

# Researchers suggest Botox can reduce ability to feel emotions

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(PhysOrg.com) -- Researchers studying the effects of Botox, a chemical used to smooth out facial wrinkles, have found the paralysis of facial muscles can reduce feedback to the brain and in turn reduce the intensity of emotional responses, especially to mildly positive stimuli.

Botox contains a protein (onabotulinumtoxinA) that temporarily paralyzes the [facial muscles](#) that create the creases we call wrinkles. This reduces wrinkles, but can also make the face lack expression and appear frozen.

One of the leaders of the research team, Joshua Davis, a psychologist at New York's Barnard College, said a person who has been injected with

Botox can respond to an emotional stimulus, but the limited ability to change facial expressions leads to limited feedback to the brain from the unmoving facial muscles. Davis said this effect allowed the scientists to design a test of the facial feedback hypothesis (FFH) which suggests facial expressions can influence the intensity of feelings in response to emotional experiences.

Dr. Davis, Ann Senghas, and colleagues studied people being treated with Botox, showing each subject emotionally charged videos before and after their injections. Members of the control group were people being treated with Restylene, which is injected into facial wrinkles and lips to fill out the sagging skin, but which does not limit muscle movement.

The results, published in the journal *Emotion* indicated the Botox patients reported an “overall significant decrease in the strength of emotional experience” compared to the Restalyne group. The response to mildly positive clips was especially reduced after the injections. The group on Restylene did not experience the reduced [emotional response](#), but did show an unexpected increase in response to negative clips.

The researchers said the results suggest feedback from facial expressions is not necessary for emotional experience, but may exert an influence in some circumstances.

The research was prompted by an idea originating over 100 years ago that feedback to the brain from [facial expressions](#) can influence emotional experience. In other words, smiling can make you feel happier, while frowning can make you feel unhappy.

[Botox](#) injections were the most common non-surgical cosmetic procedure used in the USA in 2009, according to the American Society for Aesthetic Plastic Surgery.

**More information:** Journal paper:  
[psycnet.apa.org/doi/10.1037/a0018690](https://psycnet.apa.org/doi/10.1037/a0018690)

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