Individuals cooperate according to their emotional state and their prior experiences

July 5 2012

A study by researchers at Universidad Carlos III de Madrid and Universidad de Zaragoza has determined that when deciding whether to cooperate with others, people do not act thinking in their own reward, as had been previously believed, but rather individuals are more influenced by their own mood at the time and by the number of individuals with whom they have cooperated before.

In addition to previous studies, this research is also based on an experiment carried out by the Institute for Biocomputation and Physics of Complex Systems (BIFI) at the Universidad de Zaragoza, together with the Fundación Ibercivis and Universidad Carlos III de Madrid (UC3M), the largest study of its kind to date in real time regarding cooperation in society. It was carried out during this past December, with 1,200 Aragon secondary students participating, who interacted electronically in real time via a social conflict prototype known as the "Prisoner's Dilemma". This game shows that the greatest benefit for individuals who interact is produced when both of them collaborate, but if one collaborates and the other does not, the latter will receive more benefits than the one who cooperates. On occasion, this allows an individual to take advantage of the cooperation of others, but if this tendency is extended, in the end, no one cooperates and as such, nobody obtains rewards.

After analyzing the information, the main conclusion drawn by the researchers is that in a situation where cooperating with others is beneficial, the way the individuals involved are organized into one social

structure or another is irrelevant. A first analysis contradicts what many researchers have held based on theoretical studies.

In the experiment, the degree of cooperation in a network in which each subject interacts with four other individuals is compared to a network in which the number of connections vary between 2 and 16, that is, one that is more similar to a social network. What has been observed is that the results in the two networks are identical. "This happens because, contrary to what has been proposed in the majority of studies, people do not make their decisions based on the rewards obtained (by them or by their neighbors), but rather based on how many people have recently cooperated with them, as well as on their own mood at the time," the researchers explained.

These results help understand how people make decisions, above all in the context in which one has to decide between collaborating with or taking advantage of others. "Understanding why we do one thing or another can help in designing incentives that induce people to cooperate," the authors of the research pointed out. On the other hand, the fact that the networks are not important has implications, for organizational design, for example. The experiment revealed that people are not going to cooperate more because of being organized in a certain way. In this respect, it can be inferred that we do not have to be concerned with the design of organizational structure, but rather with motivating people individually to cooperate.

Ruling out that network organization influences in the cooperation of people, and having discovered that what is important is reciprocity, that is, cooperating according to cooperation received, will radically change the focus of a significant number of researchers who are developing theories on the emergence of cooperation among individuals.

More information: Heterogeneous networks do not promote

cooperation when humans play a Prisoner's Dilemma, Publication: *Proceedings of the National Academy of Sciences*

Provided by Carlos III University of Madrid

Citation: Individuals cooperate according to their emotional state and their prior experiences (2012, July 5) retrieved 26 April 2024 from https://phys.org/news/2012-07-individuals-cooperate-emotional-state-prior.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.