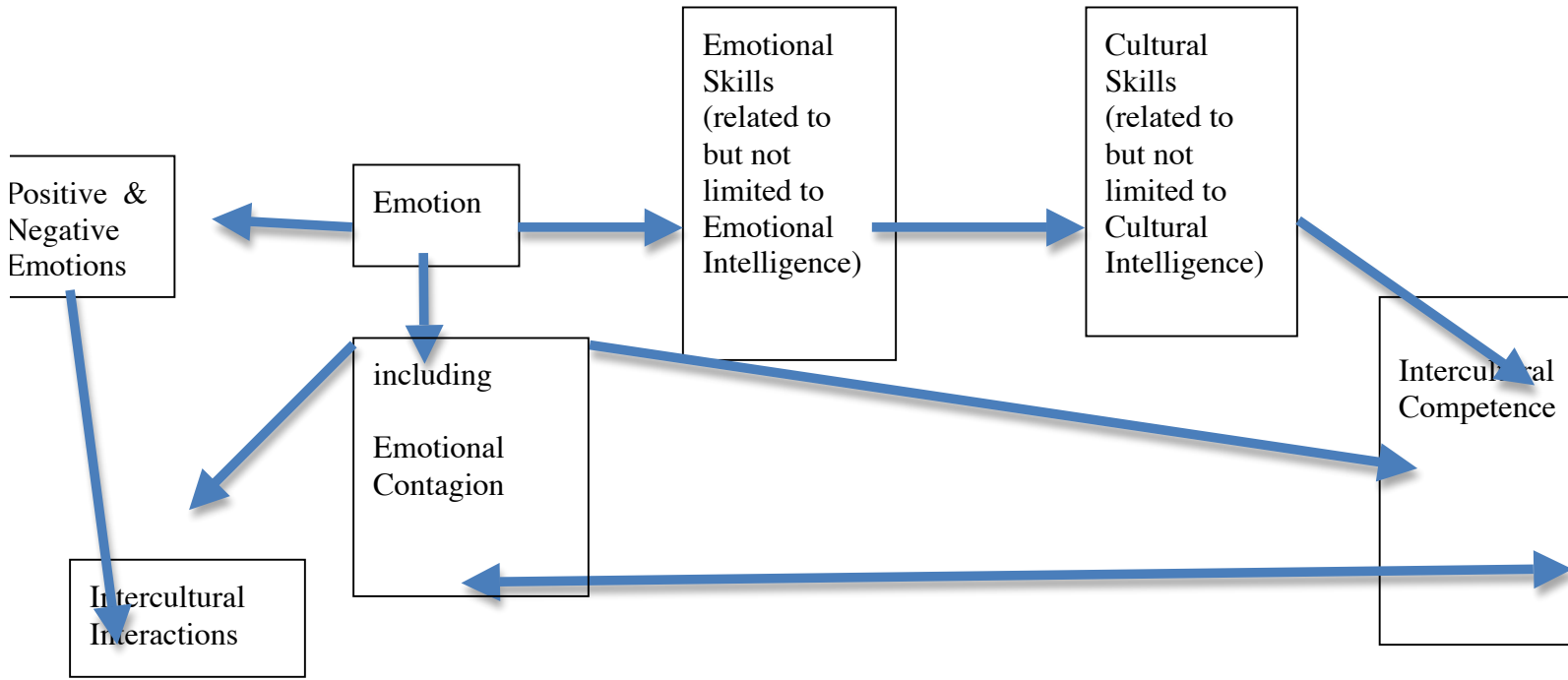139. Hatfield, E., Paige, S., & Rapson, R. L. (submitted). Emotional contagion, intimate intercultural relationships, and ICT. In D. Landis & D. Bhawuk (Eds.) *Handbook of intercultural training. 4th Ed.*

Emotional Contagion, Intimate Intercultural Relationships, and Intercultural Training

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Positive & Negative Emotions

Emotion

Emotional Skills (related to but not limited to Emotional Intelligence)

Cultural Skills (related to but not limited to Cultural Intelligence)

including

Emotional Contagion

Intercultural Interactions

Intercultural Competence

Conceptualizing Emotion and Intercultural Competence

Abstract

Scholars from a wide variety of disciplines have begun to study the process of emotional contagion. These disciplines include cultural psychology, anthropology, primatology, the neurosciences, biology, social psychology, and history. Primitive emotional contagion appears to be a basic building block of human interaction. It assists in "mind-reading" (allowing people to understand others' thinking), sharing others' emotions, as well as coordinating and synchronizing their activities with others. Primitive emotional contagion is also an important component of empathy.

In this chapter, we will discuss the many ways people can "mind-read" and feel themselves into others' emotional experiences, and its implications for intercultural interactions with people from other cultures and ethnic groups. We will also discuss the ways in which an understanding of the contagion process may be integrated into intercultural training programs.

Emotional Contagion

Most social psychologists agree that emotional "packages" comprise many components—including conscious awareness; facial, vocal, and postural expressions; neurophysiological and autonomic nervous system (ANS) activity; and instrumental behaviors (Hatfield, et al., in press. Different portions of the brain process the various aspects of emotion. Yet, because the brain integrates all the emotional information it receives, each of the components of emotion acts on and is acted upon by the others. Early emotion theorists focused on the question of sequence: Which comes first, the cognitive, somatovisceral, or behavioral aspects of emotion? (Buck, 2014). Recent

theorists have moved away from such linear, uni-deterministic reasoning and have

decided, instead that "it depends." Emotional stimuli may well trigger all three

aspects of emotion almost simultaneously. Which appears first depends on the person

and the context. Thus, theorists are increasingly asking how the components interact.

Laird and Bresler (1992) summarized their position this way:

> All components of the emotional episode are ordinarily generated, more
> or less independently, by some central mechanism, but activation of any
> one may increase activity of any other. Their interactive effects might
> arise because of the way the organism is built . . . or because of
> classical conditioning, produced by the long history of paired
> occurrence of emotional responses (p. 49, original MS.)

Our definition of emotion, then, stresses the importance of all the elements of

the emotional "package" in shaping emotional experience and behavior.

Defining Emotional Contagion. The focus in this chapter will be on

rudimentary or primitive emotional contagion, which is relatively automatic,

unintentional, uncontrollable, and largely inaccessible to conversant awareness.

Hatfield and her colleagues (1992) defined such contagion as:

> The tendency to automatically mimic and synchronize facial
> expressions, vocalizations, postures, and movements with those of
> another person's and, consequently, to converge emotionally.

The *Emotional Contagion Scale* was designed to assess people's

susceptibility to catching joy and happiness, love, fear and anxiety, anger, and

sadness and depression, as well as emotions in general. It includes items such as

"If someone I'm talking with begins to cry, I get teary-eyed" and "When someone

smiles warmly at me, I smile back and feel warm inside" (see Appendix I). The

scale has been translated into a variety of languages—including Finnish, German,

Greek, Telugu (the language of Andhra Pradesh and Telangana states of India),

Japanese, Portuguese, and Swedish, among a host of others. (For information on the reliability and validity of the scale, see Doherty, 1997; Hatfield, Rapson, & Le, 2009). Several studies testify as to the reliability and validity of the scale. In the Doherty (1997) trio of studies, for example, the EC scale's reliability was found to be good (Chronbach's alpha = .90.) Susceptibility to contagion was found to be (a) positively related to reactivity, emotionality, sensitivity to others, social functioning, self-esteem, and more associated with emotional than cognitive models of empathy, (b) negatively related to alienation self-assertiveness, and emotional stability, and (c) unrelated to masculinity or approval motivation. In an experiment, he found that the EC scale scores reliability predicted biases in participants' evaluations and were correlated with a measure of responsiveness to afferent feedback and self-reports of emotional experience following exposure to emotional expression. Principal components analysis indicated a unidimensional measure with factor loadings ranging from .46 to .69. Although a single-factor solution best fit the data (Chronbach's alpha = .90), several solutions were examined and two sets of intercorrelated items were found: a positive subscale consisting of love and happiness items and a negative subscale consisting of the fear, anger, and sadness items (Chronbach's alpha = .82 and .80, respectively).

Mechanisms of Emotional Contagion

Theoretically, emotions can be "caught" in several ways. Early investigators proposed that conscious reasoning, analysis, and imagination accounted for the phenomenon (Smith, 1759). Primitive emotional contagion, however, appears to be a

far more subtle, automatic, and ubiquitous process than early theorists supposed. There is considerable evidence in support of the following propositions:

Proposition 1: Mimicry. In conversation, people tend to automatically and continuously mimic and synchronize their movements with the facial expressions, vocal productions, postures, movements, and instrumental behaviors of others.

Facial mimicry. Darwin ([1872] 2005) argued that people's emotions should be profoundly affected by feedback from the facial muscles:

> The free expression by outward signs of an emotion intensifies it. On the other hand, the repression, as far as is possible of all outward signs, softens our emotions. He who gives way to violent gestures will increase rage; he who does not control the signs of fear will experience fear in a greater degree; and he who remains passive when overwhelmed with grief loses his best chance of recovering elasticity of mind (p. 365).

The fact that people's faces often mirror the facial expressions of those around them is well documented. There is considerable evidence that newborns, infants, young children, adolescents, and adults from a variety of cultures automatically mimic other people's facial expressions of emotion. For a review of the factors that shape the likelihood that people will or will not mimic others' emotional expressions, see Hess and Blair(2001).

Neuro-scientists and social-psycho-physiologists have found that people's cognitive responses—as measured by self-reports, facial expressions (as accessed by raters, electromyography [EMG] procedures, and functional magnetic resonance imaging [fMRI] techniques) tend to reflect the subtle moment-to-moment changes in the emotional expressions of those they observe. This motor mimicry is often so swift and so subtle that it produces no observable changes in facial expression (Lunddqvist, 1995).

Lars-Olov Lundqvist (1995), for example, recorded Swedish college

students' facial EMG activity as they studied photographs of target persons who displayed happy, sad, angry, fearful, surprised, and disgusted facial expressions. He found that the various target faces evoked very different EMG response patterns. When participants observed happy facial expressions, they showed increased muscular activity over the *zygomaticus major* (cheek) muscle region. When they observed angry facial expressions, they displayed increased muscular activity over the *corrugator supercilii* (brow) muscle region.

In another experiment, Sato, Fujimura, and Suzuki (2008) studied Japanese college students' facial EMG activity as they observed photographs of target persons who displayed happy or angry facial expressions. Once again they found that the happy or angry target faces evoked very different EMG response patterns. When observing happy facial expressions, participants showed increased muscular activity over the *zygomaticus major* (cheek) muscle region. When observing angry facial expressions, they displayed increased muscular activity over the *corrugator supercilii* (brow) muscle region. These effects were stronger when students were observing dynamic expressions than when observing static expressions. (For summaries of the voluminous research in support of Proposition 1, indicating that mimicry is instantaneous, ubiquitous, and a cultural universal, see Hatfield et al., 1992 and Hess & Fischer, 2014).

Vocal mimicry. People also mimic and synchronize vocal utterances. Normally, people in different cultures and different settings prefer different interaction tempos (Bennett & Castiglioni, 2004). It is often noted that in different cultures people feel it is polite to talk louder, more emphatically, and with more

dramatic gestures (or more quietly) in public, to stand closer or further away from one another in conversation, etc. When people interact, however, it is generally the case that their speech cycles become more similar to one another's. Think of when you are speaking to someone from Ireland, the deep South, or Jamaica. Sometimes, to your embarrassment, you may catch yourself adopting their accent. You catch yourself, worry that they might think you are making fun of them, but it's hard to resist. There is a good deal of evidence from research in controlled interview settings that supports inter-speaker influence in speech rates, utterance durations, and latencies of response (see Cappella & Planalp, 1981; Chapple, 1982; Hess & Fischer, 2014). It suggests that the old Biblical adage that "a gentle answer turneth away wrath, but a harsh word stirs anger" may well be true.   In other words, positive emotions engender positive emotions, and negative emotions spark negative emotions in our fellows   This observation has implications for intercultural interactions and training. If people practice maintaining calm in challenging intercultural behavioral settings, they may generate a positive feeling in the other, leading to a resolution, sooner or later, of the issues facing the two people.

  Postural mimicry. Individuals have also been found to mimic and synchronize their postures and movements (Bernieri et al., 1991). People are probably not able to *consciously* mimic others very effectively: the process is too complex and too fast. For example, even world champion boxers like Muhammed Ali take about 230 milliseconds to detect a signal light to throw a punch in response. Yet, Condon and Ogston (1966) found that college students could

synchronize their movements within 21 milliseconds (the time of one picture frame). Davis (1985) argues that microsynchrony is mediated by brain structures at multiple levels of the neuraxis[1] and is either "something you've got or something you don't"; that there is no way that one can deliberately 'do' it" (p.69). Those who consciously try to mirror others, he speculates, are doomed to look phony. (We will discuss this in greater detail in the section: " Integrating Social Psychological Knowledge into ICT Training"). In spite of Davis' skepticism, there we will find that people can consciously mimic others and sometimes to good effect—albeit to a limited extent.)

In sum, there is considerable evidence that people are capable of automatically mimicking and synchronizing their faces, vocal productions, postures, and movements with those around them. They do this rapidly, automatically mimicking and synchronizing a stunning number of emotional characteristics in an instant.

Proposition 2: Feedback. People's emotional experiences are affected, moment-to-moment, by the activation and/or feedback from such mimicry.

Edgar Allan Poe (1915), in "The Purloined Letter," argued that if people consciously imitate others' facial expressions, they will soon come to feel as the others do:

> When I wish to find out how wise, or how stupid, or how good, or how wicked is any one, or what are his thoughts at the moment, I fashion the expression of my face, as accurately as possible, in accordance with the expression of his, and then wait to see what thoughts or sentiments arise in my mind or heart, as if to match or correspond with the expression (p. 100).

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[1] Roughly, the Central Nervous System.

There is considerable evidence that when people in a variety of cultures mimic expressions of fear, anger, sadness, joy, love, or disgust, they tend to feel a pale reflection of those *specific* emotions.

Facial feedback: The evidence that feedback from facial mimicry causes us to feel what another feels, comes from a wide variety of sources (see Hatfield, et al., 2014.) To test this hypothesis, researchers have used a variety of strategies to induce participants to adopt emotional facial expressions.

In a classic experiment, James Laird and Charles Bresler (1992) told participants that they were interested in studying the action of facial muscles. Silver cup electrodes were attached to the participants' faces between their eyebrows, at the corners of their mouths, and at the corners of their jaws. The electrodes were connected via an impressive tangle of strings and wires to electronic apparatus (which in fact served no function at all—except to convince participants that the experimenter was planning to take complicated multichannel recordings of their facial muscle activity.) The experimenter then proceeded surreptitiously to arrange the faces of the participants into emotional expressions.

The authors found that emotional attributions *were* shaped, in part, by changes in the facial musculature. Participants in the "frown" condition reported being less happy (and more angry) than those in the "smile" condition. The participants' comments give us some idea of how this process worked. One man said with a kind of puzzlement:

> When my jaw was clenched and my brows down, I tried not to be angry but it just fit the position. I'm not in any angry mood but I found my thoughts wandering to things that made me angry, which is sort of silly I guess. I knew I was in an experiment and knew I had no reason to feel

that way, but I just lost control. (p. 480)

In an intriguing set of experiments, Neal and Chartrand (2011) studied the impact of facial feedback on amplifying or dampening emotions. In Experiment 1, they studied people who had recently received Botox injections that paralyze facial muscles. If people couldn't feel anything from their paralyzed brow muscles, would it make it hard for them to identify the emotions people in quickly presented photographs were feeling? The answer was "Yes." They found that Botox patients were not so good as their peers at identifying emotions. They concluded that feedback plays a critical role in allowing us to identify others' emotional states. In a second experiment, they applied a gel that made the skin resistant to underlying muscle contractions. In this situation—when participants were forced to exaggerate their facial reactions to others' facial expressions—as predicted, emotion perception improved. They were more accurate in identifying others' emotions (in quickly flashed photographs) than they normally would be.

Ekman and colleagues (1983) demonstrated that facial feedback affects both emotional experience *and* autonomic nervous system (ANS) activity. In an experiment, they asked participants to produce six emotions (i.e., surprise, disgust, sadness, anger, fear, and happiness) either by remembering instances when they had experienced such emotions or by arranging their facial muscles in appropriate configurations. The authors found that the act of re-living emotional experiences or of flexing facial muscles into characteristic expressions produced reactions in the ANS that would normally accompany such emotions. Thus, facial expressions seemed to be capable of generating ANS arousal . . . as well as the other way around. In our introduction, we

pointed out that the various components of emotion act upon and are acted upon by the various components of emotion. This study is yet another demonstration of our initial statement in the introduction that many of the emotional components are bidirectional—ie., facial expressions may spark ANS arousal, but ANS activity may spark appropriate facial expressions as well.   Such findings remind us that many interactive processes go two ways. Bhawuk (2011) argued that cultural process are bi-directional, and it seems that there are other basic processes like emotions that are also bi-directional. Some researchers have argued that the brain is a river and not a rock (Travis, 2012). This is a reminder that the brain "wiring" is continually changing and that the various components of emotion are in constant interaction with one another.

Vocal feedback: An array of evidence supports the contention that subjective emotional experience is affected, moment-to-moment, by the activation of and/or feedback from vocal mimicry (Hatfield, Rapson, & Le, 2009).

Elaine Hatfield and her colleagues (1995) conducted a series of experiments designed to test the vocal feedback hypothesis. Participants were men and women of African, Chinese, European, Filipino, Hawaiian, Hispanic, Japanese, Korean, Pacific Island, or mixed ancestry. The authors made every effort to hide the fact that they were interested in the participants' emotions. (They claimed that Bell Telephone was testing the ability of various kinds of telephone systems to reproduce the human voice faithfully.) Communication researchers have documented that the basic emotions are linked with specific patterns of intonation, vocal quality, rhythm, and pausing. When people are happy, for example, they produce sounds with small amplitude variation, large pitch variation, fast

tempo, a sharp sound envelope, and few harmonics. In the study by Hatfield and

her colleagues, participants were then led to private rooms, where the experimenter

gave them a cassette tape containing one of six abstract sound patterns, one a

neutral control and the others corresponding to joy, love/tenderness, sadness, fear,

and anger. Participants were asked to reproduce the sounds as exactly as possible

into a telephone. Results revealed that participants' emotions were powerfully

affected in the predicted ways by the specific sounds they produced. This

experiment therefore provided additional support for the vocal feedback

hypothesis.

> *Postural feedback:* Finally, there is evidence suggesting that emotions are

shaped by feedback from posture and movement (see Hatfield, Cacioppo, &

Rapson, 1992, for a review of this research). Interestingly, the theorist of theater

Konstantin Stanislavski noticed the connection between posture and performance

(Moore, 1984). He argued:

> Emotional memory stores our past experiences; to relive them, actors must
> execute indispensable, logical physical actions in the given circumstances.
> There are as many nuances of emotions as there are physical actions" (pp.
> 52–53).

Stanislavski proposed that we may relive emotions any time we engage in a variety

of small actions that were once associated with those emotions.

In a variety of studies, then, we find evidence that people tend to feel

emotions consistent with the facial, vocal, and postural expressions they adopt.

The link between facial, vocal, and postural expression appears to be very specific:

when people produce expressions of fear, anger, sadness, or disgust, they are more

likely to feel not just any unpleasant emotion, but the emotion associated with those *specific* expressions; for example, those who make a sad expression feel sad, not angry (see Duclos et al., 1989). What remains unclear is how important such feedback is (is it necessary, sufficient, or merely a small part of emotional experience?) and exactly how the physical expression and the emotion are linked (see Adelmann & Zajonc, 1989). (For a critical review of this literature see Manstead, 1988).

There may be a lesson for all of us here . If we hope to understand others—be they from our own or from any of the world's cultures—we might do well to try to train ourselves to become sensitive to our own as well as others' emotional feelings and expressions. That knowledge may make it easier to trust our own our implicit theories as to how to interact sensitively with others.

Proposition 3: Contagion. Thus, people tend to "catch" others' emotions, moment-to-moment.

Scholars from a variety of disciplines (clinical observers, social psychologists, sociologists, neuroscientists, primatologists, life span researchers, and historians) provide evidence that people from diverse cultures do in fact catch one another's emotions—perhaps on a very large scale. Contagion is critically important in enabling people to empathize with others' thoughts, feelings, and emotions (Hatfield et al., 2014; Hess & Fischer, 2014). Such contagion can be a major building block for smooth cultural and social interactions.

 Of course, contagion is not always so benign. Historians document social movements like political rallies, Roman carnivals, and the contagious enthusiasm they provoke. But we hear equally often about the desperate dancing manias of the middle

ages, the hysteria during the 18th century French Reign of Terror, the New York City

Draft Riots of 1863, and the like (see Hatfield, et al., in press, for a review of the role

of contagion in such events).

Recently, discoveries in neuroscience have provided some insight into *why*

people so readily "catch" the emotions of others and how they come to empathize with

other's thoughts, emotions, and behaviors.

Neuroscientists contend that a certain type of neuron (commonly referred to as

mirror neurons) fire when a given action is performed *and* when primates merely

observe another animal performing the same kind of action. Rizzolatti (2005) and his

colleagues at the University of Parma, for example, monitored the brains of macaque

monkeys when they observed a fellow monkey performing an activity (like grasping a

peanut). In doing so they made a fascinating discovery. They discovered mirror

neurons—a type of brain cell that responds the same way when monkeys (or humans)

performed an action as when they merely witnessed another monkey (or human)

performing the same action! Researchers have suggested that these brain structures

could also be responsible for mind-reading (or understanding the intentions of others,

which is similar to what Triandis (1975) called isomorphic attribution), emotional

contagion, and empathy in primates, including humans (see Iacoboni, 2005; Rizzolatti,

2005; Wild et al., 2003).

Summary

In theory, the process of emotional contagion consists of three stages:

mimicry, feedback and contagion. People tend: (a) to automatically mimic the

facial expressions, vocal expressions, postures, and instrumental behaviors of those

around them, and thereby (b) to feel a pale reflection of others' emotions as a

consequence of such feedback. As a result (c), people tend to catch one another's

emotions. Presumably, when people automatically mimic their companions'

fleeting facial, vocal, and postural expressions of emotion, they often come to *feel*

a dim reflection of their companions' actual emotions. By attending to this stream

of tiny moment-to-moment reactions, people are able to "feel themselves into" the

emotional lives of others. They can track the intentions and feelings of others from

moment-to-moment, even when they are not explicitly attending to this

information.

Emotional contagion is a delicate process. We feel a weak reflection of others'

emotions on a constant basis. We must keep in mind, however, that powerful emotions

can certainly override these delicate responses. Thus, when threatened by a fearsome

mugger, for an instant we might sense (and reflect) his fury. But as our cognitive and

experiential processes kick in, sheer terror will likely take precedence over anger.[2]

Cross-channel Mimicry and Contagion

Recently, cross-cultural theorists have become interested in the process of

embodied cognition (Bennett & Castiglioni, 2004). Hawk, Fischer, and Van Kleef

(2012) describe the theory this way:

> Embodiment theories . . . propose that individuals process emotion-
> related information by reactivating neural states involved in their own
> prior perceptual, expressive, and affective experiences. Facial and vocal
> expressions hold differential associations with the visual and auditory
> perceptual modalities, respectively, but both represent examples of

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[2] Of course there are exceptions. Every now and then we come upon the story
of a Good Samaritan, like Julio Diaz, who was so attuned the plight of impoverished
others that he managed to convert a mugger into a friend.

behaviors that bridge motoric and affective modalities. When
individuals experience a combination of emotional states and nonverbal
expressions with sufficient frequency, such as feeling happy, smiling,
and laughing, later introspection about a stimulus (e.g., another's
laughter) can activate dynamic simulations of associated behaviors and
feelings. This pattern completion "fills in" unperceived elements of the
original experience . . . and may manifest as overt motor behavior (e.g.,
smiling) and subjective states (e.g., feeling happy). These simulations,
based on limited perceptual information, facilitate cognitive, emotional,
and behavioral engagement with related stimuli (p. 796).

Such logic, of course, would also apply to the embodiment of unconscious
ethnocentrism, prejudice, chauvinism, and the like. Well learned attitudes and
experiences may well like in a murky, unconscious region of the brain, activated when
an appropriate stimulus presents itself.

In any case on the basis of the cognitive theorists' reasoning, Hawk (2014)
postulated the existence of cross-channel mimicry—i.e., when one experiences one
aspect of emotion, in kind of a round-robin, all elements of emotion will be
sparked and integrated. For example, in a comedy club, when a patron witnesses
the laughter of those around him, he is likely to smile as well as mimic the
audience's laughter. Both sensory modalities combine to lighten his mood. In a
series of studies, Hawk and his colleagues (2012) demonstrated that mimicry in
any one specific emotional domain (say using a cranky tone), will spark irritated
looks and postures as well as emotional contagion in general. In one study, the
authors asked people to listen to and try to reproduce sounds of anger, disgust,
happiness, or sadness. Their faces were photographed with a hidden camera.
They found that as they struggled to reproduce sounds, people's faces
unconsciously mimicked the sounds of emotion they were attempting to express.

In other studies, they found that if participants' facial expressions were inhibited

(they were required to hold a pen in their teeth, and so couldn't make an

expression), it impaired their ability to identify various emotions. All in all, the

results of these studies indicate that cross-channel simulations of others' emotional

states serve facilitative functions similar to

more strict imitations of observed expressive behavior, suggesting flexibility in the

motoric and affective systems involved in emotion processing and interpersonal

emotion transfer.

Contagion in Social Context

Although mimicry and contagion are ubiquitous, theorists have pointed out that

culture, gender, and social context can slightly enhance or inhibit these processes.

Evolutionary psychologists have argued that mimicry serves the adaptive function of

aiding social survival. According to them, mimicry is a kind of social glue that binds

people together (Chartrand et al., 2005; and Hess & Fischer, 2014). Sparked by

current theories, scientists have investigated such questions as:

- Are people in different cultures equally likely to mimic and catch others' emotions? (Singelis, 1995)

- Are there gender differences in mimicry and contagion? (Singelis, 1995; Thornton, 2014)

- Does desire to affiliate effect mimicry/contagion? (Stockert, 1994)

- Is a person interacting with friends, strangers, or enemies? With people who are similar or dissimilar? (With someone from an in-group or an out-group?) (Aylward, 2008).

- Who has power in the relationship? (The one sending the emotion or the one receiving it?) (Hsee, et al., 1990)

- What is the goal of the interaction? (Hess & Fischer, 2014).

• How willing are the sender and receiver to have the other read their emotions? (Does one wish to communicate one's true thoughts and feelings or to mislead the other as to their feelings?) (Hatfield, et al, 1992).

All of these factors have been found to impact mimicry and contagion (for reviews see Hatfield et al., 2014; and Hess & Fischer, 2014). In the next sections, we will consider the impact of three variables—culture, attraction and a desire to affiliate, and power—on mimicry and contagion. We will see that all three have been found to be of critical importance in interpersonal relationships.

Culture and Emotional Contagion. A variety of theorists have investigated the impact of culture and ethnicity on mimicry and contagion. Logically, it seems that culture *should* have an important impact on emotional contagion. However, the evidence that it does is spotty.

Triandis (2008), in his introduction to *the Handbook of Intercultural Training (3rd edition),* detailed various schemes that cultural psychologists have used to categorize cultures (see also Bhawuk & colleagues, 2014). Among the most commonly employed classification schemes are (1) the distinction between individualistic and collectivist cultures (Triandis, 2008) and differences in people's self-construals. Markus and Kitayama (1991) point out that in many societies, people possess an independent self-construal (an image of self as separate from others). In others, an interdependent self-construal is common. In describing the interdependent self-construal, Singelis (1995) points out:

> An interdependent self-construal is defined as a "flexible, variable" self that tends to place an emphasis on: (1) external, public features such as status, roles, and relationships; (2) belonging and fitting-in; (3) occupying one's proper place and engaging in appropriate action; (4) being indirect in communication. When thinking about themselves or others, there is a sense

that the self and others are intertwined . . . These characteristics are extremely similar to those predicted to contribute to emotional contagion (p. 14).

Given that cultures and people differ in the attention they pay to their own versus their families and friends' needs and how concerned they are with their friends, strangers, and enemies' desires, it is not surprising that theorists have often speculated about the impact of culture and self-construal on people's tendency to mimic and to catch the emotions of others.

Surprisingly, however, there is only sparce evidence in support of the contention that people from different cultures and people possessing different self-construals differ markedly in the prevalence of primitive emotional contagion. In a well-controlled series of experiments, for example, Singelis (1995) found only a weak of link between culture, gender, self-construal, and emotional contagion. In his experiments, Singelis asked men and women of Asian-American or Euro-American heritage to complete his Self-Construal Scale. They were then asked to view films in which Asian-Americans and Euro-Americans described the happiest or the saddest day of their lives. After viewing the film, students were asked to indicate how happy or sad they felt while watching the tape. Unbeknownst to them, a hidden camera had also recorded their emotional expressions as they viewed the film. (This allowed Singelis to have an objective measure of their feelings.) As predicted, Asian-Americans were found to be more susceptible to emotional contagion than were Euro-Americans. Also as predicted, women in both cultures were more susceptible to contagion than were men. The possession of an independent self-construal was not related to emotional contagion, but the possession of an interdependent self-construal was positively related to emotional contagion.   Alas,

these group differences were very weak. These (non) findings are typical of experiments that have investigated the link between culture, mimicry, and contagion. The existing research suggests that in all cultures people tend to mimic and catch the emotional expressions of others (See also Kimura and his colleagues, 2008). (For a richer discussion of cultural differences in emotional experience, expression, and susceptibility to contagion, see Ahmed, 2013; Brennan, 2004; and Parkinsonson, et al., 2005)

The preceeding theory and research suggests we may need to look elsewhere in attempting to identify the contextual factors that shape people's tendency to catch the emotions of various others.

A desire to affiliate. Evolutionary theorists have suggested that mimicry may serve the adaptive function of aiding social survival; that mimicry is social glue binding people together (see Chartrand et al., 2005; Lakin et al., 2003a and b). When we mimic other people, we provide a graphic illustration of the fact that we admire them, like them, think and feel as they do, and consider them to be part of our in-group. When living in small social groups, such expressions of solidarity have survival value (Lakin et al., 2003 a and b). There is a great deal of evidence from a variety of cultures that people signal a desire to affiliate via mimicry and emotional contagion. Mimicry leads to liking and, in turn, liking leads to mimicry (see Aylward,; Hatfield et al., 1992; Kimura, Daibo, & Yogo, 2008; and Weyers, et al., 2014, for a summary of this research). Bernieri (1988) found that when two strangers interacted, dyads whose movements were most in sync with one another also felt more rapport than dyads out of sync with the other. LaFrance (1982) found that students ratings of rapport with a teacher were correlated with the amount the students mimicked the posture of the

teacher. This evidence seems to support the notion that mimicry and liking are indeed related. However, these studies are correlational, so confirming that liking actually *causes* increased mimicry is yet to be determined.

What about the reverse? What if we wish to signal that we dislike another and want nothing to do with them? Mimicry would send the wrong signal (Cosmides & Tooby, 2000).   Although the argument that we should refrain from mimicking those we dislike seems logical, the evidence that we resist mimicking those we dislike is mixed.   The answer seems to be that we can't help ourselves. No matter how much we wish to signal our disapproval of someone, we still mimic to some extent. McHugo and his colleagues (1985), for example, examined the reactions of Democratic and Republican partisans who watched President Reagan give a heartfelt speech. The authors assessed the extent to which subjects' mimicked the President's face and shared his emotional expressions. The experimenters assessed subjects' self-reported emotions as well as three physiological measures of emotion (facial EMG, skin resistance level, and heart rate). They found that, as predicted, participants' conscious self-reports of emotion were influenced by their attitudes toward the President.   All viewers, regardless of their political attitudes, appeared to share his emotions as accessed by facial muscle response and ANS activity, however.

A series of studies leads us to conclude that there may be a "default tendency;" people may desire to affiliate with others, regardless of their feelings toward them. In addition, people may unconsciously and automatically tend to mimic and to catch others' emotions—at least to some extent—regardless of how

much they dislike them. (For a summary of the voluminous research supporting

this contention, see Aylward, 2008; Hess & Fischer, 2014).

A note: in our own work and that of our graduate students, we have come to

recognize that these factors might be weaker than one might expect. Decade after

decade we have tried to demonstrate that these factors matter (as logically it seems

they must) only to fail yet again to secure consistent results in carefully crafted

experiments (see Aylward, 2008, and Stockert, 1994). After each failure, our designs

grew more complex and our research methodology more sophisticated . . . to no avail.

Our research group has never been able to demonstrate that these factors matter.

Ideally, given the checkered history of research in this area, scholars should

collect examples of success and failure, and conduct meta-analyses, to determine how

important these factors are—if at all. It sometimes seems that contagion is often

simply too ubiquitous to be influenced by such factors.

Power. What impact does power have on susceptibility to emotional contagion?

Hatfield and her colleagues (Hsee et al., 1992) and others have proposed that the

powerful should be less likely to attend to and to experience/express the emotions of

their inferiors than the powerless mimic theirs. Theorists have offered several reasons

why there might be an inverse relationship between power and sensitivity to others.

First, powerful people have no particular reason to concern themselves about the

thoughts and feelings of their subordinates; thus, they may pay little attention to them.

Subordinates, on the other hand, have every reason to be interested in discovering what

makes their superiors "tick." They must understand the powerful if they are to win their

favor. Thus they pay close attention to them. At the time of the Selma marches, for example, Martin Luther King expressed surprise that whites often had very little insight into the thoughts, feelings, and experiences of blacks. Blacks *had to* know a great deal about whites.

Second, because superiors may have little reason to care what impression they make on their subordinates, they can afford to be direct in expressing their thoughts and feelings. Hence, it should be fairly easy for subordinates to "read" and respond to them (Snodgrass, 1985). Subordinates, on the other hand, may pretend to think and feel what they think their superiors want them to; thus their superiors may have a great deal more trouble "reading" them (Hall, 1979; Miller, 1976; Thomas, Franks, & Calonico, 1972; Weitz, 1974). Researchers have assembled some evidence that possessing power and being sensitive to others' feelings are negatively correlated (Anderson, Keltner, & John 2003).

Child development researchers have conducted studies (Grusec & Abramovitch, 1982) to explore the impact of parental dominance on children (aged 2–5 years) in natural settings. They found that dominant adults and children, who are generally the center of attention, often initiate activities; more submissive children and adults carefully monitor their gestures, social behaviors, and instrumental behaviors and imitate them. Such mimicry is are often rewarded. Those who mimic are sometimes granted admission to the "inner circle."   They get more attention, others talk to them, and joke with them.   There is considerable evidence that, in dating couples, roommates, and interaction partners, the longer people interact, the more emotional convergence there is between them. Further, it is those less powerful that

change the most (Anderson, et al., 2008). Apparently the powerless yearn to become more like the powerful.

Although generally people imitate the powerful more than vice versa, the data aren't totally consistent. Researchers may secure different results depending on how they measure emotion (self-report measures versus EMG coding) the type of stimuli (happiness, sadness, anger, and the like (Carr, Winkielman, & Oveis, 2013; Hsee, et al., 1990).

Most researchers would concur with Carr, Winkielman, and Oveis (2013), who surveyed the literature and concluded that: "spontaneous facial responding—detected by sensitive, physiological measures of muscle activation—dynamically adapted to contextual cues of social hierachy." The exact nature of that relationship may, on occasion, differ (p. 1)

Integrating Social Psychological Knowledge Into ICT Training

Utilizing Primitive Contagion. In the Emotional Contagion paradigm, scholars confront a paradox. People seem to be capable of mimicking others' facial, vocal, and postural expressions with stunning rapidity. As a consequence, they are able to feel themselves into other emotional lives to a surprising extent. And yet, puzzlingly, most people seem oblivious to the importance of mimicry/synchrony in social encounters. They seem unaware of how swiftly and how completely they are able to track the expressive behaviors and emotions of others.

The research on emotional contagion underscores the fact that men and women can use multiple means to gain information about others' emotional states. Conscious analytic skills can certainly help people figure out what makes people

"tick". But if people pay careful attention to the emotions they experience in the company of others, they may well gain an extra edge into "feeling themselves" into the emotional states of others. Both of these means provide valuable information.

In fact, there is evidence that both what people *think* and what they *feel* may provide valuable, but different, information about others. In one study, for example, Hsee, Hatfield, & Chemtob (1992) asked people to "play therapist" and listen to an interview with a typical client. In this interview, "clients" described their feelings as happy or sad, but their faces, voices, and postures either confirmed what they said or told a very different story. Then, "therapists" were asked to describe the clients' and their own feelings. The therapists' conscious assessments of what the clients must be feeling were almost entirely influenced by what the clients *said.* The therapists own emotions, however, were more influenced by the clients' non-verbal clues as to what they were *really* feeling.

We see then that primitive emotional contagion may provide a solid foundation for helping people communicate their feelings to one another, convey their solidarity, and behave in a smooth and coordinated way. It also gives them an extra advantage in reading others' true feelings. We suggest that one way of social psychological knowledge being integrated into ICT is by changing perceptions of attraction and power.

Attraction: Conveying liking, similarity, and a desire to affiliate with others.

People may desire to affiliate with others because they love or like the other (Hess & Fischer, 2014), because they think they are similar to the others (Stockert,

1994), or because there is some practical advantage in doing so. Several experimenters have demonstrated that when people desire to affiliate with others they instinctively mimic the other's behavior. The more eager they are to affiliate, the more they mimic (Hess & Fischer, 2014; Lakin & Chartrand, 2003; Stockert, 1994). This strategy works. In one study, Chartrand and Bargh (1999) trained a confederate to mimic or to refrain from mimicking the mannerisms of a college student. As expected—in spite of the fact that subjects were unaware of the mimicry—they liked the confederate who mirrored their movements better than the one who did not. This suggests that participants in ICT programs might be taught to attend to others and thus to unconsciously or consciously mimic at least a few of the others' expressive behaviors—thus sending a current of goodwill toward the other. One doesn't want to go too far, of course. Mimicry must be subtle. Tanner and Cartrand (in Carey, 2008), for example, offer this advice:

> The technique involved mirroring a person's posture and movements, with a one- to two-second delay. If he crosses his legs, then wait two seconds and do the same, with opposite legs. If she touches her face, wait a beat or two and do that. If he drums his fingers or taps a toe, wait again and do something similar.
>
> The idea is to be a mirror but a slow, imperfect one. Follow too closely, and most people catch it—and the game is over. (p. D6).

A person who overdoes mimicry is likely to appear strange and/or manipulative. But at the very least, one can realize that if one is stiff and withdrawn when encountering strangers, one is sending a clear message: I don't like you, I don't want to be like you, and we are very different people.

Power: Putting others at ease. In discussing the purposes of ICT, Bennett, Bennett, and Landis (2004) observed that such programs can foster cross-cultural

communication and interactions, encourage cultural humility, counteract prejudice and racism, and promote peaceful coexistence.

One key to achieving these goals is to recognize the many ways in which members of dominant cultures unconsciously signal to their colleagues around the world that "my way is best." The discoveries as to the ways in which power is conveyed both verbally and non-verbally can provide tips on how to avoid such offensive, albeit, inadvertent messages.

Desmond Morris (1966) once observed that if they choose, superiors may be freer to share their subordinates' emotions and mimic their behavior than vice versa:

> Because acting in unison spells equal-status friendship, it can be used by dominant individuals to put subordinates at their ease. A therapist treating a patient can help him to relax by deliberately copying the sick person's body displays. If the patient sits quietly, leaning forward in his chair, with his arms folded across his chest and staring at the floor, the doctor who sits near him in a similar, quiet pose is more likely to be able to communicate successfully with him. If instead he adopts a more typical dominant posture behind his desk, he will find it harder to make contact (pp. 84–85).

Of course, some people, like parents (in parent-child interactions), political and religious leaders, and negotiators may sometimes be interested in conveying the opposite message: I am powerful and you are not. They are trained to utilize strategies very different from those we have proposed. Psychologists find, for example, that anger is more effective than happiness in getting what you want in a negotiation (Van Kleef, et al., 2006; Van Kleef, 2009).

Conclusion

In attempting to assist people in establishing warm relations with their fellows, ICT programs have traditionally and profitably utilized lectures, case studies, role

playing, simulations, and critical incidents. More recently they have added videos, self-assessment instruments, and computer training methods to their armamentarium (Fowler & Blohm, 2004). In this paper, we suggested that basic research in the social sciences as to how people present themselves to others and how those presentations are received, can profitably be incorporated into ICT programs to further cultural understanding. Bennett and Castiglioni (2004) argued that "awareness or knowledge of a culture is insufficient—one also needs to have a feeling for it" (p. 249). They suggest that people need to develop a conscious and "embodied feeling" for other cultures generally and for one or more particular cultures. Hopefully, the social psychological findings we have detailed will give trainers some additional hints as to how they might go about teaching such skills.

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Appendix I

The Emotional Contagion Scale

This is a scale that measures a variety of feelings and behaviors in various
situations. There are no right or wrong answers, so try very hard to be completely

honest in your answers. Results are *completely confidential*. Read each question and indicate the answer which best applies to you. Please answer each question very carefully. Thank you.

Use the following key:
5. *Always* = Always true for me.
4. *Often*   = Often true for me.
3. Usually = Usually true for me.
2. *Rarely* = Rarely true for me.
1. *Never*   = Never true for me.

1. If someone I'm talking with begins to cry, I get teary-eyed.
2. Being with a happy person picks me up when I'm feeling down.
3. When someone smiles warmly at me, I smile back and feel warm inside.
4. I get filled with sorrow when people talk about the death of their loved ones.
5. I clench my jaws and my shoulders get tight when I see the angry faces on the news.
6. When I look into the eyes of the one I love, my mind is filled with thoughts of romance.
7. It irritates me to be around angry people.
8. Watching the fearful faces of victims on the news makes me try to imagine how they might be feeling.
9. I melt when the one I love holds me close.
10. I tense when overhearing an angry quarrel.
11. Being around happy people fills my mind with happy thoughts.
12. I sense my body responding when the one I love touches me.
13. I notice myself getting tense when I'm around people who are stressed out.
14. I cry at sad movies.
15. Listening to the shrill screams of a terrified child in a dentist's waiting room makes me feel nervous.

Note: The higher the score, the more susceptible to emotional contagion a person would be said to be. Happiness items = 2, 3, & 11. Love items = 6, 9, & 12. Fear items = 8, 13, & 15. Anger items = 5, 7, & 10. Sadness items = 1, 4, & 14. Total score = all items.

Source: Doherty, R. W. (1997). The Emotional contagion scale: A measure of individual differences. *Journal of Nonverbal Behavior, 21,* pp. 131-154.