The Development of the Neural Substrates of Cognitive Control in Adolescents with Autism Spectrum Disorders

Supplemental Information

Table S1. Between Group Comparisons

Region	Cluster Size	Cluster *p*-value FWE corrected	Voxel *p*-value Uncorrected	Z-score	Talairach coordinates x	y	z
Control							
LH Middle Occipital Gyrus (BA18)[a]	1144	0.00	0.00	5.09	-32	-88	-2
LH Precuneus (BA7)[a]	4868	0.00	0.00	5.06	-10	-60	44
RH Middle Occipital Gyrus (BA18)[a]	514	0.00	0.00	4.43	26	-93	10
RH Middle Temporal Gyrus (BA20)[a]	785	0.00	0.00	4.37	53	-33	-7
LH Precentral Gyrus (BA6)[a]	323	0.01	0.00	3.96	-42	-3	57
RH Cingulate Gyrus (BA32)	2838	0.00	0.00	4.19	12	23	38
LH Middle Frontal Gyrus (BA9)	1147	0.02	0.00	4.06	-36	31	33
LH Posterior Cingulate (BA23)	846	0.06	0.00	3.96	-4	-26	23
RH Superior Frontal Gyrus (BA10)	1520	0.00	0.00	3.85	28	54	-3
LH Superior Temporal Gyrus (BA38)	218	0.94	0.00	3.35	-48	13	-11
LH Calustrum	181	0.98	0.00	3.18	-24	29	-1
LH Middle Frontal Gyrus (BA10)	184	0.97	0.00	3.16	-30	52	-6
Autism							
RH Parahippocampal Gyrus (BA34)	47	1.00	0.00	3.31	14	-3	-13
RH Middle Temporal Gyrus (BA21)	159	0.99	0.00	3.22	55	-1	-13
Brainstem, medulla	71	1.00	0.00	3.10	2	-37	-40
RH Middle Temporal Gyrus (BA21)	38	1.00	0.00	2.91	57	-37	-2
Brainstem, pons	11	1.00	0.00	2.83	-6	-15	-19
RH Hippocampus	23	1.00	0.00	2.81	28	-18	-9
RH Superior Frontal Gyrus (BA9)	19	1.00	0.00	2.76	22	56	29
RH Thalamus, Pulvinar	15	1.00	0.00	2.71	8	-29	7
LH Precentral Gyrus (BA6)	10	1.00	0.00	2.71	-22	-14	71
RH Culmen	24	1.00	0.00	2.66	10	-26	-17

BA, Brodmann area; LH, left hemisphere; RH, right hemisphere.

Regions of activation for red trials minus green trials during the cue phase in controls (n = 27) and patients (n = 27) for T > 2.4 (p = .01). Statistical values are cluster corrected at a family-wise error (FWE) rate of p < .05. Regions were defined using Talairach Daemon and the "Nearest Gray Matter" option (1-3).

[a] These clusters are part of a very large (22117 voxels) cluster at a threshold of p < .01. These are the subclusters that make up that cluster, using a more stringent p < .001 threshold to better localize the activation.

[b] Approximate Talairach coordinates were derived by using a MATLAB function written by Matthew Brett (http://www.imaging.mrc-cbu.cam.ac.uk/downloads/MNI2tal/mni2tal.m) to convert from Montreal Neurological Institute space.

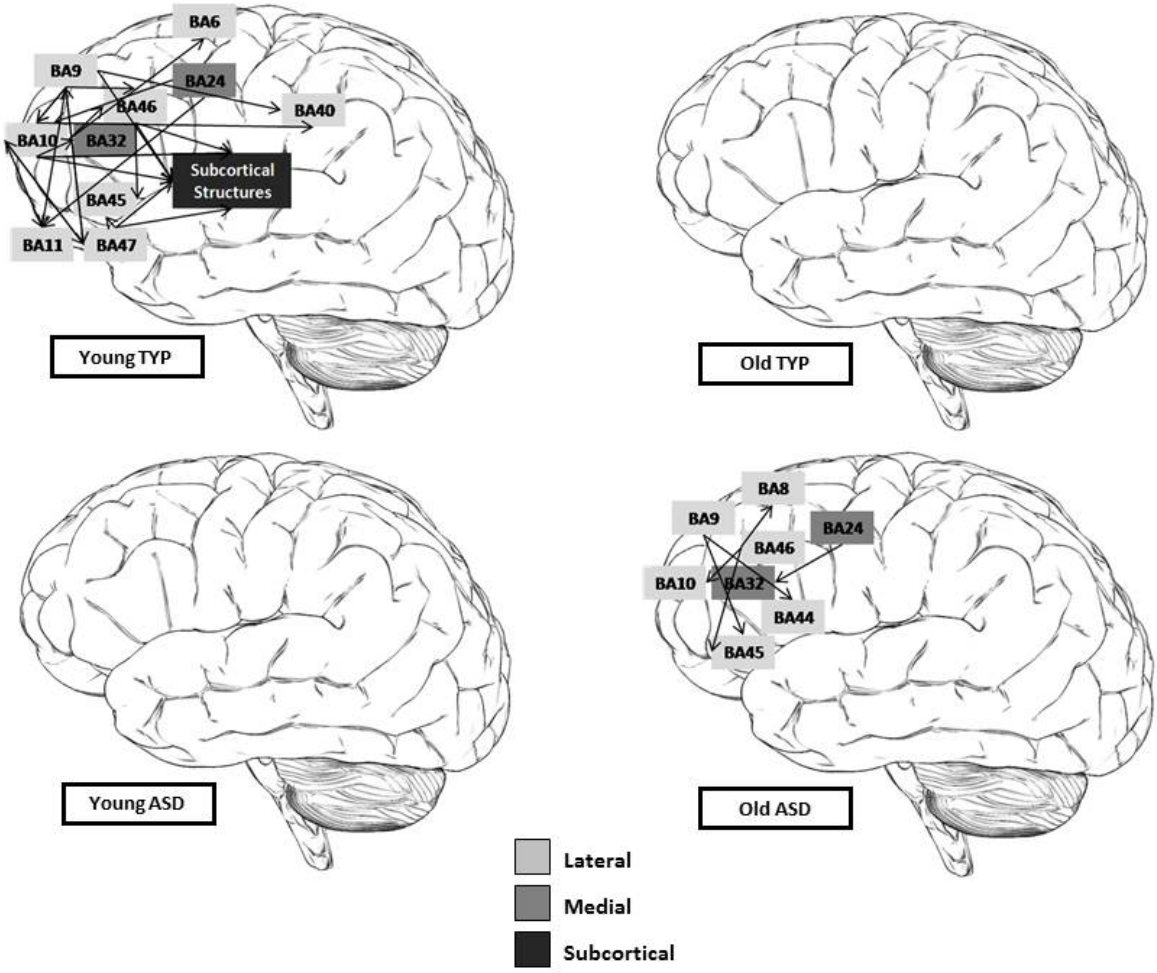

Figure S1. Significant within group functional connectivity in younger and older adolescents with autism spectrum disorder (ASD) and typical development (TYP). BA, Brodmann area.

Supplemental References

1. Lancaster JL, Rainey LH, Summerlin JL, Freitas CS, Fox PT, Evans AC, *et al.* (1997): The Talairach Daemon, a database server for Talairach Atlas Labels. *Neuroimage*. 5:S633.
2. Lancaster JL, Woldorff MG, Parsons LM, Liotti M, Freitas CS, Rainey L, *et al.* (2000): Automated Talairach atlas labels for functional brain mapping. *Hum Brain Mapp*. 10:120-131.
3. Maldjian JA, Laurienti PJ, Kraft RA, Burdette JH (2003): An automated method for neuroanatomic and cytoarchitectonic atlas-based interrogation of fMRI data sets. *Neuroimage*. 19:1233-1239.