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EMOTIONAL CONTAGION

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Emotional contagion has been defined as: "The tendency to automatically mimic and synchronize expressions, vocalizations, postures, and movements with those of another person's and, consequently, to converge emotionally" (Hatfield, Cacioppo, & Rapson, 1993).

The Emotional Contagion Scale was designed to assess the extent to which men and women tend to "catch" expressions of joy, love, anger, fear, and sadness. Theoretically, emotions can be caught in several ways. Some early researchers argued that conscious reasoning, analysis, and imagination could account for the phenomenon. Others argued that contagion is a conditioned emotional response; children must *learn* to share others' emotions. Today, however, most social psychologists, neuroscientists, and primatologists assume that emotional contagion is a fairly primitive process; one that happens outside of conscious awareness. Hatfield and her colleagues (2008), for example, argue that the process of emotional contagion operates like this:

> *Proposition 1:* In conversation, people automatically and continuously mimic and synchronize their facial expressions, voices, postures, movements, and instrumental behaviors with those of others.

Proposition 2: Subjective emotional experience is affected, moment-to-moment by the feedback from such mimicry/synchrony.

Theoretically, emotional experience could be influenced by either: (1) the central nervous system commands that direct such mimicry/synchrony in the first place; (2) the afferent feedback from such facial, verbal, or postural mimicry/synchrony; or (3) conscious self-perception processes, wherein individuals draw inferences about their own emotional states on the basis of the emotional expressions and behaviors evoked in them by the emotional states of others.

Proposition 3: Consequently, people tend, from moment-to-moment, to "catch" others' emotions.

Researchers have collected considerable evidence in support of these three propositions.

Proposition 1

Researchers have found evidence that people do tend to imitate the facial expressions, postures, voices, and instrumental behaviors of others. Facial mimicry is at times almost instantaneous. People seem able to track the most subtle of moment-to-moment changes. Haggard and Isaacs (1966) observed that emotional experiences and accompanying facial expressions may change with surprising speed—within a span of 125-200 ms. Social psychophysiological investigations have found that emotional experiences and facial expressions as measured by electromyographic (EMG) procedures, tend to mimic the changes in emotional expression of those they

observe, and that this motor mimicry can occur at levels so subtle that they produce no observable facial expressions (Cacioppo, et al., 1990). When subjects observe happy facial expressions, they show increased muscular activity over the *zygomaticus major* (cheek) muscle region. When they observe angry facial expressions, they show increased muscular activity over the *corrugator supercilli* (brow) muscle region (Dimberg, 1982).

Such mimicry begins almost at birth. Haviland and Lelwica (1987) found that 10-week-old infants could and would imitate their mothers' facial expressions of happiness, sadness, and anger. Mothers mimicked their infants' expressions of emotion as well.

There also is voluminous evidence that people mimic and synchronize their vocal utterances. Communication researchers find that there is inter-speaker influence on utterance durations, speech rate, latencies of response, and a host of other speech characteristics (Warner, 1990). People have been found to mimic and synchronize their postures and movements with others as well.

Proposition 2

Researchers have found that emotions are tempered to some extent by somatic and skeletal feedback. Researchers interested in testing the facial feedback hypothesis have employed a variety of different strategies for inducing subjects to adopt various emotional expressions. Sometimes they simply ask subjects to "fake" an emotional expression. Sometimes they ask subjects to exaggerate or to hide any emotional reactions they may have.

Sometimes they try to trick subjects into adopting various facial expressions. Sometimes, they try to arrange things so subjects will unconsciously mimic others' emotional and facial expressions. In all cases, scientists have found that the emotional experiences of subjects *are* affected by feedback from the facial expressions they adopt. There is an impressive array of evidence supporting the proposition that people's subjective emotional experiences are affected, moment-to-moment, by feedback from facial, vocal, postural, and movement mimicry.

Proposition 3

Scholars from a variety of disciplines provide evidence that people do in fact catch one another's emotions. This research has been conduced by clinicians (Coyne, 1976), social-psychologists (Hatfield, et al., 2008); sociologists (Le Bon, 1896; Tseng & Hsu, 1980), neuroscientists and primatologists (Hurley & Chatter, 2005a and b; Wild, et al., 2003), child psychologists (Eisenberg & Miller, 1987), historians (Klawans, 1990), and animal researchers (Miller et al., 1963), suggesting that people may indeed catch the emotions of others at all times, in all societies, and perhaps on very large scales. (See Hatfield, et al., 1993 and 2008; Wild, 2001, 2003, for a summary of this research.)

In the 1950s, primatologists conducted a great deal of research indicating that animals do seem to catch others' emotions. R. E. Miller and his colleagues (Miller, Banks, & Ogawa, 1963) found that monkeys often transmit their fears to their peers. The faces, voices, and postures of

frightened monkeys serve as warnings; they signal potential trouble. Monkeys catch the fear of others and thus are primed to make appropriate avoidance responses. Ethologists argue that the imitation of emotional expression constitutes a phylogenetically ancient and basic form of intraspecies communication. Such contagion also appears in many vertebrate species, including mice (Brothers, 1989; Mogil, 2006).

Neuroscientists contend that certain neurons (canonical neurons) provide a direct link between perception and action. Other types of neurons (mirror neurons), fire when a certain type of action is performed *and* when primates observe another animal performing the same kind of action. Scientists propose that such brain structures might account for emotional contagion and empathy in primates, including humans (see Iacoboni, 2005; Rizzolatti, 2005; Wild, et al., 2001 and 2003.)

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