Task-related modulation of motor response to emotional bodies: a TMS motor-evoked potential study

Sara Borgomaneri, Francesca Vitale, Simone Battaglia, Manuel de Vega & Alessio Avenanti

Supplemental Results

Participants performed both tasks with high accuracy, with slightly better performance observed in the emotion recognition task (mean accuracy ± SD: 96% ± 3%) than in the gender recognition task (90% ± 6%; Wilcoxon matched pairs test: Z = 3.15, p < 0.01). To ensure that any differences in accuracy between the tasks did not influence the task-related effects of emotional bodies on MEP amplitudes, we conducted a control analysis. In this analysis, we gradually removed stimuli that contributed the most to the higher accuracy in the emotion recognition task relative to the gender recognition task until a statistically comparable performance was achieved in both tasks. This resulted in a similar performance level in the emotion recognition task (95 ± 4%) and the gender recognition task (93 ± 5%; Z = 1.76, p = .08). A total of 15 stimuli were removed, including 4 fearful, 4 happy, 3 neutral dynamic, and 4 neutral static postures. Subsequently, we conducted the Observer gender x Task x Time x Model gender x Model body expression ANOVA on MEP associated with the remaining stimuli. Interestingly, the Task x Model body expression interaction remained significant ($F_{1,14} = 10.85$; $p < .01$; $\eta_p^2 = .44$), confirming task-related opposite influences of emotional bodies on MEP amplitudes (see Table S1).

	Emotion body expression	Neutral body expression
Emotion recognition task	.374 ±.146	.381 ±.144
Gender recognition task	.396 ±.148	.388 ±.146

Table S1. In the expression task, the observation of body posture expressing emotion reduced cortical excitability compared to neutral bodies. In the gender recognition task, MEPs increase during the presentation of emotional body postures relative to the neutral ones.