

## Supplementary material

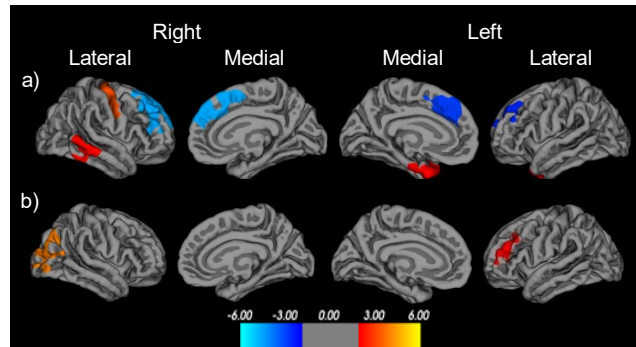
### Cortical thickness and surface area correlates to cognitive dysfunction among first episode psychosis patients

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#### Supplementary Figures S1-S3

Figure S1. Statistical maps of right and left hemispheres lateral and medial views demonstrating significant cortical thickness (a) and cortical area (b) differences between first episode psychosis (FEP) patients ( $n = 63$ ) and control subjects (CS) ( $n = 30$ ).

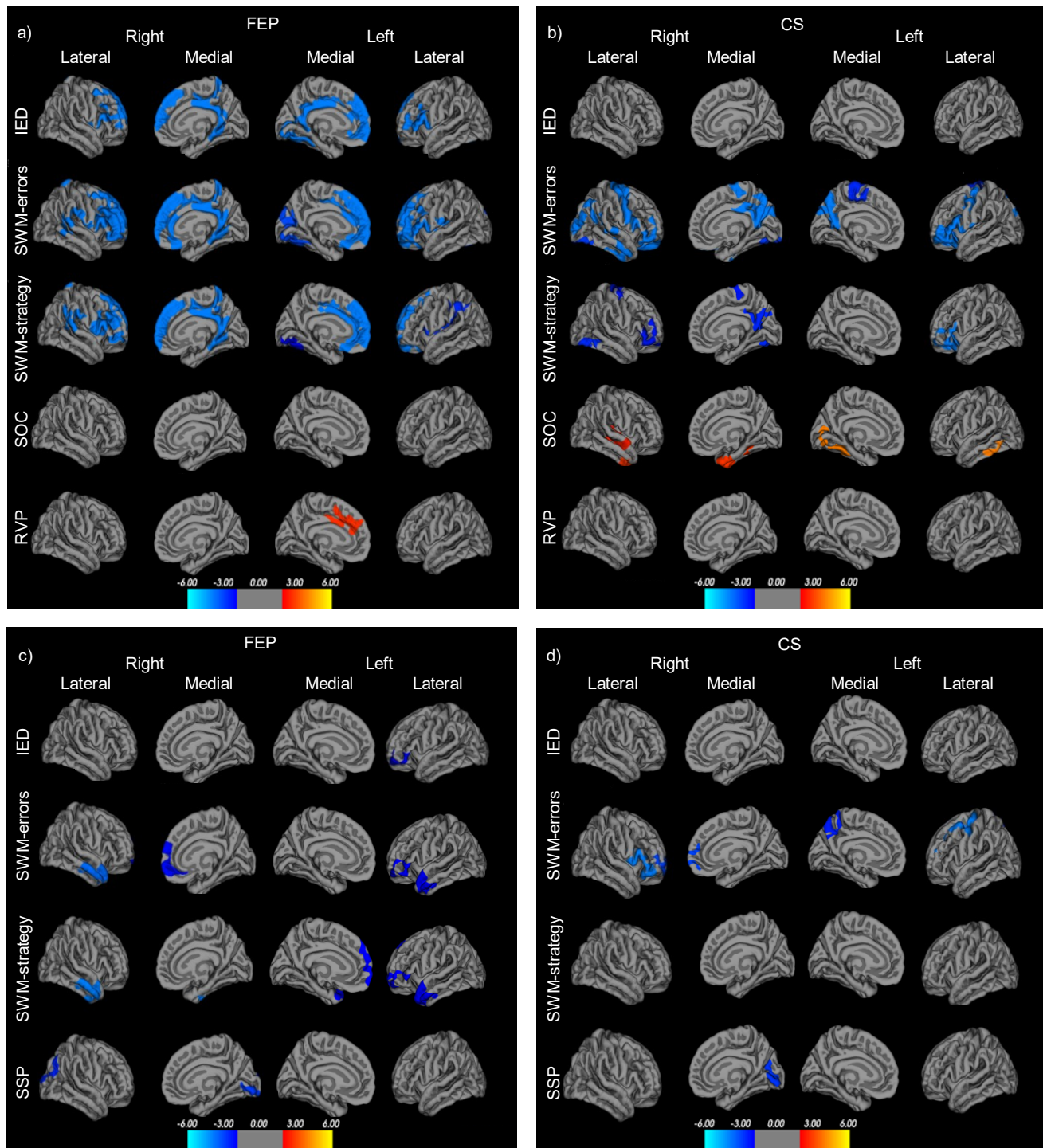


The maps were produced from general linear models, comparisons were made controlling for the effects of age and gender.

The  $p$ -values set at the  $p < 0.05$  (false discovery rate corrected) are presented in the color bar (logarithmic value).

Red/yellow colors encode the significance of thicker cortex (a) and larger surface area (b), blue colours encode the significance of thinner cortex (a), and grey for zero difference in FEP patients as compared to CS. Focal coordinates for each cluster are presented in Table S1.

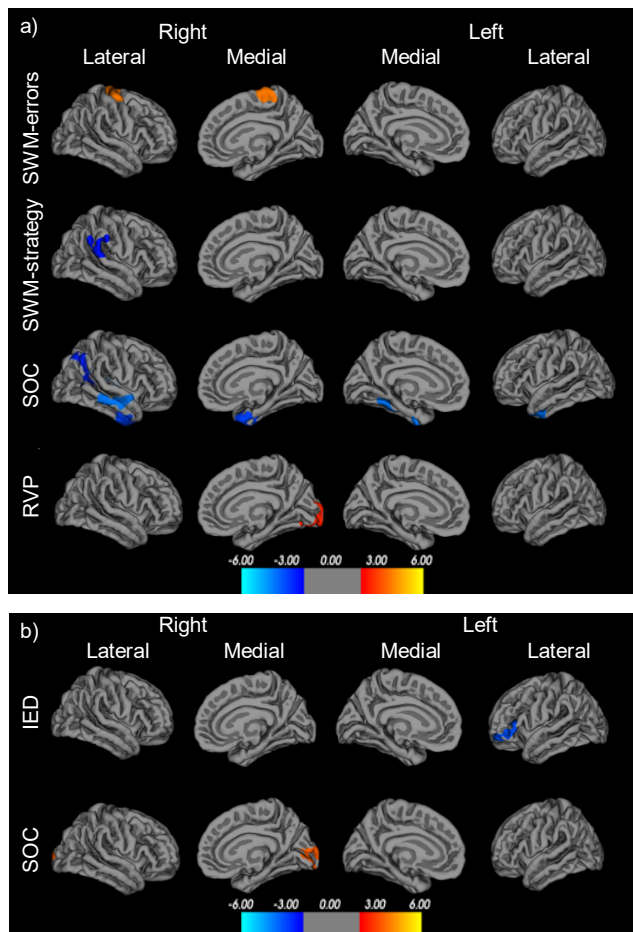
Figure S2. Statistical maps of right and left hemispheres lateral and medial views of partial correlations of cortical thickness (a, b) and cortical area (c, d) with neuropsychological tests scores among first episode psychosis (FEP) patients ( $n = 63$ ) and control subjects (CS) ( $n = 30$ ).



All comparisons were made controlling for the effects of age and gender. The  $p$ -values set at the  $p < 0.05$  (false discovery rate corrected) are presented in the color bar (logarithmic value). The colour bar for GLM maps (cortical thickness /area correlation with cognitive performance differ from zero) indicates both the strength and direction of the correlation with blue for high negative, red/yellow for high positive, and grey for zero correlation. Focal coordinates for each cluster are presented in Table S2.

IED, Intra/Extradimensional Shift; SWM-errors, Spatial Working Memory, errors score; SWM strategy, Spatial Working Memory, strategy score; SOC, Stockings of Cambridge; RVP, Rapid Visual Information Processing; SSP, Spatial Span.

Figure S3. Statistical maps of right and left hemispheres lateral and medial views of partial correlations differences of cortical thickness (a) and cortical area (b) with neuropsychological tests scores in first episode psychosis (FEP) patients ( $n = 63$ ) compared to control subjects (CS) ( $n = 30$ ).



Comparisons of FEP patients versus CS brain-cognition relationship differences taken from the GLM analysis.

All comparisons were made controlling for the effects of age and gender. Significance is presented on a logarithmic ( $p$ -value) scale ( $p < 0.05$ , false discovery rate corrected), red–yellow indicates clusters where CANTAB test score-thickness (a) / -area (b) relationships are stronger for the FEP patients; blue indicates clusters where the CANTAB test score-thickness (a) / -area (b) relationships are weaker for the FEP patients.

Focal coordinates for each cluster are presented in Table S3.

IED, Intra/Extradimensional Shift; SWM-errors, Spatial Working Memory, errors score; SWM strategy, Spatial Working Memory, strategy score; SOC, Stockings of Cambridge; RVP, Rapid Visual Information Processing.