

No gain if unfair

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Would you turn down a "sure" amount of money? You might be surprised by your choice. According to scientific research, humans tend to turn down a sure reward if this derives from an unfair distribution of resources, whether the individuals themselves or others are the target of the unfairness. A study by Claudia Civai, today at Radboud University Nijmegen in the Netherlands but at the International School for Advanced Studies (SISSA) of Trieste at the time of the study, demonstrates, however, that despite the behaviour being the same, the brain circuits at work in these two conditions differ depending on whether the subjects themselves or third parties are affected. The study was conducted with the collaboration of Raffaella Rumiati, head of the SISSA Neuroscience and Society Lab (iNSuLa), and Carlo Miniussi of the University of Brescia.

"In previous studies", explains Civai, "we found the same tendency to reject unfair offers regardless of whether the decision involved the [subjects](#) themselves or a third party. Brain imaging, however, suggested that the brain was working differently in the two situations".

The task used by Civai and co-workers in their latest and previous studies, technically known as Ultimatum Game, required the subject to accept or reject an offer for a certain amount of money to be split with the person offering it. How the money was to be split was decided by the offeror and it could be shared fairly (half and half) or unfairly (the subject would receive only a small proportion of the original sum). "Although a perfectly rational criterion would be to accept any offer, given that 'anything' is better than nothing, the rate of rejection of unfair

offers was very high".

In their new experiments, Civai and co-workers used tDCS, a "transcranial" stimulation technique that allows a given brain area to be temporarily (and safely) deactivated. "The [medial prefrontal cortex](#) is an area that previous experiments had identified as crucial in this type of situation. In our study we used tDCS to shut down this area while the subjects were carrying out the task".

When the subjects responded for themselves, the tendency to turn down unfair offers decreased significantly (the subjects were therefore more "rational" and more prepared to accept any sum), whereas this decrease was not seen when the subjects were responding on behalf of a third party.

"We still don't know exactly how this area contributes to the perception of unfairness targeted at oneself. It might help to understand the unfairness or heighten the emotions aroused by [unfair treatment](#), or serve some other function, but we are now convinced that this area plays an important role in self-esteem".

More in detail...

Why do humans turn down sure rewards in the name of fairness, when they're going to lose all in any case? What is the evolutionary significance of such an apparently disadvantageous behaviour pattern? "It's only irrational if we consider mere economic return to have 'value'", explains Civai. In effect, for human beings social agreement is a considerably important resource. "Following and having others follow the rules of civil conduct has a huge value for the individual's survival. If we interpret the Ultimatum Game rejections from this perspective they will no longer appear as an irrational choice".

More information: Original paper:
www.ncbi.nlm.nih.gov/pubmed/25552567

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