HRS : Seed Report

Date: 2016-12-04

Table of Contents

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

# Available models

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

|  |  |  |
| --- | --- | --- |
| process\_a | process\_b | n\_models |
| pef | serial7 | 6 |
| pef | tics | 6 |
| pef | word\_de | 6 |
| pef | word\_im | 6 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| hrs | female | a | pef | serial7 | 1 |
| hrs | female | a | pef | tics | 1 |
| hrs | female | a | pef | word\_de | 1 |
| hrs | female | a | pef | word\_im | 1 |
| hrs | female | aeh | pef | serial7 | 1 |
| hrs | female | aeh | pef | tics | 1 |
| hrs | female | aeh | pef | word\_de | 1 |
| hrs | female | aeh | pef | word\_im | 1 |
| hrs | female | aehplus | pef | serial7 | 1 |
| hrs | female | aehplus | pef | tics | 1 |
| hrs | female | aehplus | pef | word\_de | 1 |
| hrs | female | aehplus | pef | word\_im | 1 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| hrs | male | a | pef | serial7 | 1 |
| hrs | male | a | pef | tics | 1 |
| hrs | male | a | pef | word\_de | 1 |
| hrs | male | a | pef | word\_im | 1 |
| hrs | male | aeh | pef | serial7 | 1 |
| hrs | male | aeh | pef | tics | 1 |
| hrs | male | aeh | pef | word\_de | 1 |
| hrs | male | aeh | pef | word\_im | 1 |
| hrs | male | aehplus | pef | serial7 | 1 |
| hrs | male | aehplus | pef | tics | 1 |
| hrs | male | aehplus | pef | word\_de | 1 |
| hrs | male | aehplus | pef | word\_im | 1 |

# female

Gender = *female*; Model type: *aehplus*; Process (a) = *pef*; Process (b): *serial7*, *tics*, *word\_de*, *word\_im*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | serial7 | tics | word\_de | word\_im | mean(sd) |
| ab | Covar (Levels) | 9.13 (1.94) <.01 | 10.30 (6.60) .12 | 22.08 (2.27) <.01 | 18.90 (1.80) <.01 | --- |
| ab | Covar (Slopes) | 0.16 (0.05) <.01 | 0.33 (0.20) .09 | 0.10 (0.05) .04 | 0.04 (0.04) .30 | --- |
| ab | Covar (Residuals) | -1.11 (0.92) .22 | -1.12 (2.17) .61 | 2.00 (1.03) .05 | 1.71 (0.85) .04 | --- |
| er | Corr (Levels) | --- | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- | --- |
| a | Level | 247.33 (2.82) <.01 | 256.95 (6.16) <.01 | 247.23 (2.82) <.01 | 247.17 (2.82) <.01 | 249.67(4.86) |
| a | Slope | -2.77 (0.41) <.01 | -2.34 (1.28) .07 | -2.75 (0.41) <.01 | -2.78 (0.41) <.01 | -2.66(0.21) |
| a | Level \* age | -3.42 (0.12) <.01 | -3.83 (0.24) <.01 | -3.43 (0.12) <.01 | -3.43 (0.12) <.01 | -3.53(0.20) |
| a | Level \* education | 6.00 (0.39) <.01 | 4.29 (0.90) <.01 | 6.00 (0.39) <.01 | 6.01 (0.39) <.01 | 5.57(0.86) |
| a | Level \* height | 1.85 (0.18) <.01 | 100.89 (45.82) .03 | 1.84 (0.18) <.01 | 1.84 (0.18) <.01 | 26.60(49.52) |
| a | Level \* smoking | -17.57 (2.30) <.01 | -47.12 (8.79) <.01 | -17.64 (2.30) <.01 | -17.64 (2.30) <.01 | -24.99(14.75) |
| a | Level \* cardio | -10.39 (2.94) <.01 | -9.68 (6.63) .14 | -10.47 (2.94) <.01 | -10.42 (2.94) <.01 | -10.24(0.37) |
| a | Level \* diabetes | -10.17 (3.03) <.01 | 7.46 (7.00) .29 | -9.98 (3.03) <.01 | -9.92 (3.03) <.01 | -5.65(8.74) |
| a | Slope \* age | -0.19 (0.02) <.01 | -0.26 (0.05) <.01 | -0.19 (0.02) <.01 | -0.19 (0.02) <.01 | -0.21(0.04) |
| a | Slope \* education | -0.08 (0.06) .13 | -0.05 (0.19) .80 | -0.08 (0.06) .16 | -0.08 (0.06) .14 | -0.07(0.02) |
| a | Slope \* height | 0.01 (0.02) .60 | 4.72 (7.13) .51 | 0.02 (0.02) .50 | 0.01 (0.02) .55 | 1.19(2.35) |
| a | Slope \* smoking | -0.97 (0.29) <.01 | 0.70 (1.68) .68 | -0.90 (0.29) <.01 | -0.90 (0.29) <.01 | -0.52(0.81) |
| a | Slope \* cardio | -0.05 (0.41) .91 | -0.58 (1.26) .65 | 0.00 (0.41) .99 | 0.01 (0.41) .98 | -0.15(0.28) |
| a | Slope \* diabetes | 0.30 (0.42) .48 | -1.25 (1.26) .32 | 0.26 (0.42) .54 | 0.25 (0.42) .55 | -0.11(0.76) |
| b | Level | 2.66 (0.06) <.01 | 8.08 (0.25) <.01 | 3.45 (0.06) <.01 | 4.59 (0.05) <.01 | --- |
| b | Slope | -0.11 (0.01) <.01 | -0.12 (0.04) .01 | -0.08 (0.01) <.01 | -0.08 (0.01) <.01 | --- |
| b | Level \* age | -0.00 (0.00) .40 | 0.04 (0.01) <.01 | -0.06 (0.00) <.01 | -0.05 (0.00) <.01 | --- |
| b | Level \* education | 0.18 (0.01) <.01 | 0.15 (0.03) <.01 | 0.18 (0.01) <.01 | 0.17 (0.01) <.01 | --- |
| b | Level \* height | 0.01 (0.00) .02 | 0.85 (1.12) .45 | 0.01 (0.00) .15 | 0.00 (0.00) .26 | --- |
| b | Level \* smoking | -0.07 (0.05) .10 | 0.82 (0.32) .01 | 0.09 (0.05) .08 | 0.06 (0.04) .12 | --- |
| b | Level \* cardio | -0.00 (0.06) .93 | -0.28 (0.19) .14 | -0.24 (0.06) <.01 | -0.14 (0.05) .01 | --- |
| b | Level \* diabetes | -0.20 (0.06) <.01 | 0.01 (0.19) .97 | -0.31 (0.07) <.01 | -0.21 (0.05) <.01 | --- |
| b | Slope \* age | -0.01 (0.00) <.01 | 0.01 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | --- |
| b | Slope \* education | 0.00 (0.00) .80 | -0.01 (0.01) .05 | 0.00 (0.00) .82 | 0.00 (0.00) .82 | --- |
| b | Slope \* height | 0.00 (0.00) .91 | 0.11 (0.25) .67 | 0.00 (0.00) .82 | 0.00 (0.00) .85 | --- |
| b | Slope \* smoking | -0.02 (0.01) .04 | -0.22 (0.07) <.01 | -0.01 (0.01) .07 | -0.01 (0.01) .15 | --- |
| b | Slope \* cardio | -0.04 (0.01) <.01 | -0.00 (0.04) .96 | 0.00 (0.01) .99 | 0.00 (0.01) .97 | --- |
| b | Slope \* diabetes | -0.02 (0.01) .06 | 0.05 (0.04) .19 | -0.02 (0.01) .05 | -0.02 (0.01) .03 | --- |
| a | Var (Level) | 4157.07 (132.91) <.01 | 3541.31 (272.12) <.01 | 4170.08 (133.03) <.01 | 4164.41 (132.99) <.01 | 4008.22(311.32) |
| a | Var (Slope) | 10.27 (2.83) <.01 | 9.33 (9.85) .34 | 10.53 (2.82) <.01 | 10.28 (2.82) <.01 | 10.10(0.53) |
| a | Var (Residual) | 1716.42 (62.55) <.01 | 1842.73 (147.59) <.01 | 1711.36 (62.19) <.01 | 1714.66 (62.47) <.01 | 1746.30(64.33) |
| b | Var (Level) | 1.13 (0.05) <.01 | 1.86 (0.76) .01 | 1.50 (0.08) <.01 | 0.87 (0.06) <.01 | --- |
| b | Var (Slope) | 0.02 (0.00) <.01 | 0.10 (0.02) <.01 | 0.00 (0.00) .36 | 0.00 (0.00) .57 | --- |
| b | Var (Residual) | 1.23 (0.03) <.01 | 1.85 (0.19) <.01 | 1.67 (0.05) <.01 | 1.25 (0.04) <.01 | --- |
| a | Covar (Level, Slope) | -20.86 (14.99) .16 | -14.06 (37.71) .71 | -23.02 (15.01) .12 | -21.27 (14.97) .16 | -19.80(3.94) |
| b | Covar (Level, Slope) | -0.02 (0.01) <.01 | -0.07 (0.11) .52 | 0.00 (0.01) .72 | 0.01 (0.01) .48 | --- |
|  | Correlation of Levels | 0.133 | 0.127 | 0.279 | 0.314 | 0.21(0.10) |
|  | Correlation of Slopes | 0.376 | 0.330 | 0.703 | 0.444 | 0.46(0.17) |
|  | Correlation of Residuals | -0.024 | -0.019 | 0.037 | 0.037 | 0.01(0.03) |
|  | N | 4,608 | 715 | 4,611 | 4,612 | 3636.50(1947.67) |
|  | occasions | 3 | 5 | 3 | 3 | 3.50(1.00) |
|  | parameters | 41 | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -78,502 | -15,945 | -80,073 | -78,004 | -6.313112e+04(3.146976e+04) |
|  | AIC | 157,087 | 31,972 | 160,228 | 156,090 | 1.263442e+05(6.293951e+04) |
|  | BIC | 157,350 | 32,159 | 160,492 | 156,354 | 1.265890e+05(6.297770e+04) |

## serial7

Gender = *female*; Process (a) = *pef*; Process (b) = *serial7*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| ab | Covar (Levels) | 16.89 (308.48) .96 | 7.26 (312.34) .98 | 9.13 (1.94) <.01 |
| ab | Covar (Slopes) | 0.21 (16.54) .99 | 0.20 (16.59) .99 | 0.16 (0.05) <.01 |
| ab | Covar (Residuals) | 0.29 (0.30) .33 | 0.20 (0.30) .50 | -1.11 (0.92) .22 |
| er | Corr (Levels) | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- |
| a | Level | 274.85 (2.75) <.01 | 248.48 (5.60) <.01 | 247.33 (2.82) <.01 |
| a | Slope | -2.67 (0.62) <.01 | -2.21 (1.33) .10 | -2.77 (0.41) <.01 |
| a | Level \* age | -3.82 (0.23) <.01 | -3.55 (0.23) <.01 | -3.42 (0.12) <.01 |
| a | Level \* education | --- | 4.71 (0.90) <.01 | 6.00 (0.39) <.01 |
| a | Level \* height | --- | 93.44 (45.99) .04 | 1.85 (0.18) <.01 |
| a | Level \* smoking | --- | --- | -17.57 (2.30) <.01 |
| a | Level \* cardio | --- | --- | -10.39 (2.94) <.01 |
| a | Level \* diabetes | --- | --- | -10.17 (3.03) <.01 |
| a | Slope \* age | -0.25 (0.05) <.01 | -0.25 (0.06) <.01 | -0.19 (0.02) <.01 |
| a | Slope \* education | --- | -0.09 (0.21) .66 | -0.08 (0.06) .13 |
| a | Slope \* height | --- | 5.86 (8.19) .47 | 0.01 (0.02) .60 |
| a | Slope \* smoking | --- | --- | -0.97 (0.29) <.01 |
| a | Slope \* cardio | --- | --- | -0.05 (0.41) .91 |
| a | Slope \* diabetes | --- | --- | 0.30 (0.42) .48 |
| b | Level | 3.46 (0.06) <.01 | 2.25 (0.13) <.01 | 2.66 (0.06) <.01 |
| b | Slope | -0.15 (0.01) <.01 | -0.11 (0.02) <.01 | -0.11 (0.01) <.01 |
| b | Level \* age | -0.02 (0.00) <.01 | -0.01 (0.00) .10 | -0.00 (0.00) .40 |
| b | Level \* education | --- | 0.22 (0.02) <.01 | 0.18 (0.01) <.01 |
| b | Level \* height | --- | 0.88 (0.90) .33 | 0.01 (0.00) .02 |
| b | Level \* smoking | --- | --- | -0.07 (0.05) .10 |
| b | Level \* cardio | --- | --- | -0.00 (0.06) .93 |
| b | Level \* diabetes | --- | --- | -0.20 (0.06) <.01 |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 |
| b | Slope \* education | --- | -0.01 (0.00) .03 | 0.00 (0.00) .80 |
| b | Slope \* height | --- | 0.17 (0.12) .17 | 0.00 (0.00) .91 |
| b | Slope \* smoking | --- | --- | -0.02 (0.01) .04 |
| b | Slope \* cardio | --- | --- | -0.04 (0.01) <.01 |
| b | Slope \* diabetes | --- | --- | -0.02 (0.01) .06 |
| a | Var (Level) | 5221.29 (286.71) <.01 | 4967.41 (277.29) <.01 | 4157.07 (132.91) <.01 |
| a | Var (Slope) | 201.39 (29.59) <.01 | 200.95 (29.55) <.01 | 10.27 (2.83) <.01 |
| a | Var (Residual) | 240.77 (19.29) <.01 | 240.55 (19.28) <.01 | 1716.42 (62.55) <.01 |
| b | Var (Level) | 0.19 (3.97) .96 | 0.14 (3.52) .97 | 1.13 (0.05) <.01 |
| b | Var (Slope) | 0.01 (0.26) .98 | 0.01 (0.26) .98 | 0.02 (0.00) <.01 |
| b | Var (Residual) | 240.77 (19.29) <.01 | 240.55 (19.28) <.01 | 1.23 (0.03) <.01 |
| a | Covar (Level, Slope) | -324.33 (55.22) <.01 | -323.22 (55.43) <.01 | -20.86 (14.99) .16 |
| b | Covar (Level, Slope) | -0.02 (0.60) .98 | -0.02 (0.58) .98 | -0.02 (0.01) <.01 |
|  | Correlation of Levels | 0.5419 | 0.27838 | 0.133 |
|  | Correlation of Slopes | 0.1919 | 0.18487 | 0.376 |
|  | Correlation of Residuals | 0.0012 | 0.00084 | -0.024 |
|  | N | 715 | 715 | 4,608 |
|  | occasions | 5 | 5 | 3 |
|  | parameters | 20 | 28 | 41 |
|  | LL | -25,181 | -25,159 | -78,502 |
|  | AIC | 50,402 | 50,374 | 157,087 |
|  | BIC | 50,493 | 50,502 | 157,350 |

## tics

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| ab | Covar (Levels) | 17.86 (5.01) <.01 | 12.05 (5.03) .02 | 10.30 (6.60) .12 |
| ab | Covar (Slopes) | 0.42 (2.28) .85 | 0.39 (2.30) .87 | 0.33 (0.20) .09 |
| ab | Covar (Residuals) | 0.99 (1.57) .53 | 0.82 (1.94) .67 | -1.12 (2.17) .61 |
| er | Corr (Levels) | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- |
| a | Level | 274.84 (2.74) <.01 | 248.54 (5.60) <.01 | 256.95 (6.16) <.01 |
| a | Slope | -2.66 (0.56) <.01 | -2.28 (1.27) .07 | -2.34 (1.28) .07 |
| a | Level \* age | -3.82 (0.23) <.01 | -3.55 (0.23) <.01 | -3.83 (0.24) <.01 |
| a | Level \* education | --- | 4.69 (0.90) <.01 | 4.29 (0.90) <.01 |
| a | Level \* height | --- | 93.47 (46.04) .04 | 100.89 (45.82) .03 |
| a | Level \* smoking | --- | --- | -47.12 (8.79) <.01 |
| a | Level \* cardio | --- | --- | -9.68 (6.63) .14 |
| a | Level \* diabetes | --- | --- | 7.46 (7.00) .29 |
| a | Slope \* age | -0.25 (0.05) <.01 | -0.25 (0.05) <.01 | -0.26 (0.05) <.01 |
| a | Slope \* education | --- | -0.08 (0.20) .70 | -0.05 (0.19) .80 |
| a | Slope \* height | --- | 5.83 (7.77) .45 | 4.72 (7.13) .51 |
| a | Slope \* smoking | --- | --- | 0.70 (1.68) .68 |
| a | Slope \* cardio | --- | --- | -0.58 (1.26) .65 |
| a | Slope \* diabetes | --- | --- | -1.25 (1.26) .32 |
| b | Level | 9.09 (0.12) <.01 | 8.37 (0.18) <.01 | 8.08 (0.25) <.01 |
| b | Slope | -0.17 (0.08) .03 | -0.14 (0.06) .03 | -0.12 (0.04) .01 |
| b | Level \* age | -0.01 (0.01) .59 | -0.00 (0.01) .85 | 0.04 (0.01) <.01 |
| b | Level \* education | --- | 0.13 (0.03) <.01 | 0.15 (0.03) <.01 |
| b | Level \* height | --- | 0.67 (1.16) .56 | 0.85 (1.12) .45 |
| b | Level \* smoking | --- | --- | 0.82 (0.32) .01 |
| b | Level \* cardio | --- | --- | -0.28 (0.19) .14 |
| b | Level \* diabetes | --- | --- | 0.01 (0.19) .97 |
| b | Slope \* age | 0.02 (0.01) <.01 | 0.02 (0.01) .01 | 0.01 (0.00) <.01 |
| b | Slope \* education | --- | -0.01 (0.01) .45 | -0.01 (0.01) .05 |
| b | Slope \* height | --- | 0.08 (0.47) .86 | 0.11 (0.25) .67 |
| b | Slope \* smoking | --- | --- | -0.22 (0.07) <.01 |
| b | Slope \* cardio | --- | --- | -0.00 (0.04) .96 |
| b | Slope \* diabetes | --- | --- | 0.05 (0.04) .19 |
| a | Var (Level) | 5134.44 (285.07) <.01 | 4880.96 (275.29) <.01 | 3541.31 (272.12) <.01 |
| a | Var (Slope) | 159.56 (23.68) <.01 | 158.85 (23.56) <.01 | 9.33 (9.85) .34 |
| a | Var (Residual) | 333.55 (26.22) <.01 | 333.65 (26.25) <.01 | 1842.73 (147.59) <.01 |
| b | Var (Level) | 0.31 (4.53) .95 | 0.27 (4.55) .95 | 1.86 (0.76) .01 |
| b | Var (Slope) | 0.01 (0.34) .97 | 0.01 (0.34) .97 | 0.10 (0.02) <.01 |
| b | Var (Residual) | 333.55 (26.22) <.01 | 333.65 (26.25) <.01 | 1.85 (0.19) <.01 |
| a | Covar (Level, Slope) | -283.47 (49.35) <.01 | -282.61 (49.73) <.01 | -14.06 (37.71) .71 |
| b | Covar (Level, Slope) | -0.05 (0.69) .94 | -0.04 (0.68) .95 | -0.07 (0.11) .52 |
|  | Correlation of Levels | 0.448 | 0.3295 | 0.127 |
|  | Correlation of Slopes | 0.304 | 0.2796 | 0.330 |
|  | Correlation of Residuals | 0.003 | 0.0025 | -0.019 |
|  | N | 715 | 715 | 715 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | 20 | 28 | 41 |
|  | LL | -21,271 | -21,251 | -15,945 |
|  | AIC | 42,582 | 42,557 | 31,972 |
|  | BIC | 42,673 | 42,685 | 32,159 |

## word\_de

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| ab | Covar (Levels) | 23.85 (2160.11) .99 | 16.56 (34.73) .63 | 22.08 (2.27) <.01 |
| ab | Covar (Slopes) | 0.23 (37.51) .99 | 0.20 (12.73) .99 | 0.10 (0.05) .04 |
| ab | Covar (Residuals) | 0.62 (0.45) .16 | 0.53 (0.44) .22 | 2.00 (1.03) .05 |
| er | Corr (Levels) | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- |
| a | Level | 274.85 (2.76) <.01 | 248.50 (5.61) <.01 | 247.23 (2.82) <.01 |
| a | Slope | -2.67 (0.59) <.01 | -2.23 (1.30) .09 | -2.75 (0.41) <.01 |
| a | Level \* age | -3.82 (0.23) <.01 | -3.55 (0.23) <.01 | -3.43 (0.12) <.01 |
| a | Level \* education | --- | 4.70 (0.90) <.01 | 6.00 (0.39) <.01 |
| a | Level \* height | --- | 93.45 (46.01) .04 | 1.84 (0.18) <.01 |
| a | Level \* smoking | --- | --- | -17.64 (2.30) <.01 |
| a | Level \* cardio | --- | --- | -10.47 (2.94) <.01 |
| a | Level \* diabetes | --- | --- | -9.98 (3.03) <.01 |
| a | Slope \* age | -0.25 (0.05) <.01 | -0.25 (0.05) <.01 | -0.19 (0.02) <.01 |
| a | Slope \* education | --- | -0.09 (0.21) .67 | -0.08 (0.06) .16 |
| a | Slope \* height | --- | 5.85 (8.04) .47 | 0.02 (0.02) .50 |
| a | Slope \* smoking | --- | --- | -0.90 (0.29) <.01 |
| a | Slope \* cardio | --- | --- | 0.00 (0.41) .99 |
| a | Slope \* diabetes | --- | --- | 0.26 (0.42) .54 |
| b | Level | 4.38 (0.81) <.01 | 3.46 (0.12) <.01 | 3.45 (0.06) <.01 |
| b | Slope | -0.08 (0.54) .89 | -0.05 (0.11) .63 | -0.08 (0.01) <.01 |
| b | Level \* age | -0.08 (0.07) .26 | -0.07 (0.01) <.01 | -0.06 (0.00) <.01 |
| b | Level \* education | --- | 0.17 (0.03) <.01 | 0.18 (0.01) <.01 |
| b | Level \* height | --- | 0.75 (1.10) .49 | 0.01 (0.00) .15 |
| b | Level \* smoking | --- | --- | 0.09 (0.05) .08 |
| b | Level \* cardio | --- | --- | -0.24 (0.06) <.01 |
| b | Level \* diabetes | --- | --- | -0.31 (0.07) <.01 |
| b | Slope \* age | -0.00 (0.04) .93 | -0.00 (0.01) .75 | -0.00 (0.00) <.01 |
| b | Slope \* education | --- | -0.00 (0.01) .69 | 0.00 (0.00) .82 |
| b | Slope \* height | --- | 0.05 (0.80) .95 | 0.00 (0.00) .82 |
| b | Slope \* smoking | --- | --- | -0.01 (0.01) .07 |
| b | Slope \* cardio | --- | --- | 0.00 (0.01) .99 |
| b | Slope \* diabetes | --- | --- | -0.02 (0.01) .05 |
| a | Var (Level) | 5191.40 (288.09) <.01 | 4937.58 (276.53) <.01 | 4170.08 (133.03) <.01 |
| a | Var (Slope) | 186.07 (27.73) <.01 | 185.49 (27.68) <.01 | 10.53 (2.82) <.01 |
| a | Var (Residual) | 271.83 (21.60) <.01 | 271.79 (21.60) <.01 | 1711.36 (62.19) <.01 |
| b | Var (Level) | 0.28 (19.48) .99 | 0.22 (4.33) .96 | 1.50 (0.08) <.01 |
| b | Var (Slope) | 0.01 (0.30) .98 | 0.01 (0.29) .98 | 0.00 (0.00) .36 |
| b | Var (Residual) | 271.83 (21.60) <.01 | 271.79 (21.60) <.01 | 1.67 (0.05) <.01 |
| a | Covar (Level, Slope) | -309.62 (53.25) <.01 | -308.55 (53.51) <.01 | -23.02 (15.01) .12 |
| b | Covar (Level, Slope) | -0.02 (3.14) .99 | -0.02 (0.70) .97 | 0.00 (0.01) .72 |
|  | Correlation of Levels | 0.6234 | 0.501 | 0.279 |
|  | Correlation of Slopes | 0.1989 | 0.176 | 0.703 |
|  | Correlation of Residuals | 0.0023 | 0.002 | 0.037 |
|  | N | 715 | 715 | 4,611 |
|  | occasions | 5 | 5 | 3 |
|  | parameters | 20 | 28 | 41 |
|  | LL | -23,567 | -23,546 | -80,073 |
|  | AIC | 47,173 | 47,148 | 160,228 |
|  | BIC | 47,265 | 47,276 | 160,492 |

## word\_im

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| ab | Covar (Levels) | 22.67 (292.29) .94 | 15.93 (870.74) .98 | 18.90 (1.80) <.01 |
| ab | Covar (Slopes) | 0.13 (31.45) .99 | 0.10 (32.23) .99 | 0.04 (0.04) .30 |
| ab | Covar (Residuals) | 0.64 (0.43) .14 | 0.55 (0.42) .19 | 1.71 (0.85) .04 |
| er | Corr (Levels) | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- |
| a | Level | 274.85 (2.78) <.01 | 248.50 (5.61) <.01 | 247.17 (2.82) <.01 |
| a | Slope | -2.67 (0.59) <.01 | -2.23 (1.30) .09 | -2.78 (0.41) <.01 |
| a | Level \* age | -3.82 (0.23) <.01 | -3.55 (0.23) <.01 | -3.43 (0.12) <.01 |
| a | Level \* education | --- | 4.70 (0.90) <.01 | 6.01 (0.39) <.01 |
| a | Level \* height | --- | 93.45 (46.01) .04 | 1.84 (0.18) <.01 |
| a | Level \* smoking | --- | --- | -17.64 (2.30) <.01 |
| a | Level \* cardio | --- | --- | -10.42 (2.94) <.01 |
| a | Level \* diabetes | --- | --- | -9.92 (3.03) <.01 |
| a | Slope \* age | -0.25 (0.05) <.01 | -0.25 (0.05) <.01 | -0.19 (0.02) <.01 |
| a | Slope \* education | --- | -0.09 (0.21) .67 | -0.08 (0.06) .14 |
| a | Slope \* height | --- | 5.85 (8.04) .47 | 0.01 (0.02) .55 |
| a | Slope \* smoking | --- | --- | -0.90 (0.29) <.01 |
| a | Slope \* cardio | --- | --- | 0.01 (0.41) .98 |
| a | Slope \* diabetes | --- | --- | 0.25 (0.42) .55 |
| b | Level | 5.51 (0.61) <.01 | 4.65 (0.10) <.01 | 4.59 (0.05) <.01 |
| b | Slope | -0.09 (0.63) .89 | -0.09 (0.26) .74 | -0.08 (0.01) <.01 |
| b | Level \* age | -0.06 (0.05) .27 | -0.05 (0.03) .06 | -0.05 (0.00) <.01 |
| b | Level \* education | --- | 0.15 (0.06) .01 | 0.17 (0.01) <.01 |
| b | Level \* height | --- | 0.72 (1.67) .67 | 0.00 (0.00) .26 |
| b | Level \* smoking | --- | --- | 0.06 (0.04) .12 |
| b | Level \* cardio | --- | --- | -0.14 (0.05) .01 |
| b | Level \* diabetes | --- | --- | -0.21 (0.05) <.01 |
| b | Slope \* age | -0.00 (0.05) .93 | -0.00 (0.03) .89 | -0.00 (0.00) <.01 |
| b | Slope \* education | --- | 0.00 (0.02) .99 | 0.00 (0.00) .82 |
| b | Slope \* height | --- | 0.16 (1.92) .94 | 0.00 (0.00) .85 |
| b | Slope \* smoking | --- | --- | -0.01 (0.01) .15 |
| b | Slope \* cardio | --- | --- | 0.00 (0.01) .97 |
| b | Slope \* diabetes | --- | --- | -0.02 (0.01) .03 |
| a | Var (Level) | 5192.60 (285.59) <.01 | 4938.80 (275.67) <.01 | 4164.41 (132.99) <.01 |
| a | Var (Slope) | 186.68 (28.17) <.01 | 186.11 (28.21) <.01 | 10.28 (2.82) <.01 |
| a | Var (Residual) | 270.56 (21.52) <.01 | 270.50 (21.52) <.01 | 1714.66 (62.47) <.01 |
| b | Var (Level) | 0.26 (6.99) .97 | 0.21 (9.07) .98 | 0.87 (0.06) <.01 |
| b | Var (Slope) | 0.01 (0.29) .98 | 0.01 (0.29) .98 | 0.00 (0.00) .57 |
| b | Var (Residual) | 270.56 (21.52) <.01 | 270.50 (21.52) <.01 | 1.25 (0.04) <.01 |
| a | Covar (Level, Slope) | -310.20 (53.40) <.01 | -309.14 (53.82) <.01 | -21.27 (14.97) .16 |
| b | Covar (Level, Slope) | -0.03 (1.47) .99 | -0.03 (0.70) .97 | 0.01 (0.01) .48 |
|  | Correlation of Levels | 0.6133 | 0.496 | 0.314 |
|  | Correlation of Slopes | 0.1128 | 0.084 | 0.444 |
|  | Correlation of Residuals | 0.0024 | 0.002 | 0.037 |
|  | N | 715 | 715 | 4,612 |
|  | occasions | 5 | 5 | 3 |
|  | parameters | 20 | 28 | 41 |
|  | LL | -23,576 | -23,555 | -78,004 |
|  | AIC | 47,191 | 47,166 | 156,090 |
|  | BIC | 47,283 | 47,294 | 156,354 |

## Summary

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

Computed correlations:

label

process\_b

a

aeh

aehplus

Correlation of Levels

serial7

0.54

0.28

0.13

Correlation of Levels

tics

0.45

0.33

0.13

Correlation of Levels

word\_de

0.62

0.50

0.28

Correlation of Levels

word\_im

0.61

0.50

0.31

label

process\_b

a

aeh

aehplus

Correlation of Slopes

serial7

0.19

0.18

0.38

Correlation of Slopes

tics

0.30

0.28

0.33

Correlation of Slopes

word\_de

0.20

0.18

0.70

Correlation of Slopes

word\_im

0.11

0.08

0.44

label

process\_b

a

aeh

aehplus

Correlation of Residuals

serial7

0.00

0.00

-0.02

Correlation of Residuals

tics

0.00

0.00

-0.02

Correlation of Residuals

word\_de

0.00

0.00

0.04

Correlation of Residuals

word\_im

0.00

0.00

0.04

P-values for corresponding covariances:

label

process\_b

a

aeh

aehplus

Covariance of Levels

serial7

0.96

0.98

0.00

Covariance of Levels

tics

0.00

0.02

0.12

Covariance of Levels

word\_de

0.99

0.63

0.00

Covariance of Levels

word\_im

0.94

0.98

0.00

label

process\_b

a

aeh

aehplus

Covariance of Slopes

serial7

0.99

0.99

0.00

Covariance of Slopes

tics

0.85

0.87

0.09

Covariance of Slopes

word\_de

0.99

0.99

0.04

Covariance of Slopes

word\_im

1.00

1.00

0.30

label

process\_b

a

aeh

aehplus

Covariance of Residuals

serial7

0.33

0.50

0.22

Covariance of Residuals

tics

0.53

0.67

0.61

Covariance of Residuals

word\_de

0.16

0.22

0.05

Covariance of Residuals

word\_im

0.14

0.19

0.04

# male

Gender = *male*; Model type: *aehplus*; Process (a) = *pef*; Process (b): *serial7*, *tics*, *word\_de*, *word\_im*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| process | label | serial7 | tics | word\_de | word\_im | mean(sd) |
| ab | Covar (Levels) | 13.68 (3.34) <.01 | 8.15 (6.79) .23 | 30.33 (3.72) <.01 | 23.98 (3.09) <.01 | --- |
| ab | Covar (Slopes) | 0.15 (0.09) .10 | -0.29 (0.29) .32 | 0.15 (0.08) .07 | 0.05 (0.07) .47 | --- |
| ab | Covar (Residuals) | 2.17 (1.87) .25 | 0.44 (3.30) .90 | 1.95 (1.80) .28 | 2.27 (1.45) .12 | --- |
| er | Corr (Levels) | --- | --- | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- | --- | --- |
| a | Level | 369.01 (5.86) <.01 | 339.43 (14.45) <.01 | 368.41 (5.86) <.01 | 368.44 (5.86) <.01 | 361.32(14.60) |
| a | Slope | -3.71 (0.84) <.01 | -5.94 (2.66) .03 | -3.41 (0.83) <.01 | -3.43 (0.83) <.01 | -4.12(1.22) |
| a | Level \* age | -4.28 (0.22) <.01 | -4.54 (0.48) <.01 | -4.29 (0.22) <.01 | -4.29 (0.22) <.01 | -4.35(0.12) |
| a | Level \* education | 7.95 (0.67) <.01 | 7.08 (1.41) <.01 | 7.97 (0.67) <.01 | 7.97 (0.67) <.01 | 7.74(0.44) |
| a | Level \* height | 3.30 (0.30) <.01 | 198.03 (62.97) <.01 | 3.29 (0.30) <.01 | 3.29 (0.30) <.01 | 51.98(97.37) |
| a | Level \* smoking | -27.01 (4.49) <.01 | -56.07 (15.16) <.01 | -26.96 (4.49) <.01 | -26.99 (4.49) <.01 | -34.26(14.54) |
| a | Level \* cardio | -18.64 (4.84) <.01 | 2.28 (10.49) .83 | -18.43 (4.84) <.01 | -18.51 (4.84) <.01 | -13.33(10.40) |
| a | Level \* diabetes | -6.59 (5.14) .20 | -3.54 (12.00) .77 | -6.41 (5.14) .21 | -6.36 (5.14) .22 | -5.72(1.46) |
| a | Slope \* age | -0.26 (0.03) <.01 | -0.33 (0.08) <.01 | -0.25 (0.03) <.01 | -0.25 (0.03) <.01 | -0.27(0.04) |
| a | Slope \* education | -0.00 (0.10) .96 | 0.01 (0.27) .97 | -0.00 (0.10) .99 | 0.00 (0.10) .96 | 0.00(0.01) |
| a | Slope \* height | 0.01 (0.04) .79 | 14.51 (9.81) .14 | 0.01 (0.04) .75 | 0.01 (0.04) .78 | 3.63(7.25) |
| a | Slope \* smoking | -1.18 (0.55) .03 | -0.30 (2.10) .89 | -1.16 (0.55) .03 | -1.12 (0.55) .04 | -0.94(0.43) |
| a | Slope \* cardio | -1.09 (0.63) .08 | -3.67 (1.60) .02 | -1.08 (0.63) .08 | -1.06 (0.63) .09 | -1.73(1.30) |
| a | Slope \* diabetes | -1.80 (0.66) .01 | -1.18 (2.11) .57 | -1.76 (0.66) .01 | -1.74 (0.66) .01 | -1.62(0.30) |
| b | Level | 3.22 (0.08) <.01 | 8.60 (0.25) <.01 | 3.08 (0.08) <.01 | 4.23 (0.06) <.01 | --- |
| b | Slope | -0.14 (0.01) <.01 | -0.18 (0.05) <.01 | -0.10 (0.01) <.01 | -0.10 (0.01) <.01 | --- |
| b | Level \* age | 0.00 (0.00) .98 | 0.02 (0.01) .02 | -0.06 (0.00) <.01 | -0.05 (0.00) <.01 | --- |
| b | Level \* education | 0.14 (0.01) <.01 | 0.10 (0.02) <.01 | 0.16 (0.01) <.01 | 0.15 (0.01) <.01 | --- |
| b | Level \* height | 0.01 (0.00) .08 | 0.86 (0.67) .20 | 0.02 (0.00) <.01 | 0.01 (0.00) <.01 | --- |
| b | Level \* smoking | 0.02 (0.05) .73 | 0.09 (0.21) .67 | -0.01 (0.06) .85 | 0.03 (0.05) .58 | --- |
| b | Level \* cardio | -0.10 (0.06) .06 | 0.06 (0.10) .56 | -0.09 (0.06) .16 | -0.12 (0.06) .04 | --- |
| b | Level \* diabetes | -0.05 (0.06) .37 | 0.01 (0.11) .93 | -0.16 (0.07) .02 | -0.20 (0.06) <.01 | --- |
| b | Slope \* age | -0.01 (0.00) <.01 | 0.02 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | --- |
| b | Slope \* education | 0.00 (0.00) .26 | -0.01 (0.00) .07 | 0.00 (0.00) .23 | 0.00 (0.00) .11 | --- |
| b | Slope \* height | 0.00 (0.00) .96 | 0.18 (0.21) .40 | 0.00 (0.00) .68 | 0.00 (0.00) .94 | --- |
| b | Slope \* smoking | -0.03 (0.01) .01 | -0.28 (0.06) <.01 | -0.02 (0.01) .07 | -0.02 (0.01) .03 | --- |
| b | Slope \* cardio | 0.00 (0.01) .99 | 0.00 (0.03) .96 | 0.00 (0.01) .77 | 0.00 (0.01) .74 | --- |
| b | Slope \* diabetes | -0.02 (0.01) .05 | -0.05 (0.04) .21 | -0.00 (0.01) .67 | 0.01 (0.01) .13 | --- |
| a | Var (Level) | 10808.04 (378.16) <.01 | 9985.40 (766.81) <.01 | 10820.37 (378.34) <.01 | 10814.42 (378.36) <.01 | 10607.06(414.47) |
| a | Var (Slope) | 21.99 (8.05) .01 | 65.87 (24.18) .01 | 21.22 (8.01) .01 | 20.95 (8.03) .01 | 32.51(22.25) |
| a | Var (Residual) | 3599.54 (174.68) <.01 | 2948.91 (237.45) <.01 | 3601.86 (174.85) <.01 | 3610.15 (175.52) <.01 | 3440.11(327.50) |
| b | Var (Level) | 0.67 (0.06) <.01 | 0.25 (0.41) .54 | 1.16 (0.08) <.01 | 0.81 (0.06) <.01 | --- |
| b | Var (Slope) | 0.02 (0.00) <.01 | 0.07 (0.01) <.01 | 0.00 (0.00) .35 | 0.00 (0.00) .59 | --- |
| b | Var (Residual) | 1.20 (0.04) <.01 | 1.42 (0.18) <.01 | 1.53 (0.05) <.01 | 1.14 (0.04) <.01 | --- |
| a | Covar (Level, Slope) | -25.33 (40.89) .54 | -119.15 (99.17) .23 | -28.22 (40.70) .49 | -30.22 (40.71) .46 | -50.73(45.66) |
| b | Covar (Level, Slope) | -0.01 (0.01) .18 | 0.06 (0.07) .41 | 0.01 (0.01) .24 | 0.01 (0.01) .37 | --- |
|  | Correlation of Levels | 0.161 | 0.1626 | 0.271 | 0.256 | 0.21(0.06) |
|  | Correlation of Slopes | 0.214 | -0.1313 | 0.738 | 0.366 | 0.30(0.36) |
|  | Correlation of Residuals | 0.033 | 0.0067 | 0.026 | 0.035 | 0.03(0.01) |
|  | N | 3,287 | 535 | 3,288 | 3,288 | 2599.50(1376.33) |
|  | occasions | 3 | 5 | 3 | 3 | 3.50(1.00) |
|  | parameters | 41 | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -57,953 | -12,045 | -58,121 | -56,887 | -4.625121e+04(2.281055e+04) |
|  | AIC | 115,987 | 24,172 | 116,323 | 113,855 | 9.258443e+04(4.562110e+04) |
|  | BIC | 116,237 | 24,348 | 116,573 | 114,105 | 9.281583e+04(4.565831e+04) |

## serial7

Gender = *male*; Process (a) = *pef*; Process (b) = *serial7*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| ab | Covar (Levels) | 24.34 (882.90) .98 | 10.39 (897.18) .99 | 13.68 (3.34) <.01 |
| ab | Covar (Slopes) | 0.39 (46.01) .99 | 0.39 (46.51) .99 | 0.15 (0.09) .10 |
| ab | Covar (Residuals) | -0.29 (0.36) .42 | -0.37 (0.36) .31 | 2.17 (1.87) .25 |
| er | Corr (Levels) | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- |
| a | Level | 405.24 (5.02) <.01 | 320.42 (13.75) <.01 | 369.01 (5.86) <.01 |
| a | Slope | -5.67 (1.06) <.01 | -6.41 (3.13) .04 | -3.71 (0.84) <.01 |
| a | Level \* age | -4.30 (0.43) <.01 | -3.66 (0.43) <.01 | -4.28 (0.22) <.01 |
| a | Level \* education | --- | 7.95 (1.46) <.01 | 7.95 (0.67) <.01 |
| a | Level \* height | --- | 231.94 (63.09) <.01 | 3.30 (0.30) <.01 |
| a | Level \* smoking | --- | --- | -27.01 (4.49) <.01 |
| a | Level \* cardio | --- | --- | -18.64 (4.84) <.01 |
| a | Level \* diabetes | --- | --- | -6.59 (5.14) .20 |
| a | Slope \* age | -0.37 (0.09) <.01 | -0.36 (0.09) <.01 | -0.26 (0.03) <.01 |
| a | Slope \* education | --- | 0.19 (0.39) .62 | -0.00 (0.10) .96 |
| a | Slope \* height | --- | -2.40 (12.77) .85 | 0.01 (0.04) .79 |
| a | Slope \* smoking | --- | --- | -1.18 (0.55) .03 |
| a | Slope \* cardio | --- | --- | -1.09 (0.63) .08 |
| a | Slope \* diabetes | --- | --- | -1.80 (0.66) .01 |
| b | Level | 4.08 (0.06) <.01 | 3.10 (0.21) <.01 | 3.22 (0.08) <.01 |
| b | Slope | -0.19 (0.01) <.01 | -0.23 (0.03) <.01 | -0.14 (0.01) <.01 |
| b | Level \* age | -0.00 (0.01) .56 | 0.00 (0.01) .53 | 0.00 (0.00) .98 |
| b | Level \* education | --- | 0.15 (0.02) <.01 | 0.14 (0.01) <.01 |
| b | Level \* height | --- | 0.72 (0.84) .39 | 0.01 (0.00) .08 |
| b | Level \* smoking | --- | --- | 0.02 (0.05) .73 |
| b | Level \* cardio | --- | --- | -0.10 (0.06) .06 |
| b | Level \* diabetes | --- | --- | -0.05 (0.06) .37 |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 |
| b | Slope \* education | --- | -0.00 (0.00) .61 | 0.00 (0.00) .26 |
| b | Slope \* height | --- | 0.32 (0.16) .05 | 0.00 (0.00) .96 |
| b | Slope \* smoking | --- | --- | -0.03 (0.01) .01 |
| b | Slope \* cardio | --- | --- | 0.00 (0.01) .99 |
| b | Slope \* diabetes | --- | --- | -0.02 (0.01) .05 |
| a | Var (Level) | 13344.73 (887.34) <.01 | 12303.09 (801.01) <.01 | 10808.04 (378.16) <.01 |
| a | Var (Slope) | 456.67 (64.22) <.01 | 455.94 (64.12) <.01 | 21.99 (8.05) .01 |
| a | Var (Residual) | 358.57 (28.68) <.01 | 358.47 (28.68) <.01 | 3599.54 (174.68) <.01 |
| b | Var (Level) | 0.24 (6.18) .97 | 0.19 (5.35) .97 | 0.67 (0.06) <.01 |
| b | Var (Slope) | 0.01 (0.41) .98 | 0.01 (0.41) .98 | 0.02 (0.00) <.01 |
| b | Var (Residual) | 358.57 (28.68) <.01 | 358.47 (28.68) <.01 | 1.20 (0.04) <.01 |
| a | Covar (Level, Slope) | -648.61 (135.22) <.01 | -662.28 (132.67) <.01 | -25.33 (40.89) .54 |
| b | Covar (Level, Slope) | -0.02 (0.85) .98 | -0.02 (0.86) .98 | -0.01 (0.01) .18 |
|  | Correlation of Levels | 0.43013 | 0.213 | 0.161 |
|  | Correlation of Slopes | 0.19188 | 0.192 | 0.214 |
|  | Correlation of Residuals | -0.00082 | -0.001 | 0.033 |
|  | N | 535 | 535 | 3,287 |
|  | occasions | 5 | 5 | 3 |
|  | parameters | 20 | 28 | 41 |
|  | LL | -19,858 | -19,833 | -57,953 |
|  | AIC | 39,755 | 39,721 | 115,987 |
|  | BIC | 39,841 | 39,841 | 116,237 |

## tics

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| ab | Covar (Levels) | 16.18 (10.78) .13 | 7.36 (14.16) .60 | 8.15 (6.79) .23 |
| ab | Covar (Slopes) | 0.06 (4.11) .99 | 0.01 (6.81) .99 | -0.29 (0.29) .32 |
| ab | Covar (Residuals) | 0.40 (1.38) .77 | 0.22 (1.90) .91 | 0.44 (3.30) .90 |
| er | Corr (Levels) | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- |
| a | Level | 405.13 (5.00) <.01 | 320.47 (13.75) <.01 | 339.43 (14.45) <.01 |
| a | Slope | -5.54 (0.98) <.01 | -6.47 (2.97) .03 | -5.94 (2.66) .03 |
| a | Level \* age | -4.30 (0.43) <.01 | -3.66 (0.43) <.01 | -4.54 (0.48) <.01 |
| a | Level \* education | --- | 7.96 (1.45) <.01 | 7.08 (1.41) <.01 |
| a | Level \* height | --- | 230.54 (63.15) <.01 | 198.03 (62.97) <.01 |
| a | Level \* smoking | --- | --- | -56.07 (15.16) <.01 |
| a | Level \* cardio | --- | --- | 2.28 (10.49) .83 |
| a | Level \* diabetes | --- | --- | -3.54 (12.00) .77 |
| a | Slope \* age | -0.37 (0.09) <.01 | -0.36 (0.09) <.01 | -0.33 (0.08) <.01 |
| a | Slope \* education | --- | 0.18 (0.37) .63 | 0.01 (0.27) .97 |
| a | Slope \* height | --- | -0.64 (12.27) .96 | 14.51 (9.81) .14 |
| a | Slope \* smoking | --- | --- | -0.30 (2.10) .89 |
| a | Slope \* cardio | --- | --- | -3.67 (1.60) .02 |
| a | Slope \* diabetes | --- | --- | -1.18 (2.11) .57 |
| b | Level | 9.37 (0.09) <.01 | 8.75 (0.23) <.01 | 8.60 (0.25) <.01 |
| b | Slope | -0.22 (0.07) <.01 | -0.23 (0.07) <.01 | -0.18 (0.05) <.01 |
| b | Level \* age | 0.00 (0.01) .97 | 0.00 (0.01) .77 | 0.02 (0.01) .02 |
| b | Level \* education | --- | 0.09 (0.05) .06 | 0.10 (0.02) <.01 |
| b | Level \* height | --- | 0.72 (1.37) .60 | 0.86 (0.67) .20 |
| b | Level \* smoking | --- | --- | 0.09 (0.21) .67 |
| b | Level \* cardio | --- | --- | 0.06 (0.10) .56 |
| b | Level \* diabetes | --- | --- | 0.01 (0.11) .93 |
| b | Slope \* age | 0.03 (0.00) <.01 | 0.03 (0.01) <.01 | 0.02 (0.00) <.01 |
| b | Slope \* education | --- | -0.00 (0.02) .83 | -0.01 (0.00) .07 |
| b | Slope \* height | --- | 0.26 (0.28) .36 | 0.18 (0.21) .40 |
| b | Slope \* smoking | --- | --- | -0.28 (0.06) <.01 |
| b | Slope \* cardio | --- | --- | 0.00 (0.03) .96 |
| b | Slope \* diabetes | --- | --- | -0.05 (0.04) .21 |
| a | Var (Level) | 13221.81 (885.56) <.01 | 12181.50 (800.16) <.01 | 9985.40 (766.81) <.01 |
| a | Var (Slope) | 394.15 (58.31) <.01 | 393.12 (58.36) <.01 | 65.87 (24.18) .01 |
| a | Var (Residual) | 484.22 (38.08) <.01 | 484.35 (38.13) <.01 | 2948.91 (237.45) <.01 |
| b | Var (Level) | 0.32 (7.12) .96 | 0.30 (7.15) .97 | 0.25 (0.41) .54 |
| b | Var (Slope) | 0.01 (0.51) .98 | 0.01 (0.51) .98 | 0.07 (0.01) <.01 |
| b | Var (Residual) | 484.22 (38.08) <.01 | 484.35 (38.13) <.01 | 1.42 (0.18) <.01 |
| a | Covar (Level, Slope) | -587.63 (128.89) <.01 | -602.07 (126.56) <.01 | -119.15 (99.17) .23 |
| b | Covar (Level, Slope) | -0.04 (1.05) .97 | -0.05 (1.06) .96 | 0.06 (0.07) .41 |
|  | Correlation of Levels | 0.24687 | 0.12100 | 0.1626 |
|  | Correlation of Slopes | 0.02767 | 0.00469 | -0.1313 |
|  | Correlation of Residuals | 0.00082 | 0.00046 | 0.0067 |
|  | N | 535 | 535 | 535 |
|  | occasions | 5 | 5 | 5 |
|  | parameters | 20 | 28 | 41 |
|  | LL | -16,904 | -16,880 | -12,045 |
|  | AIC | 33,849 | 33,816 | 24,172 |
|  | BIC | 33,934 | 33,936 | 24,348 |

## word\_de

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| ab | Covar (Levels) | 28.49 (563.06) .96 | 11.90 (688.37) .99 | 30.33 (3.72) <.01 |
| ab | Covar (Slopes) | 0.17 (4.69) .97 | 0.10 (15.65) .99 | 0.15 (0.08) .07 |
| ab | Covar (Residuals) | 0.42 (0.58) .47 | 0.33 (0.58) .57 | 1.95 (1.80) .28 |
| er | Corr (Levels) | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- |
| a | Level | 405.19 (5.01) <.01 | 320.44 (13.77) <.01 | 368.41 (5.86) <.01 |
| a | Slope | -5.61 (1.00) <.01 | -6.43 (3.05) .04 | -3.41 (0.83) <.01 |
| a | Level \* age | -4.30 (0.43) <.01 | -3.66 (0.43) <.01 | -4.29 (0.22) <.01 |
| a | Level \* education | --- | 7.95 (1.45) <.01 | 7.97 (0.67) <.01 |
| a | Level \* height | --- | 231.32 (63.16) <.01 | 3.29 (0.30) <.01 |
| a | Level \* smoking | --- | --- | -26.96 (4.49) <.01 |
| a | Level \* cardio | --- | --- | -18.43 (4.84) <.01 |
| a | Level \* diabetes | --- | --- | -6.41 (5.14) .21 |
| a | Slope \* age | -0.37 (0.09) <.01 | -0.36 (0.09) <.01 | -0.25 (0.03) <.01 |
| a | Slope \* education | --- | 0.19 (0.38) .63 | -0.00 (0.10) .99 |
| a | Slope \* height | --- | -1.62 (12.54) .90 | 0.01 (0.04) .75 |
| a | Slope \* smoking | --- | --- | -1.16 (0.55) .03 |
| a | Slope \* cardio | --- | --- | -1.08 (0.63) .08 |
| a | Slope \* diabetes | --- | --- | -1.76 (0.66) .01 |
| b | Level | 4.01 (0.08) <.01 | 2.79 (0.18) <.01 | 3.08 (0.08) <.01 |
| b | Slope | -0.08 (0.05) .08 | -0.06 (0.04) .20 | -0.10 (0.01) <.01 |
| b | Level \* age | -0.06 (0.01) <.01 | -0.05 (0.01) <.01 | -0.06 (0.00) <.01 |
| b | Level \* education | --- | 0.16 (0.03) <.01 | 0.16 (0.01) <.01 |
| b | Level \* height | --- | 1.60 (0.78) .04 | 0.02 (0.00) <.01 |
| b | Level \* smoking | --- | --- | -0.01 (0.06) .85 |
| b | Level \* cardio | --- | --- | -0.09 (0.06) .16 |
| b | Level \* diabetes | --- | --- | -0.16 (0.07) .02 |
| b | Slope \* age | -0.00 (0.00) .20 | -0.00 (0.01) .63 | -0.00 (0.00) <.01 |
| b | Slope \* education | --- | -0.00 (0.02) .96 | 0.00 (0.00) .23 |
| b | Slope \* height | --- | -0.13 (0.15) .38 | 0.00 (0.00) .68 |
| b | Slope \* smoking | --- | --- | -0.02 (0.01) .07 |
| b | Slope \* cardio | --- | --- | 0.00 (0.01) .77 |
| b | Slope \* diabetes | --- | --- | -0.00 (0.01) .67 |
| a | Var (Level) | 13288.96 (885.52) <.01 | 12248.07 (800.66) <.01 | 10820.37 (378.34) <.01 |
| a | Var (Slope) | 427.69 (61.20) <.01 | 426.89 (61.26) <.01 | 21.22 (8.01) .01 |
| a | Var (Residual) | 414.88 (32.87) <.01 | 414.77 (32.89) <.01 | 3601.86 (174.85) <.01 |
| b | Var (Level) | 0.30 (6.88) .96 | 0.24 (6.44) .97 | 1.16 (0.08) <.01 |
| b | Var (Slope) | 0.01 (0.44) .98 | 0.01 (0.45) .98 | 0.00 (0.00) .35 |
| b | Var (Residual) | 414.88 (32.87) <.01 | 414.77 (32.89) <.01 | 1.53 (0.05) <.01 |
| a | Covar (Level, Slope) | -620.48 (132.19) <.01 | -634.57 (129.75) <.01 | -28.22 (40.70) .49 |
| b | Covar (Level, Slope) | -0.03 (0.97) .97 | -0.04 (0.96) .97 | 0.01 (0.01) .24 |
|  | Correlation of Levels | 0.448 | 0.2190 | 0.271 |
|  | Correlation of Slopes | 0.077 | 0.0448 | 0.738 |
|  | Correlation of Residuals | 0.001 | 0.0008 | 0.026 |
|  | N | 535 | 535 | 3,288 |
|  | occasions | 5 | 5 | 3 |
|  | parameters | 20 | 28 | 41 |
|  | LL | -18,309 | -18,284 | -58,121 |
|  | AIC | 36,658 | 36,624 | 116,323 |
|  | BIC | 36,744 | 36,744 | 116,573 |

## word\_im

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| process | label | a | aeh | aehplus |
| ab | Covar (Levels) | 33.01 (653.48) .96 | 18.97 (839.59) .98 | 23.98 (3.09) <.01 |
| ab | Covar (Slopes) | 0.18 (4.09) .96 | 0.10 (19.00) .99 | 0.05 (0.07) .47 |
| ab | Covar (Residuals) | 1.28 (0.48) .01 | 1.18 (0.53) .02 | 2.27 (1.45) .12 |
| er | Corr (Levels) | --- | --- | --- |
| er | Corr (Slopes) | --- | --- | --- |
| er | Corr (Residuals) | --- | --- | --- |
| a | Level | 405.19 (5.02) <.01 | 320.44 (13.74) <.01 | 368.44 (5.86) <.01 |
| a | Slope | -5.61 (1.00) <.01 | -6.43 (3.05) .04 | -3.43 (0.83) <.01 |
| a | Level \* age | -4.30 (0.43) <.01 | -3.66 (0.43) <.01 | -4.29 (0.22) <.01 |
| a | Level \* education | --- | 7.95 (1.45) <.01 | 7.97 (0.67) <.01 |
| a | Level \* height | --- | 231.34 (63.07) <.01 | 3.29 (0.30) <.01 |
| a | Level \* smoking | --- | --- | -26.99 (4.49) <.01 |
| a | Level \* cardio | --- | --- | -18.51 (4.84) <.01 |
| a | Level \* diabetes | --- | --- | -6.36 (5.14) .22 |
| a | Slope \* age | -0.37 (0.09) <.01 | -0.36 (0.09) <.01 | -0.25 (0.03) <.01 |
| a | Slope \* education | --- | 0.19 (0.38) .63 | 0.00 (0.10) .96 |
| a | Slope \* height | --- | -1.64 (12.54) .90 | 0.01 (0.04) .78 |
| a | Slope \* smoking | --- | --- | -1.12 (0.55) .04 |
| a | Slope \* cardio | --- | --- | -1.06 (0.63) .09 |
| a | Slope \* diabetes | --- | --- | -1.74 (0.66) .01 |
| b | Level | 5.17 (0.08) <.01 | 4.13 (0.17) <.01 | 4.23 (0.06) <.01 |
| b | Slope | -0.10 (0.05) .04 | -0.11 (0.05) .03 | -0.10 (0.01) <.01 |
| b | Level \* age | -0.05 (0.01) <.01 | -0.04 (0.01) <.01 | -0.05 (0.00) <.01 |
| b | Level \* education | --- | 0.14 (0.03) <.01 | 0.15 (0.01) <.01 |
| b | Level \* height | --- | 1.50 (0.74) .04 | 0.01 (0.00) <.01 |
| b | Level \* smoking | --- | --- | 0.03 (0.05) .58 |
| b | Level \* cardio | --- | --- | -0.12 (0.06) .04 |
| b | Level \* diabetes | --- | --- | -0.20 (0.06) <.01 |
| b | Slope \* age | -0.00 (0.00) .15 | -0.00 (0.01) .68 | -0.00 (0.00) <.01 |
| b | Slope \* education | --- | 0.00 (0.02) .86 | 0.00 (0.00) .11 |
| b | Slope \* height | --- | -0.07 (0.14) .60 | 0.00 (0.00) .94 |
| b | Slope \* smoking | --- | --- | -0.02 (0.01) .03 |
| b | Slope \* cardio | --- | --- | 0.00 (0.01) .74 |
| b | Slope \* diabetes | --- | --- | 0.01 (0.01) .13 |
| a | Var (Level) | 13290.51 (884.76) <.01 | 12249.56 (799.47) <.01 | 10814.42 (378.36) <.01 |
| a | Var (Slope) | 428.49 (61.27) <.01 | 427.66 (61.32) <.01 | 20.95 (8.03) .01 |
| a | Var (Residual) | 413.34 (32.75) <.01 | 413.27 (32.77) <.01 | 3610.15 (175.52) <.01 |
| b | Var (Level) | 0.32 (7.32) .97 | 0.25 (6.88) .97 | 0.81 (0.06) <.01 |
| b | Var (Slope) | 0.01 (0.44) .98 | 0.01 (0.44) .98 | 0.00 (0.00) .59 |
| b | Var (Residual) | 413.34 (32.75) <.01 | 413.27 (32.77) <.01 | 1.14 (0.04) <.01 |
| a | Covar (Level, Slope) | -621.27 (132.28) <.01 | -635.32 (129.86) <.01 | -30.22 (40.71) .46 |
| b | Covar (Level, Slope) | -0.03 (0.99) .97 | -0.03 (1.00) .97 | 0.01 (0.01) .37 |
|  | Correlation of Levels | 0.5094 | 0.3407 | 0.256 |
|  | Correlation of Slopes | 0.0820 | 0.0461 | 0.366 |
|  | Correlation of Residuals | 0.0031 | 0.0029 | 0.035 |
|  | N | 535 | 535 | 3,288 |
|  | occasions | 5 | 5 | 3 |
|  | parameters | 20 | 28 | 41 |
|  | LL | -18,327 | -18,302 | -56,887 |
|  | AIC | 36,693 | 36,660 | 113,855 |
|  | BIC | 36,779 | 36,780 | 114,105 |

## Summary

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

Computed correlations:

label

process\_b

a

aeh

aehplus

Correlation of Levels

serial7

0.43

0.21

0.16

Correlation of Levels

tics

0.25

0.12

0.16

Correlation of Levels

word\_de

0.45

0.22

0.27

Correlation of Levels

word\_im

0.51

0.34

0.26

label

process\_b

a

aeh

aehplus

Correlation of Slopes

serial7

0.19

0.19

0.21

Correlation of Slopes

tics

0.03

0.00

-0.13

Correlation of Slopes

word\_de

0.08

0.04

0.74

Correlation of Slopes

word\_im

0.08

0.05

0.37

label

process\_b

a

aeh

aehplus

Correlation of Residuals

serial7

-0.00

-0.00

0.03

Correlation of Residuals

tics

0.00

0.00

0.01

Correlation of Residuals

word\_de

0.00

0.00

0.03

Correlation of Residuals

word\_im

0.00

0.00

0.04

P-values for corresponding covariances:

label

process\_b

a

aeh

aehplus

Covariance of Levels

serial7

0.98

0.99

0.00

Covariance of Levels

tics

0.13

0.60

0.23

Covariance of Levels

word\_de

0.96

0.99

0.00

Covariance of Levels

word\_im

0.96

0.98

0.00

label

process\_b

a

aeh

aehplus

Covariance of Slopes

serial7

0.99

0.99

0.10

Covariance of Slopes

tics

0.99

1.00

0.32

Covariance of Slopes

word\_de

0.97

0.99

0.07

Covariance of Slopes

word\_im

0.96

1.00

0.47

label

process\_b

a

aeh

aehplus

Covariance of Residuals

serial7

0.42

0.31

0.25

Covariance of Residuals

tics

0.77

0.91

0.90

Covariance of Residuals

word\_de

0.47

0.57

0.28

Covariance of Residuals

word\_im

0.01

0.02

0.12

#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