

Brain study yields insight into machinery of prejudice

By scanning subjects' brains while they were thinking about people either politically like or different from them, researchers have found that different areas of the brain are active in the two cases. The researchers said their findings offer insight into the neural machinery that gives rise to perceptions that other racial or ethnic groups are different from one's own.

They concluded that their work offers insight into prejudice and that one way to reduce prejudice is to emphasize how alike different groups are, rather than highlighting their differences.

The researchers, Jason P. Mitchell and Mahzarin R. Banaji of Harvard University and C. Neil Macrae of University of Aberdeen, reported their findings in an article in the May 18, 2006, *Neuron*. Specifically, they sought to discover whether different areas of a brain region called the medial prefrontal cortex (mPFC) were active when people thought about those whom they perceived as either like or different from them.

Other researchers had implicated the mPFC as central to making inferences about other's mental states. And there had been hints in other studies that one mPFC subregion--the ventral region--seemed to be more engaged when people were performing tasks that involved thinking about their friends.

Mitchell and his colleagues theorized that the ventral mPFC might contribute to inferences about people similar to oneself, while its counterpart, the dorsal region, might be more involved in thinking about dissimilar people.

To explore this possibility, the researchers showed a group of Boston-area college students pictures of two people and gave the students written descriptions of each person. The students were told the people and descriptions were real, but they were designed to make the students either identify or not identify with the people. Specifically, one "target" person was described as having liberal views and taking part in activities typical of students at Northeast liberal arts colleges. The other person was described as a fundamentalist Christian with conservative political views and activities--unlike most of the students.

The students' brains were scanned using functional magnetic resonance imaging as they judged how likely each of the targets were to agree with a series of opinion questions. For example, the students were asked whether the target would look forward to going home for Thanksgiving, enjoy having a roommate from a different country, or think that European movies were better than Hollywood movies. fMRI involves using harmless magnetic fields and radio waves to image blood flow in brain regions, which reflects brain activity.

The researchers found that the ventral mPFC region was, indeed, more engaged when subjects considered the target person like them, and the dorsal mPFC region was more engaged while considering the target unlike them.

The researchers also gave the subjects a set of questions designed to reveal how similar to or different from the target people the students considered themselves. The researchers found that the more similar the subjects considered themselves to either target, the greater the response in the ventral mPFC. Conversely, the more dissimilar they considered themselves from the target person, the greater the activity in the dorsal mPFC.

The researchers concluded that their findings support a theory called simulation of how people perceive others. According to this theory, people tend to use knowledge about themselves to infer the mental states

of others.

Mitchell and colleagues wrote that "we suggest that the results of the current study are consistent with the possibility that perceivers make selective use of simulation in the original sense, plumbing their own possible--but not necessarily concurrently experienced--thoughts and feelings for clues to those of others."

The researchers also proposed that their work could aid in understanding the basis of stereotyping of groups other than one's own, as well as understanding prejudice and how to reduce it.

"Earlier social psychological research has suggested that perceivers tend to 'infrahumanize' members of other groups by proving unwilling to acknowledge that outgroup members can experience certain higher-order mental states, such as the second-order emotions of love and guilt," they wrote. "To the extent that members of a social group other than one's own are viewed as dissimilar from oneself, the current results suggest that perceivers may actively deploy a different set of social-cognitive processes when considering the mental states of someone of a different race or ethnicity than a member of one's own ingroup.

"As such, prejudice may arise in part because perceivers assume that outgroup members' mental states do not correspond to their own and, accordingly, mentalize in a non-self-referential way about the minds of people from different groups.

"Without a self-referential basis for mentalizing about outgroup members, perceivers may rely heavily on precomputed judgments--such as stereotypes--to make mental state inferences about very dissimilar others.

"This view suggests that a critical strategy for reducing prejudice may be to breach the arbitrary boundaries based on social group membership by focusing instead on the shared similarity between oneself and outgroup members," concluded Mitchell and his colleagues.

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