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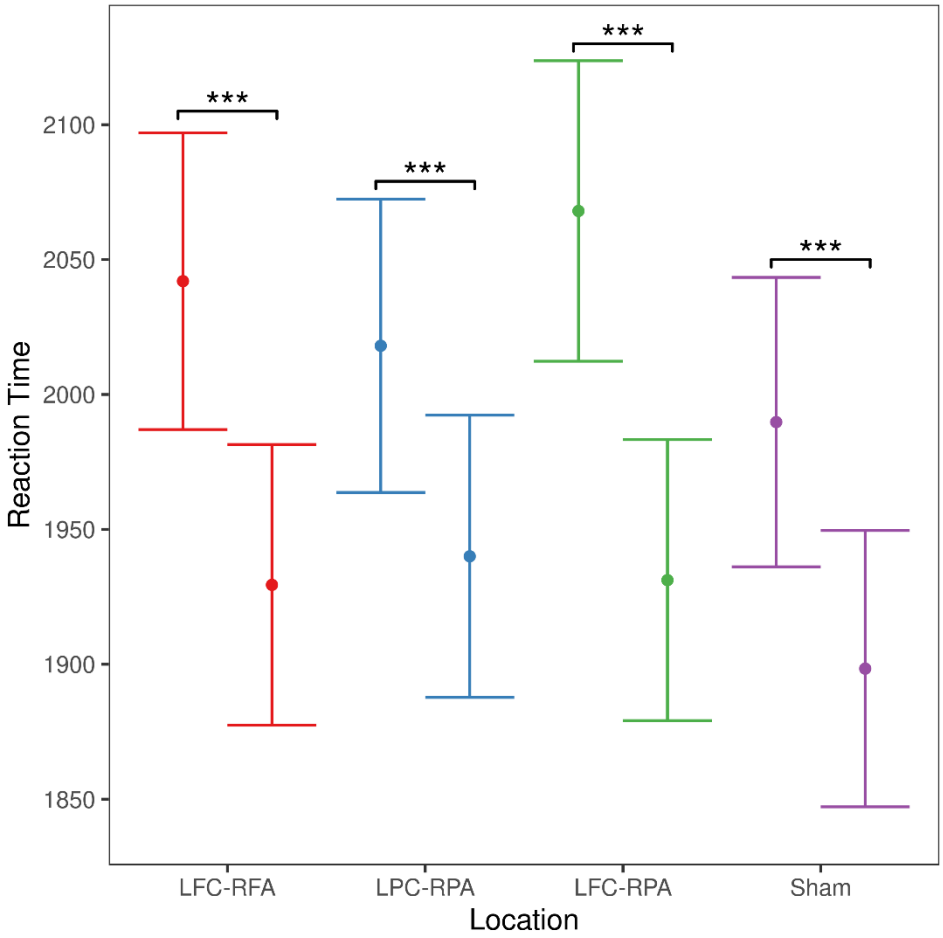

Supplementary figure 1. Reduction in reaction times after tDCS. Shown are the estimated marginal means (EMMs) of reaction times for the different stimulation locations at pre- and post-tDCS timepoints. For each condition, the left errorbar shows the EMM pre-tDCS, the right error bar shows the EMM post-tDCS. FDR-adjusted p-values were computed using the Benjamini-Hochberg method, to correct for performing 4 tests. LFC-RFA: left frontal cathodal, right frontal anodal tDCS; LFC-RPA: left frontal cathodal, right frontal anodal tDCS; LPC-RPA: left parietal cathodal, right parietal anodal tDCS. *** $p_{adj} < .001$

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Sample Medication

	Number of different drugs/patient			
Class	**0**	**1**	**2**	**3**
Antipsychotics	2	6	8	2
Atyipcal Antipsychotics	2	7	8	1
Typical Antipsychotics	16	1	1	0
Lithium	17	1	0	0
Anticonvulsants	15	3	0	0
Benzodiazepines	0	0	0	0
Antidepressants	11	5	2	0

Supplementary Table 1. Sample medication. Shown are the numbers of different drugs prescribed per patient, for the different classes of psychotropic drugs (e.g., eight patients were prescribed exactly two atypical antipsychotic drugs).

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Between-location Differences of Causality Judgments by Angle and Timepoint

Contrast	Angle Timepoint	Odds Ratio	SE	z Ratio	p_{adj}	p_{unadj}
LFC-RPA vs. LPC-RPA	45.0 post	3.726	0.918	5.337	**<.001**	<.001
LFC-RFA vs. LFC-RPA	45.0 post	2.547	0.638	3.735	**0.008**	<.001
LFC-RFA vs. LFC-RPA	30.0 post	2.130	0.475	3.390	**0.013**	0.001
LFC-RFA vs. Sham	30.0 post	2.136	0.482	3.359	**0.013**	0.001
LFC-RPA vs. Sham	45.0 post	0.427	0.106	-3.420	**0.013**	0.001
LFC-RFA vs. LPC-RPA	7.5 pre	2.147	0.532	3.082	**0.027**	0.002
LFC-RFA vs. LFC-RPA	15.0 pre	2.099	0.509	3.057	**0.027**	0.002
LFC-RPA vs. LPC-RPA	7.5 post	0.482	0.119	-2.946	**0.031**	0.003
LFC-RPA vs. LPC-RPA	60.0 post	2.329	0.670	2.937	**0.031**	0.003
LFC-RFA vs. LFC-RPA	7.5 pre	1.984	0.486	2.796	**0.036**	0.005
LPC-RPA vs. Sham	7.5 post	0.490	0.122	-2.859	**0.036**	0.004
LPC-RPA vs. Sham	60.0 post	2.211	0.625	2.810	**0.036**	0.005
LFC-RFA vs. LPC-RPA	7.5 post	1.929	0.478	2.651	0.052	0.008
LFC-RFA vs. LPC-RPA	0.0 pre	1.932	0.502	2.535	0.067	0.011
LFC-RFA vs. LFC-RPA	0.0 pre	1.831	0.476	2.326	0.112	0.020
LFC-RFA vs. LPC-RPA	0.0 post	1.840	0.489	2.291	0.115	0.022
LFC-RFA vs. LPC-RPA	15.0 pre	1.714	0.414	2.234	0.122	0.025
LFC-RPA vs. LPC-RPA	30.0 post	1.639	0.365	2.218	0.122	0.027
LPC-RPA vs. Sham	30.0 post	1.643	0.371	2.202	0.122	0.028
LFC-RPA vs. LPC-RPA	0.0 post	0.562	0.149	-2.167	0.127	0.030
LPC-RPA vs. Sham	45.0 post	1.593	0.352	2.103	0.142	0.035
LFC-RPA vs. Sham	30.0 pre	0.629	0.144	-2.023	0.162	0.043
LFC-RFA vs. LPC-RPA	60.0 post	0.574	0.158	-2.012	0.162	0.044
LFC-RFA vs. Sham	15.0 pre	1.599	0.386	1.944	0.174	0.052
LFC-RFA vs. LFC-RPA	30.0 pre	1.563	0.355	1.962	0.174	0.050
LFC-RFA vs. Sham	45.0 pre	0.664	0.149	-1.819	0.223	0.069
LPC-RPA vs. Sham	7.5 pre	0.648	0.162	-1.742	0.254	0.082
LFC-RPA vs. Sham	45.0 pre	0.676	0.154	-1.721	0.255	0.085
LFC-RFA vs. LPC-RPA	45.0 post	0.684	0.152	-1.705	0.255	0.088
LFC-RFA vs. LFC-RPA	60.0 pre	0.645	0.169	-1.672	0.265	0.095
LFC-RPA vs. Sham	7.5 pre	0.701	0.173	-1.439	0.374	0.150
LPC-RPA vs. Sham	22.5 pre	0.714	0.168	-1.434	0.374	0.152
LFC-RFA vs. LPC-RPA	22.5 post	1.415	0.332	1.480	0.374	0.139

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Contrast	Angle Timepoint	Odds Ratio	SE	z Ratio	p_{adj}	p_{unadj}
LPC-RPA vs. Sham	30.0 pre	0.723	0.163	-1.443	0.374	0.149
LPC-RPA vs. Sham	15.0 post	0.712	0.173	-1.400	0.388	0.161
LFC-RFA vs. LPC-RPA	30.0 pre	1.359	0.303	1.376	0.394	0.169
LFC-RFA vs. Sham	7.5 pre	1.391	0.344	1.331	0.416	0.183
LFC-RFA vs. Sham	22.5 post	1.358	0.317	1.309	0.421	0.190
LPC-RPA vs. Sham	0.0 pre	0.719	0.186	-1.274	0.437	0.203
LFC-RFA vs. Sham	0.0 pre	1.390	0.368	1.243	0.438	0.214
LFC-RFA vs. LFC-RPA	22.5 post	1.338	0.310	1.255	0.438	0.209
LPC-RPA vs. Sham	0.0 post	0.728	0.193	-1.198	0.457	0.231
LFC-RFA vs. LPC-RPA	30.0 post	1.300	0.286	1.190	0.457	0.234
LFC-RPA vs. Sham	60.0 pre	1.359	0.358	1.165	0.466	0.244
LFC-RFA vs. Sham	0.0 post	1.339	0.362	1.082	0.478	0.279
LFC-RPA vs. Sham	15.0 pre	0.762	0.186	-1.117	0.478	0.264
LFC-RFA vs. LPC-RPA	15.0 post	1.300	0.314	1.089	0.478	0.276
LFC-RFA vs. LPC-RPA	22.5 pre	1.289	0.301	1.087	0.478	0.277
LFC-RPA vs. Sham	22.5 pre	0.772	0.183	-1.091	0.478	0.275
LFC-RPA vs. Sham	0.0 pre	0.759	0.197	-1.064	0.483	0.287
LFC-RPA vs. Sham	0.0 post	1.295	0.349	0.958	0.528	0.338
LFC-RPA vs. Sham	15.0 post	0.785	0.192	-0.990	0.528	0.322
LPC-RPA vs. Sham	45.0 pre	0.806	0.181	-0.960	0.528	0.337
LFC-RFA vs. LFC-RPA	60.0 post	1.336	0.406	0.955	0.528	0.339
LFC-RFA vs. LPC-RPA	60.0 pre	0.784	0.208	-0.917	0.548	0.359
LFC-RPA vs. LPC-RPA	15.0 pre	1.224	0.298	0.831	0.598	0.406
LFC-RFA vs. LPC-RPA	45.0 pre	0.824	0.190	-0.840	0.598	0.401
LFC-RFA vs. Sham	60.0 post	1.269	0.379	0.798	0.615	0.425
LFC-RFA vs. LFC-RPA	22.5 pre	1.193	0.282	0.747	0.627	0.455
LFC-RPA vs. LPC-RPA	45.0 pre	1.191	0.276	0.754	0.627	0.451
LFC-RPA vs. LPC-RPA	60.0 pre	0.823	0.211	-0.761	0.627	0.447
LFC-RFA vs. LFC-RPA	15.0 post	1.179	0.286	0.678	0.674	0.498
LFC-RPA vs. LPC-RPA	30.0 pre	1.150	0.263	0.612	0.721	0.541
LFC-RFA vs. Sham	60.0 pre	0.877	0.239	-0.481	0.828	0.631
LPC-RPA vs. Sham	60.0 pre	1.119	0.298	0.421	0.871	0.674
LFC-RPA vs. LPC-RPA	15.0 post	0.906	0.220	-0.405	0.873	0.686
LFC-RFA vs. Sham	45.0 post	1.089	0.246	0.376	0.886	0.707

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Contrast	Angle Timepoint	Odds Ratio	SE	z Ratio	p_{adj}	p_{unadj}
LFC-RPA vs. LPC-RPA	7.5 pre	0.924	0.227	-0.321	0.887	0.748
LFC-RFA vs. Sham	15.0 post	0.926	0.224	-0.319	0.887	0.750
LFC-RFA vs. Sham	22.5 pre	0.921	0.213	-0.356	0.887	0.722
LFC-RPA vs. LPC-RPA	22.5 pre	0.925	0.221	-0.325	0.887	0.745
LFC-RFA vs. LFC-RPA	7.5 post	0.929	0.231	-0.296	0.890	0.767
LPC-RPA vs. Sham	15.0 pre	0.933	0.226	-0.288	0.890	0.774
LFC-RPA vs. LPC-RPA	0.0 pre	0.948	0.240	-0.213	0.919	0.831
LFC-RFA vs. Sham	7.5 post	0.945	0.237	-0.225	0.919	0.822
LFC-RPA vs. LPC-RPA	22.5 post	0.946	0.222	-0.239	0.919	0.811
LPC-RPA vs. Sham	22.5 post	0.960	0.227	-0.174	0.933	0.862
LFC-RPA vs. Sham	60.0 post	0.950	0.293	-0.168	0.933	0.867
LFC-RFA vs. LFC-RPA	0.0 post	1.035	0.279	0.126	0.956	0.899
LFC-RPA vs. Sham	7.5 post	1.017	0.255	0.069	0.961	0.945
LFC-RPA vs. Sham	22.5 post	1.015	0.237	0.063	0.961	0.950
LFC-RFA vs. Sham	30.0 pre	0.982	0.220	-0.080	0.961	0.937
LFC-RFA vs. LFC-RPA	45.0 pre	0.982	0.228	-0.079	0.961	0.937
LFC-RPA vs. Sham	30.0 post	1.002	0.228	0.011	0.992	0.992

Supplementary table 2. Pairwise comparisons among estimated marginal means of causality judgments between tDCS locations, for each angle, at pre- and post-tDCS timepoints. Ordered by statistical significance. FDR-adjusted p-values were computed using the Benjamini-Hochberg method, to correct for performing 84 tests. LFC-RFA: left frontal cathodal, right frontal anodal tDCS; LFC-RPA: left frontal cathodal, right frontal anodal tDCS; LPC-RPA: left parietal cathodal, right parietal anodal tDCS.

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Tests of Model Effects for Generalized Linear Mixed Model of Reaction Times

Effect	χ2	df	p
(Intercept)	80,063.933	1	**<.001**
Timepoint	115.673	1	**<.001**
Location	60.311	3	**<.001**
Angle	0.615	1	0.433
Delay	55.734	1	**<.001**
Timepoint × Location	16.897	3	**0.001**
Timepoint × Angle	0.021	1	0.885
Location × Angle	1.671	3	0.643
Timepoint × Delay	3.714	1	0.054
Location × Delay	0.292	3	0.962
Angle × Delay	4.753	1	**0.029**
Timepoint × Location × Angle	0.622	3	0.891
Timepoint × Location × Delay	3.361	3	0.339
Timepoint × Angle × Delay	0.389	1	0.533
Location × Angle × Delay	2.482	3	0.479
Timepoint × Location × Angle × Delay	0.659	3	0.883

Supplementary Table 3. Shown are the results of Wald tests for the fixed effects and interactions of the generalized linear mixed model for reaction times. In addition to the fixed effects, the random effect of participant was included in the model.

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Reduction in Reaction Times From Pre- to Post-tDCS

Location	RT Reduction (ms)	Ratio	SE	z Ratio	p_{adj}	p_{unadj}
LFC-RFA	112.574	1.058	0.006	10.755	**<.001**	<.001
LPC-RPA	78.027	1.040	0.006	7.448	**<.001**	<.001
LFC-RPA	136.818	1.071	0.006	12.994	**<.001**	<.001
Sham	91.383	1.048	0.006	8.717	**<.001**	<.001

Supplementary Table 4. Pairwise comparisons among estimated marginal means of pre- and post-tDCS reaction times, for the different tDCS locations. FDR-adjusted p-values were computed using the Benjamini-Hochberg method, to correct for performing 4 tests. LFC-RFA: left frontal cathodal, right frontal anodal tDCS; LFC-RPA: left frontal cathodal, right frontal anodal tDCS; LPC-RPA: left parietal cathodal, right parietal anodal tDCS.