

## Supplementary Materials

### Exploring Motor Network Connectivity in State-Dependent Transcranial Magnetic Stimulation: A Proof-of-Concept Study

Table S1 shows the results, at single subject level, for the comparison between a linear regression model in which the MEP amplitude is predicted only by the functional connectivity between IM1 and ISMA and a model in which functional connectivity of IM1-rM1 is added as second independent variable. Columns 2 and 3 report the AIC values for the two models, while column 4 indicates absolute value of the AIC difference between the model with the largest AIC and the model with the smallest AIC for each subject. As a rule of thumb, the larger the AIC difference between the two models the more the evidence against the model with the larger AIC. The corresponding model plausibility, according to the criteria defined in Burnham and Anderson (2002), is shown in column 5.

Table S1. Model comparison.

Subject #	AIC IM1-ISMA model	AIC Motor Network model	AIC difference	Preferred model
1	2069.5	2071.6	2.1	IM1-ISMA model
2	1315.0	1299.5	15.5	Motor network model
3	1726.5	1726.9	0.4	No preference
4	1858.7	1858.4	0.3	No preference
5	1933.2	1932.9	0.3	No preference
6	1825.8	1822.5	3.3	No preference
7	2171.7	2173.7	2.0	Motor network model
8	1613.3	1602.1	11.2	No preference

Overall, in the 25% of the subjects, the motor network model is preferred over the model that considers IM1-ISMA connectivity values only, consistently with the network-level facilitatory effect described above, while the latter is preferred with respect to the former only in the 12.5% of the subjects. In the remaining 62.5% of the subjects, no preference between the two models was observed.

Table S2 shows the plausibility of the two models and indicates that the Motor Network model performs overall better than the IM1-ISMA model.

**Table S2 Model plausibility.**

<b>Subject #</b>	<b>IM1-ISMA model</b>	<b>Motor Network model</b>
<b>1</b>	Preferred	Plausible
<b>2</b>	Not Plausible	Preferred
<b>3</b>	Preferred	Plausible
<b>4</b>	Plausible	Preferred
<b>5</b>	Plausible	Preferred
<b>6</b>	Plausible	Preferred
<b>7</b>	Preferred	Plausible
<b>8</b>	Not Plausible	Preferred