

Supplementary Materials for ‘Neural bases of Theory of Mind in children with autism spectrum disorders and children with conduct problems and callous-unemotional traits’.

Supplementary Tables

Supplementary Table 1

Supplementary Table 1: Diagnostic information for the autism spectrum disorder (ASD) group. Abbreviations:

ID	Diagnosis	Observed Characteristics					Parent-Reported Characteristics	
		ADOS Soc <i>Cut-off</i> = 4	ADOS Comm <i>Cut-off</i> = 2	ADOS RRBI	ADOS Total <i>Cut-off</i> = 7	ADOS Classi- fication	Best Instru- ment	Designation
1	Asperger’s syndrome	5	3	2	8	ASD	3Di	ASD (comm only)
2	Autism/Asperger's syndrome	9	6	2	15	Autism	ADI	ASD (soc & comm)
3	Autism/Asperger's syndrome; OCD	13	5	0	18	Autism	SCQ	Above risk cut-off
4	Autism/Asperger's syndrome; dyslexia	12	4	2	16	Autism	3Di	Asperger
5	Asperger's syndrome	6	1	1	7	ASD	ADI	ASD (soc & comm)
6	Autism/Asperger's syndrome	5	2	3	7	ASD	3Di	Asperger
7	Autism	7	2	0	9	ASD	SCQ	Above risk cut-off
8	Autism; dyspraxia	11	4	6	15	Autism	SCQ	Above risk cut-off
9	Autism/Asperger's syndrome	N/A	N/A	N/A	N/A	N/A	3Di	ASD (comm & RRBI)
10	Autism; dyspraxia	8	2	0	10	Autism	3Di	Asperger
11	Autism/Asperger's syndrome	6	1	0	7	ASD	ADI	ASD (soc & comm)
12	Autism/Asperger's syndrome	4	2	4	6	None	3Di	Asperger
13	Asperger's syndrome	6	4	1	10	Autism	SCQ	Above risk cut-off
14	Asperger's syndrome	10	3	1	13	Autism	SCQ	Above risk cut-off
15	Autism; dyslexia	5	2	0	7	ASD	SCQ	Above risk cut-off
16	Autism	10	2	0	12	Autism	SCQ	Above risk cut-off

ADOS = autism diagnostic observational schedule, ADI-R = Autism Diagnostic Interview Revised; SCQ = Social and Communication Questionnaire, soc = social, comm = communication, RRBI= rigid and repetitive behaviours and interests. N/A = Not applicable; OCD = obsessive compulsive disorder. Best available instrument refers to whether a diagnostic interview was available (ADI or 3Di), as opposed to the SCQ questionnaire.

Supplementary Table 2

Brain region	BA	L/R	Peak voxel (MNI)			k	z
			x	y	z		
PC> ToM							
Postcentral Gyrus	3	R	62	-16	28	276	6.97
Precentral Gyrus	44	R	52	10	16	399	6.48
Inferior Frontal Gyrus	9	R	50	6	26		5.54
Inferior Frontal Gyrus	46	R	42	38	12	377	6.40
Inferior Frontal Gyrus	10	R	46	46	0		5.37
Inferior Frontal Gyrus	46	L	-40	38	12	120	5.78
Middle Temporal Gyrus	21	R	64	-44	-8	127	5.50
Lingual Gyrus	18	R	18	-74	-12	114	5.44
Clastrum		L	-38	-2	2	12	5.00
Middle Occipital Gyrus	19	R	50	-56	-10	13	4.76
Middle Frontal Gyrus	11	R	20	32	-14	1	4.75
Postcentral Gyrus	1	L	-62	-18	30	5	4.74
Inferior Frontal Gyrus	46	L	-46	42	4	8	4.68
Precentral Gyrus	44	L	-54	12	10	1	4.64
Lingual Gyrus	18	L	-14	-82	-14	1	4.62
Precentral Gyrus	44	L	-52	10	12	1	4.62

Supplementary Table 2: Whole brain main effects (across group) of the reverse contrast Physical Causality>Theory of Mind (PC>ToM). Results are thresholded at $p < .05$ FWE-corrected at the peak level across the whole brain.

Abbreviations: BA = Brodmann area; k = cluster size.

Supplementary Table 3

Brain Region	BA	L/R	Peak voxel (MNI)			k	z
			x	y	z		
ToM>PC							
TD vs. CP/HCU							
Middle frontal gyrus	9	R	34	18	34	6	3.33
CP/HCU vs. TD							
No suprathreshold voxels							
TD+CP/HCU vs. ASD							
Anterior-rostral medial PFC ext. to anterior cingulate	10	L	-8	60	8	484	3.91
		R	2	54	12		3.83
		L	-12	54	16		3.81
Anterior cingulate	32	R	20	36	14	12	3.69
Brainstem (Midbrain)/ Thalamus		R	4	-26	0	27	3.63
Brainstem (Midbrain)/ Thalamus		L	-4	-32	-4		3.16
Temporal pole	38	R	48	20	-20	16	3.43
Lentiform nucleus/ Putamen		L	-18	10	-14	5	3.35
Thalamus (pulvinar)/ Caudate tail		L	-16	-28	18	7	3.34
Superior frontal gyrus	9	R	4	58	28	19	3.23
Middle frontal gyrus	10	L	-44	50	-2	19	3.21
ASD vs. TD+CP/HCU							
Cingulate gyrus	24	L	-8	-4	28	12	3.44

Supplementary Table 3: Regions showing a Condition x Group interaction for ToM > PC across the whole brain at $p < .005$ uncorrected, $k > 10$. BA = Brodmann area; k = cluster size; TD = typically developing controls; CP/HCU = conduct problem with high callous-unemotional traits; ASD = autism spectrum disorder.