

Expressionless faces provide clues on how we read emotions

April 15 2010, by Elaine Bible

(PhysOrg.com) -- With smiles, grimaces or raised eyebrows, most of us show our feelings on our faces, but people with Moebius syndrome, a rare condition that causes facial paralysis, can't make any facial expressions at all. Professor of Psychology David Matsumoto and alumna Kathleen Rives Bogart studied people with this unusual condition in an effort to explore how the human brain interprets facial expressions of emotion.

"Some psychological theories suggest that we recognize others' facial expressions by mirroring the expression we see which then causes us to register that same emotion in ourselves," Matsumoto said. "But what happens when someone cannot mimic the facial expressions of others?"

Matsumoto and Bogart found that despite not being able to mimic others' expressions, people with Moebius syndrome are just as capable at recognizing facial expressions as people without [facial paralysis](#). The results, published in the journal *Social Neuroscience*, challenge the idea that mimicking others' facial expressions is essential to being able to recognize other people's emotions.

"Our results suggest that recognizing emotions through mimicking is not the only mechanism the brain uses," Bogart said. "It's possible that our brains are fantastically flexible, with multiple systems of recognizing [facial expressions](#), so that if one method fails there is an alternative."

The study, which is the largest [psychological study](#) of Moebius syndrome

to date, is based on Bogart's master's thesis that she conducted at SF State under the guidance of Matsumoto. Her thesis also yielded results for a second study. Published in the *Cleft Palate-Craniofacial Journal*, this study found that while people with Moebius do struggle with socializing, they don't suffer from higher levels of depression or anxiety than people without the condition.

"Putting these two studies together, we found that the problems that people with Moebius encounter during [social interaction](#) are not because they can't read others' emotions but because other people have trouble reading their [emotional](#) signals," said Bogart, who has the condition herself. "People with Moebius do produce clues about their emotions, for examples gestures and tone of voice, but they might not be what their conversation partner is used to looking out for."

Provided by San Francisco State University

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