

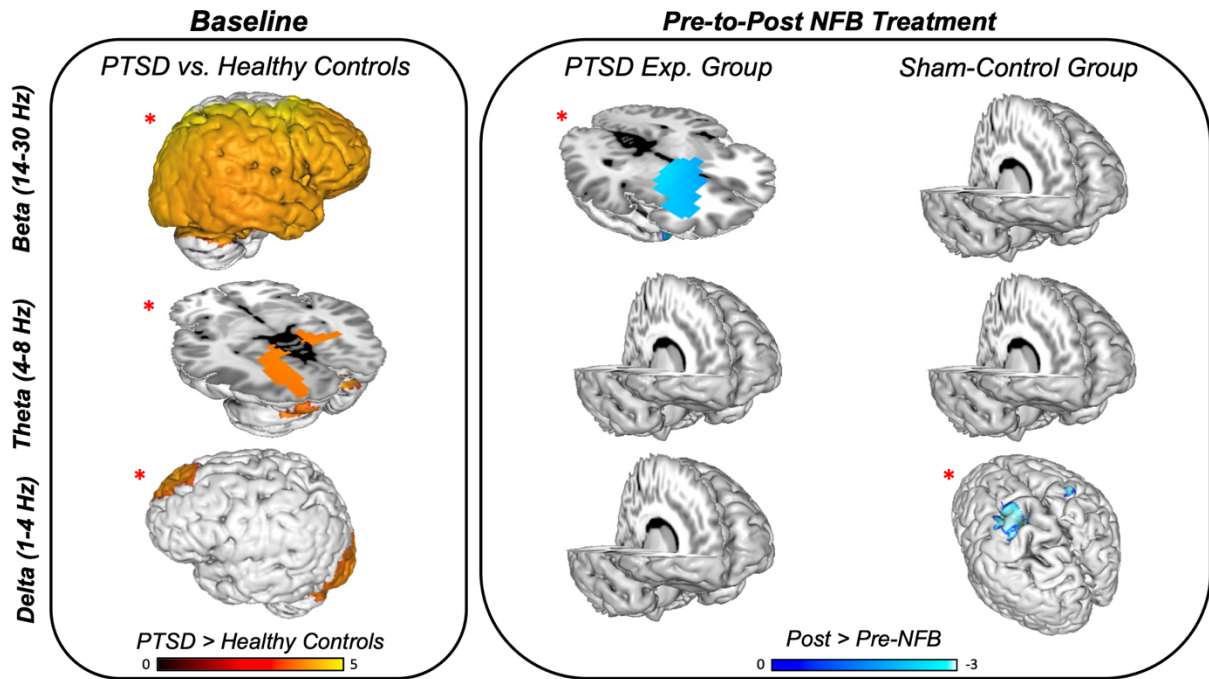
Supplementary Results

EEG Comparisons at Baseline: PTSD vs. Neurotypical Control Group

At baseline, individuals with PTSD demonstrated greater relative delta power in the medial frontal gyrus (BA8, BA9, BA10; $x = -8, y = 52, z = 39$; $T_{\max} = 3.34, p < 0.05$ FDR corrected) and the cuneus (BA17, BA18; $x = -26, y = -104, z = -15$; $T_{\max} = 3.01, p < 0.05$ FDR corrected) as compared to neurotypical healthy controls. In the theta band, individuals with PTSD exhibited greater relative power in the posterior cerebellum ($x = 16, y = -80, z = -18$; $T_{\max} = 2.66, p < 0.05$ FDR corrected) and reduced relative power in the superior frontal gyrus (BA6, BA8; $x = 4, y = 31, z = 60$; $T_{\max} = 3.72, p < 0.05$ FDR corrected). In the beta band, individuals with PTSD displayed greater power globally, but with maxima in the supplementary motor area (BA6; $x = 16, y = -5, z = 72$; $T_{\max} = 5.57, p < 0.05$ FDR corrected).

EEG Comparisons Pre vs. Post-NFB: PTSD Experimental and Sham Control Groups

The experimental NFB group demonstrated significant pre-to-post changes within the beta band, with relative power reductions in the right anterior cingulate and insula (BA13, BA33, BA47; $x = 6, y = 9, z = 23$; $T_{\max} = 2.18, p < 0.05$ FDR corrected). On the other hand, the sham control group displayed a significant reduction in delta relative power within the left precentral gyrus (BA4, BA6; $x = -26, y = -17, z = 54$; $T_{\max} = 3.01, p < 0.05$ FDR corrected).



Supplementary Figure 1: Relative power comparisons in other EEG bands. Left panel: PTSD > Healthy Controls= Relative EEG source power at baseline in the pooled PTSD group as compared to the neurotypical healthy control group. Right Panel: Post > Pre Treatment= Relative source power post as compared to pre neurofeedback/sham intervention. Blue colours indicate reduced relative power, red/yellow colours indicate increased relative power. NFB= Neurofeedback. Displayed results are t-values, and clusters are $p < 0.05$ FDR corrected.