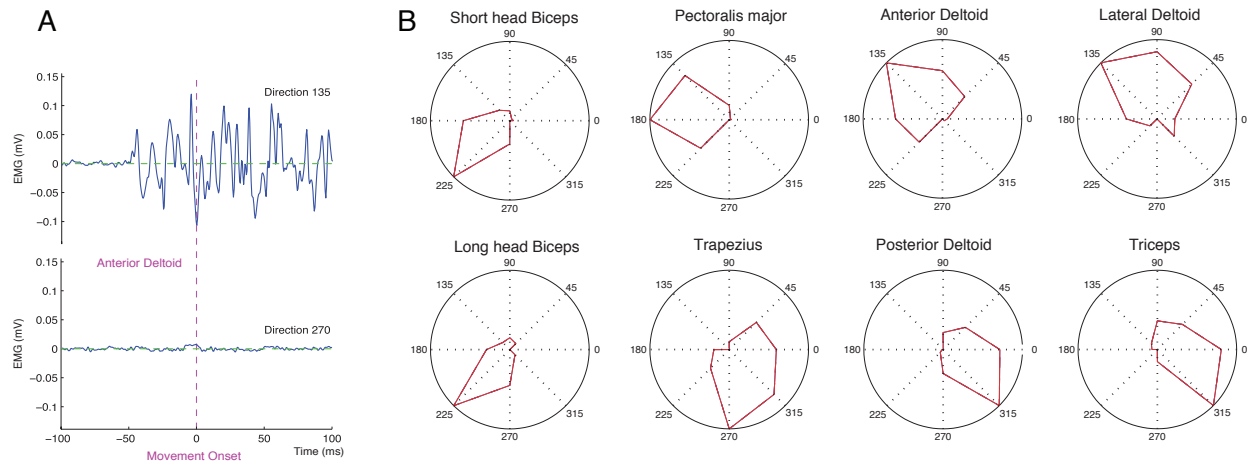


Competition, conflict and change of mind: a role of GABAergic inhibition in the primary motor cortex

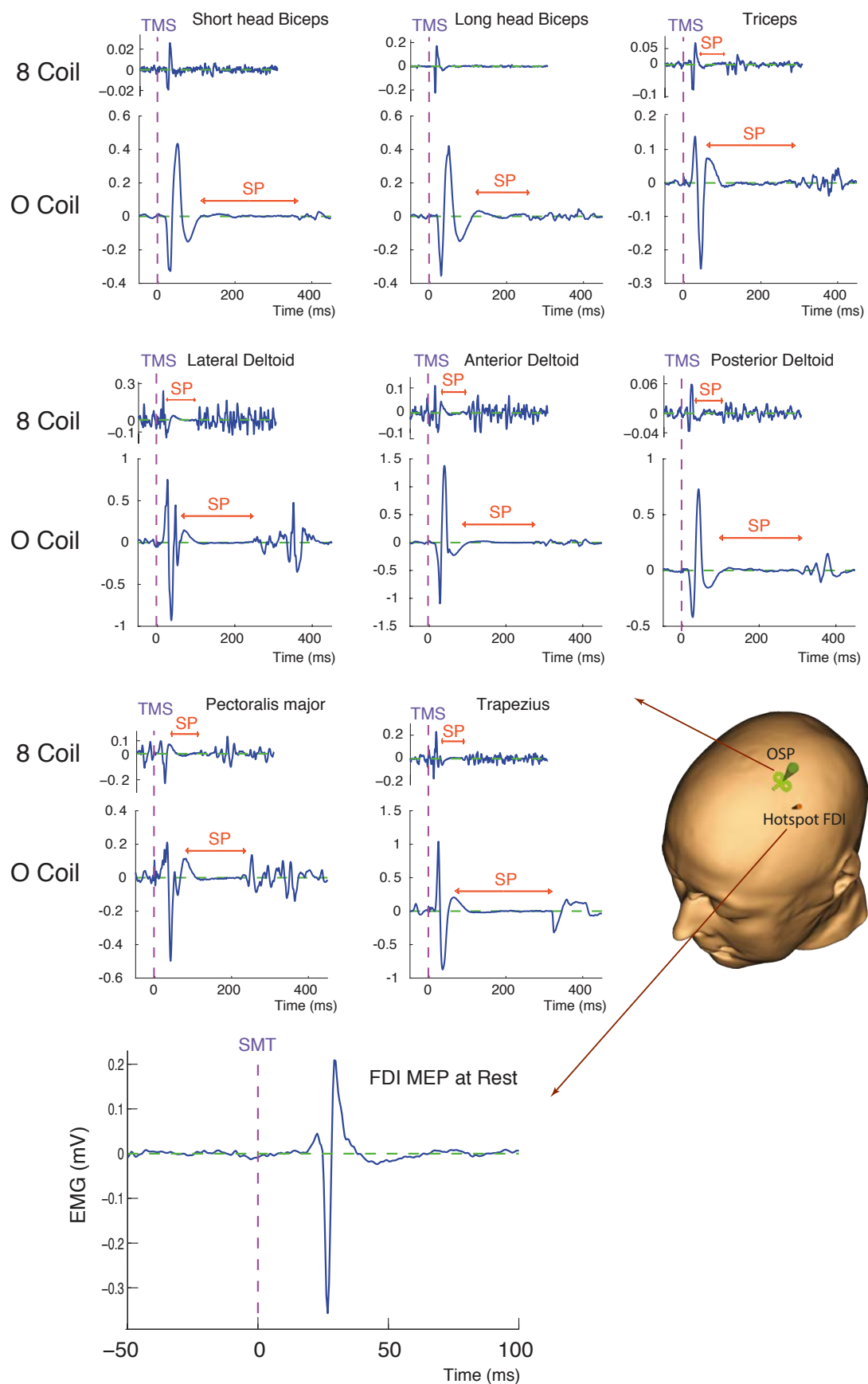
Supplementary data:

- Supplemental figure 1
- Supplemental figure 2
- Supplemental figure 3
- Supplemental figure 4
- Supplemental figure 5
- Supplemental table 1



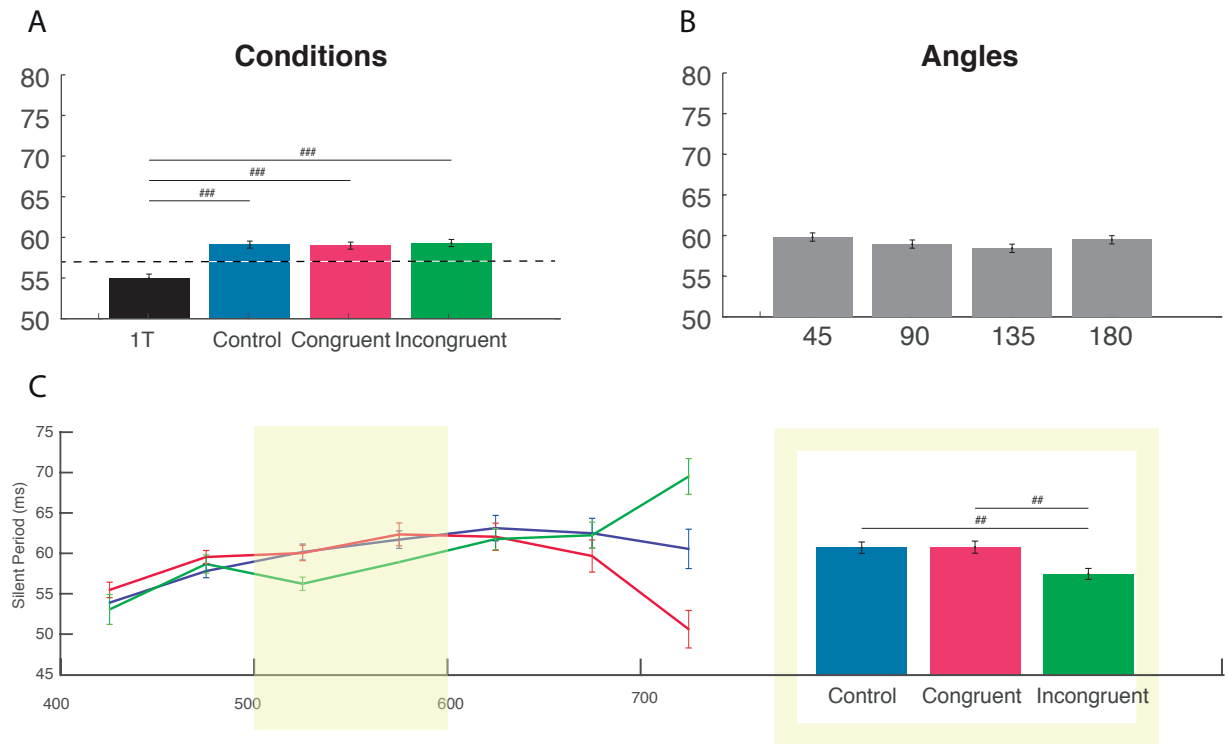
Supplemental figure 1: Muscle activation patterns

A) Surface electromyogram (EMG) activity of the anterior deltoid for reaching a target at 135° (top trace) or at 270° (bottom trace). Vertical dashed line indicates the movement onset. B) Spatial tuning of activity of 8 muscles of the right upper arm for reaching movements towards 8 different targets (one-target condition) arrayed on a circle at 45° increments. Polar plots give EMG activity during a 200 ms epoch centered on the movement onset, normalized with the 1s rest period EMG activity recorded at the very beginning of each trial.



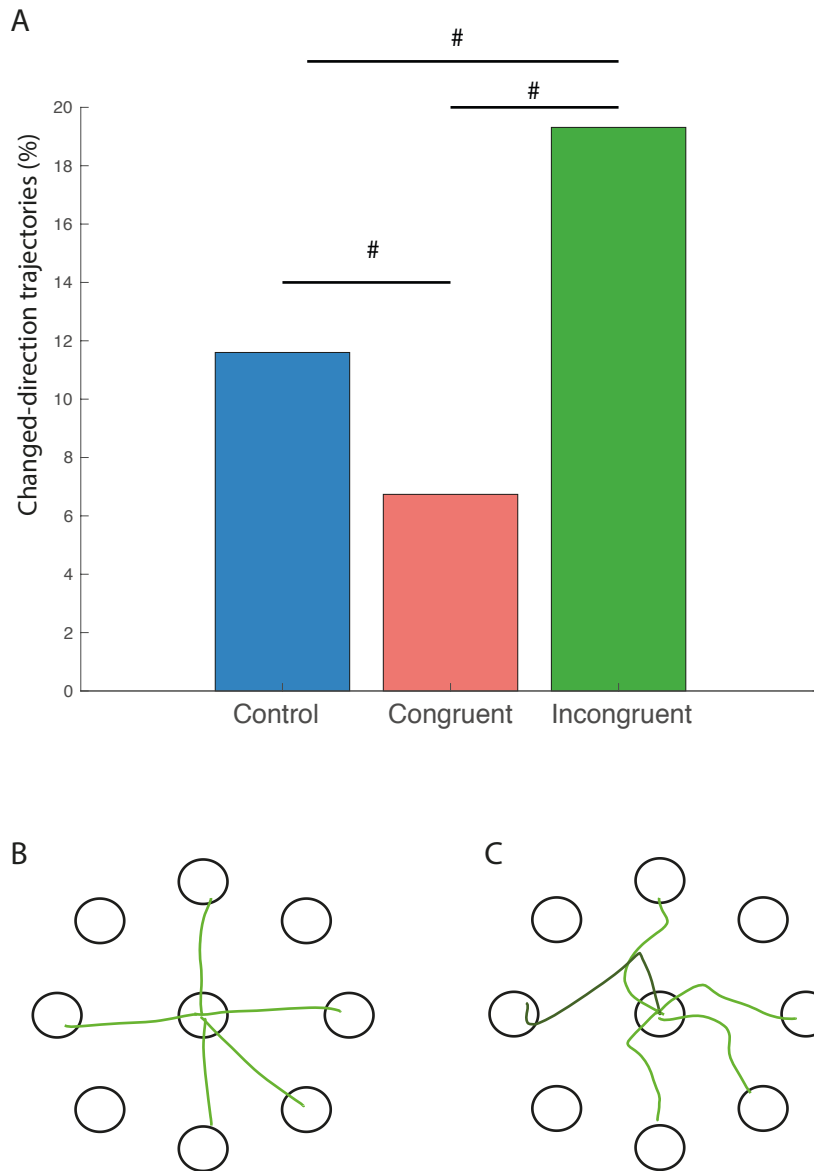
Supplemental figure 2: EMG responses to the figure-of-eight and circular coil TMS

A) SPs recorded in the same 8 muscles of the upper right arm in two representative subjects after either the 8 coil (upper trace) or O coil (lower trace) TMS. B) The stimulation areas corresponding to the FDI muscle hotspot and arm muscles optimal scalp position (OSP) are represented on a 3D-rendering of a subject as recorded by the navigated brain stimulation software (brainsight). C) Example of MEP measured from the FDI muscle of the right hand produced by the stimulation in order to estimate the resting motor threshold.



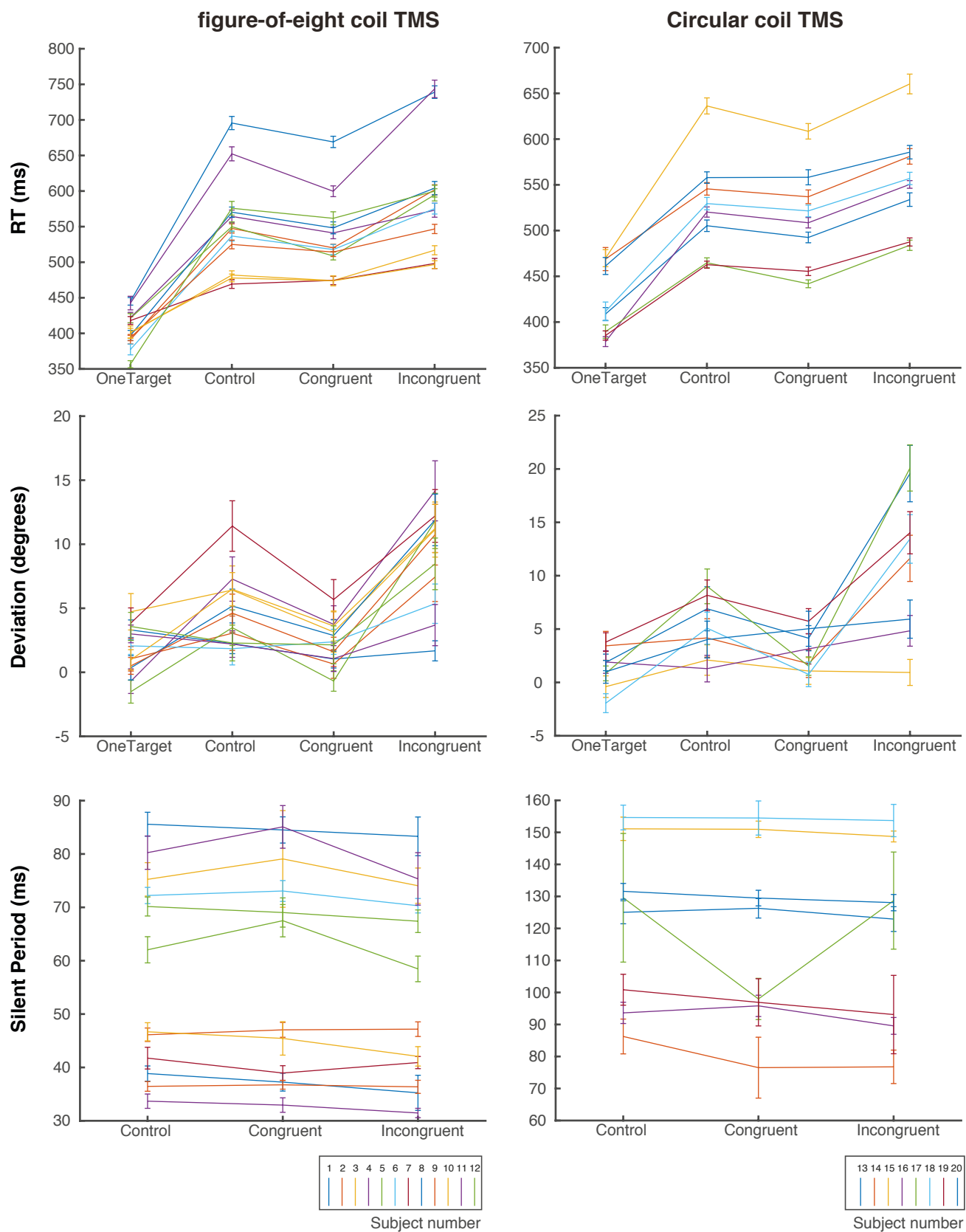
Supplemental figure 3: Silent Period Duration (SP) after circular coil TMS.

The SP duration is not modulated by the cognitive condition. B) The SP duration is not modulated by the angular distance between the target and distractor. C) Mean SP in each bin of RT as a function of cognitive condition (control, congruent and incongruent) showing an absence of modulation by the competition strength. SP analysis for the subgroup corresponding to the two bins highlighted in grey is presented in the adjacent inset (same ordinate axis as for the main graph).



Supplemental figure 4: Example of change in reaching direction (vacillation)

A) Percentage of trials during which the hand trajectory changed course during the movement. While the majority of movements formed a single-curved trajectory from the central cue to the choice target, in a significantly greater proportion of incongruent trials (19.3 %, $\chi^2 = 14.6$, $P < 0.001$); congruent (6.7 %) ; control (11.6 %)) the hand trajectory changed course during the movement. B) Example of single-curved trajectories compared with C) double-curved reach trajectories in the same direction, indicating a change of mind between the onset and the end of the movement.



Supplemental figure 5: Individual data

Contribution of individual subjects for the Figure-of-eight coil experiment (left column) and the Circular coil experiment (right column). Subject numbers are coded with color.

First row : Reaction time (RT); Second row : Initial deviation (ID); Third row : Silent Period Duration (SP).

	Direction (°)							
Muscle	0	45	90	135	180	225	270	315
Lateral Deltoide	80	85	95	90	90	60	80	85
Short Head Biceps	25	50	50	40	40	30	30	25
Long Head Biceps	45	45	55	60	55	60	45	50
Triceps	70	90	95	95	80	55	50	60
Posterior Deltoide	70	50	65	50	45	35	70	75
Anterior Deltoide	90	90	100	95	100	60	70	75
Pectoralis Major	45	55	70	90	95	85	40	35
Trapezius	100	55	35	35	65	60	100	100

Supplemental table 1: Muscle involved in SP calculation

Percentage of subjects for which a dedicated muscle was involved in the calculation of the global SP for any given movement direction.