Mean Foci of Within-Group Activation for Children and Adolescents With ADHD and Healthy Comparison Subjects

Talairach Coordinates			Brain Region	*Brodmann's Area*	*N° of Voxels*
x	**y**	**z**			
Go/no go Task: successful no go trials-oddball trials					
Healthy Comparison Subjects					
-4	63	15	L mesial frontal gyrus	10	16
0	59	-13	mesial frontal gyrus	11	11
51	15	-2	R inferior frontal gyrus	47	47
0	11	31	anterior cingulate gyrus	24	13
22	-7	15	R caudate	n/a	13
-29	-11	-18	L hippocampus	n/a	11
-61	-26	9	L superior temporal gyrus	42	11
4	-59	20	R post cingulate gyrus	23	18
-36	-59	26	L middle temporal gyrus	39	17
-11	-67	26	L precuneus	31	14
ADHD					
14	52	-13	R superior frontal gyrus	11	32
-36	37	4	L inferior frontal gyrus	45	49
-40	7	-18	L superior temporal gyrus	38	20
-7	-41	-24	L cerebellum (anterior lobe)	n/a	9
-43	-59	-24	L cerebellum (tuber)	n/a	7

-33	-70	-35	L cerebellum (semi-lunar lobule)	n/a	13

Stroop Task: successful Stroop trials-congruent trials					
Healthy Comparison Subjects					
-18	63	-7	L superior frontal gyrus	10	6
43	26	31	R middle frontal gyrus	9	15
-43	22	-13	L inferior frontal gyrus	47	10
54	-4	26	R precentral gyrus	6	22
-58	-7	4	L superior temporal gyrus	22	6
54	-15	20	R post central gyrus	43	13
-36	-67	-29	L cerebellum (tuber)	n/a	5
40	-67	-18	R cerebellum (declive)	n/a	12
ADHD					
36	19	15	R inferior frontal gyrus	45	7
54	0	-13	R middle temporal gyrus	21	8
4	-7	15	R thalamus	n/a	23
14	-15	4	R putamen	n/a	15
-29	-22	48	L precentral gyrus	4	6
54	-33	-7	R middle temporal gyrus	21	46
-36	-63	-29	L cerebellum (tuber)	n/a	48

Switch Task: successful Switch trials- Repeat trials					
Healthy Comparison Subjects					
4	-4	42	R anterior cingulate	24	43
-18	-11	20	L caudate	n/a	14
22	-22	9	R putamen	n/a	11
-58	-22	9	L superior temporal gyrus	42	191
40	-33	42	R inferior parietal lobe	40	286
-36	-44	53	L inferior parietal lobe	40	18
36	-48	-2	R middle temporal gyrus	21	120
ADHD					
18	44	-13	R superior frontal gyrus	11	9
-7	33	-7	L anterior cingulate gyrus	32	6
11	-11	42	R anterior cingulate gyrus	32	5
-36	-33	42	L inferior parietal lobe	40	17

Three-Dimensional Clusters of Brain Regions of Increased Activation in Children And Adolescents With ADHD and Healthy Comparison Subjects

Talairach Coordinates			Brain Region	***Brodmann's Area***	***N° of Voxels***
x	y	z			
Healthy>ADHD					
Go/no go Task: successful no go stimuli contrasted with oddball stimuli					
-7	59	-2	rostral mesial prefrontal lobe	9/10/11	33
Stroop Task: successful Stroop contrasted with oddball stimuli: **No significant differences**					
Switch Task: successful Switch contrasted with repeat stimuli					
-61	**-19**	**9**	**L superior temporal gyri**	**22**	**182**
-54	*11*	*4*	*L inferior frontal gyrus*	*44*	
-40	*0*	*20*	*L precentral gyrus*	*6*	
-40	*-19*	*-2*	*L insula*	*n/a*	
-61	*-19*	*9*	*L superior temporal gyrus*	*42*	
43	**-52**	**4**	**R middle temporal gyrus**	**21**	**493**
40	*15*	*15*	*R inferior frontal gyrus*	*44/45*	
43	*-26*	*-2*	R middle temporal gyrus	*21*	
53	*-28*	*28*	*R inferior parietal lobe*	*40*	
58	*-30*	*4*	*R superior temporal gyrus*	*22/42*	
ADHD > Healthy					
No significant differences in any condition					

(For large clusters, Talairach coordinates of significant two-dimensional foci within these clusters are also shown in italics)