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CULTURE AND NONVERBAL BEHAVIOR

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♦ *Defining Culture*

Over the history of time, people have had to solve a host of distinct social problems in order to adapt and thus achieve reproductive success, including negotiating complex status hierarchies, forming successful work and social groups, attracting mates, fighting off potential rivals of food and sexual partners, giving birth and raising children, and battling nature (Buss, 1991, 2001). Universal biological imperatives are associated with a universal set of psychological problems that people need to solve in order to survive; thus, all individuals and groups of individuals must create ways to deal with these universal problems. The ways that each group develops then become their culture.

In my view, culture is the product of the interaction between universal biological needs and functions, universal social problems created to

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address those needs, and the contexts in which people live. Culture is created as people adapt to their environments in order to survive, and it results from the process of individuals' attempts to adapt to their contexts in addressing the universal social problems and biological needs. Although many different definitions of culture exist (e.g., Berry, Poortinga, Segall, & Dasen, 1992; Jahoda, 1984; Kroeber & Kluckholn, 1963; Linton, 1936; Rohner, 1984; Triandis, 1972), I define culture as *a shared system of socially transmitted behavior that describes, defines, and guides people's ways of life, communicated from one generation to the next.*

Because people must deal with the same set of biological needs and functions and universal social problems, it is very possible and in many cases very likely that the ways in which they are addressed are the same. That is, universal biological needs and social problems can lead to similar solutions across cultures, especially over time in our evolutionary history. Thus, many aspects of our mental processes and behaviors can be considered universal. For example, all humans appear to have some degree of specific fears, such as to snakes, spiders, heights, and darkness, because these types of fears have led in our evolutionary history to greater probability of survival (Seligman & Hager, 1972). As well, people have a tendency to perceive their own ingroup as heterogeneous, fully recognizing the individual differences that exist in that group, whereas they perceive other groups as more homogeneous, assuming less diversity within the group (Linville & Jones, 1980; Triandis, McCusker, & Hui, 1990). People also seem to have a natural proclivity to fears of strangers and outgroup members, which may be a universal basis for ethnocentrism, prejudice, aggression, and even war (Buss, 2001; see also Dovidio & colleagues, this volume). Other universal processes, such as incest avoidance, facial expressions of emotion, division of labor by sex, revenge and retaliation, mate selection and sexual jealousy, self-enhancement, and personality can be traced to the core aspect of a universal human nature based on biological imperatives and universal social problems of adaptation and living.

But many mental and behavioral processes are also culture-specific. Different cultures develop different ways of dealing with the biological imperatives and universal social problems based on their contexts. Language is an example of a very culture-specific behavior. Each culture has its own language, with its own vocabulary, syntax, grammar, phonology, and pragmatics (Barnlund & Araki, 1985; Barnlund & Yoshioka, 1990; Chen, 1995; Gudykunst & Mody, 2001; Kim et al., 1996; Minami & McCabe, 1995; Nomura & Barnlund, 1983). The need to have language may be a pancultural universal problem; and having a language may be a universal solution to this problem. But the specific way in which each culture solves this problem—that is, develops its own language—is different in every culture.

♦ *The Role of Culture in the Nonverbal Communication Process*

As with verbal communication, culture influences nonverbal behaviors in profound ways. By far the largest research literature on this topic is related to facial expressions of emotion, which I review later in this chapter. In this section, I highlight briefly the role of culture on other types of nonverbal behaviors before turning to the larger discussion of culture and emotional expressions.

Culture and Gestures. The study of culture and gestures has its roots in the study by

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David Efron (Boas & Efron, 1936; Efron, 1941), who examined the gestures of Sicilian and Lithuanian Jewish immigrants in New York City. Efron found that there were distinct gestures among traditional Jews and Italians but that the traditional gestures disappeared as people were more assimilated into the larger American culture. This work was followed initially by that of Ekman and his colleagues (Ekman, 1976; Friesen, Ekman, & Wallbott, 1979), who documented cultural differences in emblematic gestures between Japanese, Americans, and New Guineans. Morris and his colleagues (Morris, Collett, Marsh, & O'Shaughnessy, 1980) have also well documented many cultural differences in gestures. The American A-OK sign, for example, is an obscene gesture in many cultures of Europe, having sexual implications. Placing both hands at the side of one's head and pointing upward with the forefingers signals one is angry in some cultures; in others, however, it means that one wants sex.

Culture and Gaze. Research on humans and nonhuman primates has shown that gaze is associated with dominance, power, or aggression (Fehr & Exline, 1987) and affiliation and nurturance (Argyle & Cook, 1976). Fehr and Exline suggested that the affiliative aspects of gazing begin in infancy, as infants attend to adults as their source of care and protection. Cultures create rules concerning gazing and visual attention, however, because both aggression and affiliation are behavioral tendencies that are important for group stability and maintenance. Cross-cultural research has documented differences in these rules. Arabs, for example, have been found to gaze much longer and more directly at their partners than do Americans (Hall, 1963; Watson & Graves, 1966). Watson (1970), who classified 30 countries as either a "contact" culture (those that facilitated physical touch or contact during interaction) or a "noncontact" culture, found that contact cultures engaged in more gazing and had more direct orientations when interacting with others, less interpersonal distance, and more touching. Within the United States, there are also differences in gaze and visual behavior between different ethnic groups (Exline, Jones, & Maciorowski, 1977; LaFrance & Mayo, 1976).

Culture and Interpersonal Space. Hall (1966, 1973) specified four different levels of interpersonal space use depending on social relationship type: intimate, personal, social, and public. Whereas people of all cultures seem to make these distinctions, they differ in the spaces they attribute to them. Arab males, for example, tend to sit closer to each other than American males, with more direct, confrontational types of body orientations (Watson & Graves, 1966). They also were found to use greater eye contact and to speak in louder voices. Arabs, at least in the past, learned to interact with others at distances close enough to feel the other person's breath (Hall, 1963). Furthermore, Latin Americans tend to interact more closely than do students of European backgrounds (Forston & Larson, 1968), and Indonesians tend to sit closer than Australians (Noesjirwan, 1977, 1978). Italians interact more closely than either Germans or Americans (Shuter, 1977), and Colombians were found to interact at closer distances than did Costa Ricans (Shuter, 1976).

Culture and Other Nonverbal Behaviors. Other studies have documented cultural differences in other nonverbal behaviors as well, such as in the semantic meanings attributed to body postures (Kudoh & Matsumoto, 1985; Matsumoto & Kudoh, 1987) and vocal characteristics and hand and arm movements (Vrij & Winkel, 1991, 1992). Collectively, the evidence provides more than ample support for the contention that culture plays a large role in molding our nonverbal behaviors, which comprise

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an important part of the communication process. The largest research literature in the area of culture and nonverbal behavior, however, concerns facial expressions of emotion. In the next section, I review the most relevant research in this area of study, illustrating the universal and culture-specific aspects of both the encoding and decoding of facial expressions of emotion.

♦ *Culture and Facial Expressions of Emotion*

THE UNIVERSALITY OF FACIAL EXPRESSIONS

Questions concerning the universality of facial expression find their roots in Charles Darwin's work. Darwin's thesis, summarized in *The Expression of Emotion in Man and Animals,* suggested that emotions and their expressions had evolved across species, were evolutionarily adaptive, biologically innate, and universal across all human and even nonhuman primates. According to Darwin (1872/1998), humans, regardless of race or culture, possess the ability to express emotions in exactly the same ways, primarily through their faces. Between the time of Darwin's original writing and the 1960s, however, only seven studies attempted to test the universality of facial expression. These studies were flawed methodologically in a number of ways, so that unequivocal data speaking to the issue of the possible universality of emotional expression did not emerge at that time (Ekman, Friesen, & Ellsworth, 1972).

It was not until the mid-1960s when psychologist Sylvan Tomkins, a pioneer in modern studies of human emotion, joined forces independently with Paul Ekman and Carroll Izard to conduct the first of what have become known today as the "universality studies." These researchers obtained judgments of faces thought to express emotions panculturally and demonstrated that all cultures agreed on the emotions portrayed in the expressions, providing the first evidence for their universality (Ekman, 1972, 1973; Ekman & Friesen, 1971; Ekman, Sorenson, & Friesen, 1969; Izard, 1971). Collectively, these findings demonstrated the existence of six universal expressions—anger, disgust, fear, happiness, sadness, and surprise—as judges from around the world agreed on what emotion was portrayed in the faces.

Yet the judgment studies were not the only evidence that came to bear on the question of emotion universality. Some of the most important findings related to universality were from Ekman's (1972) cross-cultural study of expressions that occurred spontaneously in reaction to emotion-eliciting films. In that study, American and Japanese participants viewed a neutral and highly stressful film (comprised of four separate clips), while their facial behaviors were recorded throughout the entire experiment. Ekman coded the last 3 minutes of facial behavior videotaped during the neutral films and the entire 3 minutes of the last stress film clip. The coding identified facial muscle configurations associated with the six emotions mentioned previously; all corresponded to the facial expressions portrayed in the stimuli used in their judgment studies (Ekman, 1972; Ekman et al., 1969, 1972). Research following Ekman's original study described above and using American, Japanese, German, Canadian, and French participants has continued to mount convincing evidence for the universality of facial expressions of emotion (see Table 12.1).

Considerable evidence documenting and converging in their support of the universality of facial expressions of emotion has come from studies with different bases than those following Ekman (1972). For

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Table 12.1 Studies Examining Spontaneous Facial Expressions of Emotion

Citation	*Participants*	*Eliciting Stimuli*	*Measurement System*	*Emotions*[a]
Rosenberg & Ekman, 1994	American university students	Videos selected for their ability to elicit primarily disgust and secondarily fear	FACS	Disgust, sadness, fear, happiness, contempt, and anger
Ruch, 1995	German university students	Slides of jokes and cartoons	FACS	Happiness
Ruch, 1993	German university students	Slides of jokes and cartoons	FACS	Happiness
Frank, Ekman, & Friesen, 1993, Study 1	American university students	Films designed to elicit various emotions	FACS	Happiness
Gosselin, Kirouac, & Dore,1995, Study 1	Actors from the Conservatory of Dramatic Arts in Quebec	Actors were asked to interpret 2 of 24 scenarios designed to elicit happiness, fear, anger, surprise, sadness, and disgust	FACS	Happiness, fear, anger, surprise, sadness, and disgust
Ekman, Matsumoto, & Friesen, 1997	Depressed inpatients	Intake and discharge interviews	FACS and EMFACS	Happiness, contempt, anger, disgust, fear, and sadness
Berenbaum & Oltmanns, 1992	German schizophrenic and psychosomatic patients, and healthy controls	Engaging in a political conversation with a partner they had never met before	EMFACS	Contempt, disgust, anger, sadness, fear, surprise, and happiness
Ellgring, 1986	German depressed patients	Interviews	FACS	Happiness
Heller & Haynal, 1994	French depressed patients	Interviews with the patient's psychiatrists	FACS and EMFACS	Contempt
Keltner, Moffitt, & Stouthamer-Loeber, 1995	American adolescents with behavior problems	Administration of the WISC-R	EMFACS	Anger, fear, and sadness

(Continued)

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Table 12.1 (Continued)

Citation	*Participants*	*Eliciting Stimuli*	*Measurement System*	*Emotions*[a]
Chesney et al., 1990	American salaried employees in managerial positions at an aerospace firm	Structured interview designed to assess Type A behavior	FACS	Disgust, fear, sadness, happiness, anger, contempt, and surprise
Camras, Oster, Campos, Miyake, & Bradshaw, 1992	American and Japanese infants	Arm restraint that produces distress	FACS	Anger, sadness, fear, and happiness

NOTE: FACS, Facial action coding system; EMFACS, emotion facial action coding system; JACFEE, Japanese and Caucasian facial expressions of emotions; WISC-R, Weschler Intelligence Scale for Children—Revised.

a. Corresponding to facial muscle configurations coded in the face that match those in JACFEE.

instance, studies have shown that the universal facial expressions of emotion occur in congenitally blind individuals (Charlesworth & Kreutzer, 1973). Research on nonhuman primates has also demonstrated that the expressions that are universal to humans also occur in animals, and that animals have many different yet stable signals of emotion (Chevalier-Skolnikoff, 1973; Geen, 1992; Hauser, 1993; Snowdon, 2003). Likewise, the emotions portrayed in the universal facial expressions correspond to emotion taxonomies in different languages around the world (Romney, Boyd, Moore, Batchelder, & Brazill, 1996; Romney, Moore, & Rusch, 1997; Shaver, Murdaya, & Fraley, 2001; Shaver, Wu, & Schwartz, 1992).

There is also cross-cultural similarity in the physiological responses to emotion when these facial expressions are used as markers, in both the autonomic nervous system and brain activity (Davidson, 2003; Ekman, Levenson, & Friesen, 1983; Levenson, Ekman, & Friesen, 1990; Levenson, Ekman, Heider, & Friesen, 1992; Tsai & Levenson, 1997). This similarity exists in people of as widely divergent cultures as the United States and the Minangkabau of West Sumatra, Indonesia. In addition, there is universality in the antecedents that bring about emotion (Scherer, 1997a, 1997b).

CULTURAL DIFFERENCES IN EXPRESSING EMOTION: CULTURAL DISPLAY RULES

Despite the existence of universal facial expressions of emotion, people around the world do express emotions differently. The first evidence for cultural differences in expression was Friesen's (1972) study, in which the spontaneous expressions of Americans and Japanese were examined as they viewed highly stressful films in two conditions, first alone and then a second time in the presence of an older, male experimenter. In the first condition, the American and Japanese participants were similar in their expressions of disgust, sadness, fear, and anger; in the second

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condition, however, cultural differences emerged. Whereas the Americans continued to express their negative emotions, the Japanese were more likely to smile.

Other researchers have also examined cultural differences in emotional expression (Argyle, Henderson, Bond, Iizuka, & Contarello, 1986; Edelmann et al., 1987; Gudykunst & Nishida, 1984; Gudykunst & Ting-Toomey, 1988; Noesjirwan, 1978; Waxer, 1985). A recent study from my laboratory extended Ekman and Friesen's (Ekman, 1972; Friesen, 1972) original findings. In this study (Matsumoto & Kupperbusch, 2001), European American females were classified as either individualistic or collectivistic based on their responses to an individual difference measure (Matsumoto, Weissman, Preston, Brown, & Kupperbusch, 1997) and were then videotaped unobtrusively as they watched films designed to elicit positive and negative emotion, first alone and then in the presence of an experimenter. They self-rated their emotional responses to both films in both conditions, and samples of their emotional expressions were judged by a separate group of decoders.

Both individualists and collectivists experienced the films as intended, and there was no difference in their expressions when they were alone. With the experimenter, however, the collectivists attenuated their negative expressions and more often masked them with smiles. This finding is the same that Ekman and Friesen (Ekman, 1972; Friesen, 1972) reported previously, and the remarkable thing about this study is that the entire sample was of European American females who were classified based solely on their responses to a questionnaire assessing individualism and collectivism. The collectivists also attenuated their expressions of positive emotion when in the presence of the experimenter (Ekman and Friesen's studies did not test positive emotions); thus, the effects of culture on expression were not limited to negative emotions.

Ekman and Friesen (1969) coined the term *cultural display rules* to account for cultural differences in facial expressions of emotion. These are rules learned early in childhood that help individuals manage and modify their emotional expressions depending on social circumstances. Ekman and Friesen used the concept to explain the American–Japanese cultural differences in expression they observed, suggesting that in the first condition of their experiment there was no reason for display rules to modify expressions because the participants were alone and their display rules were inoperative; in the second condition display rules dictated that the Japanese mask their negative emotions in the presence of the experimenter (Ekman, 1972; Friesen, 1972).

After the original inception and documentation of display rules, published cross-cultural research was dormant until Matsumoto's (1990) study examining display rules in Americans and Japanese. Participants saw faces portraying seven emotions and rated the appropriateness of each in eight social situations involving people of varying intimacy and status. Americans rated negative emotions more appropriately than did the Japanese in ingroups, whereas the Japanese rated negative emotions more appropriately than Americans in outgroups; the Japanese also rated negative emotions more appropriately than Americans toward lower status individuals. Matsumoto (1993) used the same methodology to document differences in display rules among four ethnic groups within the United States.

When the concept of display rules was proposed originally as a mechanism of expression management, Ekman and Friesen (1969, 1975) noted six ways in which expressions may be managed when emotion is aroused. Of course, individuals can express

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emotions as they feel them with no modification. But individuals can also amplify (exaggerate) or deamplify (minimize) their expressions; for instance, feelings of sadness may be intensified (amplification) at funerals or minimized (deamplification) at weddings. People can mask or conceal their emotions by expressing something other than what they feel, as when nurses or physicians hide their emotions when speaking with patients with terminal illness, or when employees in service industries (e.g., flight attendants) interact with customers. Individuals may also learn to neutralize their expressions, expressing nothing, such as when playing poker (poker face) and to qualify their feelings by expressing emotions in combination, such as when feelings of sadness are mixed with a smile, with the smile commenting on the sadness, saying "I'll be OK." All these behavioral responses have been found to occur when spontaneous expressive behaviors have been studied (Cole, 1986; Ekman & Rosenberg, 1998).

Recently, my colleagues and I created the Display Rule Assessment Inventory (DRAI), in which participants choose a behavioral response when they experience different emotions in different social situations (Matsumoto, Takeuchi, Andayani, Kouznetsova, & Krupp, 1998; Matsumoto, Choi, Hirayama, Domae, & Yamaguchi, 2005). The emotions were those that previous research has shown to be universally expressed and recognized: anger, contempt, disgust, fear, happiness, sadness, and surprise; these were selected because universality served as a basis by which to examine display rules initially and by which comparisons across cultures would be meaningful. To build internal consistency, a synonym for each emotion label was also included in the initial DRAI—hostility, defiance, aversion, worry, joy, gloom, and shock, respectively—resulting in a total of 14 emotions terms. Participants are asked to consider what they would do if they felt each emotion in four social situations: with family members, close friends, colleagues, and strangers. These categories were chosen because they represent a broad range of social categories within which people interact, and because previous research has demonstrated considerable variability in cultural values and attitudes across these social situations (Brewer & Kramer, 1985; Tajfel, 1982).

In our first study using the DRAI (Matsumoto, Takeuchi, Andayani, Kouznetsova, & Krupp, 1998), participants from the United States, Japan, South Korea, and Russia completed the DRAI along with an individual-level measure of individualism-collectivism. Our results showed that Russians exerted the highest control over their expressions, followed by South Koreans and Japanese; Americans had the lowest scores. Significant sex differences were also found, with females exerting more control on anger, contempt, disgust, and across all emotions when with family members, and males exerting more control on fear and surprise.

Our most recent study involving the DRAI (Matsumoto, Yoo, Hirayama, & Petrova, 2005) provided evidence for its internal and temporal reliability and for its content, convergent (with measures of emotion regulation), discriminant (correlations with personality controlling for emotion regulation), external, and concurrent predictive validity (with personality). The findings also indicated that expression regulation occurs in the various ways discussed earlier, and not on a simple expression-suppression dimension. Additionally, there were consistent and predictable cultural differences among American, Russian, and Japanese participants. For instance, Americans and Russians both expressed anger and contempt more than Japanese. Americans expressed fear and disgust more than Russians, and Americans expressed happiness more than did Russians and

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Japanese. The Japanese participants deamplified more than both the Americans and the Russians. Americans amplified more than Russians on sadness and disgust, whereas Japanese amplified surprise and fear more than Russians. Japanese qualified sadness more than Russians, but the Russians qualified their happiness more than both Japanese and Americans.

CULTURAL INFLUENCES ON JUDGMENTS OF EMOTION

As discussed earlier, studies examining judgments of facial expressions were instrumental in the original universality studies and have been replicated by many authors, and Elfenbein and Ambady's (2002) meta-analysis of judgment studies of emotion (not limited to facial expressions) demonstrated convincingly that people around the world recognize emotions at levels well above chance accuracy. Research of the last decade and a half has demonstrated that people of different cultures are similar in other aspects of emotion judgment as well. For example, there is pancultural similarity in judgments of relative intensity among faces; that is, when comparing expressions, people of different countries agree on which is more strongly expressed (Ekman et al., 1987; Matsumoto & Ekman, 1989). There is also evidence of pancultural agreement in the association between perceived expression intensity and inferences about subjective experiences (Matsumoto, Kasri, & Kooken, 1999). People of different cultures have also been found to agree on the secondary emotions portrayed in an expression (Biehl et al., 1997; Ekman et al., 1987; Matsumoto & Ekman, 1989), suggesting pancultural agreement in the multiple meanings derived from universal faces. This agreement may exist because of overlap in the semantics of the emotion categories, antecedents and elicitors of emotion, or in the facial configurations themselves.

There are many cultural differences in emotion judgments as well. Although people of all cultures recognize the universal faces at levels well beyond chance, they differ on the absolute level of recognition (Biehl et al., 1997; Elfenbein & Ambady, 2002; Matsumoto, 1989, 1992; Matsumoto et al., 2002). In an attempt to explain why cultures differ in emotion recognition rates, Matsumoto (1989) compiled recognition accuracy data from 15 cultures reported in four studies, and correlated them with Hofstede's (1980) four cultural dimensions. Individualism was positively correlated with recognition rates of negative emotions. An independent meta-analysis by Schimmack (1996) also indicated that individualism predicted emotion recognition levels. These findings may be related to the fact that individualism is also correlated positively with emotional expression (Matsumoto & Koopmann, 2004). Individualistic cultures may foster the free and open expression of emotion, thereby promoting the more accurate judgment of emotion as well. Just as cultures have display rules that govern the management of emotional expression, they may have "cultural decoding rules" that help manage the judgments of emotions in others.

There are cultural differences in judgments of the intensity of expressions as well. Ekman et al.'s (1987) study of 10 countries was the first to document such differences, with Asians rating emotions at lower intensity than non-Asians. Although this finding has been replicated a number of times (Biehl et al., 1997; Matsumoto, 1990, 1993), more recent research indicated that the cultural differences differ depending on whether observers rate the external display or the presumed internal experience. Matsumoto et al. (1999) tested this idea by comparing American and Japanese judgments on both types of ratings and

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found that Americans rated external display more intensely than the Japanese, but that the Japanese rated internal experience more intensely than Americans. Within-country analyses indicated no significant differences between the two ratings for the Japanese; the Americans, however, rated external displays more intensely than they rated subjective experience.

These findings were extended by Matsumoto and colleagues (2002) by having American and Japanese observers rate expressions expressed at 0%, 50%, 100%, and 125% intensities. The data for the 100% and 125% expressions replicated the previous findings: Americans rated external display significantly higher than internal experience, whereas there were no differences for the Japanese. Also, there were no differences between external and internal ratings for either Americans or Japanese on 0% expressions, which were expected. On 50% expressions, however, the findings were intriguing. Whereas there was no difference between external and internal ratings for the Americans, the Japanese rated internal experience higher than external display. We interpreted these findings as suggesting that for weaker expressions, Japanese may assume that a display rule is operating, and may thus infer more emotion being felt than is actually displayed. When Americans see a weak expression, however, there need not be any such assumption; thus, they interpret the same amount of emotion felt as expressed. For strong expressions, Japanese may assume that the context was such that the expression was justified; thus, they infer a level of emotion felt that is commensurate with what is shown. When Americans see a strong expression, however, they know that there is a display rule to exaggerate one's feelings; thus, they compensate for this display rule by inferring less emotion felt.

One limitation of all the studies cited in this section was that, although the findings were interpreted as occurring as a function of cultural display rules, none actually measured display rules and linked them to the judgments. A recent study from our laboratory, however, has closed this loop. In this study, American and Japanese participants completed the DRAI and viewed a series of facial expressions of emotion portrayed at high and low intensities (Matsumoto, Choi, et al., 2005). They made three judgments for each face: a categorical judgment of which emotion was portrayed, and intensity ratings of the strength of the external display and the presumed subjective experience of the expressor. American and Japanese judges thought that the expressors of high intensity expressions displayed the emotions more strongly than they felt them. When judging the low intensity expressions, Americans and Japanese also rated the expressor's internal experience higher than they did the external display, but the effect was significantly larger for the Japanese. All these differences were mediated by display rules as assessed by the DRAI, suggesting that one's own rules for expression management influences one's judgments of expression management in others.

A POSSIBLE INGROUP ADVANTAGE IN RECOGNIZING EMOTIONS?

One type of cultural difference in judgment that has recently received attention concerns the possibility of an ingroup advantage in emotion recognition (Elfenbein & Ambady, 2002). This is defined as the tendency for *members of a cultural group to be more accurate in recognizing the emotions of members of their own cultural group than of other, relatively more disparate groups*. Although previous research testing this hypothesis (Boucher & Carlson, 1980; Kilbride & Yarczower, 1983; Markham & Wang, 1996) provided mixed results, Elfenbein and her colleagues have recently

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reported a number of studies in support of it (Elfenbein & Ambady, 2002, 2003a, 2003b; Elfenbein, Mandal, Ambady, & Harizuka, 2002).

Elsewhere, I have suggested that studies must meet two methodological requirements to test the ingroup hypothesis adequately (Matsumoto, 2002). First, studies should employ balanced designs in which all judge cultures view expressions portrayed by members of all the other cultures in the study. Second, because balanced studies include stimuli expressed by people of multiple cultures, it is necessary to ensure that the stimuli are equivalent across the cultural groups in terms of their physical signaling properties related to emotion. Given both of these concerns, Matsumoto (2002) concluded that Elfenbein and Ambady's (2002) original meta-analysis could not support the ingroup hypothesis because they did not review the studies as to whether or not they met these two requirements.

When balanced studies are examined as to whether or not they employed stimuli that were equivalent in their physical signaling properties or not, the data are clear: All the studies reported by Elfenbein and colleagues to date supporting the ingroup hypothesis have used stimuli that were not equivalent across the cultural groups (Elfenbein & Ambady, 2003a, 2003b; Elfenbein et al., 2002; Elfenbein, Mandal, Ambady, Harizuka, & Kumar, 2004). Furthermore, a close examination of the balanced studies they reviewed in Table 4 of their original meta-analysis (Elfenbein & Ambady, 2002) shows that only five studies provide evidence that the physical signaling properties of the expressions used as stimuli were equivalent across the expressor ethnicities (Albas, McCluskey, & Albas, 1976; Kilbride & Yarczower, 1983; McCluskey, Albas, Niemi, Cuevas, & Ferrer, 1975; McCluskey & Albas, 1981; Mehta, Ward, & Strongman, 1992). Four of these were associated with nonsignificant interaction *F*s that test the ingroup effect. Two involved studies of facial expressions (Kilbride & Yarczower, 1983; Mehta et al., 1992), and both these involved facial action coding system (FACS) coding of the facial muscles in the expressions. The FACS codes were equivalent but not exactly the same across the expressor ethnicities as they are in the Japanese and Caucasian facial expressions of emotion (JACFEE), thus allowing for minor cultural differences in the expressions to exist (perhaps, corresponding to Elfenbein and Ambady's, 2002, 2003a; Elfenbein et al., 2002, "emotion dialects").

When balanced studies employ expressions that are equivalent in their physical signaling properties (the JACFEE), there is no support for the ingroup hypothesis (Matsumoto, 2002; Matsumoto & Choi, 2004). This is the case whether the expressions being judged are full-face, high intensity expressions, or low intensity expressions where signal clarity is weaker (Matsumoto & Choi, 2004). Future studies will need to isolate differences in expressions across encoder cultures while holding constant nonmorphological features of the face that may contribute to emotion signaling. There are many aspects of the face that may contribute to emotion signaling, including facial physiognomy, cosmetics, and hairstyle, in addition to the actual expressions themselves (Ekman, 1979; Matsumoto & Choi, 2004). Research is yet to test the possible contributory roles of these aspects of the face to emotion signaling, which is a possible rich source of information in the future.

♦ *Conclusion*

In considering cultural influences on nonverbal behavior, it is first important to

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recognize the universal bases of those behaviors, and to realize that culture's influence on nonverbal behaviors occurs above and beyond the universal bases of those behaviors that we are all born with. With regard to emotion communication, we all start with the same base of universal, pancultural expressions. We learn rules about how to modify and manage these expressions based on social circumstance (cultural display rules), and we learn rules about how to manage our judgments of them (cultural decoding rules). Whereas we all recognize universal emotions at levels well beyond chance, there are cultural influences on the *absolute* levels of recognition accuracy and on judgments of external intensity and internal subjective experience.

Most of our knowledge concerning culture and nonverbal behaviors comes from studies of facial expressions of emotion. The few cross-cultural studies on other nonverbal behaviors that do exist suggest considerable cultural differences in these. Yet there may be universal aspects to these other nonverbal behaviors that research has just not yet uncovered. Examples include the raising of one or both arms in achievement or clapping as a sign of approval. Future research will not only continue to unravel the influence of culture on facial expressions but will also need to delve into these other possibilities for other nonverbal behaviors.

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