

HACK  
#95**Make Yourself Happy**

Turn on your affective system by tweaking your face muscles—or getting an eyeful of someone else doing the same.

Find yourself a pen, preferably a nontoxic, nonleaky one. We're going to use this little item to improve your quality of life and give you a little pleasure.

**In Action**

Put the pen between your teeth, in far enough so that it's stretching the edges of your mouth back without being uncomfortable. Feeling weird? Just hold it there for a little, and appraise your level of mood. You should find that you end up feeling just a little happier.

If you want to go for the reverse effect, remove the pen (maybe give it a wipe), then trap it between your upper lip and nose like a mustache. If you're feeling anything, it's likely to be a touch of gloom, particularly in contrast to when you had the pen in your mouth.

Alternatively, if you're pen-averse, refer to the pictures in "Signal Emotion" [Hack #94] and scrutinize the smiling face for a while. You should find yourself perked up—while the unhappy photo will likely send you downhill if you stare at it a little.

**How It Works**

Emotional expressions are much more than just by-products of our *affective system*, the system that deals with emotions. Expressions serve as agents that transmit emotions to other individuals and are crucial in creating and maintaining our own emotional experience. And while aspects of this may be conscious and deliberate—my girlfriend may throw me a grin to let me know she's not mad that I've been glued to the computer all evening, and that reassurance will make me happy—there is a deeply automatic component. This is termed *primitive contagion* and is characterized as a three-stage process: it begins with perception, which triggers mimicry, which itself produces emotion. "Signal Emotion" [Hack #94] deals with how we perceive emotions, so here we'll unpack the other two stages: mimicry and resulting emotion.

**Mimicry.** An array of experiments shows that, when emotional faces are presented, subjects produce corresponding facial expressions. For example, subjects can tell from recordings of their faces which emotions they must have been looking at originally. Additionally, facial EMG changes occur after only a few hundred milliseconds: the *zygomatic muscles* (in the cheeks)

used for smiling show more activity after seeing a happy face, while the *corrugator* muscles (between the eyes, at the top of the nose) used for frowning are more active after viewing anger.



*Electromyogram* (EMG) is a measure of small electrical currents muscles produce when they're active. Thus, EMG changes in a particular place indicate that a muscle there is being used.

It seems this is something we just can't help. Show emotional faces (photographs in newspapers usually fit the bill) to a friend and look for the flicker of mimicry his face invariably betrays. The stronger the expression portrayed in the picture, the stronger your subject's emotional response. The phenomenon can even be found when a face is shown subliminally [Hacks #82 and #99] and the viewer is unaware of seeing any kind of expressive face; the facial muscles betray the effect.

**Resulting emotion.** The act of making an emotional expression has an effect on our emotional state. This has been shown experimentally, most convincingly when the experience is divorced as much as possible from labels like "smiling" (as in the case of pushing back on your lip): simply activating critical muscles produces the effect. This deep coupling to the motor system (a fundamental and ancient function of the brain) underlines the primitive nature of emotions. Direct and automatic feedback means muscular changes make you happier in general without having to invoke concepts of "happy" or a "smile": a joke really is funnier with the pen in your mouth.

These steps—observation, facial mimicry, and finally acquisition of the observed emotion—are an effective way of unifying a group of people under one emotion and therefore of marshaling social units to act together. You can see the benefits of having a whole group being scared—aroused and ready for rapid action—if the situation warrants it, rather than some of the group not taking the threat seriously and everyone else trying to convince them. Lengthy persuasion can be avoided given that emotional communication is often automatic. Emotions act as orienting systems, and the adaptive benefit is clear when you consider the importance of rapid mobilization of individuals in a group under certain circumstances: confrontation, escape, or rejection of poisonous food.

## In Real Life

Stand-up comics could learn a thing or two from our example—perhaps comedy clubs should have a pen-in-mouth policy. The broader point is that, for any communicator, direct visual or aural contact is extremely useful as a

means of emotionally orienting an audience. If you want them to be angry, CAPS LOCK WON'T CUT IT relative to a tremor in the voice or a scowl. Similarly, smiles and laughter are contagious. Remote communication can reduce the availability of these cues, although the advent of videoconferencing and other technologies is changing this. Emoticons are a simple attempt to hack into this system, although it remains for the cunning designer to find ever more effective ways of simulating truly contagious emotions. We may also note that women are more facially expressive in response to emotional stimuli, although it is uncertain whether they are also more emotionally affected; one could consider how gender differences could affect social dynamics.

## See Also

- “Left Brain Right Brain” (<http://www.abc.net.au/catalyst/stories/s1139554.htm>) includes a further experiment you can perform, exploring the relationship between mouth muscles and emotion.
- Ulf Dimberg, U., Thunberg, M., & Elmehed, K. (2000). Unconscious facial reactions to emotional facial expressions. *Psychological Science* 11(1), 86–89.
- Wild, B., Erb, M., & Bartels, M. (2001). Are emotions contagious? Evoked emotions while viewing emotionally expressive faces: Quality, quantity, time course and gender differences. *Psychiatry Research*, 102, 109–124.
- Levenson, R. W., Ekman, P., & Friesen, W. V. (1990). Voluntary facial action generates emotion-specific autonomic nervous system activity. *Psychophysiology*, 27(4), 363–384.