**Appendix A**

**Summary of Linear Mixed Effects Models**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Experiment 1** | | | | | | | | | |
| ~ 1 + switchcond + Language + switchcond:Language + (1 | itemnumber) +  (1 + switchcond + Language | subject) | | | | | | | | | |
|  | Skip | | | | | FFD | | | |
| Model effects | b | SE | t, z value | Variance | | b | SE | t, z value | Variance |
| Fixed effects | | | | | | | | | |
| Language | 0.133 | 0.120 | 1.11 | 1.51e-5 | | 0.014 | 0.0047 | 2.99 | 2.78e-4 |
| Switch condition | 0.272 | 0.104 | 2.61 | 8.40e-5 | | 0.0125 | 0.0042 | 2.92 | 1.63e-4 |
| Language X Switch Condition | 0.308 | 0.17 | 1.77 |  | | 0.0252 | 0.0078 | 3.24 |  |
| Intercept | 2.51 | 0.147 | 17.08 |  | | 2.36 | 0.0068 | 346.76 |  |
| Random effects | | | | | | | | | |
| Subject variance |  |  |  | 0.888 | |  |  |  | 0.00215 |
| Item variance |  |  |  | 0.211 | |  |  |  | 1.07e-4 |
| Residual variance |  |  |  | 1.000 | |  |  |  | 0.02100 |
|  | GD | | | | | Spillover | | | |
| Model effects | b | SE | t, z value | Variance | | b | SE | t, z value | Variance |
| Fixed effects | | | | | | | | | |
| Language | 0.068 | 0.012 | 5.54 | 0.004 | | 0.014 | 0.0057 | 1.702 | 1.67e-5 |
| Switch condition | 0.036 | 0.007 | 5.49 | 7.83e-4 | | 0.011 | 0.0064 | 2.464 | 7.15e-4 |
| Language X Switch Condition | 0.048 | 0.011 | 4.48 |  | | 0.009 | 0.0100 | 0.909 |  |
| Intercept | 2.46 | 0.01 | 241.39 |  | | 2.370 | 0.0082 | 290.630 |  |
| Random effects | | | | | | | | | |
| Subject variance |  |  |  | 0.004 | |  |  |  | 0.003 |
| Item variance |  |  |  | 0.003 | |  |  |  | 3.91e-4 |
| Residual variance |  |  |  | 0.040 | |  |  |  | 0.024 |
|  | TRT | | | | |  | | | |
| Model effects | b | SE | t, z value | Variance | |  |  |  |  |
| Fixed effects | | | | | | | | | |
| Language | 0.09 | 0.019 | 5.03 | 0.009 | |  |  |  |  |
| Switch condition | 0.07 | 0.009 | 8.05 | 0.002 | |  |  |  |  |
| Language X Switch Condition | 0.06 | 0.013 | 5.11 |  | |  |  |  |  |
| Intercept | 2.65 | 0.018 | 151.27 |  | |  |  |  |  |
| Random effects | | | | |
| Subject variance |  |  |  | 0.013 | |  |  |  |  |
| Item variance |  |  |  | 0.009 | |  |  |  |  |
| Residual variance |  |  |  | 0.056 | |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Experiment 1** | | | | | | | | | |
| ~ 1 + switchcond + Cognate status + switchcond:cognate status + (1 | itemnumber) +  (1 + switchcond + cognate status | subject) | | | | | | | | | |
|  | Skip | | | | | FFD | | | |
| Model effects | b | SE | t, z value | Variance | | b | SE | t, z value | Variance |
| Fixed effects | | | | | | | | | |
| Cognate Status | 0.017 | 0.123 | 0.139 | 0.036 | | 0.001 | 0.004 | 0.286 | 1.55e-4 |
| Switch condition | 0.280 | 0.104 | 2.704 | 0.001 | | 0.012 | 0.004 | 2.882 | 6.15e-5 |
| Cognate Status X Switch Condition | 0.010 | 1.010 | 0.059 |  | | 0.003 | 0.008 | 0.401 |  |
| Intercept | 2.516 | 0.147 | 17.069 |  | | 2.362 | 0.007 | 345.212 |  |
|  | | | | | | | | | |
| Subject variance |  |  |  | 0.888 | |  |  |  | 0.002 |
| Item variance |  |  |  | 0.217 | |  |  |  | 1.49e-4 |
| Residual variance |  |  |  | 1.00 | |  |  |  | 0.021 |
|  | GD | | | | | Spillover | | | |
| Model effects | b | SE | t, z value | Variance | | b | SE | t, z value | Variance |
| Fixed effects | | | | | | | | | |
| Cognate Status | 0.008 | 0.010 | 0.819 | 2.06e-4 | | 0.002 | 0.006 | 0.343 | 1.73e-4 |
| Switch condition | 0.036 | 0.007 | 5.336 | 8.11e-4 | | 0.010 | 0.006 | 1.624 | 7.02e-4 |
| Cognate Status X Switch Condition | 7.53e-4 | 0.011 | 0.070 |  | | 0.017 | 0.010 | 1.658 |  |
| Intercept | 2.464 | 0.011 | 0234.058 |  | | 2.370 | 0.008 | 289.101 |  |
| Random effects | | | | | | | | | |
| Subject variance |  |  |  | 0.004 | |  |  |  | 0.003 |
| Item variance |  |  |  | 0.004 | |  |  |  | 4.31e-4 |
| Residual variance |  |  |  | 0.041 | |  |  |  | 0.024 |
|  | TRT | | | | |  | | | |
| Model effects | b | SE | t, z value | Variance | |  |  |  |  |
| Fixed effects | | | | | | | | | |
| Cognate Status | 0.003 | 0.014 | 0.195 | 7.59e-4 | |  |  |  |  |
| Switch condition | 0.072 | 0.009 | 7.824 | 0.002 | |  |  |  |  |
| Cognate Status X Switch Condition | 0.014 | 0.013 | 1.046 |  | |  |  |  |  |
| Intercept | 2.651 | 0.018 | 148.832 |  | |  |  |  |  |
| Random effects | | | | |
| Subject variance |  |  |  | 0.013 | |  |  |  |  |
| Item variance |  |  |  | 0.011 | |  |  |  |  |
| Residual variance |  |  |  | 0.058 | |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Experiment 2** | | | | | | | | | |
| ~ 1 + switchcond + Language + switchcond:Language + (1 | itemnumber) +  (1 + switchcond + Language | subject) | | | | | | | | | |
|  | Skip | | | | | FFD | | | |
| Model effects | b | SE | t, z value | Variance | | b | SE | t, z value | Variance |
| Fixed effects | | | | | | | | | |
| Language | 0.558 | 0.159 | 3.51 | 0.120 | | 0.014 | 0.006 | 2.43 | 5.31e-4 |
| Switch condition | 0.552 | 0.168 | 3.30 | 0.307 | | 0.022 | 0.004 | 5.07 | 2.37e-4 |
| Language X Switch Condition | 0.093 | 1.097 | 0.48 |  | | 0.031 | 0.008 | 3.82 |  |
| Intercept | 3.359 | 0.266 | 12.63 |  | | 2.375 | 0.006 | 368.61 |  |
|  | | | | | | | | | |
| Subject variance |  |  |  | 3.634 | |  |  |  | 0.002 |
| Item variance |  |  |  | 0.169 | |  |  |  | 3.96e-4 |
| Residual variance |  |  |  | 1.00 | |  |  |  | 0.025 |
|  | GD | | | | | Spillover | | | |
| Model effects | b | SE | t, z value | Variance | | b | SE | t, z value | Variance |
| Fixed effects | | | | | | | | | |
| Language | 0.071 | 0.013 | 5.38 | 0.003 | |  |  |  |  |
| Switch condition | 0.059 | 0.006 | 10.33 | 4.05e-4 | |  |  |  |  |
| Language X Switch Condition | 0.048 | 0.010 | 4.69 |  | |  |  |  |  |
| Intercept | 2.480 | 0.010 | 256.55 |  | |  |  |  |  |
| Random effects | | | | | | | | | |
| Subject variance |  |  |  | 0.004 | |  |  |  |  |
| Item variance |  |  |  | 0.006 | |  |  |  |  |
| Residual variance |  |  |  | 0.041 | |  |  |  |  |
|  | TRT | | | | |  | | | |
| Model effects | b | SE | t, z value | Variance | |  |  |  |  |
| Fixed effects | | | | | | | | | |
| Language | 0.010 | 0.018 | 5.68 | 0.006 | |  |  |  |  |
| Switch condition | 0.099 | 0.008 | 11.79 | 0.002 | |  |  |  |  |
| Language X Switch Condition | 0.036 | 0.011 | 3.10 |  | |  |  |  |  |
| Intercept | 2.596 | 0.013 | 193.61 |  | |  |  |  |  |
| Random effects | | | | |
| Subject variance |  |  |  | 0.008 | |  |  |  |  |
| Item variance |  |  |  | 0.011 | |  |  |  |  |
| Residual variance |  |  |  | 0.051 | |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Experiment 2** | | | | | | | | | |
| ~ 1 + switchcond + color cue + switchcond:colorcue+ (1 | itemnumber) +  (1 + switchcond + colorcue | subject) | | | | | | | | | |
|  | Skip | | | | | FFD | | | |
| Model effects | b | SE | t, z value | Variance | | b | SE | t, z value | Variance |
| Fixed effects | | | | | | | | | |
| Color Cue | 0.299 | 0.203 | 1.47 | 0.533 | | 0.009 | 0.006 | 1.51 | 4.19e-4 |
| Switch condition | 0.569 | 0.171 | 3.34 | 0.316 | | 0.026 | 0.005 | 5.57 | 2.47e-4 |
| Color Cue X Switch Condition | 0.046 | 0.209 | 0.22 |  | | 0.022 | 0.009 | 2.57 |  |
| Intercept | 3.426 | 0.275 | 12.46 |  | | 2.376 | 0.007 | 362.76 |  |
| Random effects | | | | | | | | | |
| Subject variance |  |  |  | 3.835 | |  |  |  | 0.002 |
| Item variance |  |  |  | 0.208 | |  |  |  | 4.34e-4 |
| Residual variance |  |  |  | 1.00 | |  |  |  | 0.025 |
|  | GD | | | | | Spillover | | | |
| Model effects | b | SE | t, z value | Variance | | b | SE | t, z value | Variance |
| Fixed effects | | | | | | | | | |
| Color Cue | 0.040 | 0.013 | 2.99 | 0.001 | | 0.003 | 0.007 | 0.39 | 4.82e-4 |
| Switch condition | 0.067 | 0.006 | 11.03 | 4.45e-4 | | 0.004 | 0.006 | 0.71 | 1.91e-4 |
| Color Cue X Switch Condition | 0.046 | 0.011 | 4.27 |  | | 0.014 | 0.012 | 1.21 |  |
| Intercept | 2.486 | 0.010 | 251.89 |  | | 2.347 | 0.007 | 336.20 |  |
| Random effects | | | | | | | | | |
| Subject variance |  |  |  | 0.003 | |  |  |  | 0.002 |
| Item variance |  |  |  | 0.007 | |  |  |  | 4.02e-4 |
| Residual variance |  |  |  | 0.041 | |  |  |  | 0.021 |
|  | TRT | | | | |  | | | |
| Model effects | b | SE | t, z value | Variance | |  |  |  |  |
| Fixed effects | | | | | | | | | |
| Color Cue | 0.071 | 0.018 | 3.94 | 0.004 | |  |  |  |  |
| Switch condition | 0.108 | 0.009 | 12.28 | 0.002 | |  |  |  |  |
| Color Cue X Switch Condition | 0.060 | 0.012 | 4.89 |  | |  |  |  |  |
| Intercept | 2.608 | 0.014 | 187.86 |  | |  |  |  |  |
| Random effects | | | | |
| Subject variance |  |  |  | 0.008 | |  |  |  |  |
| Item variance |  |  |  | 0.012 | |  |  |  |  |
| Residual variance |  |  |  | 0.052 | |  |  |  |  |