

Imitation: The Sincerest Form of Empathy

Unconscious mimicry makes for an empathetic person

By Kathleen Doheny, *HealthDayNews* Reporter

When someone cries, do you get misty-eyed, too?

If a co-worker gets a paper cut, do you say "Ouch!" first?

Chances are, you're one of those empathetic, "I-feel-your-pain" type of people. And your ability to imitate may be the key.

For years, researchers have known that people who unconsciously imitate others' actions and movements -- rather than just observe them -- tend to be more empathetic, says Dr. Marco Iacoboni, an associate professor of psychiatry at the University of California, Los Angeles.

Previous observations suggested a link between empathy and this imitation, which researchers term mimicry.

So Iacoboni and his team set out to find neurological evidence for the link. "The regions of the brain important for imitation are not the emotional areas," Iacoboni says.

The research appears in the new issue of the *Proceedings of the National Academy of Sciences*.

The team used functional magnetic resonance imaging (MRIs) to measure brain activity while 11 people, both men and women, either observed emotional facial expressions or copied them.

Both imitation and observation activated a "similar network of brain areas," Iacoboni found.

But when the people imitated expressions, rather than just observed them, there was greater activation in the inferior frontal cortex and superior temporal cortex -- both associated with motor function -- and in the amygdala, one of the brain's emotion centers, the team found.

"The main implication is, the way we understand the emotions of other people is by simulating in our brain the same activity we have when we experience those emotions," Iacoboni says.

When the people imitated rather than observed, there was also greater activity in the insula area of the brain, the researchers found. This region seems to be key to relaying information between the parts of the brain that regulate motor function and those that regulate emotions, Iacoboni says.

The new study makes sense to Frans de Waal, an Emory University researcher who has studied and published papers on the subject of empathy.

"Basically, what they found supports the idea that empathy rests on a basic, simple mechanism," says de Waal. "We call it resonance. If you see something happening to someone else that has happened to you, it reactivates the mental representation [you have] of the event.

"The core mechanism of empathy is simple. It's almost automatic," de Waal adds. A newborn who hears another baby cry soon cries, too. "When we get older, we use [our ability to empathize] selectively," he adds, which means filtering out some stimuli and often becoming less empathetic.

Even if someone has suppressed most of their ability to empathize, Iacoboni says, anyone can become more

empathetic.

"If you want to become more empathetic, you have to try to look at how people act and move their body and their face. Try to mimic it a little bit, and you will feel internally what other people feel," he says.

Great variations in empathy exist among people, Iacoboni adds. "It's possible that women are [naturally] more empathetic," he says, adding he has no evidence to prove a gender difference.

More information

For a discussion on empathy, see [Let's Talk](#). For details on a Canadian program that builds empathy in children, check the [Roots of Empathy](#).

SOURCES: Marco Iacoboni, M.D., Ph.D., associate professor of psychiatry, Neuropsychiatric Institute, David Geffen School of Medicine, University of California, Los Angeles; Frans de Waal, Ph.D., the C.H. Candler Professor of Primate Behavior, and director, Living Links Center, Yerkes Regional Primate Research Center, Department of Psychology, Emory University, Atlanta; April 7-11 2003, *Proceedings of the National Academy of Sciences*

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