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PHENOMENA: ONLY HUMAN

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KENDALL GELNER

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Say What You Feel

by Virginia Hughes

I write a lot about studies on the roots of anxiety, depression, and other kinds of psychiatric disorders. This research, though fascinating and worthwhile, typically can't offer much to

patients in the short term. Some scientists have engineered mice that are naturally [resilient to stress](#), for example, while others have [zapped the animals' brains](#) with a beam of light to snuff out anxiety. Others are studying the long-term effects of stress, showing that stress in childhood [affects brain connectivity](#) in adolescence. None of this work points to a treatment that a doctor could offer a patient today, or even in the next year or two.

So it was refreshing, at the [Cognitive Neuroscience Society meeting](#) last weekend, to hear about a line of emotion research that does have direct clinical relevance. More than half of all people with psychiatric disorders have trouble with emotion regulation, the actions or thoughts (conscious or unconscious) we make in order to keep our feelings in check. People who have trouble regulating their emotions might have angry outbursts in response to what others would consider a minor annoyance, for example, or intentionally avoid a place where they once experienced a traumatic event, or be completely debilitated during causal conversations by fear of what the other person thinks of them.

Psychologists have long known of behavioral strategies that help people regulate their emotions. The scientists I heard at the meeting have been using brain scans to try to figure out why these strategies work so well.

In the first strategy, called cognitive reappraisal, you deliberately try to change your interpretation of a situation. [Matt Lieberman](#), a psychology professor at UCLA, introduced the concept with this disturbing photo:



“Your first reaction might be, ‘Oh, I feel so bad because this lady was clearly beaten and mugged’,” Lieberman said. Naturally, that might make you feel sad or angry.

“But then reappraisal might kick in. And you might remember that, wait, isn’t that Gene Simmons of Kiss? And wait, I heard that he actually had a face lift. So really this is just something he did to himself, he’s just recovering from surgery,” Lieberman said to a chuckling crowd. After reframing the picture in the new context, he explained, your sadness is likely to fade.

Reappraisal is a core part of cognitive behavioral therapy, the talk sessions with a psychologist or counselor that help treat many people with anxiety and mood disorders. [James Gross](#), a psychology professor at Stanford and another speaker at the meeting, has been investigating the biological basis of reappraisal for two decades. His studies have shown that when experiencing something unpleasant, reappraisal not only makes you feel better, but decreases your blood pressure, activates the front part of the brain and dials down its emotional circuits.

In one of the [first neuroimaging studies](#) to look at reappraisal, published in 2002, Gross's team showed healthy people a series of unpleasant photographs, such as a woman crying outside of a church. On some trials, the researchers instructed participants to think of a way to interpret the pictures in a more positive light. So the woman outside of the church, for example, could be crying after a wedding rather than a funeral. During this reappraisal, participants' brains showed increased activation in the dorsomedial prefrontal cortex, a region in the outer layers of the brain that's involved in self-processing and emotional awareness, and decreased activity in the amygdala, which is important for emotional and fearful responses, compared with trials when they were told to simply look at each photo without trying to change their feelings.

In later work, Gross found that these brain systems involved in reappraisal seem to be impaired in people with social anxiety disorder (SAD). This condition, characterized by an intense fear during social interactions and negative self-beliefs, is surprisingly common, with a lifetime prevalence of 12 percent. In one study, Gross's team scanned the brains of people with SAD while negative statements, such as NO ONE LIKES ME or I'M A LOSER, flashed on a screen in front of them. When the belief flashed in white letters, they were instructed to focus on how true it was for them. When it flashed in green, they were told to reappraise it in a way that made it less negative. After each sentence they were asked to rate their emotions.

Surprisingly, like healthy controls, people with SAD were able to dial down their emotions after reappraisal, the study found. And like controls, their brains activated the prefrontal cortex and turned down the amygdala. But it took more time. "The socially anxious people, although they get there eventually, are less able to actively and quickly recruit these systems," Gross said. When some of the same patients then went through 16 sessions of cognitive behavioral therapy, their brain responses to reappraisal got faster, suggesting that reappraisal is the "active ingredient" in this kind of treatment, Gross said.

Learning how to reframe a negative thought is an explicit, conscious technique. Lieberman's work, in contrast, has focused on a emotion regulation strategy that we all do everyday, usually without noticing it. The jargony name of the strategy is "affect naming," but it boils down to simply putting your feelings into words. With reappraisal, you're always trying to change the meaning of something. So reappraisal of the Gene Simmons photo might be

“This isn’t as bad as it looks.” But affect naming might be as simple as “This person looks unhappy,” or “Looking at this person makes me feel queasy.”

Philosophers have long recognized the benefits of affect naming. Spinoza wrote in 1675 that “An emotion, which is a passion, ceases to be a passion, as soon as we form a clear and distinct idea thereof.” And William James, in 1890, wrote of emotions that “The act of naming them has momentarily detracted from their force.”

Lieberman and others have shown in modern-day laboratories that this simple act of naming produces nearly all of the same psychological and neurobiological effects as reappraisal. For example, in 2007 he published a [study](#) in which healthy participants looked at emotional faces inside of a brain scanner. On some trials the volunteers were asked to choose which emotion was on the face (eg, scared or angry) and on other trials they were asked to choose the most appropriate gender (eg, Sam or Helen). On the emotion trials (where participants are essentially naming the negative emotion associated with the picture) their brains showed lower responses in the amygdala and increased activity in the prefrontal cortex.

Affect naming also has clinical relevance, Lieberman says. Last year his team published a [study](#) showing how affect naming can add to the positive effects of exposure therapy, in which people who are afraid of something receive repeated safe exposures to it. The researchers brought college students who were afraid of spiders into a room and had them sit two feet from a live tarantula covered by a screen. Some people got only this exposure to the spider, while others got the exposure plus another kind of therapy: reappraisal, distractions or affect naming. Compared with those in the other groups, participants who were asked to simply talk about their arachno-anxiety were more willing to get closer to the spider a week later. “And the more negative their labels are, the closer they’re willing to get,” Lieberman said.

What’s maybe most interesting about all of Lieberman’s findings, though, is that people seem to have no idea that affect labeling makes them feel better. When given surveys after the testing is over, participants tend to think the opposite: that naming their emotions draws attention to negative feelings and amplifies them. That’s certainly what I thought before hearing these talks.

This finding has interesting implications for behavioral therapies, he says, because affect naming might be easier to implement than reappraisal. “People don’t mind saying what they’re feeling, sometimes they get defensive about something telling you to think differently than you already do,” he says. And although affect naming is probably involved in every kind of talk therapy, “it’s never really considered an end in itself,” he says. Maybe it should be.

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Top image by Kendall Gelner via [Flickr](#)

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Ralph Dratman
April 18, 2013

This is a good report. Compare “naming” with “The unexamined life is not worth living.” Introspection typically involves naming, though there might be some exceptions.

That is perhaps why Freud’s penchant to intellectualize every psychological phenomenon caused such a revolution, even though most of his framework turned out to be useless. The more structured the apparatus, the more naming is going on. (However, calling imaginary mental structures the “ego” or “id” is not a kind of naming that can be helpful.)

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