ELSA : Seed report

Date: 2016-12-05

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

# Available models

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

|  |  |  |
| --- | --- | --- |
| process\_a | process\_b | n\_models |
| gait | fluency | 2 |
| gait | word\_de | 2 |
| gait | word\_im | 2 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| elsa | female | aehplus | gait | fluency | 1 |
| elsa | female | aehplus | gait | word\_de | 1 |
| elsa | female | aehplus | gait | word\_im | 1 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| study\_name | subgroup | model\_type | process\_a | process\_b | n\_models |
| elsa | male | aehplus | gait | fluency | 1 |
| elsa | male | aehplus | gait | word\_de | 1 |
| elsa | male | aehplus | gait | word\_im | 1 |

# female

Gender = *female*; Model type: *aehplus*; Process (a) = *gait*; Process (b): *fluency*, *word\_de*, *word\_im*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | fluency | word\_de | word\_im | mean(sd) |
| ab | Covar (Levels) | 0.16 (0.03) <.01 | 0.05 (0.01) <.01 | 0.04 (0.01) <.01 | --- |
| ab | Covar (Slopes) | 0.00 (0.00) .20 | 0.00 (0.00) .38 | 0.00 (0.00) .23 | --- |
| ab | Covar (Residuals) | 0.02 (0.01) .09 | -0.00 (0.00) .63 | 0.01 (0.00) .09 | --- |
| er | Corr (Levels) | 0.20 (0.04) <.01 | 0.20 (0.04) <.01 | 0.20 (0.05) <.01 | --- |
| er | Corr (Slopes) | 0.17 (0.13) .20 | 0.15 (0.17) .38 | 0.25 (0.20) .21 | --- |
| er | Corr (Residuals) | 0.04 (0.02) .09 | -0.01 (0.02) .63 | 0.03 (0.02) .09 | --- |
| a | Level | 0.83 (0.01) <.01 | 0.83 (0.01) <.01 | 0.83 (0.01) <.01 | 0.83(0.00) |
| a | Slope | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01(0.00) |
| a | Level \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01(0.00) |
| a | Level \* education | 0.09 (0.01) <.01 | 0.09 (0.01) <.01 | 0.09 (0.01) <.01 | 0.09(0.00) |
| a | Level \* height | 0.00 (0.00) <.01 | 0.00 (0.00) <.01 | 0.00 (0.00) <.01 | 0.00(0.00) |
| a | Level \* smoking | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03 (0.01) <.01 | -0.03(0.00) |
| a | Level \* cardio | -0.08 (0.02) <.01 | -0.08 (0.02) <.01 | -0.08 (0.02) <.01 | -0.08(0.00) |
| a | Level \* diabetes | -0.13 (0.02) <.01 | -0.13 (0.02) <.01 | -0.13 (0.02) <.01 | -0.13(0.00) |
| a | Slope \* age | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00(0.00) |
| a | Slope \* education | 0.00 (0.00) .85 | 0.00 (0.00) .91 | 0.00 (0.00) .92 | 0.00(0.00) |
| a | Slope \* height | 0.00 (0.00) .12 | 0.00 (0.00) .12 | 0.00 (0.00) .10 | 0.00(0.00) |
| a | Slope \* smoking | 0.00 (0.00) .66 | 0.00 (0.00) .60 | 0.00 (0.00) .66 | 0.00(0.00) |
| a | Slope \* cardio | -0.00 (0.00) .37 | -0.00 (0.00) .47 | -0.00 (0.00) .45 | -0.00(0.00) |
| a | Slope \* diabetes | 0.00 (0.00) .28 | 0.00 (0.00) .26 | 0.00 (0.00) .31 | 0.00(0.00) |
| b | Level | 17.86 (0.22) <.01 | 4.05 (0.07) <.01 | 5.37 (0.06) <.01 | --- |
| b | Slope | -0.09 (0.03) .01 | -0.06 (0.01) <.01 | -0.04 (0.01) <.01 | --- |
| b | Level \* age | -0.15 (0.02) <.01 | -0.08 (0.01) <.01 | -0.07 (0.00) <.01 | --- |
| b | Level \* education | 3.18 (0.25) <.01 | 0.95 (0.08) <.01 | 0.80 (0.07) <.01 | --- |
| b | Level \* height | 0.12 (0.02) <.01 | 0.03 (0.01) <.01 | 0.02 (0.00) <.01 | --- |
| b | Level \* smoking | 0.03 (0.23) .88 | -0.15 (0.08) .05 | -0.02 (0.07) .71 | --- |
| b | Level \* cardio | -0.13 (0.38) .74 | -0.10 (0.14) .46 | -0.15 (0.11) .17 | --- |
| b | Level \* diabetes | -1.04 (0.54) .06 | -0.44 (0.19) .02 | -0.30 (0.16) .06 | --- |
| b | Slope \* age | -0.02 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | --- |
| b | Slope \* education | 0.03 (0.04) .34 | 0.01 (0.01) .45 | 0.01 (0.01) .47 | --- |
| b | Slope \* height | -0.00 (0.00) .19 | -0.00 (0.00) .56 | 0.00 (0.00) .98 | --- |
| b | Slope \* smoking | -0.05 (0.03) .16 | 0.02 (0.01) .07 | 0.00 (0.01) .97 | --- |
| b | Slope \* cardio | -0.07 (0.05) .18 | -0.00 (0.02) .83 | 0.01 (0.02) .74 | --- |
| b | Slope \* diabetes | -0.02 (0.08) .75 | 0.02 (0.02) .46 | 0.00 (0.02) .93 | --- |
| a | Var (Level) | 0.04 (0.00) <.01 | 0.04 (0.00) <.01 | 0.04 (0.00) <.01 | 0.04(0.00) |
| a | Var (Slope) | 0.00 (0.00) <.01 | 0.00 (0.00) <.01 | 0.00 (0.00) <.01 | 0.00(0.00) |
| a | Var (Residual) | 0.02 (0.00) <.01 | 0.02 (0.00) <.01 | 0.02 (0.00) <.01 | 0.02(0.00) |
| b | Var (Level) | 17.00 (1.26) <.01 | 1.75 (0.11) <.01 | 0.94 (0.09) <.01 | --- |
| b | Var (Slope) | 0.11 (0.03) <.01 | 0.01 (0.00) <.01 | 0.01 (0.00) .04 | --- |
| b | Var (Residual) | 14.78 (0.64) <.01 | 1.81 (0.06) <.01 | 1.65 (0.06) <.01 | --- |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00(0.00) |
| b | Covar (Level, Slope) | -0.14 (0.16) .40 | -0.02 (0.01) .21 | -0.02 (0.01) .22 | --- |
|  | Correlation of Levels | 0.199 | 0.197 | 0.204 | 0.20(0.00) |
|  | Correlation of Slopes | Inf | NaN | NaN | Inf(NA) |
|  | Correlation of Residuals | 0.035 | -0.011 | 0.033 | 0.02(0.03) |
|  | N | 2,226 | 2,226 | 2,225 | 2225.67(0.58) |
|  | occasions | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -20,246 | -12,471 | -11,656 | -1.479115e+04(4,742) |
|  | AIC | 40,575 | 25,024 | 23,395 | 2.966430e+04(9,484) |
|  | BIC | 40,809 | 25,258 | 23,629 | 2.989832e+04(9,484) |

## fluency

Gender = *female*; Process (a) = *gait*; Process (b) = *fluency*

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 0.16 (0.03) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .20 |
| ab | Covar (Residuals) | 0.02 (0.01) .09 |
| er | Corr (Levels) | 0.20 (0.04) <.01 |
| er | Corr (Slopes) | 0.17 (0.13) .20 |
| er | Corr (Residuals) | 0.04 (0.02) .09 |
| a | Level | 0.83 (0.01) <.01 |
| a | Slope | -0.01 (0.00) <.01 |
| a | Level \* age | -0.01 (0.00) <.01 |
| a | Level \* education | 0.09 (0.01) <.01 |
| a | Level \* height | 0.00 (0.00) <.01 |
| a | Level \* smoking | -0.03 (0.01) <.01 |
| a | Level \* cardio | -0.08 (0.02) <.01 |
| a | Level \* diabetes | -0.13 (0.02) <.01 |
| a | Slope \* age | -0.00 (0.00) <.01 |
| a | Slope \* education | 0.00 (0.00) .85 |
| a | Slope \* height | 0.00 (0.00) .12 |
| a | Slope \* smoking | 0.00 (0.00) .66 |
| a | Slope \* cardio | -0.00 (0.00) .37 |
| a | Slope \* diabetes | 0.00 (0.00) .28 |
| b | Level | 17.86 (0.22) <.01 |
| b | Slope | -0.09 (0.03) .01 |
| b | Level \* age | -0.15 (0.02) <.01 |
| b | Level \* education | 3.18 (0.25) <.01 |
| b | Level \* height | 0.12 (0.02) <.01 |
| b | Level \* smoking | 0.03 (0.23) .88 |
| b | Level \* cardio | -0.13 (0.38) .74 |
| b | Level \* diabetes | -1.04 (0.54) .06 |
| b | Slope \* age | -0.02 (0.00) <.01 |
| b | Slope \* education | 0.03 (0.04) .34 |
| b | Slope \* height | -0.00 (0.00) .19 |
| b | Slope \* smoking | -0.05 (0.03) .16 |
| b | Slope \* cardio | -0.07 (0.05) .18 |
| b | Slope \* diabetes | -0.02 (0.08) .75 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| b | Var (Level) | 17.00 (1.26) <.01 |
| b | Var (Slope) | 0.11 (0.03) <.01 |
| b | Var (Residual) | 14.78 (0.64) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 |
| b | Covar (Level, Slope) | -0.14 (0.16) .40 |
|  | Correlation of Levels | 0.199 |
|  | Correlation of Slopes | Inf |
|  | Correlation of Residuals | 0.035 |
|  | N | 2,226 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -20,246 |
|  | AIC | 40,575 |
|  | BIC | 40,809 |

## word\_de

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

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

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

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 0.05 (0.01) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .38 |
| ab | Covar (Residuals) | -0.00 (0.00) .63 |
| er | Corr (Levels) | 0.20 (0.04) <.01 |
| er | Corr (Slopes) | 0.15 (0.17) .38 |
| er | Corr (Residuals) | -0.01 (0.02) .63 |
| a | Level | 0.83 (0.01) <.01 |
| a | Slope | -0.01 (0.00) <.01 |
| a | Level \* age | -0.01 (0.00) <.01 |
| a | Level \* education | 0.09 (0.01) <.01 |
| a | Level \* height | 0.00 (0.00) <.01 |
| a | Level \* smoking | -0.03 (0.01) <.01 |
| a | Level \* cardio | -0.08 (0.02) <.01 |
| a | Level \* diabetes | -0.13 (0.02) <.01 |
| a | Slope \* age | -0.00 (0.00) <.01 |
| a | Slope \* education | 0.00 (0.00) .91 |
| a | Slope \* height | 0.00 (0.00) .12 |
| a | Slope \* smoking | 0.00 (0.00) .60 |
| a | Slope \* cardio | -0.00 (0.00) .47 |
| a | Slope \* diabetes | 0.00 (0.00) .26 |
| b | Level | 4.05 (0.07) <.01 |
| b | Slope | -0.06 (0.01) <.01 |
| b | Level \* age | -0.08 (0.01) <.01 |
| b | Level \* education | 0.95 (0.08) <.01 |
| b | Level \* height | 0.03 (0.01) <.01 |
| b | Level \* smoking | -0.15 (0.08) .05 |
| b | Level \* cardio | -0.10 (0.14) .46 |
| b | Level \* diabetes | -0.44 (0.19) .02 |
| b | Slope \* age | -0.00 (0.00) <.01 |
| b | Slope \* education | 0.01 (0.01) .45 |
| b | Slope \* height | -0.00 (0.00) .56 |
| b | Slope \* smoking | 0.02 (0.01) .07 |
| b | Slope \* cardio | -0.00 (0.02) .83 |
| b | Slope \* diabetes | 0.02 (0.02) .46 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| b | Var (Level) | 1.75 (0.11) <.01 |
| b | Var (Slope) | 0.01 (0.00) <.01 |
| b | Var (Residual) | 1.81 (0.06) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 |
| b | Covar (Level, Slope) | -0.02 (0.01) .21 |
|  | Correlation of Levels | 0.197 |
|  | Correlation of Slopes | NaN |
|  | Correlation of Residuals | -0.011 |
|  | N | 2,226 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -12,471 |
|  | AIC | 25,024 |
|  | BIC | 25,258 |

## word\_im

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

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

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 0.04 (0.01) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .23 |
| ab | Covar (Residuals) | 0.01 (0.00) .09 |
| er | Corr (Levels) | 0.20 (0.05) <.01 |
| er | Corr (Slopes) | 0.25 (0.20) .21 |
| er | Corr (Residuals) | 0.03 (0.02) .09 |
| a | Level | 0.83 (0.01) <.01 |
| a | Slope | -0.01 (0.00) <.01 |
| a | Level \* age | -0.01 (0.00) <.01 |
| a | Level \* education | 0.09 (0.01) <.01 |
| a | Level \* height | 0.00 (0.00) <.01 |
| a | Level \* smoking | -0.03 (0.01) <.01 |
| a | Level \* cardio | -0.08 (0.02) <.01 |
| a | Level \* diabetes | -0.13 (0.02) <.01 |
| a | Slope \* age | -0.00 (0.00) <.01 |
| a | Slope \* education | 0.00 (0.00) .92 |
| a | Slope \* height | 0.00 (0.00) .10 |
| a | Slope \* smoking | 0.00 (0.00) .66 |
| a | Slope \* cardio | -0.00 (0.00) .45 |
| a | Slope \* diabetes | 0.00 (0.00) .31 |
| b | Level | 5.37 (0.06) <.01 |
| b | Slope | -0.04 (0.01) <.01 |
| b | Level \* age | -0.07 (0.00) <.01 |
| b | Level \* education | 0.80 (0.07) <.01 |
| b | Level \* height | 0.02 (0.00) <.01 |
| b | Level \* smoking | -0.02 (0.07) .71 |
| b | Level \* cardio | -0.15 (0.11) .17 |
| b | Level \* diabetes | -0.30 (0.16) .06 |
| b | Slope \* age | -0.00 (0.00) <.01 |
| b | Slope \* education | 0.01 (0.01) .47 |
| b | Slope \* height | 0.00 (0.00) .98 |
| b | Slope \* smoking | 0.00 (0.01) .97 |
| b | Slope \* cardio | 0.01 (0.02) .74 |
| b | Slope \* diabetes | 0.00 (0.02) .93 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| b | Var (Level) | 0.94 (0.09) <.01 |
| b | Var (Slope) | 0.01 (0.00) .04 |
| b | Var (Residual) | 1.65 (0.06) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 |
| b | Covar (Level, Slope) | -0.02 (0.01) .22 |
|  | Correlation of Levels | 0.204 |
|  | Correlation of Slopes | NaN |
|  | Correlation of Residuals | 0.033 |
|  | N | 2,225 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -11,656 |
|  | AIC | 23,395 |
|  | BIC | 23,629 |

## Summary

Study = *ELSA*; Gender = *female*; Process (a) = *gait*

Computed correlations:

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Levels | fluency | 0.20 |
| Correlation of Levels | word\_de | 0.20 |
| Correlation of Levels | word\_im | 0.20 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Slopes | fluency | Inf |
| Correlation of Slopes | word\_de | NaN |
| Correlation of Slopes | word\_im | NaN |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Residuals | fluency | 0.03 |
| Correlation of Residuals | word\_de | -0.01 |
| Correlation of Residuals | word\_im | 0.03 |

P-values for corresponding covariances:

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Levels | fluency | 0.00 |
| Covariance of Levels | word\_de | 0.00 |
| Covariance of Levels | word\_im | 0.00 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Slopes | fluency | 0.20 |
| Covariance of Slopes | word\_de | 0.38 |
| Covariance of Slopes | word\_im | 0.23 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Residuals | fluency | 0.09 |
| Covariance of Residuals | word\_de | 0.63 |
| Covariance of Residuals | word\_im | 0.09 |

# male

Gender = *male*; Model type: *aehplus*; Process (a) = *gait*; Process (b): *fluency*, *word\_de*, *word\_im*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| process | label | fluency | word\_de | word\_im | mean(sd) |
| ab | Covar (Levels) | 0.20 (0.03) <.01 | 0.06 (0.01) <.01 | 0.04 (0.01) <.01 | --- |
| ab | Covar (Slopes) | 0.00 (0.00) .28 | 0.00 (0.00) .49 | 0.00 (0.00) .58 | --- |
| ab | Covar (Residuals) | -0.01 (0.01) .34 | 0.01 (0.00) .04 | -0.00 (0.00) .49 | --- |
| er | Corr (Levels) | 0.23 (0.04) <.01 | 0.23 (0.04) <.01 | 0.22 (0.05) <.01 | --- |
| er | Corr (Slopes) | 0.16 (0.15) .29 | -0.18 (0.28) .52 | -0.11 (0.20) .59 | --- |
| er | Corr (Residuals) | -0.02 (0.02) .34 | 0.04 (0.02) .04 | -0.01 (0.02) .48 | --- |
| a | Level | 0.87 (0.01) <.01 | 0.87 (0.01) <.01 | 0.87 (0.01) <.01 | 0.87(0.00) |
| a | Slope | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01(0.00) |
| a | Level \* age | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01 (0.00) <.01 | -0.01(0.00) |
| a | Level \* education | 0.11 (0.01) <.01 | 0.11 (0.01) <.01 | 0.11 (0.01) <.01 | 0.11(0.00) |
| a | Level \* height | 0.00 (0.00) <.01 | 0.00 (0.00) <.01 | 0.00 (0.00) <.01 | 0.00(0.00) |
| a | Level \* smoking | -0.03 (0.01) .01 | -0.03 (0.01) .01 | -0.03 (0.01) .01 | -0.03(0.00) |
| a | Level \* cardio | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04(0.00) |
| a | Level \* diabetes | -0.06 (0.02) <.01 | -0.06 (0.02) <.01 | -0.06 (0.02) <.01 | -0.06(0.00) |
| a | Slope \* age | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00(0.00) |
| a | Slope \* education | 0.00 (0.00) .26 | 0.00 (0.00) .25 | 0.00 (0.00) .26 | 0.00(0.00) |
| a | Slope \* height | 0.00 (0.00) .51 | 0.00 (0.00) .47 | 0.00 (0.00) .52 | 0.00(0.00) |
| a | Slope \* smoking | 0.00 (0.00) .90 | 0.00 (0.00) .87 | 0.00 (0.00) .92 | 0.00(0.00) |
| a | Slope \* cardio | 0.00 (0.00) .96 | 0.00 (0.00) .92 | 0.00 (0.00) .94 | 0.00(0.00) |
| a | Slope \* diabetes | -0.00 (0.00) .64 | -0.00 (0.00) .64 | -0.00 (0.00) .69 | -0.00(0.00) |
| b | Level | 18.49 (0.30) <.01 | 3.36 (0.10) <.01 | 4.95 (0.09) <.01 | --- |
| b | Slope | -0.08 (0.04) .08 | -0.01 (0.01) .29 | -0.04 (0.01) .01 | --- |
| b | Level \* age | -0.15 (0.02) <.01 | -0.06 (0.01) <.01 | -0.05 (0.00) <.01 | --- |
| b | Level \* education | 2.50 (0.26) <.01 | 0.84 (0.08) <.01 | 0.74 (0.07) <.01 | --- |
| b | Level \* height | 0.09 (0.02) <.01 | 0.03 (0.01) <.01 | 0.02 (0.01) <.01 | --- |
| b | Level \* smoking | -0.23 (0.29) .43 | 0.04 (0.09) .63 | -0.04 (0.08) .60 | --- |
| b | Level \* cardio | -0.44 (0.34) .20 | -0.03 (0.11) .80 | -0.12 (0.10) .22 | --- |
| b | Level \* diabetes | -0.08 (0.48) .87 | -0.24 (0.14) .08 | 0.02 (0.12) .86 | --- |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | --- |
| b | Slope \* education | -0.02 (0.04) .62 | 0.01 (0.01) .59 | 0.00 (0.01) .71 | --- |
| b | Slope \* height | 0.00 (0.00) .53 | 0.00 (0.00) .75 | 0.00 (0.00) .42 | --- |
| b | Slope \* smoking | -0.06 (0.04) .17 | -0.02 (0.01) .13 | -0.00 (0.01) .77 | --- |
| b | Slope \* cardio | 0.08 (0.05) .11 | -0.02 (0.02) .20 | -0.00 (0.01) .96 | --- |
| b | Slope \* diabetes | -0.07 (0.07) .30 | -0.03 (0.02) .12 | -0.05 (0.02) .03 | --- |
| a | Var (Level) | 0.04 (0.00) <.01 | 0.04 (0.00) <.01 | 0.04 (0.00) <.01 | 0.04(0.00) |
| a | Var (Slope) | 0.00 (0.00) <.01 | 0.00 (0.00) <.01 | 0.00 (0.00) <.01 | 0.00(0.00) |
| a | Var (Residual) | 0.02 (0.00) <.01 | 0.02 (0.00) <.01 | 0.02 (0.00) <.01 | 0.02(0.00) |
| b | Var (Level) | 18.67 (1.38) <.01 | 1.48 (0.10) <.01 | 0.97 (0.09) <.01 | --- |
| b | Var (Slope) | 0.07 (0.03) .02 | 0.00 (0.00) .35 | 0.00 (0.00) .18 | --- |
| b | Var (Residual) | 15.79 (0.71) <.01 | 1.78 (0.06) <.01 | 1.53 (0.05) <.01 | --- |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00(0.00) |
| b | Covar (Level, Slope) | 0.13 (0.16) .42 | 0.01 (0.01) .68 | -0.01 (0.01) .32 | --- |
|  | Correlation of Levels | 0.23 | 0.226 | 0.225 | 0.23(0.00) |
|  | Correlation of Slopes | Inf | NaN | NaN | Inf(NA) |
|  | Correlation of Residuals | -0.02 | 0.043 | -0.012 | 0.00(0.03) |
|  | N | 1,947 | 1,947 | 1,947 | 1947.00(0.00) |
|  | occasions | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -17,613 | -10,519 | -9,826 | -1.265285e+04(4,309) |
|  | AIC | 35,308 | 21,121 | 19,734 | 2.538770e+04(8,619) |
|  | BIC | 35,536 | 21,349 | 19,963 | 2.561623e+04(8,619) |

## fluency

Gender = *male*; Process (a) = *gait*; Process (b) = *fluency*

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 0.20 (0.03) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .28 |
| ab | Covar (Residuals) | -0.01 (0.01) .34 |
| er | Corr (Levels) | 0.23 (0.04) <.01 |
| er | Corr (Slopes) | 0.16 (0.15) .29 |
| er | Corr (Residuals) | -0.02 (0.02) .34 |
| a | Level | 0.87 (0.01) <.01 |
| a | Slope | -0.01 (0.00) <.01 |
| a | Level \* age | -0.01 (0.00) <.01 |
| a | Level \* education | 0.11 (0.01) <.01 |
| a | Level \* height | 0.00 (0.00) <.01 |
| a | Level \* smoking | -0.03 (0.01) .01 |
| a | Level \* cardio | -0.04 (0.01) <.01 |
| a | Level \* diabetes | -0.06 (0.02) <.01 |
| a | Slope \* age | -0.00 (0.00) <.01 |
| a | Slope \* education | 0.00 (0.00) .26 |
| a | Slope \* height | 0.00 (0.00) .51 |
| a | Slope \* smoking | 0.00 (0.00) .90 |
| a | Slope \* cardio | 0.00 (0.00) .96 |
| a | Slope \* diabetes | -0.00 (0.00) .64 |
| b | Level | 18.49 (0.30) <.01 |
| b | Slope | -0.08 (0.04) .08 |
| b | Level \* age | -0.15 (0.02) <.01 |
| b | Level \* education | 2.50 (0.26) <.01 |
| b | Level \* height | 0.09 (0.02) <.01 |
| b | Level \* smoking | -0.23 (0.29) .43 |
| b | Level \* cardio | -0.44 (0.34) .20 |
| b | Level \* diabetes | -0.08 (0.48) .87 |
| b | Slope \* age | -0.01 (0.00) <.01 |
| b | Slope \* education | -0.02 (0.04) .62 |
| b | Slope \* height | 0.00 (0.00) .53 |
| b | Slope \* smoking | -0.06 (0.04) .17 |
| b | Slope \* cardio | 0.08 (0.05) .11 |
| b | Slope \* diabetes | -0.07 (0.07) .30 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| b | Var (Level) | 18.67 (1.38) <.01 |
| b | Var (Slope) | 0.07 (0.03) .02 |
| b | Var (Residual) | 15.79 (0.71) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 |
| b | Covar (Level, Slope) | 0.13 (0.16) .42 |
|  | Correlation of Levels | 0.23 |
|  | Correlation of Slopes | Inf |
|  | Correlation of Residuals | -0.02 |
|  | N | 1,947 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -17,613 |
|  | AIC | 35,308 |
|  | BIC | 35,536 |

## word\_de

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

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

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 0.06 (0.01) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .49 |
| ab | Covar (Residuals) | 0.01 (0.00) .04 |
| er | Corr (Levels) | 0.23 (0.04) <.01 |
| er | Corr (Slopes) | -0.18 (0.28) .52 |
| er | Corr (Residuals) | 0.04 (0.02) .04 |
| a | Level | 0.87 (0.01) <.01 |
| a | Slope | -0.01 (0.00) <.01 |
| a | Level \* age | -0.01 (0.00) <.01 |
| a | Level \* education | 0.11 (0.01) <.01 |
| a | Level \* height | 0.00 (0.00) <.01 |
| a | Level \* smoking | -0.03 (0.01) .01 |
| a | Level \* cardio | -0.04 (0.01) <.01 |
| a | Level \* diabetes | -0.06 (0.02) <.01 |
| a | Slope \* age | -0.00 (0.00) <.01 |
| a | Slope \* education | 0.00 (0.00) .25 |
| a | Slope \* height | 0.00 (0.00) .47 |
| a | Slope \* smoking | 0.00 (0.00) .87 |
| a | Slope \* cardio | 0.00 (0.00) .92 |
| a | Slope \* diabetes | -0.00 (0.00) .64 |
| b | Level | 3.36 (0.10) <.01 |
| b | Slope | -0.01 (0.01) .29 |
| b | Level \* age | -0.06 (0.01) <.01 |
| b | Level \* education | 0.84 (0.08) <.01 |
| b | Level \* height | 0.03 (0.01) <.01 |
| b | Level \* smoking | 0.04 (0.09) .63 |
| b | Level \* cardio | -0.03 (0.11) .80 |
| b | Level \* diabetes | -0.24 (0.14) .08 |
| b | Slope \* age | -0.00 (0.00) <.01 |
| b | Slope \* education | 0.01 (0.01) .59 |
| b | Slope \* height | 0.00 (0.00) .75 |
| b | Slope \* smoking | -0.02 (0.01) .13 |
| b | Slope \* cardio | -0.02 (0.02) .20 |
| b | Slope \* diabetes | -0.03 (0.02) .12 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| b | Var (Level) | 1.48 (0.10) <.01 |
| b | Var (Slope) | 0.00 (0.00) .35 |
| b | Var (Residual) | 1.78 (0.06) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 |
| b | Covar (Level, Slope) | 0.01 (0.01) .68 |
|  | Correlation of Levels | 0.226 |
|  | Correlation of Slopes | NaN |
|  | Correlation of Residuals | 0.043 |
|  | N | 1,947 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -10,519 |
|  | AIC | 21,121 |
|  | BIC | 21,349 |

## word\_im

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

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

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| ab | Covar (Levels) | 0.04 (0.01) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .58 |
| ab | Covar (Residuals) | -0.00 (0.00) .49 |
| er | Corr (Levels) | 0.22 (0.05) <.01 |
| er | Corr (Slopes) | -0.11 (0.20) .59 |
| er | Corr (Residuals) | -0.01 (0.02) .48 |
| a | Level | 0.87 (0.01) <.01 |
| a | Slope | -0.01 (0.00) <.01 |
| a | Level \* age | -0.01 (0.00) <.01 |
| a | Level \* education | 0.11 (0.01) <.01 |
| a | Level \* height | 0.00 (0.00) <.01 |
| a | Level \* smoking | -0.03 (0.01) .01 |
| a | Level \* cardio | -0.04 (0.01) <.01 |
| a | Level \* diabetes | -0.06 (0.02) <.01 |
| a | Slope \* age | -0.00 (0.00) <.01 |
| a | Slope \* education | 0.00 (0.00) .26 |
| a | Slope \* height | 0.00 (0.00) .52 |
| a | Slope \* smoking | 0.00 (0.00) .92 |
| a | Slope \* cardio | 0.00 (0.00) .94 |
| a | Slope \* diabetes | -0.00 (0.00) .69 |
| b | Level | 4.95 (0.09) <.01 |
| b | Slope | -0.04 (0.01) .01 |
| b | Level \* age | -0.05 (0.00) <.01 |
| b | Level \* education | 0.74 (0.07) <.01 |
| b | Level \* height | 0.02 (0.01) <.01 |
| b | Level \* smoking | -0.04 (0.08) .60 |
| b | Level \* cardio | -0.12 (0.10) .22 |
| b | Level \* diabetes | 0.02 (0.12) .86 |
| b | Slope \* age | -0.00 (0.00) <.01 |
| b | Slope \* education | 0.00 (0.01) .71 |
| b | Slope \* height | 0.00 (0.00) .42 |
| b | Slope \* smoking | -0.00 (0.01) .77 |
| b | Slope \* cardio | -0.00 (0.01) .96 |
| b | Slope \* diabetes | -0.05 (0.02) .03 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| b | Var (Level) | 0.97 (0.09) <.01 |
| b | Var (Slope) | 0.00 (0.00) .18 |
| b | Var (Residual) | 1.53 (0.05) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 |
| b | Covar (Level, Slope) | -0.01 (0.01) .32 |
|  | Correlation of Levels | 0.225 |
|  | Correlation of Slopes | NaN |
|  | Correlation of Residuals | -0.012 |
|  | N | 1,947 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -9,826 |
|  | AIC | 19,734 |
|  | BIC | 19,963 |

## Summary

Study = *ELSA*; Gender = *male*; Process (a) = *gait*

Computed correlations:

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Levels | fluency | 0.23 |
| Correlation of Levels | word\_de | 0.23 |
| Correlation of Levels | word\_im | 0.23 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Slopes | fluency | Inf |
| Correlation of Slopes | word\_de | NaN |
| Correlation of Slopes | word\_im | NaN |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Residuals | fluency | -0.02 |
| Correlation of Residuals | word\_de | 0.04 |
| Correlation of Residuals | word\_im | -0.01 |

P-values for corresponding covariances:

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Levels | fluency | 0.00 |
| Covariance of Levels | word\_de | 0.00 |
| Covariance of Levels | word\_im | 0.00 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Slopes | fluency | 0.28 |
| Covariance of Slopes | word\_de | 0.49 |
| Covariance of Slopes | word\_im | 0.58 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Residuals | fluency | 0.34 |
| Covariance of Residuals | word\_de | 0.04 |
| Covariance of Residuals | word\_im | 0.49 |

#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