03), .17 | 0.05(0.05), .27 | 0.05(0.04), .23 | 0.05(0.01) |
| b | Var (Residual) | 8.97(1.02), <.01 | 9.29(1.00), <.01 | 9.21(1.01), <.01 | 8.85(0.96), <.01 | 9.08(0.21) |
| b | Covar (Level, Slope) | 0.06(0.41), .89 | -0.03(0.38), .94 | -0.06(0.41), .88 | 0.13(0.42), .76 | 0.02(0.09) |
| ab | Covar (Levels) | 281.76(75.41), <.01 | 186.56(65.28), <.01 | 158.68(59.03), .01 | 220.61(70.29), <.01 | 211.90(53.01) |
| ab | Covar (Slopes) | 1.05(0.87), .23 | 1.12(0.74), .13 | 1.05(0.81), .19 | 0.65(0.72), .37 | 0.97(0.22) |
| ab | Covar (Residuals) | 15.41(10.86), .16 | 17.25(12.22), .16 | 19.93(11.14), .07 | 15.78(10.39), .13 | 17.09(2.05) |
|  | Correlation of Levels | 0.429 | 0.332 | 0.30 | 0.377 | 0.36(0.05) |
|  | Correlation of Slopes | 0.664 | 0.848 | 0.75 | 0.521 | 0.70(0.14) |
|  | Correlation of Residuals | 0.088 | 0.097 | 0.11 | 0.091 | 0.10(0.01) |
|  | N | 151 | 136 | 136 | 151 | 143.50(8.66) |
|  | occasions | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 21 | NA | 41 | 37 | 33.00(10.58) |
|  | LL | -3,352 | -3,191 | -3,179 | -3,336 | -3,264( 92) |
|  | AIC | 6,746 | 6,441 | 6,440 | 6,745 | 6,593(176) |
|  | BIC | 6,809 | 6,525 | 6,559 | 6,857 | 6,688(170) |

## digit\_b

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus | mean(sd) |
| a | Level | 432.05(14.94), <.01 | 435.16(16.32), <.01 | 466.55(23.55), <.01 | 444.59(19.08) |
| a | Slope | -10.44(2.37), <.01 | -10.10(2.30), <.01 | -3.18(3.63), .38 | -7.91(4.10) |
| a | Level \* age | -12.44(4.11), <.01 | -12.08(4.20), <.01 | -11.58(4.09), <.01 | -12.04(0.43) |
| a | Level \* education | --- | 6.22(1.96), <.01 | 6.77(2.12), <.01 | 6.50(0.39) |
| a | Level \* height | --- | 1.85(1.42), .19 | 2.04(1.48), .17 | 1.94(0.13) |
| a | Level \* smoking | --- | --- | -33.68(21.90), .12 | -33.68(NA) |
| a | Level \* cardio | --- | --- | -22.01(19.62), .26 | -22.01(NA) |
| a | Level \* diabetes | --- | --- | 41.15(26.42), .12 | 41.15(NA) |
| a | Slope \* age | 0.72(0.87), .41 | 0.74(0.87), .40 | 0.02(0.95), .98 | 0.49(0.41) |
| a | Slope \* education | --- | -0.47(0.62), .45 | -0.48(0.58), .41 | -0.47(0.01) |
| a | Slope \* height | --- | 0.16(0.23), .50 | 0.26(0.26), .33 | 0.21(0.07) |
| a | Slope \* smoking | --- | --- | -5.16(3.57), .15 | -5.16(NA) |
| a | Slope \* cardio | --- | --- | -2.87(3.18), .37 | -2.87(NA) |
| a | Slope \* diabetes | --- | --- | -4.40(4.19), .29 | -4.40(NA) |
| b | Level | 3.52(0.17), <.01 | 3.52(0.18), <.01 | 3.97(0.26), <.01 | 3.67(0.26) |
| b | Slope | -0.05(0.04), .23 | -0.05(0.04), .25 | -0.06(0.09), .47 | -0.05(0.01) |
| b | Level \* age | -0.08(0.04), .07 | -0.07(0.04), .11 | -0.08(0.04), .08 | -0.07(0.00) |
| b | Level \* education | --- | 0.13(0.03), <.01 | 0.12(0.03), <.01 | 0.13(0.01) |
| b | Level \* height | --- | 0.00(0.02), .91 | 0.00(0.02), .90 | 0.00(0.00) |
| b | Level \* smoking | --- | --- | -0.19(0.28), .49 | -0.19(NA) |
| b | Level \* cardio | --- | --- | -0.57(0.24), .02 | -0.57(NA) |
| b | Level \* diabetes | --- | --- | -0.30(0.43), .49 | -0.30(NA) |
| b | Slope \* age | -0.00(0.01), .91 | 0.00(0.01), .92 | 0.00(0.01), .91 | 0.00(0.00) |
| b | Slope \* education | --- | -0.01(0.01), .42 | -0.00(0.01), .72 | -0.00(0.00) |
| b | Slope \* height | --- | 0.01(0.00), .09 | 0.01(0.00), .10 | 0.01(0.00) |
| b | Slope \* smoking | --- | --- | -0.04(0.08), .64 | -0.04(NA) |
| b | Slope \* cardio | --- | --- | 0.09(0.06), .11 | 0.09(NA) |
| b | Slope \* diabetes | --- | --- | -0.03(0.12), .78 | -0.03(NA) |
| a | Var (Level) | 9680.47(1536.90), <.01 | 8710.34(1477.92), <.01 | 8379.63(1437.60), <.01 | 8923.48(676.10) |
| a | Var (Slope) | 31.08(21.34), .14 | 31.66(23.97), .19 | 38.96(23.14), .09 | 33.90(4.39) |
| a | Var (Residual) | 3447.64(429.09), <.01 | 3428.09(517.02), <.01 | 3327.42(416.10), <.01 | 3401.05(64.51) |
| a | Covar (Level, Slope) | -261.82(166.20), .12 | -229.50(153.73), .14 | -300.33(163.59), .07 | -263.88(35.46) |
| b | Var (Level) | 1.57(0.30), <.01 | 1.16(0.29), <.01 | 1.07(0.26), <.01 | 1.27(0.26) |
| b | Var (Slope) | 0.02(0.02), .11 | 0.02(0.02), .12 | 0.02(0.01), .17 | 0.02(0.00) |
| b | Var (Residual) | 0.97(0.13), <.01 | 0.95(0.13), <.01 | 0.95(0.14), <.01 | 0.96(0.01) |
| b | Covar (Level, Slope) | -0.13(0.06), .03 | -0.10(0.06), .06 | -0.09(0.05), .06 | -0.11(0.02) |
| ab | Covar (Levels) | 48.95(16.50), <.01 | 33.56(13.51), .01 | 28.91(13.02), .03 | 37.14(10.49) |
| ab | Covar (Slopes) | 0.36(0.43), .40 | 0.25(0.43), .56 | 0.33(0.37), .38 | 0.31(0.06) |
| ab | Covar (Residuals) | -5.22(5.00), .30 | -5.05(5.47), .36 | -5.13(4.88), .29 | -5.13(0.08) |
|  | Correlation of Levels | 0.40 | 0.333 | 0.305 | 0.35(0.05) |
|  | Correlation of Slopes | 0.41 | 0.285 | 0.363 | 0.35(0.06) |
|  | Correlation of Residuals | -0.09 | -0.089 | -0.091 | -0.09(0.00) |
|  | N | 158 | 138 | 138 | 144.67(11.55) |
|  | occasions | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | 41 | 41.00(NA) |
|  | LL | -2,881 | -2,735 | -2,724 | -2,780( 88) |
|  | AIC | 5,805 | 5,528 | 5,529 | 5,621(160) |
|  | BIC | 5,869 | 5,613 | 5,649 | 5,710(139) |

## digit\_f

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus | mean(sd) |
| a | Level | 434.38(15.05), <.01 | 435.38(16.32), <.01 | 469.38(23.60), <.01 | 446.38(19.93) |
| a | Slope | -10.32(2.39), <.01 | -10.25(2.31), <.01 | -4.53(3.48), .19 | -8.37(3.32) |
| a | Level \* age | -12.51(4.25), <.01 | -11.94(4.23), <.01 | -11.48(4.15), .01 | -11.98(0.52) |
| a | Level \* education | --- | 6.30(1.94), <.01 | 6.98(2.10), <.01 | 6.64(0.48) |
| a | Level \* height | --- | 1.98(1.45), .17 | 2.11(1.50), .16 | 2.05(0.09) |
| a | Level \* smoking | --- | --- | -36.65(21.80), .09 | -36.65(NA) |
| a | Level \* cardio | --- | --- | -22.91(19.64), .24 | -22.91(NA) |
| a | Level \* diabetes | --- | --- | 43.66(27.32), .11 | 43.66(NA) |
| a | Slope \* age | 0.53(0.92), .57 | 0.72(0.92), .44 | 0.18(0.96), .85 | 0.48(0.27) |
| a | Slope \* education | --- | -0.44(0.60), .46 | -0.44(0.56), .44 | -0.44(0.01) |
| a | Slope \* height | --- | 0.14(0.24), .56 | 0.28(0.26), .29 | 0.21(0.10) |
| a | Slope \* smoking | --- | --- | -5.22(3.35), .12 | -5.22(NA) |
| a | Slope \* cardio | --- | --- | -1.79(2.97), .55 | -1.79(NA) |
| a | Slope \* diabetes | --- | --- | -5.16(3.79), .17 | -5.16(NA) |
| b | Level | 5.70(0.13), <.01 | 5.67(0.15), <.01 | 6.02(0.25), <.01 | 5.80(0.20) |
| b | Slope | -0.04(0.03), .12 | -0.06(0.03), .02 | -0.10(0.06), .08 | -0.07(0.03) |
| b | Level \* age | -0.05(0.03), .07 | -0.02(0.03), .51 | -0.02(0.03), .41 | -0.03(0.02) |
| b | Level \* education | --- | 0.06(0.02), .02 | 0.07(0.02), .01 | 0.06(0.01) |
| b | Level \* height | --- | 0.01(0.02), .52 | 0.01(0.01), .42 | 0.01(0.00) |
| b | Level \* smoking | --- | --- | -0.47(0.23), .04 | -0.47(NA) |
| b | Level \* cardio | --- | --- | -0.01(0.19), .94 | -0.01(NA) |
| b | Level \* diabetes | --- | --- | -0.04(0.27), .89 | -0.04(NA) |
| b | Slope \* age | -0.02(0.01), .04 | -0.01(0.01), .10 | -0.01(0.01), .08 | -0.01(0.00) |
| b | Slope \* education | --- | 0.01(0.01), .15 | 0.01(0.01), .21 | 0.01(0.00) |
| b | Slope \* height | --- | -0.00(0.00), .19 | -0.00(0.00), .18 | -0.00(0.00) |
| b | Slope \* smoking | --- | --- | 0.06(0.05), .21 | 0.06(NA) |
| b | Slope \* cardio | --- | --- | -0.02(0.04), .52 | -0.02(NA) |
| b | Slope \* diabetes | --- | --- | 0.00(0.05), .96 | 0.00(NA) |
| a | Var (Level) | 9626.92(1512.82), <.01 | 8731.66(1451.52), <.01 | 8305.93(1369.68), <.01 | 8888.17(674.26) |
| a | Var (Slope) | 32.00(19.11), .09 | 31.81(20.21), .12 | 27.92(11.78), .02 | 30.58(2.31) |
| a | Var (Residual) | 3436.36(419.93), <.01 | 3423.62(495.57), <.01 | 3391.62(399.44), <.01 | 3417.20(23.05) |
| a | Covar (Level, Slope) | -258.25(157.64), .10 | -241.54(144.12), .09 | -274.76(121.89), .02 | -258.18(16.61) |
| b | Var (Level) | 0.91(0.17), <.01 | 0.86(0.17), <.01 | 0.81(0.17), <.01 | 0.86(0.05) |
| b | Var (Slope) | 0.01(0.01), .04 | 0.01(0.01), .02 | 0.01(0.00), <.01 | 0.01(0.00) |
| b | Var (Residual) | 0.57(0.08), <.01 | 0.52(0.08), <.01 | 0.52(0.07), <.01 | 0.53(0.03) |
| b | Covar (Level, Slope) | -0.07(0.03), .01 | -0.08(0.03), <.01 | -0.07(0.02), <.01 | -0.07(0.00) |
| ab | Covar (Levels) | 2.40(12.23), .84 | -3.87(12.19), .75 | -7.21(10.70), .50 | -2.89(4.88) |
| ab | Covar (Slopes) | 0.20(0.28), .48 | 0.22(0.28), .43 | 0.36(0.19), .05 | 0.26(0.09) |
| ab | Covar (Residuals) | 0.56(2.75), .84 | 0.48(2.81), .86 | 0.45(2.34), .85 | 0.49(0.06) |
|  | Correlation of Levels | 0.026 | -0.045 | -0.088 | -0.04(0.06) |
|  | Correlation of Slopes | 0.294 | 0.344 | 0.620 | 0.42(0.18) |
|  | Correlation of Residuals | 0.013 | 0.011 | 0.011 | 0.01(0.00) |
|  | N | 158 | 138 | 138 | 144.67(11.55) |
|  | occasions | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | 41 | 41.00(NA) |
|  | LL | -2,769 | -2,624 | -2,614 | -2,669( 87) |
|  | AIC | 5,579 | 5,306 | 5,310 | 5,398(157) |
|  | BIC | 5,644 | 5,391 | 5,430 | 5,488(136) |

## fig\_logic

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | mean(sd) |
| a | Level | 429.05(15.26), <.01 | 433.73(16.30), <.01 | 431.39(3.31) |
| a | Slope | -10.01(2.39), <.01 | -9.88(2.32), <.01 | -9.94(0.09) |
| a | Level \* age | -11.97(4.22), <.01 | -11.90(4.21), <.01 | -11.94(0.05) |
| a | Level \* education | --- | 6.56(1.94), <.01 | 6.56(NA) |
| a | Level \* height | --- | 1.82(1.44), .20 | 1.82(NA) |
| a | Level \* smoking | --- | --- | --,p= ---- |
| a | Level \* cardio | --- | --- | --,p= ---- |
| a | Level \* diabetes | --- | --- | --,p= ---- |
| a | Slope \* age | 0.62(0.89), .48 | 0.67(0.89), .45 | 0.64(0.03) |
| a | Slope \* education | --- | -0.52(0.62), .40 | -0.52(NA) |
| a | Slope \* height | --- | 0.16(0.24), .49 | 0.16(NA) |
| a | Slope \* smoking | --- | --- | --,p= ---- |
| a | Slope \* cardio | --- | --- | --,p= ---- |
| a | Slope \* diabetes | --- | --- | --,p= ---- |
| b | Level | 15.80(0.51), <.01 | 16.03(0.48), <.01 | 15.92(0.16) |
| b | Slope | -0.06(0.11), .58 | -0.04(0.11), .72 | -0.05(0.02) |
| b | Level \* age | -0.17(0.12), .16 | -0.17(0.12), .17 | -0.17(0.00) |
| b | Level \* education | --- | 0.31(0.10), <.01 | 0.31(NA) |
| b | Level \* height | --- | 0.04(0.05), .42 | 0.04(NA) |
| b | Level \* smoking | --- | --- | --,p= ---- |
| b | Level \* cardio | --- | --- | --,p= ---- |
| b | Level \* diabetes | --- | --- | --,p= ---- |
| b | Slope \* age | 0.02(0.03), .55 | 0.02(0.03), .46 | 0.02(0.00) |
| b | Slope \* education | --- | -0.02(0.02), .33 | -0.02(NA) |
| b | Slope \* height | --- | 0.01(0.01), .44 | 0.01(NA) |
| b | Slope \* smoking | --- | --- | --,p= ---- |
| b | Slope \* cardio | --- | --- | --,p= ---- |
| b | Slope \* diabetes | --- | --- | --,p= ---- |
| a | Var (Level) | 9875.76(1556.03), <.01 | 8796.11(1448.56), <.01 | 9335.94(763.42) |
| a | Var (Slope) | 42.14(22.72), .06 | 39.89(22.41), .07 | 41.01(1.59) |
| a | Var (Residual) | 3389.61(416.49), <.01 | 3375.96(490.10), <.01 | 3382.79(9.65) |
| a | Covar (Level, Slope) | -306.86(172.70), .08 | -260.81(147.76), .08 | -283.84(32.56) |
| b | Var (Level) | 10.50(2.40), <.01 | 7.22(1.59), <.01 | 8.86(2.32) |
| b | Var (Slope) | 0.06(0.05), .21 | 0.04(0.03), .12 | 0.05(0.01) |
| b | Var (Residual) | 8.19(0.88), <.01 | 8.14(0.92), <.01 | 8.17(0.04) |
| b | Covar (Level, Slope) | -0.40(0.34), .25 | -0.22(0.22), .31 | -0.31(0.13) |
| ab | Covar (Levels) | 134.90(48.41), <.01 | 83.23(35.38), .02 | 109.06(36.53) |
| ab | Covar (Slopes) | 1.15(0.83), .16 | 1.12(0.69), .10 | 1.13(0.02) |
| ab | Covar (Residuals) | -0.32(13.41), .98 | -0.66(15.06), .96 | -0.49(0.24) |
|  | Correlation of Levels | 0.419 | 0.330 | 0.37(0.06) |
|  | Correlation of Slopes | 0.717 | 0.854 | 0.79(0.10) |
|  | Correlation of Residuals | -0.002 | -0.004 | -0.00(0.00) |
|  | N | 146 | 133 | 139.50(9.19) |
|  | occasions | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | --,p= ---- |
|  | LL | -3,134 | -3,014 | -3,074( 85) |
|  | AIC | 6,310 | 6,086 | 6,198(159) |
|  | BIC | 6,373 | 6,170 | 6,271(144) |

## mir

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | mean(sd) |
| a | Level | 432.47(15.11), <.01 | 433.96(16.18), <.01 | 433.22(1.05) |
| a | Slope | -9.93(2.32), <.01 | -9.44(2.29), <.01 | -9.68(0.35) |
| a | Level \* age | -13.81(4.17), <.01 | -12.72(4.27), <.01 | -13.26(0.77) |
| a | Level \* education | --- | 7.27(1.99), <.01 | 7.27(NA) |
| a | Level \* height | --- | 2.08(1.44), .15 | 2.08(NA) |
| a | Level \* smoking | --- | --- | --,p= ---- |
| a | Level \* cardio | --- | --- | --,p= ---- |
| a | Level \* diabetes | --- | --- | --,p= ---- |
| a | Slope \* age | 0.78(0.84), .35 | 0.73(0.83), .38 | 0.75(0.03) |
| a | Slope \* education | --- | -0.62(0.57), .28 | -0.62(NA) |
| a | Slope \* height | --- | 0.20(0.24), .41 | 0.20(NA) |
| a | Slope \* smoking | --- | --- | --,p= ---- |
| a | Slope \* cardio | --- | --- | --,p= ---- |
| a | Slope \* diabetes | --- | --- | --,p= ---- |
| b | Level | 7.02(0.24), <.01 | 6.97(0.27), <.01 | 6.99(0.04) |
| b | Slope | -0.09(0.07), .19 | -0.06(0.08), .45 | -0.07(0.02) |
| b | Level \* age | -0.27(0.07), <.01 | -0.22(0.07), <.01 | -0.24(0.03) |
| b | Level \* education | --- | 0.08(0.05), .08 | 0.08(NA) |
| b | Level \* height | --- | 0.00(0.03), .99 | 0.00(NA) |
| b | Level \* smoking | --- | --- | --,p= ---- |
| b | Level \* cardio | --- | --- | --,p= ---- |
| b | Level \* diabetes | --- | --- | --,p= ---- |
| b | Slope \* age | -0.01(0.02), .48 | -0.02(0.02), .27 | -0.02(0.01) |
| b | Slope \* education | --- | -0.00(0.02), .80 | -0.00(NA) |
| b | Slope \* height | --- | 0.00(0.01), .98 | 0.00(NA) |
| b | Slope \* smoking | --- | --- | --,p= ---- |
| b | Slope \* cardio | --- | --- | --,p= ---- |
| b | Slope \* diabetes | --- | --- | --,p= ---- |
| a | Var (Level) | 10138.97(1598.00), <.01 | 9019.27(1464.11), <.01 | 9579.12(791.75) |
| a | Var (Slope) | 40.23(18.13), .03 | 45.55(18.97), .02 | 42.89(3.76) |
| a | Var (Residual) | 3405.19(404.24), <.01 | 3339.70(464.65), <.01 | 3372.44(46.31) |
| a | Covar (Level, Slope) | -323.23(158.97), .04 | -296.49(142.18), .04 | -309.86(18.91) |
| b | Var (Level) | 2.50(0.45), <.01 | 2.02(0.38), <.01 | 2.26(0.34) |
| b | Var (Slope) | 0.08(0.02), <.01 | 0.07(0.02), <.01 | 0.07(0.01) |
| b | Var (Residual) | 2.09(0.23), <.01 | 1.98(0.24), <.01 | 2.04(0.08) |
| b | Covar (Level, Slope) | 0.02(0.08), .85 | 0.03(0.07), .61 | 0.02(0.01) |
| ab | Covar (Levels) | 96.97(24.90), <.01 | 82.08(20.97), <.01 | 89.53(10.52) |
| ab | Covar (Slopes) | 0.61(0.50), .22 | 0.80(0.45), .08 | 0.70(0.14) |
| ab | Covar (Residuals) | -1.70(7.22), .81 | -1.64(7.79), .83 | -1.67(0.04) |
|  | Correlation of Levels | 0.61 | 0.61 | 0.61(0.00) |
|  | Correlation of Slopes | 0.34 | 0.45 | 0.40(0.08) |
|  | Correlation of Residuals | -0.02 | -0.02 | -0.02(0.00) |
|  | N | 153 | 137 | 145.00(11.31) |
|  | occasions | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | --,p= ---- |
|  | LL | -3,006 | -2,869 | -2,937( 97) |
|  | AIC | 6,053 | 5,796 | 5,925(182) |
|  | BIC | 6,117 | 5,880 | 5,999(167) |

## prose\_im

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus | full | mean(sd) |
| a | Level | 432.49(15.00), <.01 | 434.45(16.32), <.01 | 465.57(23.57), <.01 | 418.74(66.97), <.01 | 437.81(19.78) |
| a | Slope | -10.09(2.44), <.01 | -9.85(2.38), <.01 | -3.29(3.71), .38 | 8.31(6.53), .20 | -3.73(8.63) |
| a | Level \* age | -13.54(4.21), <.01 | -12.54(4.17), <.01 | -12.13(4.14), <.01 | -1.45(16.30), .93 | -9.92(5.67) |
| a | Level \* education | --- | 6.64(1.95), <.01 | 7.03(2.10), <.01 | 12.65(7.48), .09 | 8.77(3.36) |
| a | Level \* height | --- | 1.92(1.41), .17 | 2.12(1.47), .15 | --- | 2.02(0.14) |
| a | Level \* smoking | --- | --- | -33.30(21.76), .13 | --- | -33.30(NA) |
| a | Level \* cardio | --- | --- | -21.06(19.60), .28 | --- | -21.06(NA) |
| a | Level \* diabetes | --- | --- | 39.26(28.12), .16 | --- | 39.26(NA) |
| a | Slope \* age | 0.72(0.89), .42 | 0.73(0.89), .42 | 0.14(0.95), .88 | -4.52(1.73), .01 | -0.73(2.54) |
| a | Slope \* education | --- | -0.52(0.62), .40 | -0.40(0.58), .48 | -10.55(1.32), <.01 | -3.83(5.82) |
| a | Slope \* height | --- | 0.18(0.23), .44 | 0.22(0.26), .39 | --- | 0.20(0.03) |
| a | Slope \* smoking | --- | --- | -5.28(3.40), .12 | --- | -5.28(NA) |
| a | Slope \* cardio | --- | --- | -2.61(3.15), .41 | --- | -2.61(NA) |
| a | Slope \* diabetes | --- | --- | -5.43(4.28), .20 | --- | -5.43(NA) |
| b | Level | 10.58(0.47), <.01 | 10.30(0.56), <.01 | 11.03(0.76), <.01 | 12.61(1.78), <.01 | 11.13(1.03) |
| b | Slope | -0.17(0.08), .04 | -0.11(0.07), .12 | 0.13(0.16), .40 | 0.11(0.31), .71 | -0.01(0.16) |
| b | Level \* age | -0.35(0.11), <.01 | -0.27(0.14), .05 | -0.27(0.12), .02 | 0.09(0.59), .88 | -0.20(0.20) |
| b | Level \* education | --- | 0.42(0.09), <.01 | 0.42(0.09), <.01 | 0.61(0.28), .03 | 0.48(0.11) |
| b | Level \* height | --- | 0.00(0.06), .99 | 0.01(0.06), .91 | --- | 0.00(0.00) |
| b | Level \* smoking | --- | --- | -0.82(0.80), .30 | --- | -0.82(NA) |
| b | Level \* cardio | --- | --- | -0.48(0.69), .49 | --- | -0.48(NA) |
| b | Level \* diabetes | --- | --- | 0.87(0.93), .35 | --- | 0.87(NA) |
| b | Slope \* age | 0.00(0.04), .92 | 0.00(0.04), .93 | -0.00(0.05), .91 | -0.29(0.13), .03 | -0.07(0.15) |
| b | Slope \* education | --- | -0.01(0.01), .56 | -0.01(0.01), .63 | 0.01(0.06), .90 | -0.00(0.01) |
| b | Slope \* height | --- | 0.01(0.01), .10 | 0.01(0.01), .20 | --- | 0.01(0.00) |
| b | Slope \* smoking | --- | --- | -0.15(0.12), .23 | --- | -0.15(NA) |
| b | Slope \* cardio | --- | --- | -0.16(0.11), .13 | --- | -0.16(NA) |
| b | Slope \* diabetes | --- | --- | -0.20(0.18), .26 | --- | -0.20(NA) |
| a | Var (Level) | 9819.58(1536.75), <.01 | 8732.34(1457.46), <.01 | 8318.76(1411.15), <.01 | 9315.91(1306.55), <.01 | 9046.65(657.91) |
| a | Var (Slope) | 44.07(22.77), .05 | 38.44(25.42), .13 | 35.05(21.25), .10 | 20.72(2.65), <.01 | 34.57(9.96) |
| a | Var (Residual) | 3381.82(420.33), <.01 | 3397.47(511.65), <.01 | 3350.55(427.87), <.01 | 3335.57(375.78), <.01 | 3366.35(28.31) |
| a | Covar (Level, Slope) | -308.44(171.34), .07 | -251.29(157.98), .11 | -285.99(152.20), .06 | -343.22(54.77), <.01 | -297.24(38.63) |
| b | Var (Level) | 13.17(1.59), <.01 | 10.09(1.75), <.01 | 10.17(1.71), <.01 | 9.88(1.31), <.01 | 10.83(1.57) |
| b | Var (Slope) | 0.02(0.02), .34 | 0.01(0.01), .38 | 0.01(0.01), .22 | 0.02(0.00), <.01 | 0.01(0.01) |
| b | Var (Residual) | 4.27(0.60), <.01 | 4.16(0.62), <.01 | 4.11(0.63), <.01 | 4.04(0.53), <.01 | 4.15(0.10) |
| b | Covar (Level, Slope) | 0.10(0.22), .66 | 0.07(0.16), .65 | -0.16(0.16), .31 | 0.16(0.05), <.01 | 0.04(0.14) |
| ab | Covar (Levels) | 116.89(46.58), .01 | 72.97(41.26), .08 | 63.89(39.48), .11 | 80.62(38.99), .04 | 83.59(23.23) |
| ab | Covar (Slopes) | -0.59(0.62), .34 | -0.31(0.44), .49 | -0.17(0.42), .68 | -0.43(0.07), <.01 | -0.38(0.18) |
| ab | Covar (Residuals) | 15.32(14.56), .29 | 14.79(18.05), .41 | 11.87(14.47), .41 | 16.02(13.23), .23 | 14.50(1.82) |
|  | Correlation of Levels | 0.32 | 0.25 | 0.22 | 0.27 | 0.26(0.04) |
|  | Correlation of Slopes | -0.61 | -0.55 | -0.25 | -0.75 | -0.54(0.21) |
|  | Correlation of Residuals | 0.13 | 0.12 | 0.10 | 0.14 | 0.12(0.02) |
|  | N | 153 | 136 | 136 | 153 | 144.50(9.81) |
|  | occasions | 5 | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | 41 | NA | 41.00(NA) |
|  | LL | -3,045 | -2,881 | -2,871 | -3,009 | -2,951( 88) |
|  | AIC | 6,131 | 5,821 | 5,823 | 6,107 | 5,971(172) |
|  | BIC | 6,195 | 5,905 | 5,943 | 6,244 | 6,072(172) |

## symbol

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus | mean(sd) |
| a | Level | 433.61(14.91), <.01 | 435.23(16.24), <.01 | 463.73(23.41), <.01 | 444.19(16.94) |
| a | Slope | -11.04(2.33), <.01 | -10.77(2.33), <.01 | -3.27(3.62), .37 | -8.36(4.41) |
| a | Level \* age | -12.85(4.17), <.01 | -12.41(4.24), <.01 | -11.96(4.16), <.01 | -12.40(0.45) |
| a | Level \* education | --- | 6.53(1.97), <.01 | 6.98(2.11), <.01 | 6.76(0.31) |
| a | Level \* height | --- | 1.91(1.42), .18 | 2.10(1.47), .15 | 2.00(0.13) |
| a | Level \* smoking | --- | --- | -31.07(21.41), .15 | -31.07(NA) |
| a | Level \* cardio | --- | --- | -20.79(19.62), .29 | -20.79(NA) |
| a | Level \* diabetes | --- | --- | 44.25(27.02), .10 | 44.25(NA) |
| a | Slope \* age | 0.93(0.86), .28 | 1.00(0.90), .27 | 0.26(0.94), .78 | 0.73(0.41) |
| a | Slope \* education | --- | -0.55(0.57), .34 | -0.43(0.54), .43 | -0.49(0.09) |
| a | Slope \* height | --- | 0.21(0.24), .39 | 0.27(0.26), .29 | 0.24(0.05) |
| a | Slope \* smoking | --- | --- | -5.73(3.34), .09 | -5.73(NA) |
| a | Slope \* cardio | --- | --- | -2.60(2.97), .38 | -2.60(NA) |
| a | Slope \* diabetes | --- | --- | -6.18(3.92), .12 | -6.18(NA) |
| b | Level | 26.89(1.44), <.01 | 26.09(1.38), <.01 | 31.50(2.41), <.01 | 28.16(2.92) |
| b | Slope | -0.53(0.21), .01 | -0.56(0.18), <.01 | -0.54(0.33), .10 | -0.54(0.01) |
| b | Level \* age | -0.76(0.36), .04 | -0.61(0.39), .12 | -0.67(0.37), .07 | -0.68(0.07) |
| b | Level \* education | --- | 1.63(0.24), <.01 | 1.71(0.24), <.01 | 1.67(0.06) |
| b | Level \* height | --- | 0.25(0.12), .05 | 0.25(0.12), .04 | 0.25(0.00) |
| b | Level \* smoking | --- | --- | -5.97(2.28), .01 | -5.97(NA) |
| b | Level \* cardio | --- | --- | -1.66(1.77), .35 | -1.66(NA) |
| b | Level \* diabetes | --- | --- | -1.92(2.27), .40 | -1.92(NA) |
| b | Slope \* age | 0.03(0.07), .66 | 0.06(0.06), .36 | 0.04(0.07), .54 | 0.04(0.01) |
| b | Slope \* education | --- | 0.02(0.04), .61 | 0.02(0.05), .73 | 0.02(0.00) |
| b | Slope \* height | --- | -0.02(0.02), .19 | -0.02(0.02), .29 | -0.02(0.00) |
| b | Slope \* smoking | --- | --- | 0.10(0.31), .74 | 0.10(NA) |
| b | Slope \* cardio | --- | --- | -0.14(0.26), .59 | -0.14(NA) |
| b | Slope \* diabetes | --- | --- | -0.20(0.49), .68 | -0.20(NA) |
| a | Var (Level) | 9516.86(1482.49), <.01 | 8703.65(1420.47), <.01 | 8372.76(1412.60), <.01 | 8864.42(588.75) |
| a | Var (Slope) | 30.89(16.78), .07 | 39.00(17.42), .02 | 39.41(16.27), .01 | 36.43(4.80) |
| a | Var (Residual) | 3437.19(407.99), <.01 | 3368.38(463.20), <.01 | 3295.66(403.32), <.01 | 3367.08(70.77) |
| a | Covar (Level, Slope) | -225.59(147.16), .12 | -226.19(131.37), .08 | -281.62(135.62), .04 | -244.47(32.18) |
| b | Var (Level) | 105.77(13.96), <.01 | 82.48(13.06), <.01 | 73.70(10.62), <.01 | 87.31(16.57) |
| b | Var (Slope) | 0.52(0.21), .01 | 0.41(0.17), .02 | 0.47(0.22), .03 | 0.47(0.06) |
| b | Var (Residual) | 17.55(2.02), <.01 | 17.38(2.22), <.01 | 17.14(2.12), <.01 | 17.36(0.21) |
| b | Covar (Level, Slope) | -2.71(1.22), .03 | -2.87(1.17), .01 | -3.00(1.07), <.01 | -2.86(0.15) |
| ab | Covar (Levels) | 393.18(112.14), <.01 | 288.44(106.31), .01 | 244.57(90.32), .01 | 308.73(76.35) |
| ab | Covar (Slopes) | 2.55(1.61), .11 | 2.86(1.52), .06 | 3.13(1.56), .04 | 2.84(0.29) |
| ab | Covar (Residuals) | -7.14(19.18), .71 | -12.37(19.37), .52 | -9.63(18.28), .60 | -9.71(2.62) |
|  | Correlation of Levels | 0.392 | 0.340 | 0.311 | 0.35(0.04) |
|  | Correlation of Slopes | 0.633 | 0.717 | 0.727 | 0.69(0.05) |
|  | Correlation of Residuals | -0.029 | -0.051 | -0.041 | -0.04(0.01) |
|  | N | 142 | 133 | 133 | 136.00(5.20) |
|  | occasions | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | NA | NA | 41 | 41.00(NA) |
|  | LL | -3,344 | -3,214 | -3,202 | -3,253( 79) |
|  | AIC | 6,730 | 6,485 | 6,486 | 6,567(141) |
|  | BIC | 6,792 | 6,569 | 6,604 | 6,655(120) |

## Summary

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus | full |
| Correlation of Levels | block | 0.43 | 0.33 | 0.30 | 0.38 |
| Correlation of Levels | digit\_b | 0.40 | 0.33 | 0.31 | . |
| Correlation of Levels | digit\_f | 0.03 | -0.04 | -0.09 | . |
| Correlation of Levels | fig\_logic | 0.42 | 0.33 | . | . |
| Correlation of Levels | mir | 0.61 | 0.61 | . | . |
| Correlation of Levels | prose\_im | 0.32 | 0.25 | 0.22 | 0.27 |
| Correlation of Levels | symbol | 0.39 | 0.34 | 0.31 | . |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus | full |
| Correlation of Slopes | block | 0.66 | 0.85 | 0.75 | 0.52 |
| Correlation of Slopes | digit\_b | 0.41 | 0.28 | 0.36 | . |
| Correlation of Slopes | digit\_f | 0.29 | 0.34 | 0.62 | . |
| Correlation of Slopes | fig\_logic | 0.72 | 0.85 | . | . |
| Correlation of Slopes | mir | 0.34 | 0.45 | . | . |
| Correlation of Slopes | prose\_im | -0.61 | -0.55 | -0.25 | -0.75 |
| Correlation of Slopes | symbol | 0.63 | 0.72 | 0.73 | . |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| label | process\_b | a | aeh | aehplus | full |
| Correlation of Residuals | block | 0.09 | 0.10 | 0.11 | 0.09 |
| Correlation of Residuals | digit\_b | -0.09 | -0.09 | -0.09 | . |
| Correlation of Residuals | digit\_f | 0.01 | 0.01 | 0.01 | . |
| Correlation of Residuals | fig\_logic | -0.00 | -0.00 | . | . |
| Correlation of Residuals | mir | -0.02 | -0.02 | . | . |
| Correlation of Residuals | prose\_im | 0.13 | 0.12 | 0.10 | 0.14 |
| Correlation of Residuals | symbol | -0.03 | -0.05 | -0.04 | . |

#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] ggplot2\_2.1.0 knitr\_1.14 magrittr\_1.5   
  
loaded via a namespace (and not attached):  
 [1] Rcpp\_0.12.7 munsell\_0.4.3 testit\_0.5 colorspace\_1.2-6 R6\_2.1.3 highr\_0.6   
 [7] plyr\_1.8.4 stringr\_1.1.0 dplyr\_0.5.0 tools\_3.3.1 DT\_0.2 grid\_3.3.1   
[13] gtable\_0.2.0 DBI\_0.5-1 htmltools\_0.3.5 yaml\_2.1.13 lazyeval\_0.2.0 assertthat\_0.1   
[19] digest\_0.6.10 tibble\_1.2 readr\_1.0.0 formatR\_1.4 tidyr\_0.6.0 htmlwidgets\_0.7   
[25] rsconnect\_0.4.3 evaluate\_0.9 rmarkdown\_1.0 stringi\_1.1.1 scales\_0.4.0