

Table DS1 Characteristics of participants included in the study

Patient	Age at scan, years	Highest completed education, years ^b	IQ ^c				Autism Diagnostic Interview ^a			Handedness ^e
			Total	Verbal	Performance	Diagnosis ^d	Domain A: social	Domain B: communication	Domain C: repetitive behaviour	
1	20	12	101	102	100	AS	11	14	7	Right
2	27	8	96	93	90	AS	20	14	11	Right
3	29	8	102	100	103	AS	15	11	3	Right
4	34	17	119	108	121	AS	10	14	4	Right
5	35	8	104	104	103	HF	21	10	3	Right
6	39	18	127	112	139	AS				Right
7	47	12	109	99	119	HF	16	13	5	Right
8	48	12	92	90	96	AS				Right
9	49	12	110	99	123	HF	20	10	4	Right
10	50	8	111	100	121	AS	12	12	10	Right
All patients, mean (s.d.)	37.8 (7)	11.5 (5)	107 (9)	100 (13)	111 (8)		15.8 (8)	12.3 (6)	5.8 (7)	Right
All controls, mean (s.d.)	38.2 (6); <i>P</i> <0.982	13.8 (3); <i>P</i> <0.877	106 (13); <i>P</i> <0.972	104 (9)	108 (4)	–	–	–	–	Right

Patient, participant with autistic-spectrum disorder; AS, Asperger syndrome; HF, high-functioning autism.
a. Results for eight out of the ten participants.
b. 8 years, primary school; 12 years, secondary school; 14 years, GCSE or equivalent; 15–18 years, A-level or equivalent, ≥18 years, further education.
c. Wechsler Adult Intelligence Scale.
d. According to ICD–10 diagnosis.
e. Handedness of the dominant hand was assessed using a neurological-clinical questionnaire.

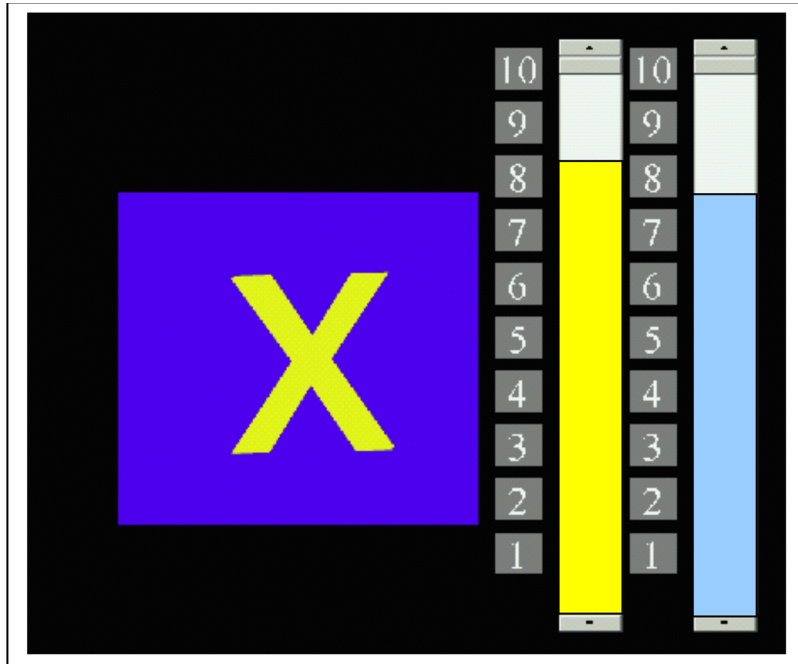


Fig. DS1 Monetary reward feedback. Correct responses to target stimulus X, with monetary reward feedback (numbers are indicating the amount of pound sterling earned for correct answers), are indicated in the left of the two columns in yellow. The right column (blue) indicates correct responses to target stimulus O (not rewarded with money). X and O were randomly used as reward stimuli and non-reward stimuli. X stimuli were rewarded with an average of £7.50 (s.d.=0.60) and O stimuli with £7.40 (s.d.=0.60). Individuals with autistic-spectrum disorder achieved a monetary reward of, on average, £7.50 (s.d.=0.40) and control individuals £7.20 (s.d.=0.30) per trial. All individuals were given £8.00 after completion of the task. This figure is an example of the Maudsley Attention and Response Scale (functional MRI) stimulus presentation it does not show the original colour scheme.

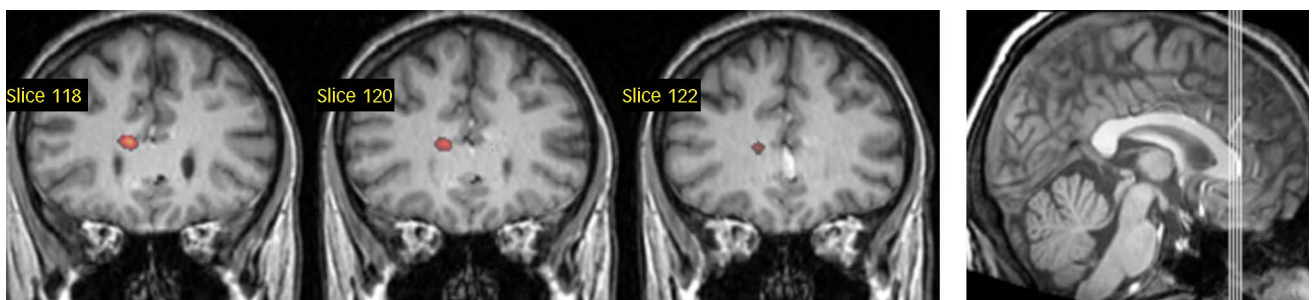


Fig. DS2 Reduced frontal lobe white matter density in individuals with autistic-spectrum disorder compared with control individuals. Coronal display of significantly ($P < 0.05$, corrected for multiple comparisons; Talairach and Tournoux coordinates $-8, 31, 3$; z-value 5.45; cluster size 13 voxels) reduced white matter density (red) in the left periventricular white matter (frontal lobe).