

## Appendix 1 - Brain areas of activation and Talairach coordinates

Right Stimulation - Control Group			
Contrasts	B.A	Peak Voxel	t*
Verbal vs Baseline	<b>BA1, BA2, BA3 - Somatosensorial Homunculus</b> (right, left)	2, -35, 57 -4, -41, 57	4,576 5,018
	<b>BA4 - Primary motor cortex</b> (right, left)	1, -35, 60 -1, -35, 60	4,400 4,506
	<b>BA6 - Premotor cortex</b> (left)	-4, -5, 51	4,761
	<b>BA7 and BA5 - Secondary Somatosensorial Cortex</b> (right, left)	2, -47, 48 -28, -65, 55	5,077 5,604
	<b>BA18 - Extraestriate cortex V2</b> (right, left)	2, -61, 3 -4, -59, 4	4,995 4,580
	<b>BA21 - Lateral temporal lobe</b> (right, left)	59, -19, 0 -61, -32, 3	3,494 4,737
	<b>BA22- Posterior parte contains Wernicke's area</b> (right, left)	59, -5, 3 -61, -14, 6	5,347 4,801
	<b>BA24 - Cingulate cortex (ventral)</b> (right, left)	1, -38, 51 -2, -38, 51	3,597 4,238
	<b>BA30- Retroesplenial Agranular córtex/ Cingulate gyrus</b> (right, left)	5, -47, 3 -4, -53, 6	4,600 4,169
	<b>BA31 - Isthmus of Cingulate gyrus</b> (right, left)	2, -59, 36 -1, -47, 48	3,729 4,552
	<b>BA38 - Temporal Pole</b> (left)	-61, 4, 0	4,868
	<b>BA42 - A1</b> (right, left)	59, -15, 12 -58, -32, 12	4,605 4,748
	<b>Lingual Gyrus (right, left)</b>	2, -61, 3	4,995

		-4, -59, 3	5,231
Manual vs Baseline	<b>BA1, BA2, BA3 - Somatosensorial Homunculus (left)</b>	-4, -41, 57	4,990
	<b>BA4 - Primary motor cortex (left)</b>	-15, -29, 63	3,783
	<b>BA5 and BA7- Secondary somatosensorial cortex (left)</b>	-10, -71, 48	4,477
Verbal+Manual vs Baseline	<b>BA1+3 - Somatosensorial Homunculus (left)</b>	-4, -41, 57	5,003
	<b>BA4 - Primary motor cortex (left)</b>	-1, -23, 63	3,497
	<b>BA5 - Secondary Somatosensorial Cortex (left)</b>	-4, -41, 57	5,003
	<b>BA21 - Lateral temporal lobe (right, left)</b>	59, -19, 0	4,425
		-61, -29, 3	4,271
	<b>BA22- Posterior parte contains Wernicke's area (right, left)</b>	59, -17, 0	5,502
		-63, -32, 6	5,407
	<b>BA24 - Cingulate cortex (Ventral) (left)</b>	-4, -41, 55	3,388
	<b>BA41 and BA42 - A1 (right, left)</b>	62, -17, 6	4,831
		-58, -32, 12	5,015
Verbal vs Manual	<b>BA1 - Somatosensorial Homunculus (left)</b>	-38, -23, 45	3,364
	<b>BA7 and BA5 - Secondary Somatosensorial Cortex (left)</b>	-1, -51, 45	4,701
	<b>BA18 and BA 19 - Extraestriate cortex V2 (left)</b>	-4, -58, 3	4,229
	<b>BA21 - Lateral temporal lobe (right, left)</b>	64, -23, 6	5,261
		-61, -32, 3	4,749
	<b>BA22- Posterior parte contains Wernicke's area (right, left)</b>	47, -14, 6	6,297
		-61, -14, 6	6,116
	<b>BA24 - Cingulate cortex (ventral) (left)</b>	-1, -36, 50	3,454
	<b>BA30- Retroesplenial Agranular cortex (right, left)</b>	5, -47, 3	4,385
		-4, -50, 9	3,908
<b>BA31 - Isthmus of Cingulate gyrus (right, left)</b>	14, -62, 15	4,178	
	-4, -50, 39	4,814	
<b>BA38 - Temporal Pole (left)</b>	-61, 4, 0	5,824	
<b>BA41 and BA42 - A1 (right), BA 42 - A1 (left)</b>	59, -15, 12	4,524	
	-58, -32, 12	4,218	

	<i>Lingual Gyrus (right, left)</i>	5, -62, -3 -4, -59, 3	4,600 4,997
Manual vs Verbal	<b>BA18 + BA19 - Extraestriate cortex V2 (right, left)</b>	44, -56, -3 -46, -59, 6	4,230 5,044
	<i>Orbital surface (right, left)</i>	17, 31, -3 -1, 28, -3	4,274 3,203
Verbal vs Manual + Verbal	<b>BA3 - Somatosensorial Homunculus (right), BA1, 2 and 3 (left)</b>	1, -36, 60 -4, -44, 57	5,640 3,767
	<b>BA7 and BA5 - Secondary Somatosensorial Cortex (right, left)</b>	20, -65, 53 -34, -59, 48	4,666 5,267
	<b>BA18 and BA 19 - Extraestriate cortex V2 (right, left)</b>	14, -56, 18 -25, -80, 30	4,180 3,538
	<b>BA24 - Cingulate cortex (ventral) (right, left)</b>	1, -35, 51 -1, -37, 50	2,517 2,905
	<b>BA30- Retroesplenial Agranular cortex (right, left)</b>	14, -53, 9 -4, -53, 6	4,441 4,441
	<b>BA31 - Isthmus of Cingulate gyrus (right, left)</b>	2, -44, 39 -4, -53, 35	4,045 3,990
Manual + Verbal vs Verbal			
Manual vs Manual + Verbal			
Manual + Verbal vs Manual	<b>BA7 and BA5 - Secondary Somatosensorial Cortex (right, left)</b>	2, -59, 36 -1, -50, 45	4,139 3, 529
	<b>BA22 - Wernicke - (right, left)</b>	59, -17, 0 -61, -23, 9	5,291 4,385
	<b>BA41 and BA42 - A1 (right), BA42 (right)</b>	62, -17, 6 -58, -32, 12	4,599 4,436

Left Stimulation - Control Group			
Contrasts	B.A	Peak Voxel	t*
Verbal vs Baseline	<b>BA1, BA2, BA3 - Somatosensorial Homunculus</b> (right, left)	2, -44, 57 -1, -50, 57	4,135 4,196
	<b>BA4 - Primary motor cortex</b> (right, left)	1, -33, 60 -1, -32, 60	4,480 5,026
	<b>BA5 - Secondary somatosensorial cortex</b> (right, left)	20, -35, 60 -3, -53, 57	4,052 3,630
	<b>BA6 - Premotor cortex</b> (left)	-4, 4, 42	5,513
	<b>BA21 - Lateral temporal lobe</b> (right, left)	50, -23, 6 -49, -23, 9	5,310 5,252
	<b>BA22- Posterior parte contains Wernicke's area</b> (right, left)	50, -3, 3 -59, -8, 6	3,722 3,691
	<b>BA24 - Cingulate cortex (Ventral part)</b> (right, left)	5, -38, 48 -4, -33, 48	3,663 4,498
	<b>BA38 - Temporal Pole</b> (left)	-58, 7, 0	4,600
Manual vs Baseline	<b>BA41 and BA42 - A1</b> (right, left)	47, -18, 7 -55, -18, 9	3,879 4,525
	<b>BA1, BA2, BA3 - Somatosensorial Homunculus</b> (right, left)	11, -41, 60 -7, -38, 51	4,408 3,837
	<b>BA4 - Primary motor cortex</b> (right, left)	8, -37, 66 -1, -32, 57	4,759 3,781
	<b>BA5 and BA7- Secondary somatosensorial cortex</b> (right)/ <b>BA5</b> (left)	38, -41, 51 -16, -51, 57	5,300 3,910
	<b>BA24 - Cingulate Cortex</b> (ventral) (right, left)	5, -38, 48	4,119

		-4, -33, 48	3,508
	<b>BA32 - Anterior Cingulate</b> (right, left)	5, -17, 45	3,781
		-1, -17, 51	3,070
Verbal+Manual vs Baseline	<b>BA1, BA2 and BA3 - Somatosensorial Homunculus</b> (right) / <b>BA3</b> (left)	11, -41, 60	4,274
		-4, -35, 50	4,115
	<b>BA4 - Primary motor cortex</b> (right, left)	8, -37, 66	3,633
		-1, -32, 60	4,139
	<b>BA5 - Secondary Somatosensorial Cortex</b> (right, left)	20, -35, 57	4,608
		-2, -50, 54	2,694
	<b>BA21 - Lateral temporal lobe</b> (right, left)	62, -23, 0	4,321
		-47, -26, 6	3,043
	<b>BA22- Posterior parte contains Wernicke's area</b> (right, left)	50, -5, 4	5,171
		-58, -7, 6	4,324
	<b>BA24 - Cingulate Cortex</b> (ventral) (right, left)	5, -38, 48	4,394
		-4, -35, 49	4,328
	<b>BA38 - Temporal Pole</b> (left)	-58, 7, 0	4,327
	<b>BA41 and BA42 - AI</b> (right, left)	47, -18, 7	4,975
		-55, -18, 9	4,388
Verbal vs Manual	<b>BA21 - Lateral temporal lobe</b> (left)	-64, -20, -6	5,354
	<b>BA22- Posterior parte contains Wernicke's area</b> (right, left)	50, -5, 6	3,863
		-63, -11, 6	3,832
	<b>BA38 - Temporal Pole</b> (left)	-58, 7, 0	3,716
	<b>BA42 - AI</b> (right, left)	50, -15, 9	3,582
		-55, -17, 9	5,067
Manual vs Verbal	<b>BA1, BA2, BA3 - SI</b> (right, left)	9, -35, 72	4,655
		-16, -35, 51	3,875
	<b>BA4 - MI</b> (right, left)	26, -13, 63	3,927

		-40, -11, 33	3,083
	<b>BA6 – Premotor</b> (right, left)	38, -2, 42	5,112
		-40, -2, 42	3,192
	<b>BA5 and BA7 - S2</b> (right, left)	48, -35, 51	5,441
		16, -35, 51	3,878
	<b>BA10 - Prefrontal Cortex</b> (right)	11, 38, 15	3,918
	<b>BA17 - V1</b> (right)	17, -47, 6	3,221
	<b>BA18 and BA19 - V2</b> (right)	29, -89, -6	4,144
	<b>BA21 - Lateral Temporal Lobe</b> (left)	-52, -17, -12	3,732
	<b>BA23 - Cingulate Cortex - Posterior</b> (right, left)	2, -38, 24	3, 457
		-7, -44, 30	3,716
	<b>BA24 - Cingulate Cortex - Ventral</b> (right, left)	11, -22, 36	4,031
		-13, -32, 42	2,873
	<b>BA30 - Retroesplenial Agranular Cortex</b> (right, left)	2, -38, 20	2,755
		-4, -41, 15	3,947
	<b>BA31- Isthmus - Cingulate cortex</b> (right, left)	5, -53, 15	3,227
		-4, -35, 36	3,755
	<b>BA32 - Anterior Cingulate</b> (right)	8, -17, 44	3,141
	<b>BA37- Fusiform gyrus - caudal</b> (right)	38, -47, -6	4,398
	<b>BA39 - Angular gyrus</b> (right)	53, -41, 18	4,106
	<b>BA40 - Secondary Somatosensorial representation</b> (right)	53, -35, 33	4,187
	<b>BA44 - Broca</b> (right, left)	38, 13, 30	3,840
		-37, 13, 21	4,177
	<b>BA46 - Dorsolateral Prefrontal Cortex -</b> (right)	35, 31, 15	4,291
	<i>Anterior Lobe Cerebellum</i> (right, left)	17, -41, -30	3,414
		-19, -38, -27	5,131
	<i>Posterior Lobe Cerebellum</i> (right)	14, -53, -33	5,260
		-14, -53, -33	

		(esq.)	
	<i>Amygdala</i> (right)	26, -2, -15	4,069
	<i>Thalamus</i> (right, left)	23, -29, 6	4,864
		-7, -14, 9	4,905
	<i>Brainstem-Pons</i> (left)	-1, -29, -24	4,776
Verbal vs Manual + Verbal			
Manual + Verbal vs Verbal	<b>BA4</b> - <i>MI</i> (right)	26, -11, 48	3,386
	<b>BA6</b> - <i>Premotor cortex</i> (right)	38, -2, 36	4,410
	<b>BA7</b> - <i>S2</i> (right)	44, -41, 36	3,330
	<b>BA10</b> - <i>Prefrontal cortex</i> (right)	5, 49, 27	3,651
	<b>BA18</b> and <b>BA19</b> - <i>V2</i> (right)	35, -62, 0	3,882
	<b>BA21</b> - <i>Lateral Temporal Lobe</i> (right)	41, -20, -3	3,597
	<b>BA22</b> - <i>Wernicke</i> (right)	47, -11, -9	3,718
	<b>BA32</b> - <i>Anterior Cingulate</i> (right)	11, 37, 15	2,996
	<b>BA37</b> - <i>Fusiform Gyrus</i> (right)	45, -40, 12	2,585
	<b>BA39</b> - <i>Angular Gyrus</i> (right)	44, -38, 12	3,217
	<b>BA40</b> - <i>Secondary somatosensory representation</i> (right)	53, -37, 33	3,215
	<b>BA41</b> and <b>BA42</b> - <i>A1</i> (right)	32, -23, 15	4,106
Manual vs Manual + Verbal	<b>BA5</b> and <b>BA7</b> - <i>S2</i> (right)	26, -47, 42	3,396
	<b>BA31</b> - <i>Isthmus - Cingulate cortex</i> (right)	14, -35, 39	3,393
Manual + Verbal vs Manual	<b>BA21</b> - <i>Lateral Temporal lobe</i> (right, left)	62, -23, 0	4,587
		-64, -20, -6	3,304
	<b>BA22</b> - <i>Wernicke</i> (right, left)	63, -20, 6	4,325
		-59, -8, 6	3,794
	<b>BA38</b> - <i>Temporal Pole</i> (left)	-58, 7, 0	3,142
	<b>BA42</b> - <i>A1</i> (right, left)	62, -18, 9	4,073
		-55, -17, 9	5,064