Supplementary Materials for “Quantifying the difference in reading fluency between L1 and L2 readers of English”

Table S1. Fixed effects of the model fitted to exposure to print (ART) scores with German as the baseline.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Estimate | SE | t | P |
| Intercept | 8.545 | 1.298 | 6.585 | < 0.001 |
| English | 2.910 | 1.822 | 1.202 | 0.232 |
| Finnish | 2.597 | 1.915 | 1.356 | 0.178 |

Table S2. Fixed effects of the model fitted to the spelling test scores with German as the baseline.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Estimate | SE | t | P |
| Intercept | 66.515 | 1.480 | 44.932 | < 0.001 |
| English | 8.279 | 2.078 | 3.984 | < 0.001 |
| Finnish | 3.628 | 2.185 | 1.660 | 0.100 |

Table S3. Fixed effects of the model fitted to vocabulary scores with German as the baseline.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Estimate | SE | t | P |
| Intercept | 72.462 | 2.109 | 34.361 | < 0.001 |
| Finnish | 1.936 | 3.144 | .0616 | 0.54 |

Table S4. Fixed effects of language on total fixation time with German as the reference language. By-subject random intercepts SD = 0.25, by-item random intercepts SD = 0.17, residual SD = 0.46, N = 26416.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Estimate | SE | Df | t | P |
| Intercept | 5.887 | 0.044 | 100.373 | 132.732 | < 0.001  |
| English | -0.265 | 0.061 | 92.012 | -4.356 | < 0.001  |
| Finnish | 0.149 | 0.064 | 91.771 | 2.332 |  |

Table S5. Regression model for ToFD: German cohort. SD of the by-items random intercepts is 0.0690; SD of the by-subject random intercepts is 0.2811; the model residual SD is 0.4388; N = 9259.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Estimate | SE | Df | T | P |
| Intercept | 6.852 | 0.5809 | 29.53 | 11.795 | < 0.001 |
| Length | 0.0712 | 0.0335 | 29.98 | 2.120 | 0.0426 |
| Frequency | -0.1389 | 0.0340 | 29.46 | -4.087 | 0.0003 |
| Spelling | 0.0091 | 0.0111 | 28.91 | 0.821 | 0.4174 |
| Exposure | -0.0245 | 0.0119 | 28.79 | -2.064 | 0.0476 |
| Vocabulary | -0.0143 | 0.0071 | 29.34 | -2.016 | 0.0526 |
| Length: Spelling | -0.0006 | 0.0006 | 28.65 | -0.940 | 0.3553 |
| Length: Exposure | 0.0002 | 0.0007 | 29.05 | 0.306 | 0.7622 |
| Length: Vocabulary | -0.0000 | 0.0004 | 29.26 | -0.201 | 0.8422 |
| Frequency: Spelling | 0.0006 | 0.0006 | 28.27 | 0.902 | 0.3745 |
| Frequency: Exposure | 0.0009 | 0.0007 | 27.75 | 1.328 | 0.1951 |
| Frequency: Vocabulary | 0.0003 | 0.0004 | 29.08 | 0.825 | 0.4160 |

Table S6. Regression model for ToFD: Finnish cohort. SD of the by-items random intercepts is 0.0164; SD of the by-subjects random intercepts is 0.1274; the model residual SD is 0.4521; N = 7881.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Estimate | SE | Df | t | P |
| Intercept | 8.3436 | 0.5804 | 23.1230 | 14.374 | < 0.001 |
| Length | -0.0006 | 0.0360 | 24.7265 | -0.017 | 0.9866 |
| Frequency | -0.1861 | 0.0355 | 24.4473 | -5.241 | < 0.001 |
| Spelling | -0.0249 | 0.0115 | 22.6292 | -2.171 | 0.0407 |
| Exposure | -0.0035 | 0.0138 | 22.8492 | -0.251 | 0.8041 |
| Vocabulary | -0.0069 | 0.0102 | 22.4665 | -0.673 | 0.5077 |
| Length: Spelling | 0.0009 | 0.0007 | 23.9914 | 1.289 | 0.2098 |
| Length: Exposure | 0.0006 | 0.0009 | 23.9905 | 0.697 | 0.5034 |
| Length: Vocabulary | -0.0004 | 0.0006 | 23.7514 | -0.604 | 0.5515 |
| Frequency: Spelling | 0.0013 | 0.0007 | 23.6149 | 1.796 | 0.0854 |
| Frequency: Exposure | 0.0006 | 0.0008 | 23.9950 | 0.696 | 0.4932 |
| Frequency: Vocabulary | 0.0007 | 0.0006 | 23.2413 | 1.197 | 0.2435 |