

Enforcer of conformity: our own brains

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Although a grammatically challenged advertisement exhorts us to “think different,” most of us tend to look to group opinion to guide our own ideas and actions. This tendency is called conformity. Now, scientists say they have found the brain activity underlying this sort of herd mentality.

“We often automatically adjust our opinion in line with the majority opinion,” observed Vasily Klucharev of the F.C. Donders Center for Cognitive Neuroimaging in The Netherlands, lead author of the study published in the Jan. 15 issue of the research journal *Neuron*.

Klucharev and colleagues scanned brain activity in people whose initial judgments of the attractiveness of faces were open to influence by group opinion. They examined two brain areas called the rostral cingulate zone and the nucleus accumbens. The first is thought to play a role in monitoring behavioral outcomes, the second in the anticipation and processing of rewards and in social learning.

The study authors found that a conflict with the group opinion led subjects to change their own rating of a face. The conflict also elicited a response in the brain similar to one found in previous studies, and known as “prediction error” signal. It comes from a difference between expected and obtained outcomes and is thought to point an organism to a need for a behavioral change.

Further, the magnitude of the individual conflict-related signal in the nucleus accumbens correlated with differences in conforming behavior, the group found. The researchers employed the widely used brain-scanning technique functional magnetic resonance imaging.

“Our results also show that social conformity is based on mechanisms that comply with reinforcement learning,” Klucharev said. Conformity “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.”