LASA : Seed report

Date: 2018-12-21

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

# Available models

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

|  |  |  |
| --- | --- | --- |
| process\_a | process\_b | n\_models |
| pef | letter | 2 |
| pef | raven\_color\_ab | 2 |
| pef | word\_im | 2 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| lasa | female | aehplus | pef | letter | 1 |
| lasa | female | aehplus | pef | raven\_color\_ab | 1 |
| lasa | female | aehplus | pef | word\_im | 1 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| lasa | male | aehplus | pef | letter | 1 |
| lasa | male | aehplus | pef | raven\_color\_ab | 1 |
| lasa | male | aehplus | pef | word\_im | 1 |

# female

Gender = *female*; Model type: *aehplus*; Process (a) = *pef*; Process (b): *letter*, *raven\_color\_ab*, *word\_im*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | letter | raven\_color\_ab | word\_im | mean(sd) |
| ab | Covar (Levels) | 74.21 (15.62) <.01 | 43.20 (8.05) <.01 | 37.66 (13.01) <.01 | — |
| ab | Covar (Slopes) | -0.01 (0.06) .91 | -0.01 (0.04) .76 | 0.01 (0.06) .86 | — |
|  | Covar (Residuals) | — | — | — | — |
| er | Corr (Levels) | 0.22 (0.04) <.01 | 0.29 (0.05) <.01 | 0.16 (0.05) <.01 | — |
| er | Corr (Slopes) | -0.03 (0.30) .92 | -0.14 (0.45) .75 | 0.10 (0.57) .86 | — |
| er | Corr (Residuals) | 0.11 (0.03) <.01 | 0.00 (0.03) .85 | 0.14 (0.02) <.01 | — |
| a | Level | 352.09 (4.52) <.01 | 352.05 (4.51) <.01 | 352.00 (4.52) <.01 | 352.05(0.05) |
| a | Slope | -3.80 (0.36) <.01 | -3.79 (0.36) <.01 | -3.77 (0.36) <.01 | -3.79(0.02) |
| a | Level \* age | -4.50 (0.36) <.01 | -4.50 (0.36) <.01 | -4.51 (0.36) <.01 | -4.50(0.01) |
| a | Level \* education | 3.08 (0.87) <.01 | 3.08 (0.87) <.01 | 3.07 (0.87) <.01 | 3.08(0.00) |
| a | Level \* height | 2.52 (0.41) <.01 | 2.52 (0.41) <.01 | 2.53 (0.41) <.01 | 2.52(0.01) |
| a | Level \* smoking | -30.62 (6.89) <.01 | -30.73 (6.88) <.01 | -30.55 (6.89) <.01 | -30.63(0.09) |
| a | Level \* cardio | -12.32 (7.36) .09 | -12.36 (7.35) .09 | -12.34 (7.36) .09 | -12.34(0.02) |
| a | Level \* diabetes | -3.75 (12.46) .76 | -3.72 (12.49) .77 | -3.83 (12.47) .76 | -3.77(0.06) |
| a | Slope \* age | -0.14 (0.03) <.01 | -0.14 (0.03) <.01 | -0.13 (0.03) <.01 | -0.14(0.00) |
| a | Slope \* education | -0.08 (0.06) .19 | -0.09 (0.06) .18 | -0.09 (0.06) .18 | -0.09(0.00) |
| a | Slope \* height | -0.04 (0.03) .19 | -0.04 (0.03) .21 | -0.04 (0.03) .21 | -0.04(0.00) |
| a | Slope \* smoking | -0.82 (0.47) .08 | -0.80 (0.47) .09 | -0.84 (0.47) .07 | -0.82(0.02) |
| a | Slope \* cardio | 0.03 (0.52) .95 | 0.07 (0.52) .90 | 0.02 (0.52) .96 | 0.04(0.02) |
| a | Slope \* diabetes | -0.93 (1.13) .41 | -0.91 (1.15) .43 | -0.85 (1.15) .46 | -0.90(0.04) |
| b | Level | 24.26 (0.35) <.01 | 17.82 (0.18) <.01 | 21.04 (0.28) <.01 | — |
| b | Slope | -0.34 (0.02) <.01 | -0.17 (0.02) <.01 | -0.29 (0.03) <.01 | — |
| b | Level \* age | -0.33 (0.03) <.01 | -0.15 (0.01) <.01 | -0.29 (0.02) <.01 | — |
| b | Level \* education | 0.85 (0.07) <.01 | 0.40 (0.03) <.01 | 0.47 (0.05) <.01 | — |
| b | Level \* height | 0.08 (0.03) .01 | 0.01 (0.02) .70 | 0.01 (0.03) .59 | — |
| b | Level \* smoking | -0.58 (0.54) .28 | -0.66 (0.28) .02 | -0.46 (0.49) .35 | — |
| b | Level \* cardio | -1.02 (0.54) .06 | -0.04 (0.29) .90 | -0.60 (0.48) .21 | — |
| b | Level \* diabetes | -0.71 (1.00) .48 | -0.83 (0.56) .14 | -0.94 (0.79) .24 | — |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.00 (0.00) <.01 | 0.00 (0.00) .96 | — |
| b | Slope \* education | -0.01 (0.00) .06 | 0.00 (0.00) .80 | -0.00 (0.00) .62 | — |
| b | Slope \* height | 0.00 (0.00) .86 | 0.00 (0.00) .83 | 0.00 (0.00) .33 | — |
| b | Slope \* smoking | 0.01 (0.03) .80 | 0.02 (0.02) .49 | -0.03 (0.04) .43 | — |
| b | Slope \* cardio | 0.00 (0.04) .92 | -0.04 (0.03) .09 | -0.00 (0.05) .97 | — |
| b | Slope \* diabetes | -0.13 (0.10) .17 | -0.08 (0.06) .12 | -0.05 (0.08) .53 | — |
| a | Var (Level) | 3902.40 (273.52) <.01 | 3922.55 (277.38) <.01 | 3921.81 (276.94) <.01 | 3915.59(11.43) |
| a | Var (Slope) | 1.15 (0.78) .14 | 1.66 (1.29) .20 | 1.61 (1.31) .22 | 1.47(0.28) |
|  | Var (Residual) | — | — | — | — |
| b | Var (Level) | 28.91 (1.54) <.01 | 5.72 (0.43) <.01 | 13.88 (1.32) <.01 | — |
| b | Var (Slope) | 0.04 (0.01) <.01 | 0.00 (0.00) .34 | 0.01 (0.01) .53 | — |
|  | Var (Residual) | — | — | — | — |
| a | Covar (Level, Slope) | 24.32 (13.29) .07 | 20.23 (14.83) .17 | 20.74 (14.71) .16 | 21.76(2.23) |
| b | Covar (Level, Slope) | -0.12 (0.08) .13 | 0.04 (0.03) .19 | 0.10 (0.10) .32 | — |
|  | Correlation of Levels | 0.221 | 0.29 | 0.16 | 0.22(0.06) |
|  | Correlation of Slopes | -0.034 | -0.16 | 0.10 | -0.03(0.13) |
|  | Correlation of Residuals | NA | NA | NA | — |
|  | N | 782 | 782 | 782 | 782.00(0.00) |
|  | occasions | 6 | 6 | 6 | 6.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -22,762 | -22,940 | -23,544 | -2.308195e+04(410) |
|  | AIC | 45,606 | 45,961 | 47,170 | 4.624591e+04(820) |
|  | BIC | 45,797 | 46,153 | 47,361 | 4.643704e+04(820) |

## letter

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

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 74.21 (15.62) <.01 |
| ab | Covar (Slopes) | -0.01 (0.06) .91 |
|  | Covar (Residuals) | — |
| er | Corr (Levels) | 0.22 (0.04) <.01 |
| er | Corr (Slopes) | -0.03 (0.30) .92 |
| er | Corr (Residuals) | 0.11 (0.03) <.01 |
| a | Level | 352.09 (4.52) <.01 |
| a | Slope | -3.80 (0.36) <.01 |
| a | Level \* age | -4.50 (0.36) <.01 |
| a | Level \* education | 3.08 (0.87) <.01 |
| a | Level \* height | 2.52 (0.41) <.01 |
| a | Level \* smoking | -30.62 (6.89) <.01 |
| a | Level \* cardio | -12.32 (7.36) .09 |
| a | Level \* diabetes | -3.75 (12.46) .76 |
| a | Slope \* age | -0.14 (0.03) <.01 |
| a | Slope \* education | -0.08 (0.06) .19 |
| a | Slope \* height | -0.04 (0.03) .19 |
| a | Slope \* smoking | -0.82 (0.47) .08 |
| a | Slope \* cardio | 0.03 (0.52) .95 |
| a | Slope \* diabetes | -0.93 (1.13) .41 |
| b | Level | 24.26 (0.35) <.01 |
| b | Slope | -0.34 (0.02) <.01 |
| b | Level \* age | -0.33 (0.03) <.01 |
| b | Level \* education | 0.85 (0.07) <.01 |
| b | Level \* height | 0.08 (0.03) .01 |
| b | Level \* smoking | -0.58 (0.54) .28 |
| b | Level \* cardio | -1.02 (0.54) .06 |
| b | Level \* diabetes | -0.71 (1.00) .48 |
| b | Slope \* age | -0.01 (0.00) <.01 |
| b | Slope \* education | -0.01 (0.00) .06 |
| b | Slope \* height | 0.00 (0.00) .86 |
| b | Slope \* smoking | 0.01 (0.03) .80 |
| b | Slope \* cardio | 0.00 (0.04) .92 |
| b | Slope \* diabetes | -0.13 (0.10) .17 |
| a | Var (Level) | 3902.40 (273.52) <.01 |
| a | Var (Slope) | 1.15 (0.78) .14 |
|  | Var (Residual) | — |
| b | Var (Level) | 28.91 (1.54) <.01 |
| b | Var (Slope) | 0.04 (0.01) <.01 |
|  | Var (Residual) | — |
| a | Covar (Level, Slope) | 24.32 (13.29) .07 |
| b | Covar (Level, Slope) | -0.12 (0.08) .13 |
|  | Correlation of Levels | 0.221 |
|  | Correlation of Slopes | -0.034 |
|  | Correlation of Residuals | NA |
|  | N | 782 |
|  | occasions | 6 |
|  | parameters | 41 |
|  | LL | -22,762 |
|  | AIC | 45,606 |
|  | BIC | 45,797 |

## raven\_color\_ab

Gender = *female*; Process (a) = *pef*; Process (b) = *raven\_color\_ab*

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 43.20 (8.05) <.01 |
| ab | Covar (Slopes) | -0.01 (0.04) .76 |
|  | Covar (Residuals) | — |
| er | Corr (Levels) | 0.29 (0.05) <.01 |
| er | Corr (Slopes) | -0.14 (0.45) .75 |
| er | Corr (Residuals) | 0.00 (0.03) .85 |
| a | Level | 352.05 (4.51) <.01 |
| a | Slope | -3.79 (0.36) <.01 |
| a | Level \* age | -4.50 (0.36) <.01 |
| a | Level \* education | 3.08 (0.87) <.01 |
| a | Level \* height | 2.52 (0.41) <.01 |
| a | Level \* smoking | -30.73 (6.88) <.01 |
| a | Level \* cardio | -12.36 (7.35) .09 |
| a | Level \* diabetes | -3.72 (12.49) .77 |
| a | Slope \* age | -0.14 (0.03) <.01 |
| a | Slope \* education | -0.09 (0.06) .18 |
| a | Slope \* height | -0.04 (0.03) .21 |
| a | Slope \* smoking | -0.80 (0.47) .09 |
| a | Slope \* cardio | 0.07 (0.52) .90 |
| a | Slope \* diabetes | -0.91 (1.15) .43 |
| b | Level | 17.82 (0.18) <.01 |
| b | Slope | -0.17 (0.02) <.01 |
| b | Level \* age | -0.15 (0.01) <.01 |
| b | Level \* education | 0.40 (0.03) <.01 |
| b | Level \* height | 0.01 (0.02) .70 |
| b | Level \* smoking | -0.66 (0.28) .02 |
| b | Level \* cardio | -0.04 (0.29) .90 |
| b | Level \* diabetes | -0.83 (0.56) .14 |
| b | Slope \* age | -0.00 (0.00) <.01 |
| b | Slope \* education | 0.00 (0.00) .80 |
| b | Slope \* height | 0.00 (0.00) .83 |
| b | Slope \* smoking | 0.02 (0.02) .49 |
| b | Slope \* cardio | -0.04 (0.03) .09 |
| b | Slope \* diabetes | -0.08 (0.06) .12 |
| a | Var (Level) | 3922.55 (277.38) <.01 |
| a | Var (Slope) | 1.66 (1.29) .20 |
|  | Var (Residual) | — |
| b | Var (Level) | 5.72 (0.43) <.01 |
| b | Var (Slope) | 0.00 (0.00) .34 |
|  | Var (Residual) | — |
| a | Covar (Level, Slope) | 20.23 (14.83) .17 |
| b | Covar (Level, Slope) | 0.04 (0.03) .19 |
|  | Correlation of Levels | 0.29 |
|  | Correlation of Slopes | -0.16 |
|  | Correlation of Residuals | NA |
|  | N | 782 |
|  | occasions | 6 |
|  | parameters | 41 |
|  | LL | -22,940 |
|  | AIC | 45,961 |
|  | BIC | 46,153 |

## word\_im

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

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 37.66 (13.01) <.01 |
| ab | Covar (Slopes) | 0.01 (0.06) .86 |
|  | Covar (Residuals) | — |
| er | Corr (Levels) | 0.16 (0.05) <.01 |
| er | Corr (Slopes) | 0.10 (0.57) .86 |
| er | Corr (Residuals) | 0.14 (0.02) <.01 |
| a | Level | 352.00 (4.52) <.01 |
| a | Slope | -3.77 (0.36) <.01 |
| a | Level \* age | -4.51 (0.36) <.01 |
| a | Level \* education | 3.07 (0.87) <.01 |
| a | Level \* height | 2.53 (0.41) <.01 |
| a | Level \* smoking | -30.55 (6.89) <.01 |
| a | Level \* cardio | -12.34 (7.36) .09 |
| a | Level \* diabetes | -3.83 (12.47) .76 |
| a | Slope \* age | -0.13 (0.03) <.01 |
| a | Slope \* education | -0.09 (0.06) .18 |
| a | Slope \* height | -0.04 (0.03) .21 |
| a | Slope \* smoking | -0.84 (0.47) .07 |
| a | Slope \* cardio | 0.02 (0.52) .96 |
| a | Slope \* diabetes | -0.85 (1.15) .46 |
| b | Level | 21.04 (0.28) <.01 |
| b | Slope | -0.29 (0.03) <.01 |
| b | Level \* age | -0.29 (0.02) <.01 |
| b | Level \* education | 0.47 (0.05) <.01 |
| b | Level \* height | 0.01 (0.03) .59 |
| b | Level \* smoking | -0.46 (0.49) .35 |
| b | Level \* cardio | -0.60 (0.48) .21 |
| b | Level \* diabetes | -0.94 (0.79) .24 |
| b | Slope \* age | 0.00 (0.00) .96 |
| b | Slope \* education | -0.00 (0.00) .62 |
| b | Slope \* height | 0.00 (0.00) .33 |
| b | Slope \* smoking | -0.03 (0.04) .43 |
| b | Slope \* cardio | -0.00 (0.05) .97 |
| b | Slope \* diabetes | -0.05 (0.08) .53 |
| a | Var (Level) | 3921.81 (276.94) <.01 |
| a | Var (Slope) | 1.61 (1.31) .22 |
|  | Var (Residual) | — |
| b | Var (Level) | 13.88 (1.32) <.01 |
| b | Var (Slope) | 0.01 (0.01) .53 |
|  | Var (Residual) | — |
| a | Covar (Level, Slope) | 20.74 (14.71) .16 |
| b | Covar (Level, Slope) | 0.10 (0.10) .32 |
|  | Correlation of Levels | 0.16 |
|  | Correlation of Slopes | 0.10 |
|  | Correlation of Residuals | NA |
|  | N | 782 |
|  | occasions | 6 |
|  | parameters | 41 |
|  | LL | -23,544 |
|  | AIC | 47,170 |
|  | BIC | 47,361 |

## Summary

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

Computed correlations:

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Levels | letter | 0.22 |
| Correlation of Levels | raven\_color\_ab | 0.29 |
| Correlation of Levels | word\_im | 0.16 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Slopes | letter | -0.03 |
| Correlation of Slopes | raven\_color\_ab | -0.16 |
| Correlation of Slopes | word\_im | 0.10 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Residuals | letter | 0.11 |
| Correlation of Residuals | raven\_color\_ab | 0.00 |
| Correlation of Residuals | word\_im | 0.14 |

P-values for corresponding covariances:

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Levels | letter | 0.00 |
| Covariance of Levels | raven\_color\_ab | 0.00 |
| Covariance of Levels | word\_im | 0.00 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Slopes | letter | 0.91 |
| Covariance of Slopes | raven\_color\_ab | 0.76 |
| Covariance of Slopes | word\_im | 0.86 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Residuals | letter | 0.00 |
| Covariance of Residuals | raven\_color\_ab | 0.85 |
| Covariance of Residuals | word\_im | 0.00 |

# male

Gender = *male*; Model type: *aehplus*; Process (a) = *pef*; Process (b): *letter*, *raven\_color\_ab*, *word\_im*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | letter | raven\_color\_ab | word\_im | mean(sd) |
| ab | Covar (Levels) | 79.73 (21.48) <.01 | 44.79 (11.81) <.01 | 35.22 (17.06) .04 | — |
| ab | Covar (Slopes) | 0.16 (0.11) .13 | 0.19 (0.06) <.01 | 0.03 (0.11) .81 | — |
|  | Covar (Residuals) | — | — | — | — |
| er | Corr (Levels) | 0.16 (0.04) <.01 | 0.18 (0.05) <.01 | 0.10 (0.05) .04 | — |
| er | Corr (Slopes) | 0.18 (0.12) .13 | 0.54 (0.19) <.01 | 0.11 (0.44) .80 | — |
| er | Corr (Residuals) | 0.12 (0.03) <.01 | 0.03 (0.03) .25 | 0.10 (0.03) <.01 | — |
| a | Level | 468.55 (6.54) <.01 | 468.33 (6.54) <.01 | 468.42 (6.53) <.01 | 468.43(0.11) |
| a | Slope | -5.40 (0.55) <.01 | -5.30 (0.56) <.01 | -5.31 (0.54) <.01 | -5.34(0.06) |
| a | Level \* age | -6.52 (0.47) <.01 | -6.51 (0.47) <.01 | -6.52 (0.47) <.01 | -6.52(0.00) |
| a | Level \* education | 4.44 (1.11) <.01 | 4.47 (1.11) <.01 | 4.45 (1.11) <.01 | 4.45(0.01) |
| a | Level \* height | 3.17 (0.50) <.01 | 3.19 (0.50) <.01 | 3.18 (0.50) <.01 | 3.18(0.01) |
| a | Level \* smoking | -52.92 (7.94) <.01 | -53.26 (7.94) <.01 | -52.98 (7.93) <.01 | -53.05(0.18) |
| a | Level \* cardio | -0.88 (8.45) .92 | -0.57 (8.45) .95 | -0.76 (8.45) .93 | -0.73(0.16) |
| a | Level \* diabetes | 1.13 (14.27) .94 | 1.14 (14.32) .94 | 1.32 (14.25) .93 | 1.20(0.11) |
| a | Slope \* age | -0.16 (0.04) <.01 | -0.16 (0.04) <.01 | -0.16 (0.04) <.01 | -0.16(0.00) |
| a | Slope \* education | -0.05 (0.09) .55 | -0.06 (0.09) .46 | -0.06 (0.09) .47 | -0.06(0.01) |
| a | Slope \* height | -0.02 (0.04) .63 | -0.03 (0.04) .43 | -0.02 (0.04) .55 | -0.02(0.01) |
| a | Slope \* smoking | -1.87 (0.62) <.01 | -1.71 (0.62) <.01 | -1.86 (0.62) <.01 | -1.82(0.09) |
| a | Slope \* cardio | -1.25 (0.68) .07 | -1.35 (0.68) .05 | -1.30 (0.68) .06 | -1.30(0.05) |
| a | Slope \* diabetes | -1.53 (1.49) .30 | -1.55 (1.47) .29 | -1.59 (1.46) .27 | -1.56(0.03) |
| b | Level | 22.82 (0.35) <.01 | 17.65 (0.19) <.01 | 17.60 (0.28) <.01 | — |
| b | Slope | -0.37 (0.03) <.01 | -0.17 (0.02) <.01 | -0.20 (0.03) <.01 | — |
| b | Level \* age | -0.31 (0.02) <.01 | -0.15 (0.01) <.01 | -0.25 (0.02) <.01 | — |
| b | Level \* education | 0.76 (0.06) <.01 | 0.36 (0.03) <.01 | 0.41 (0.05) <.01 | — |
| b | Level \* height | 0.10 (0.03) <.01 | 0.06 (0.02) <.01 | 0.03 (0.02) .25 | — |
| b | Level \* smoking | -0.71 (0.43) .10 | -0.24 (0.24) .32 | -0.38 (0.37) .31 | — |
| b | Level \* cardio | -0.35 (0.44) .43 | -0.45 (0.25) .07 | 0.08 (0.36) .83 | — |
| b | Level \* diabetes | -2.16 (0.94) .02 | -0.97 (0.50) .05 | -0.89 (0.71) .21 | — |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.00 (0.00) .23 | — |
| b | Slope \* education | -0.01 (0.00) .08 | -0.00 (0.00) .69 | -0.01 (0.00) .03 | — |
| b | Slope \* height | 0.00 (0.00) .49 | 0.00 (0.00) .72 | 0.00 (0.00) .43 | — |
| b | Slope \* smoking | -0.06 (0.03) .05 | 0.01 (0.02) .79 | -0.03 (0.04) .46 | — |
| b | Slope \* cardio | 0.00 (0.03) .95 | 0.01 (0.02) .73 | 0.00 (0.04) .92 | — |
| b | Slope \* diabetes | -0.01 (0.07) .93 | -0.05 (0.05) .35 | -0.22 (0.07) <.01 | — |
| a | Var (Level) | 9161.99 (602.59) <.01 | 9164.55 (601.81) <.01 | 9149.29 (602.09) <.01 | 9158.61(8.17) |
| a | Var (Slope) | 14.66 (3.33) <.01 | 14.23 (3.27) <.01 | 14.14 (3.33) <.01 | 14.35(0.28) |
|  | Var (Residual) | — | — | — | — |
| b | Var (Level) | 26.81 (1.54) <.01 | 6.45 (0.52) <.01 | 12.55 (1.08) <.01 | — |
| b | Var (Slope) | 0.05 (0.01) <.01 | 0.01 (0.00) .03 | 0.00 (0.01) .61 | — |
|  | Var (Residual) | — | — | — | — |
| a | Covar (Level, Slope) | 20.00 (32.63) .54 | 20.21 (32.41) .53 | 22.72 (32.84) .49 | 20.98(1.51) |
| b | Covar (Level, Slope) | -0.18 (0.08) .03 | -0.01 (0.04) .69 | 0.04 (0.07) .55 | — |
|  | Correlation of Levels | 0.16 | 0.18 | 0.10 | 0.15(0.04) |
|  | Correlation of Slopes | 0.18 | 0.56 | 0.11 | 0.28(0.24) |
|  | Correlation of Residuals | NA | NA | NA | — |
|  | N | 800 | 800 | 800 | 800.00(0.00) |
|  | occasions | 6 | 6 | 6 | 6.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -22,701 | -22,669 | -23,259 | -2.287632e+04(332) |
|  | AIC | 45,483 | 45,421 | 46,600 | 4.583464e+04(663) |
|  | BIC | 45,676 | 45,613 | 46,792 | 4.602671e+04(663) |

## letter

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

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 79.73 (21.48) <.01 |
| ab | Covar (Slopes) | 0.16 (0.11) .13 |
|  | Covar (Residuals) | — |
| er | Corr (Levels) | 0.16 (0.04) <.01 |
| er | Corr (Slopes) | 0.18 (0.12) .13 |
| er | Corr (Residuals) | 0.12 (0.03) <.01 |
| a | Level | 468.55 (6.54) <.01 |
| a | Slope | -5.40 (0.55) <.01 |
| a | Level \* age | -6.52 (0.47) <.01 |
| a | Level \* education | 4.44 (1.11) <.01 |
| a | Level \* height | 3.17 (0.50) <.01 |
| a | Level \* smoking | -52.92 (7.94) <.01 |
| a | Level \* cardio | -0.88 (8.45) .92 |
| a | Level \* diabetes | 1.13 (14.27) .94 |
| a | Slope \* age | -0.16 (0.04) <.01 |
| a | Slope \* education | -0.05 (0.09) .55 |
| a | Slope \* height | -0.02 (0.04) .63 |
| a | Slope \* smoking | -1.87 (0.62) <.01 |
| a | Slope \* cardio | -1.25 (0.68) .07 |
| a | Slope \* diabetes | -1.53 (1.49) .30 |
| b | Level | 22.82 (0.35) <.01 |
| b | Slope | -0.37 (0.03) <.01 |
| b | Level \* age | -0.31 (0.02) <.01 |
| b | Level \* education | 0.76 (0.06) <.01 |
| b | Level \* height | 0.10 (0.03) <.01 |
| b | Level \* smoking | -0.71 (0.43) .10 |
| b | Level \* cardio | -0.35 (0.44) .43 |
| b | Level \* diabetes | -2.16 (0.94) .02 |
| b | Slope \* age | -0.01 (0.00) <.01 |
| b | Slope \* education | -0.01 (0.00) .08 |
| b | Slope \* height | 0.00 (0.00) .49 |
| b | Slope \* smoking | -0.06 (0.03) .05 |
| b | Slope \* cardio | 0.00 (0.03) .95 |
| b | Slope \* diabetes | -0.01 (0.07) .93 |
| a | Var (Level) | 9161.99 (602.59) <.01 |
| a | Var (Slope) | 14.66 (3.33) <.01 |
|  | Var (Residual) | — |
| b | Var (Level) | 26.81 (1.54) <.01 |
| b | Var (Slope) | 0.05 (0.01) <.01 |
|  | Var (Residual) | — |
| a | Covar (Level, Slope) | 20.00 (32.63) .54 |
| b | Covar (Level, Slope) | -0.18 (0.08) .03 |
|  | Correlation of Levels | 0.16 |
|  | Correlation of Slopes | 0.18 |
|  | Correlation of Residuals | NA |
|  | N | 800 |
|  | occasions | 6 |
|  | parameters | 41 |
|  | LL | -22,701 |
|  | AIC | 45,483 |
|  | BIC | 45,676 |

## raven\_color\_ab

Gender = *male*; Process (a) = *pef*; Process (b) = *raven\_color\_ab*

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 44.79 (11.81) <.01 |
| ab | Covar (Slopes) | 0.19 (0.06) <.01 |
|  | Covar (Residuals) | — |
| er | Corr (Levels) | 0.18 (0.05) <.01 |
| er | Corr (Slopes) | 0.54 (0.19) <.01 |
| er | Corr (Residuals) | 0.03 (0.03) .25 |
| a | Level | 468.33 (6.54) <.01 |
| a | Slope | -5.30 (0.56) <.01 |
| a | Level \* age | -6.51 (0.47) <.01 |
| a | Level \* education | 4.47 (1.11) <.01 |
| a | Level \* height | 3.19 (0.50) <.01 |
| a | Level \* smoking | -53.26 (7.94) <.01 |
| a | Level \* cardio | -0.57 (8.45) .95 |
| a | Level \* diabetes | 1.14 (14.32) .94 |
| a | Slope \* age | -0.16 (0.04) <.01 |
| a | Slope \* education | -0.06 (0.09) .46 |
| a | Slope \* height | -0.03 (0.04) .43 |
| a | Slope \* smoking | -1.71 (0.62) <.01 |
| a | Slope \* cardio | -1.35 (0.68) .05 |
| a | Slope \* diabetes | -1.55 (1.47) .29 |
| b | Level | 17.65 (0.19) <.01 |
| b | Slope | -0.17 (0.02) <.01 |
| b | Level \* age | -0.15 (0.01) <.01 |
| b | Level \* education | 0.36 (0.03) <.01 |
| b | Level \* height | 0.06 (0.02) <.01 |
| b | Level \* smoking | -0.24 (0.24) .32 |
| b | Level \* cardio | -0.45 (0.25) .07 |
| b | Level \* diabetes | -0.97 (0.50) .05 |
| b | Slope \* age | -0.01 (0.00) <.01 |
| b | Slope \* education | -0.00 (0.00) .69 |
| b | Slope \* height | 0.00 (0.00) .72 |
| b | Slope \* smoking | 0.01 (0.02) .79 |
| b | Slope \* cardio | 0.01 (0.02) .73 |
| b | Slope \* diabetes | -0.05 (0.05) .35 |
| a | Var (Level) | 9164.55 (601.81) <.01 |
| a | Var (Slope) | 14.23 (3.27) <.01 |
|  | Var (Residual) | — |
| b | Var (Level) | 6.45 (0.52) <.01 |
| b | Var (Slope) | 0.01 (0.00) .03 |
|  | Var (Residual) | — |
| a | Covar (Level, Slope) | 20.21 (32.41) .53 |
| b | Covar (Level, Slope) | -0.01 (0.04) .69 |
|  | Correlation of Levels | 0.18 |
|  | Correlation of Slopes | 0.56 |
|  | Correlation of Residuals | NA |
|  | N | 800 |
|  | occasions | 6 |
|  | parameters | 41 |
|  | LL | -22,669 |
|  | AIC | 45,421 |
|  | BIC | 45,613 |

## word\_im

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

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 35.22 (17.06) .04 |
| ab | Covar (Slopes) | 0.03 (0.11) .81 |
|  | Covar (Residuals) | — |
| er | Corr (Levels) | 0.10 (0.05) .04 |
| er | Corr (Slopes) | 0.11 (0.44) .80 |
| er | Corr (Residuals) | 0.10 (0.03) <.01 |
| a | Level | 468.42 (6.53) <.01 |
| a | Slope | -5.31 (0.54) <.01 |
| a | Level \* age | -6.52 (0.47) <.01 |
| a | Level \* education | 4.45 (1.11) <.01 |
| a | Level \* height | 3.18 (0.50) <.01 |
| a | Level \* smoking | -52.98 (7.93) <.01 |
| a | Level \* cardio | -0.76 (8.45) .93 |
| a | Level \* diabetes | 1.32 (14.25) .93 |
| a | Slope \* age | -0.16 (0.04) <.01 |
| a | Slope \* education | -0.06 (0.09) .47 |
| a | Slope \* height | -0.02 (0.04) .55 |
| a | Slope \* smoking | -1.86 (0.62) <.01 |
| a | Slope \* cardio | -1.30 (0.68) .06 |
| a | Slope \* diabetes | -1.59 (1.46) .27 |
| b | Level | 17.60 (0.28) <.01 |
| b | Slope | -0.20 (0.03) <.01 |
| b | Level \* age | -0.25 (0.02) <.01 |
| b | Level \* education | 0.41 (0.05) <.01 |
| b | Level \* height | 0.03 (0.02) .25 |
| b | Level \* smoking | -0.38 (0.37) .31 |
| b | Level \* cardio | 0.08 (0.36) .83 |
| b | Level \* diabetes | -0.89 (0.71) .21 |
| b | Slope \* age | -0.00 (0.00) .23 |
| b | Slope \* education | -0.01 (0.00) .03 |
| b | Slope \* height | 0.00 (0.00) .43 |
| b | Slope \* smoking | -0.03 (0.04) .46 |
| b | Slope \* cardio | 0.00 (0.04) .92 |
| b | Slope \* diabetes | -0.22 (0.07) <.01 |
| a | Var (Level) | 9149.29 (602.09) <.01 |
| a | Var (Slope) | 14.14 (3.33) <.01 |
|  | Var (Residual) | — |
| b | Var (Level) | 12.55 (1.08) <.01 |
| b | Var (Slope) | 0.00 (0.01) .61 |
|  | Var (Residual) | — |
| a | Covar (Level, Slope) | 22.72 (32.84) .49 |
| b | Covar (Level, Slope) | 0.04 (0.07) .55 |
|  | Correlation of Levels | 0.10 |
|  | Correlation of Slopes | 0.11 |
|  | Correlation of Residuals | NA |
|  | N | 800 |
|  | occasions | 6 |
|  | parameters | 41 |
|  | LL | -23,259 |
|  | AIC | 46,600 |
|  | BIC | 46,792 |

## Summary

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

Computed correlations:

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Levels | letter | 0.16 |
| Correlation of Levels | raven\_color\_ab | 0.18 |
| Correlation of Levels | word\_im | 0.10 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Slopes | letter | 0.18 |
| Correlation of Slopes | raven\_color\_ab | 0.56 |
| Correlation of Slopes | word\_im | 0.11 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Residuals | letter | 0.12 |
| Correlation of Residuals | raven\_color\_ab | 0.03 |
| Correlation of Residuals | word\_im | 0.10 |

P-values for corresponding covariances:

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Levels | letter | 0.00 |
| Covariance of Levels | raven\_color\_ab | 0.00 |
| Covariance of Levels | word\_im | 0.04 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Slopes | letter | 0.13 |
| Covariance of Slopes | raven\_color\_ab | 0.00 |
| Covariance of Slopes | word\_im | 0.81 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Residuals | letter | 0.00 |
| Covariance of Residuals | raven\_color\_ab | 0.25 |
| Covariance of Residuals | word\_im | 0.00 |

#Session Info

R version 3.5.1 (2018-07-02)  
Platform: x86\_64-w64-mingw32/x64 (64-bit)  
Running under: Windows >= 8 x64 (build 9200)  
  
Matrix products: default  
  
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] bindrcpp\_0.2.2 ggplot2\_3.1.0 magrittr\_1.5 knitr\_1.21   
  
loaded via a namespace (and not attached):  
 [1] Rcpp\_1.0.0 highr\_0.7 pillar\_1.3.1 compiler\_3.5.1 plyr\_1.8.4 bindr\_0.1.1   
 [7] tools\_3.5.1 digest\_0.6.18 evaluate\_0.12 tibble\_1.4.2 gtable\_0.2.0 pkgconfig\_2.0.2   
[13] rlang\_0.3.0.1 yaml\_2.2.0 xfun\_0.4 withr\_2.1.2 dplyr\_0.7.8 stringr\_1.3.1   
[19] htmlwidgets\_1.3 hms\_0.4.2 grid\_3.5.1 DT\_0.5 tidyselect\_0.2.5 glue\_1.3.0   
[25] R6\_2.3.0 rmarkdown\_1.11 tidyr\_0.8.2 purrr\_0.2.5 readr\_1.3.0 scales\_1.0.0   
[31] htmltools\_0.3.6 assertthat\_0.2.0 testit\_0.9 colorspace\_1.3-2 stringi\_1.2.4 lazyeval\_0.2.1   
[37] munsell\_0.5.0 crayon\_1.3.4