

Supplementary table s1. Cognitive characteristics in childhood and adolescence on each affective symptom.

	GHQ-28		Anxiety and insomnia		Social dysfunction		Severe depression	
	Non-case n=2,195 (92.4%)	Case n=180 (7.6%)	Non-case n=2,165 (91.0%)	Case n=214 (9.0%)	Non-case n=2,158 (90.8%)	Case n=219 (9.2%)	Non-case n=2,194 (92.3%)	Case n=182 (7.7%)
Male, n (%)	1096 (94.6%)	62*** (5.4%)	1084 (93.6%)	74*** (6.4%)	1081 (93.5%)	75*** (6.5%)	1086 (94.0%)	69*** (6.0%)
Cognition at age 8								
Verbal Domain	0.06 (0.97)	-0.08 (1.02)	0.06 (0.98)	-0.02 (0.96)	0.06 (0.98)	-0.04 (0.93)	0.07 (0.98)	-0.16** (0.96)
Non-verbal domain	0.09 (0.95)	-0.06* (0.97)	0.09 (0.94)	-0.07* (1.06)	0.08 (0.94)	-0.00 (1.03)	0.10 (0.93)	-0.18*** (1.15)
Cognition at age 15								
Verbal Domain	0.10 (0.95)	-0.05* (0.95)	0.10 (0.94)	-0.05* (0.98)	0.10 (0.95)	-0.04* (0.96)	0.11 (0.94)	-0.14*** (1.01)
Non-verbal domain	0.08 (0.94)	-0.20*** (0.92)	0.08 (0.93)	-0.18*** (1.05)	0.08 (0.94)	-0.14*** (0.99)	0.09 (0.93)	-0.21*** (1.02)
Developmental lag from age 8 to 15 ¹								
Verbal Domain	0.038 (0.699)	0.021 (0.695)	0.044 (0.702)	-0.031 (0.662)	0.040 (0.702)	0.008 (0.668)	0.038 (0.701)	0.027 (0.680)
Non-verbal Domain	-0.002 (1.030)	-0.139 (1.030)	-0.003 (1.030)	-0.106 (1.079)	0.001 (1.040)	-0.137 (0.986)	-0.009 (1.030)	-0.035 (1.133)

Mean (SD). Bold showed significant difference by chi square test for sex, and t test for the other variables (* p < .05, ** p < .01, *** p < .001).

Abbreviations: GHQ-28, the 28 item version of the General Health Questionnaire.

1) The differences of Z scores from age 8 to 15 for verbal and non-verbal domains (score at age 15 years – 8 years). A positive score represents increase of developmental lag from mean.

Supplementary table s2. Details in association of cognitive characteristics in childhood and adolescence with each psychotic experience and affective symptoms.

Independent variables	PSQ											
	Thought Interference Yes (n=433) vs. No or unsure (n=1,945)			Persecution Yes (n=508) vs. No or unsure (n=1,870)			Strange Experience Yes (n=296) vs. No or unsure (n=2,083)			Hallucination Yes (n=88) vs. No or unsure (n=2,289)		
	Unadjusted	Adjusted 1	Adjusted 2	Unadjusted	Adjusted 1	Adjusted 2	Unadjusted	Adjusted 1	Adjusted 2	Unadjusted	Adjusted 1	Adjusted 2
Cognition at age 8												
Verbal Domain	0.78***	0.76***	0.81*	0.94	0.93	0.92	0.84**	0.88	0.79*	0.68***	0.67**	0.55**
	[0.70 0.87]	[0.67 0.86]	[0.68 0.97]	[0.85 1.04]	[0.83 1.04]	[0.78 1.09]	[0.74 0.96]	[0.76 1.01]	[0.64 0.97]	[0.54 0.85]	[0.51 0.87]	[0.38 0.80]
Non-verbal Domain	0.83***	0.86**	0.91	0.94	0.96	1.00	0.84**	0.88*	0.99	0.72**	0.70**	1.02
	[0.75 0.92]	[0.77 0.96]	[0.76 1.10]	[0.85 1.04]	[0.86 1.08]	[0.84 1.19]	[0.74 0.95]	[0.77 0.999]	[0.80 1.22]	[0.59 0.89]	[0.56 0.88]	[0.70 1.47]
Developmental lag from age 8 to 15												
Verbal Domain	1.15	1.19*	1.07	1.04	1.04	0.99	0.82*	0.83*	0.71**	0.88	0.79	0.52**
	[0.99 1.34]	[1.02 1.39]	[0.88 1.31]	[0.90 1.19]	[0.90 1.20]	[0.83 1.20]	[0.69 0.98]	[0.69 0.995]	[0.56 0.90]	[0.65 1.19]	[0.58 1.09]	[0.34 0.79]
Non-verbal Domain	1.03	1.02	0.93	1.02	1.01	1.00	1.02	1.02	1.04	1.11	1.16	1.23
	[0.93 1.14]	[0.92 1.13]	[0.80 1.08]	[0.92 1.12]	[0.91 1.11]	[0.87 1.14]	[0.91 1.15]	[0.90 1.15]	[0.88 1.24]	[0.91 1.36]	[0.94 1.44]	[0.91 1.67]
(Continue)												
Independent variables	PSQ Any of psychotic experiences Case (n=772) vs. non-case (n=1,607)			GHQ-28 GHQ-28 caseness Case (n=453) vs. non-case (n=1,913)			Somatic symptoms Case (n=180) vs. non-case (n=2,195)			Anxiety and insomnia Case (n=214) vs. non-case (n=2,165)		
	Unadjusted	Adjusted 1	Adjusted 2	Unadjusted	Adjusted 1	Adjusted 2	Unadjusted	Adjusted 1	Adjusted 2	Unadjusted	Adjusted 1	Adjusted 2
Cognition at age 8												
Verbal Domain	0.83***	0.82***	0.82**	0.99	0.93	1.05	0.86	0.82*	0.96	0.92	0.88	0.98
	[0.76 0.91]	[0.74 0.91]	[0.70 0.94]	[0.90 1.10]	[0.83 1.06]	[0.88 1.26]	[0.74 1.01]	[0.68 0.99]	[0.74 1.25]	[0.79 1.06]	[0.75 1.04]	[0.77 1.25]
Non-verbal Domain	0.89**	0.91	0.99	0.95	0.95	0.77**	0.85*	0.85	0.72*	0.85*	0.84*	0.73*
	[0.81 0.97]	[0.83 1.00]	[0.85 1.15]	[0.86 1.06]	[0.84 1.06]	[0.64 0.93]	[0.73 0.996]	[0.72 1.00]	[0.55 0.95]	[0.73 0.98]	[0.84 0.98]	[0.57 0.93]
Developmental lag from age 8 to 15												
Verbal Domain	1.09	1.09	0.98	0.93	0.98	1.11	0.97	1.03	1.11	0.86	0.90	0.95
	[0.96 1.23]	[0.96 1.24]	[0.83 1.15]	[0.80 1.08]	[0.84 1.14]	[0.91 1.36]	[0.78 1.20]	[0.82 1.30]	[0.82 1.49]	[0.70 1.05]	[0.73 1.11]	[0.72 1.24]
Non-verbal Domain	1.02	1.01	0.98	0.86**	0.86**	0.74***	0.88	0.91	0.74**	0.91	0.93	0.80*
	[0.94 1.11]	[0.92 1.10]	[0.87 1.10]	[0.78 0.95]	[0.78 0.96]	[0.64 0.86]	[0.76 1.02]	[0.77 1.06]	[0.59 0.93]	[0.79 1.04]	[0.81 1.08]	[0.65 0.97]

(Continue)

Independent variables	GHQ-28			Severe depression		
	Social dysfunction			Case (n=182) vs. non-case (n=2,194)		
	Unadjusted	Adjusted 1	Adjusted 2	Unadjusted	Adjusted 1	Adjusted 2
Cognition at age 8						
Verbal Domain	0.89	0.88	0.94	0.78**	0.81*	0.99
	[0.77 1.03]	[0.75 1.04]	[0.74 1.19]	[0.66 0.91]	[0.67 0.97]	[0.76 1.29]
Non-verbal Domain	0.91	0.94	0.86	0.75***	0.79**	0.70**
	[0.79 1.06]	[0.81 1.10]	[0.67 1.10]	[0.65 0.87]	[0.67 0.92]	[0.53 0.92]
Developmental lag from age 8 to 15						
Verbal Domain	0.94	1.03	1.07	0.98	1.08	1.12
	[0.77 1.14]	[0.84 1.27]	[0.81 1.40]	[0.79 1.21]	[0.86 1.35]	[0.83 1.51]
Non-verbal Domain	0.88	0.91	0.82*	0.98	1.02	0.82
	[0.77 1.01]	[0.79 1.04]	[0.67 0.99]	[0.84 1.13]	[0.88 1.19]	[0.66 1.02]

OR [95%CI]. Bold showed significant coefficient (* $p < .05$, ** $p < .01$, *** $p < .001$). Adjusted model 1 was controlled for confounding variables (sex, birth weight, birth order, mother's education, and social class of origin). Adjusted model 2, which was summarized in table 2, was controlled for confounding variables and the other 3 independent variables.

Supplementary Table s3. Details in cognitive characteristics in childhood and adolescence by existence of psychotic experience and/or affective symptoms.

Independent variables	PE only (n=194) vs. no symptom (n=1,714)			AFF only (n=315) vs. no symptom (n=1,714)			Both (n=138) vs. no symptom (n=1,714)			AFF only (n=315) vs. PE only (n=194)		
	Unadjusted	Adjusted 1	Adjusted 2	Unadjusted	Adjusted 1	Adjusted 2	Unadjusted	Adjusted 1	Adjusted 2	Unadjusted	Adjusted 1	Adjusted 2
Cognition at age 8												
Verbal Domain	0.86	0.91	0.79	1.07	1.01	1.21	0.79*	0.76**	0.72*	0.78*	0.87	0.64*
	[0.74 1.00]	[0.76 1.09]	[0.61 1.02]	[0.95 1.21]	[0.87 1.16]	[0.98 1.49]	[0.66 0.95]	[0.62 0.93]	[0.53 0.97]	[0.65 0.95]	[0.69 1.10]	[0.45 0.91]
Non-verbal Domain	0.90	0.95	1.12	1.04	1.03	0.73**	0.77**	0.78**	0.85	0.86	0.92	1.40
	[0.77 1.05]	[0.80 1.12]	[0.86 1.46]	[0.92 1.19]	[0.89 1.18]	[0.58 0.91]	[0.65 0.91]	[0.65 0.94]	[0.63 1.15]	[0.71 1.04]	[0.73 1.15]	[0.98 2.01]
Developmental lag from age 8 to 15												
Verbal Domain	0.94	0.89	0.75	0.99	1.03	1.33*	0.79	0.84	0.70*	0.94	0.86	0.59**
	[0.76 1.15]	[0.72 1.11]	[0.57 1.00]	[0.83 1.17]	[0.86 1.23]	[1.05 1.68]	[0.62 1.01]	[0.65 1.09]	[0.50 0.99]	[0.72 1.23]	[0.64 1.16]	[0.40 0.86]
Non-verbal Domain	1.05	1.03	1.12	0.81***	0.80***	0.66***	0.97	0.99	0.93	1.29**	1.17	1.50**
	[0.91 1.21]	[0.89 1.20]	[0.91 1.38]	[0.72 0.92]	[0.71 0.91]	[0.55 0.79]	[0.82 1.15]	[0.83 1.18]	[0.72 1.18]	[1.08 1.53]	[0.96 1.44]	[1.13 2.01]

OR [95%CI]. Bold showed significant coefficient (* p < .05, ** p < .01, *** p < .001). Participants were grouped into psychotic experience (PE) only (defined by existence of one or more items of strange experience and hallucination), affective symptoms (AFF) only, both, and no symptom groups. Adjusted model 1 was controlled for confounding variables (sex, birth weight, birth order, mother's education, and social class of origin). Adjusted model 2, which was summarized in table 3, was controlled for confounding variables and the other 3 independent variables.