Callosal Abnormalities Across the Psychosis Dimension:
Bipolar Schizophrenia Network on Intermediate Phenotypes

Supplemental Information

Table S1. Socio-demographic and clinical characteristics of the study sample

Demographic Characteristics	SZ [224] Mean or n	SZ [224] SD or %	SZA [142] Mean or n	SZA [142] SD or %	PBD [190] Mean or n	PBD [190] SD or %	Unaffected Relatives [483] Mean or n	Unaffected Relatives [483] SD or %	Controls [342] Mean or n	Controls [342] SD or %	Test statistic F / X^2	p
Age, Years	35.03	12.4	37.6	12.7	35.74	12.2	41.28	15.7	37.32	12.4	1.24	0.29
Sex, Male	149	65%	64	45%	59	31%	145	30%	156	46%	16.6	.001
Education, Years	12.8	2.5	13.3	2.5	14.2	2.5	14.5	2.8	14.5	2.3	5.59	.001
Age of Illness Onset	20.4	8.3	19	9.4	19.8	9.2	-	-	-	-	0.46	.63
PANSS Total	75.9	15.7	74.6	14	58.8	13.6	-	-	-	-	4.0	.01
PANSS Positive	19.4	4.9	20.3	4.1	13.8	4.2	-	-	-	-	2.52	.08
PANSS Negative	19.2	6.3	16.1	4.6	13.4	4.3	-	-	-	-	2.82	.057
PANSS General	37.3	7.8	38.2	7.8	31.6	7.9	-	-	-	-	16.24	.001
YMRS	7.2	5.8	8.4	5.5	5.8	6.2	-	-	-	-	4.81	.009
MADRS	10.1	8.1	14.5	9.6	10.9	9.3	-	-	-	-	3.79	.02
All Medication	210	92%	140	97%	183	95%	408	84%	152	44%	340.08	<.001
Antipsychotics-all	199	88%	123	85%	133	69%	55	12%	-		438.66	<.001
First Gen	24	10%	12	8%	11	5%	7	1.4%	-		24.48	<.001
Second Gen	175	77%	111	77%	122	64%	48	10%	-		365.14	<.001
Antidepressant-any	69	30%	59	41%	59	31%	27	5.6%	-		122.26	<.001
Tricyclic	1	.4%	3	2%	5	2.6%	5	1%	-		5.51	.13

Demographic Characteristics	SZ [224]		SZA [142]		PBD [190]		Unaffected Relatives [483]		Controls [342]		Test statistic F / X^2	p
	Mean or n	SD or %	Mean or n	SD or %	Mean or n	SD or %	Mean or n	SD or %	Mean or n	SD or %		
Anticonvulsants	32	14%	60	41.6%	82	42.9%	31	6.4%	-		180.47	<.001
Lithium	15	6.6%	17	11.8%	60	31.4%	5	1%	-		162.35	<.001
SSRI	51	22.4%	39	27%	42	21.9%	88	18.2%	-		6.34	.097
Anticholinergic/ Antiparkinsonian	38	16.7%	18	12.5%	14	7.3%	6	1.2%	-		50.8	<.001
Anxiolytic/Sedatives	52	22.9%	46	31.9%	62	32.4%	57	11.8%	-		52.06	<.001

MADRS, Montgomery–Åsberg Depression Rating Scale; PANSS, Positive and Negative Syndrome Scale; YMRS, Young Mania Rating Scale.

Table S2. Heritability index for the CC volumes across the psychosis spectrum

Region	H2r	*p*	H2rStdErr
Genu	0.709544	2.37E-16	0.0810447
Truncus	0.5937706	6.21E-12	0.0846777
Midbody	0.5667775	8.75E-12	0.0815031
Anterior Splenium	0.6017501	7.37E-12	0.0854678
Posterior Splenium	0.7775244	1.26E-19	0.0786434

Table S3. Posterior splenium volumes against BACS cognitive test scores

Brief Assessment of Cognitive Function	HC	Probands			Relatives		
		SZ	SZA	PBD	SZ-Rel	SZA-Rel	PBD-Rel
Complete Score	0.02	0.13	-0.007	0.15	0.33**	0.09	-0.13
Verbal Memory	-0.06	0.12	0.02	0.15	0.34**	0.085	-0.13
Digit Sequencing	-0.02	0.13	-0.06	0.11	0.13	0.087	-0.13
Token Motor	0.17*	0.02	0.06	0.14	0.13	0.085	-0.13
Verbal Fluency	0.005	0.12	-0.001	0.085	0.31*	0.086	-.047
Symbol Coding	0.05	0.14	-0.1	0.13	0.24*	0.085	-0.13
Tower Test	0.001	0.09	0.03	0.02	0.14	0.084	-0.13

Partial Correlations: Posterior splenium against BACS cognitive test scores. [*r* values]

** *p* < 0.001 Hochberg corrected;

* *p* < 0.01.

Table S4. Anterior splenium volumes against BACS cognitive test scores

Brief Assessment of Cognitive Function	HC	Probands			Relatives		
		SZ	SZA	PBD	SZ-Rel	SZA-Rel	PBD-Rel
Complete Score	0.20*	0.07	0.11	0.15	0.13	0.123	-0.16
Verbal Memory	0.09	0.13	0.1	0.17*	0.05	0.126	-0.16
Digit Sequencing	0.09	0.05	-0.06	0.18*	0.02	0.124	-0.16
Token Motor	0.19*	-0.07	0.06	0.04	0.06	0.123	-0.16
Verbal Fluency	0.14	0.08	-0.001	0.19*	0.20	0.12	-0.17
Symbol Coding	0.23*	0.13	-0.1	0.07	0.03	0.12	-0.16
Tower Test	0.11	0.07	0.03	-0.03	0.09	0.13	-0.16

Partial Correlations: Anterior splenium against BACS cognitive test scores. [*r* values]

* $p < 0.01$.

Table S5. Correlations: Positive and Negative Syndrome Scale (PANSS)

CC - Region	PANSS - Positive		PANSS - Negative		PANSS - Total	
	r	*p*	*r*	*p*	*r*	*p*
Schizophrenia Probands						
Posterior Splenium	-0.051	0.47	-0.05	0.48	-0.08	0.25
Anterior Splenium	-0.15	0.03	-0.046	0.52	-0.137	0.055
Schizoaffective Depressed						
Posterior Splenium	-0.29	0.06	-0.27	0.08	-0.31	0.04
Anterior Splenium	-0.26	0.09	-0.55	0.001	-0.27	0.08
Schizoaffective Bipolar						
Posterior Splenium	-0.22	0.04	-0.089	0.41	-0.18	0.09
Anterior Splenium	-0.27	0.01	-0.02	0.813	-0.16	0.14

Table S6. Effect of age (as a continuous variable)

Age	Correlations: Age and corpus callosum volumes [*r* values]						
	HC	Probands			Relatives		
		SZ	SZA	PBD	SZ-Rel	SZA-Rel	PBD-Rel
Posterior Splenium	0.05	-0.10	-0.05	0.06	0.19	0.26*	0.25
Anterior Splenium	-0.16	-0.36**	-0.30**	-0.26**	-0.13	-0.19	-0.26
Total CC	-0.10	-0.30**	-0.20	-0.13	0.02	-0.05	-0.03

** $p < 0.001$;
* $p < 0.01$.

Table S7. Correlations with duration of illness

CC - Region	Schizophrenia		Schizoaffective Disorder		Bipolar Disorder	
	r	*p*	*r*	*p*	*r*	*p*
Posterior Splenium	-0.051	0.47	-0.05	0.48	-0.08	0.25
Anterior Splenium	-0.27	0.001	-0.34	0.001	-0.23	0.002