Appendix A. Descriptive Statistics for Training Data

[Articulation Rate]

|  |  |  |  |
| --- | --- | --- | --- |
|  | Short-spaced Group |  | Long-spaced Group |
|  |  |  | 95% CI |  |  | 95% CI |
| 　 | *M* | *SD* | Lower | Upper |  | *M* | *SD* | Lower | Upper |
| Time 1–1 | 130.66 | 24.96 | 120.98 | 140.34 |  | 125.97 | 28.93 | 115.17 | 136.78 |
| Time 1–2 | 135.85 | 24.62 | 126.30 | 145.39 |  | 134.57 | 31.66 | 122.75 | 146.39 |
| Time 1–3 | 146.99 | 22.16 | 138.40 | 155.59 |  | 140.22 | 28.96 | 129.40 | 151.03 |
| Time 2–1 | 140.06 | 28.42 | 129.04 | 151.08 |  | 136.58 | 31.87 | 124.68 | 148.48 |
| Time 2–2 | 150.32 | 23.85 | 141.07 | 159.57 |  | 144.80 | 30.40 | 133.45 | 156.15 |
| Time 2–3 | 151.96 | 26.16 | 141.82 | 162.11 |  | 154.51 | 33.65 | 141.94 | 167.07 |
| Time 3–1 | 138.58 | 32.60 | 125.94 | 151.22 |  | 134.02 | 30.26 | 122.72 | 145.32 |
| Time 3–2 | 144.87 | 24.32 | 135.44 | 154.29 |  | 140.87 | 28.80 | 130.11 | 151.62 |
| Time 3–3 | 150.00 | 25.08 | 140.27 | 159.73 |  | 145.23 | 31.95 | 133.30 | 157.17 |
| Time 4–1 | 130.30 | 26.34 | 120.09 | 140.51 |  | 127.83 | 30.96 | 116.27 | 139.39 |
| Time 4–2 | 143.97 | 25.88 | 133.93 | 154.00 |  | 136.35 | 33.00 | 124.02 | 148.67 |
| Time 4–3 | 151.64 | 24.19 | 142.26 | 161.02 |  | 146.78 | 33.30 | 134.35 | 159.21 |

[Mid-Clause Pause Duration]

|  |  |  |  |
| --- | --- | --- | --- |
|  | Short-spaced Group |  | Long-spaced Group |
|  |  |  | 95% CI |  |  | 95% CI |
| 　 | *M* | *SD* | Lower | Upper |  | *M* | *SD* | Lower | Upper |
| Time 1–1 | 1.35 | 0.73 | 1.07 | 1.63 |  | 1.19 | 0.44 | 1.02 | 1.35 |
| Time 1–2 | 1.45 | 1.11 | 1.02 | 1.88 |  | 1.27 | 0.49 | 1.09 | 1.45 |
| Time 1–3 | 1.19 | 0.48 | 1.01 | 1.38 |  | 1.14 | 0.37 | 1.00 | 1.28 |
| Time 2–1 | 1.35 | 0.74 | 1.06 | 1.63 |  | 1.19 | 0.43 | 1.03 | 1.36 |
| Time 2–2 | 1.10 | 0.38 | 0.96 | 1.25 |  | 1.10 | 0.32 | 0.98 | 1.22 |
| Time 2–3 | 1.05 | 0.32 | 0.93 | 1.17 |  | 1.02 | 0.35 | 0.89 | 1.15 |
| Time 3–1 | 1.27 | 0.53 | 1.07 | 1.48 |  | 1.22 | 0.42 | 1.06 | 1.38 |
| Time 3–2 | 1.25 | 0.50 | 1.06 | 1.45 |  | 1.09 | 0.31 | 0.97 | 1.20 |
| Time 3–3 | 1.09 | 0.39 | 0.94 | 1.24 |  | 1.01 | 0.33 | 0.89 | 1.13 |
| Time 4–1 | 1.27 | 0.45 | 1.10 | 1.45 |  | 1.20 | 0.42 | 1.04 | 1.35 |
| Time 4–2 | 1.25 | 0.51 | 1.05 | 1.45 |  | 1.14 | 0.45 | 0.97 | 1.31 |
| Time 4–3 | 1.13 | 0.47 | 0.95 | 1.31 |  | 1.05 | 0.39 | 0.90 | 1.19 |

[Mid-Clause Pause Ratio]

|  |  |  |  |
| --- | --- | --- | --- |
|  | Short-spaced Group |  | Long-spaced Group |
|  |  |  | 95% CI |  |  | 95% CI |
| 　 | *M* | *SD* | Lower | Upper |  | *M* | *SD* | Lower | Upper |
| Time 1–1 | 0.39 | 0.13 | 0.34 | 0.44 |  | 0.42 | 0.16 | 0.36 | 0.48 |
| Time 1–2 | 0.36 | 0.15 | 0.30 | 0.41 |  | 0.38 | 0.13 | 0.33 | 0.43 |
| Time 1–3 | 0.31 | 0.11 | 0.27 | 0.35 |  | 0.33 | 0.15 | 0.28 | 0.39 |
| Time 2–1 | 0.36 | 0.12 | 0.31 | 0.40 |  | 0.37 | 0.13 | 0.32 | 0.42 |
| Time 2–2 | 0.30 | 0.11 | 0.26 | 0.34 |  | 0.33 | 0.11 | 0.28 | 0.37 |
| Time 2–3 | 0.28 | 0.11 | 0.24 | 0.33 |  | 0.27 | 0.11 | 0.24 | 0.31 |
| Time 3–1 | 0.39 | 0.13 | 0.34 | 0.44 |  | 0.39 | 0.12 | 0.35 | 0.44 |
| Time 3–2 | 0.31 | 0.09 | 0.27 | 0.34 |  | 0.33 | 0.11 | 0.29 | 0.37 |
| Time 3–3 | 0.28 | 0.07 | 0.26 | 0.31 |  | 0.31 | 0.11 | 0.27 | 0.35 |
| Time 4–1 | 0.41 | 0.13 | 0.35 | 0.46 |  | 0.40 | 0.15 | 0.35 | 0.46 |
| Time 4–2 | 0.32 | 0.09 | 0.28 | 0.35 |  | 0.35 | 0.13 | 0.30 | 0.40 |
| Time 4–3 | 0.27 | 0.07 | 0.24 | 0.30 |  | 0.29 | 0.10 | 0.25 | 0.33 |

[End-Clause Pause Duration]

|  |  |  |  |
| --- | --- | --- | --- |
|  | Short-spaced Group |  | Long-spaced Group |
|  |  |  | 95% CI |  |  | 95% CI |
| 　 | *M* | *SD* | Lower | Upper |  | *M* | *SD* | Lower | Upper |
| Time 1–1 | 1.60 | 0.74 | 1.32 | 1.89 |  | 1.41 | 0.48 | 1.23 | 1.59 |
| Time 1–2 | 1.66 | 1.09 | 1.24 | 2.08 |  | 1.63 | 0.76 | 1.35 | 1.91 |
| Time 1–3 | 1.57 | 0.79 | 1.26 | 1.87 |  | 1.56 | 0.63 | 1.32 | 1.80 |
| Time 2–1 | 1.90 | 0.99 | 1.52 | 2.28 |  | 1.62 | 0.65 | 1.38 | 1.86 |
| Time 2–2 | 1.99 | 1.00 | 1.60 | 2.38 |  | 1.74 | 0.71 | 1.48 | 2.01 |
| Time 2–3 | 1.72 | 0.71 | 1.45 | 2.00 |  | 1.53 | 0.48 | 1.35 | 1.71 |
| Time 3–1 | 1.87 | 0.91 | 1.51 | 2.22 |  | 1.71 | 0.82 | 1.41 | 2.02 |
| Time 3–2 | 1.93 | 1.15 | 1.49 | 2.38 |  | 1.62 | 0.65 | 1.38 | 1.86 |
| Time 3–3 | 1.72 | 0.93 | 1.36 | 2.08 |  | 1.49 | 0.47 | 1.31 | 1.66 |
| Time 4–1 | 1.77 | 0.99 | 1.39 | 2.15 |  | 1.68 | 0.91 | 1.34 | 2.02 |
| Time 4–2 | 2.09 | 1.40 | 1.54 | 2.63 |  | 1.84 | 0.85 | 1.52 | 2.15 |
| Time 4–3 | 1.61 | 0.68 | 1.35 | 1.87 |  | 1.62 | 0.68 | 1.37 | 1.88 |

[End-Clause Pause Ratio]

|  |  |  |  |
| --- | --- | --- | --- |
|  | Short-spaced Group |  | Long-spaced Group |
|  |  |  | 95% CI |  |  | 95% CI |
| 　 | *M* | *SD* | Lower | Upper |  | *M* | *SD* | Lower | Upper |
| Time 1–1 | 0.12 | 0.04 | 0.11 | 0.14 |  | 0.13 | 0.03 | 0.11 | 0.14 |
| Time 1–2 | 0.12 | 0.02 | 0.11 | 0.13 |  | 0.13 | 0.04 | 0.11 | 0.14 |
| Time 1–3 | 0.12 | 0.03 | 0.11 | 0.13 |  | 0.12 | 0.04 | 0.11 | 0.14 |
| Time 2–1 | 0.11 | 0.02 | 0.11 | 0.12 |  | 0.12 | 0.04 | 0.11 | 0.13 |
| Time 2–2 | 0.11 | 0.02 | 0.10 | 0.12 |  | 0.12 | 0.03 | 0.11 | 0.13 |
| Time 2–3 | 0.11 | 0.02 | 0.11 | 0.12 |  | 0.12 | 0.03 | 0.11 | 0.12 |
| Time 3–1 | 0.12 | 0.04 | 0.11 | 0.14 |  | 0.12 | 0.04 | 0.10 | 0.13 |
| Time 3–2 | 0.12 | 0.02 | 0.11 | 0.12 |  | 0.12 | 0.04 | 0.11 | 0.13 |
| Time 3–3 | 0.11 | 0.02 | 0.10 | 0.12 |  | 0.12 | 0.03 | 0.11 | 0.13 |
| Time 4–1 | 0.11 | 0.02 | 0.10 | 0.12 |  | 0.11 | 0.03 | 0.09 | 0.12 |
| Time 4–2 | 0.10 | 0.03 | 0.09 | 0.11 |  | 0.11 | 0.04 | 0.09 | 0.12 |
| Time 4–3 | 0.10 | 0.02 | 0.09 | 0.10 |  | 0.10 | 0.03 | 0.09 | 0.12 |

[Filled Pause Ratio]

|  |  |  |  |
| --- | --- | --- | --- |
|  | Short-spaced Group |  | Long-spaced Group |
|  |  |  | 95% CI |  |  | 95% CI |
| 　 | *M* | *SD* | Lower | Upper |  | *M* | *SD* | Lower | Upper |
| Time 1–1 | 0.07 | 0.08 | 0.04 | 0.10 |  | 0.09 | 0.09 | 0.05 | 0.12 |
| Time 1–2 | 0.06 | 0.07 | 0.03 | 0.09 |  | 0.07 | 0.08 | 0.04 | 0.10 |
| Time 1–3 | 0.04 | 0.05 | 0.03 | 0.06 |  | 0.06 | 0.07 | 0.04 | 0.09 |
| Time 2–1 | 0.05 | 0.05 | 0.03 | 0.07 |  | 0.08 | 0.09 | 0.05 | 0.12 |
| Time 2–2 | 0.05 | 0.05 | 0.03 | 0.06 |  | 0.07 | 0.07 | 0.04 | 0.10 |
| Time 2–3 | 0.04 | 0.05 | 0.03 | 0.06 |  | 0.06 | 0.07 | 0.03 | 0.08 |
| Time 3–1 | 0.07 | 0.08 | 0.04 | 0.10 |  | 0.09 | 0.11 | 0.05 | 0.13 |
| Time 3–2 | 0.04 | 0.05 | 0.03 | 0.06 |  | 0.06 | 0.07 | 0.04 | 0.09 |
| Time 3–3 | 0.04 | 0.04 | 0.02 | 0.05 |  | 0.06 | 0.07 | 0.03 | 0.08 |
| Time 4–1 | 0.07 | 0.07 | 0.05 | 0.10 |  | 0.10 | 0.14 | 0.05 | 0.15 |
| Time 4–2 | 0.05 | 0.05 | 0.03 | 0.07 |  | 0.08 | 0.11 | 0.04 | 0.12 |
| Time 4–3 | 0.04 | 0.04 | 0.03 | 0.06 |  | 0.06 | 0.09 | 0.03 | 0.10 |

[Repetition Ratio]

|  |  |  |  |
| --- | --- | --- | --- |
|  | Short-spaced Group |  | Long-spaced Group |
|  |  |  | 95% CI |  |  | 95% CI |
| 　 | *M* | *SD* | Lower | Upper |  | *M* | *SD* | Lower | Upper |
| Time 1–1 | 0.04 | 0.04 | 0.03 | 0.06 |  | 0.05 | 0.05 | 0.04 | 0.07 |
| Time 1–2 | 0.04 | 0.05 | 0.02 | 0.06 |  | 0.05 | 0.04 | 0.03 | 0.06 |
| Time 1–3 | 0.03 | 0.02 | 0.02 | 0.04 |  | 0.04 | 0.05 | 0.02 | 0.06 |
| Time 2–1 | 0.04 | 0.03 | 0.03 | 0.05 |  | 0.05 | 0.04 | 0.03 | 0.06 |
| Time 2–2 | 0.03 | 0.03 | 0.02 | 0.04 |  | 0.04 | 0.03 | 0.03 | 0.05 |
| Time 2–3 | 0.03 | 0.03 | 0.02 | 0.04 |  | 0.03 | 0.02 | 0.02 | 0.03 |
| Time 3–1 | 0.04 | 0.03 | 0.03 | 0.06 |  | 0.05 | 0.05 | 0.03 | 0.06 |
| Time 3–2 | 0.03 | 0.03 | 0.02 | 0.05 |  | 0.04 | 0.04 | 0.02 | 0.05 |
| Time 3–3 | 0.03 | 0.02 | 0.02 | 0.03 |  | 0.03 | 0.04 | 0.02 | 0.05 |
| Time 4–1 | 0.05 | 0.04 | 0.03 | 0.06 |  | 0.04 | 0.04 | 0.03 | 0.06 |
| Time 4–2 | 0.03 | 0.03 | 0.02 | 0.04 |  | 0.04 | 0.04 | 0.03 | 0.06 |
| Time 4–3 | 0.03 | 0.02 | 0.02 | 0.04 |  | 0.03 | 0.04 | 0.02 | 0.05 |

[Self-Repair Ratio]

|  |  |  |  |
| --- | --- | --- | --- |
|  | Short-spaced Group |  | Long-spaced Group |
|  |  |  | 95% CI |  |  | 95% CI |
| 　 | *M* | *SD* | Lower | Upper |  | *M* | *SD* | Lower | Upper |
| Time 1–1 | 0.06 | 0.04 | 0.04 | 0.07 |  | 0.05 | 0.04 | 0.04 | 0.07 |
| Time 1–2 | 0.05 | 0.03 | 0.04 | 0.06 |  | 0.04 | 0.03 | 0.03 | 0.05 |
| Time 1–3 | 0.05 | 0.03 | 0.03 | 0.06 |  | 0.04 | 0.03 | 0.03 | 0.05 |
| Time 2–1 | 0.05 | 0.04 | 0.04 | 0.07 |  | 0.05 | 0.03 | 0.04 | 0.06 |
| Time 2–2 | 0.05 | 0.03 | 0.04 | 0.06 |  | 0.04 | 0.03 | 0.03 | 0.06 |
| Time 2–3 | 0.05 | 0.03 | 0.04 | 0.06 |  | 0.04 | 0.02 | 0.03 | 0.05 |
| Time 3–1 | 0.06 | 0.04 | 0.04 | 0.08 |  | 0.05 | 0.03 | 0.04 | 0.06 |
| Time 3–2 | 0.05 | 0.03 | 0.04 | 0.07 |  | 0.05 | 0.03 | 0.03 | 0.06 |
| Time 3–3 | 0.05 | 0.02 | 0.04 | 0.06 |  | 0.05 | 0.04 | 0.03 | 0.06 |
| Time 4–1 | 0.07 | 0.06 | 0.04 | 0.09 |  | 0.06 | 0.05 | 0.04 | 0.08 |
| Time 4–2 | 0.06 | 0.03 | 0.04 | 0.07 |  | 0.05 | 0.04 | 0.03 | 0.07 |
| Time 4–3 | 0.04 | 0.03 | 0.03 | 0.05 |  | 0.04 | 0.03 | 0.03 | 0.06 |

Appendix B. Model Summary for Performance Change During Second Training Session

[Articulation Rate]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *t* | *p* | *d* | 95% CI for *d* |
| Intercept | 145.933 | 3.110 | 46.930 | <.001 | 8.93 | [8.56, 9.30] |
| 7-day ISI | −2.778 | 4.300 | −0.646 | .520 | −0.17 | [−0.69, 0.35] |
| Performance 3 | 1.640 | 2.591 | 0.633 | .529 | 0.10 | [−0.21, 0.41] |
| cP1\_AR | 0.790 | 0.066 | 12.060 | <.001 | 0.05 | [0.04, 0.06] |
| 7-day ISI: Performance 3 | 8.066 | 3.603 | 2.239 | .029 | 0.49 | [0.06, 0.93] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 173.000 | 13.150 |  |  |  |  |

[Mid-Clause Pause Duration]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | 0.009 | 0.056 | 0.159 | .874 | 0.04 | [−0.46, 0.54] |
| 7-day ISI | 0.065 | 0.077 | 0.840 | .401 | 0.30 | [−0.40, 1.00] |
| Performance 3 | −0.035 | 0.029 | −1.180 | .238 | −0.16 | [−0.43, 0.11] |
| cP1\_MCPD | 0.328 | 0.060 | 5.424 | <.001 | 1.51 | [0.97, 2.06] |
| 7-day ISI: Performance 3 | −0.048 | 0.041 | −1.165 | .244 | −0.22 | [−0.59, 0.15] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.027 | 0.164 |  |  |  |  |

[Mid-Clause Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −1.202 | 0.060 | −20.168 | <.001 | −5.31 | [−5.82, −4.79] |
| 7-day ISI | 0.045 | 0.082 | 0.551 | 0.582 | 0.20 | [−0.51, 0.91] |
| Performance 3 | −0.048 | 0.030 | −1.599 | 0.110 | −0.21 | [−0.47, 0.05] |
| cP1\_ MCPR | 2.372 | 0.321 | 7.385 | <.001 | 10.47 | [7.69, 13.25] |
| 7-day ISI: Performance 3 | −0.129 | 0.041 | −3.124 | 0.002 | −0.57 | [−0.93, −0.21] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.030 | 0.175 |  |  |  |  |

[End-Clause Pause Duration]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | 0.537 | 0.058 | 9.242 | <.001 | 2.10 | [1.65, 2.54] |
| 7-day ISI | 0.001 | 0.081 | 0.010 | .992 | 0.00 | [−0.62, 0.63] |
| Performance 3 | −0.115 | 0.042 | −2.718 | .007 | −0.45 | [−0.77, −0.13] |
| cP1\_ ECPD | 0.348 | 0.045 | 7.767 | <.001 | 1.36 | [1.02, 1.71] |
| 7-day ISI: Performance 3 | 0.006 | 0.059 | 0.098 | .922 | 0.02 | [−0.43, 0.47] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.029 | 0.171 |  |  |  |  |

[End-Clause Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −2.206 | 0.039 | −57.235 | <.001 | −13.21 | [−13.66, −12.76] |
| 7-day ISI | 0.021 | 0.054 | 0.384 | .701 | 0.12 | [−0.51, 0.75] |
| Performance 3 | 0.019 | 0.029 | 0.673 | .501 | 0.12 | [−0.22, 0.45] |
| cP1\_ ECPR | 4.151 | 0.797 | 5.206 | <.001 | 24.86 | [15.50, 34.22] |
| 7-day ISI: Performance 3 | −0.038 | 0.040 | −0.960 | .337 | −0.23 | [−0.70, 0.24] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.01 | 0.11 |  |  |  |  |

[Filled Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.699 | 0.330 | −11.211 | <.001 | −2.74 | [−3.22, −2.26] |
| 7-day ISI | −0.117 | 0.454 | −0.259 | .796 | −0.09 | [−0.75, 0.57] |
| Performance 3 | 0.098 | 0.164 | 0.596 | .551 | 0.07 | [−0.17, 0.31] |
| cP1\_ FPR | 18.010 | 2.858 | 6.302 | <.001 | 13.34 | [9.19, 17.48] |
| 7-day ISI: Performance 3 | −0.451 | 0.231 | −1.950 | .051 | −0.33 | [−0.67, 0.00] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 1.364 | 1.168 |  |  |  |  |

[Repetition Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −4.255 | 0.228 | −18.69 | <.001 | −4.33 | [−4.78, −3.88] |
| 7-day ISI | 0.548 | 0.318 | 1.721 | .085 | 0.56 | [−0.08, 1.19] |
| Performance 3 | 0.055 | 0.160 | 0.341 | .733 | 0.06 | [−0.26, 0.38] |
| cP1\_ RepetitionRatio | 22.415 | 4.053 | 5.530 | <.001 | 22.81 | [14.72, 30.89] |
| 7-day ISI: Performance 3 | −0.574 | 0.229 | −2.501 | .012 | −0.58 | [−1.04, −0.13] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.571 | 0.755 |  |  |  |  |

[Self-Repair Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.296 | 0.152 | −21.716 | <.001 | −5.05 | [−5.51, −4.6] |
| 7-day ISI | −0.022 | 0.213 | −0.102 | .919 | −0.03 | [−0.67, 0.61] |
| Performance 3 | 0.181 | 0.123 | 1.476 | .140 | 0.28 | [−0.09, 0.65] |
| cP1\_ Self-RepairRatio | 11.745 | 2.796 | 4.201 | <.001 | 18.00 | [9.60, 26.40] |
| 7-day ISI: Performance 3 | −0.121 | 0.172 | −0.702 | .482 | −0.19 | [−0.70, 0.33] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.196 | 0.443 |  |  |  |  |

Appendix C. Model Summary for Performance Change During Third Training Session

[Articulation Rate]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *t* | *p* | *d* | 95% CI for *d* |
| Intercept | 141.716 | 2.599 | 54.537 | <.001 | 10.34 | [9.97, 10.71] |
| 7-day ISI | −0.479 | 3.609 | −0.133 | .895 | −0.03 | [−0.55, 0.48] |
| Performance 3 | 5.136 | 2.243 | 2.289 | .026 | 0.37 | [0.05, 0.70] |
| cP1\_AR | 0.772 | 0.053 | 14.694 | <.001 | 0.06 | [0.05, 0.06] |
| 7-day ISI: Performance 3 | −0.767 | 3.119 | −0.246 | .807 | −0.06 | [−0.50, 0.39] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 117.340  | 10.832 |  |  |  |  |

[Mid-Clause Pause Duration]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | 0.148 | 0.046 | 3.198 | .001 | 0.79 | [0.31, 1.28] |
| 7-day ISI | −0.087 | 0.064 | −1.348 | .178 | −0.46 | [−1.14, 0.21] |
| Performance 3 | −0.125 | 0.027 | −4.560 | <.001 | −0.67 | [−0.95, −0.38] |
| cP1\_MCPD | 0.495 | 0.065 | 7.651 | <.001 | 2.65 | [1.97, 3.32] |
| 7-day ISI: Performance 3 | 0.044 | 0.038 | 1.157 | .247 | 0.24 | [−0.16, 0.63] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.019 | 0.137 |  |  |  |  |

[Mid-Clause Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −1.219 | 0.048 | −25.187 | <.001 | −6.35 | [−6.85, −5.86] |
| 7-day ISI | 0.029 | 0.067 | 0.437 | .662 | 0.15 | [−0.53, 0.84] |
| Performance 3 | −0.074 | 0.028 | −2.690 | .007 | −0.39 | [−0.67, −0.10] |
| cP1\_MCPR | 2.030 | 0.256 | 7.917 | <.001 | 10.58 | [7.96, 13.20] |
| 7-day ISI: Performance 3 | 0.023 | 0.038 | 0.602 | .547 | 0.12 | [−0.27, 0.51] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.020 | 0.141 |  |  |  |  |

[End-Clause Pause Duration]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | 0.475 | 0.063 | 7.506 | <.001 | 1.96 | [1.45, 2.48] |
| 7-day ISI | −0.042 | 0.088 | −0.476 | .634 | −0.17 | [−0.89, 0.54] |
| Performance 3 | −0.095 | 0.029 | −3.258 | .001 | −0.39 | [−0.63, −0.16] |
| cP1\_ECPD | 0.378 | 0.050 | 7.608 | <.001 | 1.57 | [1.16, 1.97] |
| 7-day ISI: Performance 3 | 0.028 | 0.040 | 0.705 | .481 | 0.12 | [−0.21, 0.45] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.036 | 0.191 |  |  |  |  |

[End-Clause Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −2.188 | 0.041 | −53.449 | <.001 | −12.64 | [−13.11, −12.18] |
| 7-day ISI | 0.003 | 0.057 | 0.06 | .952 | 0.02 | [−0.62, 0.66] |
| Performance 3 | −0.039 | 0.03 | −1.302 | .193 | −0.22 | [−0.56, 0.11] |
| cP1\_ECPR | 3.648 | 0.675 | 5.406 | <.001 | 21.08 | [13.44, 28.73] |
| 7-day ISI: Performance 3 | 0.04 | 0.042 | 0.974 | .330 | 0.23 | [−0.24, 0.70] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.013 | 0.115 |  |  |  |  |

[Filled Pause Ratio] (Condition was forward-difference coded due to a convergence issue with dummy coding)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.855 | 0.204 | −18.897 | <.001 | −3.11 | [−3.44, −2.79] |
| 7-day ISI | −0.122 | 0.410 | −0.298 | .766 | −0.10 | [−0.75, 0.55] |
| Performance 3 | −0.212 | 0.119 | −1.775 | .076 | −0.17 | [−0.36, 0.02] |
| cP1\_FPR | 12.984 | 2.072 | 6.266 | <.001 | 10.49 | [7.21, 13.77] |
| 7-day ISI: Performance 3 | 0.020 | 0.239 | 0.084 | .933 | 0.02 | [−0.36, 0.39] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 1.084 | 1.041 |  |  |  |  |

[Repetition Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.931 | 0.203 | −19.358 | <.001 | −4.53 | [−4.99, −4.07] |
| 7-day ISI | 0.046 | 0.282 | 0.163 | .871 | 0.05 | [−0.58, 0.69] |
| Performance 3 | −0.163 | 0.146 | −1.119 | .263 | −0.19 | [−0.52, 0.14] |
| cP1\_RepetitionRatio | 21.136 | 3.093 | 6.834 | <.001 | 24.37 | [17.38, 31.35] |
| 7-day ISI: Performance 3 | 0.099 | 0.202 | 0.493 | .622 | 0.11 | [−0.34, 0.57] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.428 | 0.654 |  |  |  |  |

[Self-Repair Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.080 | 0.136 | −22.667 | <.001 | −5.47 | [−5.94, −4.99] |
| 7-day ISI | −0.108 | 0.184 | −0.587 | .557 | −0.19 | [−0.83, 0.45] |
| Performance 3 | −0.080 | 0.148 | −0.542 | .588 | −0.14 | [−0.66, 0.37] |
| cP1\_Self-RepairRatio  | 10.979 | 2.052 | 5.350 | <.001 | 19.48 | [12.34, 26.62] |
| 7-day ISI: Performance 3 | 0.047 | 0.206 | 0.229 | .819 | 0.08 | [−0.63, 0.80] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.079 | 0.282 |  |  |  |  |

Appendix D. Model Summary for Performance Change During Fourth Training Session

[Articulation Rate]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *t* | *p* | *d* | 95% CI for *d* |
| Intercept | 142.83 | 2.796 | 51.078 | <.001 | 9.66 | [9.29, 10.03] |
| 7-day ISI | −5.423 | 3.890 | −1.394 | .167 | −0.37 | [−0.88, 0.15] |
| Performance 3 | 7.675 | 2.477 | 3.099 | .003 | 0.52 | [0.19, 0.85] |
| cP1\_AR | 0.889 | 0.061 | 14.454 | <.001 | 0.06 | [0.05, 0.07] |
| 7-day ISI: Performance 3 | 2.758 | 3.444 | 0.801 | .427 | 0.19 | [−0.27, 0.64] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 132.890 | 11.528 |  |  |  |  |

[Mid-Clause Pause Duration]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | 0.124 | 0.044 | 2.801 | .005 | 0.86 | [0.26, 1.47] |
| 7-day ISI | −0.023 | 0.062 | −0.372 | .710 | −0.16 | [−1.00, 0.68] |
| Performance 3 | −0.109 | 0.027 | −3.966 | <.001 | −0.76 | [−1.13, −0.38] |
| cP1\_MCPD | 0.682 | 0.068 | 9.982 | <.001 | 4.74 | [3.81, 5.67] |
| 7-day ISI: Performance 3 | 0.029 | 0.038 | 0.768 | .443 | 0.20 | [−0.32, 0.72] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.017 | 0.130 |  |  |  |  |

[Mid-Clause Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −1.196 | 0.050 | −24.122 | <.001 | −6.20 | [−6.71, −5.70] |
| 7-day ISI | 0.069 | 0.069 | 1.000 | .317 | 0.36 | [−0.34, 1.06] |
| Performance 3 | −0.144 | 0.027 | −5.383 | <.001 | −0.74 | [−1.02, −0.47] |
| cP1\_MCPR | 1.825 | 0.231 | 7.892 | <.001 | 9.46 | [7.11, 11.81] |
| 7-day ISI: Performance 3 | −0.028 | 0.037 | −0.767 | .443 | −0.15 | [−0.52, 0.23] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.021 | 0.146 |  |  |  |  |

[End-Clause Pause Duration]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | 0.545 | 0.075 | 7.239 | <.001 | 2.83 | [2.06, 3.59] |
| 7-day ISI | −0.011 | 0.105 | −0.109 | .913 | −0.06 | [−1.12, 1.00] |
| Performance 3 | −0.161 | 0.047 | −3.457 | .001 | −0.84 | [−1.31, −0.36] |
| cP1\_ECPD | 0.345 | 0.052 | 6.618 | <.001 | 1.79 | [1.26, 2.32] |
| 7-day ISI: Performance 3 | 0.046 | 0.065 | 0.710 | .477 | 0.24 | [−0.42, 0.90] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.054 | 0.232 |  |  |  |  |

[End-Clause Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −2.323 | 0.043 | −54.492 | <.001 | −7.24 | [−7.5, −6.98] |
| 7-day ISI | 0.051 | 0.059 | 0.855 | .393 | 0.16 | [−0.2, 0.52] |
| Performance 3 | −0.052 | 0.035 | −1.463 | .143 | −0.16 | [−0.38, 0.05] |
| cP1\_ECPR | 7.171 | 0.917 | 7.819 | <.001 | 22.36 | [16.76, 27.97] |
| 7-day ISI: Performance 3 | 0.026 | 0.049 | 0.536 | .592 | 0.08 | [−0.22, 0.38] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.054 | 0.232 |  |  |  |  |

[Filled Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.848 | 0.343 | −11.233 | <.001 | −2.81 | [−3.30, −2.32] |
| 7-day ISI | −0.079 | 0.478 | −0.165 | .869 | −0.06 | [−0.74, 0.63] |
| Performance 3 | −0.102 | 0.129 | −0.790 | .430 | −0.07 | [−0.26, 0.11] |
| cP1\_FPR | 11.366 | 1.978 | 5.745 | <.001 | 8.31 | [5.47, 11.14] |
| 7-day ISI: Performance 3 | −0.344 | 0.181 | −1.897 | .058 | −0.25 | [−0.51, 0.01] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 1.498 | 1.224 |  |  |  |  |

[Repetition Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −4.270 | 0.232 | −18.419 | <.001 | −4.31 | [−4.77, −3.85] |
| 7-day ISI | 0.452 | 0.322 | 1.401 | .161 | 0.46 | [−0.18, 1.09] |
| Performance 3 | 0.045 | 0.145 | 0.309 | .757 | 0.05 | [−0.24, 0.33] |
| cP1\_RepetitionRatio | 23.420 | 3.541 | 6.614 | <.001 | 23.65 | [16.64, 30.66] |
| 7-day ISI: Performance 3 | −0.187 | 0.201 | −0.931 | .352 | −0.19 | [−0.59, 0.21] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.626 | 0.791 |  |  |  |  |

[Self-Repair Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.027 | 0.166 | −18.251 | <.001 | −4.30 | [−4.76, −3.83] |
| 7-day ISI | −0.320 | 0.231 | −1.387 | .165 | −0.45 | [−1.10, 0.19] |
| Performance 3 | −0.360 | 0.144 | −2.493 | .013 | −0.51 | [−0.91, −0.11] |
| cP1\_ Self-RepairRatio | 7.144 | 1.983 | 3.603 | <.001 | 10.14 | [4.62, 15.65] |
| 7-day ISI: Performance 3 | 0.213 | 0.199 | 1.071 | .284 | 0.30 | [−0.25, 0.86] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.224 | 0.474 |  |  |  |  |

Appendix E. Model Summary for Performance Change Across Multiple Training Sessions

[Articulation Rate]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *t* | *p* | *d* | 95% CI for *d* |
| Intercept | 130.661 | 5.564 | 23.484 | <.001 | 4.44 | [4.07, 4.81] |
| 7-day ISI | −4.687 | 7.736 | −0.606 | .546 | −0.16 | [−0.67, 0.36] |
| Time 2–1 | 9.398 | 3.724 | 2.523 | .013 | 0.32 | [0.07, 0.57] |
| Time 3–1 | 7.919 | 3.724 | 2.126 | .035 | 0.27 | [0.02, 0.52] |
| Time 4–1 | −0.36 | 3.724 | −0.097 | .923 | −0.01 | [−0.26, 0.24] |
| 7-day ISI: Time 2–1 | 1.211 | 5.179 | 0.234 | .815 | 0.04 | [−0.30, 0.39] |
| 7-day ISI: Time 3–1 | 0.128 | 5.179 | 0.025 | .980 | 0.00 | [−0.34, 0.35] |
| 7-day ISI: Time 4–1 | 2.213 | 5.179 | 0.427 | .670 | 0.08 | [−0.27, 0.42] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 672.600 | 25.930 |  |  |  |  |

[Mid-Clause Pause Duration]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | 0.206 | 0.087 | 2.379 | .017 | 0.63 | [0.11, 1.14] |
| 7-day ISI | −0.091 | 0.12 | −0.753 | .451 | −0.28 | [−0.99, 0.44] |
| Time 2–1 | 0.004 | 0.05 | 0.073 | .942 | 0.01 | [−0.29, 0.31] |
| Time 3–1 | −0.033 | 0.05 | −0.664 | .506 | −0.1 | [−0.4, 0.20] |
| Time 4–1 | −0.021 | 0.05 | −0.41 | .682 | −0.06 | [−0.36, 0.24] |
| 7-day ISI: Time 2–1 | 0.006 | 0.07 | 0.084 | .933 | 0.02 | [−0.40, 0.43] |
| 7-day ISI: Time 3–1 | 0.066 | 0.07 | 0.951 | .342 | 0.20 | [−0.21, 0.62] |
| 7-day ISI: Time 4–1 | 0.034 | 0.07 | 0.486 | .627 | 0.10 | [−0.31, 0.52] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.053 | 0.231 |  |  |  |  |

[Mid-Clause Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −0.989 | 0.084 | −11.71 | <.001 | −3.33 | [−3.89, −2.77] |
| 7-day ISI | 0.059 | 0.117 | 0.505 | .614 | 0.20 | [−0.58, 0.97] |
| Time 2–1 | −0.083 | 0.045 | −1.830 | .067 | −0.28 | [−0.58, 0.02] |
| Time 3–1 | −0.006 | 0.045 | −0.136 | .892 | −0.02 | [−0.32, 0.28] |
| Time 4–1 | 0.048 | 0.045 | 1.046 | .295 | 0.16 | [−0.14, 0.46] |
| 7-day ISI: Time 2–1 | −0.057 | 0.063 | −0.905 | .366 | −0.19 | [−0.61, 0.22] |
| 7-day ISI: Time 3–1 | −0.050 | 0.063 | −0.786 | .432 | −0.17 | [−0.58, 0.25] |
| 7-day ISI: Time 4–1 | −0.103 | 0.063 | −1.636 | .102 | −0.35 | [−0.77, 0.07] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.046 | 0.214 |  |  |  |  |

[End-Clause Pause Duration]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | 0.379 | 0.103 | 3.668 | <.001 | 1.02 | [0.48, 1.57] |
| 7-day ISI | −0.095 | 0.144 | −0.664 | .507 | −0.26 | [−1.02, 0.50] |
| Time 2–1 | 0.150 | 0.054 | 2.784 | .005 | 0.40 | [0.12, 0.69] |
| Time 3–1 | 0.140 | 0.054 | 2.593 | .010 | 0.38 | [0.09, 0.66] |
| Time 4–1 | 0.075 | 0.054 | 1.401 | .161 | 0.20 | [−0.08, 0.49] |
| 7-day ISI: Time 2–1 | −0.020 | 0.075 | −0.262 | .793 | −0.05 | [−0.45, 0.34] |
| 7-day ISI: Time 3–1 | 0.022 | 0.075 | 0.288 | .773 | 0.06 | [−0.34, 0.45] |
| 7-day ISI: Time 4–1 | 0.064 | 0.075 | 0.855 | .393 | 0.17 | [−0.22, 0.57] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.074 | 0.272 |  |  |  |  |

[End-Clause Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −2.118 | 0.062 | −34.303 | <.001 | −8.24 | [−8.72, −7.77] |
| 7-day ISI | 0.016 | 0.086 | 0.189 | .850 | 0.06 | [−0.59, 0.72] |
| Time 2–1 | −0.060 | 0.049 | −1.224 | .221 | −0.23 | [−0.61, 0.14] |
| Time 3–1 | −0.021 | 0.049 | −0.429 | .668 | −0.08 | [−0.45, 0.29] |
| Time 4–1 | −0.127 | 0.049 | −2.603 | .009 | −0.49 | [−0.87, −0.12] |
| 7-day ISI: Time 2–1 | 0.002 | 0.068 | 0.029 | .977 | 0.01 | [−0.51, 0.53] |
| 7-day ISI: Time 3–1 | −0.048 | 0.068 | −0.711 | .477 | −0.19 | [−0.71, 0.33] |
| 7-day ISI: Time 4–1 | −0.040 | 0.068 | −0.582 | .561 | −0.15 | [−0.67, 0.36] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.024 | 0.154 |  |  |  |  |

[Filled Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.452 | 0.339 | −10.189 | <.001 | −2.47 | [−2.94, −1.99] |
| 7-day ISI | 0.133 | 0.471 | 0.282 | .778 | 0.09 | [−0.56, 0.75] |
| Time 2–1 | −0.104 | 0.209 | −0.498 | .618 | −0.07 | [−0.37, 0.22] |
| Time 3–1 | 0.058 | 0.204 | 0.282 | .778 | 0.04 | [−0.25, 0.33] |
| Time 4–1 | 0.337 | 0.207 | 1.631 | .103 | 0.24 | [−0.05, 0.53] |
| 7-day ISI: Time 2–1 | −0.176 | 0.285 | −0.615 | .538 | −0.13 | [−0.53, 0.27] |
| 7-day ISI: Time 3–1 | −0.015 | 0.284 | −0.053 | .958 | −0.01 | [−0.41, 0.39] |
| 7-day ISI: Time 4–1 | −0.139 | 0.283 | −0.492 | .623 | −0.10 | [−0.50, 0.30] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 1.432 | 1.197 |  |  |  |  |

[Repetition Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.495 | 0.241 | −14.501 | <.001 | −3.39 | [−3.85, −2.93] |
| 7-day ISI | 0.160 | 0.336 | 0.476 | .634 | 0.16 | [−0.48, 0.80] |
| Time 2–1 | 0.045 | 0.206 | 0.219 | .826 | 0.04 | [−0.35, 0.44] |
| Time 3–1 | −0.078 | 0.207 | −0.376 | .707 | −0.08 | [−0.47, 0.32] |
| Time 4–1 | 0.034 | 0.206 | 0.166 | .868 | 0.03 | [−0.36, 0.43] |
| 7-day ISI: Time 2–1 | −0.059 | 0.292 | −0.201 | .841 | −0.06 | [−0.61, 0.50] |
| 7-day ISI: Time 3–1 | −0.121 | 0.288 | −0.42 | .674 | −0.12 | [−0.66, 0.43] |
| 7-day ISI: Time 4–1 | −0.381 | 0.290 | −1.314 | .189 | −0.37 | [−0.92, 0.18] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.559 | 0.748 |  |  |  |  |

[Self-Repair Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.020 | 0.153 | −19.707 | <.001 | −4.63 | [−5.09, −4.17] |
| 7-day ISI | −0.058 | 0.212 | −0.271 | .786 | −0.09 | [−0.73, 0.55] |
| Time 2–1 | −0.104 | 0.144 | −0.723 | .470 | −0.16 | [−0.59, 0.27] |
| Time 3–1 | 0.048 | 0.145 | 0.335 | .738 | 0.07 | [−0.36, 0.51] |
| Time 4–1 | 0.094 | 0.142 | 0.664 | .507 | 0.14 | [−0.28, 0.57] |
| 7-day ISI: Time 2–1 | −0.064 | 0.198 | −0.323 | .747 | −0.10 | [−0.69, 0.50] |
| 7-day ISI: Time 3–1 | −0.095 | 0.198 | −0.478 | .633 | −0.15 | [−0.74, 0.45] |
| 7-day ISI: Time 4–1 | 0.024 | 0.196 | 0.123 | .902 | 0.04 | [−0.55, 0.63] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.154 | 0.393 |  |  |  |  |

Appendix F. Descriptive Statistics for Test Data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Pretest |  | Posttest |  | Delayed Posttest |
|  |  |  | 95% CI |  |  |  | 95% CI |  |  |  | 95% CI |
|  | M | SD | Lower | Upper |  | M | SD | Lower | Upper |  | M | SD | Lower | Upper |
| **Articulation Rate** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Control Group 1 | 137.36  | 27.02 | 127.08 | 147.63 |  | 139.76  | 26.20 | 129.79 | 149.73 |  | 144.01  | 26.89 | 133.78 | 154.24 |
|  1-day ISI Group | 137.56  | 34.03 | 124.36 | 150.75 |  | 141.65  | 28.98 | 130.41 | 152.89 |  | 143.17  | 30.62 | 131.06 | 155.28 |
|  7-day ISI Group | 130.13 | 34.99 | 117.07 | 143.20 |  | 135.79 | 32.43 | 123.68 | 147.90 |  | 135.21 | 32.89 | 122.93 | 147.50 |
|  Control Group 2 | 136.32 | 25.61 | 126.58 | 146.06 |  | 139.11 | 27.74 | 128.56 | 149.66 |  | 139.48 | 27.24 | 129.12 | 149.84 |
| **Mid-Clause Pause Duration** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Control Group 1 | 1.41 | 0.60 | 1.18 | 1.64 |  | 1.54 | 0.68 | 1.28 | 1.80 |  | 1.44 | 0.70 | 1.17 | 1.70 |
|  1-day ISI Group | 1.41 | 0.87 | 1.08 | 1.75 |  | 1.23 | 0.52 | 1.03 | 1.43 |  | 1.42 | 0.68 | 1.15 | 1.69 |
|  7-day ISI Group | 1.36 | 0.53 | 1.16 | 1.56 |  | 1.29 | 0.54 | 1.09 | 1.49 |  | 1.20 | 0.48 | 1.02 | 1.37 |
|  Control Group 2 | 1.44 | 0.74 | 1.16 | 1.72 |  | 1.44 | 0.70 | 1.17 | 1.70 |  | 1.37 | 0.49 | 1.18 | 1.56 |
| **Mid-Clause Pause Ratio** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Control Group 1 | 0.35 | 0.11 | 0.31 | 0.39 |  | 0.36 | 0.15 | 0.31 | 0.42 |  | 0.35 | 0.11 | 0.31 | 0.39 |
|  1-day ISI Group | 0.39 | 0.12 | 0.35 | 0.44 |  | 0.34 | 0.11 | 0.30 | 0.39 |  | 0.33 | 0.14 | 0.28 | 0.39 |
|  7-day ISI Group | 0.41 | 0.18 | 0.35 | 0.48 |  | 0.35 | 0.13 | 0.30 | 0.40 |  | 0.35 | 0.12 | 0.30 | 0.39 |
|  Control Group 2 | 0.35 | 0.13 | 0.30 | 0.40 |  | 0.36 | 0.13 | 0.31 | 0.41 |  | 0.36 | 0.13 | 0.31 | 0.41 |
| **End-clause pause duration** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Control Group 1 | 1.95 | 1.00 | 1.57 | 2.33 |  | 1.84 | 1.02 | 1.45 | 2.23 |  | 2.18 | 1.13 | 1.75 | 2.61 |
|  1-day ISI Group | 1.65 | 1.44 | 1.09 | 2.21 |  | 1.86 | 1.21 | 1.39 | 2.33 |  | 1.76 | 0.72 | 1.47 | 2.04 |
|  7-day ISI Group | 1.48 | 0.55 | 1.28 | 1.69 |  | 1.55 | 0.68 | 1.29 | 1.80 |  | 1.56 | 0.58 | 1.35 | 1.78 |
|  Control Group 2 | 1.90 | 1.15 | 1.46 | 2.34 |  | 1.74 | 1.02 | 1.35 | 2.12 |  | 1.81 | 1.10 | 1.39 | 2.23 |
| **End-Clause Pause Ratio** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Control Group 1 | 0.14 | 0.05 | 0.12 | 0.16 |  | 0.13 | 0.03 | 0.12 | 0.15 |  | 0.13 | 0.04 | 0.12 | 0.15 |
|  1-day ISI Group | 0.12 | 0.03 | 0.11 | 0.13 |  | 0.12 | 0.02 | 0.11 | 0.13 |  | 0.12 | 0.03 | 0.11 | 0.14 |
|  7-day ISI Group | 0.13 | 0.04 | 0.11 | 0.14 |  | 0.12 | 0.03 | 0.11 | 0.13 |  | 0.12 | 0.03 | 0.11 | 0.13 |
|  Control Group 2 | 0.12 | 0.03 | 0.11 | 0.14 |  | 0.12 | 0.03 | 0.12 | 0.13 |  | 0.12 | 0.03 | 0.11 | 0.13 |
| **Filled Pause Ratio** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Control Group 1 | 0.08 | 0.08 | 0.05 | 0.11 |  | 0.07 | 0.08 | 0.04 | 0.09 |  | 0.07 | 0.09 | 0.04 | 0.10 |
|  1-day ISI Group | 0.08 | 0.07 | 0.05 | 0.10 |  | 0.05 | 0.05 | 0.03 | 0.07 |  | 0.05 | 0.07 | 0.03 | 0.08 |
|  7-day ISI Group | 0.10 | 0.12 | 0.06 | 0.15 |  | 0.08 | 0.11 | 0.04 | 0.12 |  | 0.07 | 0.09 | 0.04 | 0.10 |
|  Control Group 2 | 0.05 | 0.05 | 0.03 | 0.07 |  | 0.05 | 0.05 | 0.03 | 0.07 |  | 0.05 | 0.05 | 0.03 | 0.07 |
| **Repetition Ratio** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Control Group 1 | 0.02 | 0.02 | 0.01 | 0.03 |  | 0.04 | 0.03 | 0.03 | 0.05 |  | 0.03 | 0.03 | 0.02 | 0.04 |
|  1-day ISI Group | 0.04 | 0.03 | 0.03 | 0.05 |  | 0.05 | 0.04 | 0.03 | 0.07 |  | 0.04 | 0.04 | 0.02 | 0.06 |
|  7-day ISI Group | 0.05  | 0.05 | 0.03 | 0.07 |  | 0.05 | 0.04 | 0.03 | 0.07 |  | 0.05 | 0.05 | 0.03 | 0.07 |
|  Control Group 2 | 0.04 | 0.04 | 0.02 | 0.05 |  | 0.04 | 0.04 | 0.02 | 0.06 |  | 0.04 | 0.04 | 0.03 | 0.06 |
| **Self-Repair Ratio** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  Control Group 1 | 0.05 | 0.03 | 0.04 | 0.06 |  | 0.05 | 0.04 | 0.03 | 0.06 |  | 0.04 | 0.03 | 0.03 | 0.05 |
|  1-day ISI Group | 0.07 | 0.05 | 0.05 | 0.09 |  | 0.05 | 0.03 | 0.05 | 0.06 |  | 0.04 | 0.03 | 0.03 | 0.06 |
|  7-day ISI Group | 0.06 | 0.05 | 0.04 | 0.08 |  | 0.04 | 0.03 | 0.03 | 0.05 |  | 0.04 | 0.02 | 0.03 | 0.05 |
|  Control Group 2 | 0.06 | 0.03 | 0.05 | 0.07 |  | 0.07 | 0.04 | 0.05 | 0.08 |  | 0.05 | 0.05 | 0.04 | 0.07 |

Appendix G. Model Summary for Pretest–Posttest Changes

[Articulation Rate]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *t* | *p* | *d* | 95% CI for *d* |
| Intercept | 135.389 | 2.974 | 45.526 | <.001 | 4.55 | [4.35, 4.74] |
| Contrast 1 | −0.186 | 7.869 | −0.024 | .981 | −0.01 | [−0.52, 0.51] |
| Contrast 2 | 7.470 | 7.804 | 0.957 | .340 | 0.25 | [−0.26, 0.76] |
| Contrast 3 | −6.275 | 7.735 | −0.811 | .418 | −0.21 | [−0.72, 0.30] |
| Time 2 | 3.658 | 1.921 | 1.904 | .058 | 0.12 | [0.00, 0.25] |
| Time 3 | 4.829 | 1.928 | 2.505 | .013 | 0.16 | [0.04, 0.29] |
| Contrast 1: Time 2 | −1.663 | 5.479 | −0.304 | .762 | −0.06 | [−0.42, 0.30] |
| Contrast 2: Time 2 | −1.669 | 5.434 | −0.307 | .759 | −0.06 | [−0.41, 0.30] |
| Contrast 3: Time 2 | 2.993 | 5.386 | 0.556 | .579 | 0.10 | [−0.25, 0.46] |
| Contrast 1: Time 3 | 1.895 | 5.517 | 0.343 | .732 | 0.06 | [−0.30, 0.43] |
| Contrast 2: Time 3 | −0.426 | 5.472 | −0.078 | .938 | −0.01 | [−0.37, 0.35] |
| Contrast 3: Time 3 | 2.052 | 5.386 | 0.381 | .704 | 0.07 | [−0.29, 0.42] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 668.270  | 25.851 |  |  |  |  |
| Task (Intercept) | 3.704  | 1.924 |  |  |  |  |

[Mid-Clause Pause Duration]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | 0.247 | 0.070 | 3.535 | <.001 | 0.66 | [0.29, 1.03] |
| Contrast 1 | 0.027 | 0.136 | 0.197 | .844 | 0.07 | [−0.64, 0.78] |
| Contrast 2 | −0.025 | 0.135 | −0.183 | .855 | −0.07 | [−0.77, 0.64] |
| Contrast 3 | −0.001 | 0.134 | −0.009 | .993 | 0.00 | [−0.70, 0.70] |
| Time 2 | −0.028 | 0.026 | −1.061 | .289 | −0.07 | [−0.21, 0.06] |
| Time 3 | −0.032 | 0.026 | −1.209 | .227 | −0.08 | [−0.22, 0.05] |
| Contrast 1: Time 2 | 0.181 | 0.074 | 2.435 | .015 | 0.48 | [0.09, 0.87] |
| Contrast 2: Time 2 | −0.031 | 0.074 | −0.423 | .673 | −0.08 | [−0.47, 0.30] |
| Contrast 3: Time 2 | −0.063 | 0.073 | −0.866 | .387 | −0.17 | [−0.55, 0.21] |
| Contrast 1: Time 3 | −0.002 | 0.075 | −0.021 | .983 | 0.00 | [−0.40, 0.39] |
| Contrast 2: Time 3 | 0.140 | 0.074 | 1.878 | .060 | 0.37 | [−0.02, 0.76] |
| Contrast 3: Time 3 | −0.119 | 0.073 | −1.626 | .104 | −0.32 | [−0.70, 0.07] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.075  | 0.275 |  |  |  |  |
| Task (Intercept) | 0.001 | 0.038 |  |  |  |  |

[Mid-Clause Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −1.052 | 0.057 | −18.593 | <.001 | −3.17 | [−3.58, −2.75] |
| Contrast 1 | −0.138 | 0.126 | −1.094 | .274 | −0.42 | [−1.22, 0.39] |
| Contrast 2 | −0.006 | 0.125 | −0.045 | .964 | −0.02 | [−0.81, 0.78] |
| Contrast 3 | 0.177 | 0.124 | 1.427 | .154 | 0.53 | [−0.26, 1.32] |
| Time 2 | −0.062 | 0.024 | −2.622 | .009 | −0.19 | [−0.34, −0.03] |
| Time 3 | −0.071 | 0.024 | −3.026 | .002 | −0.22 | [−0.37, −0.06] |
| Contrast 1: Time 2 | 0.162 | 0.067 | 2.405 | .016 | 0.49 | [0.05, 0.92] |
| Contrast 2: Time 2 | 0.014 | 0.067 | 0.204 | .838 | 0.04 | [−0.40, 0.48] |
| Contrast 3: Time 2 | −0.179 | 0.066 | −2.719 | .007 | −0.54 | [−0.97, −0.11] |
| Contrast 1: Time 3 | 0.202 | 0.068 | 2.988 | .003 | 0.61 | [0.17, 1.05] |
| Contrast 2: Time 3 | −0.025 | 0.067 | −0.374 | .709 | −0.08 | [−0.51, 0.36] |
| Contrast 3: Time 3 | −0.194 | 0.066 | −2.938 | .003 | −0.58 | [−1.01, −0.15] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.060  | 0.245 |  |  |  |  |
| Task (Intercept) | 0.001 | 0.026 |  |  |  |  |

[End-Clause Pause Duration]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | 0.424 | 0.062 | 6.874 | <.001 | 0.98 | [0.70, 1.26] |
| Contrast 1 | 0.207 | 0.158 | 1.309 | .190 | 0.48 | [−0.24, 1.19] |
| Contrast 2 | 0.012 | 0.156 | 0.076 | .939 | 0.03 | [−0.68, 0.74] |
| Contrast 3 | −0.149 | 0.155 | −0.96 | .337 | −0.34 | [−1.05, 0.36] |
| Time 2 | −0.001 | 0.029 | −0.03 | .976 | 0.00 | [−0.13, 0.13] |
| Time 3 | 0.070 | 0.029 | 2.419 | .016 | 0.16 | [0.03, 0.29] |
| Contrast 1: Time 2 | −0.173 | 0.082 | −2.101 | .036 | −0.40 | [−0.77, −0.03] |
| Contrast 2: Time 2 | 0.089 | 0.081 | 1.093 | .274 | 0.21 | [−0.16, 0.57] |
| Contrast 3: Time 2 | 0.107 | 0.080 | 1.333 | .183 | 0.25 | [−0.12, 0.61] |
| Contrast 1: Time 3 | −0.016 | 0.083 | −0.188 | .851 | −0.04 | [−0.41, 0.34] |
| Contrast 2: Time 3 | 0.080 | 0.082 | 0.972 | .331 | 0.18 | [−0.19, 0.56] |
| Contrast 3: Time 3 | 0.080 | 0.080 | 0.999 | .318 | 0.19 | [−0.18, 0.55] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.106 | 0.326 |  |  |  |  |
| Task (Intercept) | 0.0005  | 0.022 |  |  |  |  |

[End-Clause Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −2.096 | 0.032 | −64.482 | <.001 | −8.55 | [−8.81, −8.29] |
| Contrast 1 | 0.176 | 0.083 | 2.122 | .034 | 0.72 | [0.06, 1.38] |
| Contrast 2 | −0.063 | 0.082 | −0.767 | .443 | −0.26 | [−0.92, 0.40] |
| Contrast 3 | −0.001 | 0.082 | −0.009 | .993 | 0.00 | [−0.66, 0.65] |
| Time 2 | −0.02 | 0.022 | −0.880 | .379 | −0.08 | [−0.26, 0.10] |
| Time 3 | −0.026 | 0.022 | −1.176 | .240 | −0.11 | [−0.29, 0.07] |
| Contrast 1: Time 2 | −0.071 | 0.064 | −1.121 | .262 | −0.29 | [−0.80, 0.22] |
| Contrast 2: Time 2 | 0.025 | 0.063 | 0.402 | .687 | 0.10 | [−0.40, 0.61] |
| Contrast 3: Time 2 | −0.026 | 0.062 | −0.424 | .672 | −0.11 | [−0.61, 0.39] |
| Contrast 1: Time 3 | −0.113 | 0.064 | −1.760 | .078 | −0.46 | [−0.97, 0.05] |
| Contrast 2: Time 3 | 0.114 | 0.063 | 1.804 | .071 | 0.47 | [−0.04, 0.97] |
| Contrast 3: Time 3 | −0.015 | 0.062 | −0.235 | .814 | −0.06 | [−0.56, 0.44] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.024  | 0.154 |  |  |  |  |
| Task (Intercept) | 0.0001 | 0.012 |  |  |  |  |

[Filled Pause Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.337 | 0.198 | −16.844 | <.001 | −2.19 | [−2.44, −1.93] |
| Contrast 1 | 0.063 | 0.508 | 0.125 | .901 | 0.04 | [−0.61, 0.69] |
| Contrast 2 | −0.143 | 0.505 | −0.284 | .776 | −0.09 | [−0.74, 0.56] |
| Contrast 3 | 0.566 | 0.501 | 1.129 | .259 | 0.37 | [−0.27, 1.02] |
| Time 2 | −0.374 | 0.098 | −3.796 | <.001 | −0.25 | [−0.37, −0.12] |
| Time 3 | −0.419 | 0.097 | −4.305 | <.001 | −0.27 | [−0.40, −0.15] |
| Contrast 1: Time 2 | 0.388 | 0.277 | 1.402 | .161 | 0.25 | [−0.10, 0.61] |
| Contrast 2: Time 2 | −0.204 | 0.277 | −0.736 | .462 | −0.13 | [−0.49, 0.22] |
| Contrast 3: Time 2 | −0.55 | 0.278 | −1.977 | .048 | −0.36 | [−0.72, 0.00] |
| Contrast 1: Time 3 | 0.191 | 0.275 | 0.696 | .486 | 0.13 | [−0.23, 0.48] |
| Contrast 2: Time 3 | 0.208 | 0.275 | 0.755 | .451 | 0.14 | [−0.22, 0.49] |
| Contrast 3: Time 3 | −0.786 | 0.275 | −2.860 | .004 | −0.52 | [−0.87, −0.16] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 1.779  | 1.334 |  |  |  |  |
| Task (Intercept) | 0.012  | 0.109 |  |  |  |  |

[Repetition Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.674 | 0.158 | −23.305 | <.001 | −3.45 | [−3.74, −3.16] |
| Contrast 1 | −0.568 | 0.353 | −1.608 | .108 | −0.53 | [−1.18, 0.12] |
| Contrast 2 | 0.000 | 0.349 | 0.001 | .999 | 0.00 | [−0.64, 0.64] |
| Contrast 3 | 0.194 | 0.345 | 0.562 | .574 | 0.18 | [−0.45, 0.82] |
| Time 2 | 0.151 | 0.099 | 1.522 | .128 | 0.14 | [−0.04, 0.32] |
| Time 3 | 0.021 | 0.101 | 0.208 | .835 | 0.02 | [−0.17, 0.21] |
| Contrast 1: Time 2 | 0.537 | 0.285 | 1.888 | .059 | 0.50 | [−0.02, 1.03] |
| Contrast 2: Time 2 | −0.005 | 0.281 | −0.018 | .986 | 0.00 | [−0.52, 0.51] |
| Contrast 3: Time 2 | 0.176 | 0.276 | 0.637 | .524 | 0.16 | [−0.34, 0.67] |
| Contrast 1: Time 3 | 0.585 | 0.295 | 1.983 | .047 | 0.55 | [0.01, 1.09] |
| Contrast 2: Time 3 | −0.28 | 0.288 | −0.970 | .332 | −0.26 | [−0.79, 0.27] |
| Contrast 3: Time 3 | −0.028 | 0.276 | −0.101 | .920 | −0.03 | [−0.53, 0.48] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.640  | 0.800 |  |  |  |  |
| Task (Intercept) | 0.014  | 0.119 |  |  |  |  |

[Self-Repair Ratio]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Fixed effects | *Estimate* | *SE* | *z* | *p* | *d* | 95% CI for *d* |
| Intercept | −3.000 | 0.092 | −32.723 | <.001 | −4.33 | [−4.59, −4.07] |
| Contrast 1 | −0.224 | 0.231 | −0.968 | .333 | −0.32 | [−0.98, 0.33] |
| Contrast 2 | 0.271 | 0.229 | 1.182 | .237 | 0.39 | [−0.26, 1.04] |
| Contrast 3 | −0.147 | 0.227 | −0.646 | .518 | −0.21 | [−0.85, 0.43] |
| Time 2 | −0.19 | 0.076 | −2.506 | .012 | −0.27 | [−0.49, −0.06] |
| Time 3 | −0.319 | 0.076 | −4.184 | <.001 | −0.46 | [−0.68, −0.24] |
| Contrast 1: Time 2 | 0.082 | 0.218 | 0.378 | .705 | 0.12 | [−0.50, 0.73] |
| Contrast 2: Time 2 | 0.216 | 0.215 | 1.008 | .313 | 0.31 | [−0.29, 0.92] |
| Contrast 3: Time 2 | −0.473 | 0.210 | −2.253 | .024 | −0.68 | [−1.28, −0.09] |
| Contrast 1: Time 3 | 0.272 | 0.218 | 1.248 | .212 | 0.39 | [−0.22, 1.01] |
| Contrast 2: Time 3 | −0.156 | 0.215 | −0.723 | .470 | −0.22 | [−0.83, 0.38] |
| Contrast 3: Time 3 | −0.053 | 0.214 | −0.249 | .804 | −0.08 | [−0.68, 0.53] |
| Random effects | *Variance* | *SD* |  |  |  |  |
| Participants (Intercept) | 0.185  | 0.430 |  |  |  |  |
| Task (Intercept) | 0.002 | 0.044 |  |  |  |  |