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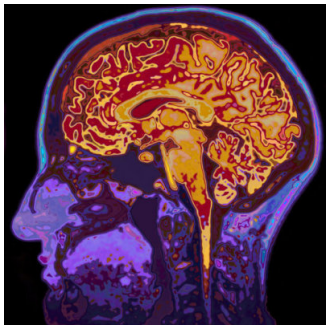
Brain Activity Helps Reveal Motives and Selfish Behaviour



Researchers in Switzerland have identified peoples' motives through a specific interplay between different brain regions, also showing in their work how empathy motives increase altruistic behaviour in selfish people.

Psychologist and neuroscientist Grit Hein and Ernst Fehr from the Department of Economics, University of Zurich teamed up with Yosuke Morishima, Susanne Leiberg and Sunhae Sul and found that the way relevant brain regions communicate with each other changes according to motives.

This interplay between brain regions allowed the researchers to identify the underlying motives that could not be shown by observing the person's choices, or based on the brain regions that are activated during the decision-making.

During the study, participants were placed in an fMRI scanner and made altruistic decisions driven by a desire to help a person for whom one feels empathy or a reciprocity motive (the desire to reciprocate an individual's previous kindness). Simply looking at the functional activity of specific regions of the brain couldn't reveal the motive underlying the decisions as the same areas in the brain lit up in both settings.

"However, using Dynamic Causal Modeling (DCM) analyses, we could investigate the interplay between these brain regions and found marked differences between empathy- based and reciprocity-based decisions," explained Hein. "The impact of the motives on the interplay between different brain regions was so fundamentally different that it could be used to classify the motive of a person with high accuracy," she added.

The study added that the empathy motive increased altruistic behaviour in selfish people. After activating the empathy motive, selfish individual resembled persons with prosocial preferences in terms of brain connectivity and altruistic behaviour. In contrast, prosocial people behaved even more altruistically after activating the reciprocity, but not the empathy motive.

Reference:

G. Hein, Y. Morishima, S. Leiberg, S. Sul, E. Fehr. The brains functional network architecture reveals human motives. Science, 2016; 351 (6277): 1074 DOI: 10.1126/science.aac7992

Published on : Sat, 5 Mar 2016