



Correcting emotional misunderstandings



We may make mistakes interpreting the emotions of others, but our brain can corrects us

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It so happens that we interpret other people's emotions based on our own and thus sometimes make mistakes. Luckily our brain is equipped with correction devices: scientists at the International School for Advanced Studies (SISSA), Trieste, have identified the area where this mechanism should be located.

When we are sad the world seemingly cries with us. On the contrary, when we are happy



everything shines and all around people's faces seem to rejoice with us. These projection mechanisms of one's emotions onto others are well known to scientists, who believe they are at the core of the ability to interpret and relate to others. In some circumstances, however, this may lead to gross mistakes (called egocentricity bias in the emotional domain EEB), to avoid them cerebral mechanisms are activated about which still little is known.

Giorgia Silani, a neuroscientist at SISSA, in collaboration with an international group of researchers have identified an area in the brain involved in this process. The results were published on The Journal of Neuroscience.

In their experiments researchers have first measured the likeliness of subjects to make these kinds of mistakes. Then, thanks to functional magnetic resonance imaging, a cerebral area has been identified in which activity is clearly more intense when the subjects are making EEB mistakes.

The responsible area is the right supramarginal gyrus, a relatively unknown location to social neurosciences.

In a third round of experiments researchers have even tried to "sabotage" the activity of this cerebral area, by temporarily shutting it down through transcranial magnetic stimulation, a (harmless) procedure which can shortly silence the electrical activity of neurons. Silani and colleagues observed that during "shutdowns" the subjects made significantly more EEB mistakes than average, thus confirming the crucial role of this cerebral area.

"The results of our study", Silani explains "show for the first time the physiological markers of highly adaptive social mechanisms, such as the ability to suppress our own emotional states in order to correctly evaluate those of others. Future research will allow us to understand how these abilities develop and decay over time, and how we can train them".

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