

Supplementary material

Table S1. Correlations between total IQ and measures of autistic traits and symptoms.

	WS		Autism		ADHD	
	(N=24)		(N=24)		(N=24)	
	<i>r_s</i>	<i>p</i>	<i>r_s</i>	<i>p</i>	<i>r_s</i>	<i>p</i>
ADI-R current						
A Social	-.073	.733	-.519	.011	-.346	.097
B Communication	-.328	.118	-.244	.262	-.383	.065
C RRB	-.302	.152	-.066	.763	-.113	.600
ADOS-2						
Social Affect	-.202	.345	-.007	.975	-.196	.359
RRB	-.455	.026	.533	.011	-.032	.353
Severity	-.343	1.00	.141	.533	-.092	.149
SRS-2						
Total	-.177	.409	-.337	.116	-.561	.004

Note: Bold typeface indicate p<.05.

Table S2. Autistic symptoms during development vs current on ADI-R items in the WS group

	WS sample (n=24)						Wilcoxon Z	p
ADI-R items ^a	During development			Adolescence/Adulthood				
Coding ^b	0	1	≥ 2	0	1	≥ 2		
A1: Failure to use nonverbal behaviour to regulate social interaction								
Social smiling	75%	21%	4%	75%	21%	4%	0	1.000
Range of facial expression	83%	13%	4%	80%	21%	0	0	1.000
A2: Lack of shared enjoyment								
Showing and directing attention	46%	4%	50%	42%	33%	25%	1.311	.190
Offering to share	54%	25%	21%	38%	25%	38%	2.271	.023
Seeking to share enjoyment with others	58%	21%	21%	58%	29%	13%	1.000	.317
A3: Lack of socioemotional reciprocity								
Use of other's body to communicate	100%	0%	0%	100%	0%	0%	0	1.000
Offering comfort	58%	33%	8%	67%	33%	0%	1.414	.157
Quality of social overtures	58%	38%	4%	80%	21%	0%	2.121	.034
Inappropriate facial expression	83%	8%	8%	88%	8%	4%	1.000	.317
Appropriateness of social responses	75%	13%	13%	79%	13%	8%	1.000	.317
B1: Lack of, or delay in, spoken language and failure to compensate through gestures								
Pointing to express interest	71%	21%	8%	67%	21%	13%	.816	.414
Nodding	67%	17%	17%	58%	21%	21%	1.000	.317
Head shaking	79%	4%	17%	62%	17%	21%	1.890	.059
Conventional/instrumental gestures	63%	25%	13%	63%	21%	17%	.447	.655
B2: Relative failure to initiate or sustain conversational interchange								
Social verbalization/chat	54%	21%	25%	54%	21%	25%	0	1.000
Reciprocal conversation	46%	25%	29%	46%	25%	29%	0	1.000
Stereotyped, repetitive, or idiosyncratic speech								
Stereotyped utterances	78%	13%	9%	83%	9%	9%	1.000	.317
Inappropriate questions	33%	46%	21%	46%	46%	8%	1.897	.058
Pronominal reversal	88%	13%	0%	92%	4%	4%	.000	1.000
Neologisms/idiosyncratic language	96%	4%	0%	96%	4%	0%	.000	1.000
C1: Encompassing preoccupation or circumscribed pattern of interest								
Unusual preoccupations	54%	38%	8%	58%	38%	4%	1.000	.317
Circumscribed interests	79%	13%	8%	79%	13%	8%	0	1.000
C2: Apparently compulsive adherence to non-functional routines or rituals								
Verbal rituals	96%	0%	4%	96%	0%	4%	0	1.000
Compulsions/rituals	63%	25%	13%	63%	21%	17%	1.000	.317
C3: Stereotyped and repetitive motor mannerisms								
Hand and finger mannerisms	63%	25%	13%	75%	21%	4%	-1.890	.059
Other complex mannerisms/ stereotyped body movements	67%	21%	13%	79%	13%	8%	-1.633	.102
C4: Preoccupations with part of objects or non-functional elements of materials								
Repetitive use of objects/interests in parts of objects	50%	29%	21%	67%	17%	17%	1.667	.096
Unusual sensory interests	63%	29%	8%	71%	29%	0%	1.633	.102

a. The items are based on the current algorithm for individuals age >10 years since only one participant were of age under 10 years.

b. 0=Behaviour was not present, 1=Behaviour was present in an abnormal form (or "lack of behaviour"), but not sufficiently severe, frequent, or marked to meet the criteria for "2", 2/3=Definite abnormality of the type specified

Note: Bold typeface indicate p<.05.

Table S3. Autistic symptoms during development vs current on ADI-R items in the i-autism group

	i-autism (n=24)						Wilcoxon Z	p
ADI-R items	During development			Adolescence/Adulthood				
Coding ^a	0	1	≥ 2	0	1	≥ 2		
A1: Failure to use nonverbal behaviour to regulate social interaction								
Social smiling	58%	21%	21%	44%	39%	17%	-.905	.366
Range of facial expression	58%	13%	29%	58%	29%	13%	-1.100	.271
A2: Lack of shared enjoyment								
Showing and directing attention	63%	17%	21%	79%	13%	8%	-1.413	.158
Offering to share	50%	17%	33%	71%	17%	13%	-2.226	.026
Seeking to share enjoyment with others	54%	25%	21%	54%	38%	8%	-1.000	.317
A3: Lack of socioemotional reciprocity								
Use of other's body to communicate	88%	13%	0%	96%	4%	0%	-1.633	.102
Offering comfort	42%	25%	33%	58%	21%	21%	-1.811	.070
Quality of social overtures	50%	33%	17%	65%	30%	4%	-2.333	.020
Inappropriate facial expression	71%	25%	4%	75%	21%	4%	-.272	.785
Appropriateness of social responses	42%	25%	33%	54%	33%	13%	-1.710	.087
B1: Lack of, or delay in, spoken language and failure to compensate through gestures								
Pointing to express interest	63%	25%	13%	67%	21%	13%	-.302	.763
Nodding	75%	17%	8%	83%	17%	0%	-1.300	.194
Head shaking	71%	21%	8%	83%	13%	4%	-1.300	.194
Conventional/instrumental gestures	63%	8%	29%	58%	25%	17%	-.632	.527
B2: Relative failure to initiate or sustain conversational interchange								
Social verbalization/chat	17%	38%	46%	29%	33%	38%	-1.890	.059
Reciprocal conversation	25%	38%	38%	38%	38%	25%	-2.121	.034
Stereotyped, repetitive, or idiosyncratic speech								
Stereotyped utterances	58%	25%	17%	67%	17%	17%	-1.414	.157
Inappropriate questions	63%	25%	13%	75%	25%	0%	-1.730	.084
Pronominal reversal	79%	8%	13%	92%	4%	4%	-1.633	.102
Neologisms/idiosyncratic language	79%	13%	8%	96%	4%	0%	-1.857	.063
C1: Encompassing preoccupation or circumscribed pattern of interest								
Unusal preoccupations	88%	13%	0%	21%	8%	0%	-1.000	.317
Circumscribed interests	38%	25%	38%	39%	30%	30%	-1.732	.083
C2: Apparently compulsive adherence to non-functional routines or rituals								
Verbal rituals	83%	13%	4%	88%	8%	4%	-1.000	.317
Compulsions/rituals	50%	13%	38%	58%	13%	29%	-1.633	.102
C3: Stereotyped and repetitive motor mannerisms								
Hand and finger mannerisms	83%	17%	0%	88%	4%	8%	-1.089	.276
Other complex mannerisms/ stereotyped body movements	79%	21%	0%	89%	17%	0%	-1.000	.317
C4: Preoccupations with part of objects or non-functional elements of materials								
Repetitive use of objects/interests in parts of objects	75%	17%	8%	79%	21%	0%	-1.732b	.083
Unusual sensory interests	83%	13%	4%	83%	13%	4%	0	1.000

- a. 0=Behaviour was not present, 1=Behaviour was present in an abnormal form (or "lack of behaviour"), but not sufficiently severe, frequent, or marked to meet the criteria for "2", 2/3=Definite abnormality of the type specified.
Note: Bold typeface indicate p<.05.

Table S4. Autistic symptoms during development vs current on ADI-R items in the i-ADHD group

	i-ADHD (n=24)						Wilcoxon Z	p
ADI-R items	During development			Adolescence/Adulthood				
Coding ^a	0	%1	≥ 2	0	1	≥ 2		
A1: Failure to use nonverbal behaviour to regulate social interaction								
Social smiling	88%	13%	0%	83%	13%	4%	-1.414	.157
Range of facial expression	100%	0%	0%	92%	8%	0%	-1.414	.157
A2: Lack of shared enjoyment								
Showing and directing attention	100%	0%	0%	92%	8%	0%	-1.414	.157
Offering to share	67%	13%	21%	83%	4%	13%	-1.656	.098
Seeking to share enjoyment with others	100%	0%	0%	100%	0%	0%	0	1.000
A3: Lack of socioemotional reciprocity								
Use of other's body to communicate	96%	4%	0%	88%	13%	0%	-1.000	.317
Offering comfort	88%	13%	0%	88%	13%	0%	0	1.000
Quality of social overtures	92%	8%	0%	92%	8%	0%	0	1.000
Inappropriate facial expression	88%	13%	0%	83%	17%	0%	-.577	.564
Appropriateness of social responses	88%	13%	0%	92%	8%	0%	-.577	.564
B1: Lack of, or delay in, spoken language and failure to compensate through gestures								
Pointing to express interest	88%	8%	4%	96%	4%	0%	-1.342	.180
Nodding	96%	4%	0%	92%	4%	4%	-1.000	.317
Head shaking	96%	4%	0%	88%	8%	4%	-1.414	.157
Conventional/instrumental gestures	96%	4%	0%	88%	13%	0%	-.577	.564
B2: Relative failure to initiate or sustain conversational interchange								
Social verbalization/chat	79%	13%	8%	75%	21%	4%	0	1.000
Reciprocal conversation	88%	8%	4%	88%	8%	4%	0	1.000
Stereotyped, repetitive, or idiosyncratic speech								
Stereotyped utterances	88%	13%	0%	88%	13%	0%	.000	1.000
Inappropriate questions	79%	17%	4%	100%	0%	0%	-1.732	.083
Pronominal reversal	88%	8%	4%	100%	0%	0%	-1.633	.102
Neologisms/idiosyncratic language	75%	21%	4%	100%	0%	0%	-2.333	.020
C1: Encompassing preoccupation or circumscribed pattern of interest								
Unusual preoccupations	92%	8%	0%	96%	4%	0%	-1.000	.317
Circumscribed interests	79%	17%	4%	88%	8%	4%	-1.414	.157
C2: Apparently compulsive adherence to non-functional routines or rituals								
Verbal rituals	100%	0%	0%	100%	0%	0%	0	1.000
Compulsions/rituals	88%	4%	8%	92%	8%	0%	-1.000	.317
C3: Stereotyped and repetitive motor mannerisms								
Hand and finger mannerisms	100%	0%	0%	100%	0%	0%	0	1.000
Other complex mannerisms/ stereotyped body movements	100%	0%	0%	100%	0%	0%	0	1.000
C4: Preoccupations with part of objects or non-functional elements of materials								
Repetitive use of objects/interests in parts of objects	92%	8%	0%	100%	0%	0%	-1.414	.157
Unusual sensory interests	88%	13%	0%	83%	17%	0%	-.577	.564

a. 0=Behaviour was not present, 1=Behaviour was present in an abnormal form (or "lack of behaviour"), but not sufficiently severe, frequent, or marked to meet the criteria for "2", 2/3=Definite abnormality of the type specified.

Table S5. Observed and parent-reported autistic traits and symptoms on item level

Item	WS (N=24)			Autism (N=24)			ADHD (N=24)			Mean total IQ (n=72)			Kruskal-Wallis χ^2 (df=2)	p	Post hoc pairwise comparisons ^e		
Answering alternatives	0	1	≥ 2	0	1	≥ 2	0	1	≥ 2	0	1	≥ 2			Autism - WS	WS> ADHD	Autism> ADHD
Observed impairments (ADOS-2)																	
Eye contact. ^{a,b}	95%	-	5%	45%	-	55%	90%	-	11%	82	-	88	16.233	<.001	+		+
															Autism>WS		
Quality social overtures ^a	71%	29%	0%	26%	70%	4%	65%	35%	0%	78	88	88	11.554	.003	+		+
															Autism>WS		
Amount social overtures ^a	83%	17%	0%	35%	44%	17%	88%	13%	0%	80	88	90	20.334	<.001	+		+
															Autism>WS		
Parent reported impairments (SRS-2, ADI-R Current)																	
Eye contact, 4-5 years.	71%	21%	8%	42%	33%	25%	92%	4%	4%	83	81	79	13.575	.001	+		+
															Autism>WS		
Does not recognise when others try to take advantage of him or her.	8%	25%	67%	33%	25%	42%	46%	29%	25%	97	81	73	13.915	<.001		+	
Understand the meaning of other people’s tone or voice and facial expressions. ^d	29%	38%	33%	8%	25%	67%	38%	42%	21%	76	83	82	12.821	.002	+		+
															Autism>WS		
Awareness of standing to close to someone ^a	13%	25%	63%	17%	38%	46%	50%	21%	29%	91	83	77	8.465	.015		+	
Inappropriate questions or statements. ^a	46%	46%	8%	75%	25%	0%	88%	13%	0%	87	76	48	10.871	.004	+	+	
															Autism<WS		
Quality of social overtures. ^a	79%	21%	0%	65%	30%	4%	92%	8%	0%	85	70	63	5.054	.080	-	-	-
Social disinhibition. ^a	46%	36%	18%	46%	29%	25%	63%	33%	4%	86	81	79	2.960	.228	-	-	-

a. ADOS-2/ADI-R: Higher values implies more impairments (e.g.,0=Behaviour was not present, 3=Definite atypicality of the type specified).

b. Only 0 and 2 are available as scoring options on this item. ^c SRS-2: Higher values implies more impairments (e.g. 0=Not true, 3=Almost always true), ^d For descriptive purpose, the item has been reversed. + = significant difference. Abbreviations: ADI-R=Autism Diagnostic Interview-Revised, ADOS-2=autism diagnostic observation scale, 2nd Edition, SRS-2=Social Responsiveness Scale, 2nd edition, WS=Williams syndrome, ADHD=Attention Deficit/Hyperactivity-Disorder.