**SUPPLEMENTARY TABLES**

**Table 4.1.a:** Results of multilevel models for accuracy (number of correct hits) for CNS-VS CPT Part 1

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Parameter** | **Model** | | | | | | | |
|  |  | **1**  **Unconditional** | | **2**  **Basic growth model with Session at Level 1** | | **3**  **Growth model with baseline DV score at Level 2** | | **4**  **Growth model with baseline DV score and group at Level 2** | |
| Fixed Effects |  |  | *p* |  | *p* |  | *p* |  | *p* |
| π0*i* | β00 | 14.98159 (0.00565) | < .001 | 14.97254 (0.01126) | < .001 | 14.97219 (0.00753) | < .001 | 14.97614 (0.00799) | < .001 |
|  | β01 |  |  |  |  | 0.60833 (0.12053) | < .001 | 0.60416 (0.12096) | < .001 |
|  | β02 |  |  |  |  |  |  | -0.00800 (0.01439) | ns |
| π1*i* | β10 |  |  | 0.00332 (0.00263) | ns | 0.00358 (0.00220) | ns | 0.00375 (0.00238) | ns |
|  | β11 |  |  |  |  | -0.13529 (0.05266) | .011 | -0.13547 (0.05272) | .011 |
|  | Β12 |  |  |  |  |  |  | -0.00034 (0.00367) | ns |
| Random Effects |  |  |  |  |  |  |  |  |  |
|  | σe2 | 0.01982 |  | 0.01822 |  | 0.01755 |  | 0.01753 |  |
|  | σ*r*02 | 0.0071 | .02 | 0.00655 | < .001 | 0.00001 | ns | 0.00001 | ns |
|  | σ*r*12 |  |  | 0.00025 | ns | 0.00000 | ns | 0.00000 | ns |
| Fit statistics |  |  |  |  |  |  |  |  |  |
|  | deviance | -807.837 |  | -827.252 |  | -925.638 |  | -926.503 |  |
| Parameters est |  | 3 |  | 6 |  | 8 |  | 10 |  |
| Model Comparisons |  |  |  | χ212 = 19.42 (3 df) | < .001 | χ213 = 117.80 (5 df) | < .001 | χ214 = 118.67 (7 df) | < .001 |
|  |  |  |  |  |  | χ223 = 98.39 (2 df) | < .001 | χ224 = 99.25 (4 df) | < .001 |
|  |  |  |  |  |  |  |  | χ234 = 0.87 (2 df) | ns |

Subscripts on the χ2 statistics denote the two models being compared; Standard error in parentheses; Highlighted value reflects the group X session interaction

CNS-VS = CNS-Vital Signs; CPT = Continuous Performance Test; DV = dependent variable; ns = non-significant; est = estimated

Parameters:

π0*i*  = estimated individual score when "session" = 0 (i.e., intercept)

π1*i*  = estimated within person slope

β 00 = estimated mean value for all individuals when session = 0 (intercept) (controlling for T0 CPT and group)

β 01 = effect of T0 CPT score on the intercept (controlling for group)

β 02 = effect of group on the intercept (controlling for T0 CPT)

β 10 = estimated mean slope for all individuals (controlling for T0 CPT and group)

β 11 = effect of T0 CPT score on the slope (controlling for group)

β 12 = effect of group on the slope (controlling for T0 CPT)

σe2 = level one (within individual) residual (error term)

σ*r*02 = level 2 (between person) residual for the intercept

σ*r*12 = level 2 (between person) residual for the slope

**Table 4.1.b:** Results of multilevel models for accuracy (number of correct hits) for CNS-VS CPT Part 3

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Parameter** | **Model** | | | | | | | |
|  |  | **1**  **Totally unconditional model** | | **2**  **Basic growth model with Session at Level 1** | | **3**  **Growth model with baseline DV score at Level 2** | | **4**  **Growth model with baseline DV score and group at Level 2** | |
| Fixed Effects |  |  | *p* |  | *p* |  | *p* |  | *p* |
| π0*i* | β00 | 14.80452 (0.03653) | < .001 | 14.77295 (0.04737) | < .001 | 14.77068 (0.02510) | < .001 | 14.80498 (0.02563) | < .001 |
|  | β01 |  |  |  |  | 0.62640 (0.07318) | < .001 | 0.61920 (0.07277) | < .001 |
|  | β02 |  |  |  |  |  |  | -0.06981 (0.04315) | ns |
| π1*i* | β10 |  |  | 0.01103 (0.01184) | ns | 0.00988 (0.01003) | ns | -0.00825 (0.01840) | ns |
|  | β11 |  |  |  |  | -0.11307 (0.01846) | < .001 | -0.10928 (0.01870) | < .001 |
|  | Β12 |  |  |  |  |  |  | 0.03696 (0.02037) | ns |
| Random Effects |  |  |  |  |  |  |  |  |  |
|  | σe2 | 0.35458 |  | 0.34392 |  | 0.29506 |  | 0.29486 |  |
|  | σ*r*02 | 0.10309 | < .001 | 0.10087 | < .001 | 0.00784 | ns | 0.00842 | ns |
|  | σ*r*12 |  |  | 0.00213 | .002 | 0.00500 | ns | 0.00473 | ns |
| Fit statistics |  |  |  |  |  |  |  |  |  |
|  | deviance | 1512.164 |  | 1509.758 |  | 1381.898 |  | 1379.629 |  |
| # Parameters est |  | 3 |  | 6 |  | 8 |  | 10 |  |
| Model Comparisons |  |  |  | χ212 = 2.41 (3 df) | ns | χ213 = 130.27 (5 df) | < .001 | χ214 = 132.54 (7 df) | < .001 |
|  |  |  |  |  |  | χ223 = 127.86 (2 df) | < .001 | χ224 = 130.13 (4 df) | < .001 |
|  |  |  |  |  |  |  |  | χ234 = 2.27 (2 df) | ns |

Subscripts on the χ2 statistics denote the two models being compared; Standard error in parentheses; Highlighted value reflects the group X session interaction

CNS-VS = CNS-Vital Signs; CPT = Continuous Performance Test; DV = dependent variable; ns = non-significant; est = estimated

Parameters:

π0*i*  = estimated individual score when "session" = 0 (i.e., intercept)

π1*i*  = estimated within person slope

β 00 = estimated mean value for all individuals when session = 0 (intercept) (controlling for T0 CPT and group)

β 01 = effect of T0 CPT score on the intercept (controlling for group)

β 02 = effect of group on the intercept (controlling for T0 CPT)

β 10 = estimated mean slope for all individuals (controlling for T0 CPT and group)

β 11 = effect of T0 CPT score on the slope (controlling for group)

β 12 = effect of group on the slope (controlling for T0 CPT)

σe2 = level one (within individual) residual (error term)

σ*r*02 = level 2 (between person) residual for the intercept

σ*r*12 = level 2 (between person) residual for the slope

**Table 4.1.c:** Results of multilevel models for accuracy (number of correct hits) for CNS-VS CPT Part 4

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Parameter** | **Model** | | | | | | | |
|  |  | **1**  **Totally unconditional model** | | **2**  **Basic growth model**  **with Session at Level 1** | | **3**  **Growth model with baseline DV score at Level 2** | | **4**  **Growth model with baseline DV score and group at Level 2** | |
| Fixed Effects |  |  | *p* |  | *p* |  | *p* |  | *p* |
| π0*i* | β00 | 12.17768 (0.15986) | < .001 | 11.70888 (0.18826) | < .001 | 11.70257 (0.10294) | < .001 | 11.91085 (0.14566) | < .001 |
|  | β01 |  |  |  |  | 0.66045 (0.05069) | < .001 | 0.66163 (0.04767) | < .001 |
|  | β02 |  |  |  |  |  |  | -0.42079 (0.20308) | .04 |
| π1*i* | β10 |  |  | 0.16762 (0.03664) | < .001 | 0.16862 (0.03204) | < .001 | 0.19731 (0.04166) | < .001 |
|  | β11 |  |  |  |  | -0.07699 (0.01773) | < .001 | -0.07659 (0.01785) | < .001 |
|  | Β12 |  |  |  |  |  |  | -0-05795 (0.06427) | ns |
| Random Effects |  |  |  |  |  |  |  |  |  |
|  | σe2 | 3.25751 |  | 3.00284 |  | 2.78602 |  | 2.78225 |  |
|  | σ*r*02 | 2.52634 | < .001 | 2.76215 | < .001 | 0.33560 | ns | 0.29809 | ns |
|  | σ*r*12 |  |  | 0.03122 | .036 | 0.03606 | ns | 0.03573 | ns |
| Fit statistics |  |  |  |  |  |  |  |  |  |
|  | deviance | 3307.105 |  | 3279.203 |  | 3142.138 |  | 3135.865 |  |
| Parameters est |  | 3 |  | 6 |  | 8 |  | 10 |  |
| Model Comparisons |  |  |  | χ212 = 27.90 (3 df) | < .001 | χ213 = 164.97 (5 df) | < .001 | χ214 = 171.24 (7 df) | < .001 |
|  |  |  |  |  |  | χ223 = 137.07 (2 df) | < .001 | χ224 = 143.34 (4 df) | < .001 |
|  |  |  |  |  |  |  |  | χ234 = 6.27 (2 df) | < .05 |

Subscripts on the χ2 statistics denote the two models being compared; Standard error in parentheses; Highlighted value reflects the group X session interaction

CNS-VS = CNS-Vital Signs; CPT = Continuous Performance Test; DV = dependent variable; ns = non-significant; est = estimated

Parameters:

π0*i*  = estimated individual score when "session" = 0 (i.e., intercept)

π1*i*  = estimated within person slope

β 00 = estimated mean value for all individuals when session = 0 (intercept) (controlling for T0 CPT and group)

β 01 = effect of T0 CPT score on the intercept (controlling for group)

β 02 = effect of group on the intercept (controlling for T0 CPT)

β 10 = estimated mean slope for all individuals (controlling for T0 CPT and group)

β 11 = effect of T0 CPT score on the slope (controlling for group)

β 12 = effect of group on the slope (controlling for T0 CPT)

σe2 = level one (within individual) residual (error term)

σ*r*02 = level 2 (between person) residual for the intercept

σ*r*12 = level 2 (between person) residual for the slope

**Table 4.2.a:** Results of multilevel models for mean RT (square root) for CNS-VS CPT Part 1

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Parameter** | **Model** | | | | | | | |
|  |  | **1**  **Totally unconditional model** | | **2**  **Basic growth model with Session at Level 1** | | **3**  **Growth model with baseline DV score at Level 2** | | **4**  **Growth model with baseline DV score and group at Level 2** | |
| Fixed Effects |  |  | *p* |  | *p* |  | *p* |  | *p* |
| π0i | β00 | 17.69083 (0.13162) | < .001 | 17.90431 (0.15992) | < .001 | 17.90438 (0.06906) | < .001 | 17.69516 (0.08599) | < .001 |
|  | β01 |  |  |  |  | 0.78360 (0.04461) | < .001 | 0.76206 (0.04309) | < .001 |
|  | β02 |  |  |  |  |  |  | 0.42296 (0.13594) | .002 |
| π1*i* | Β10 |  |  | -0.07770 (0.02341) | .001 | -0.07690 (0.01856) | < .001 | -0.09213 (0.02460) | < .001 |
|  | β11 |  |  |  |  | -0.08037 (0.01159) | < .001 | -0.08192 (0.01205) | < .001 |
|  | Β12 |  |  |  |  |  |  | 0.03076 (0.03792) | ns |
| Random Effects |  |  |  |  |  |  |  |  |  |
|  | σ*e*2 | 1.06197 |  | 0.93148 |  | 0.87214 |  | 0.87086 |  |
|  | σ*r*02 | 1.89221 | < .001 | 2.59007 | < .001 | 0.24483 | .006 | 0.20686 | .024 |
|  | σ*r*12 |  |  | 0.02476 | < .001 | 0.01260 | ns | 0.01259 | ns |
| Fit statistics |  |  |  |  |  |  |  |  |  |
|  | deviance | 2520.107 |  | 2485.598 |  | 2284.475 |  | 2274.139 |  |
| Parameters est |  | 3 |  | 6 |  | 8 |  | 10 |  |
| Model Comparisons |  |  |  | χ212 = 34.51 (3 df) | < .001 | χ213 = 235.63 (5 df) | < .001 | χ214 = 245.97 (7 df) | < .001 |
|  |  |  |  |  |  | χ223 = 201.12 (2 df) | < .001 | χ224 = 211.46 (4 df) | < .001 |
|  |  |  |  |  |  |  |  | χ234 = 10.34 (2 df) | < .01 |

Subscripts on the χ2 statistics denote the two models being compared; Standard error in parentheses; Highlighted value reflects the group X session interaction

CNS-VS = CNS-Vital Signs; CPT = Continuous Performance Test; DV = dependent variable; ns = non-significant; est = estimated

Parameters:

π0*i*  = estimated individual score when "session" = 0 (i.e., intercept)

π1*i*  = estimated within person slope

β 00 = estimated mean value for all individuals when session = 0 (intercept) (controlling for T0 CPT and group)

β 01 = effect of T0 CPT score on the intercept (controlling for group)

β 02 = effect of group on the intercept (controlling for T0 CPT)

β 10 = estimated mean slope for all individuals (controlling for T0 CPT and group)

β 11 = effect of T0 CPT score on the slope (controlling for group)

β 12 = effect of group on the slope (controlling for T0 CPT)

σe2 = level one (within individual) residual (error term)

σ*r*02 = level 2 (between person) residual for the intercept

σ*r*12 = level 2 (between person) residual for the slope

**Table 4.2.b:** Results of multilevel models for mean RT (square root) for CNS-VS CPT Part 3

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Parameter** | **Model** | | | | | | | |
|  |  | **1**  **Totally unconditional model** | | **2**  **Basic growth model with Session at Level 1** | | **3**  **Growth model with baseline DV score at Level 2** | | **4**  **Growth model with baseline DV score and group at Level 2** | |
| Fixed Effects |  |  | *p* |  | *p* |  | *p* |  | *p* |
| π0*i* | β00 | 21.73889 (0.14190) | < .001 | 21.72184 (0.15259) | < .001 | 21.72205 (0.05393) | < .001 | 21.70103 (0.07416) | < .001 |
|  | β01 |  |  |  |  | 0.83678 (0.02722) | < .001 | 0.83477 (0.02773) | < .001 |
|  | β02 |  |  |  |  |  |  | 0.04237 (0.11044) | ns |
| π1*i* | β10 |  |  | 0.00742 (0.02605) | ns | 0.00865 (0.02478) | ns | -0.01347 (0.03204) | ns |
|  | β11 |  |  |  |  | -0.05694 (0.01183) | < .001 | -0.05859 (0.01183) | < .001 |
|  | Β12 |  |  |  |  |  |  | 0.04479 (0.04950) | ns |
| Random Effects |  |  |  |  |  |  |  |  |  |
|  | σe2 | 0.98672 |  | 0.80845 |  | 0.75975 |  | 0.75987 |  |
|  | σ*r*02 | 2.23938 | < .001 | 2.37450 | < .001 | 0.05957 | ns | 0.05919 | ns |
|  | σ*r*12 |  |  | 0.04410 | < .001 | 0.04536 | < .001 | 0.04480 | < .001 |
| Fit statistics |  |  |  |  |  |  |  |  |  |
|  | deviance | 2501.154 |  | 2467.561 |  | 2223.411 |  | 2222.371 |  |
| Parameters est |  | 3 |  | 6 |  | 8 |  | 10 |  |
| Model Comparisons |  |  |  | χ212 = 33.59 (3 df) | < .001 | χ213 = 277.74 (5 df) | < .001 | χ214 = 278.78 (7 df) | < .001 |
|  |  |  |  |  |  | χ223 = 244.15 (2 df) | < .001 | χ224 = 245.19 (4 df) | < .001 |
|  |  |  |  |  |  |  |  | χ234 = 1.04 (2 df) | ns |

Subscripts on the χ2 statistics denote the two models being compared; Standard error in parentheses; Highlighted value reflects the group X session interaction

CNS-VS = CNS-Vital Signs; CPT = Continuous Performance Test; DV = dependent variable; ns = non-significant; est = estimated

Parameters:

π0*i*  = estimated individual score when "session" = 0 (i.e., intercept)

π1*i*  = estimated within person slope

β 00 = estimated mean value for all individuals when session = 0 (intercept) (controlling for T0 CPT and group)

β 01 = effect of T0 CPT score on the intercept (controlling for group)

β 02 = effect of group on the intercept (controlling for T0 CPT)

β 10 = estimated mean slope for all individuals (controlling for T0 CPT and group)

β 11 = effect of T0 CPT score on the slope (controlling for group)

β 12 = effect of group on the slope (controlling for T0 CPT)

σe2 = level one (within individual) residual (error term)

σ*r*02 = level 2 (between person) residual for the intercept

σ*r*12 = level 2 (between person) residual for the slope

**Table 4.2.c:** Results of multilevel models for mean RT (square root) for CNS-VS CPT Part 4

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Parameter** | **Model** | | | | | | | |
|  |  | **1**  **Totally unconditional model** | | **2**  **Basic growth model with Session at Level 1** | | **3**  **Growth model with baseline DV score at Level 2** | | **4**  **Growth model with baseline DV score and group at Level 2** | |
| Fixed Effects |  |  | *p* |  | *p* |  | *p* |  | *p* |
| π0*i* | β00 | 24.23656 (0.17852) | < .001 | 24.46971 (0.20024) | < .001 | 24.45879 (0.09921) | < .001 | 24.27162 (0.12000) | < .001 |
|  | β01 |  |  |  |  | 0.74377 (0.04038) | < .001 | 0.73569 (0.03996) | < .001 |
|  | β02 |  |  |  |  |  |  | 0.37919 (0.19337) | .052 |
| π1*i* | β10 |  |  | -0.08372 (0.03634) | .023 | -0.07729 (0.03126) | .015 | -0.12316 (0.04057) | .003 |
|  | β11 |  |  |  |  | -0.07883 (0.01372) | < .001 | -0.08024 (0.01338) | < .001 |
|  | Β12 |  |  |  |  |  |  | 0.09320 (0.06318) | ns |
| Random Effects |  |  |  |  |  |  |  |  |  |
|  | σe2 | 2.59791 |  | 2.32909 |  | 2.15000 |  | 2.14980 |  |
|  | σ*r*02 | 3.37446 | < .001 | 3.63621 | < .001 | 0.47387 | ns | 0.44171 | ns |
|  | σ*r*12 |  |  | 0.05463 | < .001 | 0.05272 | .018 | 0.050033 | .022 |
| Fit statistics |  |  |  |  |  |  |  |  |  |
|  | deviance | 3177.670 |  | 3158.765 |  | 2994.142 |  | 2988.310 |  |
| Parameters est |  | 3 |  | 6 |  | 8 |  | 10 |  |
| Model Comparisons |  |  |  | χ212 = 18.91 (3 df) | < .001 | χ213 = 183.53 (5 df) | < .001 | χ214 = 189.36 (7 df) | < .001 |
|  |  |  |  |  |  | χ223 = 164.62 (2 df) | < .001 | χ224 = 170.46 (4 df) | < .001 |
|  |  |  |  |  |  |  |  | χ234 = 5.83 (2 df) | ns |

Subscripts on the χ2 statistics denote the two models being compared; Standard error in parentheses; Highlighted value reflects the group X session interaction

CNS-VS = CNS-Vital Signs; CPT = Continuous Performance Test; DV = dependent variable; ns = non-significant; est = estimated

Parameters:

π0*i*  = estimated individual score when "session" = 0 (i.e., intercept)

π1*i*  = estimated within person slope

β 00 = estimated mean value for all individuals when session = 0 (intercept) (controlling for T0 CPT and group)

β 01 = effect of T0 CPT score on the intercept (controlling for group)

β 02 = effect of group on the intercept (controlling for T0 CPT)

β 10 = estimated mean slope for all individuals (controlling for T0 CPT and group)

β 11 = effect of T0 CPT score on the slope (controlling for group)

β 12 = effect of group on the slope (controlling for T0 CPT)

σe2 = level one (within individual) residual (error term)

σ*r*02 = level 2 (between person) residual for the intercept

σ*r*12 = level 2 (between person) residual for the slope

**Table 4.3.a:** Results of multilevel models for CV RT (square root) for CNS-VS CPT Part 1

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Parameter** | **Model** | | | | | | | |
|  |  | **1**  **Totally unconditional model** | | **2**  **Basic growth model with session at Level 1** | | **3**  **Growth model with baseline DV score at Level 2** | | **4**  **Growth model with baseline DV score and group at Level 2** | |
| Fixed Effects |  |  | *p* |  | *p* |  | *p* |  | *p* |
| π0*i* | β00 | 0.39078 (0.00421) | < .001 | 0.40122 (0.00576) | < .001 | 0.40168 (0.00303) | < .001 | 0.40039 (0.00418) | < .001 |
|  | β01 |  |  |  |  | 0.65186 (0.03738) | < .001 | 0.64909 (0.03798) | < .001 |
|  | β02 |  |  |  |  |  |  | 0.00261 (0.00620) | ns |
| π1*i* | β10 |  |  | -0.00385 (0.00123) | .002 | -0.00417 (0.00101) | < .001 | -0.00404 (0.00146) | .007 |
|  | β11 |  |  |  |  | -0.10612 (0.01267) | < .001 | -0.10584 (0.01258) | < .001 |
|  | Β12 |  |  |  |  |  |  | -0.00027 (0.00198) | ns |
| Random Effects |  |  |  |  |  |  |  |  |  |
|  | σe2 | 0.00342 |  | 0.00319 |  | 0.00293 |  | 0.00293 |  |
|  | σ*r*02 | 0.00156 | < .001 | 0.00240 | < .001 | 0.00013 | ns | 0.00013 | ns |
|  | σ*r*12 |  |  | 0.00004 | .002 | 0.00003 | ns | 0.00003 | ns |
| Fit statistics |  |  |  |  |  |  |  |  |  |
|  | deviance | -2017.066 |  | -2034.330 |  | -2177.700 |  | -2177.839 |  |
| Parameters est |  | 3 |  | 6 |  | 8 |  | 10 |  |
| Model Comparisons |  |  |  | χ212 = 17.26 (3 df) | < .001 | χ213 = 160.63 (5 df) | < .001 | χ214 = 160.77 (7 df) | < .001 |
|  |  |  |  |  |  | χ223 = 143.37 (2 df) | < .001 | χ224 = 143.51 (4 df) | < .001 |
|  |  |  |  |  |  |  |  | χ234 = 0.14 (2 df) | ns |

Subscripts on the χ2 statistics denote the two models being compared; Standard error in parentheses; Highlighted value reflects the group X session interaction

CNS-VS = CNS-Vital Signs; CPT = Continuous Performance Test; DV = dependent variable; ns = non-significant; est = estimated

Parameters:

π0*i*  = estimated individual score when "session" = 0 (i.e., intercept)

π1*i*  = estimated within person slope

β 00 = estimated mean value for all individuals when session = 0 (intercept) (controlling for T0 CPT and group)

β 01 = effect of T0 CPT score on the intercept (controlling for group)

β 02 = effect of group on the intercept (controlling for T0 CPT)

β 10 = estimated mean slope for all individuals (controlling for T0 CPT and group)

β 11 = effect of T0 CPT score on the slope (controlling for group)

β 12 = effect of group on the slope (controlling for T0 CPT)

σe2 = level one (within individual) residual (error term)

σ*r*02 = level 2 (between person) residual for the intercept

σ*r*12 = level 2 (between person) residual for the slope

**Table 4.3.b:** Results of multilevel models for CV RT (square root) for CNS-VS CPT Part 3

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Parameter** | **Model** | | | | | | | |
|  |  | **1**  **Totally unconditional model** | | **2**  **Basic growth model**  **(Session at Level 1)** | | **3**  **Growth model with baseline DV score at Level 2** | | **4**  **Growth model with baseline DV score and group at Level 2** | |
| Fixed Effects |  |  | *p* |  | *p* |  | *p* |  | *p* |
| π0*i* | β00 | 0.41497 (0.00358) | < .001 | 0.41745 (0.00472) | < .001 | 0.41738 (0.00288) | < .001 | 0.41414 (0.00382) | < .001 |
|  | β01 |  |  |  |  | 0.59070 (0.04489) | < .001 | 0.58524 (0.04628) | < .001 |
|  | β02 |  |  |  |  |  |  | 0.00657 (0.00594) | ns |
| π1*i* | β10 |  |  | -0.0089 (0.00102) | ns | -0.00093 (0.00089) | ns | -0.00059 (0.00125) | ns |
|  | β11 |  |  |  |  | -0.08284 (0.01452) | < .001 | -0.08230 (0.01472) | < .001 |
|  | Β12 |  |  |  |  |  |  | -0.00069 (0.00181) | ns |
| Random Effects |  |  |  |  |  |  |  |  |  |
|  | σe2 | 0.00308 |  | 0.00307 |  | 0.00285 |  | 0.00284 |  |
|  | σ*r*02 | 0.00104 | < .001 | 0.00122 | < .001 | 0.00012 | ns | 0.00011 | ns |
|  | σ*r*12 |  |  | 0.00000 | ns | 0.00002 | ns | 0.00002 | ns |
| Fit statistics |  |  |  |  |  |  |  |  |  |
|  | deviance | -2130.125 |  | -2131.314 |  | -2235.291 |  | -2236.276 |  |
| Parameters est |  | 3 |  | 6 |  | 8 |  | 10 |  |
| Model Comparisons |  |  |  | χ212 = 1.19 (3 df) | ns | χ213 = 105.17 (5 df) | < .001 | χ214 = 106.15 (7 df) | < .001 |
|  |  |  |  |  |  | χ223 = 103.98 (2 df) | < .001 | χ224 = 104.96 (4 df) | < .001 |
|  |  |  |  |  |  |  |  | χ234 = 0.99 (2 df) | ns |

Subscripts on the χ2 statistics denote the two models being compared; Standard error in parentheses; Highlighted value reflects the group X session interaction

CNS-VS = CNS-Vital Signs; CPT = Continuous Performance Test; DV = dependent variable; ns = non-significant; est = estimated

Parameters:

π0*i*  = estimated individual score when "session" = 0 (i.e., intercept)

π1*i*  = estimated within person slope

β 00 = estimated mean value for all individuals when session = 0 (intercept) (controlling for T0 CPT and group)

β 01 = effect of T0 CPT score on the intercept (controlling for group)

β 02 = effect of group on the intercept (controlling for T0 CPT)

β 10 = estimated mean slope for all individuals (controlling for T0 CPT and group)

β 11 = effect of T0 CPT score on the slope (controlling for group)

β 12 = effect of group on the slope (controlling for T0 CPT)

σe2 = level one (within individual) residual (error term)

σ*r*02 = level 2 (between person) residual for the intercept

σ*r*12 = level 2 (between person) residual for the slope

**Table 4.3.c:** Results of multilevel models for CV RT (square root) for CNS-VS CPT Part 4

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Parameter** | **Model** | | | | | | | |
|  |  | **1**  **Totally unconditional model** | | **2**  **Basic growth model with**  **Session at Level 1** | | **3**  **Growth model with baseline DV score at Level 2** | | **4**  **Growth model with baseline DV score and group at Level 2** | |
| Fixed Effects |  |  | *p* |  | *p* |  | *p* |  | *p* |
| π0*i* | β00 | 0.52085 (0.00447) | < .001 | 0.53809 (0.00598) | < .001 | 0.53853 (0.00386) | < .001 | 0.54302 (0.00536) | < .001 |
|  | β01 |  |  |  |  | 0.60556 (0.04738) | < .001 | 0.59944 (0.04655) | < .001 |
|  | β02 |  |  |  |  |  |  | -0.00915 (0.00760) | ns |
| π1*i* | β10 |  |  | -0.00619 (0.00138) | < .001 | -0.00639 (0.00116) | < .001 | -0.00911 (0.00155) | < .001 |
|  | β11 |  |  |  |  | -0.09848 (0.01603) | < .001 | -0.09458 (0.01541) | < .001 |
|  | Β12 |  |  |  |  |  |  | 0.00558 (0.00220) | 0.013 |
| Random Effects |  |  |  |  |  |  |  |  |  |
|  | σe2 | 0.00516 |  | 0.00492 |  | 0.00458 |  | 0.00456 |  |
|  | σ*r*02 | 0.00156 | < .001 | 0.00188 | < .001 | 0.00024 | ns | 0.00027 | ns |
|  | σ*r*12 |  |  | 0.00002 | ns | 0.00003 | ns | 0.00002 | ns |
| Fit statistics |  |  |  |  |  |  |  |  |  |
|  | deviance | -1737.067 |  | -1759.022 |  | -1855.036 |  | -1859.339 |  |
| Parameters est |  | 3 |  | 6 |  | 8 |  | 10 |  |
| Model Comparisons |  |  |  | χ212 = 21.96 (3 df) | < .001 | χ213 = 117.97 (5 df) | < .001 | χ214 = 122.27 (7 df) | < .001 |
|  |  |  |  |  |  | χ223 = 96.01 (2 df) | < .001 | χ224 = 100.00 (4 df) | < .001 |
|  |  |  |  |  |  |  |  | χ234 = 4.30 (2 df) | ns |

Subscripts on the χ2 statistics denote the two models being compared; Standard error in parentheses; Highlighted value reflects the group X session interaction

CNS-VS = CNS-Vital Signs; CPT = Continuous Performance Test; DV = dependent variable; ns = non-significant; est = estimated

Parameters:

π0*i*  = estimated individual score when "session" = 0 (i.e., intercept)

π1*i*  = estimated within person slope

β 00 = estimated mean value for all individuals when session = 0 (intercept) (controlling for T0 CPT and group)

β 01 = effect of T0 CPT score on the intercept (controlling for group)

β 02 = effect of group on the intercept (controlling for T0 CPT)

β 10 = estimated mean slope for all individuals (controlling for T0 CPT and group)

β 11 = effect of T0 CPT score on the slope (controlling for group)

β 12 = effect of group on the slope (controlling for T0 CPT)

σe2 = level one (within individual) residual (error term)

σ*r*02 = level 2 (between person) residual for the intercept

σ*r*12 = level 2 (between person) residual for the slope