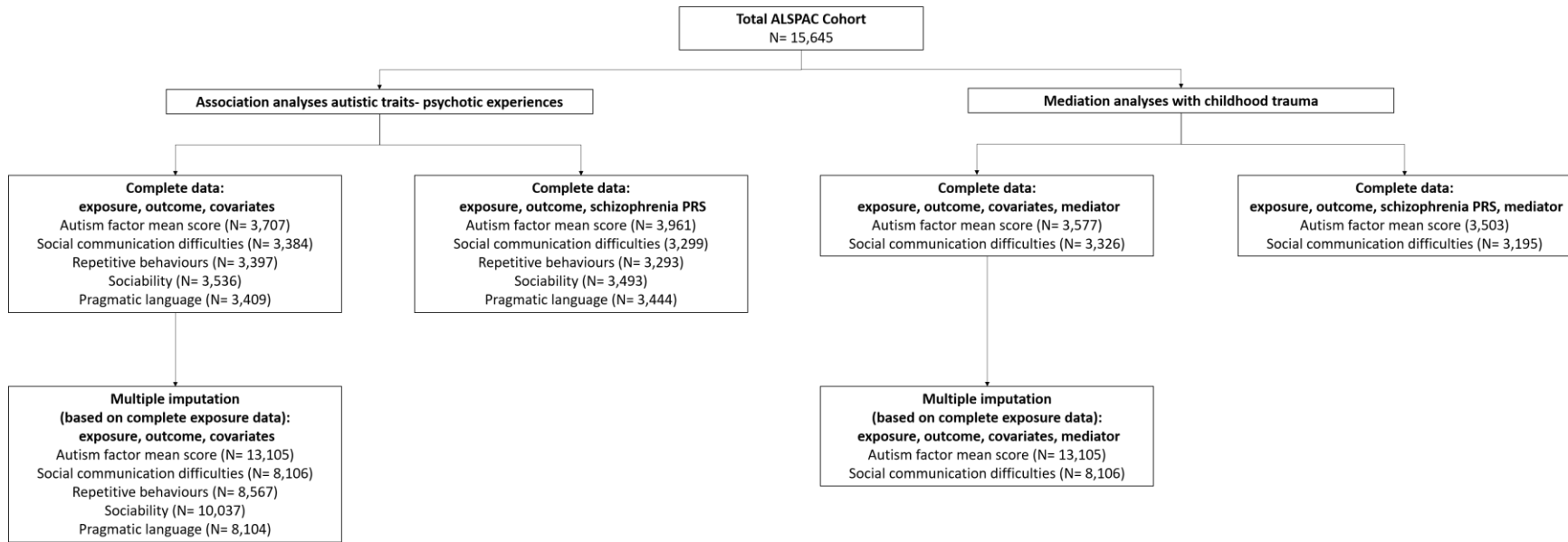


## Supplementary Material

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**Supplementary Figure 1.** Available sample sizes for the primary analyses.



**Supplementary Methods 1.** Schizophrenia polygenic risk score (PRS) calculation.

PRSs were calculated using PLINK version 1.9, applying the method described by the Psychiatric Genomics Consortium<sup>1</sup>.

A total of 9,912 ALSPAC children were genotyped on the Illumina HumanHap550-quad. After standard quality control (details on quality control in the ALSPAC cohort can be found elsewhere<sup>2</sup>) and excluding participants who had withdrawn consent, genetic data were available for 7,977 children of European ancestry.

Using the latest European ancestry genome-wide association study (GWAS) summary data for schizophrenia<sup>1</sup> as discovery sample, we extracted single nucleotide polymorphisms (SNPs), corresponding alleles, effect sizes and *p*-values. SNPs with mismatching alleles between the discovery and the ALSPAC genotyped sample were removed. We additionally removed the MHC region (25 Mb – 34 Mb), except for one SNP representing the strongest signal within the region. Using ALSPAC data as reference panel, SNPs were clumped with an  $r^2$  of 0.25 and a physical distance threshold of 500 kB.

We calculated PRS for each participant across 13 *p*-value thresholds (5e-8 to 0.5), standardized by subtracting the mean and dividing by the standard deviation.

**Supplementary Methods 2.** Auxiliary variables used for multiple imputation.

Following guidelines detailed in Lee et al.<sup>3</sup>, in our imputation models we included exposure, outcome, mediator, confounders and three auxiliary variables. The decision was based not only on their potential associations with exposure, outcome, mediator, confounders, but also on their completeness. Specifically:

- (1) Maternal marital status: assessed via questionnaire during 8 weeks of gestation. The measure was available in 13,545 mothers (13% missingness).
- (2) Home ownership status: assessed via questionnaire during 8 weeks of gestation. The measure was available in 13,487 mothers (14% missingness).
- (3) Crowding index: assessed via questionnaire during 8 weeks of gestation and defined as the proportion of people per room. The measure was available in 13,247 mothers (15% missingness).

**Supplementary Table 1.** Associations between autistic traits and childhood traumatic experiences<sup>1</sup>.

Exposure	<i>n</i>	Traumatic experiences between ages 5-11			
		Unadjusted		Adjusted <sup>2</sup>	
		OR (95% CIs)	<i>p</i> -value	OR (95% CIs)	<i>p</i> -value
Autism mean factor score	5,438	1.41 (1.32–1.50)	<0.001	1.28 (1.20–1.38)	<0.001
Social communication difficulties	4,959	2.54 (2.08–3.11)	<0.001	2.20 (1.79–2.70)	<0.001
Repetitive behaviours	5,036	1.57 (1.25–1.98)	<0.001	1.35 (1.07–1.71)	0.013
Sociability	5,210	0.97 (0.82–1.16)	0.76	0.93 (0.78–1.11)	0.415
Pragmatic language	4,946	1.82 (1.50–2.22)	<0.001	1.57 (1.28–1.92)	<0.001

OR, odds ratio; CI, confidence interval.

<sup>1</sup> Estimates based on observations with complete data on exposure, confounders, and childhood trauma.

<sup>2</sup> Adjusted for the following confounders: child sex, parity, major financial problems, maternal highest educational attainment, maternal anxiety, maternal depression, and child IQ.

**Supplementary Table 2.** Prevalence of traumatic experiences by autism factor mean score, social communication difficulties, and psychotic experiences for each sample used in the mediation analyses.

Variable	Complete records <sup>1</sup> <i>n</i> = 3,577				Complete records <sup>1</sup> <i>n</i> = 3,326			
	Exposure:		Outcome:		Exposure:		Outcome:	
	Autism factor mean score <sup>2</sup>	Psychotic experiences	Social communication difficulties	Psychotic experiences	No <sup>3</sup>	Yes <sup>4</sup>	No <sup>5</sup>	Yes <sup>6</sup>
	No <sup>3</sup>	Yes <sup>4</sup>	No <sup>5</sup>	Yes <sup>6</sup>	No <sup>3</sup>	Yes <sup>4</sup>	No <sup>5</sup>	Yes <sup>6</sup>
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Experienced childhood trauma between ages 5-11 years	1,288 (38.83%)	160 (61.54%)	1,220 (38.77%)	228 (53.02%)	1,154 (37.66%)	168 (64.12%)	1,118 (38.17%)	204 (51.39%)
Did not experience childhood trauma between ages 5-11 years	2,029 (61.17%)	100 (38.46%)	1,927 (61.23%)	202 (46.98%)	1,910 (62.34%)	94 (35.88%)	1,811 (61.83%)	193 (48.61%)

<sup>1</sup> Sample with complete data on exposure, mediator, confounders, and outcome.

<sup>2</sup> The measure was dichotomised for the purposes of sample descriptive statistics.

<sup>3</sup> Child has score in the lower 90<sup>th</sup> percentile.

<sup>4</sup> Child has score in the upper decile.

<sup>5</sup> Psychotic experiences not present until age 24.

<sup>6</sup> Psychotic experiences present until age 24.

**Supplementary Table 3.** Summary of the characteristics for the sample with complete records across each analysis and the ALSPAC sample.

Variable	Exposure in each analysis					Full sample <sup>2</sup> <i>n</i> = 14,868
	Autism factor mean score	Social communication difficulties	Repetitive behaviours	Sociability	Pragmatic language	
	Complete records <sup>1</sup> <i>n</i> = 3,707	Complete records <sup>1</sup> <i>n</i> = 3,384	Complete records <sup>1</sup> <i>n</i> = 3,397	Complete records <sup>1</sup> <i>n</i> = 3,536	Complete records <sup>1</sup> <i>n</i> = 3,409	
Male sex, <i>n</i> (%)	1,649 (44%)	1,514 (45%)	1,529 (45%)	1,589 (45%)	1,518 (45%)	7,591 (51%)
Parity (<=1 child), <i>n</i> (%)	3,138 (85%)	2,861 (85%)	2,880 (85%)	3,000 (85%)	2,891 (85%)	10,295 (80%)
Maternal educational attainment (university degree), <i>n</i> (%)	761 (21%)	726 (21%)	711 (21%)	730 (21%)	723 (21%)	1,598 (13%)
Major financial problems (present), <i>n</i> (%)	462 (12%)	406 (12%)	404 (12%)	437 (12%)	411 (12%)	1,665 (15%)
Maternal depression during pregnancy (EPDS >= 12), <i>n</i> (%)	468 (13%)	410 (12%)	420 (12%)	439 (12%)	426 (13%)	2,122 (18%)
Mother's age at delivery, mean (SD)	30 (4.4)	30 (4.3)	30 (4.4)	30 (4.4)	30 (4.4)	28 (4.9)
Maternal anxiety during pregnancy, mean (SD)	4.5 (3.3)	4.5 (3.3)	4.5 (3.3)	4.5 (3.3)	4.5 (3.3)	4.9 (3.6)
Total IQ score (WISC-III), mean (SD)	107 (16.1)	108 (15.9)	108 (16.0)	108 (16.0)	108 (16.1)	104 (16.5)
Psychotic experiences until 24, <i>n</i> (%)	448 (12%)	404 (12%)	411 (12%)	429 (12%)	408 (12%)	770 (13%)
Traumatic experiences 5-11 years, <i>n</i> (%)	1,448 (40%)	1,322 (40%)	1,346 (40%)	1,382 (40%)	1,334 (40%)	3,658 (42%)
Autism factor mean score, <i>n</i> (%) <sup>3</sup>	268 (7%)	234 (7%)	241 (7%)	251 (7%)	249 (7%)	1,309 (10%)

SD, standard deviation; EPDS, Edinburgh Postnatal Depression Scale; IQ, Intelligence Quotient; WISC-III, Wechsler Intelligence Scale for Children third edition.

<sup>1</sup> Sample with complete data on exposure, outcome, confounders.

<sup>2</sup> ALSPAC children alive at 1 year and not withdrawn consent. Different completion rates across each variable.

<sup>3</sup> The measure was dichotomised (worst 10<sup>th</sup> percentile) for the purposes of sample descriptive statistics.

**Supplementary Table 4.** Predictors of being a complete case<sup>1</sup> across each analysis.

Predictor variable	Exposure in each analysis									
	Autism factor mean score		Social communication difficulties		Repetitive behaviours		Sociability		Pragmatic language	
	OR (95% CIs)	<i>p</i> -value	OR (95% CIs)	<i>p</i> -value	OR (95% CIs)	<i>p</i> -value	OR (95% CIs)	<i>p</i> -value	OR (95% CIs)	<i>p</i> -value
Sex (female)	1.42 (1.32–1.53)	<0.001	1.39 (1.29–1.5)	<0.001	1.37 (1.27–1.48)	<0.001	1.38 (1.28–1.49)	<0.001	1.41 (1.30–1.52)	<0.001
Parity (>1 child)	0.63 (0.57–0.70)	<0.001	0.65 (0.58–0.72)	<0.001	0.63 (0.57–0.70)	<0.001	0.63 (0.56–0.69)	<0.001	0.63 (0.57–0.70)	<0.001
Maternal educational attainment (university degree)	2.42 (2.18–2.70)	<0.001	2.54 (2.28–2.83)	<0.001	2.42 (2.17–2.69)	<0.001	2.39 (2.15–2.66)	<0.001	2.49 (2.24–2.77)	<0.001
Major financial problems (present)	0.76 (0.67–0.85)	<0.001	0.72 (0.64–0.81)	<0.001	0.71 (0.63–0.80)	<0.001	0.75 (0.67–0.84)	<0.001	0.73 (0.64–0.82)	<0.001
Maternal depression during pregnancy (EPDS $\geq$ 12)	0.58 (0.52–0.64)	<0.001	0.55 (0.49–0.62)	<0.001	0.56 (0.50–0.63)	<0.001	0.56 (0.50–0.63)	<0.001	0.57 (0.51–0.64)	<0.001
Psychotic experiences until 24 (present)	0.75 (0.64–0.87)	<0.001	0.75 (0.64–0.87)	<0.001	0.78 (0.67–0.90)	0.001	0.77 (0.66–0.90)	0.001	0.75 (0.65–0.88)	<0.001
Traumatic experiences 5-11 years	0.89 (0.82–0.97)	0.01	0.85 (0.78–0.93)	<0.001	0.87 (0.79–0.95)	0.002	0.87 (0.79–0.94)	0.001	0.86 (0.79–0.94)	0.001
Autism factor mean score (above worst 10 <sup>th</sup> percentile) <sup>2</sup>	0.62 (0.54–0.72)	<0.001	0.59 (0.51–0.69)	<0.001	0.62 (0.53–0.71)	<0.001	0.61 (0.53–0.71)	<0.001	0.64 (0.55–0.74)	<0.001
Mother's age at delivery (per year increase)	1.10 (1.09–1.11)	<0.001	1.11 (1.09–1.12)	<0.001	1.10 (1.10–1.11)	<0.001	1.10 (1.09–1.11)	<0.001	1.10 (1.10–1.11)	<0.001
Maternal anxiety during pregnancy, (per point increase)	0.95 (0.94–0.96)	<0.001	0.95 (0.94–0.96)	<0.001	0.95 (0.94–0.96)	<0.001	0.95 (0.94–0.96)	<0.001	0.95 (0.94–0.96)	<0.001
Total IQ score (WISC-III), (per point increase)	1.03 (1.02–1.03)	<0.001	1.03 (1.02–1.03)	<0.001	1.03 (1.02–1.03)	<0.001	1.03 (1.02–1.03)	<0.001	1.03 (1.02–1.03)	<0.001

<sup>1</sup> Sample with complete data on exposure, outcome, and confounders.

<sup>2</sup> The measure was dichotomised (worst 10<sup>th</sup> percentile) for the purposes of sample descriptive statistics.



**Supplementary Table 5.** Association between autistic traits and psychotic experiences, adjusted for schizophrenia polygenic risk scores (PRS)<sup>1</sup>.

Exposure	<i>n</i>	Including tactile hallucinations								Excluding tactile hallucinations							
		Psychotic experiences at age 18/24				Psychotic experiences at age 18/24, distressing and/or frequent				Psychotic experiences at age 18/24				Psychotic experiences at age 18/24, distressing and/or frequent			
		Unadjusted		Adjusted <sup>2</sup>		Unadjusted		Adjusted <sup>2</sup>		Unadjusted		Adjusted <sup>2</sup>		Unadjusted		Adjusted <sup>2</sup>	
		OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value
Autism factor mean score	3,961	1.10 (0.99–1.22)	0.07	1.10 (0.99–1.21)	0.08	1.15 (1.01–1.32)	0.03	1.15 (1.01–1.32)	0.04	1.14 (1.02–1.26)	0.02	1.13 (1.02–1.26)	0.02	1.17 (1.02–1.33)	0.03	1.17 (1.02–1.33)	0.03
Social communication difficulties	3,299	1.47 (1.04–2.08)	0.03	1.46 (1.03–2.07)	0.03	1.68 (1.07–2.62)	0.02	1.68 (1.07–2.62)	0.02	1.46 (1.01–2.08)	0.05	1.44 (1.00–2.08)	0.05	1.59 (1.00–2.53)	0.05	1.59 (1.00–2.53)	0.05
Repetitive behaviour	3,293	0.80 (0.50–1.29)	0.37	0.80 (0.50–1.29)	0.36	1.00 (0.55–1.82)	0.99	1.00 (0.55–1.83)	0.99	0.85 (0.52–1.39)	0.52	0.85 (0.52–1.39)	0.52	0.96 (0.51–1.79)	0.89	0.96 (0.51–1.80)	0.90
Sociability	3,493	1.13 (0.83–1.54)	0.45	1.13 (0.83–1.54)	0.45	1.18 (0.78–1.79)	0.44	1.18 (0.78–1.79)	0.45	1.09 (0.79–1.51)	0.60	1.09 (0.79–1.51)	0.60	1.03 (0.66–1.61)	0.89	1.03 (0.66–1.61)	0.89
Pragmatic language	3,444	1.12 (0.79–1.59)	0.51	1.12 (0.79–1.58)	0.52	1.43 (0.92–2.21)	0.11	1.43 (0.92–2.21)	0.11	1.23 (0.87–1.75)	0.24	1.23 (0.87–1.75)	0.24	1.52 (0.98–2.35)	0.06	1.52 (0.98–2.35)	0.06

OR, odds ratio; CI, confidence interval.

<sup>1</sup> Estimates based on observations with complete data on exposure, outcome, and schizophrenia polygenic risk scores.

<sup>2</sup> Adjusted for schizophrenia polygenic risk scores.

**Supplementary Table 6.** Associations between autistic traits and psychotic experiences using 100 imputed datasets.

		Including tactile hallucinations								Excluding tactile hallucinations							
		Psychotic experiences at age 18/24				Psychotic experiences at age 18/24, distressing and/or frequent				Psychotic experiences at age 18/24				Psychotic experiences at age 18/24, distressing and/or frequent			
		Unadjusted		Adjusted <sup>1</sup>		Unadjusted		Adjusted <sup>1</sup>		Unadjusted		Adjusted <sup>1</sup>		Unadjusted		Adjusted <sup>1</sup>	
Exposure	<i>n</i>	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value
Autism factor mean score	13,105	1.11 (1.02–1.20)	0.02	1.06 (0.97–1.17)	0.20	1.15 (1.03–1.28)	0.01	1.11 (0.98–1.26)	0.07	1.13 (1.04–1.23)	0.005	1.08 (0.98–1.19)	0.13	1.14 (1.02–1.28)	0.02	1.09 (0.96–1.24)	0.16
Social communication difficulties	8,106	1.42 (1.05–1.92)	0.02	1.32 (0.97–1.08)	0.07	1.73 (1.18–2.54)	0.006	1.62 (1.09–2.41)	0.02	1.46 (1.07–1.99)	0.02	1.33 (0.97–1.83)	0.08	1.69 (1.14–2.51)	0.01	1.57 (1.04–2.37)	0.03
Repetitive behaviour	8,567	1.16 (0.81–1.64)	0.41	1.07 (0.75–1.53)	0.71	1.34 (0.85–2.11)	0.21	1.25 (0.79–2.00)	0.34	1.20 (0.83–1.73)	0.33	1.10 (0.75–1.60)	0.62	1.32 (0.82–2.13)	0.25	1.22 (0.75–2.01)	0.42
Sociability	10,037	1.20 (0.92–1.55)	0.17	1.16 (0.89–1.52)	0.26	1.27 (0.89–1.8)	0.19	1.23 (0.86–1.77)	0.26	1.17 (0.89–1.54)	0.27	1.13 (0.86–1.50)	0.38	1.14 (0.79–1.65)	0.48	1.10 (0.76–1.60)	0.61
Pragmatic language	8,104	1.16 (0.86–1.57)	0.32	1.07 (0.78–1.46)	0.68	1.26 (0.85–1.87)	0.24	1.14 (0.77–1.71)	0.53	1.23 (0.91–1.67)	0.17	1.11 (0.80–1.52)	0.54	1.34 (0.91–1.97)	0.14	1.20 (0.80–1.80)	0.38

OR, odds ratio; CI, confidence interval.

<sup>1</sup> Adjusted for child sex (male/female), parity ( $\leq 1$  child versus  $\geq 2$  children), major financial problems in the family when the child was 8 months old (yes/no), maternal highest educational attainment, maternal age (at delivery), maternal Crown-Crisp anxiety scores (18 weeks gestation), maternal depression measured with the Edinburgh Postnatal Depression Scale (EPDS; 18 weeks gestation scores  $\geq 13$ ), and child IQ scores at age 8 assessed with the Wechsler Intelligence Scale for Children third edition (WISC-III).

**Supplementary Table 7.** Summary of data on psychotic experiences in the sample with complete data on social communication difficulties.

Social communication difficulties	Psychotic experiences at age 18/24			Total
	Without psychotic experiences	With psychotic experiences	Missing data on psychotic experiences	
Without difficulties	3,558	494	3,256	7,308
With difficulties	295	57	446	798
Total	3,853	551	3,702	8,106

**Supplementary Table 8.** Summary of data on psychotic experiences after recoding participants with missing data as having psychotic experiences.

Social communication difficulties	Psychotic experiences at age 18/24		Total
	Without psychotic experiences	With psychotic experiences	
Without difficulties	3,558	3,750	7,308
With difficulties	295	503	798
Total	3,853	4,253	8,106

**Supplementary Table 9.** Summary of data on psychotic experiences in the sample with complete data on autism factor mean score.

Autism factor mean score <sup>1</sup>	Psychotic experiences at age 18/24			Total
	Without psychotic experiences	With psychotic experiences	Missing data on psychotic experiences	
Without difficulties	4,418	645	6,731	11,794
With difficulties	366	76	869	1,311
Total	4,784	721	7,600	13,105

<sup>1</sup> Dichotomised (worst 10th percentile) for the purposes of the sample summary data.

**Supplementary Table 10.** Summary of data on psychotic experiences after recoding participants with missing data as having psychotic experiences.

Autism factor mean score <sup>1</sup>	Psychotic experiences at age 18/24		Total
	Without psychotic experiences	With psychotic experiences	
Without difficulties	4,418	7,376	11,794
With difficulties	366	945	1,311
Total	4,784	8,321	13,105

<sup>1</sup> Dichotomised (worst 10th percentile) for the purposes of the sample summary data.

**Supplementary Table 11.** Associations between social communication difficulties and psychotic experiences in complete case analyses, imputed data analyses and scenario that participants with missing data presented psychotic experiences.

Analysis:	<i>n</i>	Psychotic experiences at age 18/24	
		Unadjusted <sup>1</sup>	Adjusted <sup>2</sup>
		OR (95% CIs)	OR (95% CIs)
Complete case	3,384	1.43 (1.01–2.03)	1.34 (0.94–1.91)
Imputed data	8,106	1.42 (1.05–1.92)	1.32 (0.97–1.08)
Sensitivity analysis <sup>3</sup>	8,106	1.62 (1.39–1.88)	1.24 (1.05–1.45)

<sup>1</sup> Crude analyses.

<sup>2</sup> Analyses adjusted for child sex (male/female), parity ( $\leq 1$  child versus  $\geq 2$  children), major financial problems in the family when the child was 8 months old (yes/no), maternal highest educational attainment, maternal age (at delivery), maternal Crown-Crisp anxiety scores (18 weeks gestation), maternal depression measured with the Edinburgh Postnatal Depression Scale (EPDS; 18 weeks gestation scores  $\geq 13$ ), and child IQ scores at age 8 assessed with the Wechsler Intelligence Scale for Children third edition (WISC-III).

<sup>3</sup> Sensitivity analysis in which all participants with missing data were recoded as having psychotic experiences.

**Supplementary Table 12.** Associations between autism factor mean score with psychotic experiences in complete case analyses, imputed data analyses and scenario that participants with missing data presented psychotic experiences.

Analysis:	<i>n</i>	Psychotic experiences at age 18/24	
		Unadjusted <sup>1</sup>	Adjusted <sup>2</sup>
		OR (95% CIs)	OR (95% CIs)
Complete case	3,707	1.13 (1.02–1.26)	1.09 (0.97–1.23)
Imputed data	13,105	1.11 (1.02–1.20)	1.06 (0.97–1.17)
Sensitivity analysis <sup>3</sup>	13,105	1.27 (1.22–1.32)	1.00 (0.96–1.05)

<sup>1</sup> Crude analyses.

<sup>2</sup> Analyses adjusted for child sex (male/female), parity ( $\leq 1$  child versus  $\geq 2$  children), major financial problems in the family when the child was 8 months old (yes/no), maternal highest educational attainment, maternal age (at delivery), maternal Crown-Crisp anxiety scores (18 weeks gestation), maternal depression measured with the Edinburgh Postnatal Depression Scale (EPDS; 18 weeks gestation scores  $\geq 13$ ), and child IQ scores at age 8 assessed with the Wechsler Intelligence Scale for Children third edition (WISC-III).

<sup>3</sup> Sensitivity analysis in which all participants with missing data were recoded as having psychotic experiences.

**Supplementary Table 13.** Mediation analyses results for the associations between autism factor mean score and social communication difficulties with psychotic experiences, excluding tactile hallucinations.

Estimate	Unadjusted		Adjusted <sup>2</sup>	
	OR (95% CI)	p-value	OR (95% CI)	p-value
<i>Exposure: Autism mean factor score; Outcome: psychotic experiences until age 24 (n = 3,577)</i>				
Natural direct effect	1.11 (0.99–1.24)	0.08	1.07 (0.94–1.22)	0.28
Natural indirect effect	1.06 (1.03–1.08)	<0.001	1.04 (1.02–1.06)	<0.001
Total effect	1.17 (1.04–1.31)	0.01	1.11 (0.98–1.26)	0.11
Proportion mediated	38%		38%	
<i>Exposure: Autism mean factor score; Outcome: psychotic experiences until age 24 distressing/frequent (n = 3,577)</i>				
Natural direct effect	1.12 (0.95–1.33)	0.18	1.10 (0.92–1.33)	0.29
Natural indirect effect	1.07 (1.04–1.10)	<0.001	1.05 (1.02–1.07)	<0.001
Total effect	1.21 (1.01–1.43)	0.03	1.16 (0.96–1.40)	0.12
Proportion mediated	40%		35%	
<i>Exposure: Social communication difficulties; Outcome: psychotic experiences until age 24 (n = 3,326)</i>				
Natural direct effect	1.33 (0.93–1.89)	0.12	1.25 (0.88–1.78)	0.21
Natural indirect effect	1.14 (1.07–1.21)	<0.001	1.10 (1.04–1.17)	0.001
Total effect	1.51 (1.06–2.15)	0.02	1.38 (0.98–1.96)	0.07
Proportion mediated	36%		33%	
<i>Exposure: Social communication difficulties; Outcome: psychotic experiences until age 24 distressing/frequent (n = 3,326)</i>				
Natural direct effect	1.45 (0.92–2.30)	0.11	1.43 (0.90–2.25)	0.13
Natural indirect effect	1.18 (1.09–1.28)	<0.001	1.15 (1.07–1.24)	<0.001
Total effect	1.72 (1.09–2.70)	0.02	1.64 (1.05–2.57)	0.03
Proportion mediated	37%		33%	

OR, odds ratio; CI, confidence interval.

<sup>1</sup> Estimates based on observations with complete data on exposure, mediator, outcome, and confounders.

<sup>2</sup> Adjusted for the following confounders: child sex, parity, major financial problems, maternal highest educational attainment, maternal anxiety, maternal depression, and child IQ.

**Supplementary Table 14.** Mediation analyses results for the associations between autism factor mean score and social communication difficulties with psychotic experiences adjusting for schizophrenia polygenic risk scores (PRS)<sup>1</sup>.

Estimate	Unadjusted		Adjusted <sup>2</sup>		Unadjusted		Adjusted <sup>2</sup>	
	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value	OR (95% CI)	<i>p</i> -value
<i>Exposure: Autism mean factor score; Outcome: psychotic experiences until age 24 (n = 3,503)</i>								
Natural direct effect	1.04 (0.93–1.16)	0.47	1.04 (0.93–1.16)	0.46	1.08 (0.97–1.21)	0.15	1.08 (0.97–1.21)	0.14
Natural indirect effect	1.06 (1.03–1.08)	<0.001	1.06 (1.03–1.08)	<0.001	1.06 (1.04–1.08)	<0.001	1.06 (1.04–1.08)	<0.001
Total effect	1.10 (0.98–1.23)	0.09	1.10 (0.98–1.23)	0.09	1.15 (1.03–1.28)	0.02	1.15 (1.03–1.28)	0.01
Proportion mediated	61%		61%		45%		42%	
<i>Exposure: Autism mean factor score; Outcome: psychotic experiences until age 24 distressing/frequent (n = 3,503)</i>								
Natural direct effect	1.08 (0.93–1.26)	0.33	1.08 (0.93–1.26)	0.30	1.09 (0.93–1.27)	0.27	1.09 (0.94–1.28)	0.25
Natural indirect effect	1.06 (1.03–1.09)	<0.001	1.06 (1.04–1.09)	<0.001	1.06 (1.03–1.09)	<0.001	1.06 (1.03–1.09)	<0.001
Total effect	1.15 (0.98–1.34)	0.08	1.15 (0.98–1.34)	0.07	1.16 (0.99–1.36)	0.06	1.16 (0.99–1.36)	0.06
Proportion mediated	45%		42%		42%		40%	
<i>Exposure: Social communication difficulties; Outcome: psychotic experiences until age 24 (n = 3,195)</i>								
Natural direct effect	1.28 (0.90–1.82)	0.16	1.28 (0.90–1.81)	0.16	1.24 (0.86–1.80)	0.24	1.24 (0.86–1.80)	0.23
Natural indirect effect	1.14 (1.08–1.21)	<0.001	1.14 (1.08–1.21)	<0.001	1.15 (1.08–1.22)	<0.001	1.15 (1.08–1.22)	<0.001
Total effect	1.40 (1.03–2.08)	0.04	1.40 (1.02–2.07)	0.03	1.43 (0.99–2.08)	0.06	1.43 (0.98–2.07)	0.06
Proportion mediated	39%		39%		44%		43%	
<i>Exposure: Social communication difficulties; Outcome: psychotic experiences until age 24 distressing/frequent (n = 3,195)</i>								
Natural direct effect	1.40 (0.88–2.25)	0.16	1.41 (0.88–2.25)	0.15	1.33 (0.82–2.17)	0.25	1.33 (0.82–2.17)	0.24
Natural indirect effect	1.16 (1.08–1.25)	<0.001	1.16 (1.08–1.25)	<0.001	1.16 (1.08–1.25)	<0.001	1.16 (1.08–1.25)	<0.001
Total effect	1.63 (1.02–2.62)	0.04	1.63 (1.02–2.62)	0.04	1.55 (0.94–2.53)	0.08	1.55 (0.94–2.54)	0.08
Proportion mediated	36%		35%		39%		39%	

OR, odds ratio; CI, confidence interval.

<sup>1</sup> Estimates based on observations with complete data on exposure, mediator, outcome, and schizophrenia polygenic risk scores.

<sup>2</sup> Adjusted for schizophrenia polygenic risk scores.

**Supplementary Table 15.** Mediation analyses results for the associations between autism factor mean score and social communication difficulties with psychotic experiences using imputed data.

Estimate	Including tactile hallucinations								Excluding tactile hallucinations							
	Psychotic experiences at age 18/24				Psychotic experiences at age 18/24, distressing and/or frequent				Psychotic experiences at age 18/24				Psychotic experiences at age 18/24, distressing and/or frequent			
	Unadjusted		Adjusted <sup>1</sup>		Unadjusted		Adjusted <sup>1</sup>		Unadjusted		Adjusted <sup>1</sup>		Unadjusted		Adjusted <sup>1</sup>	
	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value
<i>Exposure: autism factor mean score (n = 13,105)</i>																
Natural direct effect	1.08 (1.01–1.16)	0.02	1.02 (0.96–2.13)	0.55	1.15 (1.07–1.23)	<0.001	1.10 (0.96–1.26)	0.18	1.10 (1.02–1.17)	0.01	1.06 (0.95–1.17)	0.30	1.12 (1.05–1.21)	0.001	1.08 (0.94–1.24)	0.30
Natural indirect effect	1.06 (1.05–2.18)	<0.001	1.02 (1.01–1.29)	<0.001	1.09 (1.07–1.12)	<0.001	1.02 (1.01–1.48)	0.001	1.07 (1.05–2.24)	<0.001	1.02 (1.01–1.39)	<0.001	1.08 (1.06–2.57)	<0.001	1.03 (1.01–1.51)	0.001
Total effect	1.15 (1.07–1.23)	<0.001	1.03 (0.98–1.10)	0.26	1.26 (1.17–1.35)	<0.001	1.12 (0.98–1.29)	0.09	1.17 (1.09–1.25)	<0.001	1.08 (0.97–1.20)	0.15	1.21 (1.13–1.30)	<0.001	1.11 (0.96–1.27)	0.16
Proportion mediated	45%		51%		41%		18%		44%		26%		43%		29%	
<i>Exposure: social communication difficulties (n = 8,106)</i>																
Natural direct effect	1.13 (0.84–1.53)	0.43	1.13 (0.81–1.58)	0.47	1.16 (0.82–1.63)	0.41	1.41 (0.94–2.10)	0.10	1.16 (0.86–1.58)	0.33	1.16 (0.83–1.62)	0.39	1.14 (0.81–1.62)	0.45	1.38 (0.91–2.08)	0.13
Natural indirect effect	1.16 (1.11–1.21)	<0.001	1.10 (1.05–1.15)	<0.001	1.18 (1.12–1.24)	<0.001	1.14 (1.08–1.19)	<0.001	1.16 (1.11–1.22)	<0.001	1.10 (1.06–1.15)	<0.001	1.18 (1.12–1.25)	<0.001	1.14 (1.08–1.20)	<0.001
Total effect	1.31 (0.97–1.77)	0.08	1.24 (0.89–1.73)	0.20	1.36 (0.97–1.93)	0.08	1.60 (1.07–2.38)	0.022	1.35 (1.00–1.84)	0.05	1.28 (0.91–1.79)	0.15	1.35 (0.96–1.90)	0.08	1.58 (1.05–2.37)	0.03
Proportion mediated	58%		47%		57%		32%		54%		42%		59%		34%	

OR, odds ratio; CI, confidence interval.

<sup>1</sup> Adjusted for child sex (male/female), parity ( $\leq 1$  child versus  $\geq 2$  children), major financial problems in the family when the child was 8 months old (yes/no), maternal highest educational attainment, maternal age (at delivery), maternal Crown-Crisp anxiety scores (18 weeks gestation), maternal depression measured with the Edinburgh Postnatal Depression Scale (EPDS; 18 weeks gestation scores  $\geq 13$ ), and child IQ scores at age 8 assessed with the Wechsler Intelligence Scale for Children third edition (WISC-III).

### Supplementary references

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