Supplementary Materials

Table S1. General recruitment and inclusion criteria, screening instruments and exclusion criteria for healthy subjects.

Study	General recruitment criteria/inclusion criteria	Screening/diagnostic instrument	Exclusion criteria
BeCOME [1]	General population, healthy subjects, 18-75 years of age	Study specific screening questionnaire Composite International Diagnostic Interview[2]	Past or present severe medical or neurological condition Any regular medication Current axis I disorder including substance addiction[3]
IST [1]	General population, healthy subjects, 20-30 years of age, right handedness, regular weight	Study specific screening questionnaire	Any regular medication (14 days prior to the study) Regular smoking Past or present medical, neurological or psychiatric disorder Past or present substance abuse
PSC [1]	General population, healthy subjects, 18-60 years of age	Study specific screening questionnaire Several questions adopted from the SCID-IV[2]	Past or present medical, neurological or psychiatric disorder Cannabis consumption < 2 weeks prior to the study or other drug consumption <1 month prior to the study Past or present substance addiction
TMEM [1]	General population, healthy physical and mental condition, 18-36 years of age, right handedness	Several questions adopted from the SCID-IV[2]	Current or previous substance abuse, including alcohol, nicotine, caffeine and drugs Current, or during past 12 months, use of psychopharmacological drugs (excluding non-opioid analgesics or food supplements like vitamins) Past or present neurological or psychiatric disorders psychopharmacological drugs (excluding non-opioid analgesics)

[1]Acronyms of original imaging genetics study samples (BeCOME: Biological Classification of Mental Disorders, IST: Imaging Stress Test, PSC: PsyCourse, TMEM: Transmembrane Protein). [2]Structured Clinical Interview for DSM-IV. [3]For reasons of comparability with the other screening procedures and the high sensitivity of the CIDI to substance abuse, only addiction was defined as exclusion criterium.

Table S2. Resting state fMRI scanning parameters of four substudies.

	BeCOME [1]	**IST** [1]	**PSC** [1]	**TMEM** [1]
TR	2500 ms	2000 ms	2000 ms	2560 ms
TE	30 ms	20 ms	30 ms	30 ms
Number of slices	42	40	32	30
Slice thickness	3.0 mm	3.0 mm	3.0 mm	2.5 mm
Gap	0.5 mm	0.5 mm	0.6 mm	0.5 mm
Field of view	24.0 × 24.0 cm^2	24.0 × 24.0 cm^2	19.2 × 19.2 cm^2	24.0 × 24.0 cm^2
Matrix	64 × 64	64 × 64	64 × 64	64 × 64
In-plane resolution	3.75 × 3.75 mm^2	3.75 × 3.75 mm^2	3.00 × 3.00 mm^2	3.75 × 3.75 mm^2
Number of images	155	190	186	190
Scanning time	6 minutes 27 seconds	6 minutes 20 seconds	6 minutes 12 seconds	8 minutes 10 seconds

Abbreviations: TR, time of repetition; TE, time of echo; FOV: field of view; acronyms of original imaging genetics studies: BeCOME: Biological Classification of Mental Disorders, IST: Imaging Stress Test, PSC: PsyCourse, TMEM: Transmembrane Protein.

Table S3. Voxelwise comparison of FCD between SCZ and control subjects.

Result cluster #	Anatomical cluster location[a]	Cluster size in voxels	$p_{cluster}$ corrected for whole brain (FWE)	Peak voxel coordinates[b]
Main effect of group (SCZ > controls)				
1	*R* thalamus	88	0.005	12 -27 6
2	*R* olfactory cortex, caudate	54	0.040	12 3 0
3	*L/R* precuneus *R* paracentral lobule, postcentral gyrus	61	0.025	9 -39 54
4	*R* midcingulate cortex (MCC), precuneus	55	0.037	9 -60 45
5	*L* precuneus, *R* superior occipital gyrus, cuneus, precuneus	67	0.017	3 -72 30
Group-by-FCD_{global} effect (SCZ > controls)				
1	*L/R* caudate, thalamus, pallidum, putamen, superior temporal gyrus (STG), insula, temporal pole (superior), olfactory cortex, middle temporal gyrus (MTG), gyrus rectus *L* inferior frontal gyrus (IFG) (orbital part), STG, anterior cingulate cortex (ACC) *R* lingual gyrus, parahippocampal gyrus, amygdala, MTG (temporal pole), IFG (orbital part), precuneus, hippocampus	1559	<0.001	12 9 -3
2	*L/R* ACC, MCC *L* superior frontal gyrus (SFG) (medial)	362	<0.001	-12 15 27
3	*R* MTG, STG	53	0.043	66 -42 6

4	*L/R* cuneus, precuneus	127	0.001	21 -57 30
5	*L* paracentral lobule, precentral, MCC, supplemental motor area (SMA)	56	0.035	-12 -6 48
Main effect of group (SCZ < controls), group-by-FCD_{global} effect (SCZ < controls), group-by-age effect (SCZ > controls and SCZ < controls)				
No significant clusters.				

[a]Result clusters were mapped with the AAL toolbox. [b]Peak voxel coordinates are given in MNI space. *L* and *R* denote left and right hemispheric location; *L/R* denotes bilateral location.

Table S4. Categorization of subjects into CTQ severity classes*.

	None to low	Slight to moderate	Moderate to severe	Severe to extreme
Emotional abuse	186 (73.5%)	49 (19.0%)	11 (4.3%)	7 (2.8%)
Physical abuse	234 (92.5%)	10 (4.0%)	5 (2.0%)	4 (1.6%)
Sexual abuse	238 (94.1%)	6 (2.4%)	8 (3.2%)	1 (0.4%)
Emotional neglect	161 (63.6%)	67 (26.5%)	18 (7.1%)	7 (2.8%)
Physical neglect	195 (77.1%)	38 (15.0%)	11 (4.3%)	9 (3.6%)

*According to (Bernstein & Fink, 1998) and Häuser et al. (2011)

Bilateral NAcc seed group comparison between SCZ and control subjects

Bilateral NAcc seed analysis revealed no group main effect, yet significant group-by-age effects (SCZ > controls) localising to three whole brain significant clusters in the right rolandic operculum/superior temporal pole, left thalamus, and right putamen/insula. Separation into left and right NAcc seed again revealed group-by-age effects with different regional emphasis (*left NAcc:* six significant clusters, including bilateral insula, superior temporal gyrus; *right NAcc:* three significant clusters, including bilateral thalamus, right putamen/insula).

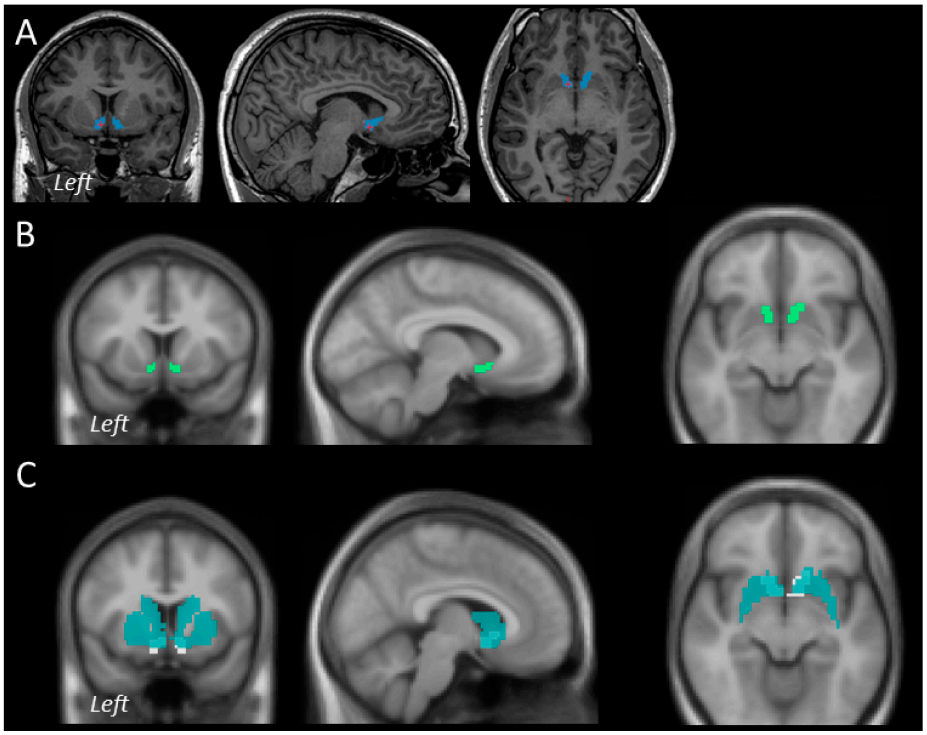

Figure S1. Exemplary ~~i~~individual NAcc segmentation, NAcc seed and striatal volume-of-interest mask. (**A**) Example of individual segmentation of left and right NAcc (FreeSurfer), show in native space. (**B**) MNI space customized T1 wholehead average on which a binarized (>0.6) MNI-normalized and interpolated (here: 2 × 2 × 2 mm^3) NAcc mask as used for ~~the~~ seed analyses is shown. A 3 × 3 × 3 mm^3 version was created for extracting FCD values from the NAcc area. (**C**) Striatal mask combing AAL-based bilateral caudate and putamen and a leniently thresholded NAcc (white; from anatomical segmentations) (1384 voxels sized 3 × 3 × 3 mm^3).

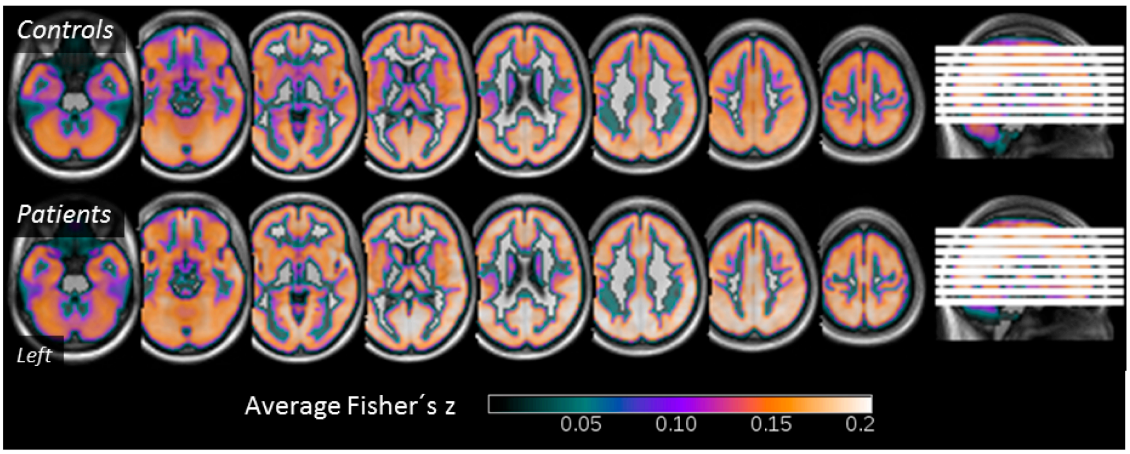

Figure S2. Average FCD maps of control and SCZ group. Proof-of-concept group averages are shown for *N* = 253 control subjects (upper panel) and 25 SCZ patients (lower panel). Note typical range of Fisher's z values round 0.15 and posterior midline hub. Note that for display purposes values are not corrected for age, sex and source sample.

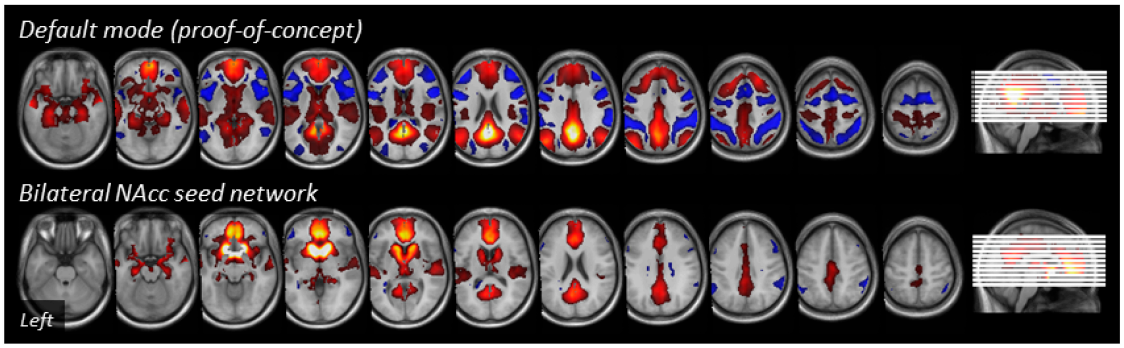

Figure S3. Proof-of-concept seed based connectivity of default mode areas and NAcc. *Upper panel:* Positive seed correlation with combined midline anterior/posterior seed mask, and anticorrelations (all $p_{voxel.FWE} < 0.05$). Lower panel: Same analysis for bilateral NAcc seed; here, the positive network was very strong and is thresholded at $p_{voxel.FWE} < 1 \times 10^{-11}$; few anticorrelated areas were detected [$p_{voxel.FWE} < 0.05$]).

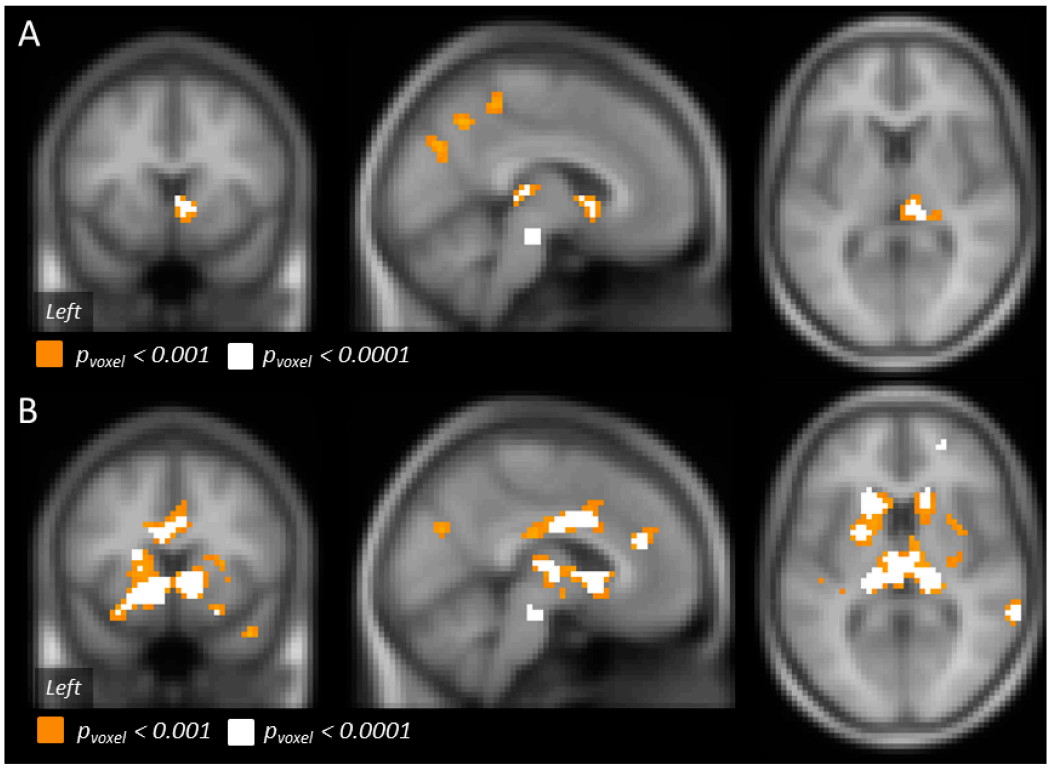

Figure S4. Increased FCD in SCZ compared with controls. (A) Group main effect (SCZ > controls). (B) Group-by-FCD_{global} effect (SCZ > controls). Only clusters with whole brain corrected $p_{cluster.FWE} < 0.05$ are shown. Orange: clusters collected at $p_{voxel} < 0.001$; white: voxels collected at $p_{voxel} < 0.0001$ to highlight peak effects. Note emphasis in the subcortical nuclei with strongest effects in the right NAcc, posterior thalamus and ventral mesencephalon (see Table S2 for details).

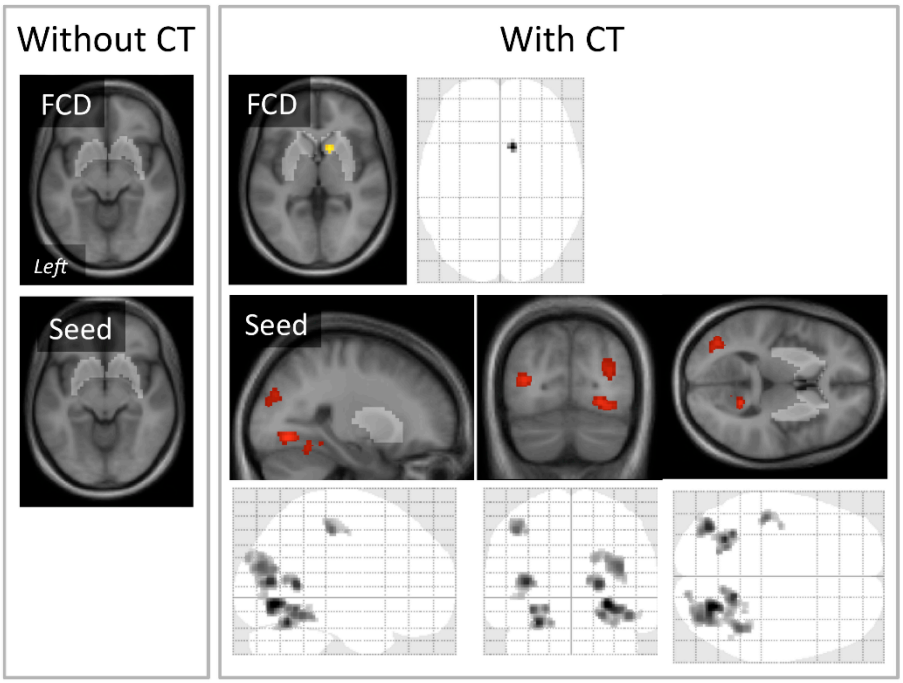

Figure S5. PGRS effects analyzed separately in subjects with no childhood trauma (CT) (left box, *N* = 133) and subjects with at least one rated childhood trauma domain (right box, *N* = 120). Clusters were collected at $p_{voxel} < 0.001$. FWE-corrected significant clusters (whole brain or within striatal mask) were detected only for the CT group. The red clusters represent the global conjunction of PGRS and PGRS-by-CA effects; results were similar for the separate effects. Contrasts were not primarily masked (see glass-brain depictions); the striatal mask was applied post-hoc for small volume correction of the FCD analysis.