

Table S1: Number (%) rated as having each type of suspected or definite psychotic experiences

	None		Suspected		Definite	
Auditory hallucinations	4470	(94.6%)	107	(2.3%)	146	(3.1%)
Visual hallucinations	4522	(95.8%)	88	(1.9%)	112	(2.4%)
Delusions (spied on)	4641	(98.3%)	55	(1.2%)	26	(0.6%)
Delusions (persecution)	4685	(99.3%)	22	(0.5%)	12	(0.3%)
Delusions (thoughts read)	4706	(99.6%)	12	(0.3%)	6	(0.1%)
Delusions (reference)	4691	(99.3%)	23	(0.5%)	8	(0.2%)
Delusions (control)	4714	(99.8%)	6	(0.1%)	4	(0.1%)
Delusions (grandiosity)	4702	(99.6%)	13	(0.3%)	5	(0.1%)
Delusions (other)	4710	(99.8%)	4	(0.1%)	4	(0.1%)
Thought broadcast	4683	(99.2%)	28	(0.6%)	8	(0.2%)
Thought insertion	4691	(99.4%)	15	(0.3%)	13	(0.3%)
Thought withdrawal	4714	(99.9%)	4	(0.1%)	1	(0.0%)
Any	4291	(90.8%)	203	(4.3%)	230	(4.9%)

Table S2: Number (%) of individuals with clinical characteristics in relation to attributions

		Psychotic experience				
		Attributed ^a		Non-attributed		p-value ^b
Frequency past month	None	48	(85.7%)	209	(56.5%)	<0.001
	Occasional	8	(14.3%)	96	(26.0%)	
	Weekly	0	(0.0%)	29	(7.8%)	
	Most days	0	(0.0%)	36	(9.7%)	
Affect	Very pleasant	1	(1.8%)	20	(5.4%)	0.082
	Pleasant	4	(7.1%)	40	(10.8%)	
	Neutral	33	(58.9%)	161	(43.4%)	
	Distressing	11	(19.6%)	81	(21.8%)	
	Very distressing	7	(12.5%)	69	(18.6%)	
Social function	Very positive	1	(1.8%)	6	(1.6%)	0.003
	Positive	0	(0.0%)	9	(2.4%)	
	Neutral	54	(96.4%)	297	(80.1%)	
	Negative	1	(1.8%)	29	(7.8%)	
	Very negative	0	(0.0%)	30	(8.1%)	
Occupational function	Very positive	0	(0.0%)	3	(0.8%)	0.012
	Positive	0	(0.0%)	3	(0.8%)	
	Neutral	53	(94.6%)	299	(80.6%)	
	Negative	3	(5.4%)	40	(10.8%)	
	Very negative	0	(0.0%)	26	(7.0%)	

^a attributed to sleep/fever; ^b p-value for frequency is for linear trend; p-value for affect, social, and occupational function is from linear and quadratic terms; occupational function collapsed into 3 categories to enable model convergence

Table S3: Professional help-seeking behaviour in relation to sex and socio-economic status

		Suspected or definite PEs				Definite PEs			
		Help-seeking				Help-seeking			
		No	Yes	(%)	p-value	No	Yes	(%)	p-value
Sex	Male	122	12	(9.0%)	0.094	52	9	(14.8%)	0.147
	Female	198	35	(15.0%)		102	32	(23.9%)	
Social class	I (highest)	38	3	(7.3%)	0.551	18	2	(10.0%)	0.436
	II	107	15	(12.3%)		52	14	(21.2%)	
	III	105	17	(13.9%)		47	15	(24.2%)	
	IV	14	2	(12.5%)		7	2	(22.2%)	
	V (lowest)	4	0	(0.0%)		2	0	(0.0%)	

Table S4: Positive predictive values and sensitivities for frequency of non-attributed suspected or definite psychotic experiences at age 12 in relation to psychotic disorder at age 18

		Psychotic disorder age 18		PPV		Sensitivity	
		No	Yes				
Psychotic experience age 12							
6- month frequency	None	3,554	36				
	1-2 times	232	9	5.8%	(5.0%, 6.5%)	41.9%	(40.4%, 43.5%)
	Monthly	94	6	8.1%	(7.2%, 8.9%)	27.4%	(26.0%, 28.8%)
	Weekly	69	2	9.9%	(9.0%, 10.8%)	17.7%	(16.6%, 18.9%)
	Daily	31	9	22.5%	(21.2%, 23.8%)	14.5%	(13.4%, 15.6%)

Table S5: Comparison of prevalence estimates for psychotic outcomes based on data samples derived from observed data and imputed data using multiple imputations (see key below for abbreviations)

Sample Size		Suspected or Definite PE age 18			Psychotic Disorder age 18		
		%	(SE)	[95% CI]	%	(SE)	[95% CI]
N=4724 (observed)	Suspected	0.043	(0.0029)	[0.037 0.048]	0.017	(0.0019)	[0.013 0.020]
	Definite	0.049	(0.0031)	[0.043 0.055]			
N=7456 (MI based)	Suspected	0.044	(0.0028)	[0.038 0.049]	0.016	(0.0017)	[0.013 0.019]
	Definite	0.048	(0.0028)	[0.042 0.053]			
N=14229 (MI based)	Suspected	0.047	(0.0024)	[0.042 0.052]	0.016	(0.0014)	[0.0128 0.0183]
	Definite	0.050	(0.0024)	[0.045 0.054]			
Suspected or Definite PE age 12							
N=6796 (observed)	None	0.562	(0.0060)	[0.549 0.573]			
	Self-report PLE	0.205	(0.0049)	[0.195 0.214]			
	Interviewer rated UE	0.097	(0.0036)	[0.090 0.105]			
	Interviewer rated PE attributed to sleep/fever	0.021	(0.0017)	[0.017 0.024]			
	Interviewer rated PE suspected (not attributed)	0.069	(0.0031)	[0.063 0.075]			
	Interviewer rated PE definite (not attributed)	0.047	(0.0026)	[0.042 0.052]			
N=7456 (MI based)	None	0.557	(0.0059)	[0.545 0.569]			
	Self-report PLE	0.206	(0.0048)	[0.196 0.215]			
	Interviewer rated UE	0.098	(0.0036)	[0.091 0.105]			
	Interviewer rated PE attributed to sleep/fever	0.021	(0.0017)	[0.018 0.024]			
	Interviewer rated PE suspected (not attributed)	0.069	(0.0031)	[0.064 0.076]			
	Interviewer rated PE definite (not attributed)	0.048	(0.0026)	[0.043 0.054]			
N=14229 (MI based)	None	0.548	(0.0055)	[0.537 0.558]			
	Self-report PLE	0.211	(0.0043)	[0.202 0.219]			
	Interviewer rated UE	0.099	(0.0034)	[0.093 0.106]			
	Interviewer rated PE attributed to sleep/fever	0.022	(0.0016)	[0.019 0.025]			
	Interviewer rated PE suspected (not attributed)	0.072	(0.0027)	[0.066 0.077]			
	Interviewer rated PE definite (not attributed)	0.049	(0.0023)	[0.044 0.053]			

Table S6: Comparison of estimates of association between experiences at age 12 and psychotic experiences at age 18 based on data samples derived from observed data and imputed data

		Definite Psychotic experience at age 18		
		OR	(SE)	[95% CI]
N=4060 (observed)	None	1		
	Self-report PLE	2.26	(0.51)	[1.45 3.50]
	Interviewer rated UE	2.90	(0.75)	[1.75 4.81]
	Interviewer rated PE attributed to sleep/fever	7.42	(2.75)	[3.59 15.35]
	Interviewer rated PE suspected (not attributed)	6.22	(1.48)	[3.90 9.90]
	Interviewer rated PE definite (not attributed)	10.36	(2.54)	[6.40 16.75]
N=7456 (MI based)	None	1		
	Self-report PLE	2.07	(0.38)	[1.44 2.97]
	Interviewer rated UE	2.52	(0.55)	[1.65 3.86]
	Interviewer rated PE attributed to sleep/fever	5.81	(1.96)	[2.99 11.26]
	Interviewer rated PE suspected (not attributed)	5.05	(1.06)	[3.34 7.63]
	Interviewer rated PE definite (not attributed)	7.16	(1.56)	[4.67 10.98]
N=14229 (MI based)	None	1		
	Self-report PLE	1.97	(0.33)	[1.42 2.72]
	Interviewer rated UE	2.32	(0.48)	[1.55 3.49]
	Interviewer rated PE attributed to sleep/fever	3.92	(1.09)	[2.26 6.80]
	Interviewer rated PE suspected (not attributed)	4.21	(0.92)	[2.74 6.47]
	Interviewer rated PE definite (not attributed)	5.85	(1.49)	[3.54 9.68]

Table S7: Comparison of estimates of association between experiences at age 12 and psychotic disorder at age 18 based on data samples derived from observed data and imputed data

		Psychotic disorder at age 18		
		OR	(SE)	[95% CI]
N=4060 (observed)	None	1		
	Self-report PLE	1.19	(0.55)	[0.49 2.92]
	Interviewer rated UE	3.40	(1.38)	[1.53 7.55]
	Interviewer rated PE attributed to sleep/fever	5.85	(3.75)	[1.67 20.54]
	Interviewer rated PE suspected (not attributed)	5.56	(2.21)	[2.55 12.10]
	Interviewer rated PE definite (not attributed)	12.69	(4.68)	[6.17 26.13]
	N=7456 (MI based)	None	1	
Self-report PLE		1.58	(0.55)	[0.80 3.14]
Interviewer rated UE		2.85	(1.02)	[1.42 5.78]
Interviewer rated PE attributed to sleep/fever		4.86	(2.58)	[1.72 13.7]
Interviewer rated PE suspected (not attributed)		4.75	(1.64)	[2.41 9.37]
Interviewer rated PE definite (not attributed)		8.41	(2.83)	[4.35 16.26]
N=14229 (MI based)		None	1	
	Self-report PLE	1.68	(0.50)	[0.94 3.01]
	Interviewer rated UE	2.38	(0.80)	[1.23 4.62]
	Interviewer rated PE attributed to sleep/fever	3.36	(1.67)	[1.27 8.92]
	Interviewer rated PE suspected (not attributed)	3.85	(1.31)	[1.97 7.51]
	Interviewer rated PE definite (not attributed)	6.44	(2.31)	[3.18 13.06]

PE (Psychotic Experience); PLE (Psychotic-like experience); UE (Unusual Experience); MI (multiple imputations); OR (odds ratio); SE (standard error)

Table S8: Number (%) of individuals with clinical characteristics in relation to definite vs suspected psychotic experiences

		Psychotic experience				
		Suspected		Definite		p-value ^a
Frequency past month	None	134	(66.7%)	123	(54.7%)	<0.001
	Occasional	52	(25.9%)	52	(23.1%)	
	Weekly	8	(4.0%)	21	(9.3%)	
	Most days	7	(3.5%)	29	(12.9%)	
Affect	Very pleasant	6	(3.0%)	15	(6.7%)	<0.001
	Pleasant	16	(7.9%)	28	(12.4%)	
	Neutral	121	(59.9%)	73	(32.4%)	
	Distressing	40	(19.8%)	52	(23.1%)	
	Very distressing	19	(9.4%)	57	(25.3%)	
Social function	Very positive	0	(0.0%)	7	(3.1%)	<0.001
	Positive	1	(0.5%)	8	(3.6%)	
	Neutral	185	(91.6%)	166	(73.8%)	
	Negative	11	(5.4%)	19	(8.4%)	
	Very negative	5	(2.5%)	25	(11.1%)	
Occupational function	Very positive	1	(0.5%)	2	(0.9%)	<0.001
	Positive	1	(0.5%)	2	(0.9%)	
	Neutral	181	(89.6%)	171	(76.0%)	
	Negative	15	(7.4%)	28	(12.4%)	
	Very negative	4	(2.0%)	22	(9.8%)	
Help-seeking	No	193	(97.0%)	180	(80.4%)	<0.001
	Yes	6	(3.0%)	44	(19.6%)	

^ap-value for frequency is for linear trend; p-value for affect, social, and occupational function is from linear and quadratic terms

Table S9: Number (%) rated as having suspected or definite hallucinations, delusions and thought disorder at age 18, by gender and social class

	Sex	PE absent		PE present		
		N	(%)	N	(%)	95% CI
Hallucinations	Male	1920	(93.6%)	131	(6.4%)	5.4%, 7.5%
	Female	2434	(91.2%)	235	(8.8%)	7.8%, 9.9%
Delusions	Male	2008	(97.9%)	43	(2.1%)	1.5%, 2.8%
	Female	2575	(96.5%)	94	(3.5%)	2.9%, 4.3%
Thought disorder	Male	2030	(99.0%)	21	(1.0%)	0.6%, 1.6%
	Female	2625	(98.4%)	44	(1.7%)	1.2%, 2.2%
Social class						
Hallucinations	I	706	94.5%	41	5.5%	4.0%, 7.4%
	II	1771	93.8%	118	6.2%	5.2%, 7.4%
	III	1189	90.1%	131	9.9%	8.4%, 11.7%
	IV	124	87.9%	17	12.1%	7.2%, 18.6%
	V	17	81.0%	4	19.0%	5.4%, 41.9%
Delusions	I	730	97.7%	17	2.3%	1.3%, 3.6%
	II	1845	97.7%	44	2.3%	1.7%, 3.1%
	III	1280	97.0%	40	3.0%	2.2%, 4.1%
	IV	135	95.7%	6	4.3%	1.6%, 9.0%
	V	19	90.5%	2	9.5%	1.2%, 30.4%
Thought disorder	I	737	98.7%	10	1.3%	0.6%, 2.4%
	II	1869	98.9%	20	1.1%	0.6%, 1.6%
	III	1303	98.7%	17	1.3%	0.8%, 2.1%
	IV	137	97.2%	4	2.8%	0.8%, 7.1%
	V	20	95.2%	1	4.8%	0.1%, 23.8%

^a either suspected or definite PE (psychotic experience)

Table 10: Sensitivity, specificity and positive predictive value (PPV) of age 12 hallucinations, delusions and thought disorder in relation to psychotic disorder at age 18

	Psychotic disorder age 18					
	Sensitivity	(95%CI)	Specificity	(95%CI)	PPV	(95%CI)
Age 12 experiences^a						
Any hallucination	38.7%	(37.2%, 40.2%)	91.5%	(90.6%, 92.3%)	6.6%	(5.8%, 7.3%)
Any delusion	27.4%	(26.1%, 28.8%)	95.0%	(94.3%, 95.7%)	7.8%	(7.0%, 8.7%)
Any thought disorder	11.3%	(10.3%, 12.3%)	97.5%	(97.0%, 97.9%)	6.4%	(5.7%, 7.2%)
Any PE	46.8%	(45.2%, 48.3%)	87.1%	(86.1%, 88.1%)	5.3%	(4.6%, 6.0%)

^a either suspected or definite PE (psychotic experience), including attributed and non-attributed experiences

Table 11: Sensitivity, specificity and positive predictive value (PPV) of age 12 hallucinations, delusions and thought disorder in relation to psychotic disorder at age 18, by sex

	Sex	Psychotic disorder age 18					
		Sensitivity	(95%CI)	Specificity	(95%CI)	PPV	(95%CI)
Age 12 experiences^a							
Any hallucination	Male	30.8%	(28.6%, 32.9%)	92.2%	(90.9%, 93.4%)	2.8%	(2.0%, 3.5%)
	Female	40.8%	(38.8%, 48.8%)	90.9%	(89.7%, 92.1%)	9.1%	(7.9, 10.2%)
Any delusion	Male	23.1%	(21.1%, 25.0%)	95.0%	(94.0%, 96.0%)	3.3%	(2.4, 4.1%)
	Female	28.6%	(26.7%, 30.4%)	95.0%	(94.1%, 95.9%)	11.2%	(9.9, 12.5%)
Any thought interference	Male	30.8%	(28.6%, 32.9%)	97.1%	(96.3%, 97.9%)	7.1%	(6.0, 8.3%)
	Female	6.1%	(5.1%, 7.1%)	97.7%	(97.1%, 98.4%)	5.7%	(4.7, 6.6%)
Any PE	Male	30.8%	(28.6%, 32.9%)	87.5%	(86.0%, 89.0%)	1.8%	(1.2, 2.4%)
	Female	51.0%	(49.0%, 53.1%)	86.8%	(85.4%, 88.2%)	7.9%	(6.8, 9.0%)

^a either suspected or definite PE (psychotic experience), including attributed and non-attributed experiences

Table 12: Sensitivity, specificity and positive predictive value (PPV) of age 12 hallucinations, delusions and thought disorder in relation to psychotic disorder at age 18, by social class

	Social class	Psychotic disorder age 18					
		Sensitivity	(95%CI)	Specificity	(95%CI)	PPV	(95%CI)
Age 12 experiences^a							
Any hallucination	I	33.3%	(29.8%, 36.9%)	92.4%	(90.4%, 94.3%)	3.7%	(2.3%, 5.1%)
	II	47.1%	(44.7%, 49.4%)	91.6%	(90.3%, 92.9%)	5.4%	(4.3%, 6.5%)
	III	33.3%	(30.6%, 36.1%)	91.2%	(89.5%, 92.8%)	7.5%	(6.0%, 9.0%)
	IV	33.3%	(24.7%, 42.0%)	90.2%	(84.7%, 95.6%)	8.3%	(3.3%, 13.4%)
	V	-	-	92.3%	-	-	-
Any delusion	I	16.7%	(13.9%, 19.5%)	96.5%	(95.1%, 97.9%)	4.0%	(2.5%, 5.5%)
	II	29.4%	(27.2%, 31.6%)	94.2%	(93.1%, 95.3%)	4.9%	(3.9%, 5.9%)
	III	29.2%	(26.5%, 31.8%)	95.1%	(93.9%, 96.4%)	11.3%	(9.5%, 13.1%)
	IV	33.3%	(24.7%, 42.0%)	95.5%	(91.8%, 99.3%)	16.7%	(9.9%, 23.5%)
	V	-	-	92.3%	-	-	-
Any thought interference	I	0.0%	-	0.0%	-	0.0%	-
	II	17.7%	(15.8%, 19.5%)	96.7%	(95.8%, 97.6%)	5.2%	(4.1%, 6.2%)
	III	8.3%	(6.7%, 9.9%)	97.6%	(96.7%, 98.5%)	6.9%	(5.4%, 8.4%)
	IV	0.0%	-	99.1%	(97.4%, 100.0%)	0.0%	-
	V	-	-	-	-	-	-

Any PE	I	50.0%	(46.3%, 53.7%)	89.6%	(87.3%, 91.9%)	4.1%	(2.6%, 5.5%)
	II	47.1%	(44.7%, 49.4%)	86.5%	(84.8%, 88.1%)	3.4%	(2.6%, 4.3%)
	III	45.8%	(43.0%, 48.7%)	86.9%	(84.9%, 88.9%)	7.0%	(5.5%, 8.4%)
	IV	33.3%	(24.7%, 42.0%)	87.5%	(81.5%, 93.5%)	6.7%	(2.1%, 11.2%)
	V	-	-	84.6%	-	-	-

^a either suspected or definite PE (psychotic experience), including attributed and non-attributed experiences

Appendix A

Further information on measurement of psychotic experiences using the PLIKSi

If interviewers rated experiences as suspected or definitely psychotic respondents were asked about:

(a) *Frequency* during past 6-months (none, 1-2 times only, monthly, \geq weekly) and past 1-month (none, occasionally, weekly, most days)

(b) *Impact on affect* (5-point Likert-scale ranging from very pleasant to very distressing)

(c) *Impact on social function* (5-point Likert-scale ranging from very positive to very negative effect on relationships)

(d) *Impact on educational or occupational function* (5-point Likert-scale ranging from very positive to very negative effect on performance)

(e) *Help-seeking from professionals* (general practitioner, counsellor, mental health team, prescription of medication)

(f) *Onset of first experience* (\leq 3 months, \leq 1 year, \leq 5 years, $>$ 5 years).

(g) *Attribution* (whether experiences were always attributable to sleep (hypnopompic or hypnogogic), fever, or substance use (occurring only within 2 hours of use)).

Further information on measurement of socio-demographic characteristics

Data on gender were collected from birth records. Data on parental social class, maternal marital status, financial difficulty, housing type, and parental education were collected from parental questionnaires completed prior to birth of the study participant.

Coding:

Gender: coded as male (0) or female (1)

Parental social class (highest of both parents): coded as I (highest) to V (lowest)

Maternal marital status (nominal variable): coded as married (0), partner (1), or single (2)

Financial difficulty (receipt of income support): coded as no (0) or yes (1)

Housing type (nominal variable): coded as mortgaged or owned (0), privately rented (1), or council rented (2)

Parental education: coded as 4-levels, ranging from the lowest UK school-leaving qualifications (1) to degree level (4)

Appendix B

SIPS Criteria		PLIKSi equivalent
<p>Current Psychosis (POPS)</p>	<p>Psychotic symptom (rating 6) (= psychotic + affects functioning or influences thinking feeling or behaviour)</p> <p>In past month</p> <p>AND</p> <p>≥1 hour per day</p> <p>4 days per week</p> <p>For 1 month or more</p> <p>OR</p> <p>Symptom seriously disorganizing or dangerous</p>	<p>Definite psychotic symptom (+ affects functioning)</p> <p>Occurred in past month</p> <p>≥1 hour per day</p> <p>1) Most days past month (if yes must be ≥4 days per week)</p> <p>Have data on when symptoms started and whether symptoms occurred in past month – 90% started >3months ago and present in past month so meet criteria for >1month If started <3months ago may not meet criteria for >1month (although if someone has symptoms for 1 hour/day on 4 days/week it may be fairly reasonable to assume the 1 month or more criteria would be met)</p> <p>Very negative effect on social/occupational functioning equivalent to seriously disorganizing</p>
<p>Prodromal Syndromes (below)</p>	<p>No past and/or current psychosis</p>	<p>No past and/or current psychosis</p>
<p>Brief intermittent psychotic symptom prodromal</p>	<p>Psychotic symptom (rating 6) (= psychotic + affects functioning or influences thinking feeling or behaviour)</p>	<p>Definite psychotic symptom (+ affects functioning)</p>

syndrome (BIPS)	<p>Occurred in past 3 months</p> <p>Several minutes per day</p> <p>At least once per month</p>	<p>Occurred in past 6 months is best equivalent (75% of these also occurred in past 1 month)</p> <p>≥2 minutes per day</p> <p>At least once per month</p>
Attenuated positive symptom prodromal syndrome (APSS)	<p>Positive symptom (rating 3-5)</p> <p>Started in past year, or worse in past year</p> <p>At least once per week in past 1 month</p>	<p>Suspected psychotic experience (i.e. interviewer unable to determine that definitely psychotic, but enough info to rate as suspicious – comparable to SIPS ratings 3-5)</p> <p>Started in past year (and information from PLIKS age 16 questionnaire to identify if symptoms more frequent or more distressing since then)</p> <p>About weekly (4 times or more) in past 1 month</p>
Genetic risk and deterioration prodromal syndrome	<p>Schizotypal personality disorder</p> <p>AND/OR</p> <p>1st degree relative with psychotic disorder</p> <p>AND</p> <p>≥30% drop in past-month GAF compared to 12 months ago</p>	<p>No equivalent measure</p> <p>1) Data available on parent/grandparent history of schizophrenia</p> <p>2) Data other relatives/other psychoses due to be collected in next parental questionnaire</p> <p>No equivalent measure</p>

Case Vignettes

Case vignette 1

An 11-year old boy started to hear voices mumbling when he was alone. He had no major problems prior to this. He was slightly delayed in reaching his developmental milestones, but was an average student at school. He had a few close friends although there were occasional incidents of mild bullying by his peers. The auditory hallucinations became more frequent, intrusive, and frightening over his teenage years. At age 15 he developed a delusional belief that people could read his mind and knew everything that he was thinking. He found this very distressing, and his school performance deteriorated. By age 18 he had become very isolated and withdrawn and had been unemployed since leaving school without any qualifications. Although his parents were concerned about him he continually refused to visit his GP.

Based on examples from the authors' clinical practice

Case vignette 2

A 17-year old girl developed a depressive disorder following a year in which her grandmother died and her parents separated. She had no major problems prior to this time. She had a normal development and was above average in her school performance. She was sociable and had many friends, and was involved in a number of out of school activities. A few months after the onset of her depression she developed a belief that evil spirits were communicating with her through coded messages within songs played on the radio, or written in magazine articles. She ruminated constantly about these messages and her mood deteriorated further. Following an overdose of paracetamol she was referred to the local community mental health team and commenced on antidepressant and antipsychotic medication. Her depression gradually improved and her delusional beliefs attenuated, although overvalued ideas that coded messages were being left for her still occurred occasionally. She was able to return to college to continue with her studies.

Based on examples from the authors' clinical practice