

## Data supplement

Table DS1 Demographic and clinical characteristics						
	Schizophrenia group (n = 100)	Bipolar disorder group (n = 100)	Control group (n = 100)	Analysis		
				Test	P	Post hoc <sup>a</sup>
<b>Demographics</b>						
Gender (male), n (%)	67 (67)	40 (40)	50 (50)	$\chi^2 = 14.9$	0.001	BD, HC < SZ
Age, years: mean (s.d.) <sup>b</sup>	31.9 (7.7)	35.4 (11.4)	34.8 (9.1)	$F = 3.9$	0.021	SZ < BD
Handedness (right), n (%)	87 (87)	89 (89)	93 (93)	$\chi^2 = 2.0$	0.365	
Education, years: mean (s.d.) <sup>c</sup>	13.0 (2.4)	13.3 (2.3)	14.4 (2.3)	$F = 10.4$	<0.001	SZ, BD < HC
IQ score, mean (s.d.) <sup>d</sup>	104.7 (14.8)	108.1 (12.5)	114.8 (10.4)	$F = 16.2$	<0.001	SZ, BD < HC
Duration of illness, years: mean (s.d.) <sup>e</sup>	6.4 (6.2)	6.7 (7.2)		$t = 0.3$	0.736	
<b>Comorbid disorders, n (%)</b>						
Substance use <sup>f</sup>	23 (23)	23 (23)		$\chi^2 = 0.0$	1.00	
Somatic illness <sup>g</sup>	10 (11)	12 (13)		$\chi^2 = 0.29$	0.592	
<b>Lifetime episodes, n (%)<sup>h</sup></b>						
Psychosis	100 (100)	52 (52)		$\chi^2 = 63.2$	<0.001	
Psychosis in bipolar disorder types 1/2		45 (79)/7 (16)		$\chi^2 = 38.6$	<0.001	
Depression	56 (56)	91 (91)		$\chi^2 = 31.5$	<0.001	
Mania	8 (8)	57 (57)		$\chi^2 = 54.7$	<0.001	
<b>Current symptoms, n (%)<sup>i</sup></b>						
Psychotic symptoms	29 (30)	17 (17)		$\chi^2 = 4.1$	0.043	
Elevated mood symptoms	8 (8)	14 (14)		$\chi^2 = 1.8$	0.175	
Depressive symptoms	24 (24)	31 (32)		$\chi^2 = 1.2$	0.266	
<b>Medication<sup>j</sup></b>						
<b>Antipsychotics</b>						
n (%)	71 (76)	35 (38)		$\chi^2 = 27.0$	<0.001	
DDD, mean (s.d.)	1.10 (1.15)	0.29 (0.52)		$t = 6.2$	<0.001	
<b>Anti-epileptics/lithium</b>						
n (%)	8 (8)	58 (64)		$\chi^2 = 63.2$	<0.001	
DDD, mean (s.d.)	0.06 (0.30)	0.57 (0.63)		$t = 7.1$	<0.001	
<b>Antidepressants</b>						
n (%)	23 (25)	26 (29)		$\chi^2 = 0.4$	0.556	
DDD, mean (s.d.)	0.35 (0.73)	0.42 (0.80)		$t = 0.6$	0.553	
<b>Anxiolytics</b>						
n (%)	7 (8)	7 (8)		$\chi^2 = 0.0$	1.00	
DDD, mean (s.d.)	0.06 (0.21)	0.10 (0.37)		$t = 0.9$	0.396	
<b>Substance use</b>						
Alcohol use (AUDIT score), mean (s.d.) <sup>k</sup>	5.94 (6.13)	7.10 (6.02)	5.24 (3.25)	$F = 3.09$	0.047	HC < BD
Non-alcohol drug use (DUDIT score), mean (s.d.) <sup>k</sup>	2.53 (5.99)	2.26 (6.35)	0.29 (1.65)	$F = 5.49$	0.005	HC < BD, SZ
Smoking, n (%) <sup>l</sup>	37 (49)	39 (50)	NA	$\chi^2 = 0.01$	0.934	
AUDIT, Alcohol Use Disorders Identification Test; BD, bipolar disorder; DDD, defined daily dose; DUDIT, Drug Use Disorders Identification Test; HC, healthy controls; NA, not applicable; SZ, schizophrenia.						
a. Tukey <i>post hoc</i> tests for all group comparisons, except for gender ( $\chi^2$ ).						
b. At the time of functional magnetic resonance imaging (fMRI).						
c. The total number of years of completed education as reported by the participants (data from clinical examination, $n = 294$ ; data from neuropsychological testing, $n = 6$ ).						
d. Wechsler Abbreviated Scale of Intelligence, $n = 290$ ; Wechsler Adult Intelligence Scale, $n = 2$ . Missing in SZ group $n = 4$ , missing in BD group $n = 4$ .						
e. Number of years between age at onset and age at fMRI scanning. Age at onset was defined as age at first contact with the mental health service due to a primary symptom ( $n = 194$ ), age at first treatment with psychopharmaceuticals ( $n = 4$ ) or age at first experience of symptoms ( $n = 2$ ).						
f. Whether the patients had a lifetime diagnosis of alcohol or non-alcohol drug misuse or dependency. Alcohol/cannabis/other drugs diagnosis in SZ group 15/17/12%; in BD group 17/10/10%.						
g. Whether the patients had a lifetime somatic illness; here included cardiovascular (SZ 2%, BD 2%), respiratory (SZ 7%, BD 8%), endocrine (SZ 1%, BD 4%), neurological (SZ 1%, BD 2%) or cancer (SZ 0%, BD 0%). Missing in SZ group $n = 7$ , missing in BD group $n = 10$ .						
h. Whether or not the patient had a lifetime psychotic/depressive/manic episode. For most patients these variables were created based on information from the SCID interview ( $n = 194/188/199$ ). When missing this information, other variables from the clinical interview were used to confirm the presence of a lifetime psychotic/depressive/manic episode; for history of psychosis, age at first contact with the mental health service due to positive psychotic symptoms ( $n = 6$ ); for history of depression, age at first contact with the mental health service due to a depressive episode ( $n = 11$ ) or age at first experience of SCID-verified symptoms of a depressive episode ( $n = 1$ ); for history of mania, age at first experience of SCID-verified symptoms of a manic episode ( $n = 1$ ).						
i. Missing in SZ group $n = 2$ , missing in BD group $n = 2$ .						
j. Defined daily dose (WHO); missing in SZ group: antipsychotics $n = 7$ , anti-epileptics/lithium $n = 10$ , antidepressants $n = 9$ , anxiolytics $n = 7$ . Missing in BD group: antipsychotics $n = 9$ , anti-epileptics/lithium $n = 5$ , antidepressants $n = 7$ , anxiolytics $n = 7$ .						
k. Missing in SZ group: AUDIT $n = 4$ , DUDIT $n = 5$ . Missing in BD group: AUDIT $n = 1$ . Missing in HC group: AUDIT $n = 2$ , DUDIT $n = 3$ .						
l. Whether the patients were daily smokers (yes/no) in the previous year. Missing in SZ group $n = 25$ , missing in BD group $n = 22$ .						