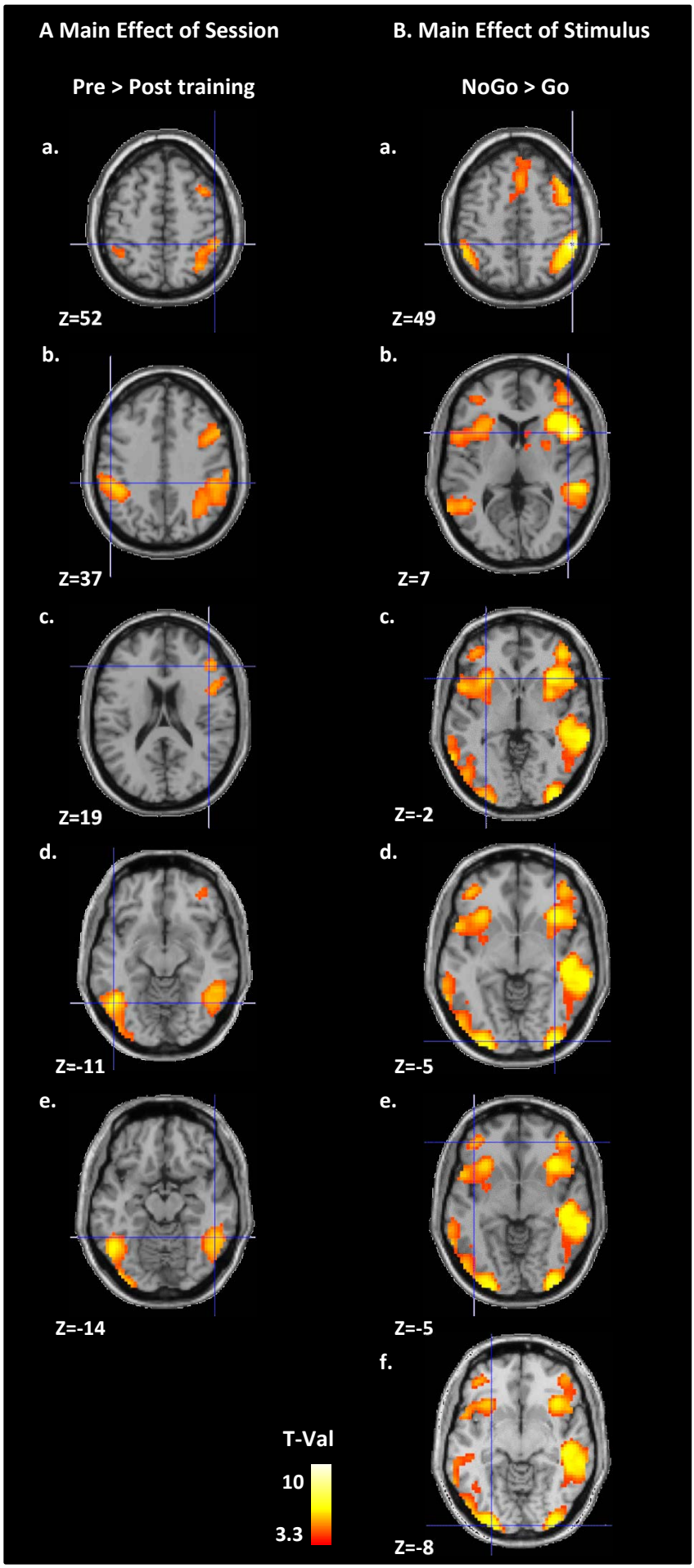
Supplementary Fig. 1 : Main effects of Session and Stimulus type



Supplementary Fig. 1

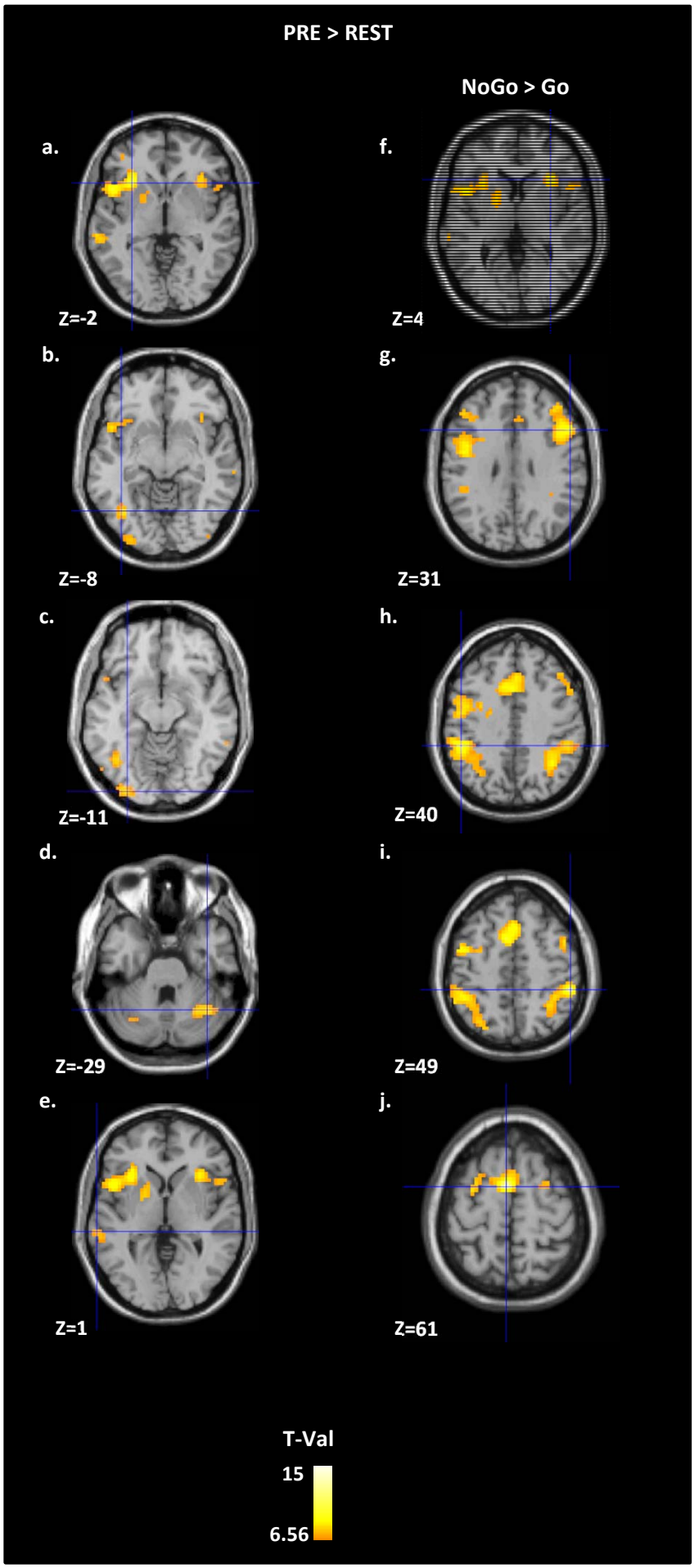
Figure1: Functional neuroimaging results for the two main effects of the second level ANOVA. A: main effect of the stimulus type given by the Nogo > Go contrast B: Main effect of session given by the Pre > Post training contrast. Results are presented on a normalized single-subject brain in the MNI space. Contrasts are represented at p< 0.001 uncorrected at voxel level and FDR corrected at the cluster level (min cluster size = 100).

Supplementary Table 1. Clusters Local Maxima for the functional MRI main effects of the Go/NoGo

Anatomical region	Vx	MNI Coordinates			Z	*p*
Main effect Session (Pre >Post)						
a.						
Right inferior parietal	744	51	-40	52	4.79	< 0.001
Right angular gyrus		33	-64	46	4.65	< 0.001
Right supramarginal gyrus		51	-34	37	4.46	< 0.001
b.						
Left inferior parietal	337	-51	-34	37	4.69	< 0.001
Left supramarginal gyrus *		-42	-40	34	4.65	<0.001
Left inferior parietal		-39	-49	52	3.54	< 0.001
c.						
Right middle frontal	607	45	32	19	4.43	< 0.001
Right inferior frontal pars opercularis		51	14	37	4.23	< 0.001
Right middle frontal pars orbitalis		39	47	-8	4.16	< 0.001
d.						
Left inferior temporal	329	-48	-61	-11	5.72	< 0.001
Left cerebellum *		-33	-94	-17	4.97	<0.001
Left cerebellum *		-42	-85	-14	4.37	<0.001
e.						
Right inferior temporal	248	51	-49	-14	4.70	< 0.001
Main effect Stimulus (NoGo >Go)						
a.						
Right inferior parietal	1997	54	-40	49	Inf.	< 0.001
Right inferior parietal		54	-49	40	6.68	< 0.001
Right insula *		45	-28	-8	6.47	< 0.001
b.						
Right inferior frontal pars opercularis	2905	48	14	7	7.18	< 0.001
Right insula		33	20	1	6.55	< 0.001
Right middle frontal		42	26	43	5.69	< 0.001
c.						
Left insula	561	-30	20	-2	5.10	< 0.001
Left inferior frontal pars opercularis		-51	11	1	4.94	< 0.001
Left putamen		-30	-1	-2	3.74	< 0.001
d.						
Left cerebellum *	1676	-33	-94	-17	6.49	<0.001
Left inferior occipital		-27	-97	-8	6.34	< 0.001
Left inferior parietal		-57	-49	40	6.20	< 0.001
e.						
Left inferior frontal pars orbitalis	176	-42	44	-5	4.63	< 0.001
Left inferior frontal pars triangularis		-36	44	10	3.72	< 0.001
Left middle frontal		-36	41	19	3.66	< 0.001
f.						
Right inferior occipital	173	36	-94	-5	6.54	< 0.001
Main effect Stimulus (Go >NoGo)						
Right precuneus	2688	12	-55	7	5.87	< 0.001
Left lingual gyrus		-9	-67	1	5.55	< 0.001
Left calcarine		-12	-73	19	5.44	< 0.001

Supplementary Table 1: Stereotaxic brain MNI coordinates for peak-voxels of the two functional main effects Stimulus (A) and Session (B). No significant difference was found for the main effect of Session (Post>Pre). Results are represented at p<0.001 uncorrected at voxel level and FDR corrected at the cluster level (min cluster size = 100). Table is organized by activation clusters with 3 local maxima more than 8mm apart. Vx= voxel size, Z= Z-value and p= p-value of the voxel. An asterisk (*) indicates the nearest grey matter for these particular peaks.

Supplementary Fig. 2 : Main effects of the 2-back task



Supplementary Fig. 2: Functional neuroimaging results for the main effect of the 2-back. The contrast results from a one sample t-test comparing responses during the 2-back of the pre-training session to the rest. Results are presented on a normalized single-subject brain in the MNI space. Contrasts are represented at $p< 0.05$ FWE corrected.

Supplementary Table 2. Clusters Local Maxima for the functional MRI main effects of the 2-back

Anatomical region	Vx	MNI Coordinates			Z	*p*
Main effect Session (Pre >Post)						
a.						
Left insula	843	-30	20	-2	6.11	< 0.05
Left precentral gyrus		-48	14	-2	6.00	< 0.05
Left precentral gyrus *		-45	-1	52	5.74	< 0.05
b.						
Left inferior occipital	46	-39	-64	-8	5.33	< 0.05
c.						
Left inferior occipital	37	-30	-91	-11	5.35	< 0.05
d.						
Right cerebellum	57	39	-58	-29	5.37	< 0.05
Right cerebellum		48	-58	-26	5.04	< 0.05
e.						
Left middle temporal	26	-63	-31	1	5.09	< 0.05
f.						
Right insula	83	33	23	4	5.69	< 0.05
g.						
Right inferior frontal pars opercularis	385	54	17	31	5.86	< 0.05
Right inferior frontal pars triangularis		45	20	28	5.69	< 0.05
Right middle frontal		48	41	22	5.2	< 0.05
h.						
Left inferior parietal	378	-48	-37	40	6.14	< 0.05
Left superior parietal		-27	-73	49	5.03	< 0.05
Left superior parietal		-33	-67	49	4.97	< 0.05
i.						
Right inferior parietal	294	54	-37	49	6.79	< 0.05
Right inferior parietal		36	-55	43	6.34	< 0.05
Right superior parietal		42	-43	55	6.20	< 0.05
j.						
Left supplementary motor area	403	-3	2	61	6.61	< 0.05
Left supplementary motor area		0	20	49	5.69	< 0.05
Left frontal medial superior		-6	17	40	5.53	< 0.05

Supplementary Table 2: Stereotaxic brain MNI coordinates for peak-voxels of the functional main effect for the 2-back task. Results are represented at p<0.05 FWE corrected. Table is organized by activation clusters with 3 local maxima more than 8mm apart. Vx= voxel size, Z= Z-value and p= p-value of the voxel. An asterisk (*) indicates the nearest grey matter for these particular peaks.