**Supplemental Table 1.** Statistical results for cognitive and somatic PCS, pain intensity, and fluid cognition after children who performed below cutoffs on validity testing at any timepoint were excluded.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Outcome** | **Model Predictor** |  |  | **95% CI** | | ***p-value*** |
|  |  |  | **SE** | **Lower** | **Upper** |  |
|  |  |  |  |  |  |  |
| Cognitive PCS (Parent) | ***Group*** | ***-*** | ***-*** | ***-*** | ***-*** | ***.002‡*** |
|  | Time postinjury (weekly)**†** | - | - | - | - | .443**‡** |
|  | ***Group x Time†*** | ***-*** | ***-*** | ***-*** | ***-*** | ***.014††*** |
|  | Sex (Female – Male) | -1.26 | 0.85 | -2.92 | 0.40 | .137 |
|  | Age at injury (years) | 0.24 | 0.20 | -0.15 | 0.62 | .229 |
|  | SES (*z*-score) | -0.52 | 0.40 | -1.30 | 0.26 | .189 |
|  | ***Preinjury score*** | ***0.66*** | ***0.05*** | ***0.56*** | ***0.77*** | ***<.001*** |
|  |  |  |  |  |  |  |
| Cognitive PCS (Child) | ***Group*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001‡*** |
|  | Time (weekly)**†** | - | - | - | - | .075**‡** |
|  | ***Group x Time†*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001††*** |
|  | Sex (Female – Male) | -1.96 | 1.08 | -4.07 | 0.14 | .068 |
|  | Age at injury (years) | 0.26 | 0.20 | -0.12 | 0.64 | .186 |
|  | ***SES (z-score)*** | ***-1.32*** | ***0.54*** | ***-2.37*** | ***-0.27*** | ***.014*** |
|  | ***Preinjury score*** | ***0.19*** | ***0.08*** | ***0.04*** | ***0.34*** | ***.011*** |
|  |  |  |  |  |  |  |
| Somatic PCS (Parent) | ***Group*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001‡*** |
|  | Time (weekly)**†** | - | - | - | - | .880**‡** |
|  | ***Group x Time†*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001‡*** |
|  | Sex (Female – Male) | -0.12 | 0.12 | -0.36 | 0.12 | .313 |
|  | ***Age at injury (years)*** | ***0.06*** | ***0.03*** | ***0.00*** | ***0.11*** | ***.046*** |
|  | SES (z-score) | -0.08 | 0.06 | -0.20 | 0.04 | .210 |
|  | ***Preinjury score*** | ***0.35*** | ***0.06*** | ***0.24*** | ***0.47*** | ***<.001*** |
|  |  |  |  |  |  |  |
| Somatic PCS (Child) | ***Group*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001‡*** |
|  | ***Time (weekly)†*** | ***-*** | ***-*** | ***-*** | ***-*** | ***.021‡*** |
|  | ***Group x Time†*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001††*** |
|  | ***Sex (Female – Male)*** | ***-0.33*** | ***0.15*** | ***-0.63*** | ***-0.04*** | ***.025*** |
|  | Age at injury (years) | 0.02 | 0.03 | -0.03 | 0.08 | .431 |
|  | SES (z-score) | -0.13 | 0.07 | -0.27 | 0.01 | .069 |
|  | ***Preinjury score*** | ***0.16*** | ***0.06*** | ***0.04*** | ***0.28*** | ***.007*** |
|  |  |  |  |  |  |  |
| Pain Intensity (Child) | Group | ***-*** | ***-*** | ***-*** | ***-*** | .111 |
|  | ***Time (weekly)†*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001‡*** |
|  | ***Sex (Female – Male)*** | ***-0.34*** | ***0.11*** | ***-0.57*** | ***-0.12*** | ***.002*** |
|  | ***Age at injury (years)*** | ***0.04*** | ***0.02*** | ***0.01*** | ***0.07*** | ***.024*** |
|  | SES (*z*-score) | -0.00 | 0.04 | -0.08 | 0.08 | .939 |
|  |  |  |  |  |  |  |
| Fluid Cognition a\* | Group | - | - | - | - | .074 |
|  | ***Time (visit)††*** | - | - | - | - | ***<.001*** |
|  | Sex (Female – Male) | 4.08 | 2.72 | -1.26 | 9.41 | .135 |
|  | ***SES (z-score)*** | ***4.21*** | ***1.35*** | ***1.58*** | ***6.85*** | ***.002*** |

*Note.* ***Bolded and italicized*** = *p* <.05. **†**Restricted cubic spline (5 knots), ††Categorical variable (10 days, 3 months, and 6 months postinjury), **‡**Overall test using Wald 2, **††**likelihood ratio test, \*age standardized score.

a Data available for 185 participants.

**Supplemental Table 2.** Statistical results for cognitive and somatic PCS, pain intensity, and fluid cognition after children with complicated mTBI were excluded.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Outcome** | **Model Predictor** |  |  | **95% CI** | | ***p-value*** |
|  |  |  | **SE** | **Lower** | **Upper** |  |
|  |  |  |  |  |  |  |
| Cognitive PCS (Parent) | ***Group*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001‡*** |
|  | Time postinjury (weekly)**†** | - | - | - | - | .683**‡** |
|  | ***Group x Time†*** | ***-*** | ***-*** | ***-*** | ***-*** | ***.014††*** |
|  | Sex (Female – Male) | -1.07 | 0.82 | -2.67 | 0.53 | .189 |
|  | Age at injury (years) | 0.29 | 0.18 | -0.06 | 0.64 | .106 |
|  | SES (*z*-score) | -0.44 | 0.39 | -1.20 | 0.32 | .258 |
|  | ***Preinjury score*** | ***0.68*** | ***0.05*** | ***0.58*** | ***0.78*** | ***<.001*** |
|  |  |  |  |  |  |  |
| Cognitive PCS (Child) | ***Group*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001‡*** |
|  | Time (weekly)**†** | - | - | - | - | .082**‡** |
|  | ***Group x Time†*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001††*** |
|  | Sex (Female – Male) | -1.78 | 1.05 | -3.83 | 0.27 | .090 |
|  | Age at injury (years) | 0.16 | 0.18 | -0.20 | 0.52 | .383 |
|  | ***SES (z-score)*** | ***-1.30*** | ***0.52*** | ***-2.32*** | ***-0.28*** | ***.013*** |
|  | ***Preinjury score*** | ***0.20*** | ***0.08*** | ***0.05*** | ***0.36*** | ***.009*** |
|  |  |  |  |  |  |  |
| Somatic PCS (Parent) | ***Group*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001‡*** |
|  | Time (weekly)**†** | - | - | - | - | .883**‡** |
|  | ***Group x Time†*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001‡*** |
|  | Sex (Female – Male) | -0.09 | 0.12 | -0.32 | 0.14 | .438 |
|  | Age at injury (years) | 0.05 | 0.03 | -0.00 | 0.10 | .065 |
|  | ***SES (z-score)*** | -0.08 | 0.06 | -0.20 | 0.04 | .177 |
|  | ***Preinjury score*** | ***0.36*** | ***0.06*** | ***0.24*** | ***0.48*** | ***<.001*** |
|  |  |  |  |  |  |  |
| Somatic PCS (Child) | ***Group*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001‡*** |
|  | Time (weekly)**†** | - | - | - | - | .022**‡** |
|  | ***Group x Time†*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001††*** |
|  | ***Sex (Female – Male)*** | ***-0.29*** | ***0.15*** | ***-0.58*** | ***-0.00*** | ***.048*** |
|  | Age at injury (years) | 0.01 | 0.03 | -0.04 | 0.07 | .632 |
|  | SES (z-score) | -0.11 | 0.07 | -0.26 | 0.03 | .122 |
|  | ***Preinjury score*** | ***0.17*** | ***0.06*** | ***0.06*** | ***0.29*** | ***.003*** |
|  |  |  |  |  |  |  |
| Pain Intensity (Child) | Group | - | - | - | - | .090 |
|  | ***Time (weekly)†*** | ***-*** | ***-*** | ***-*** | ***-*** | ***<.001‡*** |
|  | ***Sex (Female – Male)*** | ***-0.35*** | ***0.11*** | ***-0.57*** | ***-0.13*** | ***.002*** |
|  | ***Age at injury (years)*** | ***0.04*** | ***0.02*** | ***0.01*** | ***0.07*** | ***.015*** |
|  | SES (*z*-score) | -0.01 | 0.04 | -0.09 | 0.07 | .859 |
|  |  |  |  |  |  |  |
| Fluid Cognition a\* | ***Group*** | ***-*** | ***-*** | ***-*** | ***-*** | ***.028*** |
|  | ***Time (visit)††*** |  |  |  |  | ***<.001*** |
|  | Sex (Female – Male) | 3.02 | 2.72 | -2.31 | 8.35 | .267 |
|  | ***SES (z-score)*** | ***4.12*** | ***1.40*** | ***1.39*** | ***6.86*** | ***.003*** |

*Note.* ***Bolded and italicized*** = *p* <.05. **†**Restricted cubic spline (5 knots), ††Categorical variable (10 days, 3 months, and 6 months postinjury), **‡**Overall test using Wald 2, **††**likelihood ratio test, \*age standardized score.

a Data available for 189 (132 concussion/57 OI) participants.