

What Happens When We Put Feelings into Words?

New brain imaging studies by psychologist Matthew Lieberman and colleagues are revealing why verbalizing our feelings makes our sadness, anger, and pain less intense.

Why does putting our feelings into words—such as talking with a therapist or friend, or writing in a journal—help us to feel better?

New brain imaging studies by psychologist Matthew Lieberman and colleagues are revealing why speaking our feelings makes sadness, anger and pain less intense.

“We want to understand how the brain works, and we are learning that the brain is a fundamentally social entity in so many ways,” Lieberman said. “We are social creatures; to understand the brain, you need to understand social behavior.”

Lieberman, whose research is supported by the National Science Foundation and the National Institute of Mental Health, is one of the founders of the field of Social

Cognitive Neuroscience. By using Functional Magnetic Resonance Imaging at the UCLA Ahmanson-Lovelace Brain Mapping Center to examine brain activity, Lieberman explores how the human brain processes social information, and how the brain supports social experience.

For example, when people see a photograph of an angry or fearful face, they have increased activity in a region of the brain called the amygdala, which serves as an alarm to activate a cascade of biological systems that protect the body in times of danger.

Researchers in Lieberman’s Social Cognitive Neuroscience Laboratory see a robust response in the amygdala even when people are shown emotional photographs so quickly that the image doesn’t register in the conscious mind.

But beyond that response to the photo itself, does seeing an angry face and *saying* it is an angry face produce a different brain response? The answer is yes, said Lieberman.

“When you attach the word ‘angry,’ you see a decreased response in the amygdala,” said Lieberman.

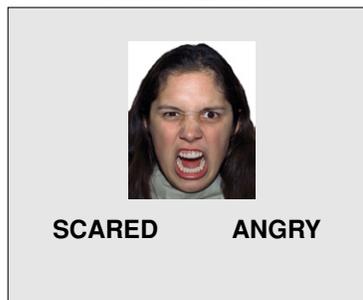
The study showed that while the amygdala was less active when an individual labeled the feeling, another region of the brain—the right ventrolateral prefrontal cortex—was more active. This region, located behind the forehead and eyes, has been associated with thinking in words about emotional experiences. It has also been implicated in inhibiting behavior and processing emotions, but exactly what it contributes has not been known.

“We’re suggesting that when we think in words about our emotions—in other words, when we label our emotions by talking about them—that may be part of what the right ventrolateral region is responsible for,” Lieberman said.

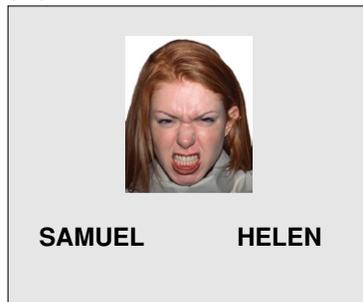
Most people may not realize why putting their feelings into words is helpful.

“If you ask people who are really sad why they are writing in a journal, they are not likely to say it’s because they think this is a way to make themselves feel better,” Lieberman said. “People don’t typically do this to intentionally overcome their negative feelings; it just seems to have that effect.”

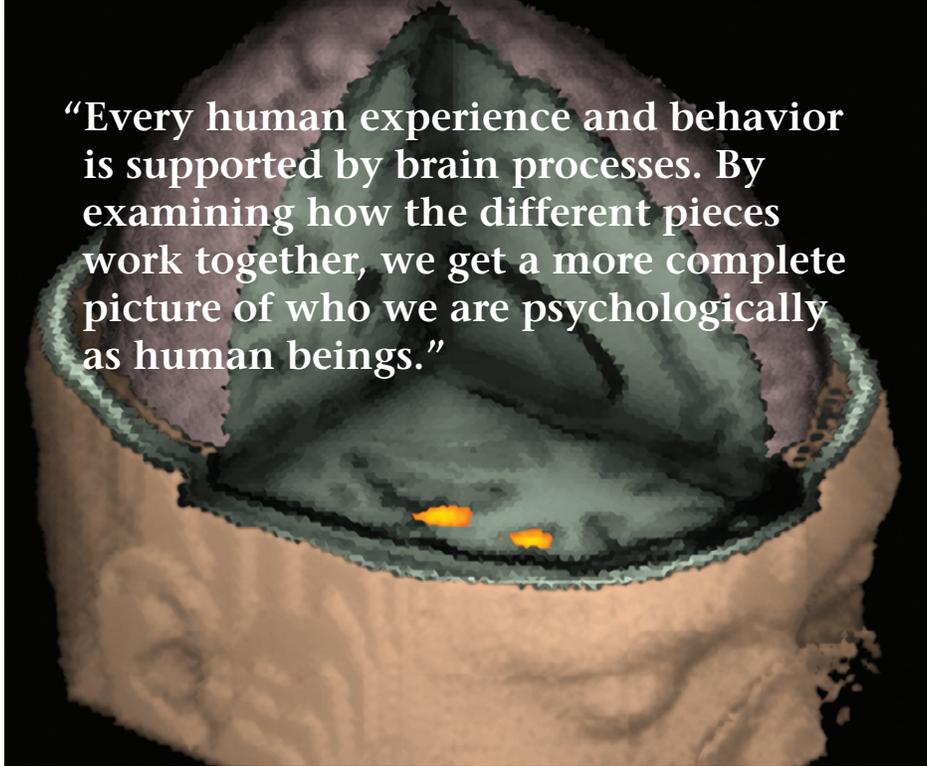
(A) Affect Label



(D) Gender Label



“Every human experience and behavior is supported by brain processes. By examining how the different pieces work together, we get a more complete picture of who we are psychologically as human beings.”



“Popular psychology says ‘when you’re feeling down, just pick yourself up.’ But the world doesn’t work that way. If you know you’re trying to pick yourself up, it usually doesn’t work—self-deception is difficult. However, because labeling our feelings doesn’t require us to want to feel better, it doesn’t have this problem.”

Lieberman’s current findings are based on his study of 30 people who viewed images of individuals making different emotional expressions. Below the picture of the face they either saw two words, such as “angry” and “fearful,” and chose which emotion described the face, or they saw two names, such as “Harry” and “Sally,” and chose the gender-appropriate name that matched the face.

“When you attach the word ‘angry’ to an image, you see a decreased response in the amygdala,” Lieberman said. “When you attach the name ‘Harry,’ you don’t see the reduction in the amygdala response. So it’s not about using words per se; it’s about putting feelings into words.

“When you put feelings into words, you’re activating this prefrontal region and seeing a reduced response in the amygdala,” he said. “In the same way you hit the brake when you’re driving when you see a yellow light, when you put feelings into words, you seem to be hitting the brakes on your emotional responses.

“This is ancient wisdom, but now we can verify it with brain mapping,” Lieberman said. “Putting our feelings into words helps us heal better. If a friend is sad and we can get them to talk about it, that probably will make them feel better.”

Psychologists have long pondered the effects of therapy on the physical structure of the brain. Does therapy lead to physiological changes in the right ventrolateral prefrontal cortex? Lieberman, UCLA psychology professor Michelle Craske, and their colleagues, are studying this and other questions.

For instance, Lieberman and colleagues looked at how the brain responds the same way to positive emotional treatment as

it does to more tangible rewards, such as winning money or eating chocolate. The research, conducted with Golnaz Tabibnia, showed that being treated fairly turns on the brain’s reward circuitry.

“Getting a fair offer activates the same brain circuitry as when we eat craved food,” said Tabibnia.

In collaboration with David Creswell and Lisa Burkland, Lieberman is showing that mindfulness meditation training increases the strength of the prefrontal response during emotion labeling. And he explores the neural basis of persuasion—such as encouraging people to use sunscreen, or how they view anti-smoking ads—to see if looking at the responses of the brain explains more about a person’s future behavior than they themselves know or can say.

“Every human experience and behavior is supported by brain processes,” Lieberman said. “By examining how the different pieces work together, we get a more complete picture of who we are psychologically as human beings.” 



Matthew Lieberman’s exploration of brain functions includes studies of the region in the brain called the amygdala (above in yellow). One of Lieberman’s tests looks at how the brain responds to pictures of emotional faces (left) compared to words that describe the faces.