

Supplemental Information

Table S1. Demographic comparisons of the complete NIH Objective 1 cohort ($n = 431$) and cortical thickness analysis sample ($n = 193$)

	$n = 431$	$n = 193$
Age in Years*	10.4 \pm 0.20 (4.6-18.3)	11.8 \pm 0.25 (6-18) $p < 0.001$
Gender Proportions**	Females = 52.0% Males = 48.0%	Females = 54.4% Males = 45.6% $\chi^2 = 0.446$ $p > 0.50$
Race**	White = 81.7% African American = 9.5% Other or N/A = 8.8%	White = 83.4% African American = 8.8% Other or N/A = 7.8% $\chi^2 = 0.396$ $p > 0.95$
Household Income in 1,000\$**	Less than 35 = 8.8% 35 to 50 = 19.0% 50-75 = 24.1% 75-100 = 23.7% Over 100 = 24.4%	Less than 35 = 6.2% 35 to 50 = 18.1% 50-75 = 22.2% 75-100 = 25.9% Over 100 = 27.5% $\chi^2 = 2.941$ $p > 0.50$
Hand Used to Write	Right = 88.9% Left = 10.4% N/A = 0.7%	Right = 90.2% Left = 9.8% $\chi^2 = 1.441$ $p > 0.30$
CBCL AGG Average Score*	2.86 \pm 0.15 (range 0-21***)	2.47 \pm 0.19 (0-11) $p = 0.047$

*One sample t test with the standard error comparing the utilized sample ($n = 193$) to the average of the complete NIH cohort, which is deemed to be representative of the population.

** χ^2 for goodness of fit using the full NIH cohort proportions as the predicted model.

***Only one subject had a very high score, with most CBCL Aggressive Behavior raw scores between 0-12.

Values in bold are statistically significant.

Table S2. Demographic comparisons of males ($n = 88$) versus females ($n = 105$) subjects

	Males $n = 88$	Females $n = 105$
Age in Years*	11.7 \pm 0.35 (6-18)	11.9 \pm 0.34 (6-18) $p = 0.768$
Race**	White = 82.9% African American = 9.5% Other or N/A = 7.6%	White = 84.0% African American = 8.0% Other or N/A = 8.0% $\chi^2 = 0.150$ $p = 0.928$
Household Income in 1,000\$**	Less than 35 = 3.4% 35 to 50 = 23.9% 50-75 = 26.1% 75-100 = 23.9% Over 100 = 22.7%	Less than 35 = 8.6% 35 to 50 = 13.3% 50-75 = 19.0% 75-100 = 27.6% Over 100 = 31.4% $\chi^2 = 7.64$ $p = 0.105$
Hand Used to Write	Right = 87.5% Left = 12.5%	Right = 92.4% Left = 7.6% $\chi^2 = 1.285$ $p = 0.257$
CBCL AGG Average Score*	2.76 \pm 0.32 (range 0-11)	2.23 \pm 0.24 (range 0-10) $p = 0.058$

* t test for independent samples with the standard error comparing males versus females average age and CBCL Aggressive Behavior raw scores.

** χ^2 for independent samples comparing males versus females proportion of race, income and handedness.

Table S3. Comparisons of the six scanner sites for CBCL Aggressive Behavior raw scores, age, gender distribution and volumetric measurements

	Scanner 1	Scanner 2	Scanner 3	Scanner 4	Scanner 5	Scanner 6
Subjects	43	40	42	27	33	8
Gender	Male = 20 Female = 23	Male = 20 Female = 20	Male = 20 Female = 22	Male = 15 Female = 12	Male = 11 Female = 22	Male = 2 Female = 6
Mean AGG Score	2.58 ± 0.4	2.28 ± 0.4	2.48 ± 0.4	3.19 ± 0.6	2.03 ± 0.37	2.25 ± 1.1
Mean Age	11.0 ± 0.5	12.2 ± 0.6	11.6 ± 0.5	11.9 ± 0.75	12.6 ± 0.6	11.0 ± 1.3
Mean Cortical Thickness (mm)	3.59 ± 0.02	3.61 ± 0.03	3.58 ± 0.03	3.56 ± 0.03	3.54 ± 0.03	3.53 ± 0.06
Mean Left Striatum (mm ³)	10606 ± 154*	11154 ± 182*	10928 ± 157	10871 ± 161	11079 ± 187	11073 ± 337
Mean Right Striatum (mm ³)	10699 ± 151	11074 ± 187	10971 ± 171	11096 ± 169	11081 ± 180	11016 ± 344
Mean Left Caudate (mm ³)	5467 ± 81*	5698 ± 98	5611 ± 88	5572 ± 94	5745 ± 100*	5678 ± 154
Mean Right Caudate (mm ³)	5469 ± 82	5623 ± 102	5582 ± 91	5587 ± 97	5648 ± 103	5576 ± 140
Mean Left Putamen (mm ³)	5138 ± 90*	5456 ± 98*	5318 ± 91	5299 ± 103	5334 ± 109	5395 ± 198
Mean Right Putamen (mm ³)	5231 ± 86*	5452 ± 100	5390 ± 101	5510 ± 109*	5534 ± 101	5441 ± 217
Mean Left Globus Pallidus (mm ³)	1271 ± 26	1318 ± 23	1275 ± 22	1278 ± 31	1266 ± 31	1294 ± 68
Mean Right Globus Pallidus (mm ³)	1213 ± 31	1287 ± 23**	1207 ± 28	1204 ± 30*	1162 ± 29**	1252 ± 62

Data in bold have significant between sites differences.

* $p \leq 0.05$

** $p \leq 0.01$

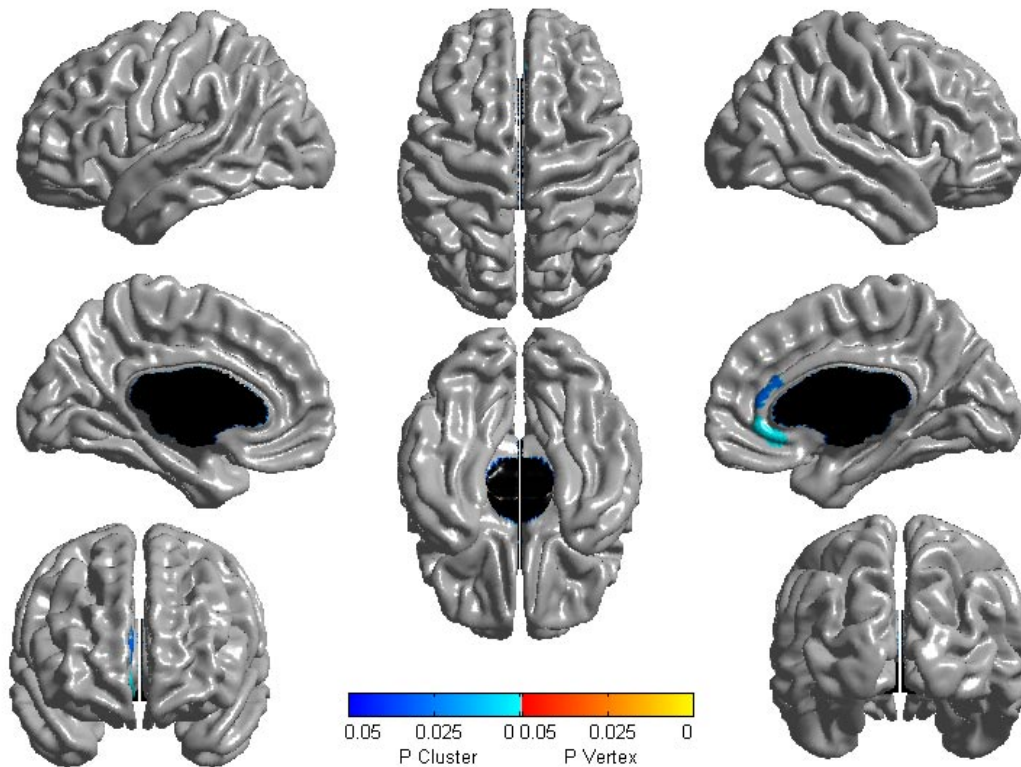


Figure S1. Brain areas where local cortical thickness is negatively associated with CBCL Aggressive Behavior raw scores in a first-order linear model in subjects with AGG scores ≥ 3 ($n = 72$). Random field theory was used to correct for multiple comparisons over the whole cortical mantle. Figure is shown at $p \leq 0.05$, random field theory corrected. Blue areas are significant at the cluster level and red color corresponds to areas significant at the vertex level (none in this figure). Controlled for age, gender, scanner and total brain volume.

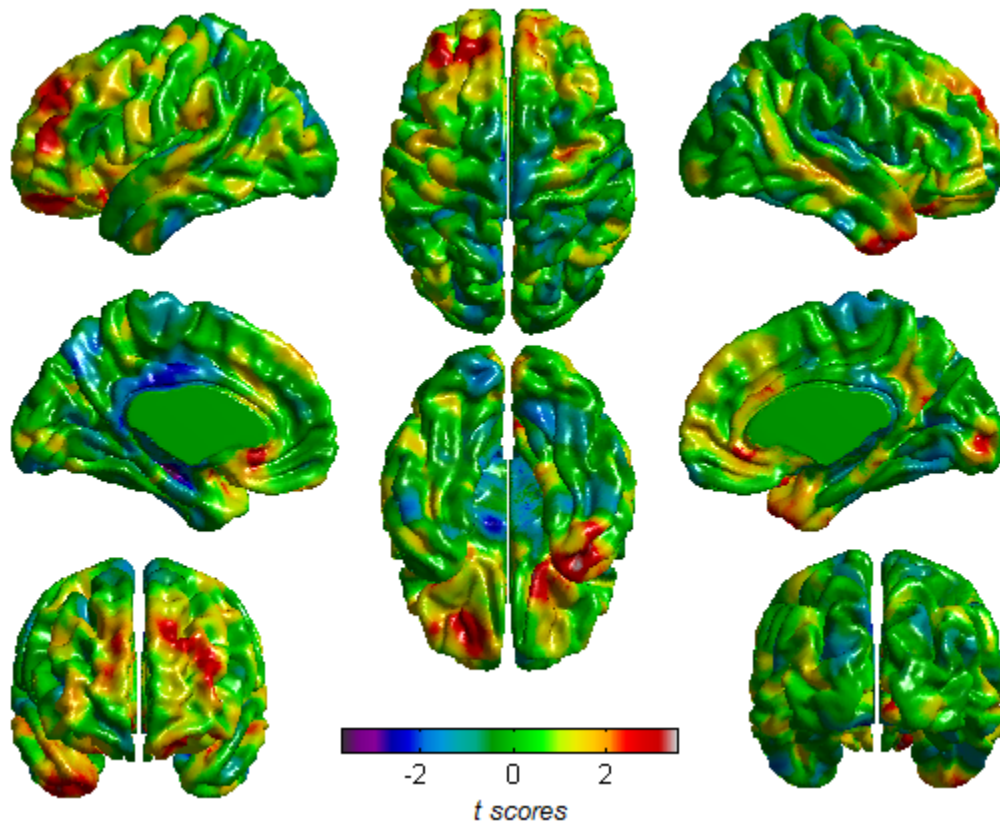


Figure S2. *t* scores map of the ‘gender by CBCL AGG’ interaction (females - males contrast, $df = 182$) against local cortical thickness over the whole sample ($n = 193$). A first-order linear model was used. Controlled for age, gender, scanner and total brain volume.

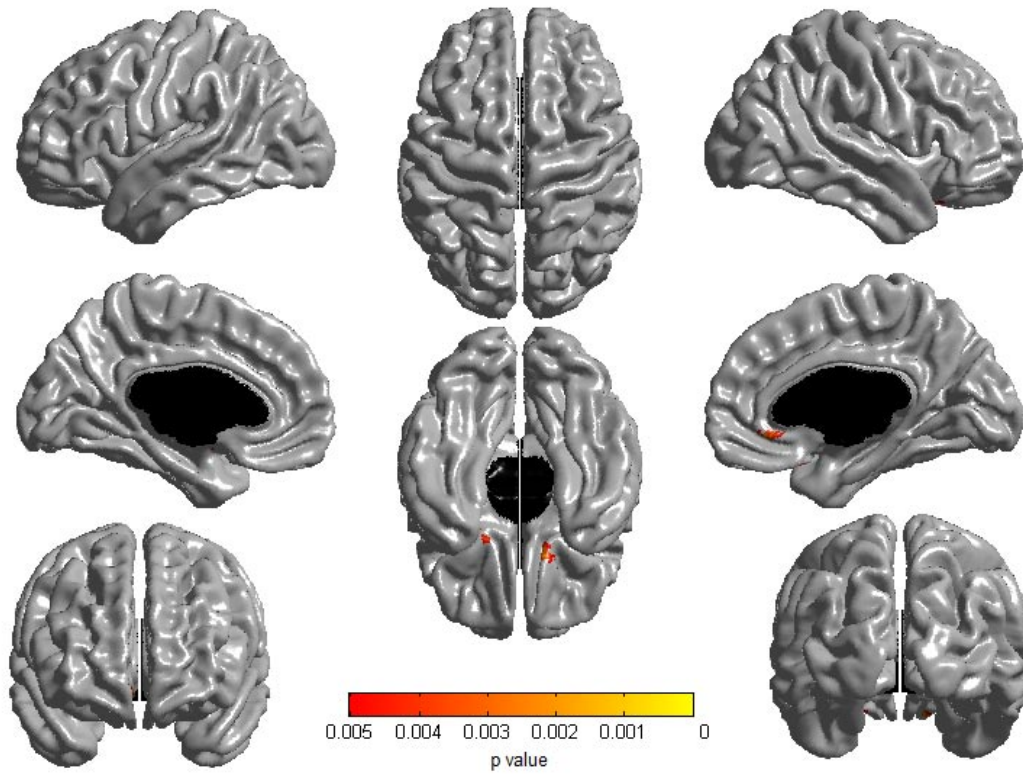


Figure S3. Brain areas where local cortical thickness is negatively associated with CBCL Aggressive Behavior raw scores in a first-order linear model in male subjects only ($n = 88$). Threshold for trends was set at $p = 0.005$ uncorrected for regions of interest (ACC/OFC). Figure is shown at $p \leq 0.005$, uncorrected. Controlled for age, scanner and total brain volume.

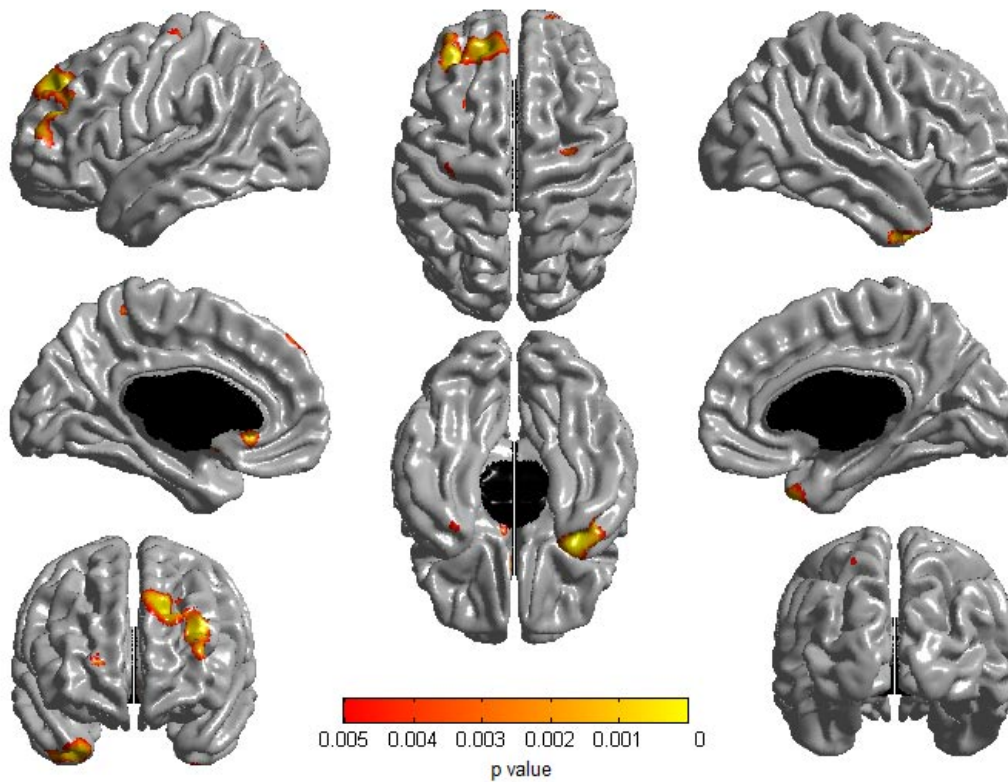


Figure S4. Brain areas where local cortical thickness is positively associated with CBCL Aggressive Behavior raw scores in a first-order linear model in female subjects only ($n = 105$). Threshold for trends was set at $p = 0.005$ uncorrected for regions of interest (ACC/OFC). Figure is shown at $p \leq 0.005$, uncorrected. Associations outside of the regions of interest were not significant after a random field theory correction. Controlled for age, scanner and total brain volume.