

# Studying our emotional life

November 16 2010, By Jason Kornwitz

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Lisa Feldman Barrett, a psychology professor, says that our mood has a direct effect on our perception of the world. When we're happy, she says, we'll see neutral faces as smiling. When we're sad, they'll appear as scowls.

"People treat their feelings about the world as evidence for how the world really is," says Barrett, who joined the College of Science this fall after almost 20 years at Boston College and the Pennsylvania State University.

Barrett, who studies how emotions function in the mind by using experiential, behavioral, psychophysiological, and brain-imaging methods, is also co-director of the *Laboratory of Aging and Emotion* at Massachusetts General Hospital.

Collaborators include cognitive neuroscientists at Mass General Hospital, Harvard Medical School, Emory University and the University of Colorado.

For one study, she employed a technique in visual neuroscience called binocular rivalry, in which one image — say, a house — is presented to a subject's left eye and a very different image — a smiling or scowling face — is presented to the other.

She measured which image the subject saw first and for how long he looked at it. The results were clear, says Barrett: "Our feelings influence whether we're conscious of seeing something or how we see something."

Her research is backed by federally funded grants from the National Science Foundation, National Institutes of Health and Army Research Institute.

In 2007, she earned the NIH Director's Pioneer Award, which is awarded to scientists who take transformative approaches to solving challenges in biomedical and behavioral research.

She also studies how language affects our ability to recognize emotions using a technique called semantic satiation.

Say the word "anger" over and over again, until it "sounds like mumbo jumbo," she says, and you won't know the meaning of the furious scowl on the face of the person sitting next to you on the subway.

Repeat the word "smile" over and over, and you won't be able to tell whether two happy kids with ear-to-ear grins are conveying the same emotion.

"Disabling the semantic processing of words reduces our ability to see emotions," she says.

Words, she explains, act like glue to shape our perceptions. Interfering with the processing of a word "interferes with our perceptions" in the same way that unfamiliarity with a word — like, say, "cow" — makes it impossible to find the animal in an abstract design.

"If you make language inaccessible to a subject by taking away the word 'cow,' he won't know what it means as a physical entity," she says.

"When you give him a black and white blot, he'll never find the cow."

Provided by Northeastern University

Citation: Studying our emotional life (2010, November 16) retrieved 19 April 2024 from <https://medicalxpress.com/news/2010-11-emotional-life.html>

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