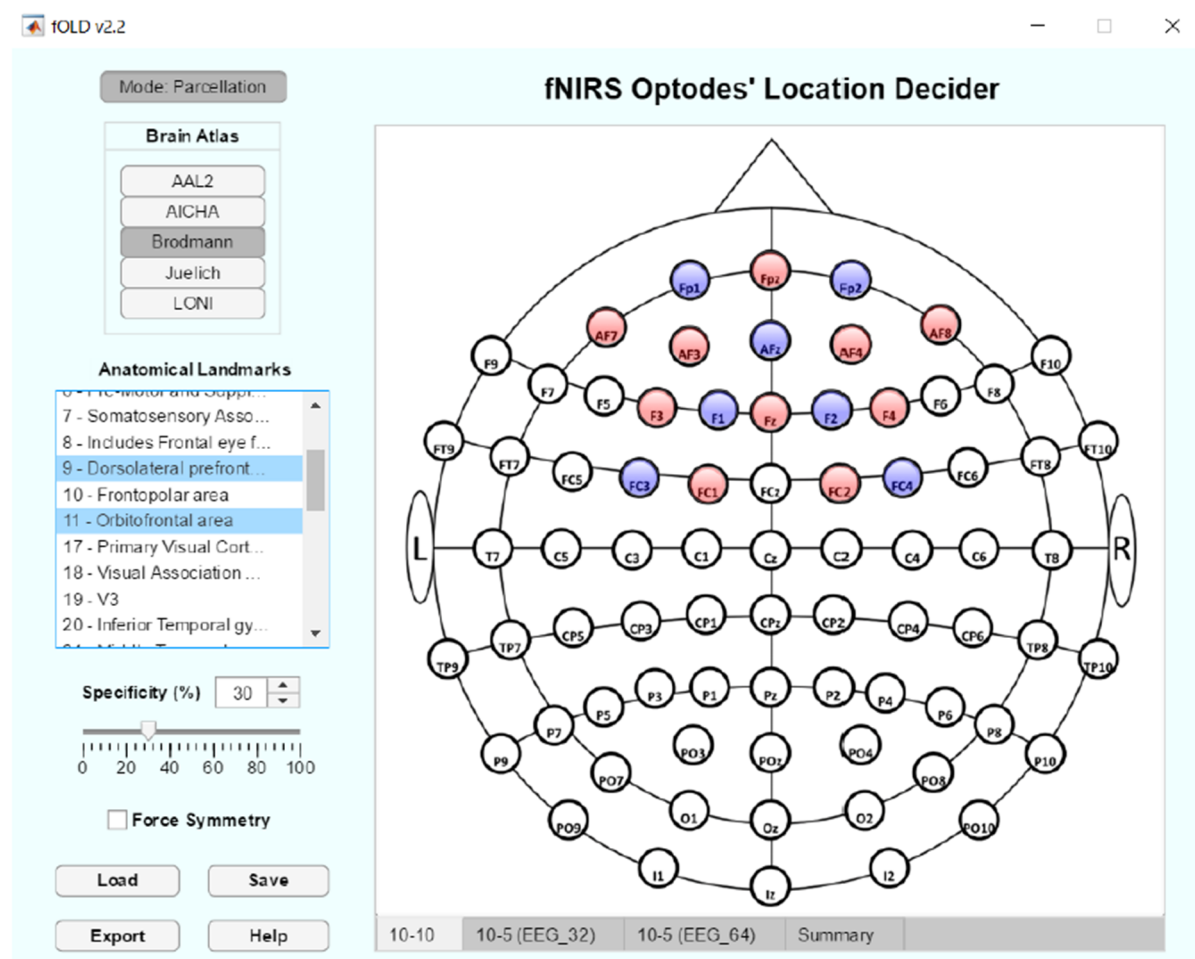


Supplementary Materials

Figure S1. fOLD location decoder, and fNIRS channels

fNIRS channels were determined using the fOLD Location Decoder. The MNI coordinates and specificity regions are provided both in excel and in the form of a table below.

fOLD



Note: The location for optode placement was concentrated around the DLPF, and Orbitofrontal area.

Zimeo Morais, G. A., Balardin, J. B., & Sato, J. R. (2018). fNIRS Optodes' Location Decoder (fOLD): a toolbox for probe arrangement guided by brain regions-of-interest. *Scientific Reports*, 8(1), 3341. <https://doi.org/10.1038/s41598-018-21716-z>

Table S1. fNIRS Optodes and Corresponding Channels (see corresponding csv file)

Channel	Optode name	MNI Position			BA	Anatomical Location (Specificity %)
		<i>x</i>	<i>y</i>	<i>z</i>		
CH 1	S1- D1	30	40	41	9	Right dorsolateral prefrontal cortex (69)
					46	Right dorsolateral prefrontal cortex (22)
CH 2	S1 - D3	46	38	24	45	Right pars triangularis Broca's Area (71)
					46	Right dorsolateral prefrontal cortex (24)
CH 3	S2- D1	10	41	50	9	Right dorsolateral prefrontal cortex (68)
					8	Right includes frontal eye fields (29)
CH 4	S2 - D2	-9	41	50	9	Left dorsolateral prefrontal cortex (63)
					8	Left includes frontal eye fields (35)
CH 5	S2 - D4	2	50	39	9	Medial dorsolateral prefrontal cortex (62)
					10	Medial Frontopolar Area (20)
CH 6	S3 - D2	-31	39	41	9	Left dorsolateral prefrontal cortex (67)
					46	Left dorsolateral prefrontal cortex (25)
CH 7	S3 - D5	-46	39	26	45	Left pars triangularis Broca's Area (73)
					46	Left dorsolateral prefrontal cortex (22)
					46	Right dorsolateral prefrontal cortex (47)
CH 8	S4 - D3	40	50	16	45	Right pars triangularis Broca's Area (30)
					10	Right frontopolar area (19)
					10	Right frontopolar area (72)
CH 9	S4 - D4	13	61	24	11	Right orbitofrontal area (17)
					9	Right dorsolateral prefrontal cortex (51)
CH 10	S4 - D6	22	52	33	46	Right dorsolateral prefrontal cortex (26)
					46	Left dorsolateral prefrontal cortex (49)
CH 11	S6 - D5	-39	50	17	45	Left pars triangularis Broca's area (32)
					10	Left frontopolar area (76)
CH 12	S5 - D4	-12	62	23	9	Left dorsolateral prefrontal cortex (15)
					10	Left frontopolar Area (70)
CH 13	S5 - D7	-24	63	9	11	Left orbitofrontal area (20)
					46	Left dorsolateral (9)
					45	Right pars triangularis Broca's Area (44)
CH 14	S6 - D3	48	46	5	46	Right dorsolateral prefrontal cortex (43)
					10	Right frontopolar area (69)
CH 15	S6 - D6	25	63	9	11	Right orbitofrontal area (22)
CH 16	S7 - D4	1	64	14	10	Medial frontopolar area (88)
					10	Right frontopolar area (53)
CH 17	S7 - D6	13	67	0	11	Right orbitofrontal area (45)
					10	Left Frontopolar area (54)
CH 18	S7 - D7	-12	67	0	11	Left orbitofrontal area (45)
					45	Left pars triangularis Broca's area (49)
CH 19	S8 - D5	-47	46	6	46	Left dorsolateral prefrontal cortex (43)
					9	Left dorsolateral prefrontal cortex (48)
CH 20	S8 - D7	-23	62	23	46	Left dorsolateral prefrontal cortex (32)
					10	Left Frontopolar Area (17)

Figure S2A: Fischer-transformed average seed correlations

	S1-D1	S1-D3	S2-D1	S2-D2	S3-D5	S4-D1	S4-D3	S4-D4	S4-D6	S5-D2	S5-D4	
1	0.279338296	0.314614984	0.87098016	0.960706569	-0.067778014	0.125624743	0.052516846	0.000575551	0.0862201	0.889049095	0.18074312	0.5943
2	0.033024099	-0.427680667	0.00556466	0.550202566	-0.150810183	-0.27571416	-0.407910245	0.471758706	-0.35124524	-0.084593068	-0.43436257	-0.1642
3	0.530326804	0.392832478	0.990689119	1.311591094	0.897880729	0.338952682	0.178932185	0.357108723	0.070085933	0.971182313	0.752302236	0.9279
4	1.304692834	1.187351169	0.932512161	0.888284085	0.814603266	1.129995854	0.800049288	0.391223742	0.131217712	1.403119675	0.879242823	1.1884
5	0.590015357	0.280561888	0.325765964	0.500057255	0.061084512	0.356063888	0.373648219	0.108021415	-0.033256155	0.632397377	0.360445872	0.4693
6	0.651039523	-0.445579823	0.612771075	1.272874755	-0.973746724	0.577806095	0.28866968	0.481248524	0.371819149	0.647466815	0.012859294	0.4871
7	1.075021222	1.095987298	0.899757881	0.958596423	0.810415467	0.896792168	0.61849675	0.459334747	-0.077891846	1.207703112	1.025190191	1.2702
8	0.872439242	0.682041823	0.936575779	0.869736129	0.520429164	0.817648496	0.839654979	0.018323906	0.070198746	1.122712773	0.033337994	0.5859
9	0.357259515	0.376510402	0.273954318	0.472211924	0.723521543	0.522485552	0.418667374	0.250094686	0.306912975	0.579003418	0.420261958	0.5369
10	0.835878756	0.29465689	0.882584413	0.694600747	1.347140987	0.329025668	0.439734721	0.115139555	0.435359524	1.605868612	1.3893982	1.0773
11	0.896639869	0.558097201	1.209997443	1.01518982	0.600515552	1.171378438	-0.003979127	0.120029163	-0.401109069	0.510697288	0.30225162	0.3757
12	1.024971985	0.548419934	1.232033842	1.303072693	1.046584143	1.112257626	0.010715497	0.677410398	-0.523549002	0.442362567	0.308123293	0.3281
13	0.745715669	0.480423581	1.015751565	1.250111128	-0.001297696	0.524530515	0.160475169	0.198428653	-0.017338363	1.198796517	0.62017737	0.2379
14	0.61269101	0.464088624	0.442904037	0.648450552	0.678370369	0.5595686	0.285974652	0.602337095	0.40066777	0.76137776	0.485278149	0.2750
15	0.147683653	-0.047313497	0.456451678	0.406654577	-0.07265415	-0.021909263	-0.056349107	0.159355659	-0.085759989	0.687318557	0.102203489	0.2991

Note: The JASP file provides a typical data frame for the analysis of seed-based correlation connectivity, after Fisher transformations were applied.

Analysis of Interhemispheric Functional Connectivity

Figure S2B: Supplementary Materials: Left / Right Seed Correlation Functional Connectivity by Group

	Group	Avg_Left_Pre	Avg_Right_Pre	Avg_Left_Post	Avg_Right_Post
1	Treatment	0.873489354	0.663782522	0.918411139	0.62834254
2	Treatment	0.415617264	0.383667486	0.801408176	0.477810428
3	Treatment	0.838297521	0.739219606	1.084232592	0.701012527
4	Treatment	0.429163536	0.54430046	0.720044136	0.718931763
5	Treatment	0.565984236	0.266619792	0.754141274	0.265419879
6	Treatment	0.313125669	0.294026035	0.526511109	0.661582503
7	Treatment	0.162828898	0.025488816	0.288452406	0.2857965
8	Treatment	0.202353925	0.159857566	0.355838396	0.219904024
9	Treatment	0.237808668	-0.006254433	0.360179275	0.213000488
10	Treatment	0.4488741	0.161887503	0.645469	0.269190704
11	Control	0.700016687	0.785405145	0.711663611	0.747951936
12	Control	0.835522875	0.705083525	0.857921206	0.683371948
13	Control	1.091052341	0.648871654	0.969842876	0.706624572
14	Control	0.340959571	0.776373363	0.256696542	0.779972278
15	Control	0.551012625	0.477675123	0.503616861	0.402537855
16	Control	0.545617851	0.596104391	0.460434224	0.456297688
17	Control	0.428540134	0.563989963	0.410544211	0.511425066
18	Control	0.440806256	0.558954659	0.46750658	0.648766642
19	Control	0.501632936	0.424507984	0.469772038	0.391701823
20	Control	0.603907	0.381365393	0.567555	0.350315832

Note: Data are in wide frame, and represents average seed correlation, pre and post activation, for the Treatment and Control group.

Figure S2C: Supplementary Materials: Left / Right Activation for Seed Based Functional Connectivity

	Group	id	Time	Left	Right
1	Treatment	1	Pre	0.873489354	0.663782522
2	Treatment	1	Post	0.918411139	0.62834254
3	Treatment	2	Pre	0.415617264	0.383667486
4	Treatment	2	Post	0.801408176	0.477810428
5	Treatment	3	Pre	0.838297521	0.739219606
6	Treatment	3	Post	1.084232592	0.701012527
7	Treatment	4	Pre	0.429163536	0.54430046
8	Treatment	4	Post	0.720044136	0.718931763
9	Treatment	5	Pre	0.565984236	0.266619792
10	Treatment	5	Post	0.754141274	0.265419879
11	Treatment	6	Pre	0.313125669	0.294026035
12	Treatment	6	Post	0.526511109	0.661582503
13	Treatment	7	Pre	0.162828898	0.025488816
14	Treatment	7	Post	0.288452406	0.2857965
15	Treatment	8	Pre	0.202353925	0.159857566
16	Treatment	8	Post	0.355838396	0.219904024
17	Treatment	9	Pre	0.237808668	-0.006254433
18	Treatment	9	Post	0.360179275	0.213000488
19	Treatment	10	Pre	0.4488741	0.161887503
20	Treatment	10	Post	0.645469	0.269190704
21	Control	11	Pre	0.700016687	0.785405145
22	Control	11	Post	0.711663611	0.747951936
23	Control	12	Pre	0.835522875	0.705083525

Note: Data were transformed from a wide to long frame to enable further analysis. Data represents average seed correlation, at pre and post activation for the Treatment and Control group.

Table S2: Functional Connectivity Across Hemispheres

	Treatment Group						Control Group					
	Pre-Seed Average			Post Seed Average			Pre-Seed Average			Post Seed Average		
	M	SD	Skew	M	SD	Skew	M	SD	Skew	M	SD	Skew
Hemispheric Activation												
Left	0.44	0.24	0.7	0.64	0.26	0.12	0.60	0.22	1.2	0.56	0.21	0.7
Right	0.32	0.25	0.42	0.44	0.21	0.22	0.59	0.13	0.1	0.56	0.16	0.0

Note: Data represent average seed-correlation across hemispheres in the Treatment and Control Group