



Sukhvinder Obhi, Associate Professor, Faculty of Science  
Wilfrid Laurier University  
519-884-0710 ext. 2423 or sobhi@wlu.ca

Kevin Crowley, Director, Communications & Public Affairs  
Wilfrid Laurier University  
519-884-0710 ext. 3070 or kcrowley@wlu.ca

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## Laurier-led study helps explain why the boss ignores you

WATERLOO – What do U.S. President Barack Obama, Canadian Prime Minister Stephen Harper and the CEOs of major corporations have in common? A new Laurier-led study suggests they could share a brain response that helps explain why people in positions of power may overlook or ignore subordinates.

Mimicking another person's hand and facial gestures during conversation is known to create rapport and pro-social behaviours, and is called the chameleon effect. Social psychologists have previously found that powerful people do not mimic underlings, while the opposite is true of those in junior positions. For the first time, researchers at Wilfrid Laurier University and the University of Toronto have identified a mechanism in the brain that might underlie this dynamic.

Using a brain stimulation technique called Transcranial Magnetic Stimulation (TMS), researchers were able to determine activity in motor areas of the brain while participants watched videos of other people's actions. Before watching the video, participants were primed to either feel powerful, powerless, or neutral. The results suggest significantly different levels of motor activity depending on the individual's sense of personal power.

"What we found is that people in a low-power state are more likely to show high activity in this part of the brain," said Sukhvinder Obhi, an associate professor of cognitive neuroscience in the Psychology Department at Laurier. "People in a neutral-power state show a moderate degree of activation, but those who were put into a powerful state of mind showed much less activity in this part of the brain."

Obhi, who co-authored a paper titled, *Power Changes How the Brain Responds to Others*, with Jeremy Hogeveen, a Laurier PhD student, and Michael Inzlicht, an associate professor of psychology at the University of Toronto's Scarborough campus, suggests this may be a biological response that helps to ensure survival.

"Someone in a position of power already has access to resources, and therefore might not need to create rapport with an underling," he said. "But for someone in a junior position, it would be extremely important to mimic behaviour to create good feelings to ultimately gain access to those resources. We've known about this pattern of mimicry for a while, but no one has ever figured out how the brain might create this state of affairs."

The research by Obhi and his colleagues is based on "mirror neurons" that fire when we see someone doing something, and then we ourselves do the same thing. When those neurons are activated, it makes it more likely that we will mimic the behaviour we see. The researchers hypothesized that high-power individuals would show less evidence of 'mirror' activity in the brain, whereas low-power individuals would show evidence of more activity.

To test the theory, the researchers randomly assigned 45 participants to one of three groups – a low-power, high-power and neutral group. Participants in the low-power group wrote about an experience where someone had power over them. Those in the neutral group wrote about what had happened to them the day before they came in for the study. In the high-power group, participants were asked to describe an experience when they felt they had a lot of power.

Using TMS, researchers then induced an electrical current to the participants' brains to measure motor excitability – also known as resonance. At the same time, participants watched videos depicting a right hand squeezing a rubber ball between the thumb and index finger. The videos consisted of a single squeeze repeated three to seven times.

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High-power participants showed lower levels of motor resonance than low-power participants, suggesting those who feel more powerful may be less likely to mirror another person's hand, body or facial gestures.

"This behaviour is not something powerful people do on purpose, but it could explain behaviour such as CEOs who seem to look straight through their employees, or can't remember a junior person's name," said Obhi. "Imagine that, day in and day out, CEOs or political leaders were being primed with how powerful they are. These effects, I would imagine, could be magnified even more."

However, Obhi says this study is measuring a seemingly default effect of power and so the response could possibly be altered. Mindfulness workshops or special training for executives could help people in positions of power become more aware of what they are doing and potentially change behaviour to create happier and more effective teams.

The research, which has been published in *The Journal of Experimental Psychology: General*, a highly ranked psychology journal, has many applications beyond the boardroom. Obhi wants to explore this dynamic further within the realm of politics, as well as within personal relationships.

"There are often power dynamics in personal relationships, either because one partner holds the resources, or has the emotional upper-hand," says Obhi. "So there are many applications for this research."

To read more about the study, visit the website for *The Journal of Experimental Psychology: General* at: <http://psycnet.apa.org/journals/xge/> and search for the article titled *Power Changes How the Brain Responds to Others*.