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A TMS investigation of the causal role of STS and the cerebellum in the gaze cueing task

Eye gaze is a salient social cue we efficiently process and attend to when encountering a face. A rich body of neuroimaging evidence shows that attention toward others'gaze is supported by a complex network that includes face-processing regions and the social brain (e.g., Superior Temporal Sulcus). In the present study, we used for the first time Transcranial Magnetic Stimulation (TMS) to investigate whether STS is causally involved in social attention. Furthermore, we tested whether the cerebellum also plays a role in it. The cerebellum has recently been recognized as a critical component of the social brain, and its activation is repeatedly associated with the processing of biological stimuli, such as body movements. Therefore, the cerebellum might represent, in addition to STS, another relevant structure supporting social attention. In two experiments, participants performed a cueing task that consisted of localizing the position of an object that could be congruent or incongruent with the direction of the cue (eye gaze or arrow) with SOAs of 200 and 700 msec while TMS was delivered over STS, the cerebellum and the vertex (control site). Overall, our results point to a complex contribution of cerebro-cerebellar network in supporting social attention.

Keywords: gaze perception; attention; transcranial magnetic stimulation; social cognition

If you're submitting a symposium talk, what's the symposium title?

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