Supplementary Table 1. Comparisons of the indices of white matter tract property among ADHD probands, their unaffected siblings and the controlsa

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | ADHD(n=50) | Sibling(n=50) | Control(n=50) | Three groupcomparisonb |
| Fiber tract |  |
|  |  | Mean ± SD | Mean ± SD | Mean ± SD | *F(2, 47)* | *p* |
|  L. perpendicular fasciculus |  |  |  |  |  |
|  | GFA | 0.33±0.03 | 0.34±0.03 | 0.33±0.03 | 2.25 | 0.117 |
|  | FA | 0.35±0.04 | 0.36±0.03 | 0.34±0.04 | 1.85 | 0.169 |
|  | MD | 0.64±0.04 | 0.63±0.04 | 0.63±0.03 | 2.28 | 0.114 |
|  | RD | 0.52±0.04 | 0.51±0.04 | 0.51±0.03 | 1.35 | 0.270 |
|  | AD | 0.88±0.04 | 0.87±0.04 | 0.86±0.04 | 3.51 | 0.038 |
| L. superior longitudinal fasciculus I |  |  |  |  |  |
|  | GFA | 0.51±0.03 | 0.52±0.03 | 0.51±0.03 | 2.41 | 0.101 |
|  | FA | 0.53±0.03 | 0.54±0.03 | 0.52±0.03 | 2.57 | 0.088 |
|  | MD | 0.57±0.03 | 0.56±0.03 | 0.56±0.02 | 1.28 | 0.287 |
|  | RD | 0.38±0.03 | 0.37±0.03 | 0.38±0.03 | 1.46 | 0.242 |
|  | AD | 0.95±0.05 | 0.93±0.05 | 0.93±0.04 | 3.62 | 0.035 |
| L. corticospinal tract: M1 |  |  |  |  |  |
|  | GFA | 0.63±0.03 | 0.64±0.02 | 0.63±0.02 | 3.12 | 0.053 |
|  | FA | 0.66±0.03 | 0.66±0.03 | 0.64±0.02 | 4.09 | 0.023 |
|  | MD | 0.52±0.02 | 0.51±0.02 | 0.52±0.02 | 0.66 | 0.521 |
|  | RD | 0.28±0.03 | 0.28±0.02 | 0.29±0.02 | 1.33 | 0.273 |
|  | AD | 0.99±0.04 | 0.98±0.04 | 0.98±0.04 | 3.53 | 0.038 |
| L. geniculate fibers |  |  |  |  |  |
|  | GFA | 0.53±0.03 | 0.54±0.02 | 0.53±0.02 | 3.83 | 0.029 |
|  | FA | 0.54±0.03 | 0.55±0.03 | 0.53±0.03 | 3.84 | 0.029 |
|  | MD | 0.56±0.08 | 0.55±0.05 | 0.56±0.05 | 0.59 | 0.557 |
|  | RD | 0.38±0.07 | 0.36±0.05 | 0.37±0.05 | 0.56 | 0.577 |
|  | AD | 0.94±0.09 | 0.93±0.07 | 0.92±0.07 | 1.11 | 0.339 |
| R. frontostriatal tract: VLPFC |  |  |  |  |  |
|  | GFA | 0.35±0.03 | 0.36±0.03 | 0.35±0.03 | 3.10 | 0.055 |
|  | FA | 0.33±0.05 | 0.35±0.03 | 0.34±0.04 | 4.05 | 0.024 |
|  | MD | 0.58±0.04 | 0.57±0.03 | 0.58±0.03 | 2.01 | 0.146 |
|  | RD | 0.47±0.04 | 0.45±0.03 | 0.47±0.03 | 3.63 | 0.035 |
|  | AD | 0.80±0.06 | 0.80±0.04 | 0.80±0.04 | 0.20 | 0.817 |
|  L. medial lemniscus |  |  |  |  |  |
|  | GFA | 0.58±0.03 | 0.59±0.03 | 0.58±0.03 | 4.55 | 0.016 |
|  | FA | 0.59±0.03 | 0.60±0.03 | 0.58±0.03 | 3.96 | 0.026 |
|  | MD | 0.55±0.06  | 0.53±0.03 | 0.54±0.04 | 1.61 | 0.211 |
|  | RD | 0.34±0.05 | 0.32±0.03 | 0.33±0.03 | 1.88 | 0.164 |
|  | AD | 0.97±0.08 | 0.96±0.06 | 0.95±0.06 | 1.64 | 0.206 |
|  R. thalamic radiation: postcentral |  |  |  |  |  |
|  | GFA | 0.51±0.03 | 0.51±0.03 | 0.51±0.02 | 2.21 | 0.122 |
|  | FA | 0.53±0.04 | 0.54±0.02 | 0.53±0.03 | 2.20 | 0.122 |
|  | MD | 0.55±0.03 | 0.54±0.03 | 0.55±0.02 | 4.79 | 0.013 |
|  | RD | 0.37±0.03 | 0.36±0.03 | 0.37±0.02 | 4.06 | 0.024 |
|  | AD | 0.91±0.05 | 0.89±0.05 | 0.90±0.04 | 1.92 | 0.158 |
| Corpus callosum: postcentral |  |  |  |  |  |
|  | GFA | 0.56±0.04 | 0.57±0.03 | 0.56±0.03 | 1.75 | 0.184 |
|  | FA | 0.59±0.04 | 0.60±0.03 | 0.59±0.04 | 1.61 | 0.210 |
|  | MD | 0.61±0.04 | 0.59±0.04 | 0.60±0.03 | 2.26 | 0.116 |
|  | RD | 0.36±0.04 | 0.35±0.04 | 0.37±0.04 | 1.25 | 0.296 |
|  | AD | 1.09±0.06 | 1.07±0.05 | 1.07±0.05 | 3.92 | 0.027 |
|  Corpus callosum: superior temporal |  |  |  |  |  |
|  | GFA | 0.52±0.03 | 0.53±0.03 | 0.52±0.03 | 1.40 | 0.256 |
|  | FA | 0.55±0.03 | 0.55±0.03 | 0.54±0.03 | 0.92 | 0.405 |
|  | MD | 0.78±0.07 | 0.76±0.10 | 0.75±0.08 | 1.74 | 0.187 |
|  | RD | 0.51±0.06 | 0.49±0.09 | 0.49±0.07 | 0.55 | 0.583 |
|  | AD | 1.31±0.09 | 1.28±0.11 | 1.26±0.10 | 4.11 | 0.023 |
| Corpus callosum: middle temporal |  |  |  |  |  |
|  | GFA | 0.48±0.04 | 0.49±0.09 | 0.48±0.03 | 2.10 | 0.134 |
|  | FA | 0.50±0.04 | 0.51±0.03 | 0.50±0.03 | 1.89 | 0.162 |
|  | MD | 0.64±0.03 | 0.62±0.04 | 0.63±0.03 | 3.27 | 0.047 |
|  | RD | 0.44±0.04 | 0.42±0.04 | 0.43±0.03 | 1.08 | 0.347 |
|  | AD | 1.04±0.05 | 1.02±0.06 | 1.01±0.05 | 5.75 | 0.006\* |

VLPFC, ventrolateral prefrontal cortex.

a Controlling for age, gender, full-scale IQ.

b Pairwise comparison by post-hoc analysis with Bonferroni Test.

\*Significant group difference remained (*q* = 0.03) when using false discovery rate (FDR, *q*) to correct for multiple comparisons in 5 indices of each white matter tract.