

Supporting information S1:

Table S1: The data table shows intra-rater and inter-rater agreement test. Dice score and modified Cohen's Kappa score of all six ROI drawing techniques in all brains area of individual group classification (CON and ASP) are presented.

ROI drawing technique	Brain area	Group	Intra-rater		Inter-rater	
			Average Dice score	Average modified Cohen's kappa	Average Dice score	Average modified Cohen's kappa
Manual smallROI	CAU	CON	0.83	0.83	0.77	0.77
	PM	CON	0.78	0.78	0.73	0.73
	IC	CON	0.67	0.67	0.58	0.58
	PU	CON	0.78	0.78	0.75	0.75
	GCC	CON	0.75	0.75	0.74	0.74
	CAU	ASP	0.83	0.83	0.77	0.76
	PM	ASP	0.76	0.76	0.72	0.72
	IC	ASP	0.55	0.55	0.50	0.49
	PU	ASP	0.81	0.81	0.67	0.66
	GCC	ASP	0.79	0.79	0.76	0.76
Geometrical ROI	CAU	CON	0.63	0.63	0.57	0.57
	IC	CON	0.54	0.54	0.44	0.44
	PU	CON	0.69	0.69	0.62	0.62
	GCC	CON	0.67	0.67	0.62	0.62
	CAU	ASP	0.61	0.61	0.60	0.59
	IC	ASP	0.50	0.50	0.45	0.45
	PU	ASP	0.60	0.60	0.64	0.63
	GCC	ASP	0.74	0.74	0.63	0.63
Manual largeROI	CAU	CON	0.87	0.87	0.84	0.83
	PM	CON	0.77	0.77	0.73	0.73
	IC	CON	0.70	0.70	0.62	0.61
	PU	CON	0.82	0.81	0.82	0.81
	GCC	CON	0.77	0.77	0.76	0.76
	CAU	ASP	0.88	0.87	0.84	0.83
	PM	ASP	0.79	0.78	0.71	0.71
	IC	ASP	0.70	0.69	0.57	0.57
	PU	ASP	0.87	0.87	0.80	0.80
	GCC	ASP	0.79	0.79	0.80	0.80

Supporting information S1: (cont.)

ROI drawing technique	Brain area	Group	Intra-rater		Inter-rater	
			Average Dice score	Average modified Cohen's kappa	Average Dice score	Average modified Cohen's kappa
Manual largeROI with ID	CAU	CON	0.82	0.82	0.90	0.90
	PM	CON	0.82	0.82	0.72	0.72
	IC	CON	0.74	0.74	0.61	0.61
	PU	CON	0.74	0.74	0.80	0.80
	CAU	ASP	0.87	0.86	0.91	0.91
	PM	ASP	0.82	0.82	0.68	0.68
	IC	ASP	0.75	0.75	0.53	0.53
	PU	ASP	0.84	0.84	0.76	0.76
Manual largeROI with MO	CAU	CON	0.82	0.82	0.77	0.77
	PU	CON	0.75	0.75	0.75	0.75
	CAU	ASP	0.83	0.83	0.78	0.77
	PU	ASP	0.82	0.82	0.73	0.72
Common template	CAU	CON	0.49	0.49	0.76	0.76
	PU	CON	0.72	0.72	0.78	0.78
	CAU	ASP	0.41	0.41	0.68	0.68
	PU	ASP	0.63	0.62	0.74	0.73

Supporting information figure S2:

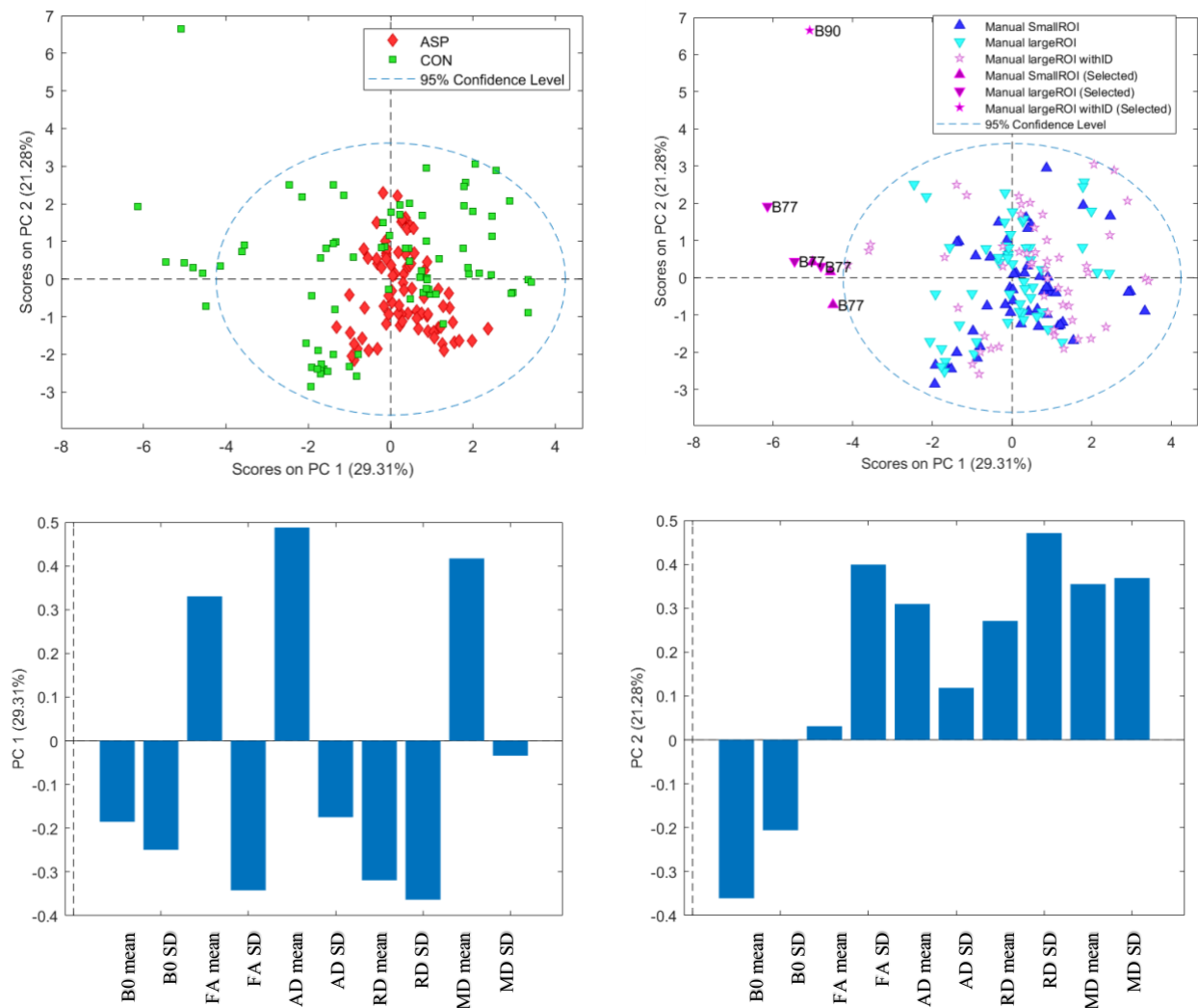


Figure S2: PCA score plot and loadings of the premotor cortex (PM) according to group classification and ROI drawing techniques.

Top left: PCA score plot of the data extracted according to group classification shows overlaying of plots between CON and ASP in PM.

Top right: PCA score plot of PM according to ROI drawing techniques illustrates superimposition of all three drawing techniques (Manual smallROI, Manual largeROI, and Manual largeROI with ID) in PM. The selected dots (dense and purple color dots) are the dots distancing from the main cluster, and it belongs to only two individual brains.

Bottom left and bottom right: Loading of the first and second principal component (PC1 and PC2, respectively) of PCA score plot which explain around 52% of total variance of the data.

Supporting information figure S3:

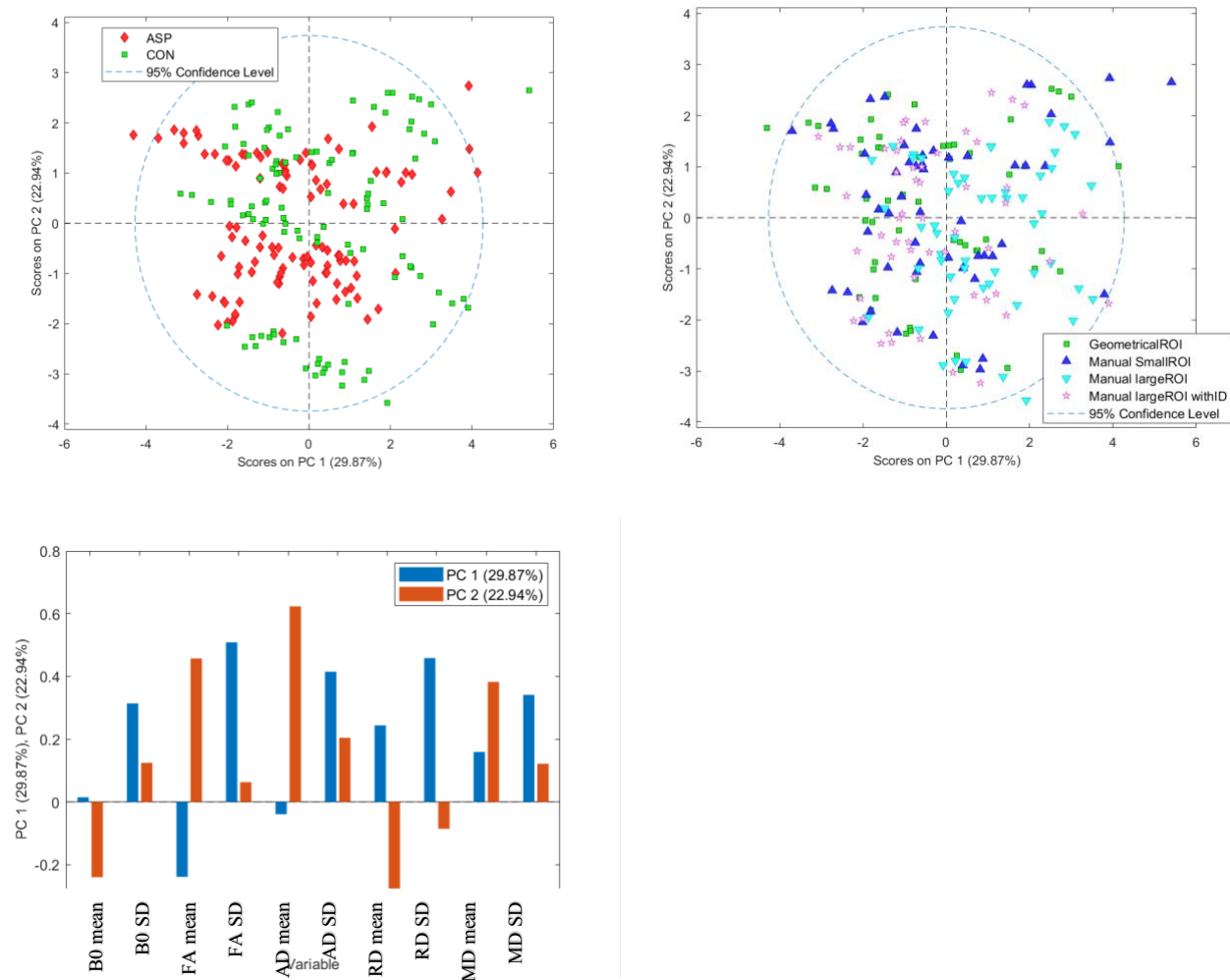


Figure S3: PCA score plot and loadings of the internal capsule (IC) according to group classification and ROI drawing techniques.

Top left: The PCA score plot of the data, categorized by group classification, shows no clear distinction between the plots from CON and ASP groups in the IC.

Top right: PCA score plot according to four ROI drawing techniques - GeometricalROI, Manual smallROI, Manual largeROI, and Manual largeROI with ID - in IC illustrates an overlay of the data distribute of all ROI techniques.

Bottom left : Loading of the PC1 (blue) and PC2 (red) of PCA score plots of IC which explain around 52% of total variance of the data.