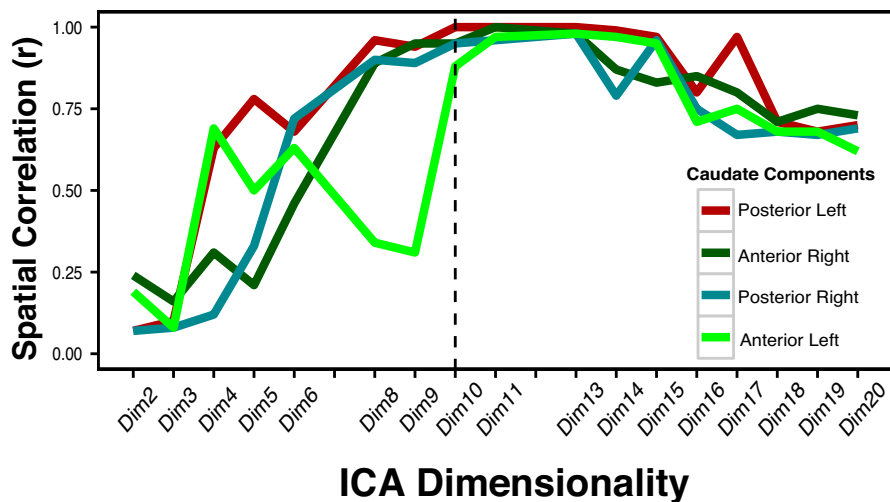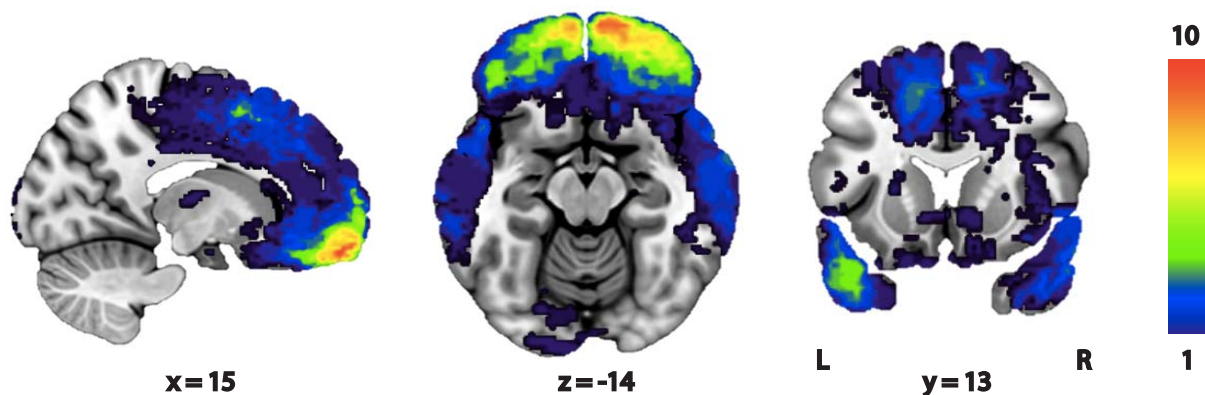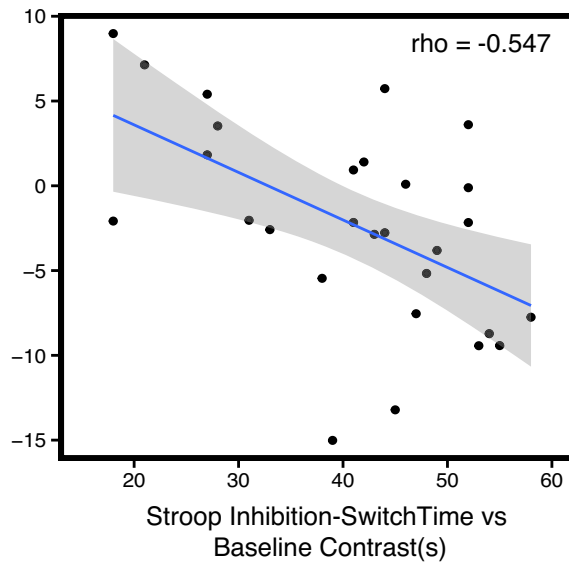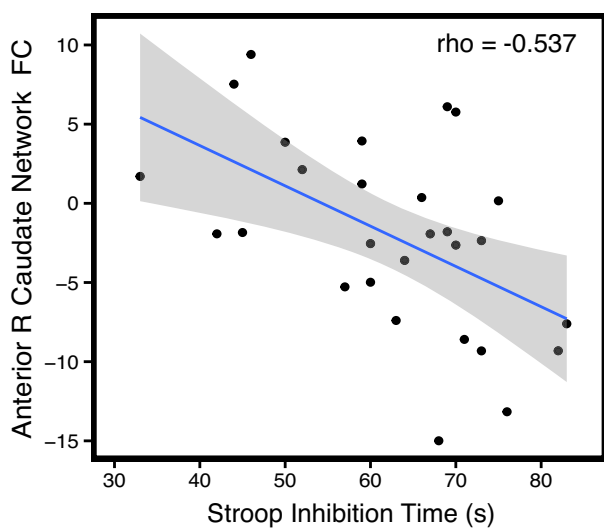**Supplementary Figure 1. Evaluation of the striatal subdivisions and lesion overlap maps. (A)** Correlation matrix representing the pairwise correlations between all of the twelve striatal subdivisions identified. The coloured bar represents the correlation coefficients. Blue colours indicate lower correlations. **(B)** Stability of the four caudate subdivisions across different independent component analysis (ICA) dimensionalities. The highest spatial correlation identified between these subdivisions and components within DIM2-DIM20 are plotted. Higher spatial correlations suggest that the striatal subdivisions derived from DIM12 can be robustly identified across other dimensionalities. This pattern was present across all striatal subdivisions derived from DIM12, not presented in the figure for ease of visualisation. **(C)** Overlap map of focal lesions defined on structural T1 and T2 images in traumatic brain injury (TBI) patients. The colour bar indicates the areas of lesion overlap. Red areas represent areas of highest overlap. L = left, R = right.
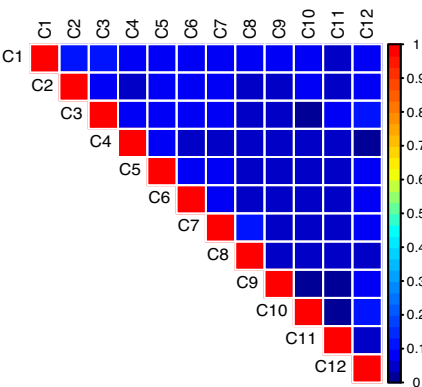
A Correlation Matrix

B ICA Dimensionality

Caudate Components
- Posterior Left
- Anterior Right
- Posterior Right
- Anterior Left

C

x=15   z=-14   L   y=13   R

D

rho = -0.537

rho = -0.547

Anterior R Caudate Network FC

Stroop Inhibition Time (s)

Stroop Inhibition-SwitchTime vs
Baseline Contrast(s)

Supplementary Figure 2. The relationship between thalamic to anterior cingulate cortex (ACC) functional connectivity (FC) and neuropsychological measures. (A) Four separate thalamic subdivisions were used to examine thalamo-cortical connectivity: blue/red subdivisions have high structural connectivity to the prefrontal cortex, yellow/green subdivisions have high connectivity to primary motor cortex. (B) Box plots showing thalamic-ACC FC in healthy controls (CON) and traumatic brain injury (TBI) (C) Scatter plots showing the relationship between thalamic-ACC functional connectivity and reaction times (seconds) for Stroop Inhibition-Switch time vs baseline, an executive measure corrected for baseline speed.

A

R **L**

B

Right Thalamic 'Primary Motor'

Right Thalamic 'Prefrontal'

Functional Connectivity

CON TBI

CON TBI

C

Right Thalamic 'Primary Motor'

Right Thalamic 'Prefrontal'

Functional Connectivity

Stroop Inhibition−Switch Time vs
Baseline Contrast (s)