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WHY WE ADJUST OUR VIEWS IN LINE WITH MAJORITY OPINION

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Washington, Jan. 15 -- (ANI): A new study has shed new light on the brain activity that is behind the human tendency to "follow the crowd".

Published in the journal Neuron, the study highlights how human behaviour can be guided by the perceived behaviour of other individuals.

Studies conducted in the past have already shown the profound effect of group opinion on individual judgments, and there is no doubt that people look to the behaviour and judgment of others for information about what will be considered expected and acceptable behaviour.

"We often change our decisions and judgments to conform with normative group behaviour. However, the neural mechanisms of social conformity remain unclear," says lead study author Dr. Vasily Klucharev from the F.C. Donders Center for Cognitive Neuroimaging in The Netherlands.

The researchers hypothesized that social conformity might be based on reinforcement learning, and that a conflict with group opinion could trigger a "prediction error" signal.

A prediction error, first identified in reinforcement learning models, is a difference between expected and obtained outcomes that is thought to signal the need for a behavioural adjustment.

During the study, Klucharev and colleagues used functional magnetic resonance imaging to examine brain activity in subjects whose initial judgments of facial attractiveness were open to influence by group opinion.

The researchers particularly concentrated on the rostral cingulate zone (RCZ), which is though to play a role in monitoring behavioral outcomes, and the nucleus accumbens (NAc), which has been implicated in the anticipation and processing of rewards as well as social learning.

They found that a conflict with the group opinion triggered a long-term conforming adjustment of an individual's own rating, and that conflict with the group elicited a neuronal response in the RCZ and NAc similar to a prediction error signal.

The team also found that the magnitude of the individual conflict-related signal in the NAc correlated with differences in conforming behavior across subjects.

"The present study explains why we often automatically adjust our opinion in line with the majority opinion. Our results also show that social conformity is based on mechanisms that comply with reinforcement learning and is reinforced by the neural error-monitoring activity which signals what is probably the most fundamental social mistake--that of being too different from others," said Dr. Klucharev. (ANI)