Supplementary Material

Clinical sub-categorization of minimally conscious state according to resting functional connectivity

Short title: Minimally conscious state and fMRI

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Supplementary Material 1

Table S1. Diagnostic criteria of disorders of consciousness

Disorder of consciousness	Diagnostic criteria	References
Coma	Eyes always closed Duration: > 1h Recovery from coma: few hours to 4 weeks	Laureys & al. (2004). Brain function in coma, vegetative state, and related disorders, *Lancet Neurology*, *3*(9), 537-546.
Unresponsive wakefulness syndrome (i.e. vegetative state)	Eye opening Partially preserved sleep-wake cycles Absence of purposeful behaviors Absence of language Preserved hypothalamic and brainstem autonomic functions	The Multi-Society Task Force on Persistent Vegetative State guidelines (1994). *The New England Journal of Medicine*, *330*(22), 1572-1579. Laureys & al. (2010). Unresponsive wakefulness syndrome: a new name for the vegetative state or apallic syndrome, *BMC Medicine*,8(68).
MCS *minus*	Oriented (contextualized) behaviors Visual pursuit or fixation Orientation to noxious stimulation Reaching for objects Contingent behaviors (emotional)	Giacino & al. (2002). The minimally conscious state: definition and diagnostic criteria, *Neurology, 58*(3), 349-353. Bruno & al. (2011). From unresponsive wakefulness to minimally conscious PLUS and functional locked-in syndromes: Recent advances in our understanding of disorders of consciousness. J Neurol 258:1373–1384.
MCS *plus*	Following simple commands Intentional communication Intelligible verbalization	
Emergence from MCS	Functional communication AND/OR Functional object use	Giacino & al. (2002). The minimally conscious state: definition and diagnostic criteria, *Neurology, 58*(3), 349-353.

Supplementary Material 2

Table S2. Statistical values of the clusters functionally connected with the four networks in each subject group.

Seed	Group	Set		Cluster			Peak					Coordinates		
		p	c	*p*(FWE-corr)	equiv k	*p*(unc)	*p*(FWE-corr)	*p*(FDR-corr)	T	equiv Z	*p*(unc)	x,y,z {mm}		
Left DLPFC	MCS *minus*	0,0000	6	0,0000	4045	0,0000	0,0018	0,0003	22,9328	5,675	0,0000	-42	26	36
				0,0000	539	0,0000	0,5155	0,0015	11,0825	4,6155	0,0000	48	38	2
				0,0000	505	0,0000	0,7603	0,0022	9,9609	4,4462	0,0000	-30	44	0
				0,0044	177	0,0001	0,9778	0,0059	7,968	4,0805	0,0000	-20	6	60
				0,0008	229	0,0000	0,9998	0,0128	6,5256	3,7413	0,0001	-48	-60	54
				0,0212	132	0,0007	1,0000	0,0157	6,1545	3,64	0,0001	42	30	32
	MCS *plus*	0,0000	4	0,0000	8508	0,0000	0,0031	0,0003	17,9334	5,5825	0,0000	-42	24	32
				0,0000	538	0,0000	0,4559	0,0015	9,9244	4,6214	0,0000	-32	-76	54
				0,0000	641	0,0000	0,5896	0,0020	9,2393	4,4972	0,0000	-48	-40	-6
				0,0000	386	0,0000	0,9877	0,0064	6,7207	3,9257	0,0000	-42	-36	42
	HCS	0,0000	9	0,0000	18267	0,0000	0,0000	0,0000	43,9444	65535	0,0000	-44	20	32
				0,0000	6353	0,0000	0,0000	0,0000	16,2101	65535	0,0000	-42	-48	48
				0,0000	7685	0,0000	0,0000	0,0000	13,9796	65535	0,0000	52	26	30
				0,0000	6508	0,0000	0,0000	0,0000	11,2829	7,2291	0,0000	30	-66	-30
				0,0000	3047	0,0000	0,0000	0,0000	9,8036	6,7109	0,0000	-62	-46	-6
				0,0000	2916	0,0000	0,0000	0,0000	9,3955	6,5536	0,0000	34	-58	44
				0,0049	299	0,0003	0,0003	0,0000	7,9135	5,9193	0,0000	-6	-30	38
				0,0127	248	0,0007	0,0033	0,0000	6,9946	5,4684	0,0000	-6	-24	-24
				0,0304	204	0,0018	0,3221	0,0001	5,0792	4,3508	0,0000	-32	-64	-34
Left IPL	MCS *minus*	0,0000	6	0,0000	4394	0,0000	0,0007	0,0001	25,7265	5,8286	0,0000	-44	-42	44
				0,0000	545	0,0000	0,9336	0,0029	8,5674	4,2010	0,0000	-44	6	30
				0,0378	119	0,0012	0,9585	0,0035	8,2567	4,1398	0,0000	-56	-58	-10
				0,0472	113	0,0016	0,9593	0,0035	8,2457	4,1376	0,0000	-8	30	-12
				0,0000	370	0,0000	0,9989	0,0080	6,8815	3,8324	0,0001	-2	-40	50

				0,0455	114	0,0015	1,0000	0,0196	5,6642	3,4953	0,0002	-62	-22	-16
	MCS *plus*	0,0000	6	0,0000	5743	0,0000	0,0003	0,0001	23,2329	5,9672	0,0000	-42	-48	44
				0,0000	1176	0,0000	0,2365	0,0004	10,8559	4,7748	0,0000	-50	36	18
				0,0103	180	0,0004	0,2452	0,0004	10,8093	4,7675	0,0000	-48	12	56
				0,0000	1185	0,0000	0,4500	0,0006	9,8610	4,6104	0,0000	4	-36	44
				0,0160	165	0,0006	0,7922	0,0013	8,1993	4,2862	0,0000	28	-70	44
				0,0015	251	0,0001	0,8744	0,0017	7,7605	4,1876	0,0000	-14	56	44
	HCS	0,0000	9	0,0000	16599	0,0000	0,0000	0,0000	49,6801	65535	0,0000	-44	-46	48
				0,0000	14566	0,0000	0,0000	0,0000	16,4874	65535	0,0000	-44	50	6
				0,0000	10254	0,0000	0,0000	0,0000	15,4966	65535	0,0000	46	24	36
				0,0000	1453	0,0000	0,0000	0,0000	12,8426	65535	0,0000	0	-30	38
				0,0000	4572	0,0000	0,0000	0,0000	12,2559	7,6965	0,0000	58	-48	-6
				0,0000	2666	0,0000	0,0000	0,0000	11,0384	7,2987	0,0000	-54	-58	-10
				0,0000	985	0,0000	0,0001	0,0000	8,1744	6,1405	0,0000	-12	-78	-28
				0,0199	233	0,0012	0,0002	0,0000	7,8859	6,0030	0,0000	34	20	-4
				0,0051	308	0,0003	0,0081	0,0000	6,4760	5,2616	0,0000	-6	-22	-24
Right DLPFC	MCS *minus*	0,0000	5	0,0000	2944	0,0000	0,0038	0,0009	20,9132	5,5493	0,0000	46	18	32
				0,0038	186	0,0001	0,7977	0,0058	9,6554	4,3961	0,0000	4	-42	44
				0,0042	183	0,0001	0,9206	0,0078	8,7018	4,2266	0,0000	60	-40	48
				0,0006	246	0,0000	0,9874	0,0125	7,6618	4,0147	0,0000	-48	6	30
				0,0011	226	0,0000	0,9890	0,0127	7,6057	4,0024	0,0000	46	-54	50
	MCS *plus*	0,0000	3	0,0000	3977	0,0000	0,0009	0,0003	20,6067	5,7915	0,0000	48	24	38
				0,0000	1979	0,0000	0,9196	0,0066	7,4035	4,1024	0,0000	48	-42	54
				0,0106	185	0,0004	0,9861	0,0098	6,6326	3,9014	0,0000	10	48	44
	HCS	0,0000	9	0,0000	16619	0,0000	0,0000	0,0000	45,1626	65535	0,0000	46	24	32
				0,0000	11671	0,0000	0,0000	0,0000	17,2623	65535	0,0000	46	-46	54
				0,0000	7936	0,0000	0,0000	0,0000	15,1006	65535	0,0000	-48	24	32
				0,0000	4804	0,0000	0,0000	0,0000	13,8844	65535	0,0000	-42	-48	44
				0,0000	2863	0,0000	0,0000	0,0000	11,9364	7,435	0,0000	-8	-82	-24

				0,0000	1832	0,0000	0,0002	0,0000	8,053	5,9836	0,0000	-60	-40	-16
				0,0389	189	0,0023	0,0277	0,0000	6,1501	5,0079	0,0000	10	-12	12
				0,0149	236	0,0009	0,2611	0,0000	5,1906	4,4233	0,0000	6	-22	-24
				0,0132	242	0,0008	0,4941	0,0001	4,8531	4,2007	0,0000	12	-78	-24
Right IPL	MCS *minus*	0,0000	7	0,0000	3536	0,0000	0,0062	0,0011	19,6140	5,4605	0,0000	48	-54	50
				0,0000	943	0,0000	0,2962	0,0018	11,9223	4,7293	0,0000	40	2	42
				0,0002	282	0,0000	0,3852	0,0019	11,5171	4,6757	0,0000	-54	-64	-16
				0,0047	178	0,0002	0,4613	0,0020	11,2467	4,6386	0,0000	46	54	6
				0,0498	111	0,0016	0,7979	0,0031	9,6691	4,3984	0,0000	6	-34	50
				0,0429	115	0,0014	0,9330	0,0047	8,5867	4,2047	0,0000	28	66	24
				0,0062	170	0,0002	0,9915	0,0073	7,5158	3,9823	0,0000	40	38	30
	MCS *plus*	0,0000	6	0,0000	4136	0,0000	0,0035	0,0004	17,6901	5,5616	0,0000	42	-42	50
				0,0000	1082	0,0000	0,1716	0,0013	11,2764	4,8389	0,0000	10	-40	48
				0,0000	621	0,0000	0,9307	0,0075	7,3475	4,0886	0,0000	46	50	30
				0,0313	145	0,0012	0,9956	0,0127	6,3263	3,8142	0,0001	-62	-22	36
				0,0261	151	0,0010	0,9997	0,0174	5,7824	3,6471	0,0001	22	48	44
				0,0412	136	0,0016	1,0000	0,0211	5,4229	3,5271	0,0002	30	62	8
	HCS	0,0000	8	0,0000	17025	0,0000	0,0000	0,0000	43,4746	65535	0,0000	48	-48	48
				0,0000	17071	0,0000	0,0000	0,0000	17,7173	65535	0,0000	42	54	0
				0,0000	2464	0,0000	0,0000	0,0000	12,6174	7,7995	0,0000	66	-40	-6
				0,0000	6171	0,0000	0,0000	0,0000	9,7169	6,8068	0,0000	-48	50	6
				0,0000	2902	0,0000	0,0000	0,0000	9,3390	6,6536	0,0000	-14	-82	-28
				0,0019	362	0,0001	0,0002	0,0000	7,9939	6,0550	0,0000	10	-12	12
				0,0000	1948	0,0000	0,0003	0,0000	7,6821	5,9031	0,0000	-62	-46	-4
				0,0064	291	0,0004	0,0054	0,0000	6,6364	5,3522	0,0000	10	-22	-30
Left STG	MCS *minus*	0,0000	3	0,0000	4811	0,0000	0,0004	0,0000	27,663	5,9238	0,0000	-44	-4	8
				0,0009	238	0,0000	0,8659	0,0023	9,1262	4,3046	0,0000	52	-30	20
				0,0276	130	0,0009	0,9909	0,0049	7,4897	3,9764	0,0000	34	14	14
	MCS *plus*	0,0000	5	0,0000	8075	0,0000	0,0018	0,0003	19,132	5,6806	0,0000	-48	-6	8

				0,0000	2854	0,0000	0,0880	0,0004	12,1989	4,9701	0,0000	46	-12	20
				0,0306	127	0,0010	0,9657	0,0028	7,251	4,0646	0,0000	-18	-30	72
				0,0248	133	0,0008	0,9873	0,0034	6,8719	3,9665	0,0000	-18	-6	-48
				0,0169	144	0,0006	0,9973	0,0044	6,4376	3,8464	0,0001	60	30	6
	HCS	0,0000	3	0,0000	40216	0,0000	0,0000	0,0000	39,0114	65535	0,0000	-44	-6	8
				0,0086	263	0,0005	0,0613	0,0000	5,8277	4,8192	0,0000	-24	-60	-22
				0,0049	293	0,0003	0,3477	0,0001	5,0508	4,3322	0,0000	16	-60	-16
Right STG	MCS *minus*	0,0000	3	0,0000	5210	0,0000	0,0008	0,0002	25,3952	5,8115	0,0000	40	2	6
				0,0230	136	0,0008	0,0333	0,0004	15,8354	5,1555	0,0000	-42	-82	20
				0,0000	698	0,0000	0,6445	0,0014	10,5609	4,5395	0,0000	-44	-16	6
	MCS *plus*	0,0000	2	0,0000	5474	0,0000	0,0006	0,0001	21,6894	5,8671	0,0000	52	-6	8
				0,0000	1008	0,0000	0,0466	0,0004	13,1396	5,092	0,0000	-42	-12	6
	HCS	0,0000	6	0,0000	37351	0,0000	0,0000	0,0000	41,5588	65535	0,0000	42	-4	12
				0,0061	279	0,0003	0,0096	0,0000	6,5812	5,2489	0,0000	0	24	2
				0,0001	564	0,0000	0,0348	0,0000	6,0633	4,9578	0,0000	52	-60	-4
				0,0000	574	0,0000	0,0482	0,0000	5,9305	4,8802	0,0000	-56	-64	6
				0,0049	291	0,0003	0,1343	0,0000	5,4993	4,619	0,0000	-18	-60	-18
				0,0047	293	0,0003	0,1483	0,0000	5,4559	4,5919	0,0000	12	-58	-24
MPFC	MCS *minus*	0,0000	3	0,0000	5057	0,0000	0,0141	0,0018	17,6763	5,3139	0,0000	4	54	30
				0,0003	271	0,0000	0,9964	0,0094	7,207	3,9112	0,0000	-32	38	24
				0,0058	173	0,0002	0,9993	0,0116	6,7616	3,8023	0,0001	-2	26	60
	MCS *plus*	0,0000	2	0,0000	11386	0,0000	0,0001	0,0000	26,2404	6,1413	0,0000	4	56	24
				0,0040	211	0,0002	0,9064	0,0015	7,5789	4,1449	0,0000	48	0	44
	HCS	0,0000	14	0,0000	15036	0,0000	0,0000	0,0000	36,9309	65535	0,0000	-2	54	26
				0,0000	2699	0,0000	0,0000	0,0000	11,1104	7,1725	0,0000	6	-52	26
				0,0000	2426	0,0000	0,0000	0,0000	9,9292	6,758	0,0000	-44	-60	24
				0,0000	1320	0,0000	0,0000	0,0000	9,6934	6,6691	0,0000	28	-82	-30
				0,0000	3456	0,0000	0,0000	0,0000	9,6231	6,6422	0,0000	58	6	-24
				0,0000	5263	0,0000	0,0000	0,0000	9,2856	6,51	0,0000	-60	0	-18

				0,0000	1605	0,0000	0,0001	0,0000	8,5702	6,2133	0,0000	54	-54	24
				0,0022	362	0,0001	0,0013	0,0000	7,3391	5,6432	0,0000	-14	-104	18
				0,0000	882	0,0000	0,0045	0,0000	6,8499	5,3928	0,0000	-24	-78	-36
				0,0011	408	0,0001	0,0119	0,0000	6,4586	5,1816	0,0000	6	-54	-40
				0,0004	475	0,0000	0,0183	0,0000	6,2865	5,0855	0,0000	-24	-18	-12
				0,0031	341	0,0002	0,0537	0,0000	5,8491	4,8319	0,0000	28	-16	-16
				0,0001	613	0,0000	0,0996	0,0000	5,5906	4,6755	0,0000	34	-96	18
				0,0007	438	0,0000	0,1452	0,0000	5,4277	4,5743	0,0000	-38	14	48
PCC	MCS *minus*	0,0000	4	0,0000	8258	0,0000	0,0091	0,0003	18,6838	5,3924	0,0000	0	-64	26
				0,0454	117	0,0015	0,7509	0,0015	9,8899	4,4347	0,0000	-30	56	36
				0,0096	162	0,0003	0,8758	0,0020	9,0303	4,2874	0,0000	-42	48	18
				0,0000	357	0,0000	0,9859	0,0035	7,6528	4,0128	0,0000	50	-80	30
	MCS *plus*	0,0000	3	0,0000	8876	0,0000	0,0001	0,0000	27,6804	6,2164	0,0000	4	-52	26
				0,0002	320	0,0000	0,3696	0,0004	10,2932	4,6841	0,0000	6	60	0
				0,0283	140	0,0010	0,6252	0,0008	9,0707	4,465	0,0000	24	66	12
	HCS	0,0000	11	0,0000	9526	0,0000	0,0000	0,0000	56,0471	65535	0,0000	0	-54	30
				0,0000	3792	0,0000	0,0000	0,0000	17,2812	65535	0,0000	-44	-66	32
				0,0000	15193	0,0000	0,0000	0,0000	16,4024	65535	0,0000	-2	48	-6
				0,0000	3269	0,0000	0,0000	0,0000	15,265	65535	0,0000	52	-54	26
				0,0000	3519	0,0000	0,0000	0,0000	13,947	65535	0,0000	-56	-4	-22
				0,0000	3937	0,0000	0,0000	0,0000	13,6217	65535	0,0000	58	-6	-18
				0,0000	1231	0,0000	0,0000	0,0000	10,657	7,0192	0,0000	24	-18	-22
				0,0000	848	0,0000	0,0003	0,0000	8,0197	5,9684	0,0000	10	-54	-40
				0,0000	596	0,0000	0,0043	0,0000	6,8867	5,4122	0,0000	28	-84	-30
				0,0015	369	0,0001	0,0070	0,0000	6,6921	5,3089	0,0000	-2	-16	6
				0,0000	715	0,0000	0,0319	0,0000	6,0839	4,9698	0,0000	-26	-78	-34

MCS = minimally conscious state; HCS = healthy control subjects; DLPFC = dorso-lateral prefrontal cortex; IPL = inferior parietal lobule; STG = superior temporal gyrus; MPFC = medial prefrontal cortex; PCC = posterior cingulate cortex.

Table S3. Statistical values of the clusters obtained by the between-group comparisons.

Seed	Contrast	Set		Cluster			Peak					Coordinates		
		p	c	*p*(FWE-corr)	equiv k	*p*(unc)	*p*(FWE-corr)	*p*(FDR-corr)	T	equiv Z	*p*(unc)	x,y,z {mm}		
Left DLPFC	MCS *plus>minus*	0,0031	1	0,0031	286	0,0002	0,3888	0,1438	6,1380	4,3977	0,0000	-44	-52	-22
	HCS>MCS *plus*	0,0000	4	0,0001	555	0,0000	0,1168	0,0211	5,2892	4,6163	0,0000	46	48	-12
				0,0000	894	0,0000	0,1359	0,0211	5,2302	4,5756	0,0000	28	-66	-30
				0,0003	497	0,0000	0,2774	0,0211	4,9356	4,3687	0,0000	34	-58	44
				0,0000	629	0,0000	0,3836	0,0211	4,7858	4,2610	0,0000	52	32	20
	HCS>MCS *minus*	0,0000	4	0,0000	1158	0,0000	0,0706	0,0173	5,5103	4,7530	0,0000	28	-66	-30
				0,0094	273	0,0006	0,1277	0,0173	5,2831	4,5999	0,0000	46	48	-16
				0,0398	197	0,0025	0,1479	0,0173	5,2248	4,5600	0,0000	-44	54	0
				0,0001	533	0,0000	0,3554	0,0173	4,8472	4,2952	0,0000	-30	-64	48
Left IPL	HCS>MCS *plus*	0,0000	2	0,0000	1580	0,0000	0,0002	0,0000	7,4596	5,9431	0,0000	46	-48	50
				0,0000	3054	0,0000	0,0381	0,0003	5,7036	4,8946	0,0000	46	50	0
	HCS>MCS *minus*	0,0000	6	0,0000	1395	0,0000	0,0000	0,0000	8,8717	6,6227	0,0000	48	-46	56
				0,0000	2349	0,0000	0,0002	0,0000	7,6627	6,0276	0,0000	40	48	-10
				0,0270	219	0,0017	0,0207	0,0002	5,9546	5,0416	0,0000	58	-48	-6
				0,0001	541	0,0000	0,1297	0,0009	5,2720	4,5923	0,0000	-44	50	0
				0,0039	327	0,0002	0,2192	0,0014	5,0585	4,4447	0,0000	46	-72	-30
				0,0310	212	0,0019	0,3678	0,0022	4,8257	4,2797	0,0000	12	-78	-30
Right DLPFC	HCS>MCS *plus*	0,0000	1	0,0000	1266	0,0000	0,0013	0,0003	6,8767	5,6171	0,0000	-32	-58	38
	HCS>MCS *minus*	0,0000	1	0,0000	1678	0,0000	0,0013	0,0002	6,9260	5,6250	0,0000	-32	-58	38
Right IPL	HCS>MCS *plus*	0,0000	3	0,0000	1547	0,0000	0,0002	0,0000	7,5752	6,0053	0,0000	-42	-54	54
				0,0000	689	0,0000	0,0287	0,0003	5,8058	4,9613	0,0000	46	54	0
				0,0119	266	0,0007	0,8940	0,0127	4,1808	3,8082	0,0001	-38	48	0
	HCS>MCS *minus*	0,0000	4	0,0000	1261	0,0000	0,0111	0,0018	6,1824	5,1841	0,0000	-44	-48	48
				0,0001	551	0,0000	0,0539	0,0021	5,6115	4,8200	0,0000	36	54	2
				0,0100	269	0,0006	0,6790	0,0108	4,4788	4,0262	0,0000	34	14	44
				0,0474	188	0,0029	0,8039	0,0141	4,3343	3,9178	0,0000	4	32	38

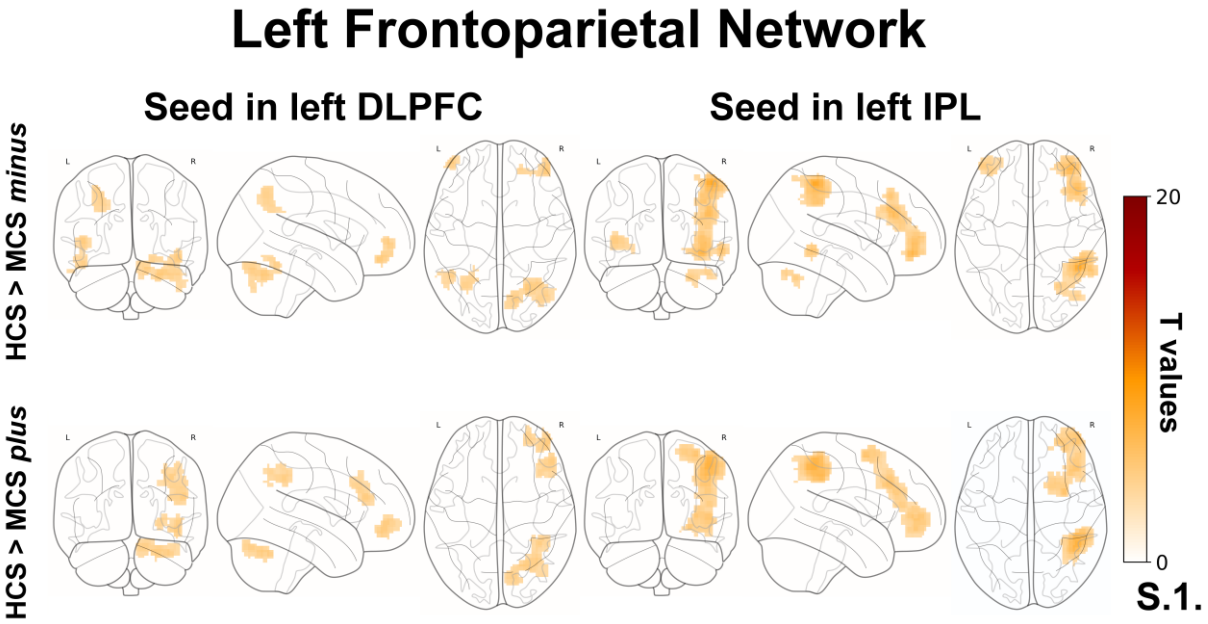
Left STG	HCS>MCS *plus*	0,0000	3	0,0000	3934	0,0000	0,0006	0,0001	7,1525	5,7739	0,0000	60	-24	32
				0,0000	1185	0,0000	0,0110	0,0002	6,1666	5,1909	0,0000	4	0	54
				0,0615	171	0,0037	0,1791	0,0010	5,1412	4,5138	0,0000	-60	-30	32
	HCS>MCS *minus*	0,0000	6	0,0000	5755	0,0000	0,0000	0,0000	8,1087	6,2561	0,0000	60	-24	26
				0,0000	733	0,0000	0,0188	0,0002	5,9976	5,0688	0,0000	10	6	44
				0,0431	191	0,0026	0,6024	0,0027	4,5658	4,0907	0,0000	12	-78	26
				0,0562	178	0,0035	0,6046	0,0027	4,5634	4,0889	0,0000	-48	-84	6
				0,0030	334	0,0002	0,7377	0,0037	4,4182	3,9809	0,0000	-14	-66	-16
				0,1010	150	0,0064	0,9554	0,0076	4,0712	3,7162	0,0001	-24	-48	68
Right STG	HCS>MCS *plus*	0,0000	4	0,0000	3513	0,0000	0,0087	0,0020	6,2509	5,2433	0,0000	-54	-22	14
				0,0000	975	0,0000	0,0572	0,0026	5,5800	4,8129	0,0000	-8	0	50
				0,0050	298	0,0003	0,1877	0,0029	5,1246	4,5023	0,0000	-18	-40	62
				0,0138	244	0,0008	0,1891	0,0029	5,1216	4,5001	0,0000	-26	-12	-22
	HCS>MCS *minus*	0,0000	5	0,0000	4224	0,0000	0,0011	0,0004	7,0049	5,6697	0,0000	-54	0	6
				0,0002	517	0,0000	0,5345	0,0040	4,6382	4,1439	0,0000	24	-4	48
				0,0003	485	0,0000	0,5943	0,0045	4,5735	4,0964	0,0000	-30	-40	50
				0,0039	319	0,0002	0,7502	0,0063	4,4029	3,9694	0,0000	58	-22	56
				0,0030	334	0,0002	0,8780	0,0085	4,2335	3,8412	0,0001	60	6	26
MPFC	HCS>MCS *plus*	0,0000	8	0,0012	414	0,0001	0,0271	0,0093	5,8138	4,9665	0,0000	24	-10	-12
				0,0017	392	0,0001	0,0599	0,0093	5,5258	4,7767	0,0000	-30	-40	26
				0,0009	438	0,0001	0,0833	0,0093	5,4033	4,6942	0,0000	6	-52	26
				0,0271	228	0,0018	0,1095	0,0093	5,2996	4,6235	0,0000	-26	-12	-12
				0,0161	257	0,0011	0,3474	0,0121	4,8181	4,2844	0,0000	28	-78	-30
				0,0358	213	0,0024	0,5317	0,0155	4,5981	4,1236	0,0000	6	-52	-40
				0,1536	138	0,0108	0,6876	0,0192	4,4307	3,9987	0,0000	6	54	-10
				0,1282	147	0,0089	0,7311	0,0198	4,3825	3,9624	0,0000	-26	-76	-34
	HCS>MCS *minus*	0,0000	4	0,0000	896	0,0000	0,0360	0,0058	5,7384	4,9030	0,0000	-38	-58	26
				0,0000	1812	0,0000	0,0379	0,0058	5,7193	4,8905	0,0000	-12	-30	24
				0,0003	521	0,0000	0,0622	0,0058	5,5368	4,7706	0,0000	58	2	-24

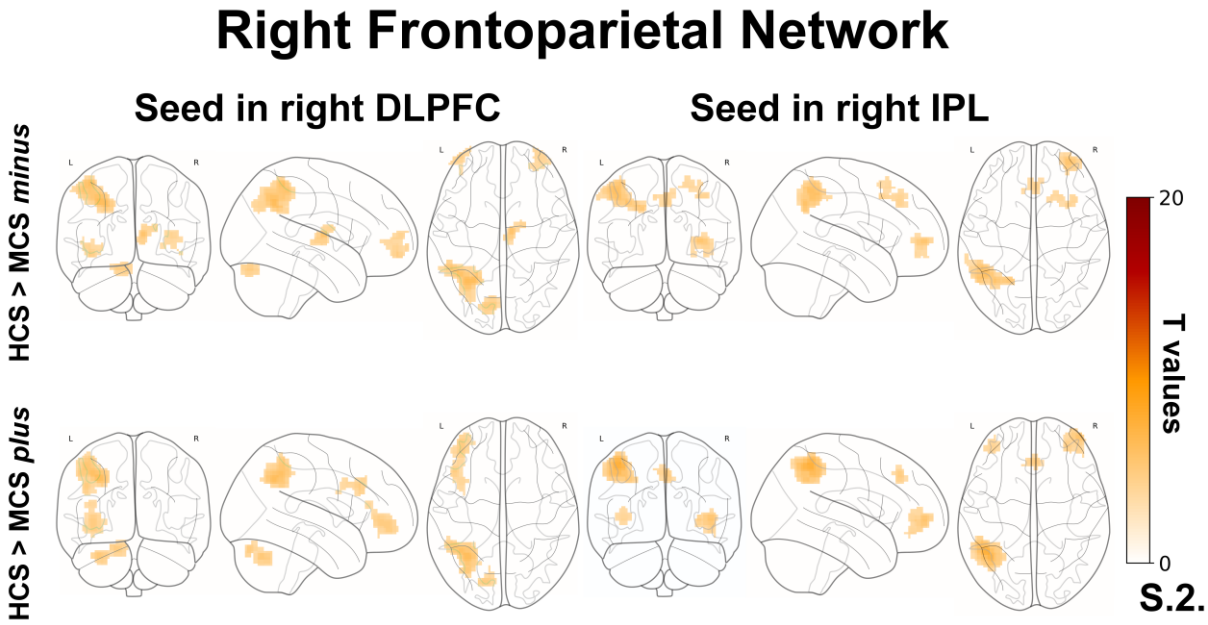
				0,0000	1049	0,0000	0,3189	0,0064	4,8764	4,3160	0,0000	-54	0	-22
PCC	HCS>MCS *plus*	0,0000	10	0,0000	719	0,0000	0,0006	0,0001	7,1380	5,7658	0,0000	-6	-58	30
				0,0000	1018	0,0000	0,0017	0,0001	6,7934	5,5688	0,0000	-66	-16	-10
				0,0000	2134	0,0000	0,0065	0,0002	6,3326	5,2936	0,0000	0	48	-6
				0,0000	961	0,0000	0,0082	0,0002	6,2525	5,2443	0,0000	60	-6	-16
				0,0007	430	0,0000	0,0375	0,0005	5,7147	4,9019	0,0000	34	-12	-18
				0,0008	421	0,0001	0,0687	0,0007	5,4938	4,7553	0,0000	-26	-22	-12
				0,0010	408	0,0001	0,0867	0,0008	5,4069	4,6966	0,0000	22	30	48
				0,0030	341	0,0002	0,1300	0,0010	5,2519	4,5907	0,0000	16	-6	50
				0,0014	388	0,0001	0,2887	0,0018	4,9222	4,3592	0,0000	-8	-42	-42
				0,0275	218	0,0017	0,7542	0,0049	4,3766	3,9579	0,0000	-50	-70	30
	HCS>MCS *minus*	0,0000	9	0,0000	2462	0,0000	0,0042	0,0010	6,5143	5,3854	0,0000	-6	44	-6
				0,1483	135	0,0099	0,0129	0,0010	6,1219	5,1466	0,0000	10	-10	-4
				0,0008	424	0,0001	0,0151	0,0010	6,0654	5,1113	0,0000	-26	-22	-18
				0,0676	173	0,0043	0,0322	0,0013	5,7932	4,9384	0,0000	-60	0	-22
				0,0001	565	0,0000	0,0938	0,0017	5,3967	4,6770	0,0000	22	36	54
				0,1870	124	0,0128	0,1028	0,0017	5,3613	4,6530	0,0000	-2	-58	30
				0,0006	444	0,0000	0,1098	0,0018	5,3361	4,6359	0,0000	54	-10	-18
				0,1648	130	0,0111	0,8283	0,0085	4,2949	3,8880	0,0001	-18	32	42
				0,1614	131	0,0108	0,9571	0,0134	4,0534	3,7023	0,0001	-50	-70	30

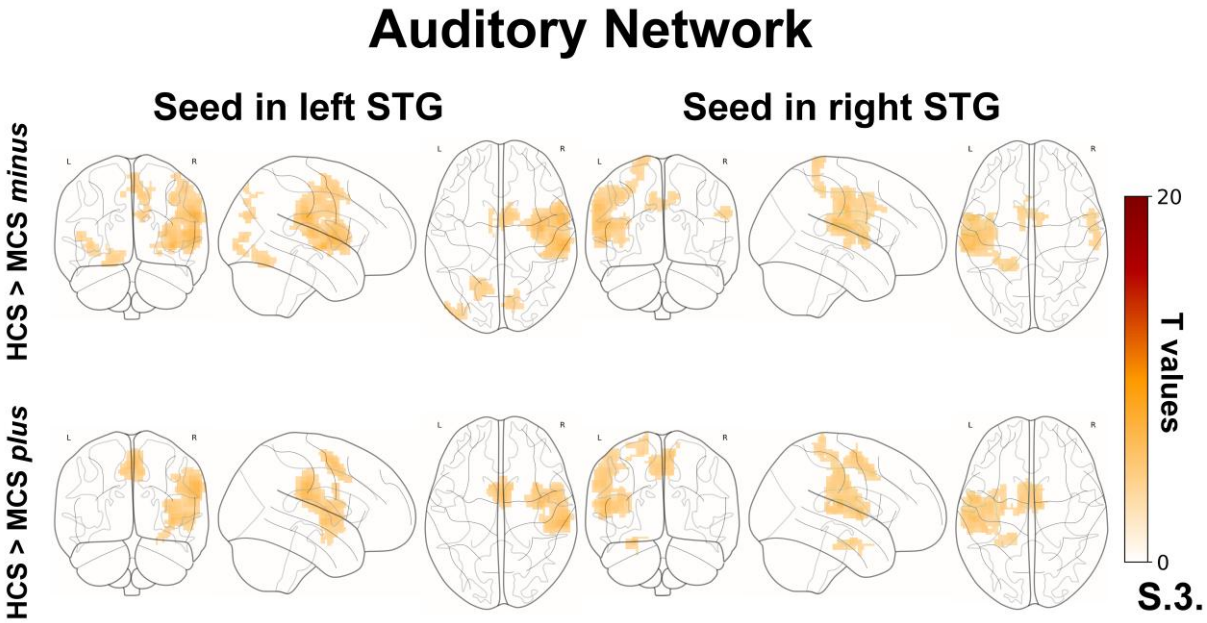
MCS = minimally conscious state; HCS = healthy control subjects; DLPFC = dorso-lateral prefrontal cortex; IPL = inferior parietal lobule; STG = superior temporal gyrus; MPFC = medial prefrontal cortex; PCC = posterior cingulate cortex.

Supplementary Material 3

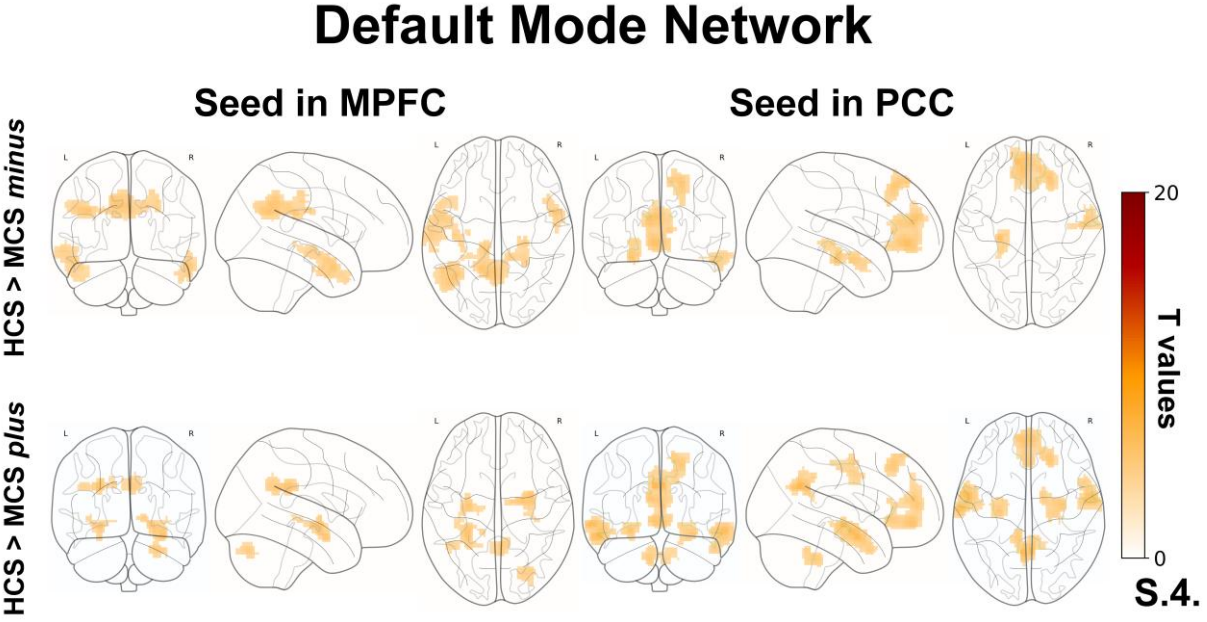
- Resting state fMRI inter-group comparisons






Auditory Network
Seed in left STG
Seed in right STG
HCS > MCS minus
HCS > MCS plus
20
T values
0

S.3.


Default Mode Network
Seed in MPFC
Seed in PCC
HCS > MCS minus
HCS > MCS plus
20
T values
0

S.4.

Figure S1. Comparison between HCS and patients of the correlation between the left DLPFC (left column) / IPL (right column) and the time series from all other brain voxels. Statistical maps are thresholded at $p<0.05$ family wise error corrected at cluster level, with clusters made of voxels surviving a $p<0.001$ (whole-brain level) and are rendered on the midline and lateral surfaces of a single subject's MRI template. The colour bar indicates T values. This figure was displayed in neurological convention. DLPFC: dorsolateral prefrontal cortex, IPL: inferior parietal lobule, MCS: minimally conscious state, HCS: healthy control subjects.

Figure S2. Comparison between HCS and patients of the correlation between the right DLPFC (left column) / IPL (right column) and the time series from all other brain voxels. Statistical maps are thresholded at $p<0.05$ family wise error corrected at cluster level, with clusters made of voxels surviving a $p<0.001$ (whole-brain level) and are rendered on the midline and lateral surfaces of a single subject's MRI template. The colour bar indicates T values. This figure was displayed in neurological convention. DLPFC: dorsolateral prefrontal cortex, IPL: inferior parietal lobule, MCS: minimally conscious state, HCS: healthy control subjects.

Figure S3. Comparison between HCS and patients of the correlation between the right (left column)/left STG (right column) and the time series from all other brain voxels. Statistical maps are thresholded at $p<0.05$ family wise error corrected at cluster level, with clusters made of voxels surviving a $p<0.001$(whole-brain level) and are rendered on the midline and lateral surfaces of a single subject's MRI template. The colour bar indicates T values. This figure was displayed in neurological convention. STG: superior temporal gyrus, MCS: minimally conscious state, HCS: healthy control subjects.

Figure S4. Comparison between HCS and patients of the correlation between the MPFC (left column)/PCC (right column) and the time series from all other brain voxels. Statistical maps are thresholded at $p<0.05$ family wise error corrected at cluster level, with clusters made of voxels surviving a $p<0.001$ (whole-brain level) and are rendered on the midline and lateral surfaces of a single subject's MRI template. The colour bar indicates T values. This figure was displayed in neurological convention. MPFC: anterior cingulate cortex, PCC: posterior cingulate cortex, MCS: minimally conscious state, HCS: healthy control subjects.

- Effect-sizes and confidence interval for all investigated seeds

Resting state fMRI analysis : Effect-sizes and confidence intervals (90%)

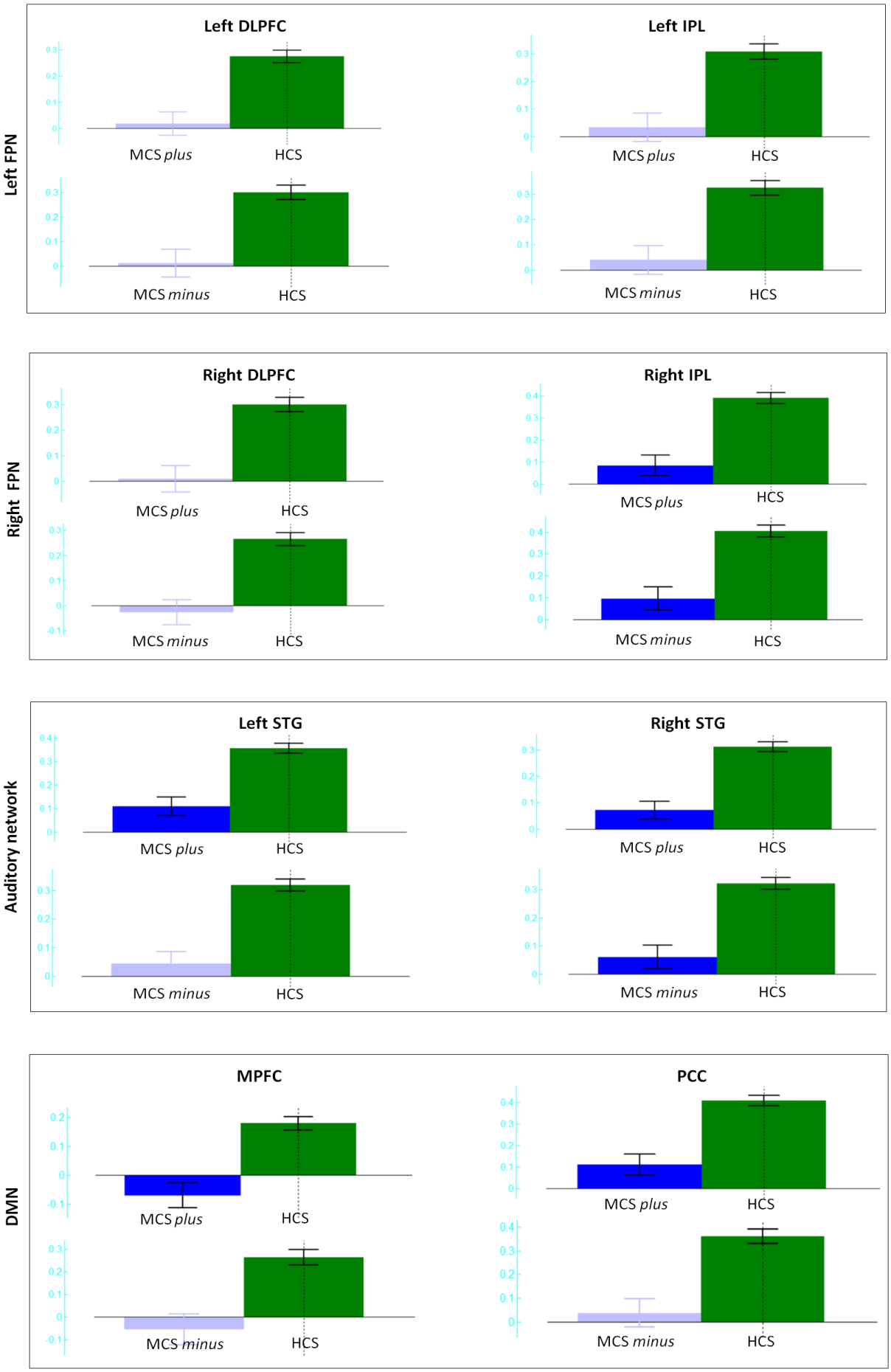
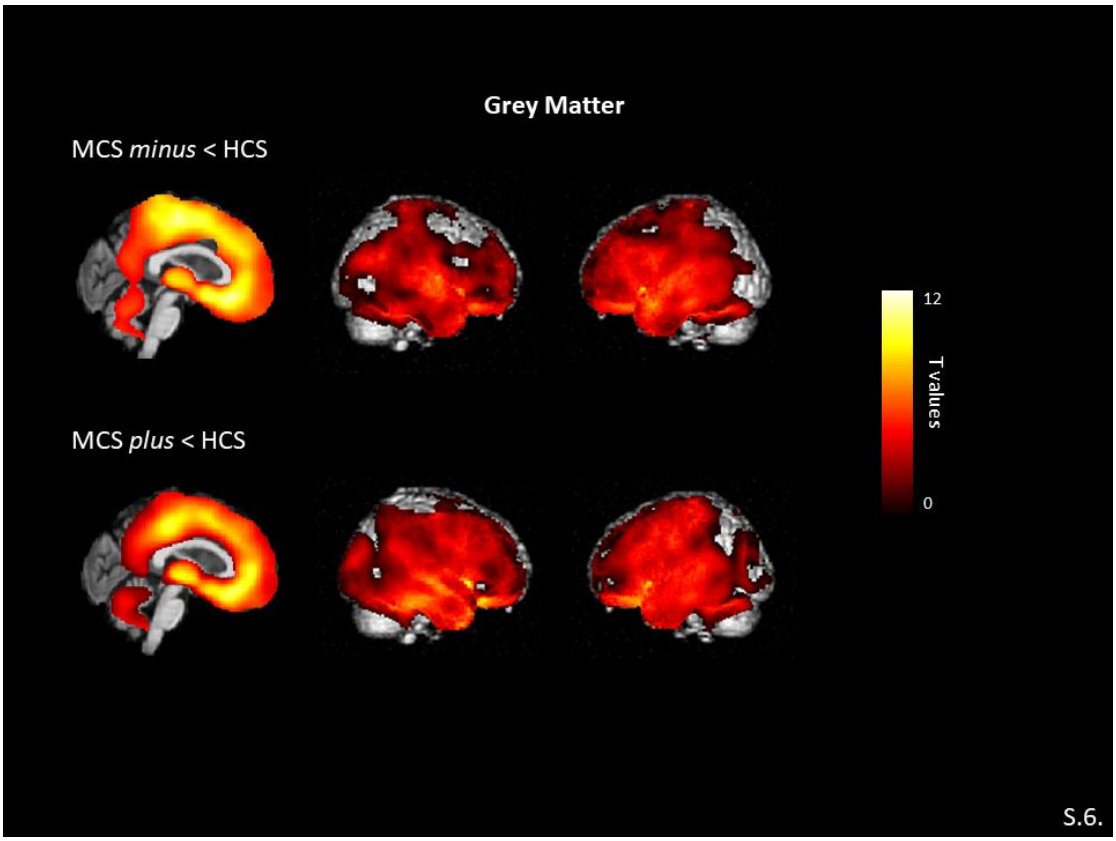


Figure S5. Summary of the differences of seed-based average correlations between MCS *plus* or MCS *minus* groups against the HCS group for multiple seeds (per row) and multiple target regions (per column). The first bar represents mean contrast estimates with 90% confidence interval in MCS *minus* or MCS *plus* patients (blue); the second bar represents mean contrast estimates with 90% confidence interval in HCS (green). Statistical maps were thresholded at $p<0.05$ family wise error corrected at cluster level, with clusters made of voxels surviving a $p<0.001$ (whole-brain level). MCS: minimally conscious state, HCS: healthy control subjects.

- Voxel-based morphometry analysis



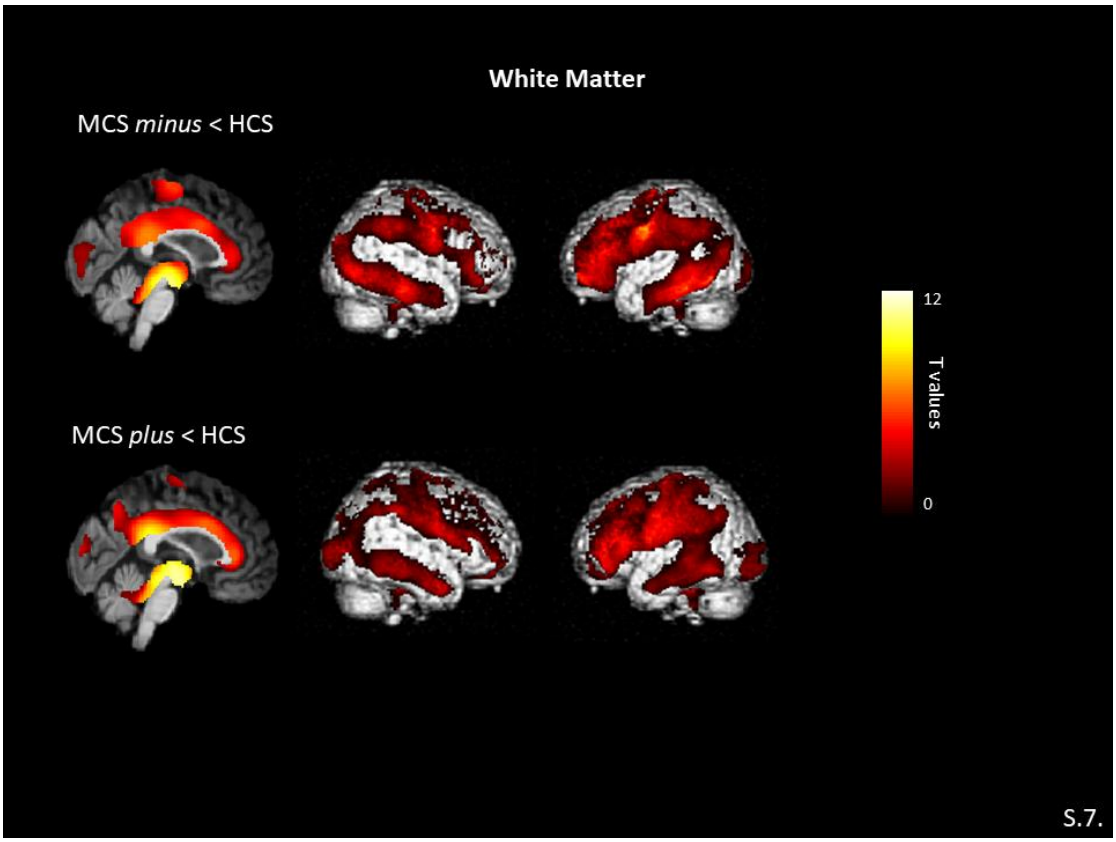


Figure S6. Grey matter volume decreases in MCS *minus* (upper row) and MCS *plus* (bottom row) compared to HCS. Statistical maps are thresholded at p< 0.05 false discovery rate corrected and superimposed on an averaged rendered single subject's MRI template. The colour bar indicates T values. This figure was displayed in neurological convention. MCS: minimally conscious state, HCS: healthy control subjects.

Figure S7. White matter volume decreases in MCS *minus* (upper row) and MCS *plus* (bottom row) compared to HCS. Statistical maps are thresholded at p< 0.05 false discovery rate corrected and superimposed on an averaged rendered single subject's MRI template. The colour bar indicates T values. This figure was displayed in neurological convention**.** MCS: minimally conscious state, HCS: healthy control subjects.

Supplementary Material 4

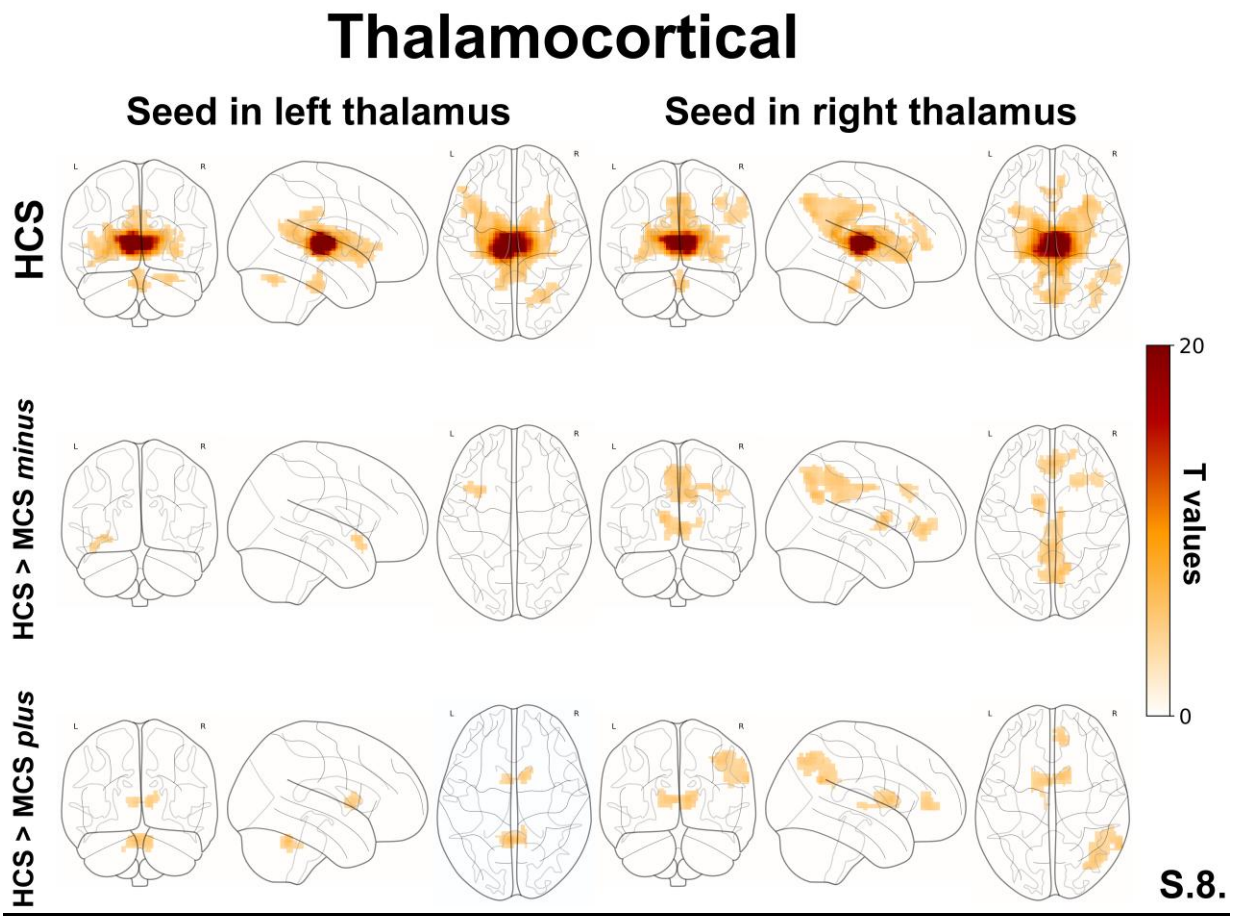


Figure S8. Correlation between the left (left column) and right (right column) thalami and the time series from all other brain voxels: not contrasted functional thalamocortical connectivity in HCS (healthy control subjects; upper row) and comparison between HCS and MCS (minimally conscious state) *minus* patients (middle row), as well as between HCS and MCS *plus* patients (bottom row). Statistical maps are thresholded at $p<0.05$ family wise error corrected at cluster level, with clusters made of voxels surviving a $p<0.001$ (whole-brain level) and are rendered on the midline and lateral surfaces of a single subject's MRI template. The colour bar indicates T values. This figure was displayed in neurological convention.

Supplementary Material 5

Table S4. ROI to ROI interhemispheric connectivity analysis in patients as compared to healthy control subjects (HCS)

HCS > MCS *minus*				**HCS > MCS *plus***			
Analysis unit	**Statistic**	**p-unc**	**p-FDR**	**Analysis unit**	**Statistic**	**p-unc**	**p-FDR**
Seed ACC	F(39) = 8.08 Intensity = 11.76 Size = 3	0.0000	0.0000	Seed ACC	F(40) = 7.32 Intensity = 9.90 Size = 3	0.0000	0.0001
ACC-PCC	T(45) = 4.72	0.0000	0.0002	ACC-PCC	T(46) = 3.95	0.0003	0.0019
ACC-DLPFC left	T(45) = -3.82	0.0004	0.0014	ACC-DLPFC left	T(46) = -3.18	0.0026	0.0092
ACC-DLPFC right	T(45) = -3.22	0.0024	0.0056	ACC-DLPFC right	T(46) = -2.77	0.0081	0.0189
Seed STG right	F(39) = 5.39 Intensity = 5.30 Size = 1	0.0002	0.0009	Seed STG left	F(40) = 6.30 Intensity = 5.53 Size = 1	0.0001	0.0002
STG right-STG left	T(45) = 5.30	0.0000	0.0000	STG left-STG right	T(46) = 5.53	0.0000	0.0000
Seed PCC	F(39) = 4.32 Intensity = 4.72 Size = 1	0.0013	0.0031	Seed IPL right	F(40) = 5.94	0.0001	0.0002
PCC-ACC	T(45) = 4.72	0.0000	0.0002	IPL right-IPL left	T(46) = 5.10	0.0000	0.0000
Seed STG left	F(39) = 4.21 Intensity = 5.30 Size = 1	0.0015	0.0031	Seed DLPFC right	F(40) = 5.38 Intensity = 7.21 Size = 2	0.0002	0.0004
STG left-STG right	T(45) = 5.30	0.0000	0.0000	DLPFC right-DLPFC left	T(46) = 4.45	0.0001	0.0004
Seed DLPFC right	F(39) = 3.69 Intensity = 3.22 Size = 1	0.0038	0.0060	DLPFC right-ACC	T(46) = -2.77	0.0081	0.0284
DLPFC right-ACC	T(45) = -3.22	0.0024	0.0167	Seed IPL left	F(40) = 4.84 Intensity = 5.10 Size = 1	0.0005	0.0008
Seed IPL right	F(39) = 3.57 Intensity = 4.09 Size = 1	0.0046	0.0060	IPL left-IPL right	T(46) = 5.10	0.0000	0.0000
IPL right-IPL left	T(45) = -3.22	0.0002	0.0012	Seed PCC	F(40) = 4.55 Intensity = 3.95 Size = 1	0.0008	0.0010
Seed IPL left	F(39) = 3.50 Intensity = 4.09 Size = 1	0.0052	0.0060	PCC-ACC	T(46) = 3.95	0.0003	0.0019
IPL left-IPL right	T(45) = 4.09	0.0002	0.0012	Seed DLPFC left	F(40) = 4.46 Intensity = 7.63 Size = 2	0.0010	0.0010
Seed DLPFC left	F(39) = 3.13 Intensity = 3.82 Size = 1	0.0102	0.0102	DLPFC left-DLPFC right	T(46) = 4.45	0.0001	0.0004
DLPFC left-ACC	T(45) = -3.82	0.0004	0.0028	DLPFC left-ACC	T(46) = -3.18	0.0026	0.0092
				Seed STG right	F(40) = 4.46 Intensity = 5.53 Size = 1	0.0010	0.0010
				STG right-STG left	T(46) = 5.33	0.0000	0.0000

Supplementary Material 6

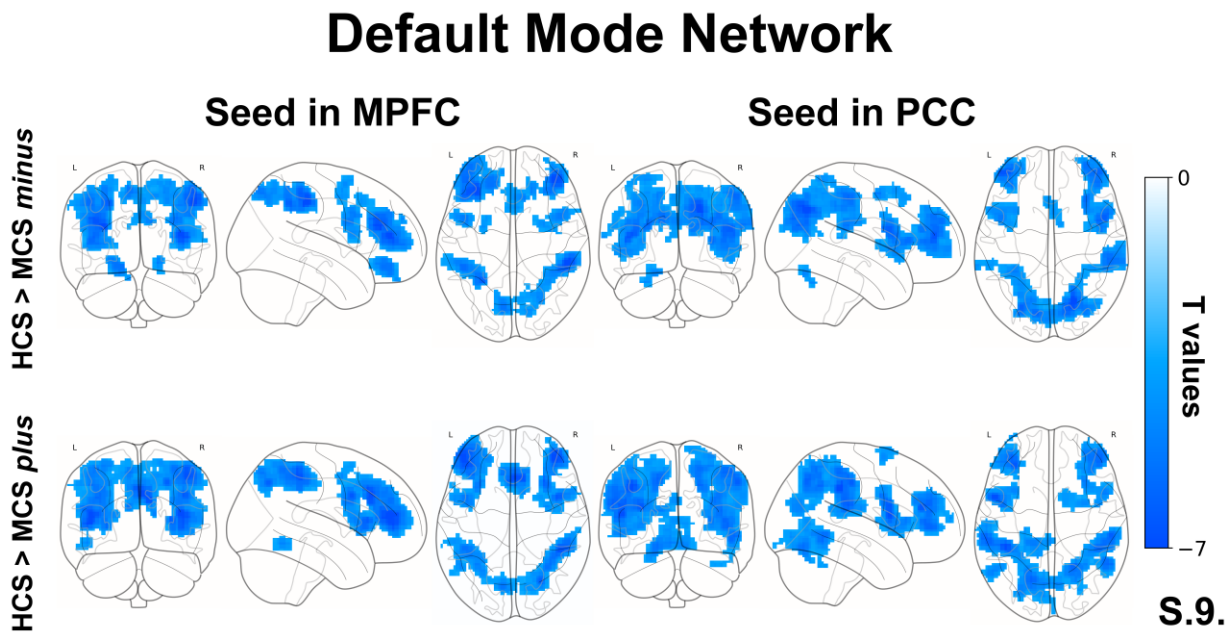


Figure S9. Comparison between HCS and patients of the anticorrelation between the mesioprefrontalcortex (MPFC), posterior cingulate cortex (PCC) and the time series from all other brain voxels. Statistical maps are thresholded at $p<0.05$ family wise error corrected at cluster level, with clusters made of voxels surviving a $p<0.001$ (whole-brain level) and are rendered on the midline and lateral surfaces of a single subject's MRI template. The colour bar indicates T values. This figure was displayed in neurological convention. MCS: minimally conscious state, HCS: healthy control subjects.