Supplementary Figures

Within- and Between-Block Variability

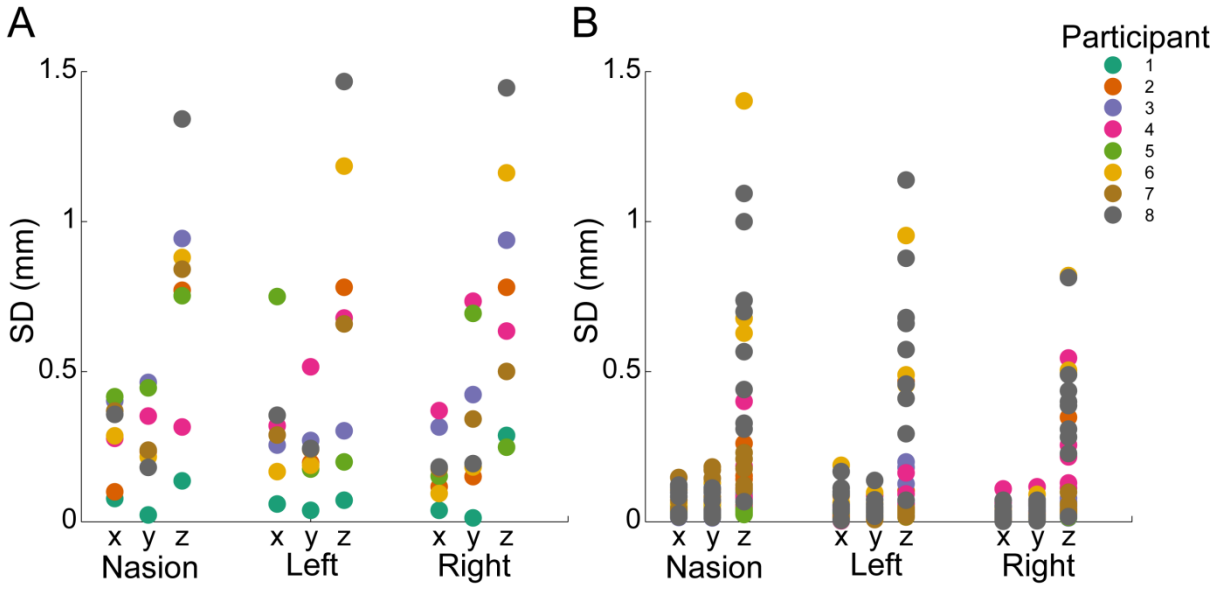

Figure S1: Within- and between-block variability*. A) Standard deviation of absolute fiducial coil locations for each participant across blocks (3, 15 minute blocks/session). Co-registration error between blocks was <1.5mm for any coil in any dimension, with most error in the z dimension. B) Standard deviation of absolute coil locations for each participant within each block. Movement was <.2mm in the x and y dimensions and <1.5mm in the z dimension for each coil.*

Surface Extraction

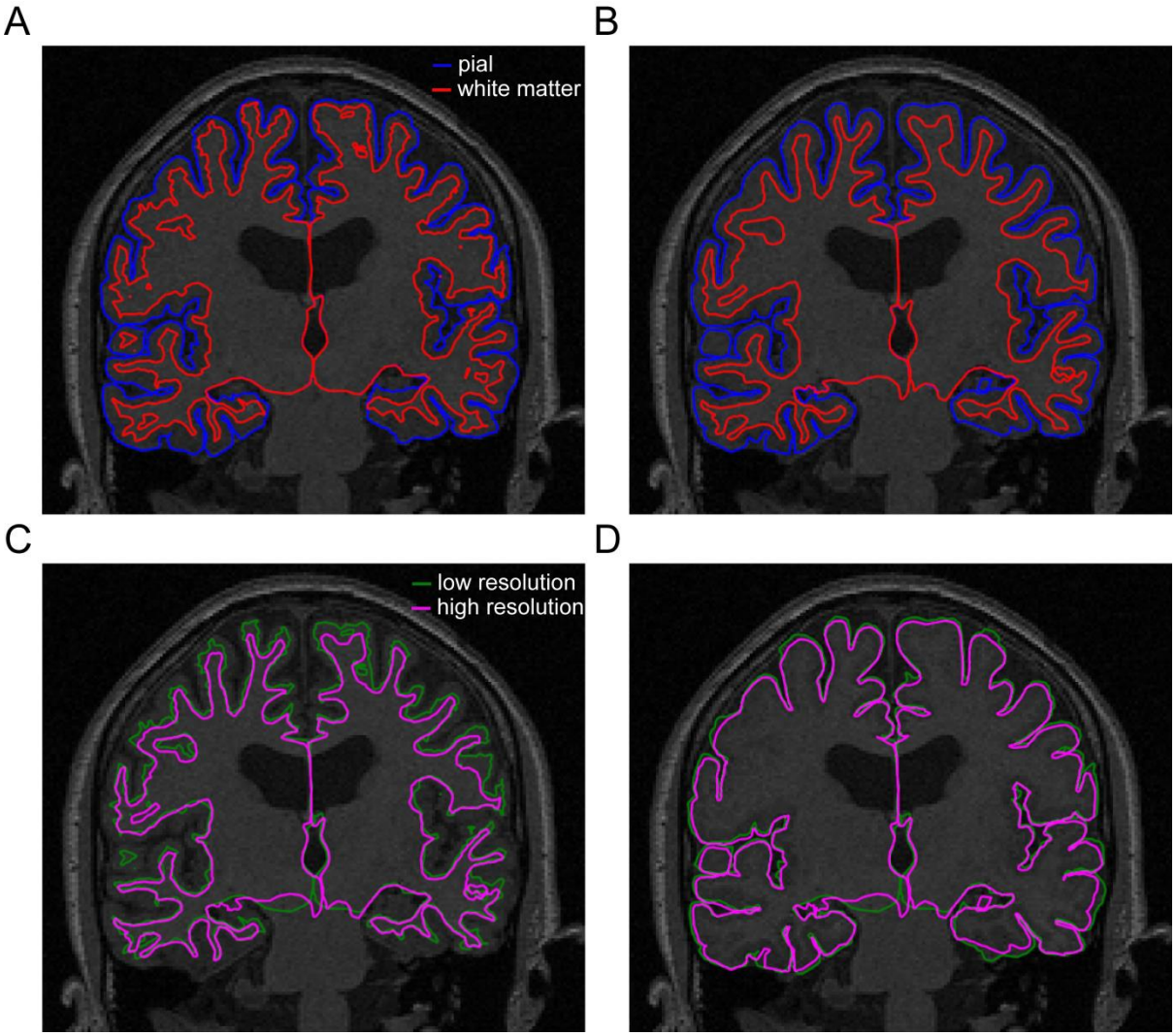

Figure S2: FreeSurfer-extracted surfaces*. A) Pial (blue) and white matter (red) surfaces extracted from the standard T1-weighted MRI. B) Pial and white matter surfaces extracted from the MPM scans. C) White matter surfaces extracted from the standard T1-weighted MRI (green) and the MPM scans (magenta). D) Pial surfaces extracted from the standard MRI and MPMs.*

Shuffled

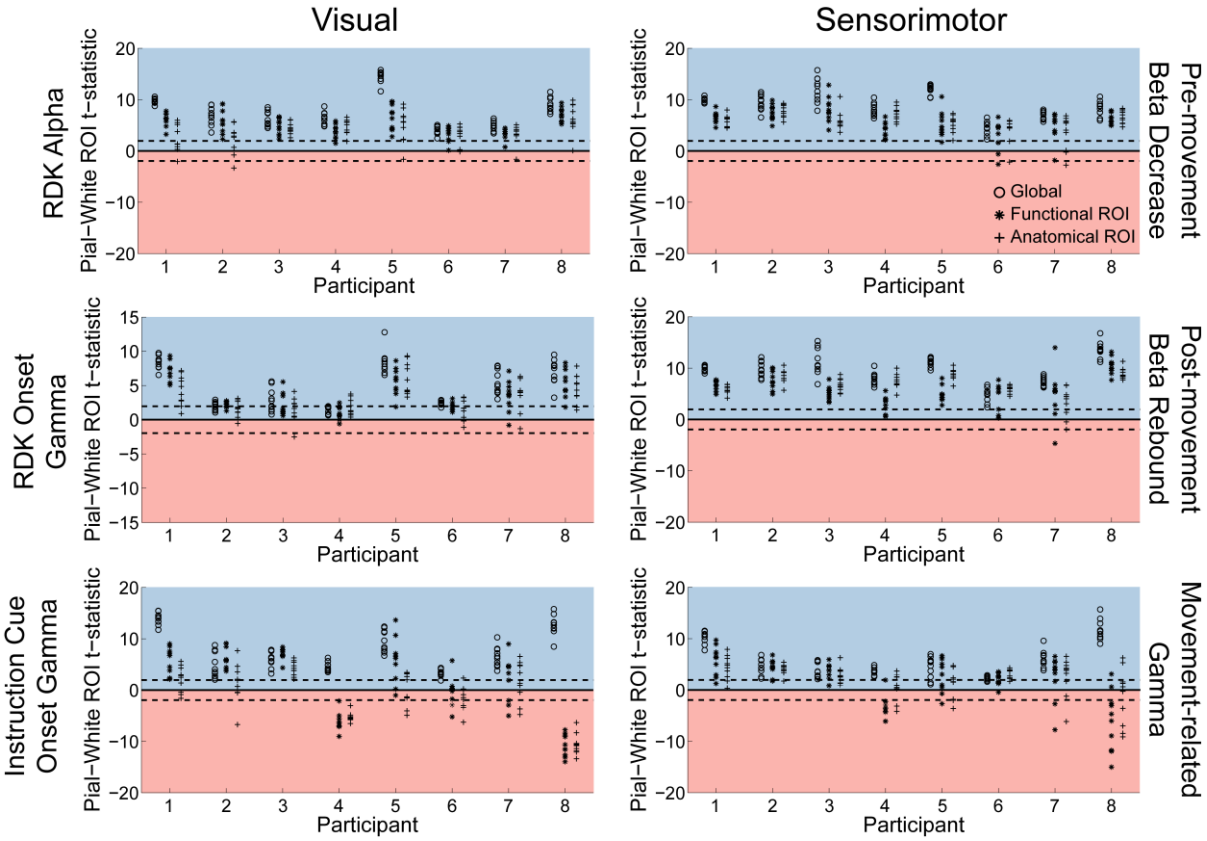

Figure S3: Visual and sensorimotor laminar specificity after sensor shuffling. *Each panel shows t-statistics comparing the absolute change in power between the pial and white matter surfaces averaged within the ROIs, over all participants. T-statistics for the whole brain (circles), functionally defined (asterisks), and anatomically-constrained (crosses) ROIs are shown (red = biased toward the white matter surface, blue = biased pial) for 10 random sensor shuffles. The dashed lines indicate single subject level significance thresholds*

Co-registration error

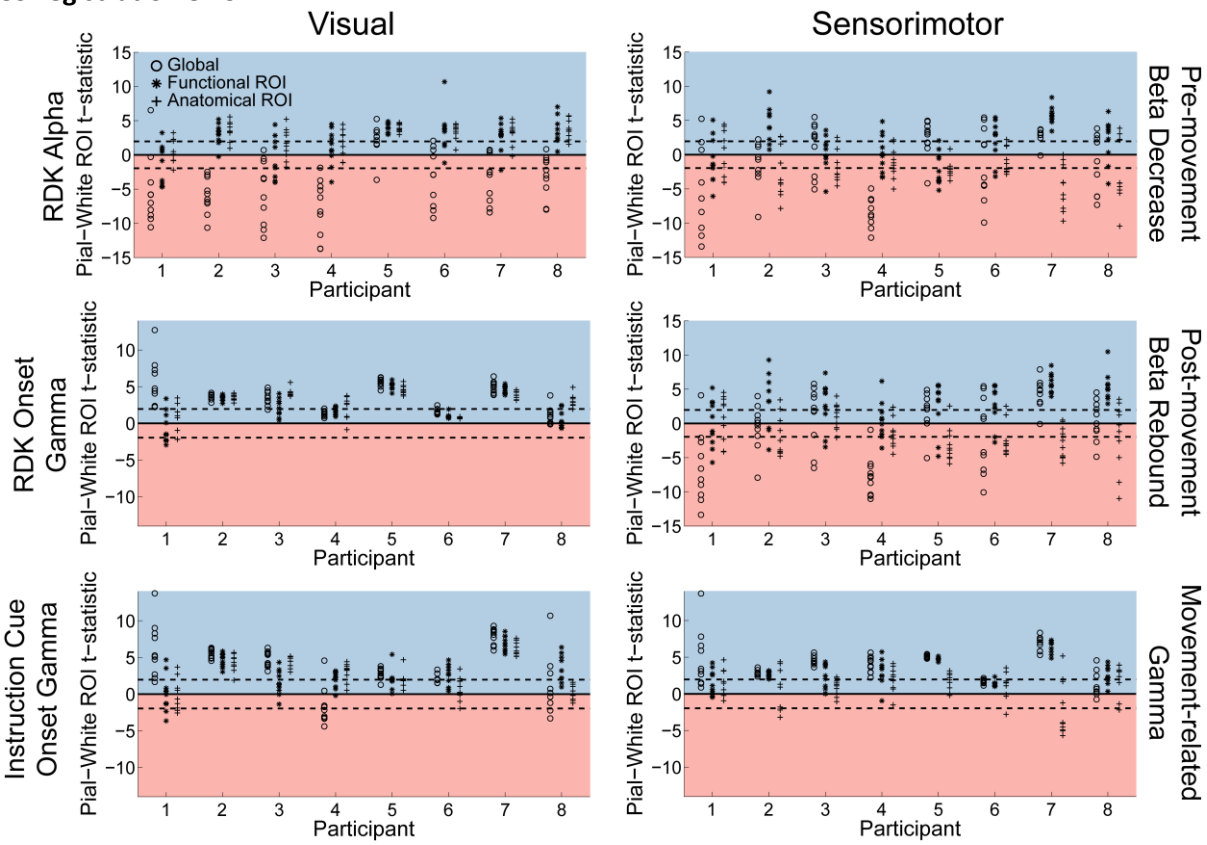

Figure S4: Visual and sensorimotor laminar specificity after introducing co-registration error. *Each panel shows t-statistics comparing the absolute change in power between the pial and white matter surfaces averaged within the ROIs, over all participants. T-statistics for the whole brain (circles), functionally defined (asterisks), and anatomically-constrained (crosses) ROIs are shown (red = biased toward the white matter surface, blue = biased pial) for 10 random fiducial coordinate perturbations involving a random translation (magnitude M=10mm, SD=2.5mm) and rotation (magnitude M=10°, SD=2.5°). The dashed lines indicate single subject level significance thresholds*

Reduced number of trials

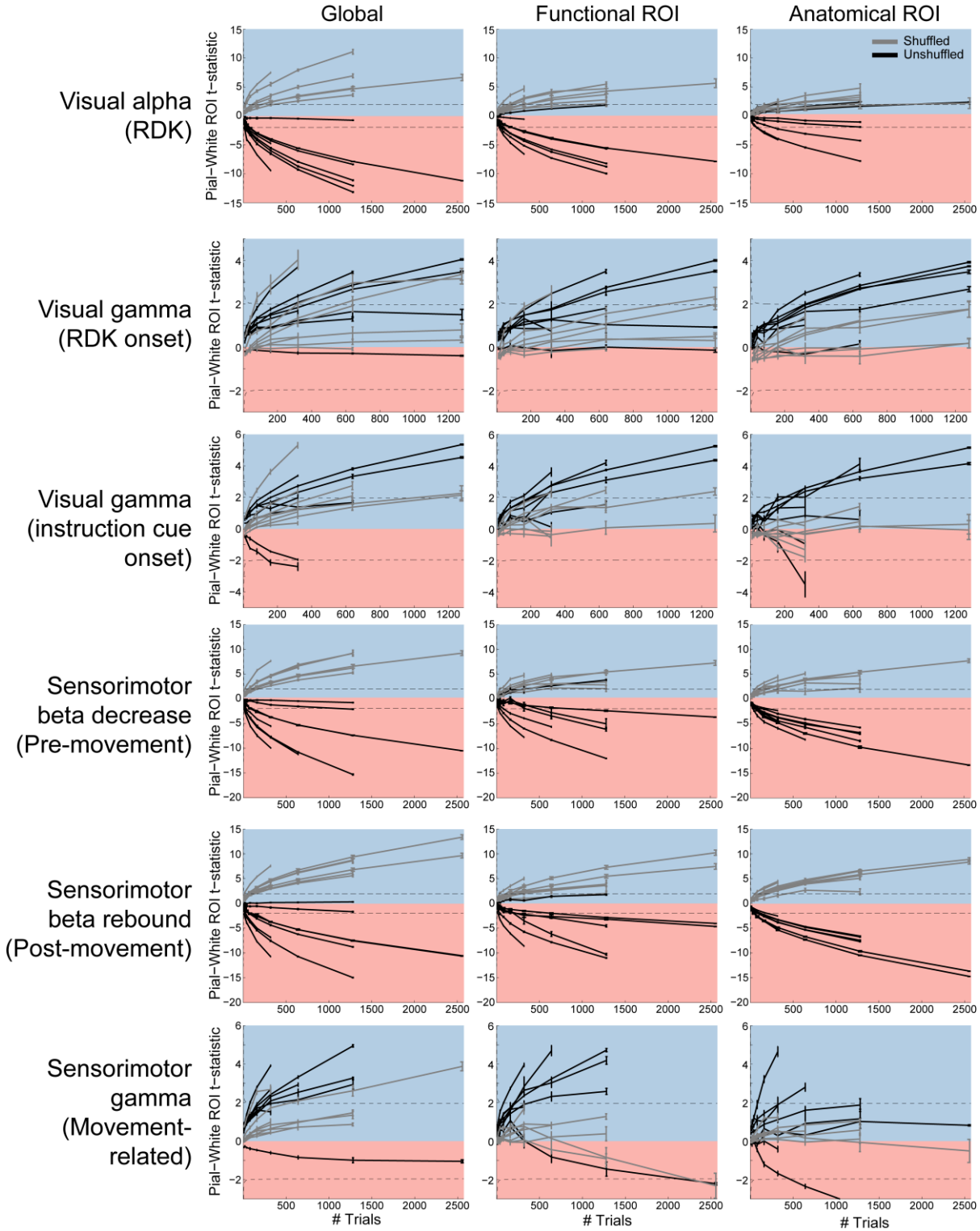

Figure S5: Visual and sensorimotor laminar specificity as the number of trials is increased. *Each panel shows the ROI t-statistics for (columns, left to right) the whole brain, functionally defined ROI, and anatomically constrained ROI, for each visual and sensorimotor signal (rows). Grey lines represent data with shuffled sensors, dark lines represent unshuffled data. Positive t-statistics (shaded blue) denote pial classification, and negative t-statistics (shaded red) denote white matter classification. The dashed lines indicate single subject level significance thresholds.*