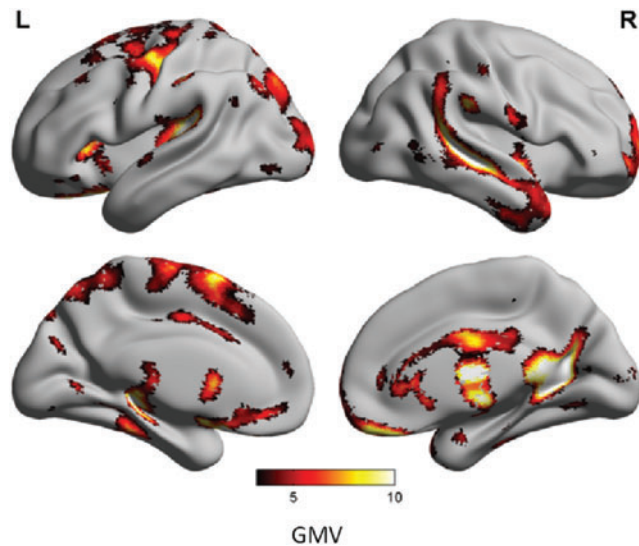


## Supplementary Data

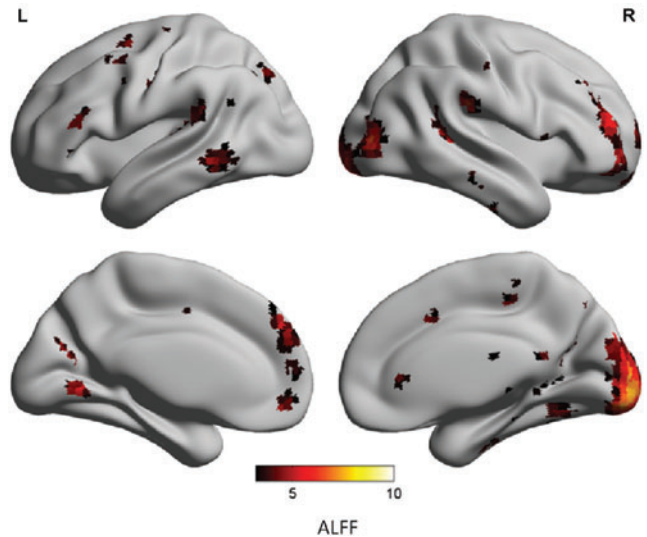
### Supplementary Analysis: Lateralization of Regional Gray Matter Volume and Amplitude of Low-Frequency Fluctuations

The anatomical images were segmented using the symmetrical tissue probability maps mentioned in the main text (Ashburner and Friston, 2005). The normalized and modulated gray matter volume images (i.e., GMV images) were used for subsequent voxel-based morphometry analysis (Ashburner and Friston, 2000). The GMV images were spatially smoothed using an 8 mm full-width-at-half-maximum Gaussian kernel. Amplitude of low-frequency fluctuation (ALFF) maps was calculated between 0.01 and 0.08 Hz band using Resting-State fMRI Data Analysis Toolkit V1.6 (REST) (Song et al., 2011). GMV and ALFF maps from each subject were flipped left to right in order to compare the differences between the hemispheres. Then, the resultant map for each parameter was divided by the sum of the values of the left and the right maps. One-sample *t*-test was performed to determine statistically significant hemispheric asymmetry in GMV and ALFF with a cluster-level threshold of  $p < 0.05$  when a height threshold of  $p < 0.001$  was applied.

The hemispheric differences in GMV were widespread across the brain (Supplementary Fig. S1). Specifically, the



**SUPPLEMENTARY FIG. S1.** Gray matter volume (GMV) differences between the left and the right hemispheres. Clusters in the left hemisphere indicate significant left-lateralized GMV, while clusters in the right hemisphere indicate right-lateralized GMV.



**SUPPLEMENTARY FIG. S2.** Amplitude of low-frequency fluctuation (ALFF) differences between the left and the right hemispheres. Clusters in the left hemisphere indicate significant left-lateralized ALFF, while clusters in the right hemisphere indicate right-lateralized ALFF.

left hemisphere had greater GMV in regions including the rectal gyrus, inferior frontal gyrus, and transverse temporal gyrus compared with the right hemisphere. In contrast, higher GMVs were observed in the cuneus, caudate, and superior temporal gyrus in the right hemisphere compared with the left hemisphere.

Higher ALFFs were observed in regions including inferior/medial/middle frontal regions, anterior cingulate, precuneus, caudate body, lingual gyrus, and middle temporal regions in the left hemisphere (Supplementary Fig. S2). The right hemisphere demonstrated higher ALFF within the insula, supramarginal gyrus, inferior/middle/superior temporal gyrus, and posterior cingulate gyrus.

### Supplementary References

- Ashburner J, Friston KJ. 2000. Voxel-based morphometry—the methods. *Neuroimage* 11:805–821.
- Ashburner J, Friston KJ. 2005. Unified segmentation. *Neuroimage* 26:839–851.
- Song X-W, Dong Z-Y, Long X-Y, Li S-F, Zuo X-N, Zhu C-Z, He Y, Yan C-G, Zang Y-F. 2011. REST: a toolkit for resting-state functional magnetic resonance imaging data processing. *PLoS One* 6:e25031.