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CULTURE

Since the 1960s, scholars have been interested in the relations between culture and various emotional phenomena because of what these relations might reveal about human nature and cultural processes. Most cross-cultural studies of emotional phenomena have focused on the recognition of emotional facial expressions, the incidence of emotional experiences, and the events that elicit emotional reactions. Relatively little attention has been paid to cultural influences on emotional reactivity (i.e., the changes in physiology, subjective emotional experience, and expressive behavior that occur at the moment individuals feel angry, happy, or sad). Furthermore, the focus of most past investigations has been either to dem-

onstrate the universality of emotion (by documenting cultural similarity) or the culture-specific nature of emotion (by documenting cultural difference). Evidence suggests, however, that these perspectives cannot adequately capture the complex relations between culture and emotional reactivity. Consequently, research is moving beyond mere descriptions of cultural similarities and differences, examining instead the specific ways in which culture influences emotional reactivity.

Ethnographic notions and clinical accounts by people such as Karl Heider (1991), Catherine Lutz (1988), and Sulamith Potter (1988) suggest that cultural contexts and heritages influence individuals' emotional responses. Most cultural comparisons have been made between members of Asian and Western cultures. Members of Asian cultures have been described by James Russell and Michelle Yik (1996) as moderating and controlling their emotions more than members of Western cultures due to Confucian and Buddhist beliefs that view emotional moderation and control as a means of maintaining individual health and harmonious interpersonal relations. In clinical settings, Arthur Kleinman (1986) reported that Asian patients were inhibiting and somatizing (i.e., expressing in bodily terms) their affective symptoms more than their European American counterparts. Few studies, however, have examined how these cultural differences relate to emotional reactivity.

The few cross-cultural studies of emotional reactivity that do exist primarily compare the emotional reactions of members of Asian and Western cultures. Most of these studies do not find differences in overall levels of emotional reactivity between members of Asian and Western cultures. Instead, culture appears to influence emotional reactivity in very specific ways. The first cross-cultural studies of emotional reactivity, however, were primarily interested in whether Asians were less emotionally reactive than their Western counterparts, as suggested by ethnographic and clinical descriptions, and whether these differences could be attributed to genetic factors.

Research on Infants

In the 1970s, Daniel Freedman (1974) and his wife Nina hypothesized that the relative differences between Asian and Western emotional reactivity depicted in the ethnographic literature resulted from genetic factors. Based on this hypothesis, they predicted that differences in emotional reactivity could be observed in Asian and Western newborns who had little prior contact with their cultural environments. To test this prediction, they conducted some of the first and still most widely cited studies comparing the responses of U.S. Caucasian and Asian (Chinese, Japanese) newborns on the Cambridge Neonatal Scales developed by T. Berry Brazelton. These scales included a variety of behavioral indices of temperament, sensory development, autonomic and central nervous system maturity, motor development, and social interest and response. For example, in order to measure "defensive movements," these investigators placed a cloth over the infant's face, removed it, and then recorded the infant's responses.

In support of their hypothesis, Freedman and Freedman found temperamental differences between Caucasian and Asian newborns. Asian newborns were less emotionally changeable, less irritable, took longer to reach peak excitement, grew accustomed to novel stimuli sooner, and were better able to stop crying by themselves than were Caucasian newborns. There was only one contradiction to this general pattern: Asian infants were more "tremulous" (i.e., demonstrated more body and facial tremors) than Caucasian infants.

Consistent with Freedman and Freedman's findings, Linda Camras and her colleagues (1992, 1998) found that five-month-old American children more rapidly show negative facial expressions than five-month-old Japanese children during an arm restraint procedure used to elicit anger and frustration. Unlike Freedman and Freedman, who made subjective ratings of behavior, Camras and her colleagues used an objective behavioral coding system (Harriet Oster's Baby Facial Action Coding System) to compare the minute facial movements of Japanese and American infants.

A set of findings by Jerome Kagan and his colleagues (1994) corroborates this general pattern of results. Their study compared the behavior of four-month-old Chinese, Irish, and American (Caucasian) infants in response to a variety of stimuli to their senses of smell, sight, and touch. Again, Chinese infants were less reactive than the Western infants. American infants cried the most and were the most active and fretful, followed by Irish and then Chinese infants. American and Irish infants also vocalized more than the Chinese infants did. The groups, however, did not differ in how much they smiled.

The Freedmans and Jerome Kagan interpreted their findings to mean that differences in reactivity were due to genetic factors. However, it is possible that these differences were due to cultural differences in prenatal and postnatal environments. For example, Joan Kuchner (1989), using spot observations in the home, compared the parenting styles of Chinese-American and European-American mothers when their infants were three weeks, one month, two months, and three months old. She found that European-American mothers consistently introduced

change and novel stimuli into their infants' environment more than Chinese-American mothers. Chinese-American mothers also used calming as a method of soothing their distressed babies more than European-American mothers did. Sara Harkness and Charles Super (1983) have found that the constant presentation of stimuli is related to increases in sleep difficulties and higher levels of physiological arousal in childhood. Thus, differences in overall levels of arousal between European-American infants and Chinese-American infants may be very much mediated by cultural differences in parenting styles.

Other evidence that group differences in infant reactivity are cultural rather than genetic exists. When culturally different, but genetically similar Asian groups are included in the same study, differences in emotional reactivity emerge. For example, Freedman and Freedman found differences in reactivity between Chinese-American and Japanese-American newborns. Although Japanese-American infants were better able to stop crying than their Caucasian-American counterparts, they were less able to do so than their Chinese-American counterparts. In addition, Japanese-American newborns were more tremulous and demonstrated more spontaneous startle responses than Chinese-American newborns.

Camras and her colleagues (1998) have also compared eleven-month-old American, Chinese, and Japanese infants' responses to emotion-eliciting stimuli and found significant differences between Chinese and Japanese groups. During the arm restraint procedure and the presentation of a growling gorilla head, Chinese infants moved their faces less and demonstrated less variable facial expressions than did both American *and* Japanese infants, who did not differ from each other. Camras and her colleagues also found differences between Asian groups in specific facial movements. For example, American and Japanese infants demonstrated before the arm restraint procedure more Duchenne smiles (i.e., smiles of felt happiness) than did Chinese infants. Thus, Japanese infants were more behaviorally reactive than Chinese infants.

These differences between Chinese and Japanese groups imply that cultural variables rather than genetic factors may influence emotional reactivity in infants. For example, Chinese people have been described as placing lesser emphasis on relationships between groups and greater emphasis on relationships between individuals, as having less rigid social boundaries, and as encouraging individual accomplishments more than Japanese. Thus, emotional moderation and control may be more the responsibility of the individual in Chinese culture and the responsibility of the group in Japanese culture. Nonverbal transmission of these norms may cause Chinese infants to be less emotionally reactive than Japanese infants.

Research on Adults

Evidence from the adult literature even more strongly supports notions that group differences in emotional reactivity are cultural and that culture influences emotional reactivity in specific ways. Harry Triandis and his colleagues (1986) have argued that group differences can only be attributed to cultural variables if they are measured and found to be directly related to emotional reactivity. Although few studies have actually measured cultural variables (e.g., orientation to a particular culture and beliefs about emotional expression), those that have addressed this issue suggest that such a relationship exists. For example, Jeanne Tsai and Robert Levenson (1997a) found that the more "American" both Chinese Americans and European Americans reported being, the more variable their reports of affect were. These findings support ethnographic notions that American culture emphasizes open expression of emotion more than Chinese culture. Tsai and Levenson (1996) also found that the more Chinese Americans believed that emotional responses should be controlled, the more likely they were to control their negative emotion during conflict with a dating partner.

Fewer studies have found a relationship between cultural variables and physiological responses; however, there is some evidence that culture influences this component of emotional reactivity. Kathryn Lee and Levenson (1992) found that in response to a loud noise, the ear pulse transmission times of more Americanized Chinese Americans' matched those of European Americans more closely than did less Americanized Chinese Americans. These findings are consistent with studies of the relations between levels of cultural contact and physiological arousal. One such study by Koji Takenaka and Leonard Zaichowsky (1990) examined the autonomic responses of female Japanese immigrants during stressful tasks. They found that immigrants who had been in the United States for more than one year demonstrated less physiological arousal (i.e., reduced heart rates and increases in skin temperature) than did the immigrants who had been in the United States less than one year. The latter group of immigrants demonstrated slight increases in heart rate and no change in skin conductance levels. Similarly, Daniel Brown (1982) found that cultural contact affected the levels of cortisol (a hormone that is secreted during stress) present in Filipino Americans residing in Hawaii. Thus, these findings suggest that as individuals have more contact with their dominant culture, their physiological responses change.

Specific Modes of Cultural Influence

As mentioned above, studies of cultural influences on emotional reactivity demonstrate both that culture has an effect on emotional reactivity and that culture influences emotional reactivity in very specific ways. These cultural influences may depend on the *component* of emotional reactivity and on the *context* in which those emotional reactions occur.

Component of Emotional Reactivity

One of the functions of culture is to regulate social relations. Therefore, cultural influences may have a greater effect on those components of emotional reactivity that have greater social consequences. Thus, cultural differences may emerge more in self-reported emotion and expressive behavior than in physiology reactions since the latter is generally less socially visible than the former. For example, people observing an individual who becomes angry would be more likely to notice a change in facial expressions than a change in heart rate. Although cultural differences have been found in all components of emotional reactivity, fewer cultural differences have, in fact, been found in physiology than in self-reports of emotion or expressive behavior. Levenson and his colleagues (1992) compared the emotional responses of the Minangkabau of West Sumatra and those of European Americans. Participants were instructed to move specific muscles of their faces in configurations that signaled specific emotional states. The two groups did not differ in autonomic activity induced by the facial posing. However, cultural differences did emerge in reports of subjective emotional experience: Minangkabau reported experiencing less emotion than did the European American participants. The authors attributed this difference to the Minangkabau's greater emphasis on emotion in the context of interpersonal relationships. Tsai and Levenson (1996, 1997a, 1997b) have found more cultural differences in self-reports of emotional experience than in physiology across three studies of Chinese-American and European-American couples engaging in emotional conversations.

When cultural differences in physiology do emerge, they both confirm and disconfirm hypotheses that Asians are less emotionally reactive than Westerners. Kagan and his colleagues (1978, 1994) found evidence in both behavior and physiology that supported hypotheses that Chinese would be less reactive than their Caucasian counterparts. Behaviorally, Chinese-American infants demonstrated more stable vocalization (behavior) and were also more inhibited (i.e., stayed close to their mothers, were more irritable, and vocalized and played less) when introduced to unfamiliar peers than were Caucasian infants. Physiologically, Chinese-American infants also demonstrated less variable heart rates than Caucasian infants. Tsai and Levenson (1997a) found evidence in their study of Chinese-American and European-American dating couples that supported notions of greater reactivity in Western than in Asian groups. In addition to Chinese Americans reporting less variable affect and less positive affect during conflict, they also demonstrated less variable heart rates.

In Indonesia, a Minangkabau bridegroom, who wears a songket cloth skullcap, appears to be somewhat more open in his display of emotion than is his bride, who wears an elaborate gold headdress. (Corbis/Lindsay Hebberd)

Other findings, however, do not support the notion that members of Asian cultures react less than members of Western cultures. Tsai and Levenson (1997a) found that Chinese Americans demonstrated more variable skin conductance responses than European Americans. Michael Lewis, Douglas Ramsay, and Kiyobumi Kawakami (1993) compared the affective behavior and cortisol responses of four-month-old Caucasian

and Japanese infants during a pediatric inoculation. Caucasian infants demonstrated more affective behavior and took longer to quiet than did Japanese infants. However, contrary to expectation, Japanese infants demonstrated *greater* cortisol responses than did Caucasian infants. Thus, although Japanese infants were less behaviorally reactive than Caucasian infants, they were more physiologically reactive. These findings are consistent with those of James Gross and Levenson (1993), who have found that the voluntary suppression of emotional expression increases autonomic activity.

The findings described above suggest that cultural influences on emotional reactivity vary by component of emotional reactivity. Those components that may have greater social consequences (e.g., self-reported emotion and expressive behavior) may be more influenced by culture than those components that have lesser social consequences (e.g., physiology). Understanding the mechanisms by which different components of emotion are shaped by culture is an important challenge for future researchers.

Context of Emotional Reaction

Cultural influences on emotional reactivity have been studied using a variety of stimuli and across a variety of contexts. Findings from existing studies suggest that the immediate social context may be an important mediator of cultural influences on emotional reactivity. In the mid-1960s, Richard Lazarus and his colleagues (1966) conducted one of the first studies of culture and emotional reactivity. In discussing their results, they identified the social context as a mediator of cultural influence. They compared the reports of distress and skin conductance responses of Japanese and American adults first to a "benign" film (about rice farming for Japanese samples and corn farming for American samples) and then to a distressing film (about the "mutilation of male adolescent genitals in a puberty ceremony"). There were *no* cultural differences in self-reports of distress during each film or in mean levels of physiological responding during the stressful film. However, Japanese samples demonstrated higher levels of skin conductance responding during the benign film. Lazarus and his colleagues suggested that these differences were due to cultural differences in the appraisal of the social context. That is, they proposed that the Japanese samples were more sensitive to the experimental context and therefore reacted with "marked general apprehension" during the experiment.

Paul Ekman (1972) and Wallace Friesen (1973) conducted a seminal study to examine the effect of the social context on emotional expression. As in the study performed by Lazarus and his colleagues, Japanese and European-American men were shown distressing films. However, half of the subjects watched these films in a room alone (private context), while the other half watched the films in the presence of the experimenter (public context). Only in the public context did cultural differences emerge in negative and positive emotional expression. In the public context, Japanese men demonstrated more positive and less negative expressive behavior than Japanese men in the private context, whereas American men's emotional expressive behavior did not differ between the public and private contexts. Ekman and Friesen attributed the observed cultural differences during the public context to cultural differences in display rules (i.e., cultural rules about the expression of emotion).

Until the 1990s, no studies had pursued the suggestion by Ekman and Friesen that the social context may be a powerful mediator of cultural influence. It was with this in mind that Tsai and Levenson (1997a) conducted their studies to examine what effect the social context had on Chinese-American and European-American emotional responses during conflict. They were interested in whether the social context mediates cultural influences on reports of subjective emotional experience and physiological responding in these groups. In order to elicit strong negative emotion, they instructed Chinese-American dating couples and European-American dating couples to discuss the area of greatest conflict in their relationships. During these discussions, Tsai and Levenson measured their couples' physiological responses. After the discussions, the couples were shown videotaped recordings of their conversations and asked to rate how much positive and negative emotion they felt during the conversation. Half of the participants had their conversations in a room by themselves, constituting a private context, and the other half had their conversations in the presence of an authority figure, constituting a public context. Consistent with the findings of Ekman and Friesen, Chinese Americans moderated and controlled their reports of negative emotion, but only in the presence of the authority figure. The social context did not influence European Americans' reports of negative emotion. Physiological responses were not altered by the social context for either group.

The Tsai and Levenson studies also demonstrated that cultural influences on emotion depend on the specific demands of the situation (in addition to the presence of an authority figure). Members of Asian cultures, for example, have been shown to be more sensitive to contextual demands than members of Western culture. Therefore, in a given situation, members of Asian cultures may behave in ways that are more consistent with contextual demands than with

specific cultural values. In the study where Tsai and Levenson compared the physiological and subjective responses of Chinese Americans and European Americans during conflict (a context in which there were strong demands for participants to experience negative affect), they found that Chinese Americans and European Americans did not differ in reports of negative affect (the "contextually appropriate" emotion) but did differ in reports of positive affect (the "contextually inappropriate" emotion). Specifically, Chinese Americans reported less *positive* affect than did their European-American counterparts. To further examine the effect of contextual demands on reported affect, Tsai and Levenson (1997b) had Chinese-American and European-American couples discuss enjoyable topics in their relationships, a context in which there were strong demands for participants to experience positive affect. Again, no cultural differences emerged in reports of positive affect (the "contextually appropriate" emotion). However, cultural differences emerged in reports of negative affect (the "contextually inappropriate" emotion)—but for men only. Chinese-American men reported less *negative* affect than did European-American men.

Future Directions for Research on Culture and Emotional Reactivity

What future research is needed to advance understanding of culture and emotional reactivity? Clearly, researchers must continue to move beyond merely describing cultural differences in emotion toward understanding other specific ways in which culture influences emotional reactivity. This may be best achieved by examining other cultural groups and by assuming a developmental perspective.

As demonstrated above, the current knowledge of cultural influences on emotional reactivity stems largely from a literature comparing Asian and Western cultural groups. Other cultural groups, such as Navajo, African Americans, Australian aborigines, and Mexican Americans, have been included in studies of emotional responding, but to a much lesser degree. More studies of this type are needed before the findings related to Asian and Western cultural groups can be generalized to other cultures. These studies are also necessary for the identification of other ways in which culture may influence emotional reactivity, ways that may be specific to non-Asian and non-Western cultural groups.

Because both culture and emotion develop over the life span, longitudinal studies may be the best way to examine the specific ways in which culture influences emotional reactivity. Longitudinal studies will allow for the examination of the effects of parenting, language, and other cultural variables on emotional reactivity over time. However, few studies have taken a developmental perspective beyond examining the first few years of life, and there are almost no studies that have examined culture and emotional reactivity in old age. Because older individuals have experienced a lifetime of cultural influence, studying older samples can greatly inform researchers' understanding of the specific ways in which culture influences emotional reactivity. Findings by Tsai, Levenson, and Laura Carstensen (1992) suggest that although physiological differences between Chinese Americans and European Americans may for the most part disappear during adulthood, they may re-emerge in old age. In this study, Chinese-American and European-American men and women, equally divided between two age groups (younger: 20–35 years of age, older: 70–85 years of age), watched sad and amusing film clips. There were no cultural differences in physiological responding, reports of subjective emotional experience, or expressive behavior during the amusing film clip. However, during the sad film clip, older Chinese Americans demonstrated less intense cardiovascular responses (perhaps indicating less intense emotional arousal) than younger Chinese Americans. These age differences were not found among the European Americans. Thus, it is possible that these physiological differences reflect cultural influences whose effects are only observable in old age. Studying cultural influences across the life span opens the door to other sources of cultural influence. One potential source of cultural influence is language, which as Anna Wierzbicka (1992) has pointed out, varies in the elaboration of emotion terms. For example, although there is no semantic equivalent in Hmong for the general term *emotion*, there are more terms to describe the emotion *shame* in Hmong than in English. Do Hmong speakers experience emotion differently (especially shame) than English speakers? How do such language differences affect emotional experience? Although some studies have examined how language alters the affective experience of bilinguals, none have examined how the acquisition of specific languages influences emotional reactivity.

Research on culture and emotional reactivity has several potential implications for counseling and other multicultural settings. Given demographic trends toward a more multicultural world, it is guaranteed that in multiple arenas (i.e., at work, at home, at school), individuals will come into increasing contact with people from other cultural backgrounds. Therefore, an accurate understanding of how cultural context influences how people feel, think, and behave is critical. Thus far, the empirical findings convey one main message—that cultural influences on emotional reactivity are complex and dynamic. Cultural influences on emotional reactivity vary by specific compo-

nent of emotion and context in which emotion occurs. Thus, in counseling and other multicultural settings, one must relinquish simplistic notions that cultural groups differ in overall levels of emotional reactivity. For example, as a growing number of Asians (and other ethnic minority individuals) in the United States seek mental health care services, it becomes increasingly clear that certain diagnostic and treatment methods of Western psychiatric practices are not applicable to individuals of Asian cultural descent. According to Kleinman (1986), affective disorders are more difficult to diagnose in Asian patients than in European-American patients because Asian patients tend to describe their affective states more in physical terms. Moreover, Asian patients are described as possessing more controlled emotional styles, which may be misdiagnosed as depressed or flat affect. By and large, clinicians have attributed differences in symptom presentation to cultural differences in emotional expression and conceptions of emotion. However, as demonstrated in the studies reviewed above, it is not at all clear that cultural differences in values regarding emotional expression translate into overall cultural differences in emotional reactivity. In fact, research suggests that Asian patients may or may not be moderating and controlling their emotions, depending on their specific social context. Thus, prior to diagnosis and treatment, clinicians are encouraged to ask family members (and others with whom the patient may demonstrate different emotional responses) about the patient's symptoms of emotional distress.

Given the tremendous variety of cultures that make up the world, it would be impossible to describe the details of emotional response for every culture. A more fruitful approach to understanding how cultural context can shape emotional response is to focus on the specific ways in which culture influences emotional reactivity. By assuming this approach, researchers might be able to achieve a more accurate understanding of culture and human behavior, an understanding that grows in significance as cultural contexts become increasingly enmeshed in everyday life activities.

See also: CROSS-CULTURAL PATTERNS; CULTURE-BOUND SYNDROMES; UNIVERSALITY OF EMOTIONAL EXPRESSION

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Jeanne L. Tsai

CULTURE-BOUND SYNDROMES

The term *culture-bound syndrome* refers to a category of distinct behavioral patterns that are commonly assumed to be abnormal and unproductive, with a learned rather than physical cause. By definition, culture-bound syndromes are understood to be restricted in their occurrence; that is, they are assumed to be linked with specific cultures or cultural areas. Some culture-bound syndromes, such as *latah*, *amok*, and *koro*, are dramatic and have a long history of Western description and interpretation, allowing them to be viewed as classic examples. Others, such as anorexia nervosa, while long noted, have been only recently added to the category as the basic definition has been extended to cover the culture-based illnesses of Western societies in addition to non-Western ones. Most culture-bound syndromes are gender-specific or gender-related; that is, they occur exclusively or predominantly among either males or females. Formerly (and sometimes still) referred to by terms such as *ethnic psychosis* or *folk illness*, culture-bound syndromes fall outside of the usual diagnostic categories of Western psychiatry. However, they are of particular interest in the fields of transcultural psychiatry, psychological anthropology, and medical anthropology.

History of the Concept and the Classic Forms

The awareness of the classic culture-based mental illnesses and behavioral abnormalities resulted from the encounter between European colonists and non-European peoples, especially in Southeast Asia. The term *culture-bound syndrome* was formulated by P. M. Yap (1966), a Malaysian Chinese who was trained in psychiatry in England and who, by virtue of his own background, was attuned to matters of cultural and medical difference. Yap initially used the phrase *culture-bound reactive psychosis* but subsequently dropped both *reactive* and *psychosis* from the phrase and added *syndrome*. He thought, as did his predecessors, that the culture-bound syndromes could be classified as variants of mental abnormalities defined in Western psychiatric terms.

Yap's concept was directed at a fairly small number of non-Western patterns that form the classic cases. The three most famous of the classic culture-bound syndromes are *amok*, *latah*, and *koro*, all of which were first encountered by European observers among Malay, Javanese, or other Indonesian peoples. As a result, scholars commonly refer to all three of these syndromes by using the original Malayan terms, even in instances where the syndromes occur in other regions of the world (e.g., Chinese koro). Amok was noted by Westerners as early as the sixteenth century, and the term was long ago incorporated into the English language to mean any sort of crazed assault. Malayan amok is specifically a homicidal rampage that is conducted by males and is directed at both innocent bystanders as well as (or instead of) any persons believed to have provoked the incident. True Malayan amok involves a state of trance, as a result of which the aggressor experiences temporary amnesia and is thus unaware of his actions. The practice of amok probably originated in warfare, with which it has continued to be associated.

Latah, a hyper-startle pattern, is the most extensively described and analyzed of the classic culture-bound syndromes, and also the most controversial. It was first observed among Malays and Javanese around the middle of the nineteenth century, although reports of similar or identical patterns soon followed in several other areas of the world. Hyper-startle patterns consist of exaggerated reactions to sudden noises, movements, or touch and involve various verbal and physical responses that typically include jumping and exclaiming obscene words. In Malayan latah and a few