Smile! It Could Make You Happier

Making an emotional face--or suppressing one--influences your feelings

By Melinda Wenner

FACIAL FEELINGS: There might be a feedback loop between our faces and our feelings, new research on botox recipients suggests.

We smile because we are happy, and we frown because we are sad. But does the causal arrow point in the other direction, too? A spate of recent studies of botox recipients and others suggests that our emotions are reinforced—perhaps even driven—by their corresponding facial expressions.

Charles Darwin first posed the idea that emotional responses influence our feelings in 1872. "The free expression by outward signs of an emotion intensifies it," he wrote. The esteemed 19th-century psychologist William James went so far as to assert that if a person does not express an emotion, he has not felt it at all. Although few scientists would agree with such a statement today, there is evidence that emotions involve more than just the brain. The face, in particular, appears to play a big role.

This February psychologists at the University of Cardiff in Wales found that people whose ability to frown is compromised by cosmetic botox injections are happier, on average, than people who can frown. The researchers administered an anxiety and depression questionnaire to 25 females, half of whom had received frown-inhibiting botox injections. The botox recipients reported feeling happier and less anxious in general; more important, they did not report feeling any more attractive, which suggests that the emotional effects were not driven by a psychological boost that could come from the treatment's cosmetic nature.

"It would appear that the way we feel emotions isn't just restricted to our brain—there are parts of our bodies that help and reinforce the feelings we're having," says Michael Lewis, a co-author of the study. "It's like a feedback loop." In a related study from March, scientists at the Technical University of Munich in Germany scanned botox recipients with fMRI machines while asking them to mimic angry faces. They found that the botox subjects had much lower activity in the brain circuits involved in emotional processing and responses—in the amygdala, hypothalamus and parts of the brain stem—as compared with controls who had not received treatment.

The concept works the opposite way, too—enhancing emotions rather than suppressing them. People who frown during an unpleasant procedure report feeling more pain than those who do not, according to a study published in May 2008 in the*Journal of Pain*. Researchers applied heat to the forearms of 29 participants, who were asked to either make unhappy, neutral or relaxed faces during the procedure. Those who exhibited negative expressions reported being in more pain than the other two groups. Lewis, who was not involved in that study, says he plans to study the effect that botox injections have on pain perception. "It's possible that people may feel less pain if they're unable to express it," he says.

But we have all heard that it is bad to repress our feelings—so what happens if a person intentionally suppresses his or her negative emotions on an ongoing basis? Work by psychologist Judith Grob of the University of Groningen in the Netherlands suggests that this suppressed negativity may "leak" into other realms of a person's life. In a series of studies she performed for her Ph.D. thesis and has submitted for publication, she asked subjects to look at disgusting images while hiding their emotions or while holding pens in their mouths in such a way that prevented them from frowning. A third group could react as they pleased.

As expected, the subjects in both groups that did not express their emotions reported feeling less disgusted afterward than control subjects. Then she gave the subjects a series of cognitive tasks that included fill-in-the-blank exercises. She found that subjects who had repressed their emotions

performed poorly on memory tasks and completed the word tasks to produce more negative words—they completed "gr_ss" as "gross" rather than "grass," for instance—as compared with controls. "People who tend to do this regularly might start to see the world in a more negative light," Grob says. "When the face doesn't aid in expressing the emotion, the emotion seeks other channels to express itself through."

No one yet knows why our facial expressions influence our emotions as they seem to. The associations in our mind between how we feel and how we react may be so strong that our expressions simply end up reinforcing our emotions—there may be no evolutionary reason for the connection. Even so, our faces do seem to communicate our states of mind not only to others but also to ourselves. "I smile, so I must be happy," Grob says.

Discussion Questions

- Why do you think that smiling might make you happy even if you are really unhappy?
- Have you ever experienced actions influencing your emotions?
- What is the connection between this research and doing mitzvos?