

Your face says it all? Not so fast

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Postdoctoral psychology researcher Maria Gendron travelled to Namibia to investigate whether individuals from non-Western cultures recognize the same emotions as Westerners do in facial expressions and vocalizations. Credit: Maria Gendron

It's a concept that had become universally understood: humans experience six basic emotions—happiness, sadness, anger, fear, disgust, and surprise—and use the same set of facial movements to express them. What's more, we can recognize emotions on another's face, whether that person hails from Boston or Borneo.

The only problem with this concept, according to Northeastern University Distinguished Professor of Psychology Lisa Feldman Barrett,

is that it isn't true at all.

For nearly two decades, Barrett has been tracking down the research that established this misconception and wouldn't rest until she actually performed the experiments to disprove it.

In two research papers, recently and soon to be published in the journals *Psychological Science* and *Emotion*, respectively, she's finally done exactly that. The new research calls into question the very foundations of emotion science. As Barrett found, "Emotions are not universally perceived. Everything that's predicated on that is a mistake."

Here's how the falsity came to be understood as fact. In the 1970s, a young psychologist named Paul Ekman traveled to Papua New Guinea to test whether emotions were universally experienced and expressed as he suspected. To test his hypothesis, he looked at whether people recognized the same emotions in [facial expressions](#) around the world. Was a scowling face always classified as angry regardless of the observer's cultural background? A pouting face as sad?

He showed Americans, as well as people in the remote south seas island who'd had little exposure to Western culture, a series of photographs depicting caricatured expressions and asked his subjects to match the faces to one of six emotion words or stories depicting emotional scenarios. No matter where they came from, Ekman's subjects saw the same emotions reflected in the same photographs.

But Barrett knew from her own research that context plays an enormous role in the way we perceive each other's facial expressions. She wondered whether the constraints that Ekman put on his subjects—asking them to match images to finite categories and rich stories about emotional events rather than freely sort them at will—might in fact create the result he expected to find.

Enter Maria Gendron, a post-doctoral researcher in Barrett's lab. In the fall of 2011, Gendron and a few other members of the team boarded a plain to Namibia, then hopped in a Toyota 4x4 for an hours long, off-road ride to one of the most remotely situated tribes on the continent. The Himba, Gendron said, were as little acclimated to Western culture as she could find.

She spent the next 18 days—and then another 20 during the spring of last year—sleeping in a tent atop the car by night and searching for universal emotions by day. She didn't find any.

Gendron looked at both facial expressions and vocalizations, hypothesizing that if emotion truly is universally recognizable, the medium of expression shouldn't matter.

First Gendron gave her subjects 36 photos of faces (six people posing each of six expressions) and asked them to freely sort the photos into piles based upon similar facial expression.

"A universal solution would be six piles labeled with emotion words," Barrett said. "This is not what we saw." Instead the participants created many more than six piles and used very few emotion words to describe them. The same photo would end up in various piles, which the subjects labeled as "happy," "laughing," or "kumisa," a word that roughly translates to wonder.

The vocalizations fared no better. This time, Gendron asked people to freely label the sounds. Again, few emotion words were used. The same sounds seemed gleeful to some subjects and devastated to others.

Finally, Gendron and Barrett repeated the experiment back in Boston, so they could compare the results to a group living in Western culture. The results were significantly different. "The participants in Boston were

able to label the expressions with the expected terms but fared better when the words were provided as part of the task," Gendron said. This indicates that what were assumed to be "psychological universals" may in fact be "Western"—or perhaps even "American"—cultural categories, she said.

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