**Supplementary materials**

**S1. Detailed Parameters for Data acquisition and preprocessing**

Subjects underwent scanning using a GE Signa EXCITE 3.0 Tesla MR imaging system and an 8-channel phased array head coil. Resting-state MR scanning was performed while subjects fixated a central crosshair for the duration of the scan. Video monitoring of participants eyes confirmed adherence to this instruction. Soft ear plugs were used to reduce scan noise, and head motion was minimized with head cushions. Echo-planar imaging sensitive to changes in BOLD signals (repetition time= 1775msec, echo time= 27mesc, flip angle= 60°) were obtained. The slice thickness was 4 mm (1mm gap) with a matrix size of 64×64 and a field of view of 220×220 mm², resulting in a voxel size of 3.44×3.44×5 mm³. Each brain volume was comprised of 29 axial slices, and each functional run contained 210 image volumes.

The first five scans were discarded to remove the impact of magnetization stabilization. For each subject, EPI images were slice-time corrected, realigned to the middle image, and subsequently unwrapped to correct for susceptibility-by-movement interaction. The realigned images were spatially normalized to the Montreal Neurological Institute (MNI) EPI template in SPM8, resampled to 3×3×3mm³, and smoothed with an 8-mm full-width at half-maximum (FWHM) Gaussian kernel.

Table S1. Correlational analyses between the image measures and Positive and Negative Symptom

Scale (PANSS) scores of patients with schizophrenia and psychotic bipolar disorder.

| Image measures (location) | Positive r/p value | Negative r/p value | General r/p value | Total r/p value |
|---|---|---|---|---|
| **ALFF** | | | | |
| *Control group > bipolar group* | | | | |
| Left orbital frontal cortex/ anterior cingulate cortex | -0.238/0.075 | 0.117/0.388 | -0.077/0.570 | -0.092/0.497 |
| *Control group > schizophrenia group* | | | | |
| Left precentral/postcentral gyrus | 0.154/0.376 | -0.188/0.279 | 0.078/0.655 | 0.005/0.975 |
| Right precentral/postcentral gyrus | 0.170/0.330 | -0.091/0.604 | 0.017/0.922 | 0.022/0.899 |
| Right thalamus | 0.231/0.181 | 0.140/0.421 | 0.230/0.184 | 0.240/0.165 |
| Left thalamus | 0.017/0.923 | 0.085/0.626 | 0.147/0.399 | 0.101/0.564 |
| left cingulate gyrus/paracentral lobule | 0.067/0.701 | -0.142/0.416 | -0.044/0.802 | -0.060/0.731 |
| left orbital frontal cortex | 0.159/0.363 | -0.127/0.467 | 0.017/0.923 | 0.003/0.985 |
| *Schizophrenia group> control group* | | | | |
| Left parahippocampus | 0.037/0.834 | -0.111/0.527 | -0.267/0.121 | -0.163/0.350 |
| Right parahippocampus | 0.370/0.029* | 0.022/0.901 | 0.088/0.613 | 0.158/0.366 |

| Image measures (location) | | Positive r/p value | Negative r/p value | General r/p value | Total r/p value |
|---|---|---|---|---|---|
| **Functional connectivity** | | | | | |
| **Seed Area** | **Area with Altered Functional Connectivity** | | | | |
| *Schizophrenia group > control group* | | | | | |
| Left precentral/postcentral | Right striatum | -0.137/0.431 | 0.037/0.833 | -0.071/0.685 | -0.061/0.729 |
| | Left striatum | 0.015/0.933 | -0.005/0.978 | -0.078/0.655 | -0.035/0.842 |
| | Right thalamus | -0.137/0.431 | 0.037/0.833 | -0.071/0.685 | 0.211/0.224 |
| Right thalamus | Bilateral precentral/ | -0.230/0.183 | 0.086/0.624 | -0.085/0.626 | -0.075/0.667 |
| | Right parahippocampus | -0.204/0.240 | -0.216/0.212 | -0.061/0.727 | -0.183/0.293 |
| | Left parahippocampus | -0.105/0.550 | -0.292/0.088 | -0.177/0.310 | -0.240/0.165 |
| | Right lingual gyrus | -0.237/0.171 | -0.216/0.213 | -0.226/0.191 | -0.272/0.114 |
| Left parahippocampus | Right striatum | 0.152/0.383 | 0.265/0.123 | 0.248/0.152 | 0.277/0.108 |
| | Bilateral medial superior | -0.122/0.485 | -0.079/0.650 | -0.312/0.068 | -0.220/0.205 |

| | | | | | |
|---|---|---|---|---|---|
| Left anterior cingulate cortex | Right middle temporal gyrus | -0.241/0.164 | 0.254/0.141 | 0.105/0.548 | 0.083/0.635 |
| *Control group > schizophrenia group* | | | | | |
| Right thalamus | Right middle frontal gyrus | -0.020/0.907 | -0.079/0.653 | 0.083/0.635 | 0.000/0.999 |
| | Left middle frontal gyrus | 0.031/0.860 | -0.002/0.993 | 0.056/0.749 | 0.036/0.839 |
| Left anterior cingulate | Right orbital frontal cortex | -0.106/0.543 | 0.046/0.793 | -0.153/0.379 | -0.068/0.622 |
| *Bipolar group > control group* | | | | | |
| Left precentral/postcentral | Right striatum | 0.070/0.607 | 0.203/0.129 | 0.144/0.286 | 0.170/0.205 |
| | Left striatum | -0.088/0.516 | 0.186/0.516 | 0.027/0.841 | 0.042/0.757 |
| | Right thalamus | -0.066/0.967 | 0.115/0.396 | -0.026/0.848 | 0.016/0.908 |
| Right thalamus | Left precentral/ postcentral gyri/ left insula/ right superior | -0.018/0.896 | 0.268/0.044[*] | 0.150/0.266 | 0.164/0.223 |
| | Right insula | 0.120/0.372 | 0.056/0.680 | 0.090/0.506 | 0.111/0.410 |
| | Bilateral cuneus | -0.087/0.521 | 0.035/0.795 | 0.039/0.775 | 0.005/0.968 |
| | Right precentral/ | 0.076/0.575 | 0.260/0.051 | 0.253/0.057 | 0.257/0.053 |
| Left anterior cingulate cortex | Left precuneus | -0.211/0.115 | 0.361/0.006[*] | 0.005/0.971 | 0.038/0.777 |
| *Control group > bipolar group* | | | | | |
| Right parahippocampus | Right precentral/ postcentral gyri | -0.090/0.506 | -0.047/0.728 | -0.030/0.827 | -0.062/0.648 |

*p<0.05 without multiple comparison correction。

Table S2. Correlational analyses between the image measures and Montgomery-Asberg Depression

Rating Scale (MADRS) scores of patients with schizophrenia and psychotic bipolar disorder.

| Image measures (location) | r value | p value |
|---|---|---|
| **ALFF** | | |
| *Control group > bipolar group* | | |
| Left orbital frontal cortex/ anterior cingulate cortex | 0.069 | 0.615 |
| *Control group > schizophrenia group* | | |
| Left precentral/postcentral gyrus | -0.025 | 0.886 |
| Right precentral/postcentral gyrus | 0.175 | 0.307 |
| Right thalamus | -0.185 | 0.279 |
| Left thalamus | -0.088 | 0.609 |
| left cingulate gyrus/paracentral lobule | -0.118 | 0.495 |
| left orbital frontal cortex | -0.195 | 0.254 |
| *Schizophrenia group> control group* | | |
| Left parahippocampus | 0.127 | 0.459 |
| Right parahippocampus | 0.083 | 0.631 |

| Image measures (location) | | r value | p value |
|---|---|---|---|
| **Functional connectivity** | | | |
| **Seed Area** | **Area with Altered Functional Connectivity** | | |
| *Schizophrenia group > control group* | | | |
| Left precentral/postcentral | Right striatum | -0.109 | 0.528 |
| | Left striatum | -0.031 | 0.860 |
| | Right thalamus | 0.098 | 0.570 |
| Right thalamus | Bilateral precentral/ postcentralgyri | 0.093 | 0.591 |
| | Right parahippocampus | 0.051 | 0.766 |
| | Left parahippocampus | 0.132 | 0.443 |
| | Right lingual gyrus | -0.181 | 0.290 |
| Left parahippocampus | Right striatum | 0.209 | 0.221 |
| | Bilateral medial superior frontal gyri | 0.083 | 0.631 |
| Left anterior cingulate cortex | Right middle temporal gyrus | 0.043 | 0.804 |
| *Control group > schizophrenia group* | | | |

| | | | |
|---|---|---|---|
| Right thalamus | Right middle frontal gyrus | -0.098 | 0.570 |
| | Left middle frontal gyrus | 0.140 | 0.415 |
| Left anterior cingulate cortex | Right orbital frontal cortex | -0.098 | 0.571 |
| **Bipolar group > control group** | | | |
| Left precentral/postcentral | Right striatum | -0.014 | 0.919 |
| | Left striatum | 0.249 | 0.067 |
| | Right thalamus | 0.070 | 0.614 |
| Right thalamus | Left precentral/ postcentral gyri/ left insula/ right superior frontal gyrus | 0.252 | 0.063 |
| | Right insula | 0.080 | 0.562 |
| | Bilateral cuneus | 0.131 | 0.341 |
| | Right precentral/ postcentral gyri | 0.256 | 0.059 |
| Left anterior cingulate cortex | Left precuneus | 0.056 | 0.685 |
| **Control group > bipolar group** | | | |
| Right parahippocampus | Right precentral/ postcentral gyri | 0.037 | 0.787 |

*p<0.05 without multiple comparison correction

Table S3. Correlational analyses between the image measures and Young Mania Research Scale (YMRS)

scores of patients with schizophrenia and psychotic bipolar disorder.

| Image measures (location) | r value | p value |
|---|---|---|
| **ALFF** | | |
| *Control group > bipolar group* | | |
| Left orbital frontal cortex/ anterior cingulate cortex | 0.300 | 0.827 |
| *Control group > schizophrenia group* | | |
| Left precentral/postcentral gyrus | -0.150 | 0.383 |
| Right precentral/postcentral gyrus | 0.003 | 0.985 |
| Right thalamus | -0.278 | 0.101 |
| Left thalamus | -0.273 | 0.107 |
| left cingulate gyrus/paracentral lobule | 0.049 | 0.776 |
| left orbital frontal cortex | 0.053 | 0.760 |
| *Schizophrenia group> control group* | | |
| Left parahippocampus | 0.127 | 0.459 |
| Right parahippocampus | 0.083 | 0.631 |

| Image measures (location) | | r value | p value |
|---|---|---|---|
| **Functional connectivity** | | | |
| **Seed Area** | **Area with Altered Functional Connectivity** | | |
| *Schizophrenia group > control group* | | | |
| Left precentral/postcentral | Right striatum | -0.237 | 0.164 |
| | Left striatum | -0.036 | 0.835 |
| | Right thalamus | -0.170 | 0.322 |
| Right thalamus | Bilateral precentral/ postcentralgyri | -0.065 | 0.705 |
| | Right parahippocampus | -0.050 | 0.772 |
| | Left parahippocampus | 0.028 | 0.872 |
| | Right lingual gyrus | -0.059 | 0.732 |
| Left parahippocampus | Right striatum | -0.093 | 0.589 |
| | Bilateral medial superior frontal gyri | 0.160 | 0.351 |
| Left anterior cingulate cortex | Right middle temporal gyrus | 0.039 | 0.820 |
| *Control group > schizophrenia group* | | | |

| | | | |
|---|---|---|---|
| Right thalamus | Right middle frontal gyrus | -0.098 | 0.570 |
| | Left middle frontal gyrus | 0.140 | 0.415 |
| Left anterior cingulate cortex | Right orbital frontal cortex | -0.152 | 0.376 |
| **Bipolar group > control group** | | | |
| Left precentral/postcentral | Right striatum | 0.01 | 0.944 |
| | Left striatum | -0.086 | 0.525 |
| | Right thalamus | -0.095 | 0.482 |
| Right thalamus | Left precentral/ postcentral gyri/ left | 0.006 | 0.963 |
| | Right insula | 0.097 | 0.472 |
| | Bilateral cuneus | 0.086 | 0.525 |
| | Right precentral/ postcentral gyri | 0.068 | 0.614 |
| Left anterior cingulate cortex | Left precuneus | -0.259 | 0.054 |
| **Control group > bipolar group** | | | |
| Right parahippocampus | Right precentral/ postcentral gyri | -0.116 | 0.392 |

*p<0.05 without multiple comparison correction

Table S4. Correlational analyses between the image measures and Global Assessment of Functioning Scale (GAF) scores of patients with schizophrenia and psychotic bipolar disorder.

| Image measures (location) | r value | p value |
|---|---|---|
| **ALFF** | | |
| *Control group > bipolar group* | | |
| Left orbital frontal cortex/ anterior cingulate cortex | -0.009 | 0.946 |
| *Control group > schizophrenia group* | | |
| Left precentral/postcentral gyrus | -0.052 | 0.764 |
| Right precentral/postcentral gyrus | 0.031 | 0.857 |
| Right thalamus | -0.185 | 0.279 |
| Left thalamus | -0.188 | 0.272 |
| left cingulate gyrus/paracentral lobule | 0.109 | 0.528 |
| left orbital frontal cortex | -0.081 | 0.638 |
| *Schizophrenia group> control group* | | |
| Left parahippocampus | -0.005 | 0.976 |
| Right parahippocampus | -0.116 | 0.501 |

| Image measures (location) | | r value | p value |
|---|---|---|---|
| **Functional connectivity** | | | |
| **Seed Area** | **Area with Altered Functional Connectivity** | | |
| *Schizophrenia group > control group* | | | |
| Left precentral/postcentral | Right striatum | 0.126 | 0.463 |
| | Left striatum | 0.051 | 0.769 |
| | Right thalamus | 0.055 | 0.749 |
| Right thalamus | Bilateral precentral/ postcentralgyri | 0.060 | 0.727 |
| | Right parahippocampus | 0.043 | 0.802 |
| | Left parahippocampus | 0.057 | 0.741 |
| | Right lingual gyrus | 0.323 | 0.055 |
| Left parahippocampus | Right striatum | -0.080 | 0.642 |
| | Bilateral medial superior frontal gyri | 0.070 | 0.687 |
| Left anterior cingulate cortex | Right middle temporal gyrus | 0.108 | 0.530 |
| *Control group > schizophrenia group* | | | |

| | | | |
|---|---|---|---|
| Right thalamus | Right middle frontal gyrus | 0.390* | 0.018* |
| | Left middle frontal gyrus | 0.169 | 0.325 |
| Left anterior cingulate cortex | Right orbital frontal cortex | 0.013 | 0.939 |
| **Bipolar group > control group** | | | |
| Left precentral/postcentral | Right striatum | 0.038 | 0.780 |
| | Left striatum | 0.031 | 0.819 |
| | Right thalamus | 0.012 | 0.930 |
| Right thalamus | Left precentral/ postcentral gyri/ Left insula/ Right superior frontal gyrus | -0.024 | 0.862 |
| | Right insula | -0.005 | 0.973 |
| | Bilateral cuneus | -0.051 | 0.709 |
| | Right precentral/ postcentral gyri | -0.017 | 0.899 |
| Left anterior cingulate cortex | Left precuneus | 0.221 | 0.099 |
| **Control group > bipolar group** | | | |
| Right parahippocampus | Right precentral/ postcentral gyri | -0.011 | 0.935 |

*p<0.05 without multiple comparison correction

Table S5. Correlational analyses between the image measures and cognitive function evaluated using the Brief Assessment of Cognition in Schizophrenia (BACS) in patients with schizophrenia and psychotic bipolar disorder.

| Image measures (location) | r value | p value |
|---|---|---|
| **ALFF** | | |
| *Control group > bipolar group* | | |
| Left orbital frontal cortex/ anterior cingulate cortex | 0.101 | 0.459 |
| *Control group > schizophrenia group* | | |
| Left precentral/postcentral gyrus | 0.107 | 0.534 |
| Right precentral/postcentral gyrus | -0.180 | 0.294 |
| Right thalamus | -0.023 | 0.893 |
| Left thalamus | -0.108 | 0.544 |
| left cingulate gyrus/paracentral lobule | 0.075 | 0.665 |
| left orbital frontal cortex | 0.200 | 0.243 |
| *Schizophrenia group> control group* | | |
| Left parahippocampus | 0.40[*] | 0.015[*] |
| Right parahippocampus | 0.200 | 0.242 |

| Image measures (location) | | r value | p value |
|---|---|---|---|
| **Functional connectivity** | | | |
| **Seed Area** | **Area with Altered Functional Connectivity** | | |
| *Schizophrenia group > control group* | | | |
| Left precentral/postcentral | Right striatum | -0.158 | 0.350 |
| | Left striatum | -0.106 | 0.532 |
| | Right thalamus | 0.082 | 0.628 |
| Right thalamus | Bilateral precentral/ postcentralgyri | 0.109 | 0.521 |
| | Right parahippocampus | 0.094 | 0.580 |
| | Left parahippocampus | 0.022 | 0.896 |
| | Right lingual gyrus | 0.096 | 0.573 |
| Left parahippocampus | Right striatum | 0.060 | 0.726 |
| | Bilateral medial superior frontal gyri | -0.014 | 0.935 |

| | | | |
|---|---|---|---|
| Left anterior cingulate cortex | Right middle temporal gyrus | 0.098 | 0.564 |
| **_Control group > schizophrenia group_** | | | |
| Right thalamus | Right middle frontal gyrus | -0.089 | 0.599 |
| | Left middle frontal gyrus | -0.055 | 0.745 |
| Left anterior cingulate cortex | Right orbital frontal cortex | 0.054 | 0.752 |
| **_Bipolar group > control group_** | | | |
| Left precentral/postcentral | Right striatum | 0.033 | 0.807 |
| | Left striatum | 0.016 | 0.908 |
| | Right thalamus | 0.020 | 0.884 |
| Right thalamus | Left precentral/ postcentral gyri/ Left insula/ Right superior frontal gyrus | 0.397* | 0.002* |
| | Right insula | 0.211 | 0.115 |
| | Bilateral cuneus | 0.401* | 0.002* |
| | Right precentral/ postcentral gyri | 0.168 | 0.211 |
| Left anterior cingulate cortex | Left precuneus | 0.145 | 0.281 |
| **_Control group > bipolar group_** | | | |
| Right parahippocampus | Right precentral/ postcentral gyri | 0.114 | 0.400 |

*p<0.05 without multiple comparison correction