ELSA : Seed report

Date: 2016-10-20

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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) |
| 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 | 0.01 (0.00) <.01 | 0.01 (0.00) <.01 | 0.00 (0.00) <.01 | 0.01(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 | -0.14 (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) .89 | 0.00 (0.00) .96 | 0.00 (0.00) .96 | 0.00(0.00) |
| a | Slope \* height | 0.00 (0.00) .13 | 0.00 (0.00) .15 | 0.00 (0.00) .12 | 0.00(0.00) |
| a | Slope \* smoking | 0.00 (0.00) .96 | 0.00 (0.00) .86 | 0.00 (0.00) .92 | 0.00(0.00) |
| a | Slope \* cardio | -0.00 (0.00) .28 | -0.00 (0.00) .34 | -0.00 (0.00) .32 | -0.00(0.00) |
| a | Slope \* diabetes | 0.00 (0.00) .66 | 0.00 (0.00) .58 | 0.00 (0.00) .64 | 0.00(0.00) |
| b | Level | 17.64 (0.18) <.01 | 3.92 (0.06) <.01 | 5.30 (0.05) <.01 | --- |
| b | Slope | -0.08 (0.03) <.01 | -0.06 (0.01) <.01 | -0.05 (0.01) <.01 | --- |
| b | Level \* age | -0.16 (0.01) <.01 | -0.07 (0.00) <.01 | -0.06 (0.00) <.01 | --- |
| b | Level \* education | 3.34 (0.20) <.01 | 0.99 (0.06) <.01 | 0.77 (0.06) <.01 | --- |
| b | Level \* height | 0.10 (0.02) <.01 | 0.02 (0.00) <.01 | 0.01 (0.00) .02 | --- |
| b | Level \* smoking | -0.06 (0.19) .74 | -0.18 (0.06) <.01 | -0.06 (0.05) .22 | --- |
| b | Level \* cardio | -0.23 (0.35) .52 | -0.12 (0.12) .33 | -0.15 (0.10) .14 | --- |
| b | Level \* diabetes | -0.62 (0.50) .22 | -0.36 (0.15) .02 | -0.32 (0.14) .02 | --- |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | --- |
| b | Slope \* education | 0.03 (0.03) .35 | 0.01 (0.01) .46 | 0.01 (0.01) .12 | --- |
| b | Slope \* height | -0.00 (0.00) .09 | 0.00 (0.00) .31 | 0.00 (0.00) .27 | --- |
| b | Slope \* smoking | -0.04 (0.03) .13 | 0.01 (0.01) .15 | 0.00 (0.01) .94 | --- |
| b | Slope \* cardio | -0.04 (0.05) .35 | 0.00 (0.02) .92 | -0.00 (0.02) .94 | --- |
| b | Slope \* diabetes | -0.14 (0.07) .05 | -0.00 (0.02) .92 | -0.00 (0.02) .91 | --- |
| 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) |
| a | Covar (Level, Slope) | 0.00 (0.00) .01 | 0.00 (0.00) .01 | 0.00 (0.00) .01 | 0.00(0.00) |
| b | Var (Level) | 18.06 (1.06) <.01 | 1.58 (0.08) <.01 | 1.01 (0.07) <.01 | --- |
| b | Var (Slope) | 0.07 (0.02) <.01 | 0.00 (0.00) .01 | 0.01 (0.00) <.01 | --- |
| b | Var (Residual) | 15.87 (0.58) <.01 | 1.84 (0.05) <.01 | 1.59 (0.04) <.01 | --- |
| b | Covar (Level, Slope) | -0.08 (0.14) .54 | 0.00 (0.01) .99 | -0.02 (0.01) .07 | --- |
| ab | Covar (Levels) | 0.15 (0.03) <.01 | 0.05 (0.01) <.01 | 0.04 (0.01) <.01 | --- |
| ab | Covar (Slopes) | 0.00 (0.00) .17 | 0.00 (0.00) .26 | 0.00 (0.00) .12 | --- |
| ab | Covar (Residuals) | 0.02 (0.01) .05 | -0.00 (0.00) .35 | 0.00 (0.00) .18 | --- |
|  | Correlation of Levels | 0.187 | 0.208 | 0.219 | 0.20(0.02) |
|  | Correlation of Slopes | Inf | NaN | NaN | Inf(NA) |
|  | Correlation of Residuals | 0.036 | -0.015 | 0.022 | 0.01(0.03) |
|  | N | 3,510 | 3,510 | 3,510 | 3510.00(0.00) |
|  | occasions | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -33,697 | -20,817 | -19,541 | -2.468514e+04(7.830608e+03) |
|  | AIC | 67,476 | 41,716 | 39,165 | 4.945229e+04(1.566122e+04) |
|  | BIC | 67,729 | 41,969 | 39,417 | 4.970499e+04(1.566122e+04) |

## fluency

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

|  |  |  |
| --- | --- | --- |
| process | label | aehplus |
| 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 | 0.01 (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) .89 |
| a | Slope \* height | 0.00 (0.00) .13 |
| a | Slope \* smoking | 0.00 (0.00) .96 |
| a | Slope \* cardio | -0.00 (0.00) .28 |
| a | Slope \* diabetes | 0.00 (0.00) .66 |
| b | Level | 17.64 (0.18) <.01 |
| b | Slope | -0.08 (0.03) <.01 |
| b | Level \* age | -0.16 (0.01) <.01 |
| b | Level \* education | 3.34 (0.20) <.01 |
| b | Level \* height | 0.10 (0.02) <.01 |
| b | Level \* smoking | -0.06 (0.19) .74 |
| b | Level \* cardio | -0.23 (0.35) .52 |
| b | Level \* diabetes | -0.62 (0.50) .22 |
| b | Slope \* age | -0.01 (0.00) <.01 |
| b | Slope \* education | 0.03 (0.03) .35 |
| b | Slope \* height | -0.00 (0.00) .09 |
| b | Slope \* smoking | -0.04 (0.03) .13 |
| b | Slope \* cardio | -0.04 (0.05) .35 |
| b | Slope \* diabetes | -0.14 (0.07) .05 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| a | Covar (Level, Slope) | 0.00 (0.00) .01 |
| b | Var (Level) | 18.06 (1.06) <.01 |
| b | Var (Slope) | 0.07 (0.02) <.01 |
| b | Var (Residual) | 15.87 (0.58) <.01 |
| b | Covar (Level, Slope) | -0.08 (0.14) .54 |
| ab | Covar (Levels) | 0.15 (0.03) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .17 |
| ab | Covar (Residuals) | 0.02 (0.01) .05 |
|  | Correlation of Levels | 0.187 |
|  | Correlation of Slopes | Inf |
|  | Correlation of Residuals | 0.036 |
|  | N | 3,510 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -33,697 |
|  | AIC | 67,476 |
|  | BIC | 67,729 |

## 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 |
| 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 | 0.01 (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) .96 |
| a | Slope \* height | 0.00 (0.00) .15 |
| a | Slope \* smoking | 0.00 (0.00) .86 |
| a | Slope \* cardio | -0.00 (0.00) .34 |
| a | Slope \* diabetes | 0.00 (0.00) .58 |
| b | Level | 3.92 (0.06) <.01 |
| b | Slope | -0.06 (0.01) <.01 |
| b | Level \* age | -0.07 (0.00) <.01 |
| b | Level \* education | 0.99 (0.06) <.01 |
| b | Level \* height | 0.02 (0.00) <.01 |
| b | Level \* smoking | -0.18 (0.06) <.01 |
| b | Level \* cardio | -0.12 (0.12) .33 |
| b | Level \* diabetes | -0.36 (0.15) .02 |
| b | Slope \* age | -0.00 (0.00) <.01 |
| b | Slope \* education | 0.01 (0.01) .46 |
| b | Slope \* height | 0.00 (0.00) .31 |
| b | Slope \* smoking | 0.01 (0.01) .15 |
| b | Slope \* cardio | 0.00 (0.02) .92 |
| b | Slope \* diabetes | -0.00 (0.02) .92 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| a | Covar (Level, Slope) | 0.00 (0.00) .01 |
| b | Var (Level) | 1.58 (0.08) <.01 |
| b | Var (Slope) | 0.00 (0.00) .01 |
| b | Var (Residual) | 1.84 (0.05) <.01 |
| b | Covar (Level, Slope) | 0.00 (0.01) .99 |
| ab | Covar (Levels) | 0.05 (0.01) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .26 |
| ab | Covar (Residuals) | -0.00 (0.00) .35 |
|  | Correlation of Levels | 0.208 |
|  | Correlation of Slopes | NaN |
|  | Correlation of Residuals | -0.015 |
|  | N | 3,510 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -20,817 |
|  | AIC | 41,716 |
|  | BIC | 41,969 |

## 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 |
| 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 | -0.14 (0.02) <.01 |
| a | Slope \* age | 0.00 (0.00) <.01 |
| a | Slope \* education | 0.00 (0.00) .96 |
| a | Slope \* height | 0.00 (0.00) .12 |
| a | Slope \* smoking | 0.00 (0.00) .92 |
| a | Slope \* cardio | -0.00 (0.00) .32 |
| a | Slope \* diabetes | 0.00 (0.00) .64 |
| b | Level | 5.30 (0.05) <.01 |
| b | Slope | -0.05 (0.01) <.01 |
| b | Level \* age | -0.06 (0.00) <.01 |
| b | Level \* education | 0.77 (0.06) <.01 |
| b | Level \* height | 0.01 (0.00) .02 |
| b | Level \* smoking | -0.06 (0.05) .22 |
| b | Level \* cardio | -0.15 (0.10) .14 |
| b | Level \* diabetes | -0.32 (0.14) .02 |
| b | Slope \* age | -0.00 (0.00) <.01 |
| b | Slope \* education | 0.01 (0.01) .12 |
| b | Slope \* height | 0.00 (0.00) .27 |
| b | Slope \* smoking | 0.00 (0.01) .94 |
| b | Slope \* cardio | -0.00 (0.02) .94 |
| b | Slope \* diabetes | -0.00 (0.02) .91 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| a | Covar (Level, Slope) | 0.00 (0.00) .01 |
| b | Var (Level) | 1.01 (0.07) <.01 |
| b | Var (Slope) | 0.01 (0.00) <.01 |
| b | Var (Residual) | 1.59 (0.04) <.01 |
| b | Covar (Level, Slope) | -0.02 (0.01) .07 |
| ab | Covar (Levels) | 0.04 (0.01) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .12 |
| ab | Covar (Residuals) | 0.00 (0.00) .18 |
|  | Correlation of Levels | 0.219 |
|  | Correlation of Slopes | NaN |
|  | Correlation of Residuals | 0.022 |
|  | N | 3,510 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -19,541 |
|  | AIC | 39,165 |
|  | BIC | 39,417 |

## Summary

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

Computed correlations:

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Levels | fluency | 0.19 |
| Correlation of Levels | word\_de | 0.21 |
| Correlation of Levels | word\_im | 0.22 |

|  |  |  |
| --- | --- | --- |
| 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 | 0.04 |
| Correlation of Residuals | word\_de | -0.02 |
| Correlation of Residuals | word\_im | 0.02 |

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 | 0.17 |
| Covariance of Slopes | word\_de | 0.26 |
| Covariance of Slopes | word\_im | 0.12 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Residuals | fluency | 0.05 |
| Covariance of Residuals | word\_de | 0.35 |
| Covariance of Residuals | word\_im | 0.18 |

# male

Gender = *male*; Model type: *aehplus*; Process (a) = *gait*; Process (b): *fluency*, *word\_de*, *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 | fluency | word\_de | word\_im | mean(sd) |
| a | Level | 0.86 (0.01) <.01 | 0.86 (0.01) <.01 | 0.86 (0.01) <.01 | 0.86(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 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04 (0.01) <.01 | -0.04(0.00) |
| a | Level \* cardio | -0.06 (0.01) <.01 | -0.06 (0.01) <.01 | -0.06 (0.01) <.01 | -0.06(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) .25 | 0.00 (0.00) .25 | 0.00 (0.00) .23 | 0.00(0.00) |
| a | Slope \* height | 0.00 (0.00) .66 | 0.00 (0.00) .63 | 0.00 (0.00) .66 | 0.00(0.00) |
| a | Slope \* smoking | 0.00 (0.00) .83 | 0.00 (0.00) .82 | 0.00 (0.00) .83 | 0.00(0.00) |
| a | Slope \* cardio | -0.00 (0.00) .75 | -0.00 (0.00) .71 | -0.00 (0.00) .71 | -0.00(0.00) |
| a | Slope \* diabetes | -0.00 (0.00) .78 | -0.00 (0.00) .76 | -0.00 (0.00) .81 | -0.00(0.00) |
| b | Level | 18.25 (0.26) <.01 | 3.35 (0.08) <.01 | 4.90 (0.07) <.01 | --- |
| b | Slope | -0.07 (0.04) .06 | -0.02 (0.01) .11 | -0.03 (0.01) .01 | --- |
| b | Level \* age | -0.15 (0.01) <.01 | -0.07 (0.00) <.01 | -0.05 (0.00) <.01 | --- |
| b | Level \* education | 2.76 (0.22) <.01 | 0.89 (0.07) <.01 | 0.74 (0.06) <.01 | --- |
| b | Level \* height | 0.08 (0.02) <.01 | 0.02 (0.00) <.01 | 0.02 (0.00) <.01 | --- |
| b | Level \* smoking | -0.18 (0.23) .45 | 0.01 (0.07) .88 | -0.01 (0.06) .84 | --- |
| b | Level \* cardio | -0.58 (0.30) .06 | -0.11 (0.10) .25 | -0.18 (0.08) .04 | --- |
| b | Level \* diabetes | -0.12 (0.40) .77 | -0.27 (0.11) .01 | -0.04 (0.10) .69 | --- |
| b | Slope \* age | -0.01 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | --- |
| b | Slope \* education | -0.04 (0.03) .23 | 0.00 (0.01) .79 | 0.01 (0.01) .56 | --- |
| b | Slope \* height | 0.00 (0.00) .06 | 0.00 (0.00) .70 | 0.00 (0.00) .08 | --- |
| b | Slope \* smoking | -0.04 (0.03) .23 | -0.01 (0.01) .19 | -0.01 (0.01) .24 | --- |
| b | Slope \* cardio | 0.04 (0.04) .35 | -0.02 (0.01) .12 | -0.00 (0.01) .80 | --- |
| b | Slope \* diabetes | -0.06 (0.06) .28 | -0.02 (0.02) .16 | -0.03 (0.02) .05 | --- |
| 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) |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00 (0.00) <.01 | -0.00(0.00) |
| b | Var (Level) | 19.04 (1.16) <.01 | 1.44 (0.08) <.01 | 1.00 (0.07) <.01 | --- |
| b | Var (Slope) | 0.03 (0.02) .29 | 0.00 (0.00) .06 | 0.01 (0.00) <.01 | --- |
| b | Var (Residual) | 17.40 (0.68) <.01 | 1.74 (0.04) <.01 | 1.47 (0.04) <.01 | --- |
| b | Covar (Level, Slope) | 0.23 (0.13) .08 | -0.00 (0.01) .75 | -0.02 (0.01) .02 | --- |
| 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) .62 | 0.00 (0.00) .74 | 0.00 (0.00) .44 | --- |
| ab | Covar (Residuals) | 0.00 (0.01) .89 | 0.00 (0.00) .16 | 0.00 (0.00) .94 | --- |
|  | Correlation of Levels | 0.2218 | 0.231 | 0.21 | 0.22(0.01) |
|  | Correlation of Slopes | NaN | NaN | NaN | --- |
|  | Correlation of Residuals | 0.0034 | 0.027 | 0.00 | 0.01(0.01) |
|  | N | 3,090 | 3,090 | 3,088 | 3089.33(1.15) |
|  | occasions | 5 | 5 | 5 | 5.00(0.00) |
|  | parameters | 41 | 41 | 41 | 41.00(0.00) |
|  | LL | -29,489 | -17,627 | -16,535 | -2.121720e+04(7.184521e+03) |
|  | AIC | 59,060 | 35,337 | 33,152 | 4.251639e+04(1.436904e+04) |
|  | BIC | 59,308 | 35,584 | 33,399 | 4.276386e+04(1.436905e+04) |

## fluency

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

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 |
| a | Level | 0.86 (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 | -0.04 (0.01) <.01 |
| a | Level \* cardio | -0.06 (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) .66 |
| a | Slope \* smoking | 0.00 (0.00) .83 |
| a | Slope \* cardio | -0.00 (0.00) .75 |
| a | Slope \* diabetes | -0.00 (0.00) .78 |
| b | Level | 18.25 (0.26) <.01 |
| b | Slope | -0.07 (0.04) .06 |
| b | Level \* age | -0.15 (0.01) <.01 |
| b | Level \* education | 2.76 (0.22) <.01 |
| b | Level \* height | 0.08 (0.02) <.01 |
| b | Level \* smoking | -0.18 (0.23) .45 |
| b | Level \* cardio | -0.58 (0.30) .06 |
| b | Level \* diabetes | -0.12 (0.40) .77 |
| b | Slope \* age | -0.01 (0.00) <.01 |
| b | Slope \* education | -0.04 (0.03) .23 |
| b | Slope \* height | 0.00 (0.00) .06 |
| b | Slope \* smoking | -0.04 (0.03) .23 |
| b | Slope \* cardio | 0.04 (0.04) .35 |
| b | Slope \* diabetes | -0.06 (0.06) .28 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 |
| b | Var (Level) | 19.04 (1.16) <.01 |
| b | Var (Slope) | 0.03 (0.02) .29 |
| b | Var (Residual) | 17.40 (0.68) <.01 |
| b | Covar (Level, Slope) | 0.23 (0.13) .08 |
| ab | Covar (Levels) | 0.20 (0.03) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .62 |
| ab | Covar (Residuals) | 0.00 (0.01) .89 |
|  | Correlation of Levels | 0.2218 |
|  | Correlation of Slopes | NaN |
|  | Correlation of Residuals | 0.0034 |
|  | N | 3,090 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -29,489 |
|  | AIC | 59,060 |
|  | BIC | 59,308 |

## 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 |
| a | Level | 0.86 (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 | -0.04 (0.01) <.01 |
| a | Level \* cardio | -0.06 (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) .63 |
| a | Slope \* smoking | 0.00 (0.00) .82 |
| a | Slope \* cardio | -0.00 (0.00) .71 |
| a | Slope \* diabetes | -0.00 (0.00) .76 |
| b | Level | 3.35 (0.08) <.01 |
| b | Slope | -0.02 (0.01) .11 |
| b | Level \* age | -0.07 (0.00) <.01 |
| b | Level \* education | 0.89 (0.07) <.01 |
| b | Level \* height | 0.02 (0.00) <.01 |
| b | Level \* smoking | 0.01 (0.07) .88 |
| b | Level \* cardio | -0.11 (0.10) .25 |
| b | Level \* diabetes | -0.27 (0.11) .01 |
| b | Slope \* age | -0.00 (0.00) <.01 |
| b | Slope \* education | 0.00 (0.01) .79 |
| b | Slope \* height | 0.00 (0.00) .70 |
| b | Slope \* smoking | -0.01 (0.01) .19 |
| b | Slope \* cardio | -0.02 (0.01) .12 |
| b | Slope \* diabetes | -0.02 (0.02) .16 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 |
| b | Var (Level) | 1.44 (0.08) <.01 |
| b | Var (Slope) | 0.00 (0.00) .06 |
| b | Var (Residual) | 1.74 (0.04) <.01 |
| b | Covar (Level, Slope) | -0.00 (0.01) .75 |
| ab | Covar (Levels) | 0.06 (0.01) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .74 |
| ab | Covar (Residuals) | 0.00 (0.00) .16 |
|  | Correlation of Levels | 0.231 |
|  | Correlation of Slopes | NaN |
|  | Correlation of Residuals | 0.027 |
|  | N | 3,090 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -17,627 |
|  | AIC | 35,337 |
|  | BIC | 35,584 |

## 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 |
| a | Level | 0.86 (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 | -0.04 (0.01) <.01 |
| a | Level \* cardio | -0.06 (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) .23 |
| a | Slope \* height | 0.00 (0.00) .66 |
| a | Slope \* smoking | 0.00 (0.00) .83 |
| a | Slope \* cardio | -0.00 (0.00) .71 |
| a | Slope \* diabetes | -0.00 (0.00) .81 |
| b | Level | 4.90 (0.07) <.01 |
| b | Slope | -0.03 (0.01) .01 |
| b | Level \* age | -0.05 (0.00) <.01 |
| b | Level \* education | 0.74 (0.06) <.01 |
| b | Level \* height | 0.02 (0.00) <.01 |
| b | Level \* smoking | -0.01 (0.06) .84 |
| b | Level \* cardio | -0.18 (0.08) .04 |
| b | Level \* diabetes | -0.04 (0.10) .69 |
| b | Slope \* age | -0.00 (0.00) <.01 |
| b | Slope \* education | 0.01 (0.01) .56 |
| b | Slope \* height | 0.00 (0.00) .08 |
| b | Slope \* smoking | -0.01 (0.01) .24 |
| b | Slope \* cardio | -0.00 (0.01) .80 |
| b | Slope \* diabetes | -0.03 (0.02) .05 |
| a | Var (Level) | 0.04 (0.00) <.01 |
| a | Var (Slope) | 0.00 (0.00) <.01 |
| a | Var (Residual) | 0.02 (0.00) <.01 |
| a | Covar (Level, Slope) | -0.00 (0.00) <.01 |
| b | Var (Level) | 1.00 (0.07) <.01 |
| b | Var (Slope) | 0.01 (0.00) <.01 |
| b | Var (Residual) | 1.47 (0.04) <.01 |
| b | Covar (Level, Slope) | -0.02 (0.01) .02 |
| ab | Covar (Levels) | 0.04 (0.01) <.01 |
| ab | Covar (Slopes) | 0.00 (0.00) .44 |
| ab | Covar (Residuals) | 0.00 (0.00) .94 |
|  | Correlation of Levels | 0.21 |
|  | Correlation of Slopes | NaN |
|  | Correlation of Residuals | 0.00 |
|  | N | 3,088 |
|  | occasions | 5 |
|  | parameters | 41 |
|  | LL | -16,535 |
|  | AIC | 33,152 |
|  | BIC | 33,399 |

## Summary

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

Computed correlations:

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Levels | fluency | 0.22 |
| Correlation of Levels | word\_de | 0.23 |
| Correlation of Levels | word\_im | 0.21 |

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

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Correlation of Residuals | fluency | 0.00 |
| Correlation of Residuals | word\_de | 0.03 |
| Correlation of Residuals | word\_im | 0.00 |

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 | 0.62 |
| Covariance of Slopes | word\_de | 0.74 |
| Covariance of Slopes | word\_im | 0.44 |

|  |  |  |
| --- | --- | --- |
| label | process\_b | aehplus |
| Covariance of Residuals | fluency | 0.89 |
| Covariance of Residuals | word\_de | 0.16 |
| Covariance of Residuals | word\_im | 0.94 |

#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\_2.1.0 magrittr\_1.5   
  
loaded via a namespace (and not attached):  
 [1] Rcpp\_0.12.7 munsell\_0.4.3 testit\_0.5 colorspace\_1.2-7 R6\_2.2.0 stringr\_1.1.0   
 [7] highr\_0.6 plyr\_1.8.4 dplyr\_0.5.0 tools\_3.3.1 DT\_0.2 grid\_3.3.1   
[13] gtable\_0.2.0 DBI\_0.5-1 htmltools\_0.3.5 yaml\_2.1.13 lazyeval\_0.2.0 assertthat\_0.1   
[19] digest\_0.6.10 tibble\_1.2 formatR\_1.4 readr\_1.0.0 tidyr\_0.6.0 htmlwidgets\_0.7   
[25] rsconnect\_0.5 evaluate\_0.10 rmarkdown\_1.1 stringi\_1.1.2 scales\_0.4.0