

**Table S2. Bayesian analysis for comparisons of video games and cognitive tests performance for the Active vs. Sham groups.**

Test	Variable	Assessment time points	Scores	Bayesian Statistical test	Main effects (BF <sub>10</sub> )		Interaction
					Group	Time	
Video game performance	10-session training	1	Direct	Mann-Whitney	BF <sub>0</sub> =0.450, W=93.500, R <sup>2</sup> =1.000	-	-
	Pre vs. post skills	2	Direct	rmANOVA	0.362, err%=1.607	<b>6.575×10<sup>7</sup>, err%=2.163</b>	BF <sub>incl</sub> =0.478
RT	Simple	3	Direct	rmANOVA	0.470, err%=1.747	<b>6.488, err%=0.740</b>	BF <sub>incl</sub> =0.359
	Direction choice	3	Transformed (Post1-Pre, Post2-Pre)	ANOVA	-	-	BF <sub>10</sub> =0.510, err%=8.382×10 <sup>-5</sup> BF <sub>10</sub> =0.941, err%=0.003
	Color choice	3	Transformed (Post1-Pre, Post2-Pre)	ANOVA	-	-	BF <sub>10</sub> =0.631, err%=0.003 BF <sub>10</sub> =0.505, err%=4.316×10 <sup>-5</sup>
Digits	Forward	3	Direct (Pre vs. Post1) Transformed (Post2-Pre)	rmANOVA ANOVA	0.421, err%=0.679 -	<b>2.923, err%=0.877</b> -	BF <sub>incl</sub> =0.336 BF <sub>10</sub> =0.363, err%=8.871×10 <sup>-6</sup>
	Backward	3	Transformed (Post1-Pre, Post2-Pre)	ANOVA	-	-	BF <sub>10</sub> =0.362, err%=7.087×10 <sup>-6</sup> BF <sub>10</sub> =0.365, err%=1.188×10 <sup>-5</sup>
3-back	Score	3	Transformed (Post1-Pre, Post2-Pre)	ANOVA	-	-	BF <sub>10</sub> =0.491, err%=2.558×10 <sup>-5</sup> BF <sub>10</sub> =0.535, err%=4.655×10 <sup>-4</sup>
	RT	3	Direct	rmANOVA	0.578, err%=2.085	<b>4.091, err%=0.595</b>	BF <sub>incl</sub> =0.477
	d'	3	Direct	rmANOVA	<b>2.580, err%=1.243</b>	0.754, err%=1.247	BF <sub>incl</sub> =0.351
Mental rotation	Score	3	Transformed (Post1-Pre, Post2-Pre)	ANOVA	-	-	BF <sub>10</sub> =0.487, err%=4.792×10 <sup>-5</sup> BF <sub>10</sub> =0.360, err%=4.885×10 <sup>-6</sup>
	RT	3	Transformed (Post1-Pre, Post2-Pre)	Mann-Whitney	-	-	BF <sub>0</sub> =0.166, W=128.000, R <sup>2</sup> =1.001

Test	Variable	Assessment time points	Scores	Bayesian Statistical test	Main effects (BF <sub>10</sub> )		Interaction
					Group	Time	
							BF <sub>0</sub> =0.247, W=113.000, R <sup>2</sup> =1.001
Stop-switching	Go score	3	Transformed (Post1-Pre, Post2-Pre)	Mann-Whitney (Post1-Pre) rmANOVA (Post2-Pre)	- 0.323, err%=1.979	- 0.361, err%=0.885	BF <sub>0</sub> =0.379, W=87.500, R <sup>2</sup> =1.001 BF <sub>incl</sub> =0.372
	Go RT	3	Direct	rmANOVA	0.563, err%=2.064	<b>1.387, err%=0.930</b>	BF <sub>incl</sub> =0.466
	Stop score	3	Transformed (Post1-Pre, Post2-Pre)	ANOVA	-	-	BF <sub>10</sub> =0.544, err%=6.710×10 <sup>-4</sup> BF <sub>10</sub> =0.548, err%=0.002
	Stop signal RT (SSRT)	3	Direct (Pre vs. Post1) Transformed (Post2-Pre)	rmANOVA Mann-Whitney	0.367, err%=1.445 -	<b>1.828, err%=4.149</b> -	BF <sub>incl</sub> =0.339 BF <sub>0</sub> =0.488, W=75.500, R <sup>2</sup> =1.001
	Switch score	3	Direct	rmANOVA	0.480, err%=1.831	<b>9.174, err%=0.671</b>	BF <sub>incl</sub> =0.376
	Switch RT	3	Direct	rmANOVA	0.673, err%=0.829	<b>2.037, err%=1.855</b>	BF <sub>incl</sub> =0.361
Raven	Score	2	Transformed (Post1-Pre)	Mann-Whitney	-	-	BF <sub>0</sub> =0.520, W=100.500, R <sup>2</sup> =1.000
	RT	2	Direct	rmANOVA	<b>4.538, err%=0.768</b>	0.639, err%=1.544	BF <sub>incl</sub> =0.429
Matchstick	Accuracy	1	Direct	t-test	0.371, err%=3.012×10 <sup>-5</sup>	-	-
	RT (correct answers)	1	Direct	t-test	0.362, err%=7.664×10 <sup>-6</sup>	-	-
Five-point		1	Direct	t-test	0.496, err%=6.673×10 <sup>-6</sup>	-	-

Note: Bayesian probabilities higher than the null model are marked in bold. Credibility interval: 95.0%. BF: Bayes Factor; BF<sub>10</sub>: evidence for the alternative hypothesis relative to the null hypothesis; BF<sub>0</sub>: evidence for the one-sided alternative hypothesis that group one < group two, relative to the null hypothesis, BF<sub>incl</sub>: change from prior to posterior inclusion odds; err%: error percentage gives a numerical robustness of the result (the lower the err%, the greater numerical stability of the result); RT: Reaction time.