

Analysis of cannabinoid samples for THC/CBD content

The plant samples were analyzed in the Institute of Criminalistics Prague, Police of the Czech Republic. The content of THC and CBD was measured by gas chromatography with FID.

Plant matter was pulverized in lab mill, cooled with liquid nitrogen for Hash, to fineness 0.2 mm. Powder of samples (200 mg) was next extracted by Toluene (Chromasolv, Sigma-Aldich), containing n-Eicosane (> 99,5%, Fluka) as ISTD, 30 min. shaking at room temperature. This extracts were centrifuged and 1 µl of supernatants were analyzed.

Instrument and chromatographic conditions: gas chromatograph Agilent 6890 SII with ALS was used. Column DB-5 (Part No. 123-5032), injection spit, split ratio 4/1, inlet temperature 280°C. Oven ramped temperature: initial 150°C, next 10 °C/min to 210°C, next 20°C/min to 300°C, total time 12 min. Carrier gas Helium, constant flow 4 ml/min, FID detector temperature 320°C. Calibration curves for THC and CBD was prepared from certified reference materials (Lipomed), THC: 15 points between 0.1 and 4.25 mg/ml, linear regression 0.9999; CBD: 15 points between 0.094 and 4.25 mg/ml, linear regression 0.9999. LOQ for all substances 0.1 mg/1 ml.

All collected blood samples were centrifuged at a room temperature for 10 minutes at 4000 rpm, separated sera were then stored at -20 °C until analyses. The primary active cannabinoid delta-9-tetrahydrocannabinol (THC) and its active metabolite 11-hydroxy-THC (11-OH-THC), inactive metabolite THC carboxylic acid (THCCOOH) and cannabidiol (CBD) were evaluated in 1 ml of blood serum by an in-house developed and subsequently certified GC-MS method (certified by Police Presidium of the CR, ref. no.: PPR-31123-7/CJ-2015-990530 / evidence no.: 16/2015). The sample preparation procedure was briefly as follows: 1) a total of 10 µl of deuterated CBD-d3/THC-d3/ 11-OH-THC-d3 (5 ng/µl) internal standard solution was added to each 1.0 ml sample of serum, 2) serum extracts were diluted with 4 ml sodium acetate buffer

with pH of 4.0 (0.01 mol/l) and 3) cannabinoids were extracted with SPE columns (Bond-ELUT, 130 mg, Agilent Technologies), eluted with hexan/ethyl acetate (1:4 v/v) and dried under a nitrogen gas stream in 400 µl glass insert placed in 1.5 glass vial, 4) derivatized with 100 µl N-Methyl-N-(trimethylsilyl)trifluoroacetamide (MSTFA) for 20 min at 80°C. Quantification of extracted cannabinoids was performed by gas chromatography-mass spectrometry (GC-MS) (GC7860/5742C MSD, Agilent Technologies) using electron impact ionization in selective ion mode (CBD: m/z 391; CBD-d3: m/z 394; THC: m/z 386; THC-d3: m/z 389; 11-OH-THC: m/z 371; 11-OH- THC-d3: m/z 374). Calibration curve ranges were prepared by spiking drug-free bovine serum for analysis at concentrations of (i) 2 – 100 ng/ml CBD, THC and 11-OH-THC; (ii) 100 – 1 000 ng/ml CBD, THC and 11-OH-THC. The standards were vortexed and treated identically as real samples. The lower limit of quantification (LOQ) was 2 ng/ml, the limit of detection (LOD) was 1 ng/ml.

Table s2: Peak activations of ICN spatial maps and stationary FC differences.

ICN regions	BA	tmax	Peak (mm)		
			X	Y	Z
Subcortical networks					
R Amygdala (13)		16	36.5	11.5	26.5
L Amygdala (71)		18	-41.5	4.5	20.5
Putamen (16)					
R Putamen			22.5	5.5	-7.5
L Putamen		13.3	-23.5	5.5	-10.5
Caudate (27)					
Bi Caudate		17.6	6.5	-1.5	13.5
Thalamus (40)					
Bi thalamus		20.7	-7.5	-20.5	8.5
Auditory networks					
STG (53)					
R superior temporal gyrus	22		61.5	-23.5	2.5
L superior temporal gyrus	22	11	-60.5	-16.5	4.5
R STG (54)					
R superior temporal gyrus	22	11.9	59.5	-19.5	9.5
L STG (73)					
L superior temporal gyrus	22	9.3	-51.5	-27.5	13.5
Somatomotor networks					
R PreCG (1)					
R precentral gyrus	6	14	-54.5	-6.5	27.5
L PoCG (4)					
L postcentral gyrus	6	15.9	-50.5	-31.5	57.5
R PoCG (8)					
R postcentral gyrus	3	13.5	45.5	39.5	62.5
PoCG (22)					
R postcentral gyrus	3	10.7	65.5	-28.5	32.5
L postcentral gyrus	3		-60.5	-27.5	35.5
ParaCL1 (18)					
Bi paracentral lobule	6	13.4	0.5	-28.5	55.5
ParaCL2 (21)					
Bi paracentral lobule	6	11.5	18.5	-59.5	65.5
SPL1 (23)					
R superior parietal lobule	7		26.5	-64.4	56.5
L superior parietal lobule	5	14	-25.5	-64.4	57.5
SPL2 (50)					
R superior parietal lobule	7	12.1	23.5	-72.5	49.5
L superior parietal lobule	5		-22.5	-72.5	46.5
Visual networks					
MOG1 (12)					
R middle occipital gyrus	19	12.2	29.5	-97.5	-6.5

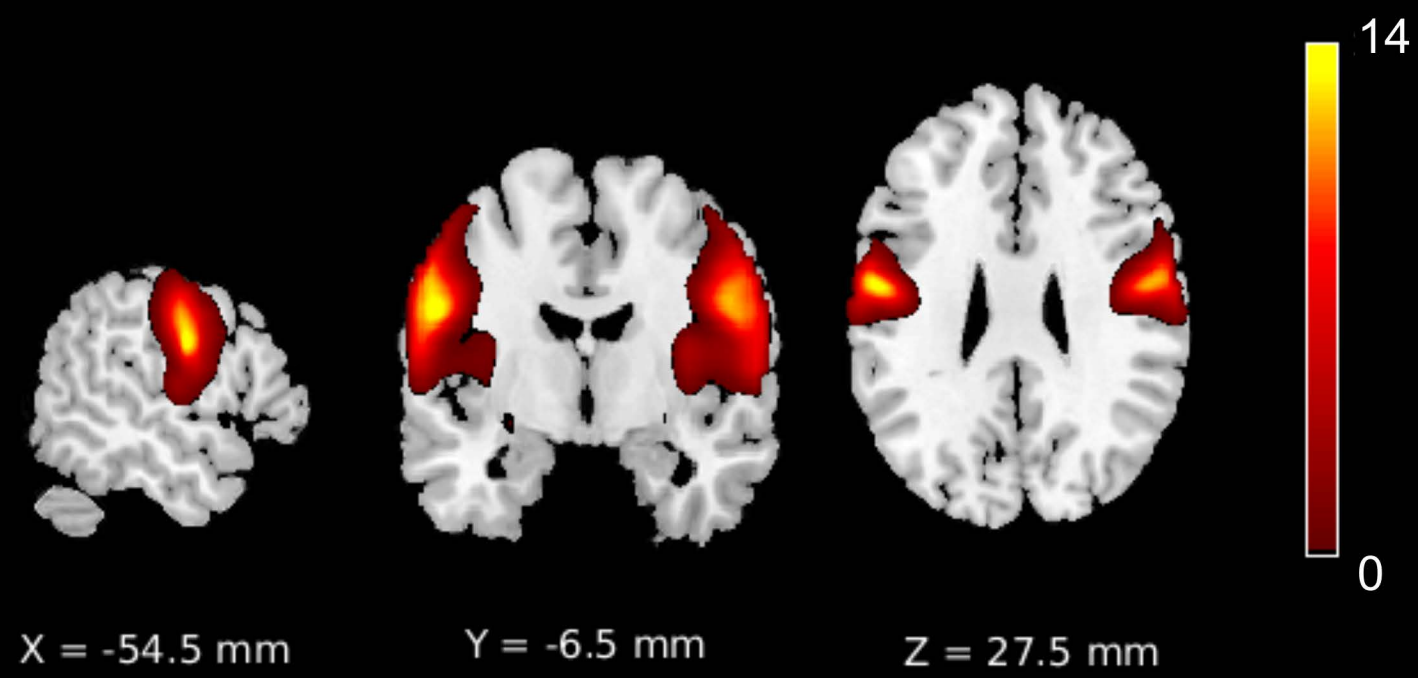
L middle occipital gyrus	18		-19.5	-102.5	-8.5
MOG2 (80)					
R middle occipital gyrus	19		15.5	-99.5	19.5
L middle occipital gyrus	18	11.7	-9.5	-99.5	18.5
Calcarine (15)					
R Calcarine	30	12.2	20.5	-76.5	-10.6
L Calcarine	30		-17.5	-76.5	-15.5
MTG (52)					
R middle temporal gyrus	39	12.9	51.5	-52.5	1.5
L middle temporal gyrus	39		-48.5	-76.5	1.5
R LingualG (57)					
R lingual gyrus	19	10.9	15.5	-49.5	-1.5
L LingualG (87)					
L lingual gyrus	18	10.5	-12.5	-51.5	-2.5
SOG (65)					
R superior occipital gyrus	19	9.5	32.5	-79.5	27.5
L superior occipital gyrus	19		-27.5	-79.5	22.5
FFG (78)					
R fusiform gyrus	37	9.5	31.5	-46.5	2.5
L fusiform gyrus	37		-25.5	-46.5	4.5
Cuneus1 (34)					
Bi cuneus	17	14.6	-12.5	-90.5	0.5
Cuneus2 (91)					
Bi cuneus	17	11	0.5	-82.5	22.5
Cognitive control networks					
PHG (10)					
R parahippocampal gyrus	28		17.5	-4.5	-23.5
L parahippocampal gyrus	28	13.1	-15.5	-4.5	-20.5
MiFG1 (35)					
R middle frontal gyrus	10	16.4	-41.5	44.5	24.5
L middle frontal gyrus	10		47.5	44.5	2.5
MiFG2 (41)					
R middle frontal gyrus	10		27.5	59.5	1.5
L middle frontal gyrus	10	18.8	-27.5	59.5	6.5
MiFG3 (42)					
R middle frontal gyrus	10		37.5	50.5	23.5
L middle frontal gyrus	10	14.7	-30.5	50.5	27.5
R pInsula (45)					
R posterior insula		13.9	44.5	-1.5	14.5
R aInsula (46)					
R anterior insula	13	8.9	45.5	23.5	0.5
aInsula (67)					
R anterior insula	47		33.5	17.5	7.5
L anterior insula	47	11.5	-32.5	26.5	7.5
L IPL (70)					
L inferior parietal lobule	40	14.5	38.5	-63.5	54.5

R IPL (74)					
R inferior parietal lobule	40	10.3	54.5	-51.5	33.5
Default-mode networks					
PCC1 (72)					
Bi posterior cingulate cortex	23	10	0.5	-31.5	42.5
LAG (25)					
L angular gyrus	40	8.3	-38.5	-42.5	39.5
L precuneus	7		-14.5	-62.5	44.5
R AG (48)					
R angular gyrus	39	12	44.5	-46.5	57.5
ACC (26)					
Bi anterior cingulate cortex	32	17.2	-2.5	37.5	-1.5
PCC2 (24)					
R posterior cingulate cortex	30	12.8	12.5	-55.5	12.5
L posterior cingulate cortex	30		-10.5	-55.5	6.5
Precuneus1 (38)					
Bi precuneus	7	22	2.5	-64.5	60.5
Precuneus2 (62)					
Bi precuneus	7	12.5	0.5	-52.5	49.5
L MTG+IFG (58)					
L middle temporal gyrus	21		-42.5	34.5	-2.5
L inferior frontal gyrus	44	16.8	-47.5	17.5	-7.5
L MTG+SFG (100)					
L middle temporal gyrus	21	9.9	-15.5	46.5	40.5
Bi superior frontal gyrus	10		0.5	46.5	36.5
MiFG+SFG1 (99)					
Bi superior frontal gyrus	8	19	2.5	46.5	51.5
R middle frontal gyrus	8		18.5	46.5	42.5
L middle frontal gyrus	8		-12.5	46.5	43.5
MiFG+SFG2 (33)					
R middle frontal gyrus	8		28.5	28.5	48.5
L middle frontal gyrus	8		-21.5	28.5	53.5
Bi superior frontal gyrus	8	10.4	2.5	28.5	53.5
Cerebellar Networks					
L CB (9)					
L cerebellum (crus)		11	-30.5	-61.5	-28.5
CB vermis (17)					
Bi cerebellum		11	5.5	-67.5	-16.5
CB Crus_2 (79)					
R cerebellum (crus 2)		13.3	29.5	-76.5	-23.5
L cerebellum (crus 2)			-29.5	-76.5	-25.5

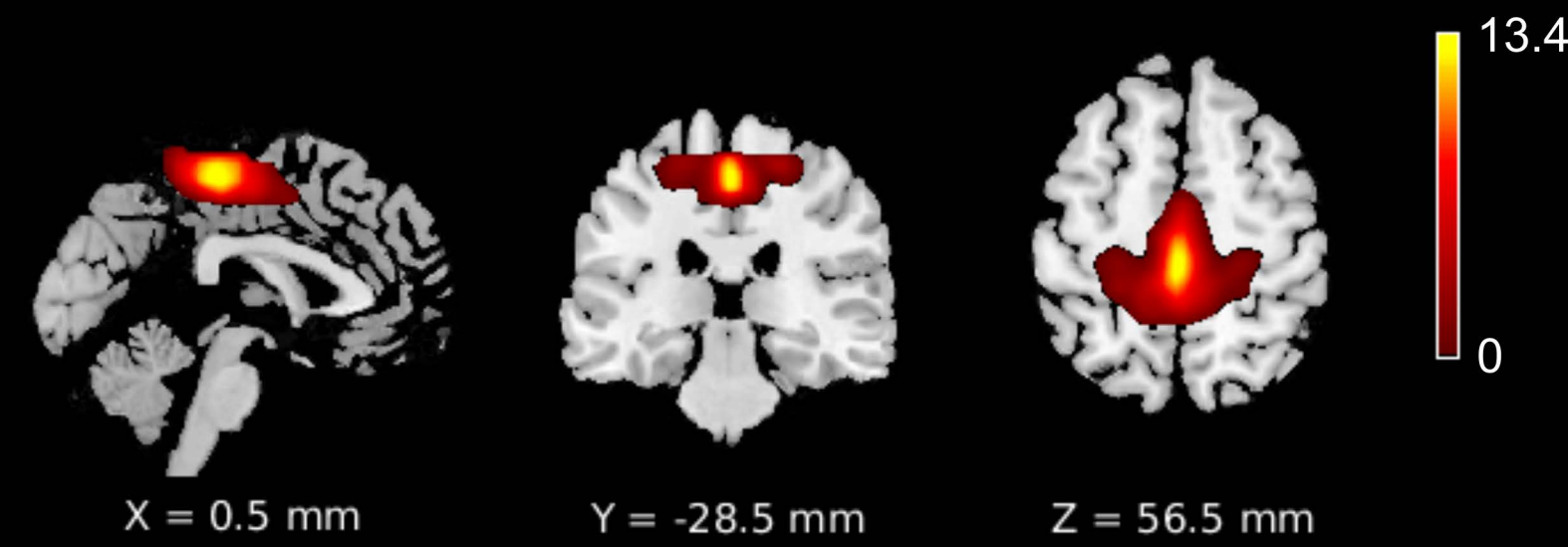
Figures s1-s6: Spatial maps of 49 identified intrinsic connectivity networks (ICNs) sorted into seven subcategories: subcortical structures (amygdala, putamen, caudate, thalamus), auditory cortex, somatosensory cortex, visual cortex, cognitive control areas (middle frontal gyrus etc.), default mode areas (precuneus etc.), cerebellum.

Somatomotor Networks

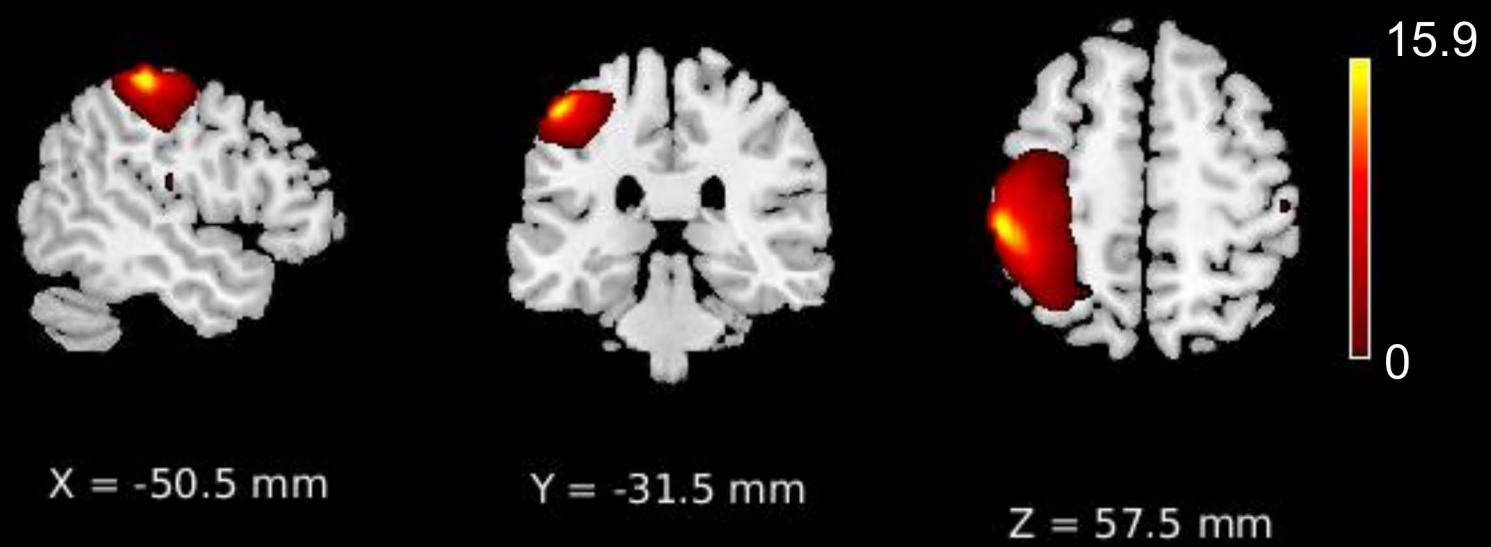
Component 1, PreCG



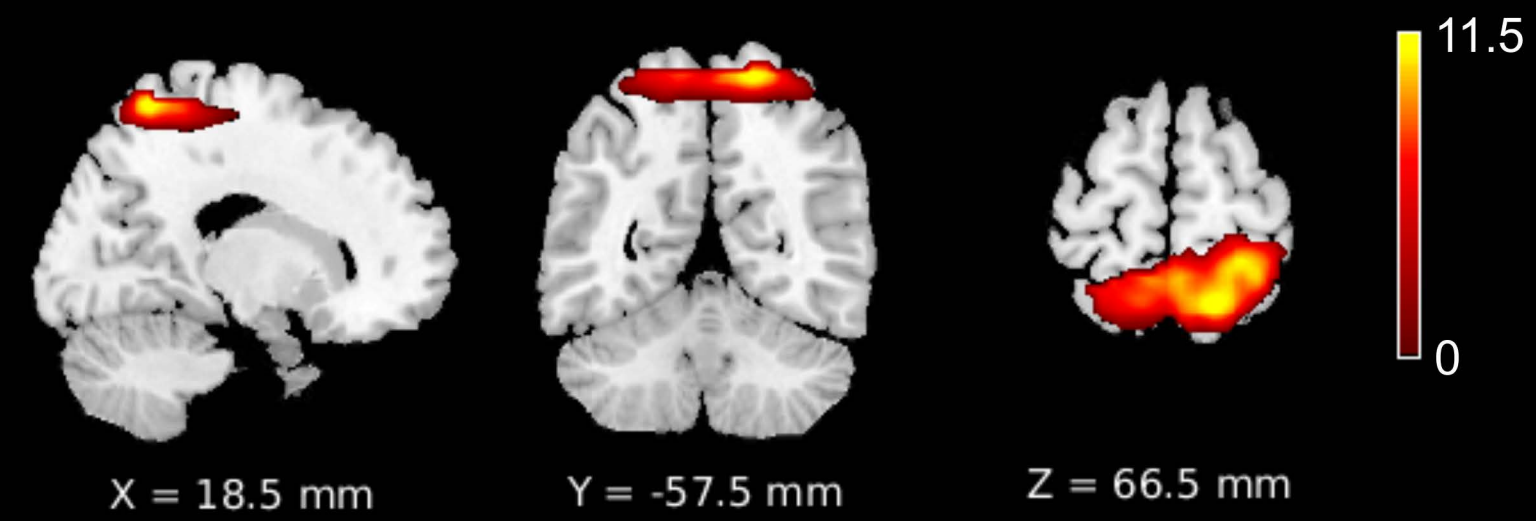
Component 18, ParaCL1



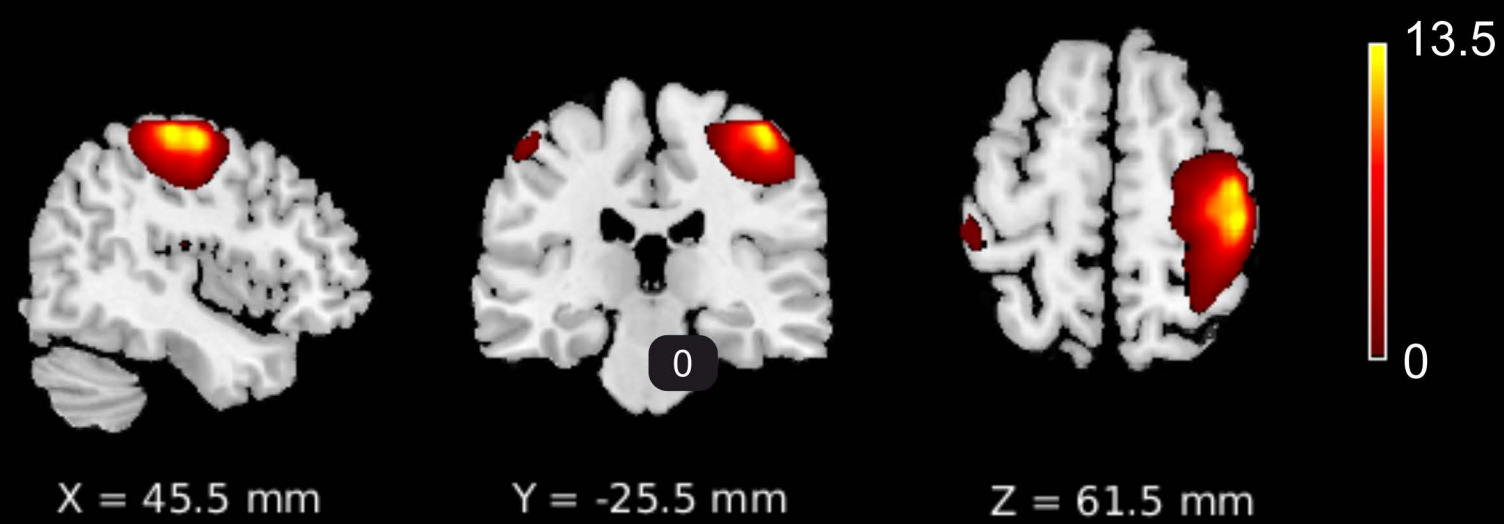
Component 4, L PoCG



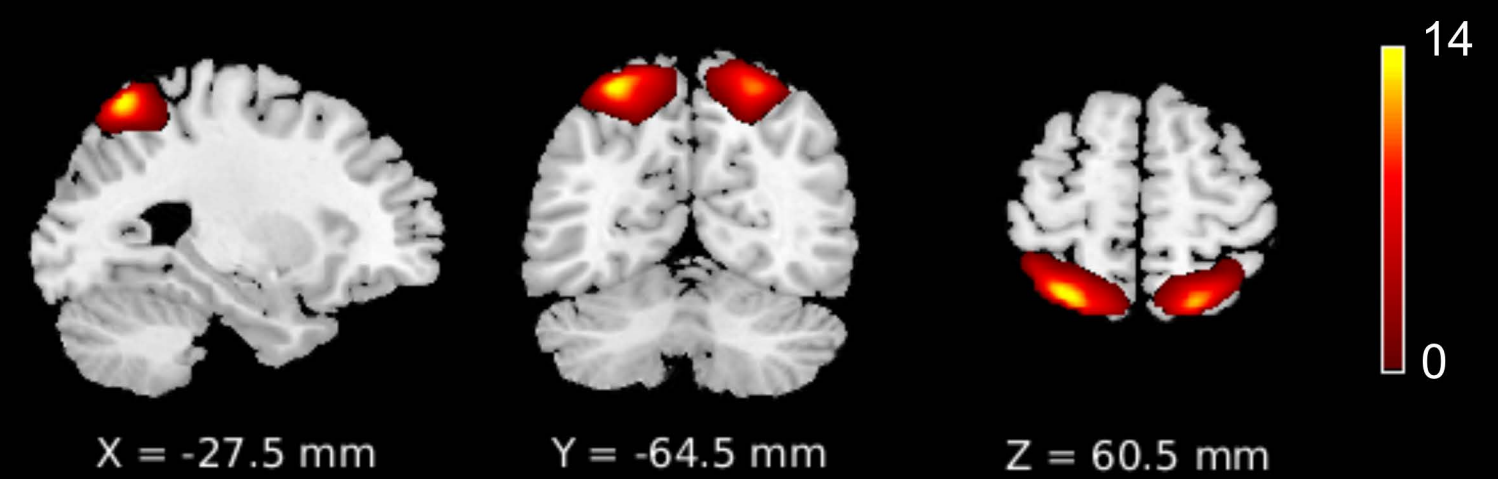
Component 21, ParaCL2



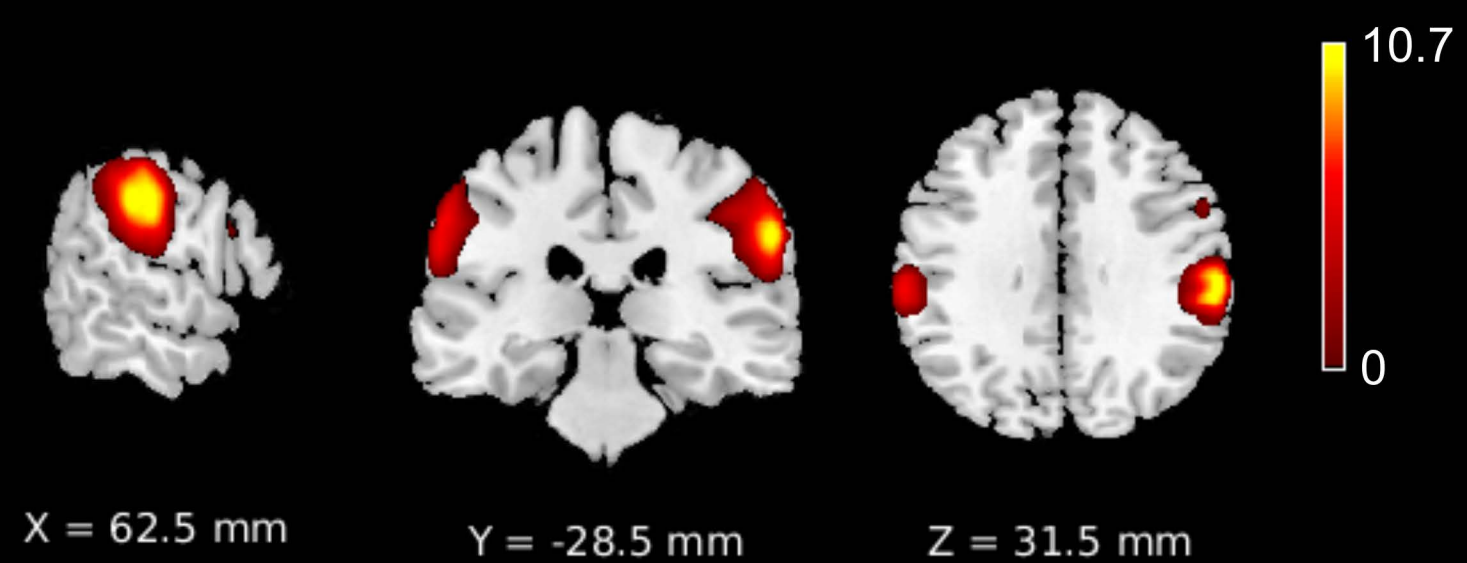
Component 8, R PoCG



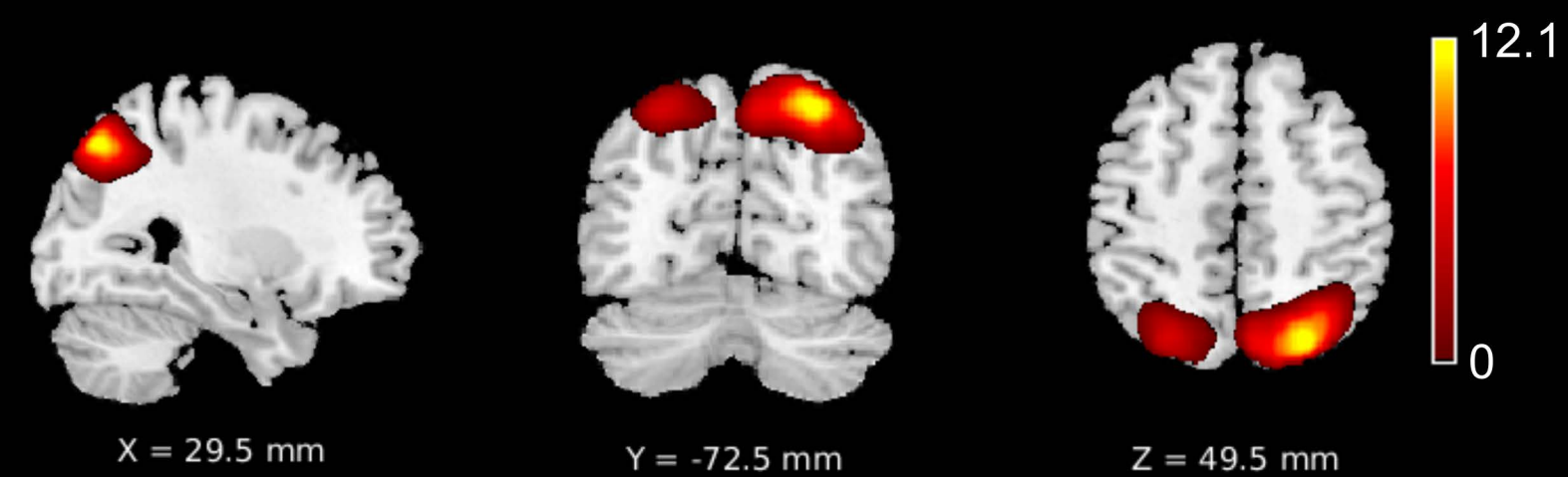
Component 23, SPL1



Component 22, PoCG

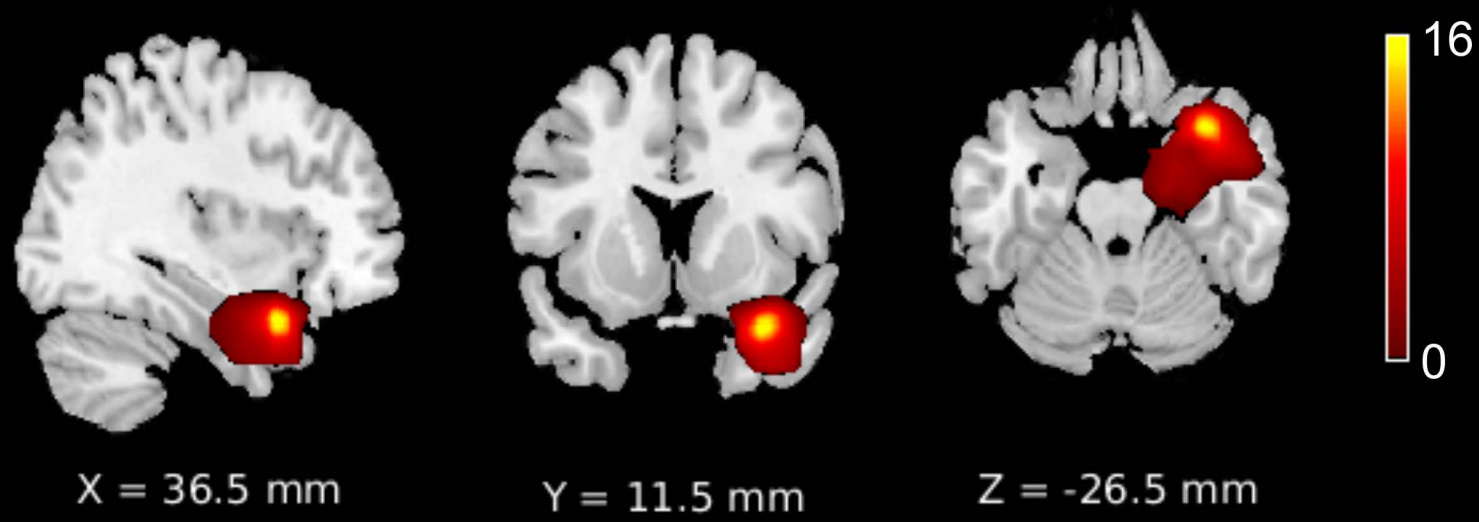


Component 50, SPL2

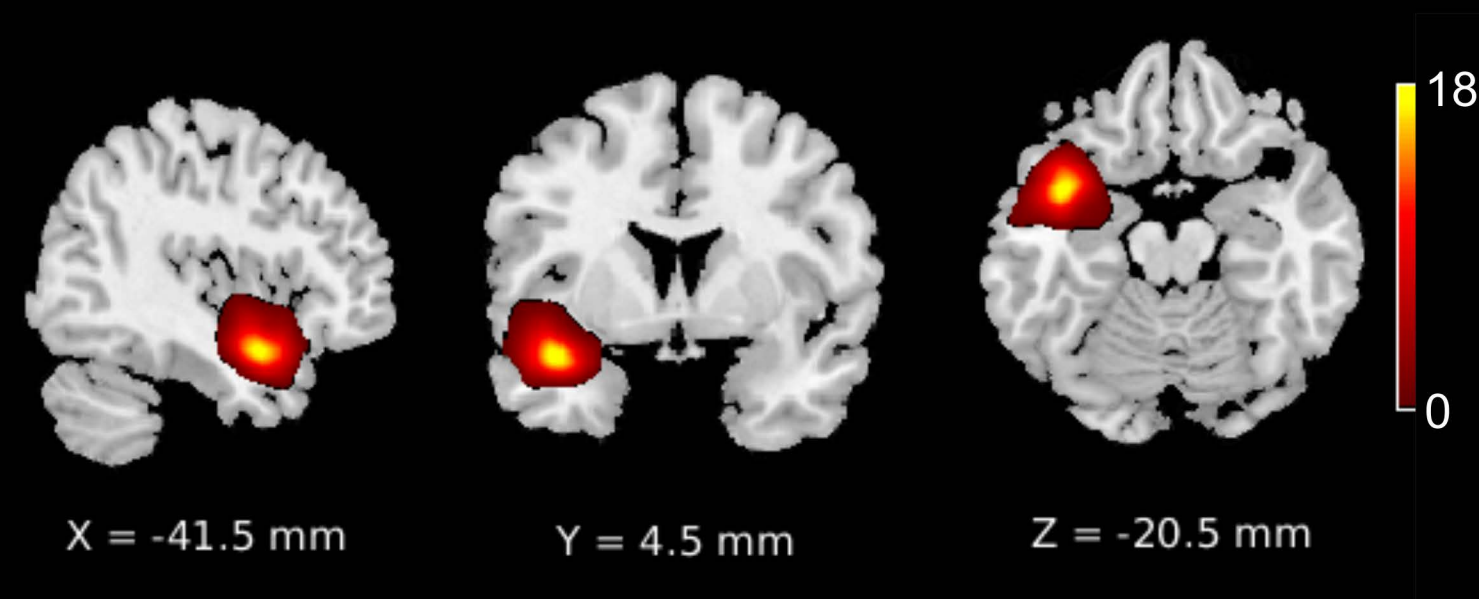


Subcortical Networks

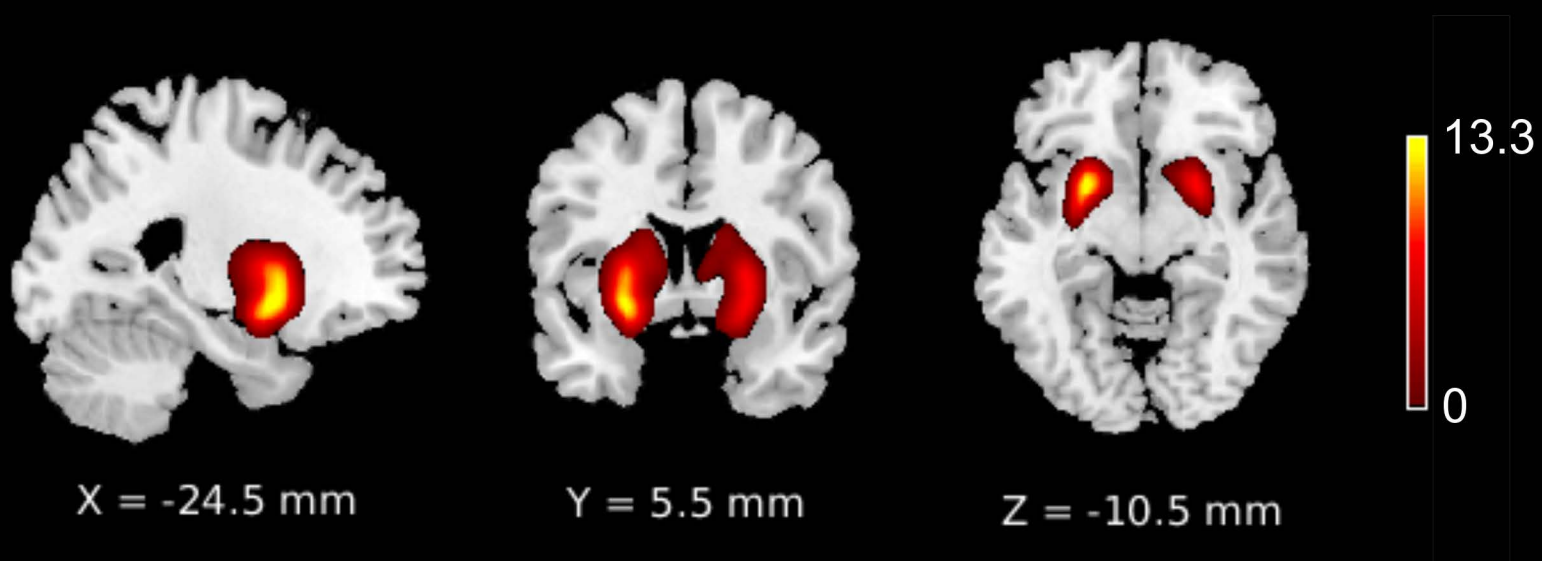
Component 13, R Amygdala



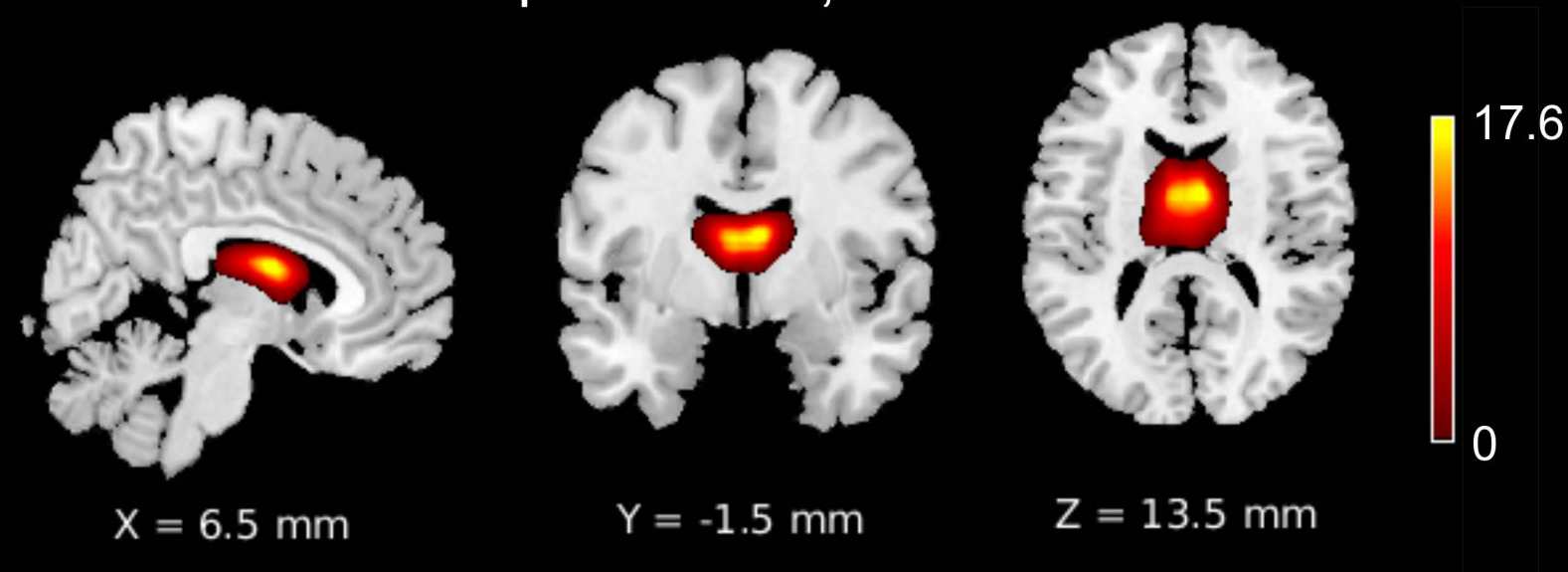
Component 71, L Amygdala



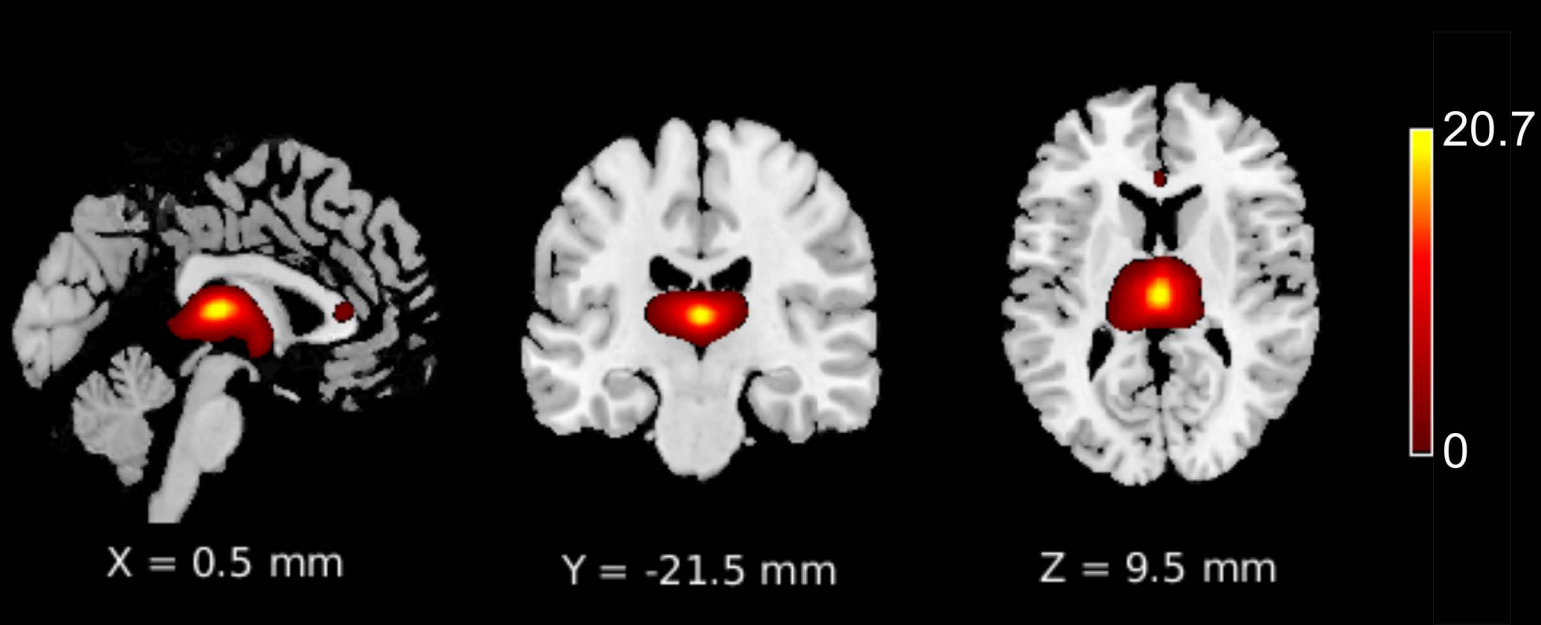
Component 16, Putamen



Component 27, Caudate

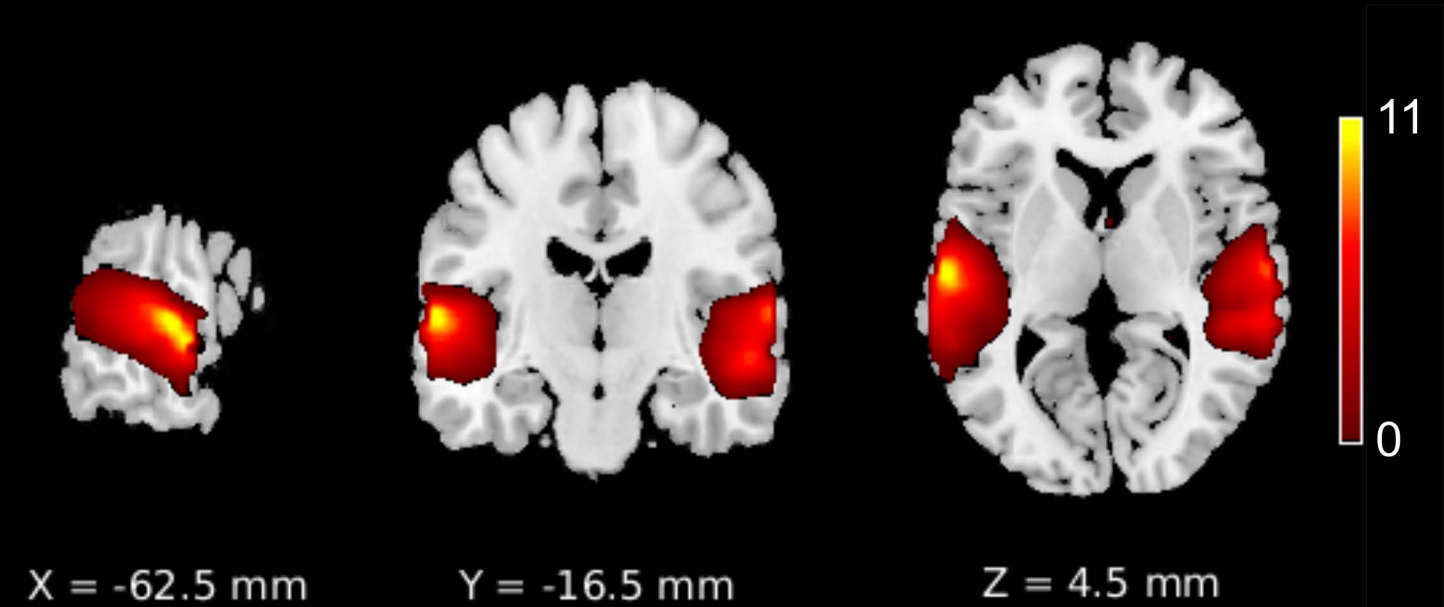


Component 40, Thalamus

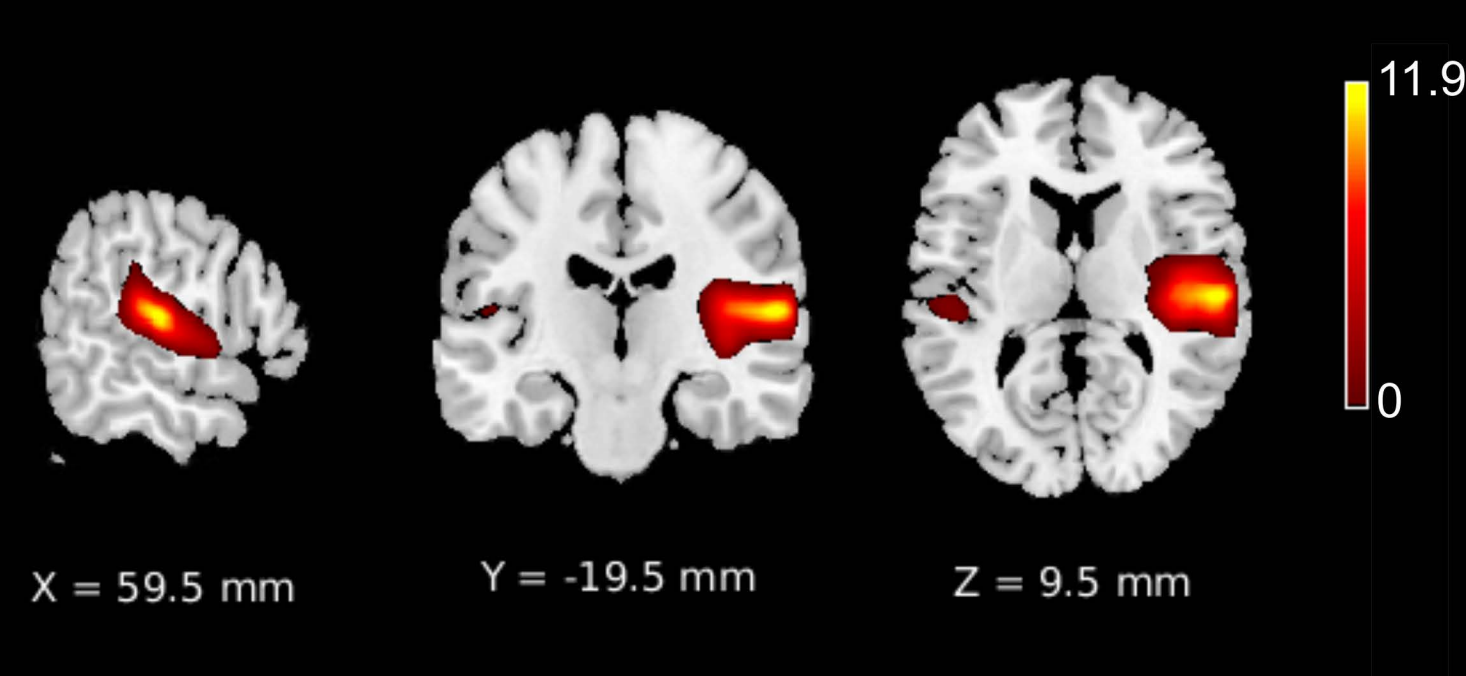


Auditory Networks

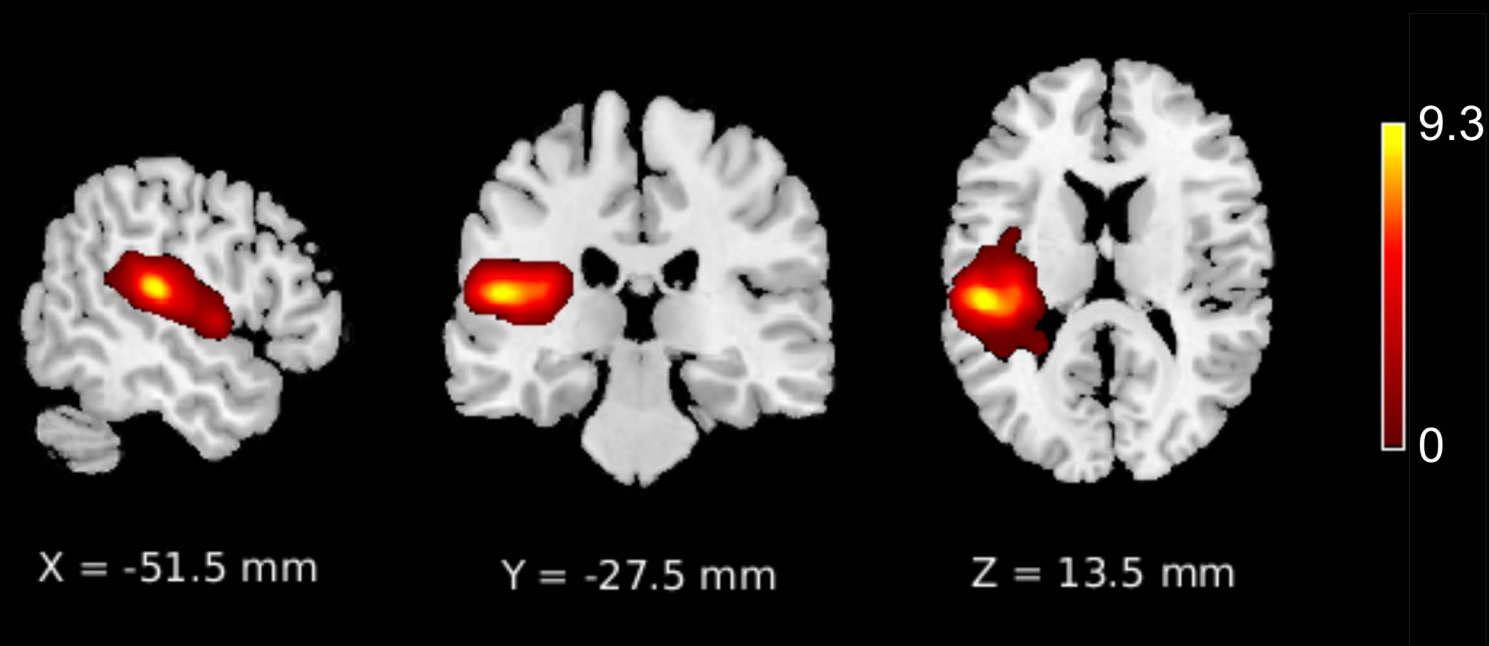
Component 53, STG



Component 54, R STG

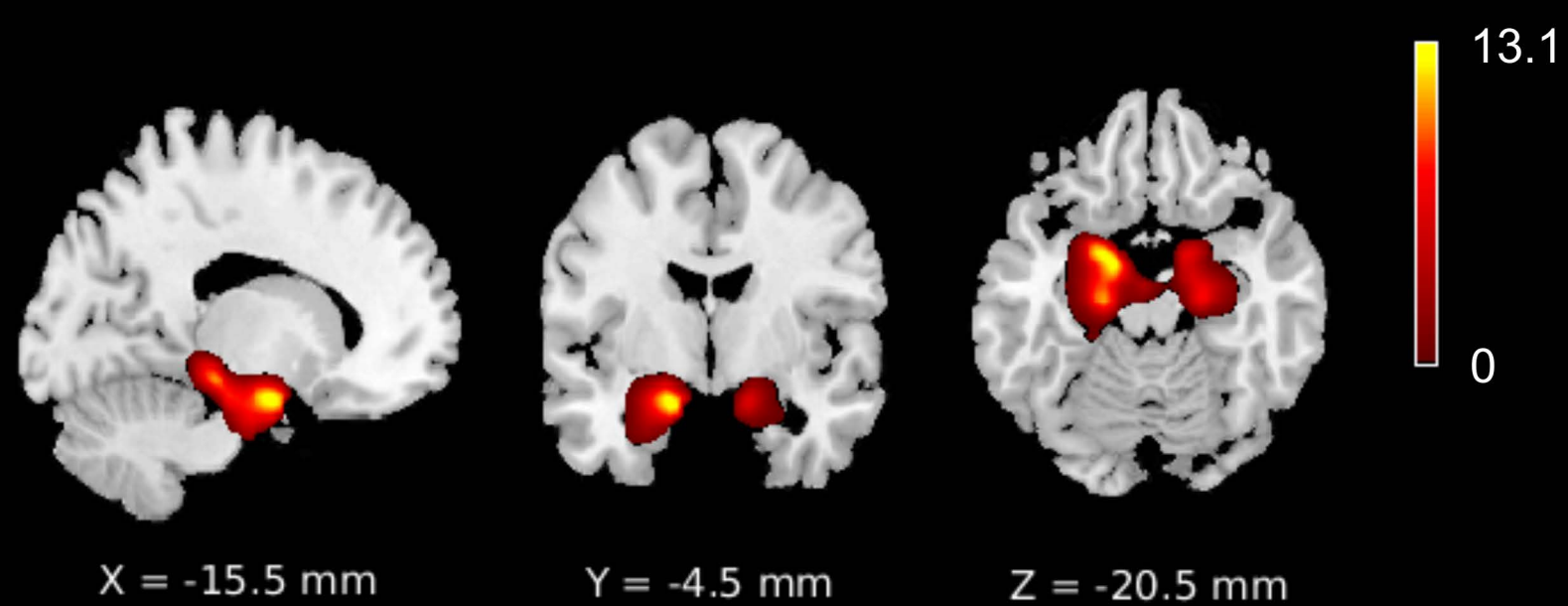


Component 73, L STG

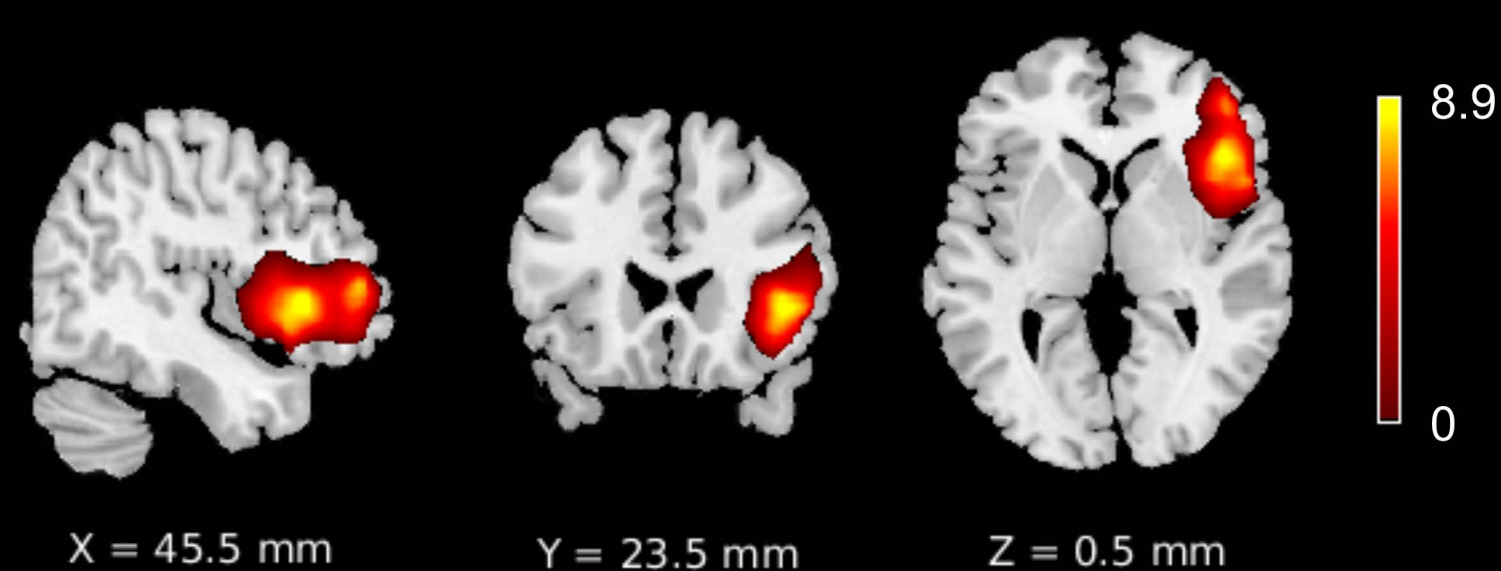


Cognitive Control Networks

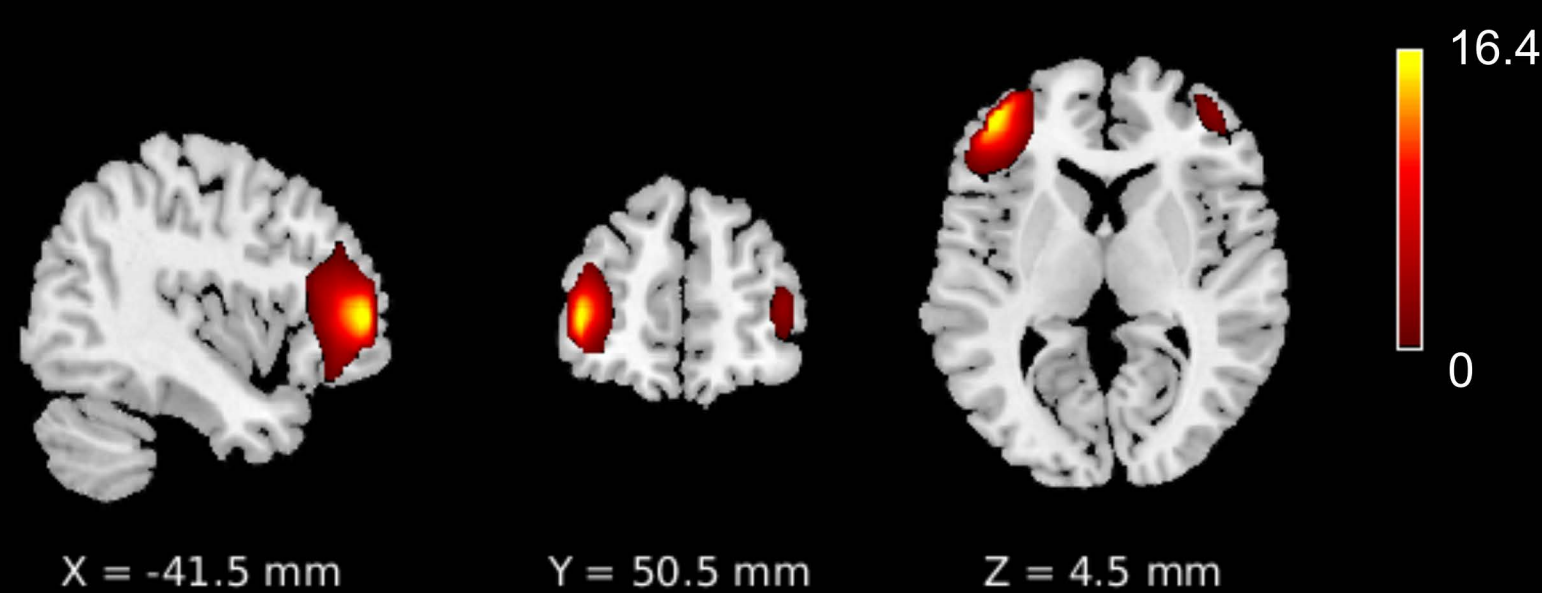
Component 10, PHG



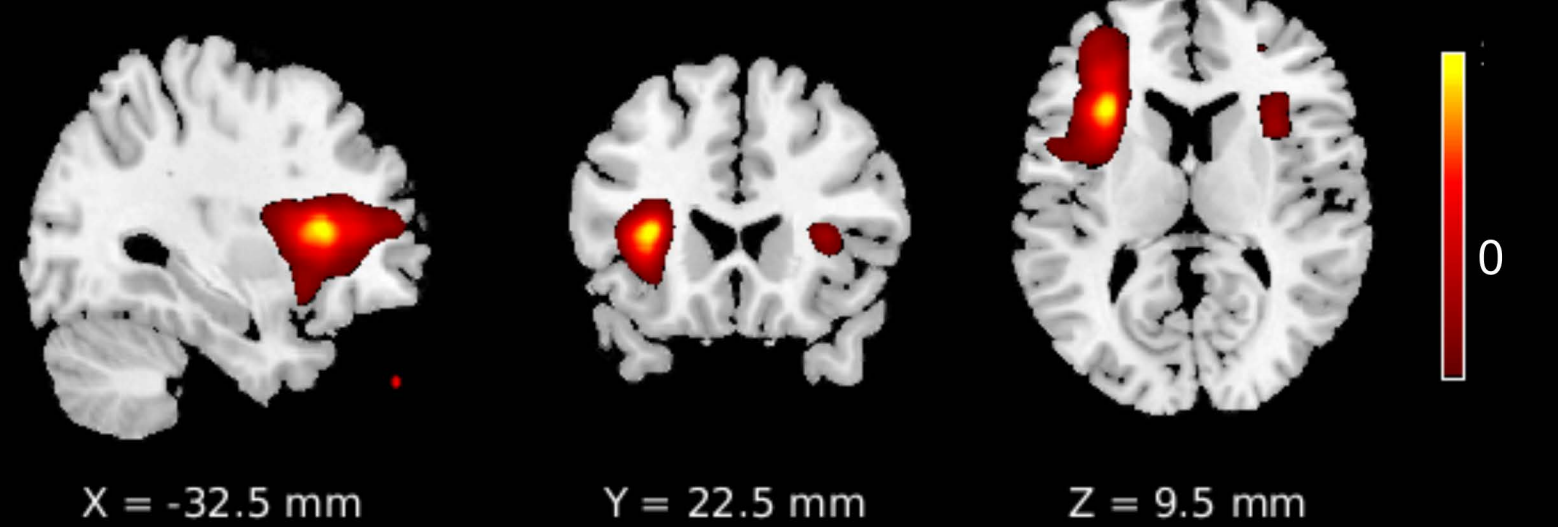
Component 46, R aInsula



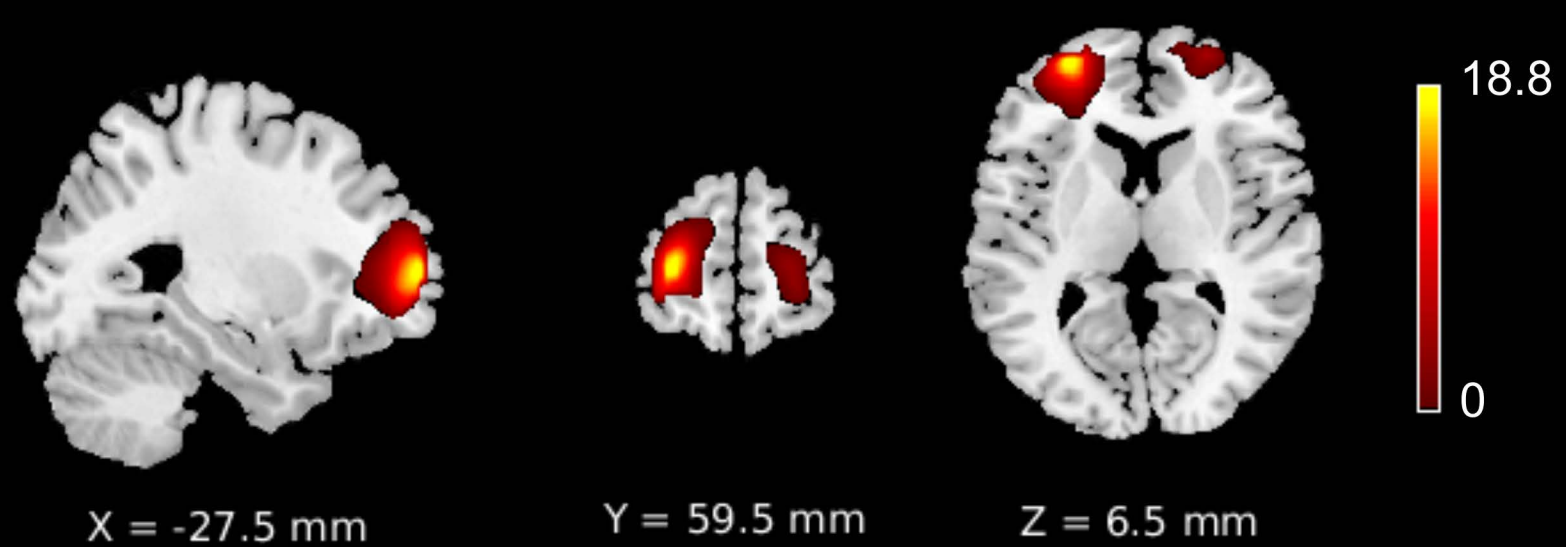
Component 35, MiFG1



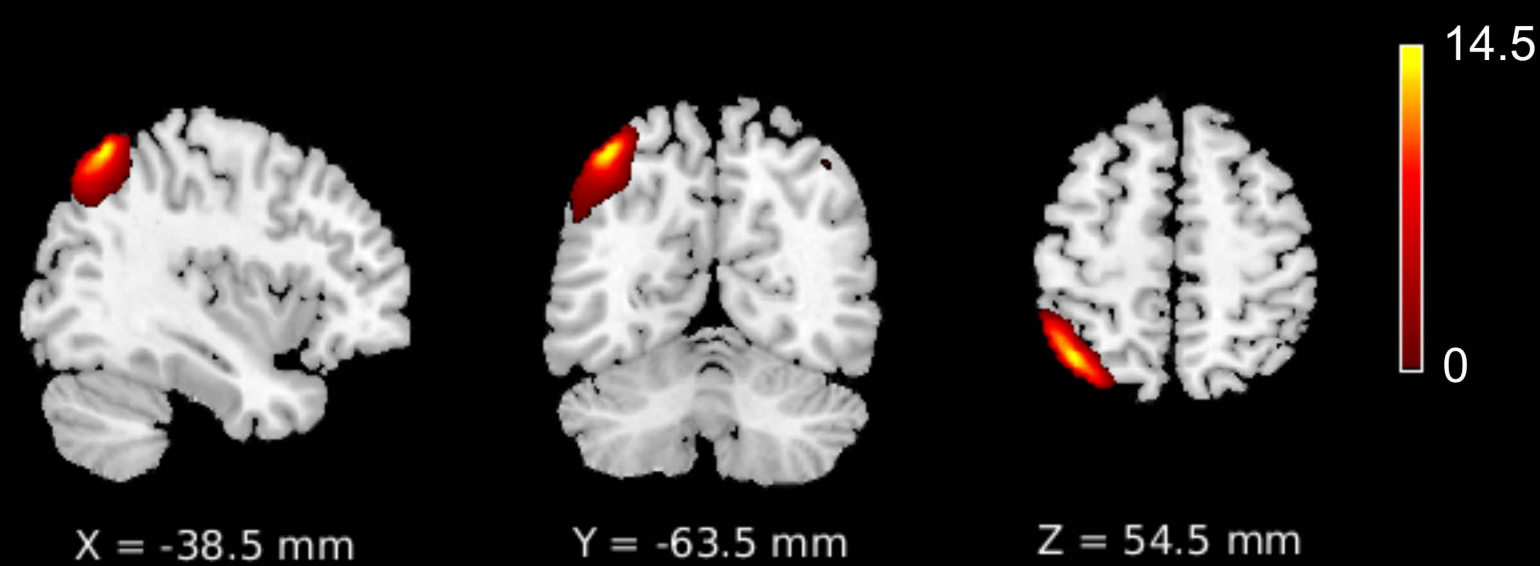
Component 67. aInsula



Component 41, MiFG2

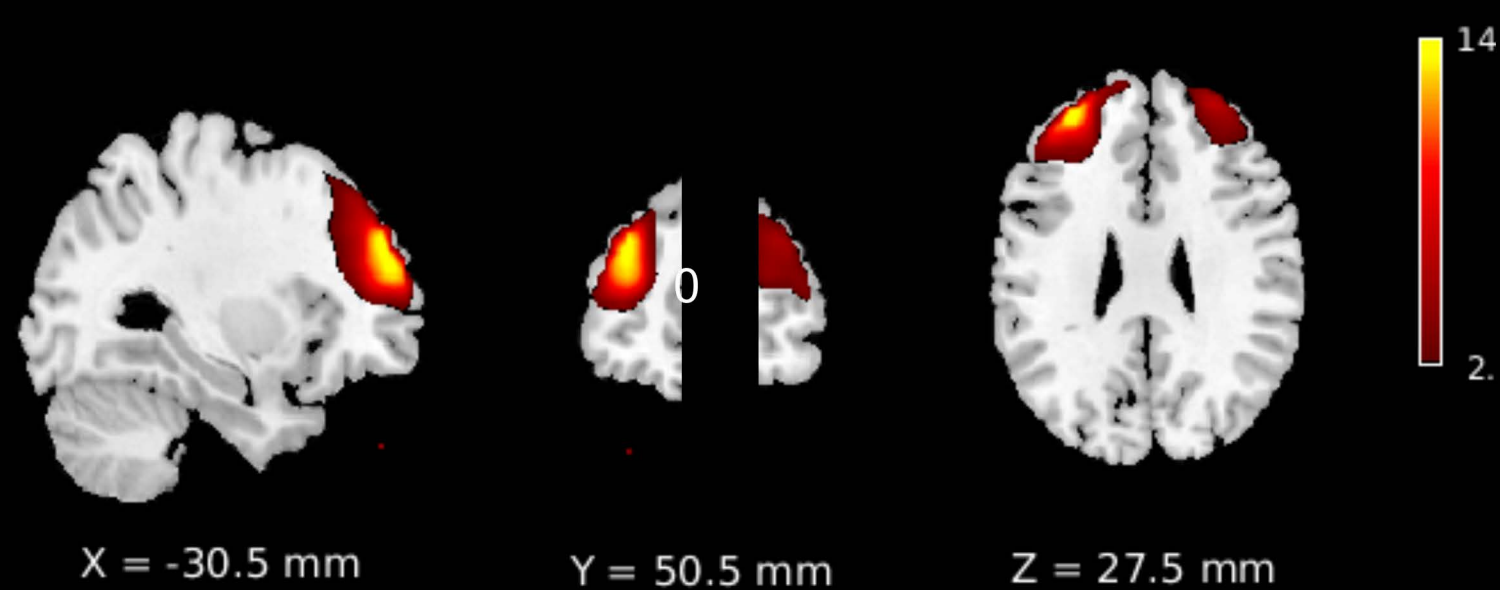


Component 70, L IPL

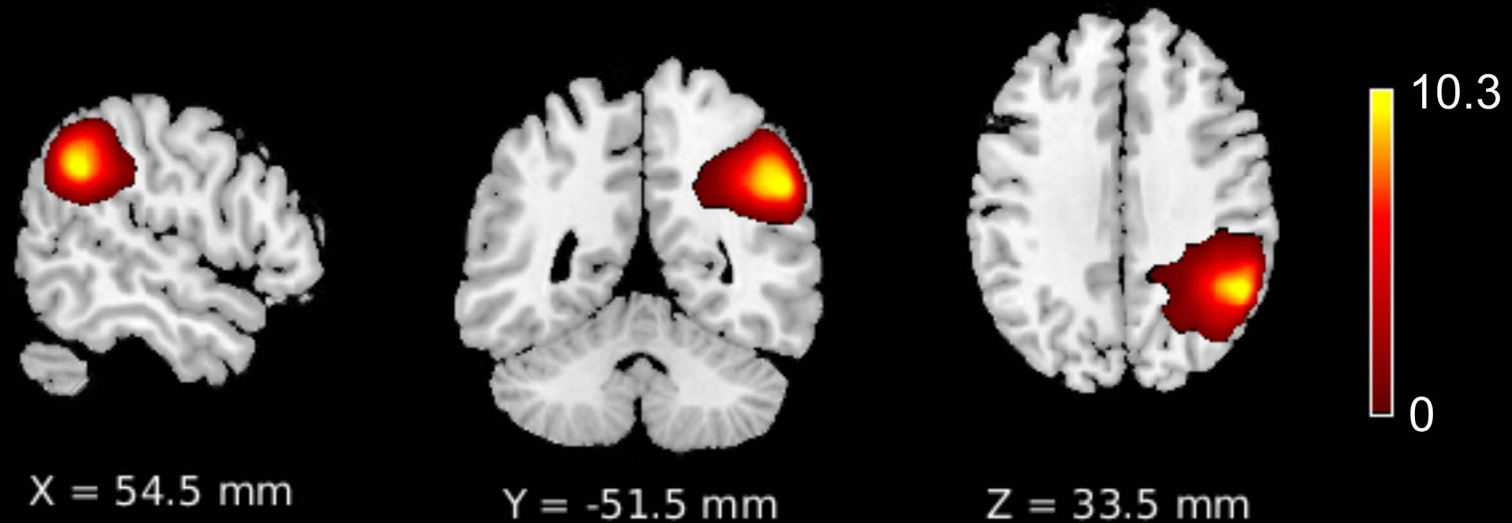


Component 42, MiFG3

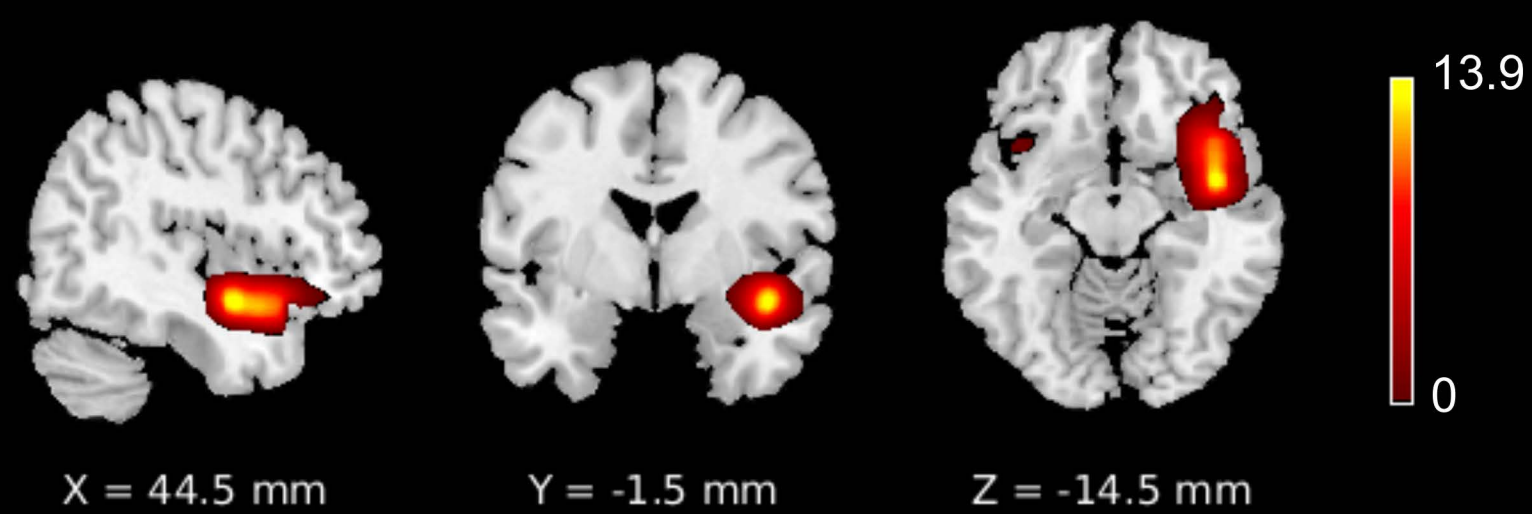
14.7



Component 74, R IPL

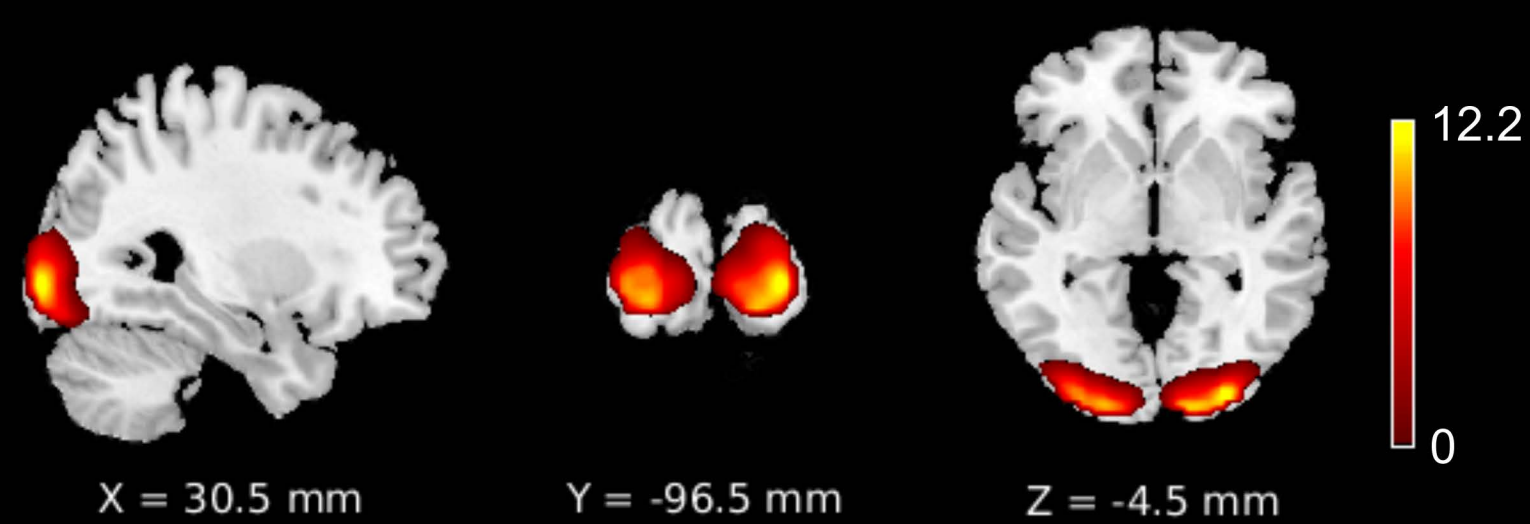


Component 45, R pInsula

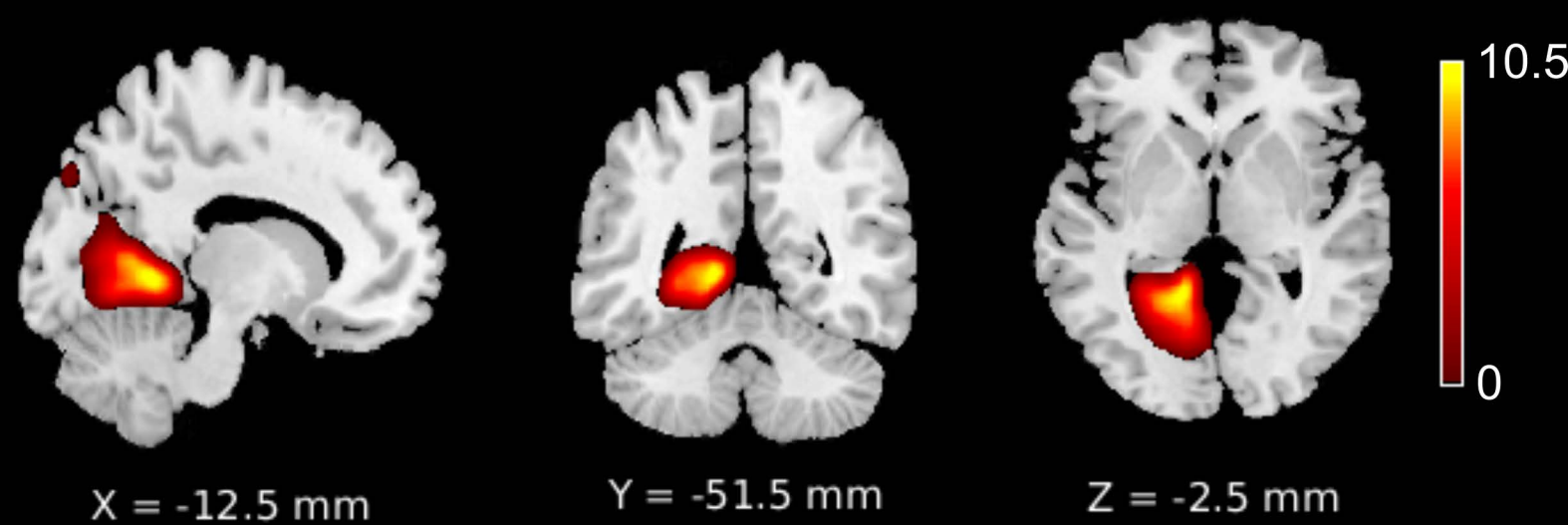


Visual Networks

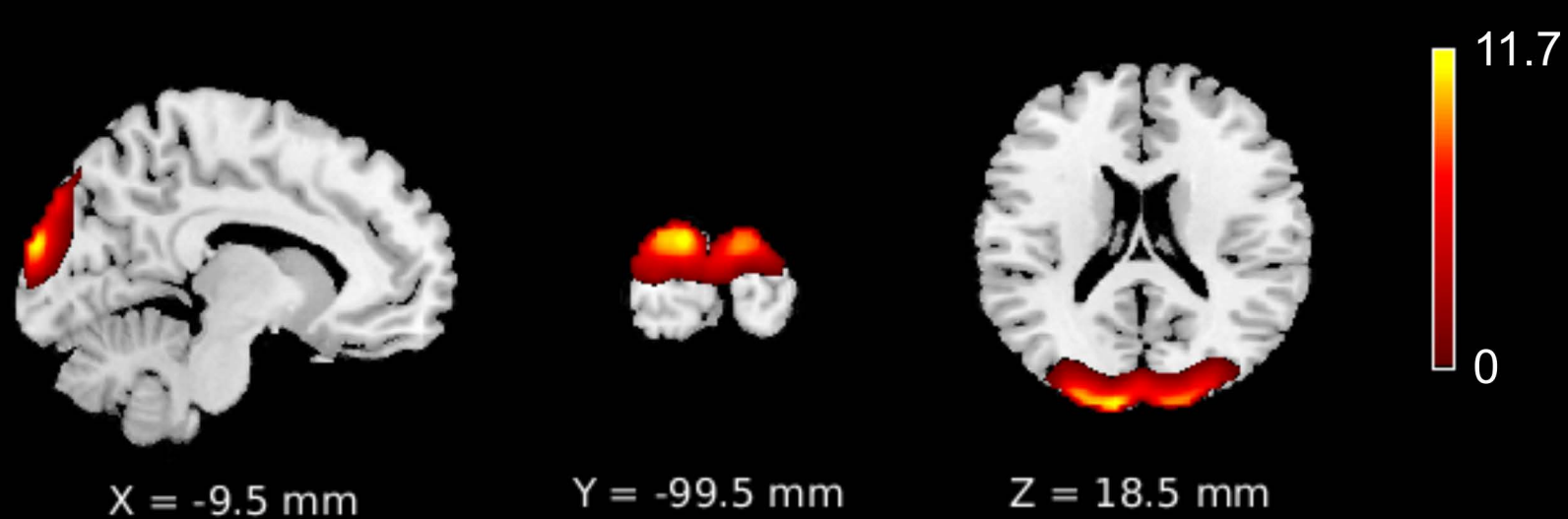
Component 12, MOG1



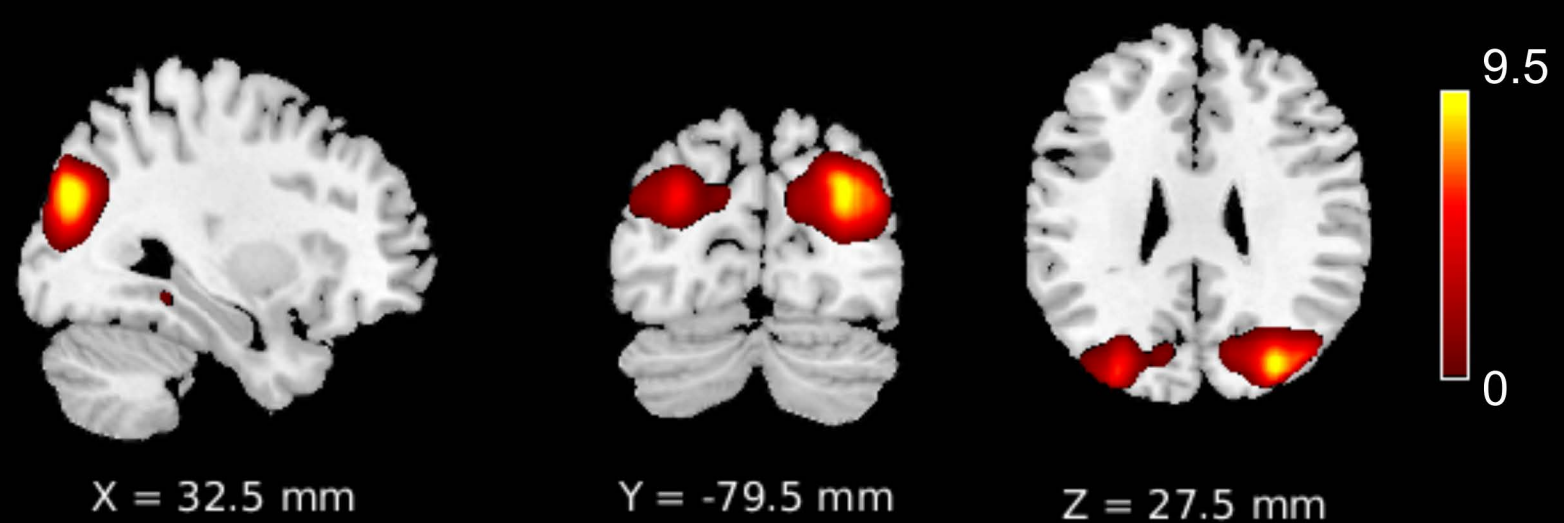
Component 87, L LingualG



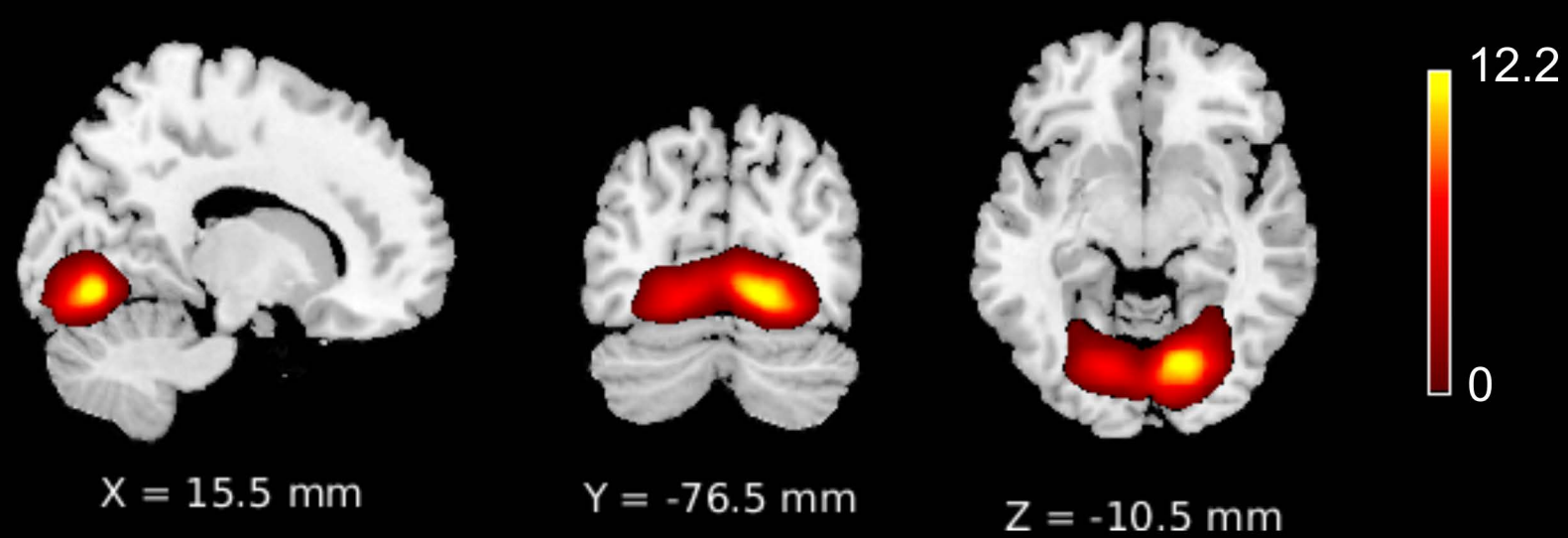
Component 80, MOG2



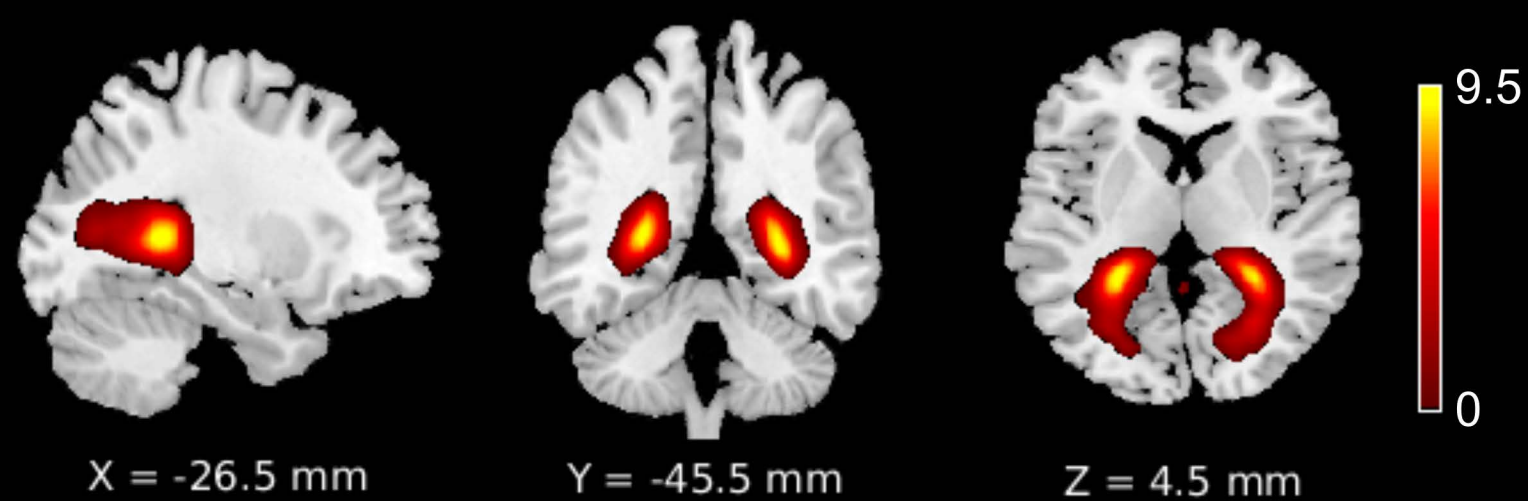
Component 65, SOG



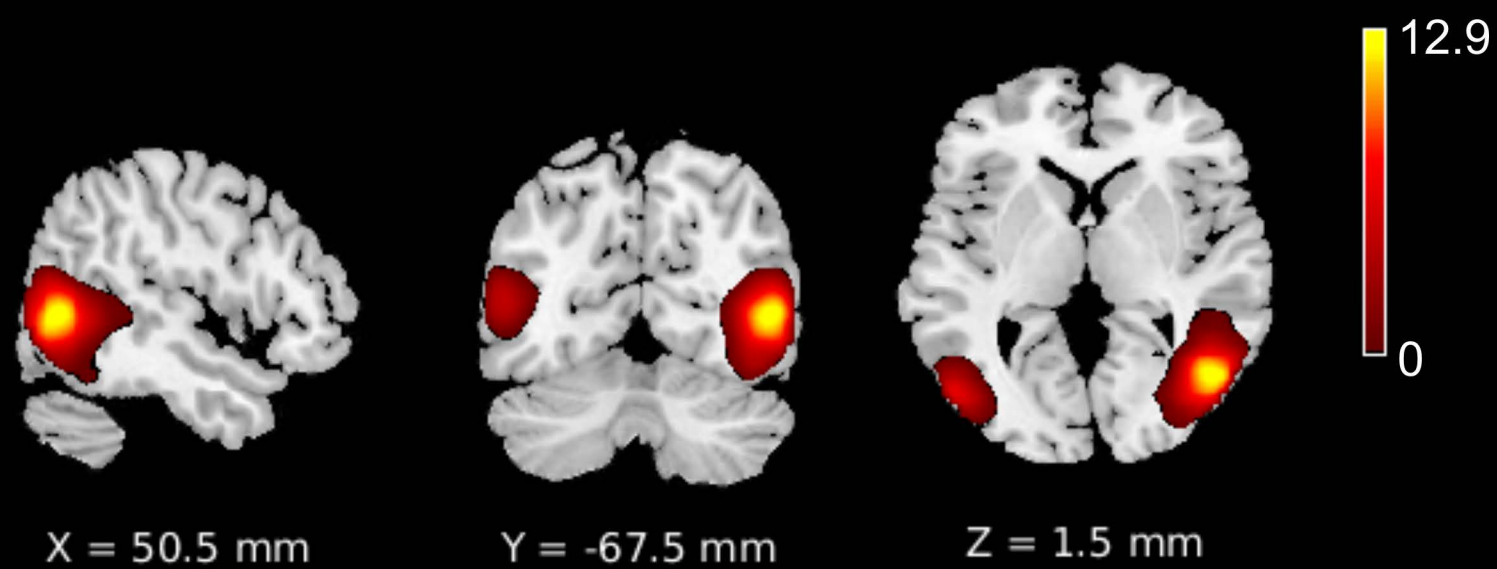
Component 15, Calcarine



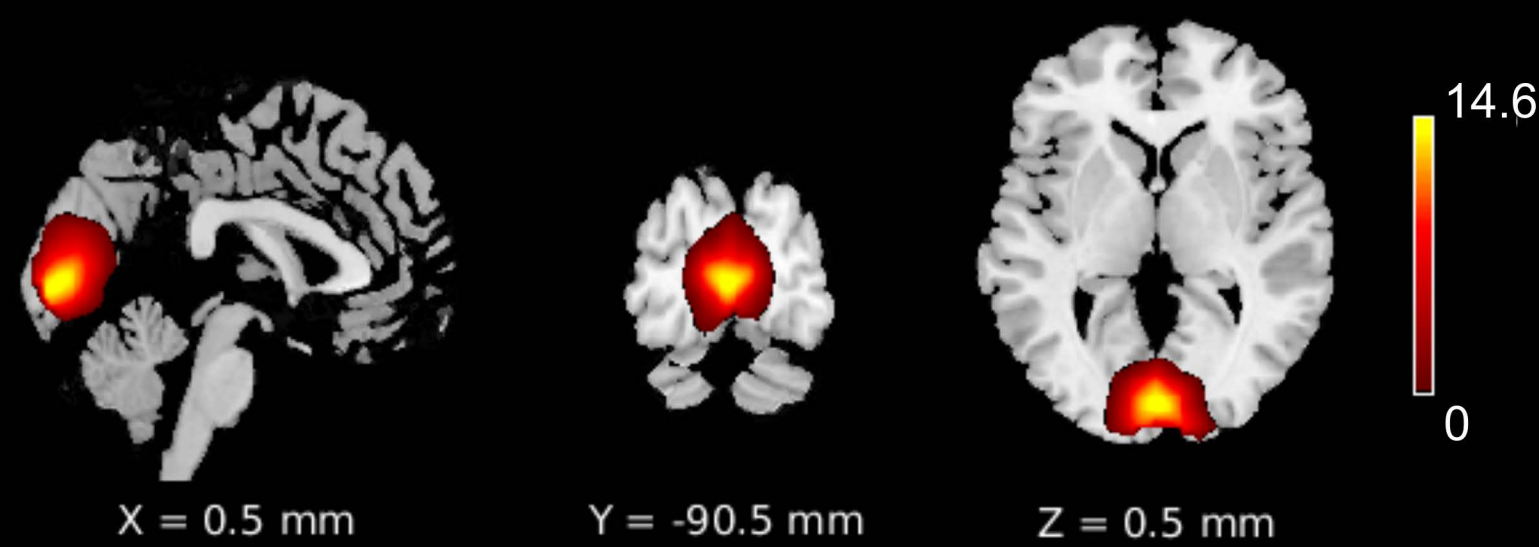
Component 78, FFG



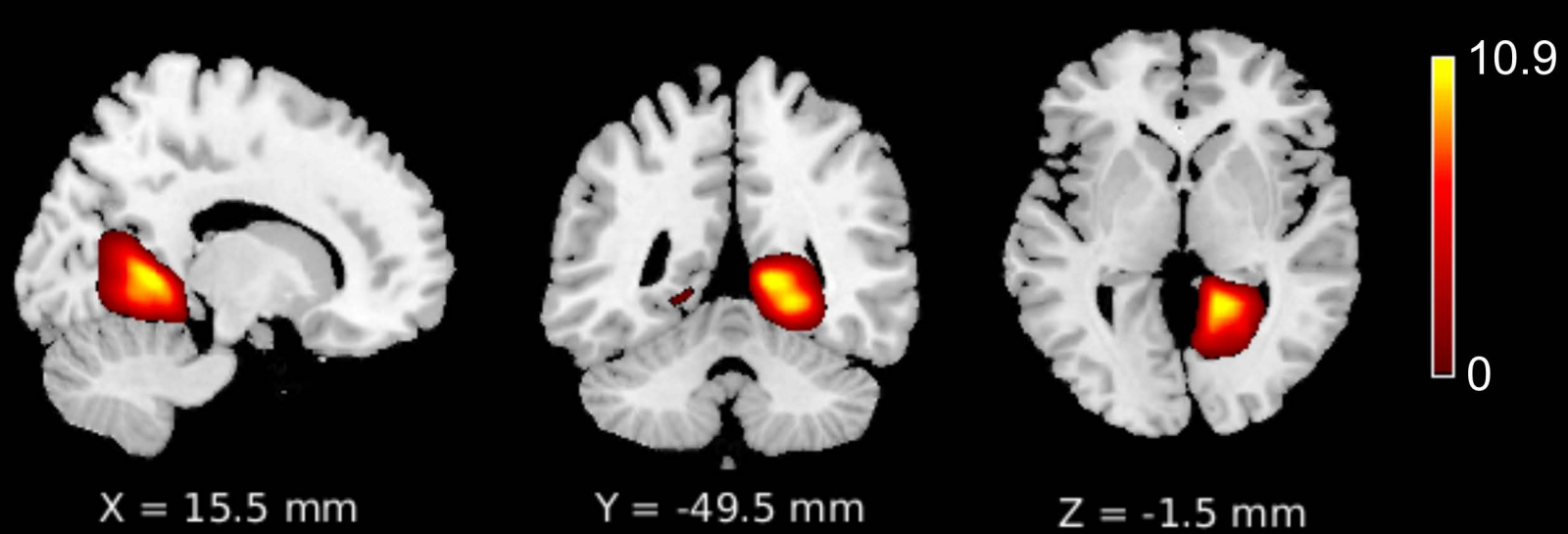
Component 52, MTG



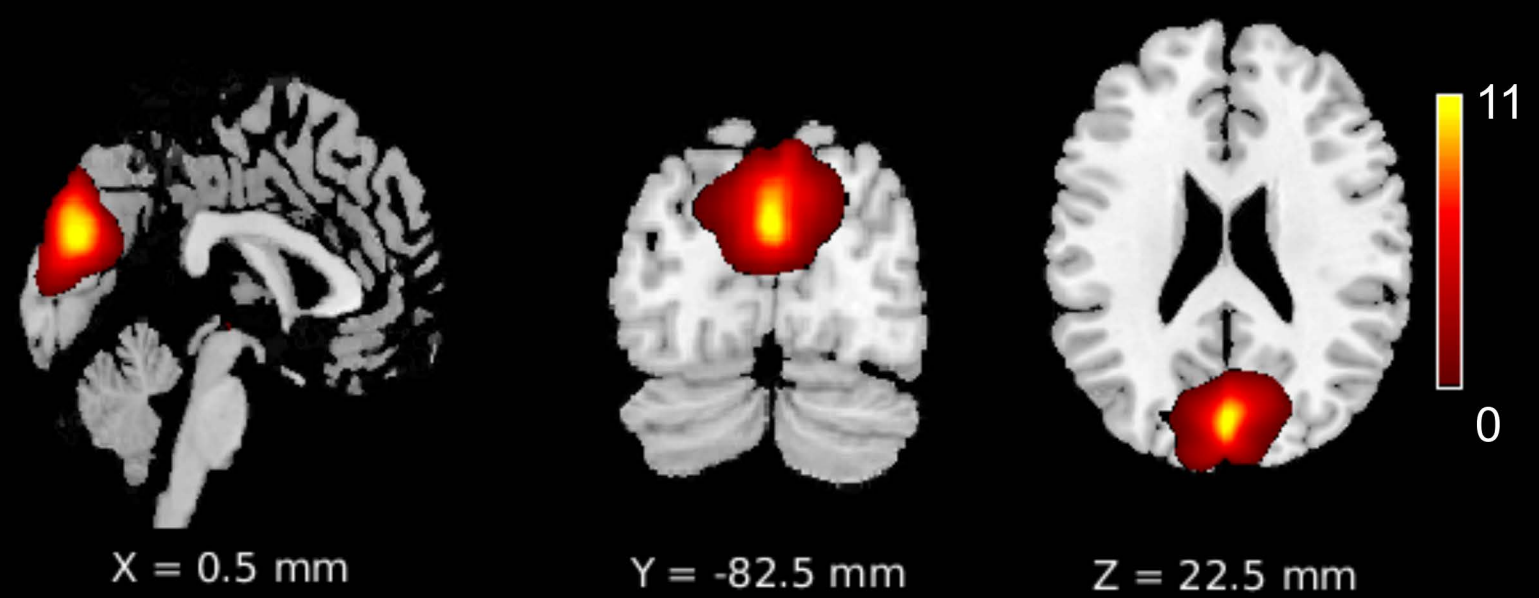
Component 34, Cuneus1



Component 57, R LingualG

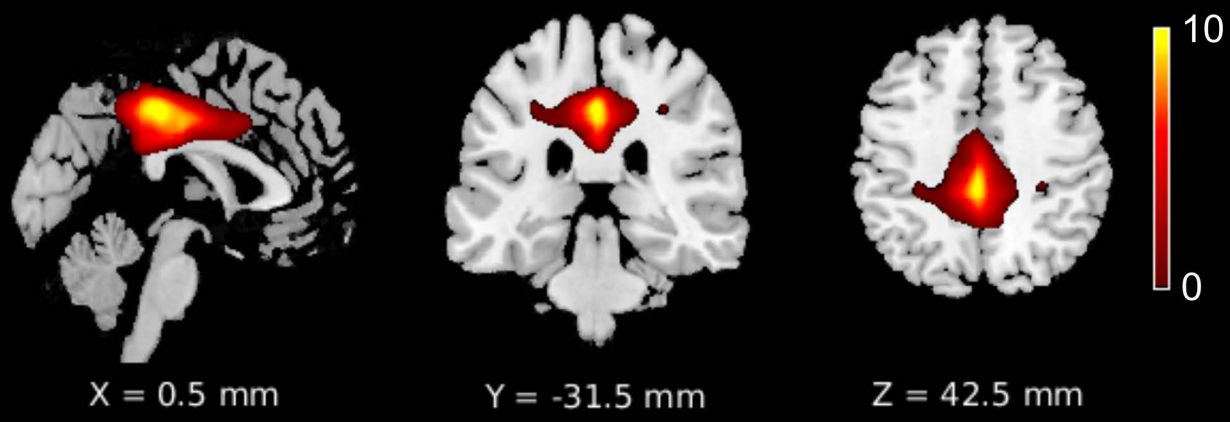


Component 91, Cuneus2

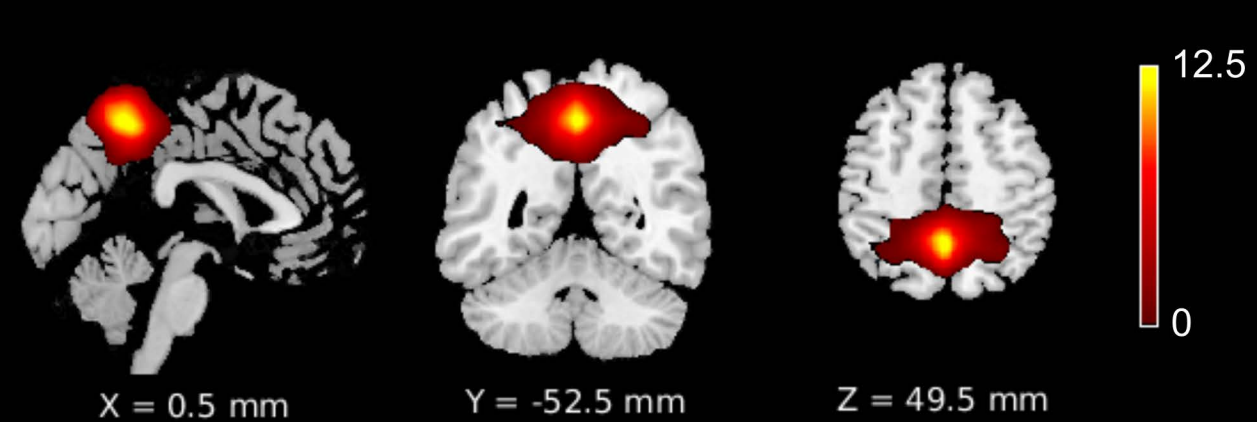


Default-Mode Networks

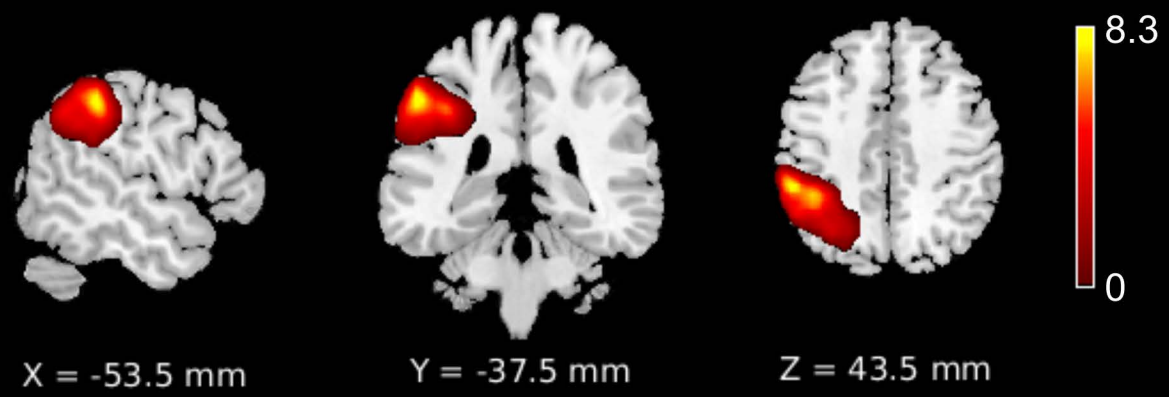
Component 72, PCC1



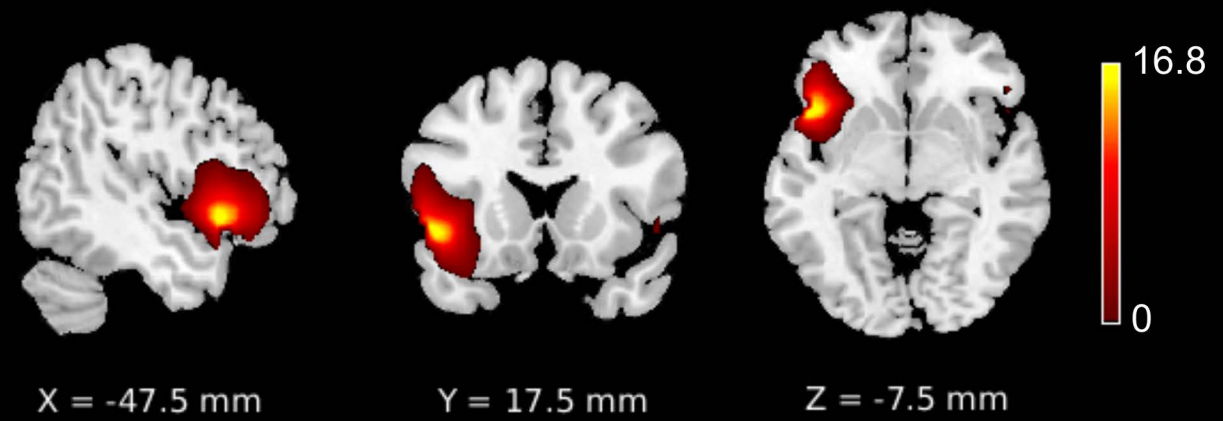
Component 62, Precuneus1



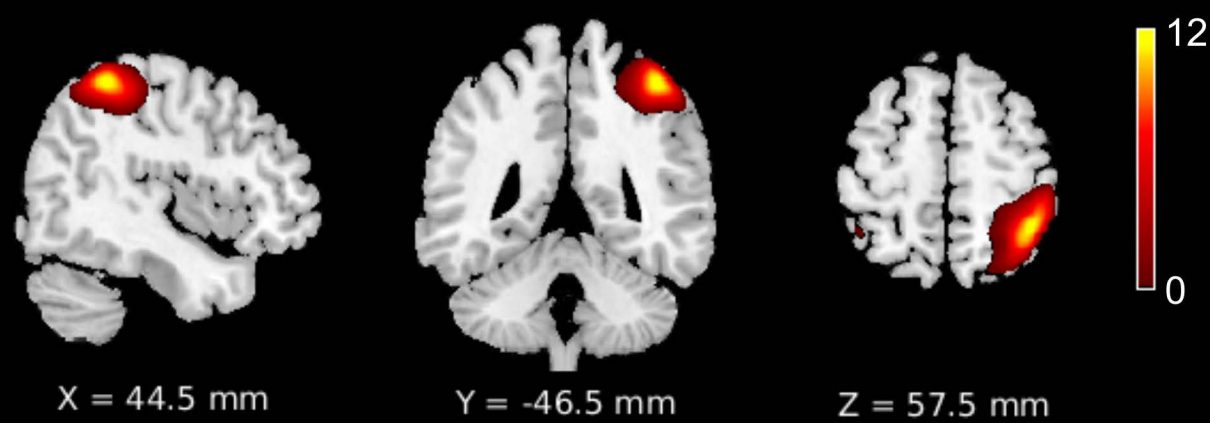
Component 25, L AG



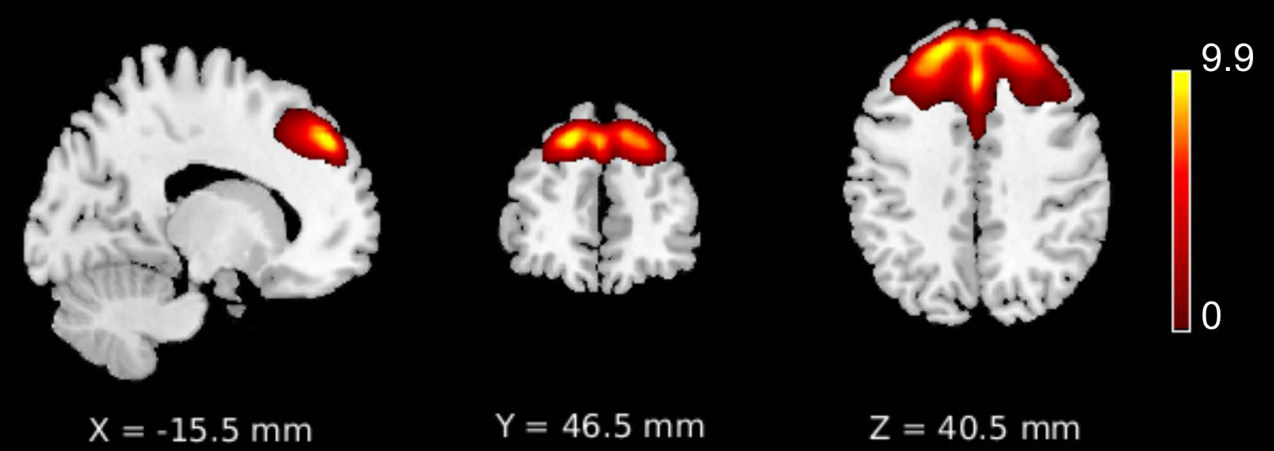
Component 58, L MTG + IFG



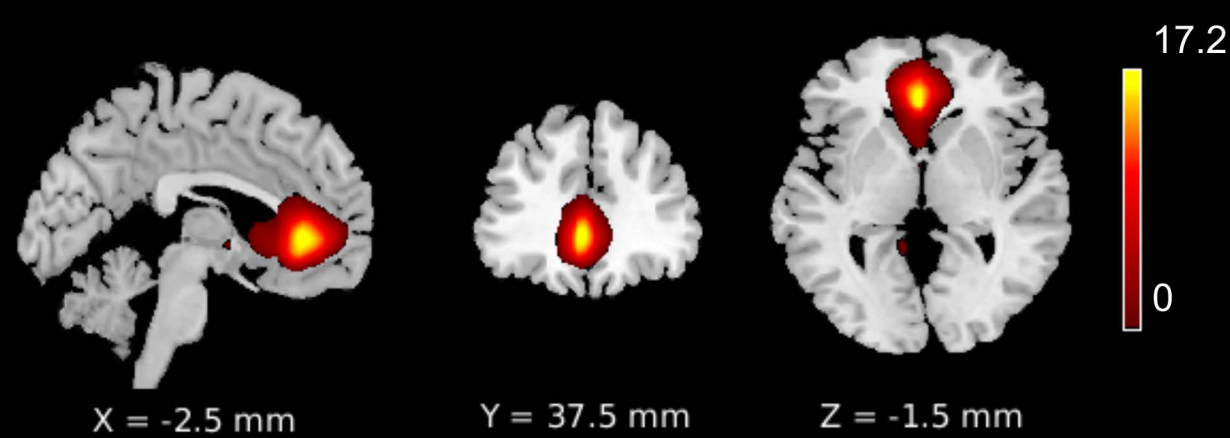
Component 48, R AG



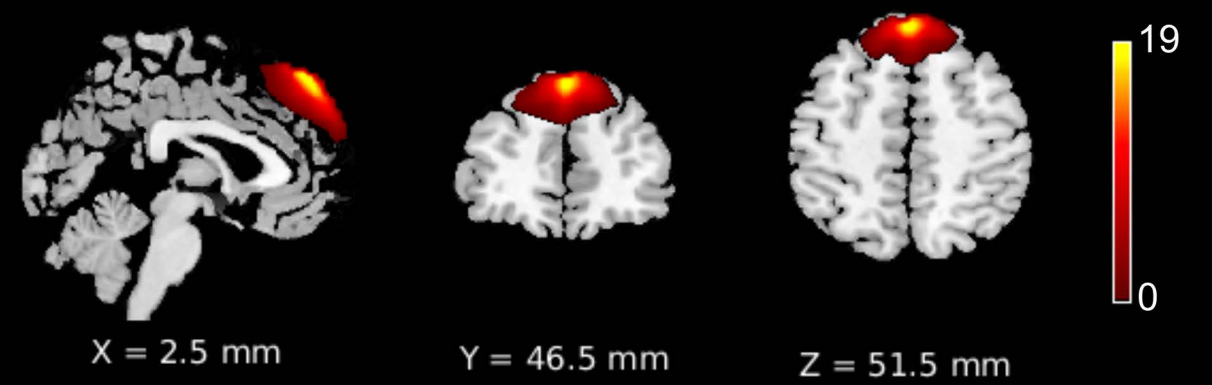
Component 100, L MTG + SFG



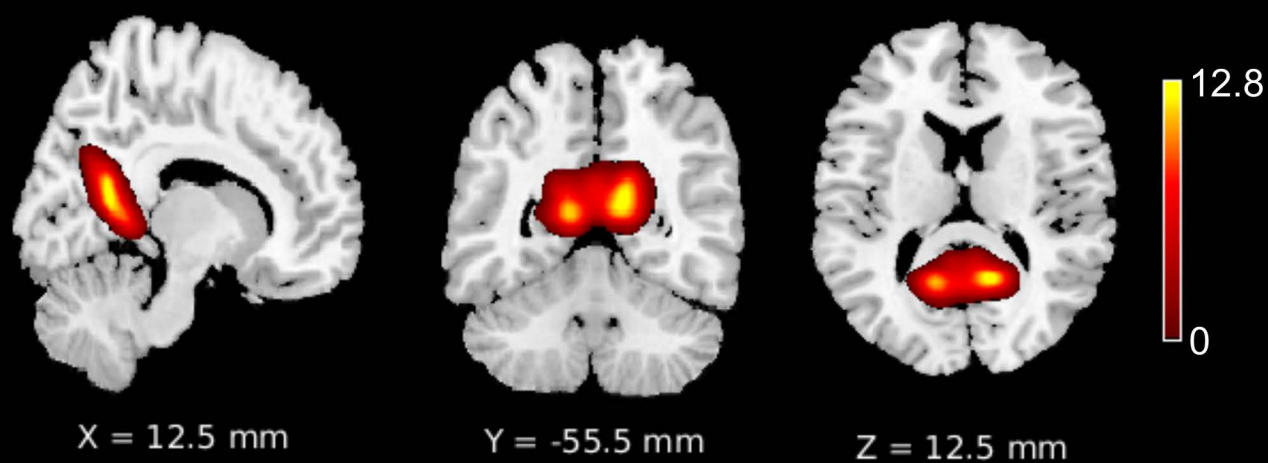
Component 26, ACC



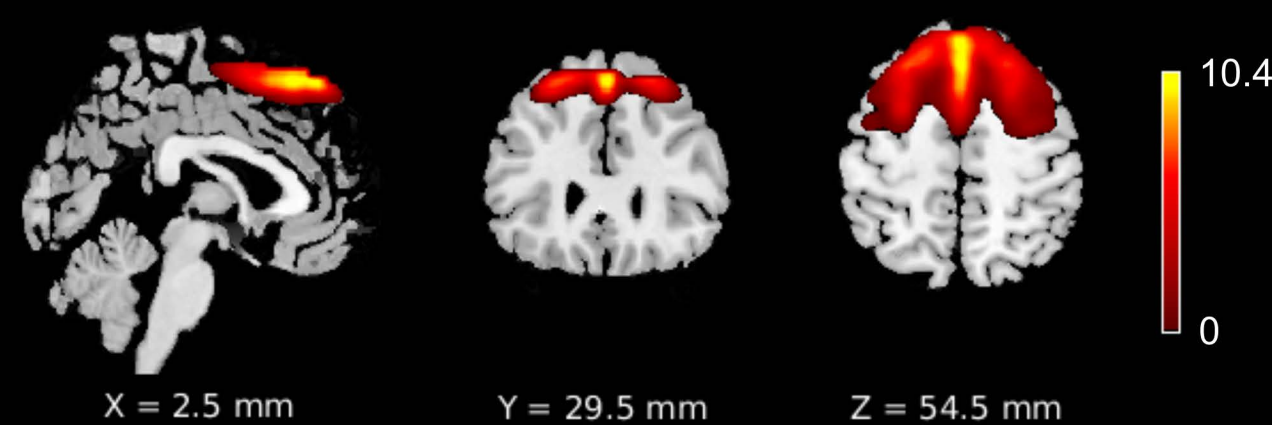
Component 99, MiFG + SFG1



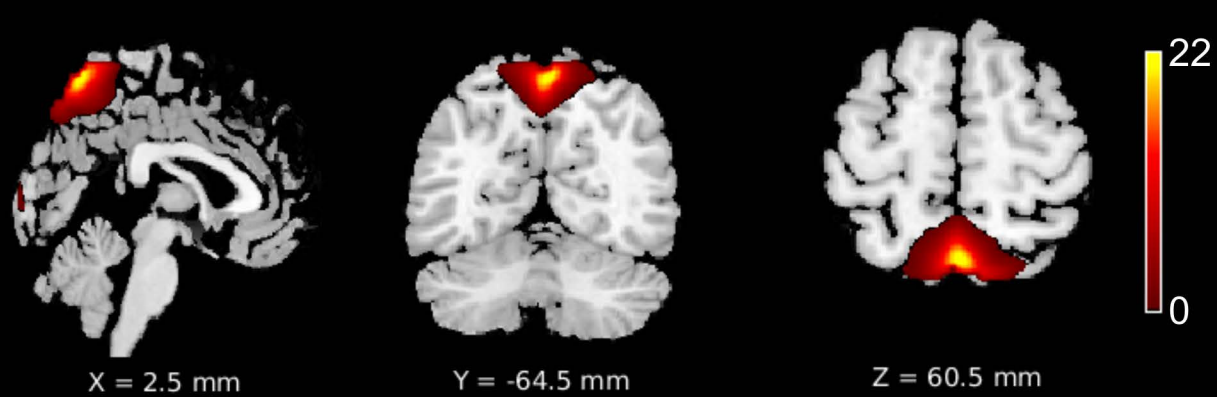
Component 24, PCC2



Component 33, MiFG + SFG2

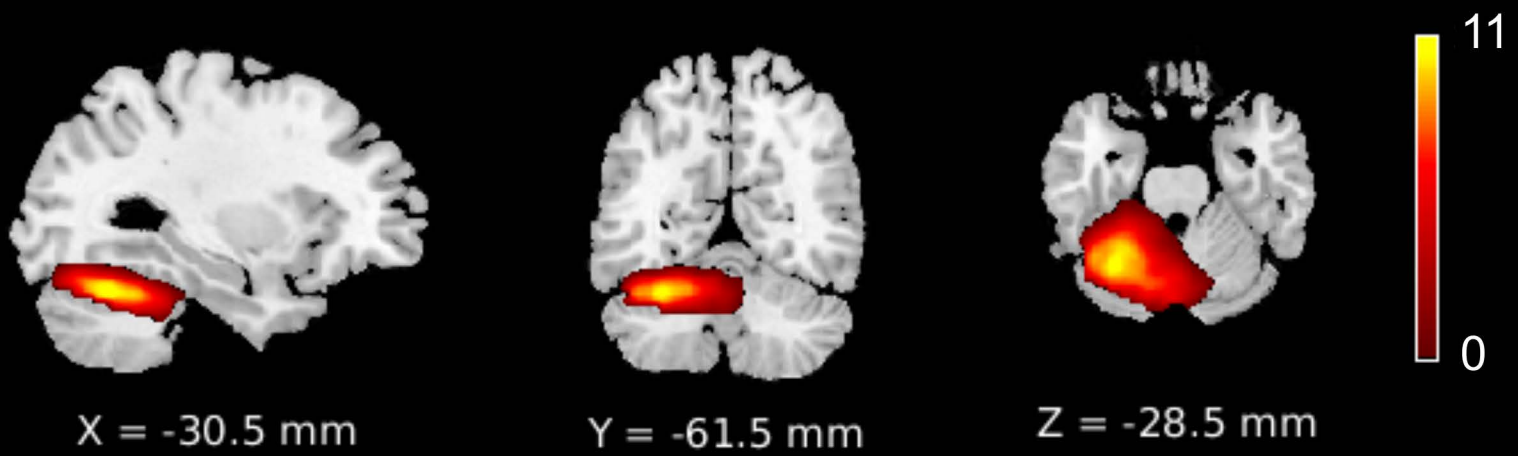


Component 38, Precuneus2

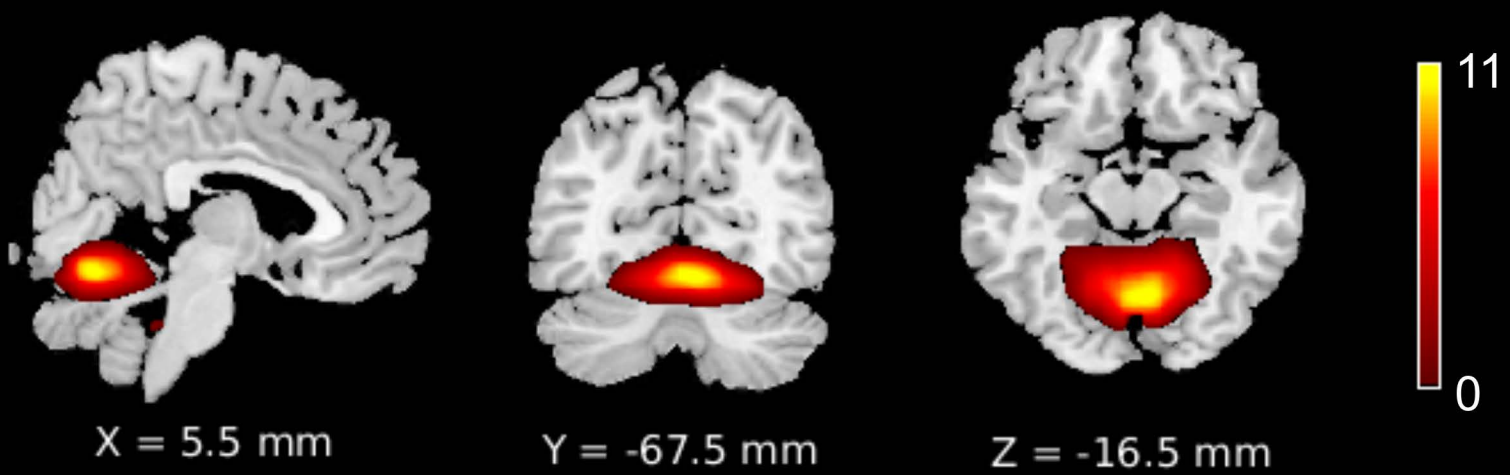


Cerebellar Networks

Component 9, L CB



Component 17, CB vermis



Component 79, CB Crus_2

