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CHAPTER 14

How unique is Chinese emotion?

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In 1996, James Russell and I published a comprehensive review of the literature on Chinese emotion in the first edition of *The Oxford handbook of Chinese psychology* (Russell & Yik, 1996). The amount of evidence collected and the breadth of discussion of the topic to that point was discouragingly small. We raised questions and suggested topics for further study. More than ten years have passed. In this chapter, I review theoretical and empirical advances achieved during the last decade, with an overriding purpose of addressing the question: What is universal and what is unique about Chinese emotion?

Several research themes have been pursued in the past decade, and I focus on four of those themes in this chapter. First, I seek to explore questions on how emotion is described and structured among the Chinese. Related to that interest, I discuss how the study of emotion can benefit from the use of a circumplex model; second, I review research on self-conscious emotions, including shame, guilt, and pride in Chinese subjects; third, I summarize research on emotional responding, including facial expressions and physiology; last, I examine the socialization of emotions.

Structure of emotion

Analysis of the Chinese emotion lexicon can help to reveal the concepts available to Chinese people through which they categorize the experience they witness. In parallel fashion, analysis of the structure implicit in the emotion lexicon can help to reveal aspects underlying the affective experience.

All human groups have a vocabulary for describing people (Dixon, 1977) and the Chinese group is no exception. Ethnographic research has argued that the Chinese culture encourages emotional restraint (Bond, 1993), although empirical research has shown that emotion terms are abundant in the Chinese language. Difficulties encountered in delimiting the domains of emotion terms are consistent with prototype theory that suggests emotion is prototypically organized, and that the boundary between emotion and non-emotion is fuzzy (Russell, 1991). Regardless of the disputes on delimiting emotion terms, a fundamental but under-studied question is how to describe the set of relations among the various emotional concepts. In doing so, different writers have begun with different sets of emotion terms on the basis of different theoretical assumptions.

To import a concept from one culture into another has been labeled as the 'imposed-etic' approach to doing cross-cultural research (Berry, 1969). For instance, a researcher translates a happiness scale from English into Chinese, administers the scale to a group of Chinese subjects, and then makes inferences about the happiness level of the Chinese people. This procedure presupposes the universality of the construct of happiness. In this section, I examine the usefulness of the happiness scale and other emotion scales in mapping out the affective experience of Chinese people. More generally,

I seek to explore the everyday conception of emotional experience among the Chinese and aspects, if any, underlying the covariations of these everyday feelings.

Imported approach

Wang, Li, Liu, and Du (2007) translated the Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988) and administered it to 1,163 college students in the People's Republic of China (PRC). Subjects were asked to provide the frequency of experiencing each emotion in the last few weeks, the results of which provided overwhelming support for the structural validity of the PANAS in both exploratory and confirmatory factor analyses. The Positive Affect (PA) and Negative Affect (NA) scales were found to be unrelated. When Yik and Russell (2003) followed Green, Goldman, and Salovey's (1993) multi-response formats procedure and tested the PA–NA relation on momentary affect, they found that PA and NA were correlated at –.61 and –.56 on two large samples of Hong Kong Chinese (see also Yik, Russell, Ahn, Fernández Dols, & Suzuki, 2002 for similar results on other language groups). The NA feeling was counteracted by the PA feeling among Hong Kong Chinese. These findings are in stark contrast to those reported by Bagozzi, Wong, and Yi (1999).

In a trilingual study, Bagozzi et al. (1999) offered correlational evidence from American, PRC Chinese, and Korean respondents in support of the interaction effect between gender and culture on the relation between PA and NA. A strong positive correlation between PA and NA was found among Chinese subjects; the correlation was stronger among females than among males. The writers marshaled the cultural hypothesis that, because the Chinese are more tolerant of contradictions and hence of polar opposite feelings, there was a strong positive correlation between the opposites, PA and NA. (A strong negative correlation was found among their American subjects.) Further, since females are more knowledgeable about emotional feelings, the positive correlation was stronger among females than among males.

Stimulated by the cultural hypothesis of Bagozzi et al. (1999), researchers examined the relation between PA and NA in the PRC and Hong Kong (e.g. Schimmack, Oishi, & Diener, 2002; Scollon, Diener, Oishi, & Biswas-Diener, 2005). Surprisingly, results from different Chinese samples diverged, although these studies found a null gender effect. To further unravel the role played by culture on the emotional experience, intracultural studies are needed to initiate a careful analysis of the relation between PA and NA.

As argued elegantly by Russell and Carroll (1999), a strict test of the relation between PA and NA demands the consideration of several factors simultaneously, among which the time frame of the assessment is of extreme importance. Emotion ratings based on reports over an extended time frame, including intensity 'in general' and 'frequency in the past month' (e.g. Wang et al., 2007), do not rule out the possibility of feeling positive at one time and negative at another over an extended period of time. An emotional person, for instance, may experience plenty of ups and downs throughout a month, and hence may report high levels of PA and high levels of NA, leading to a substantial positive correlation between PA and NA.

However, when emotion ratings are based on one thin slice in time, a substantial negative correlation will be found (see Yik, 2007, 2009a). When one is happy at one specific time, one is not sad. (Just as, when one feels hot at one specific time, one does not feel cold.) When the language of an instrument is the same and the subject pools are similar, then I suspect that the discrepancies in results, for instance, such as those between Wang et al. (2007) and Yik and Russell (2003), can be partly explained by the time frame of assessment, among other factors (see Yik, 2009b). Further studies are needed to explore the role played by different factors in determining the phenomenological reports of emotion.

Indigenous approach

The data examined so far suggest that emotions identified in English populations could be measured in Chinese samples via translation and that similar structures surfaced. In that sense, PA and NA can summarize the variety of affects experienced by Chinese people, suggesting a universal structure

of affect. However, the fact that the structure of PA and NA can be recovered in Chinese samples is not equivalent to saying that that structure represents the most natural way of describing or structuring emotional experiences among the Chinese.

This argument is related to the proposal forwarded by cross-cultural psychologists who point out that to provide a comprehensive descriptive map of affect for the Chinese, researchers should take a distinctly Chinese approach (viz. an emic approach), such that they should look for indigenous Chinese terms to describe emotion. Hamid and Cheng (1996) took the lead in indigenizing the descriptive map for emotional experience by developing the Chinese Affect Scale (CAS). They began with 124 terms culled from a free-listing task conducted among Hong Kong Chinese. Multivariate analyses resulted in the final form of CAS consisting of ten positive and ten negative affects, which were found to be useful in describing both trait and state affects. The positive affects cover pleasant feelings with varying degrees of arousal; the negative affects cover unpleasant feelings with varying degrees of arousal. The indigenously derived scales were found to demonstrate convergent and discriminant validities, and were sensitive to mood induction procedures as well as episodic mood changes over a day.

Guided by the lexical hypothesis (Goldberg, 1981), Zhong and Qian (2005) began their search for emotion terms using two Chinese dictionaries. With the help of expert judgments and prototypicality ratings, they reduced their pool from 786 to 100 terms. Over 1,000 PRC Chinese students described their 'general' feelings using these 100 terms on a five-point Likert scale. Factor analyses showed that four factors, namely agitated, happy and excited, painful and sad, and angry and hateful, represented a comprehensive descriptive map of Chinese emotion. The authors argued for the superiority of the four orthogonal factors to a circumplex model in capturing Chinese emotion, even though the correlations between the three unpleasant factors were as high as .70.

A combined approach

The research efforts presented so far focused on a bottom-up approach, such that emotion terms were either translated from English into Chinese or culled from written materials in Chinese; exploratory factor analyses were performed on the emotion ratings; factors, with varying numbers from two to four, were reported.

Yet another group of researchers have used a top-down approach to elucidate the structure underlying affective experiences among the Chinese. Russell (1983) began with the least-adequate pool of twenty-eight emotion-related words (simply through translation of English terms). Subjects were Chinese-speaking residents of Canada, and they provided an indirect measure of similarity through a sorting procedure. Multidimensional scaling resulted in a circumplex model in which emotion-related words fell roughly in a circle with its axes interpretable as pleasure-displeasure and arousal-sleepiness. Despite its humble beginning, this circumplex model has turned out to be robust across changes in method. For example, a similar result was obtained from Hong Kong Chinese subjects in a study in which emotion words were bypassed altogether by using facial expressions shown in photographs (Russell, Lewicka, & Niit, 1989; see also Chan, 1985).

In the past decades, various dimensional models have been proposed to characterize the covariations of self-reported affective feelings in English. Major models include Russell's (1980) circumplex, Thayer's (1996) energetic and tense arousal, Larsen and Diener's (1992) eight combinations of pleasantness and activation, and Watson and Tellegen's (1985) positive and negative affect. As the names of the principal dimensions of these models suggest, they all seem to capture similar phenomena and are therefore ripe for integration. One proposal is that all dimensions fit within the same two-dimensional space with 45° between major dimensions (Larsen & Diener, 1992; Russell, 1979; Yik, Russell, & Barrett, 1999; Watson & Tellegen, 1985). Yik and Russell (2003) tested the integration hypothesis in two independent samples of Hong Kong Chinese people by *importing* the affect dimensions via translation. The four dimensional models were mappable onto one another within the integrated space (see Yik, Russell, Ahn, Fernández Dols, & Suzuki, 2002 for the generalizability of the space to other language groups).

To produce a finer-grained measurement space, Yik (2009c) attempted to carve out and cross-validate a twelve-segment circumplex model, namely the Chinese Circumplex Model of Affect, with three large samples of Hong Kong Chinese. In addition to the affect items imported via translation, she added indigenous terms obtained in a free-listing task to cover some possible 'holes' in the circumplex space. The twelve-segment space received strong support in different samples across different recall methods. It provided a level of precision that allowed for better estimates of affect, and hence provided a stronger platform on which to extend the nomological net of affect (e.g. Yik, 2009d; Zeng & Yik, 2009). Although affect was tapped by twelve segments, the model remained parsimonious because, in the circumplex, the twelve segments were reducible to two dimensions (pleasure and arousal).

Figure 14.1 presents the Chinese Circumplex Model of Affect (CCMA), with sample affect terms in English translation. On the right-hand side are the pleasure states; on the left-hand side are the displeasure states. The upper half shows the activated states; the lower half shows the deactivated states. Any specific affective state is composed of different blends of pleasure and arousal. The affect dimensions fall in a circular ordering along the perimeter. The circumplex structure of affective states has received strong empirical support (Remington, Fabrigar, & Visser, 2000; Yik, Russell, & Barrett, 1999).

In summary, when dimensions of self-reported feelings are sought, Chinese yield at least two dimensions very similar to those obtained in other languages, a result consistent with the general pattern seen across languages and cultures (Russell, 1991). Extrapolating from the general trend observed so far, Chinese carve their affective space into broad dimensions of pleasure-displeasure and activation-deactivation, a structure that appears to be pan-cultural. Nevertheless, none of these results should be regarded as confirming that the Chinese emotional experience can be captured *only* by these two dimensions. I would argue that these two dimensions are necessary but not sufficient to describe the structure of affect among the Chinese. Lacking are research efforts in drawing comparisons between indigenous and imported models of affect in describing the emotional experience of the Chinese. Further studies are needed to provide joint factor analyses of these models to map out their relations and possibly compare their usefulness in predicting criterion variables, be these variables behaviors or motivations or beliefs.

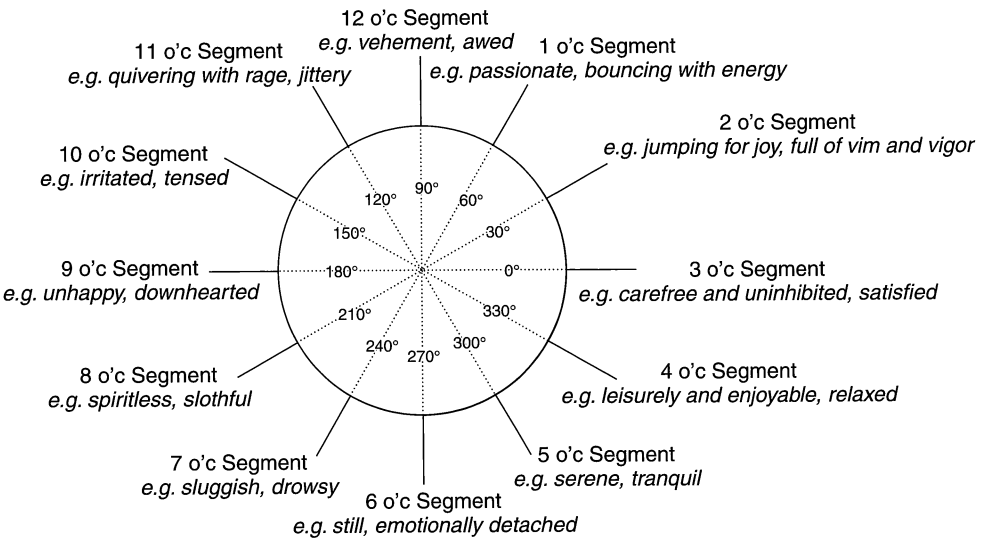

Fig. 14.1 The Chinese Circumplex Model of Affect (CCMA). This figure shows a schematic diagram of the hypothetical locations of the 12 segments.

Application of a circumplex model to studying ideal affect

The role of culture continues to fascinate emotion researchers. Recently, Tsai and her colleagues argued that cultural differences are evident in the types of ideal affect, or the pleasant feelings, that individuals value (Tsai, Knutson, & Fung, 2006). Individuals coming from an interdependent culture, such as the Hong Kong Chinese culture, desire to experience deactivated affect (calmness), whereas those from an independent culture, such as the American culture, desire to experience activated affect (*excitement*). The writers relied on their eight Affect Valuation Index (AVI) scales, whose items were selected to characterize eight octants of the circumplex model (Tsai et al., 2006). Unfortunately, the dimensional structure of these scales was never explicitly tested, and analyses were mostly restricted to high-arousal positive (HAP) and low-arousal positive (LAP) only (approximately 45° and 325° in Figure 14.1).

The research program on ideal affect will greatly benefit from testing for rather than from assuming the circumplex structure of the ideal affect scales. To test this idea, Jiang and Yik (2009) began with a small-scale study on testing the viability of the CCMA in capturing the structure of ideal affect. Results provided overwhelming support for the CCMA, which integrates the AVI scales, in a sample of 203 Hong Kong Chinese. In contrast to Tsai et al.'s (2006) finding that Hong Kong Chinese sought the feeling of *calm* (pleasant feelings with low arousal), Jiang and Yik found that their Chinese subjects sought the feelings of *energetic* and *peppy* (pleasant feelings with medium arousal). To address the question of the ideal affect pursued by "an average person" in the sample, researchers can rely on the 12 segment scores, each averaged across the sample of participants. These 12 scores can then be used to estimate an angle on the CCMA to indicate the feelings that average person desires to experience. The principle is that the magnitude of the 12 segment scores rises and falls in a cosine wave pattern as we move around the circumference (see Wiggins, 1979; Yik, Russell, & Steiger, 2010). For instance, seeking a certain segment in the affective space implies avoiding the affect segment 180° away on the circle. That is, seeking *calmness* implies avoiding feeling *tense*; seeking *excitement* implies avoiding feeling *gloomy*. There is a clear need for future research on advancing our understanding of the nature of ideal affect.

Self-conscious emotions

Self-conscious emotions refer to a category of emotions that involves reflection on the individual's own actions (Tangney & Fischer, 1995), among which shame, guilt, and pride represent the prototypes. They are generated in situations in which people compare a personal attribute or an outcome of a behavior to a standard (Stipek, 1998). When the comparison is favorable, *pride* will be generated. When the comparison is unfavorable, *shame* or *guilt* will be generated. Guilt is associated with transgression of social rules and comes from the internal voice of the conscience; shame is associated with failure to meet a standard, and comes from one's fear of social exclusion (see Fung, 1999; Ho, Fu, & Ng, 2004).

Hypercognition of shame

Although shame has been found to exist in all human cultures (Casimir & Schnegg, 2003), large cross-cultural differences have been documented in its situational antecedents, subjective experiences, and action tendencies. For instance, shame was found to be more prevalent among East Asian people than among North American counterparts (Benedict, 1946; Chu, 1972; Kitayama, Markus, & Matsumoto, 1995). In studies of emotion concepts, Levy (1973) argues that one language provides a large set of concepts for a particular type of emotion (hypercognition) and a small set of concepts for other types of emotion (hypocognition). The terms related to shame appear to be hypercognized in the Chinese language relative to English. The abundance of shame-related words is evident in Shaver, Wu, and Schwartz's (1992) list of 110 prototypical Chinese emotion terms, not to mention Li, Wang, and Fischer's (2004) list of 113 prototypical Chinese shame terms. With the extensive number of shame-related terms, how is the concept of shame organized in Chinese people's minds?

Shaver and his colleagues (Shaver et al., 1992; Shaver, Murdaya, & Fraley, 2001) took the lead in examining the organization of emotion terms in Chinese, Indonesian, English, and Italian using prototype approach. On the basis of the similarity ratings in a sorting task, respondents in all four languages categorized emotion terms similarly. Positive and negative emotions occupied the superordinate level; joy, anger, sadness, fear, and love occupied the basic level. Among all but the Chinese subjects, self-conscious emotions were grouped under other emotion categories. Chinese subjects produced the additional basic category of shame, including shame-related terms such as *xiukui, cankui, xiuchi.* These Chinese words represent different kinds of shameful experiences that are difficult to translate into different English equivalents. Standard Chinese–English dictionaries translate all these terms as shame or as a combination of 'shame' with other emotions.

Inspired by Shaver's pioneering work on Chinese emotion lexicon, Li et al. (2004) adopted a similar approach in examining the organization of shame concepts among PRC Chinese living in North America. They began with 144 terms resulting from their dictionary search and interviews with native speakers of Mandarin Chinese. Of these terms, 113 were rated as important shame concepts. A hierarchical cluster analysis of the similarity ratings among the 113 terms resulted in two superordinate categories. The first one was 'shame state', which describes various experiences actually felt by the subjects themselves at the time of a shame episode (see also Kam & Bond, 2008). Guilt, defined by thirteen terms, was represented as a basic category under the 'shame state' superordinate category. The second superordinate category was 'reactions to shame', which describes reactions to shameful acts committed by others (see Singelis, Bond, Sharkey, & Lai's [1999] 'other-induced embarrassment'). This category appears to be odd because the reactions to shame do not directly pertain to a shame episode per se. Nonetheless, the subjects preserved 43 per cent of the word list for this second superordinate category, implying that at least in the Chinese language, the reactions to shameful acts occupy an important representation in the Chinese mind. Is this 'reactions' category specific to PRC Chinese subjects? This is certainly an area for fruitful research in intra-cultural studies as well as cross-cultural studies.

Chinese culture, along with other Asian cultures, has long been labeled as a 'shame culture' and the United States as a 'guilt culture' (Benedict, 1946; Chu, 1972; Leighton & Kluckhohn, 1947; Schneider, 1977; Schoenhals, 1993). How does this shame-versus-guilt dichotomy survive in the recent literature? What is the relation between shame and guilt? In the studies reported so far, the results are inconsistent with this dichotomous characterization but consistent with recent empirical findings on the close relation between guilt and shame. When Li (2002) studied the role played by shame and guilt among Chinese students facing failure in learning, she found no difference between the two emotions. When Tangney, Miller, Flicker, and Barlow (1996) examined the differences between shame and guilt among undergraduates in the USA, they concluded that no differences could be found in the degree of the moral stand, sense of responsibility and motivation to make amends. Hence, although Ho, Fu, and Ng (2004) offered a theoretical perspective for distinguishing shame from guilt (see also Bedford, 2004), my review of empirical studies gives little support for the shame-guilt dichotomy.

Socially appropriate emotions in different cultures

Frijda and Mesquita (1995) suggest that the effect of culture on emotional experience depends upon the significance an emotion has for an individual and upon how valuable that emotion is in a culture. Foods found delightful in one culture (e.g. chickens' feet or cottage cheese) might be considered disgusting in another. In parallel fashion, an emotion such as pride may be perceived to be appropriate in one culture but inappropriate in another. Emotions differ in perceived appropriateness and desirability across cultures.

People from different cultural traditions think about and therefore experience emotions differently (Markus & Kitayama, 1991). In particular, people from the Aristotelian cultural tradition ('the West') tend to endorse an independent self-construal consisting of inner attributes that make an individual distinct from others. The mission is to become independent from others and to pursue

personal goals. People from the Confucian cultural tradition ('the East') tend to endorse interdependent self-construal, which is characterized by the belief that the self cannot be separated from the social context. The self is embedded in layers of relationships and people regulate their emotions and thoughts to fit the agendas of others. The ideal is to maintain harmony with others and to fulfill one's social duties (see Kwan, Hui, & McGee, this volume; Leung & Au, this volume).

Close connections were hypothesized between self-construal and regulatory focus (approach vs. avoidance), and these connections have significant implications on the norms for experiencing different kinds of emotions. Lee, Aaker, and Gardner (2000) suggested that people with interdependent self-construals are prevention focused, and they focus on information that prevents them from disturbing harmony and interpersonal relationships. They value negative information (see also Sommers, 1984). Emotions that signal that social norms have been violated or that social obligations have not been fulfilled, such as guilt, are therefore important to interdependent cultures. In contrast, people with independent self-construals are promotion focused, and they focus on information that is relevant to the accomplishment of their own aspirations and the expression of their own attributes. They value positive information. Emotions that signal the successful achievement of personal goals, such as pride, are therefore important to independent cultures (see also Wyer & Hong, this volume).

In a large-scale cross-cultural study, Eid and Diener (2001) examined the norms for experiencing eight different emotions in collectivist countries (e.g. PRC) and individualist countries (e.g. USA) using latent class models, with norms being defined as emotions that are *appropriate and desirable* to experience. They found that the collectivistic and individualistic cultures differed most in the norms for experiencing guilt and pride. Whereas guilt was highly valued by PRC Chinese, pride was highly valued by Americans. On the other hand, when Stipek (1998) studied antecedents to feeling pride in American and PRC students, she found that feeling pride was from achievements that benefited others than from those due to personal achievement among the Chinese subjects (see also Sommers, 1984). Chinese extended this self-conscious emotion to their close relatives, which may reflect the malleable boundaries between self and others as dictated by the dominant cultural tradition (Bond, 1993; see also Lu, this volume).

Interestingly enough, research on ideal affect, which is a set of emotions that one *ideally wants to experience*, has found that both Hong Kong Chinese and Asian-Americans desire to experience calmness (low-arousal positive affect) more than do European-Americans (Tsai et al., 2006). European-Americans and Asian-Americans desire to experience excitement (high-arousal positive affect).

In comparing these two accounts, we must recognize that they cannot be pitted against each other on a level playing field. The norms study defined its criterion variables as eight discrete emotions (four pleasant and four unpleasant); the ideal affect study relied on eight different scales that were hypothesized to underline the circumplex model shown in Figure 14.1. The norms study measured emotions that are perceived to be *appropriate and desirable*; the ideal affect study considered emotions that people *ideally want to experience*. Do these two sets of measures tap into the same psychological space? Do people in a culture *want* to experience the emotions that are considered to be *appropriate* in that culture? (In their first footnote, Eid and Diener [2001] reported a correlation of .77 between the 'appropriateness' and 'desirability' ratings.) Lastly, the two studies relied on two different groups of Chinese, namely those from the PRC and those from Hong Kong. Clearly, much research remains to document the complex relations between the norms for experiencing emotions and the ideal feelings one seeks to feel under cultural influences (e.g. Jiang & Yik, 2009).

Emotional responding

From a lay person's perspective, it is relatively straightforward to label someone's emotion. However, scientific analysis as of today suggests that understanding someone's emotion remains one of the vexing issues of this century (Mauss & Robinson, 2009). Emotion theorists have developed various measures to tap a person's emotional responses including subjective experience, physiology, and behaviors. In this section, I review the latest research on Chinese facial expressions and physiology.

Development of indigenous facial stimulus materials

Some writers have emphasized the pan-cultural facial expressions of basic emotions that are universally recognized (Ekman et al., 1987; Izard, 1977), whereas others have argued in favor of a culture-specific hypothesis, suggesting that people in a culture have unique ways of expressing and hence recognizing emotions (Klineberg, 1938). The enthusiasm for research on emotion recognition has continued to grow in the last decade (Markham & Wang, 1996; Yik, Meng, & Russell, 1998; Yik & Russell, 1999). Of particular interest is that researchers working with Chinese subjects have invested considerable effort in developing indigenous stimulus materials, such as prototypical facial expressions (see Bai, Ma, & Huang, 2005; Wang & Markham, 1999).

The International Affective Picture System (IAPS; Lang, Bradely, & Cuthbert, 2001) consists of 823 pictures covering nine different domains. It has been widely used in cross-cultural research. To test the cross-cultural compatibility of the pictures in Chinese, Hu, Wei, and Guo (2005) conducted a large-scale normative study in which PRC subjects rated each picture for pleasure and arousal. The resulting ratings were found to be very similar to the American norms and it was concluded that the IAPS could be comfortably used in research on Chinese subjects.

Taking the IAPS as their model, Bai et al. (2005) developed the Chinese Affective Picture System (CAPS), an indigenous system consisting of 852 pictures of Chinese faces, scenes, and animals (e.g. Panda bears). Affective ratings of the pictures for pleasure, arousal, and dominance were obtained; internal validities were established. This system provided indigenous materials for research on emotion recognition among Chinese subjects.

While the above studies based the development of facial expressions on themes, another group of studies started with basic emotions (Ekman et al., 1987). Wang and his colleagues spearheaded a program of research on developing facial expressions to define happiness, anger, sadness, fear, surprise, and disgust. Wang and Markham (1999; see also Wang, Hoosain, Lee, Meng, Fu, & Yang, 2006) created a set of Chinese faces expressing these six basic emotions, resulting in 400 pictures, among which sixty-two were found to reliably express one of the six emotions.

Emotion recognition

To what extent is the recognition of emotion in faces universal or specific to a particular culture? This question has been as fascinating as it has been vexing to emotion psychologists since the time of Charles Darwin, as has the role of culture in emotion recognition. The consensus is that, first, emotions are recognizable at above-chance levels across cultures, although cultural variation is consistent across cultures; and, second, people of different cultures differ in their ability to recognize emotions in facial expressions.

The cultural variations in emotion recognition have inspired a line of research studying the effect of in-group advantage, in which higher recognition accuracy rates are evident in cases when both the encoder (the subject in the picture) and the decoder (the subject looking at the picture) belong to the same cultural group (Elfenbein & Ambady, 2002). This finding is also consistent with Klineberg's (1938) proposition that 'photographs illustrating these [Chinese-specific] literary expressions are judged more easily by Chinese than by American subjects' (p. 520). When Caucasian facial stimuli (e.g. IAPS) were used, recognition rates were always higher in North American samples than in Asian samples (see Yik & Russell, 1999). The question 'If Chinese facial stimuli are used, will Chinese subjects perform better than their American counterparts?' remains unanswered.

Yik et al. (1998) conducted a trilingual study on emotion recognition using Meng, Yan, and Meng's (1985) thirteen spontaneously posed pictures of PRC Chinese babies under different mood inductions. Contrary to the predictions based on in-group advantage, their Hong Kong Chinese subjects performed worse than their Canadian counterparts; their Japanese subjects fell between the prior groups. Chinese were less accurate than Americans in recognizing emotions in facial expressions. When the indigenous pictures, along with Ekman's pictures, were administered to PRC Chinese and Australian children who were four, six, and eight years old, the emotions on the Chinese faces were better recognized by both cultural groups than were the emotions on the Caucasian faces (Markham &

Wang, 1996). This finding contradicts the findings reported by Elfenbein and Ambady (2003), who found that emotions on Chinese faces were more difficult for participants to recognize than were emotions on Caucasian faces, regardless of their culture.

Taken together, these results appear to suggest that the in-group advantage was at work when facial stimuli in pictures of PRC Chinese were shown to PRC Chinese subjects, but not to Hong Kong Chinese subjects. The results, although tentative, are fascinating and consistent with Elfenbein and Ambady's (2003) cultural familiarity hypothesis. When the authors compared recognition abilities among PRC Chinese, Chinese living in the United States, Chinese-Americans, and Americans of non-Asian ancestry, they found that the accuracy and speed of emotion recognition were greater when the subjects had greater exposure to the posers' cultural group. It was thus a 'familiarity breeds accuracy' effect, rather than an in-group effect that accounted for superior performance in emotion recognition (see Matsumoto, 1992, for a different view). Perhaps by being exposed to the PRC Chinese posers, the PRC Chinese subjects gained an advantage in recognizing the emotions in the pictures.

To summarize, the past decade has witnessed a growth of research on developing indigenous Chinese facial stimuli to provide inputs for conducting intra-cultural studies. Studies of facial expressions of emotions were primarily restricted to recognition research and to providing support for the universality hypothesis, but there are some indicators of cultural differences. Unfortunately, how extensive the differences are and why there are differences remain to be explored. In-group advantage, or the cultural familiarity hypothesis, certainly provides a head start in understanding cultural variations in emotion recognition.

Currently, these hypotheses have been tested by comparing responses from Chinese living in different parts of the world with responses from European-Americans. Future studies can be directed at testing them using Chinese living in different provinces in the PRC, thereby controlling for ethnic background (see Beaupré & Hess, 2005). Last but not least, the studies reviewed here concern the capacity to attribute an emotion label to an expression inside the laboratory. Results do not indicate how emotions are expressed and recognized in everyday life (see Yik & Russell, 1999).

Physiological and behavioral responses

James (1884) was among the first psychologists to propose that different emotional states are associated with specific patterns of autonomic nervous system changes. His speculations are central to many theories such that there is a notion that any Autonomic Nervous System (ANS) pattern is a straightforward reflection of the emotional state of the individual (Mauss & Robinson, 2009). In studying the emotional responses elicited during a conversation about a conflict, Tsai and her colleagues (Tsai & Levenson, 1997; Tsai, Levenson, & McCoy, 2006) measured physiological changes and behaviors in addition to subjective self-reports of emotions. The team found that physiological measures were least susceptible to cultural influences as compared with self-reports and behaviors.

Soto, Levenson, and Ebling (2005) examined reactions to aversive acoustic startle stimuli in Chinese-Americans and Mexican-Americans. Consistent with the ethnographic account that Chinese are emotionally restrained (Bond, 1993; Kleinberg, 1938; Potter, 1988), the Chinese subjects reported fewer emotions than did the Mexican subjects. Nonetheless, neither emotional behaviors (facial and upper body movements) nor physiological measures (e.g. finger temperature, skin conductance level, blood pressure, finger pulse) revealed significant differences between the two criterion groups.

In summary, the notion obtained from ethnographic studies that culture influences the experience of emotion received mixed support in the studies reviewed here. In line with the findings reporting null findings for the effect of culture on emotional responses to a startle stimulus (Lee & Levenson, 1992) and to emotion-induction films (Tsai, Levenson, & Carstensen, 2000), no cultural difference was found in the physiological measures. Perhaps ANS activity simply indexes the arousal level of an emotional state rather than its distinct emotional nature (Cannon, 1931; Duffy, 1957; Schachter & Singer, 1962). Perhaps finer-grained ANS measures will lead to emotion-specific patterns in the future, but more studies are certainly needed before firm conclusions can be drawn.

Somatization

In Chinese societies, emotions are thought to be associated with physiological events. Somatization refers to the experience of bodily or somatic symptoms in place of an emotion and this has been said to be common among the Chinese in their reactions to emotional states. Some writers argued that the phenomenon reflects the lack of a working vocabulary on emotion in Chinese, although Russell and Yik (1996) have demonstrated otherwise. Still other writers have suggested that somatization implies the lack of psychologization (Kleinman & Kleinman, 1985; Tseng, 1975). Wu (1982) suggested that culture-specific expression of an emotion in Chinese is dependent upon the situation. As Ots (1990) argued, 'Chinese are culturally trained to "listen" within their body' (p. 26).

Tsai, Simeonova, and Watanabe (2004) tested the culture-specific hypothesis by comparing the words used in expressing emotional experiences between Chinese-American and European-American subjects (with English used for all participants). Their results showed that the Chinese group deployed more somatic (e.g. dizzy) and social (e.g. friends) words when they talked about their emotions. Using a representative community sample of over 1,700 Chinese Americans living in Los Angeles, Mak and Zane (2004) found that reports of somatic symptoms (e.g. dizzy, hot/cold spells) were not related to the length of their stay in the USA; rather, they were related to negative emotions reported, such as anxiety and depression.

These two studies employed Chinese subjects with different levels of exposure to American culture and yielded different results. One relied on in-depth interviews and qualitative analysis of the conversational scripts; the exposure to American culture was restricted to two levels. The other study relied on a quantitative survey approach in which the level of exposure or acculturation to American culture was treated as a continuous variable in testing for the effect of culture. The divergence in their conclusions clearly provides an avenue for future intra-cultural research, be the research quantitative or qualitative, to compare the interplay between the level of acculturation to Chinese values, beliefs, and norms and the level of somatization within the geographical map of the PRC.

Socialization of emotions

One early socialization task for children is to learn to 'express and regulate their emotions in socially desirable and valued ways' (Eisenberg, Cumberland, & Spinrad, 1998, p. 242). Most children have acquired basic understanding of emotions by the age of three to four, which also marks their earliest recollections of childhood in their memories (Wang, 2008). Research has shown that mother-child relations during childhood shape the emotional experiences of children as they grow up. These experiences have direct influence on autobiographical memory and emotional expressivity (Camras, Chen, Bakeman, Norris, & Cain, 2006; Wang, 2008). Although a significant number of studies have examined parental socialization of emotion, little research has looked into the mechanisms through which children learn emotions (Tsai, Louie, Chen, & Uchida, 2007). In this section, I examine two possible pathways to socialization of emotions, namely mother-child interactions and storybooks.

Mother-child interactions

Autobiographical memory, the recollection of childhood events, refers to specific, long-lasting memories of significant personal experiences in an individual's life. It encompasses memories of personally significant episodes (Nelson & Fivush, 2004), and is critical to the formation of self-identity and psychological well-being (Fivush, 1998). Research has found that the autobiographical memory is characterized by heightened emotional arousal (McGaugh, 2003). What are the antecedents to autobiographical memory? Writers have spearheaded a pioneering line of studies on examining one such antecedent, namely emotion knowledge, among US and PRC children.

Emotion knowledge facilitates the understanding and organization of significant event information and contributes to building autobiographical memory. Wang (2008) conducted the first longitudinal study to test the contribution of emotion knowledge to autobiographical memory in children

who were European-American, Chinese immigrants to the USA, and PRC Chinese. Children were visited three times at ages three, three and a half, and four. In each visit, they described two events that had happened in the past two months. Their autobiographical recollections were coded for specificity and emotion language. Their emotion knowledge was tapped by the number of situations they could provide for provoking happy, sad, fearful, and angry emotions. European-American children showed an overall better understanding of emotion situations than did their Chinese peers; they recalled events by giving more specific details and using more emotion terms. All three groups demonstrated improvement in memory specificity over time. Emotion knowledge contributed uniquely to the ability to report quality autobiographical memories and this effect was robust across the three cultural groups and age groups.

Similarly, Wang (2001a) found that American adults' reports were lengthy, detailed, and emotionally elaborated; their earliest memory could be dated back to age three and a half. The Chinese adults' reports were relatively brief and centered on collective activities and emotionally neutral events; their earliest memory could be dated back to age four.

Wang's (2008) study provides compelling evidence for the close connections between emotion knowledge and autobiographical memory. Still, what can possibly account for the cultural variations in both children's and adults' recollections? Childhood narratives provide one possibility. Fivush and Wang (2005) studied the mother-child dialogues about their past events and found that Chinese dyads used more negative emotion words than did the American dyads. Perhaps the discussion of negative emotion serves the purpose of educating children in the culturally appropriate way to display emotion. In Wang's (2001b) discursive analysis, Chinese mothers were found to demonstrate an emotionally critical style that focused on proper behavior in children and gave few explanations for the experienced emotions. In stark contrast, American mothers adopted an emotionally explanatory style that emphasized an understanding of, and explained the antecedents to, emotions. Such dialogues seem to serve the culture-specific mission of transmitting to children knowledge about emotions. In studies comparing PRC Chinese with American children of ages three to six in their ability to identify the emotions expressed in twenty short stories, Americans demonstrated greater understanding of emotion (Wang, 2003).

To summarize, studies of autobiographical memory have provided apparent support for the importance of emotion knowledge and mother-child interactions in the cultural learning process. The strength of the relation between emotion knowledge and autobiographical memory varied across cultures, although the children's performance improved with age. No gender difference was noted. Interestingly enough, all previous studies have focused upon the mothers' role in the socialization process. A much broader spectrum of cultural agents, such as fathers and teachers, should be consulted in future research, and mediating variables explored to account for the cultural differences found (Bond & Van de Vijver, in press). It is not enough to merely document differences; it is time to explain their underpinnings (Bond, 2009).

Storybooks

So far, studies seem to suggest that culture exercises its influence on emotional experience via mother-child or family narratives. Parents or mothers certainly play an important role in the socialization of emotion. Camras and her colleagues have found that, compared with PRC Chinese, European-American mothers reported more positive emotional expressions (Camras, Kolmodin, & Chen, 2008); their children smiled more in a mood induction study (Camras et al., 2006). In addition, parents might expose their children to other cultural practices or media. Children were read books that were selected by parents or teachers (Miller, Wiley, Fung, & Liang 1997) through which they learned, for instance, what feelings are desired or valued in their culture.

Tsai, Louie, Chen, and Uchida (2007) tested this alternative pathway through books to socialize children's ideal affects. They found that European-American preschoolers preferred exciting activities more and perceived an excited smile as happier than did their Taiwanese peers. When they compared the contents of the best-selling storybooks in the USA and Taiwan, American bestsellers

were found to portray more excited expressions, wider smiles, and stronger arousing activities than did Taiwanese storybooks.

Inspired by the cultural variation in the ideal affect sought by people of different cultures (Tsai et al., 2006), Tsai et al. (2007) examined children's exposure to storybooks as a pathway to socialization of ideal affect, and found that cultural variations generalized to the American and Taiwanese preschoolers. Culture comprises socially transmitted ideas that are supported by practices, products, and institutions extant in the cultural context (see Kroeber & Kluckhohn, 1952; Markus, Uchida, Omoregie, Townsend, & Kitayama, 2006). Future studies should explore other socialization practices such as interactions between parents and children, and teachers and children.

Conclusion

Chinese are in certain respects

a. like all other people

b. like some other people

c. like no other people.[1]

Those seeking to understand the universal aspects of emotion have often turned to China for their research. Those seeking to understand culture-specific aspects of emotion have also turned to China for their research. In the last decade, Chinese emotion research has immensely benefited from researchers coming from different perspectives and taking important steps in the clarification of Chinese emotion. They have taken the step from studying Chinese undergraduate students in their own countries to studying Chinese groups differing in age and country of residence. The field has witnessed the expansion of comparison groups to Chinese (PRC, Hong Kong, Taiwan), Chinese living in the USA, Caucasians of Asian ancestry, and Caucasians of non-Asian ancestry. To me, this enlargement is already a quantum leap towards a paradigmatic shift, a shift that will be further accelerated by including a broader spectrum of samples and age groups.

Here, I have tried to summarize the evidence so far offered in the debate between the universality thesis and the culture-specific thesis of emotion. Given the four areas that were reviewed in this chapter, it may be tempting to conclude that the evidence seems to suggest that the similarities between Chinese and other people outweigh the differences. I argue that this conclusion is premature on the following grounds. First, the general trend observed seems to suggest that at the general level, Chinese are similar to people from other cultures. However, it seems that the more fine-grained the analysis, the greater the number of differences that tend to be uncovered. Second, my conclusions on such areas are only as good as the evidence collected. Cultural variations were usually supported in studies in which groups were presumably exposed to different levels of Chinese culture (e.g. European-Americans, PRC Chinese, Chinese immigrants). Culture was, however, assumed rather than measured. Culture seems to be a very encompassing concept and was hypothesized to influence many different emotions, from calm, happy, and excited, to shame and guilt. The nature of the cultural influence exercised needs to be identified and theoretically linked in future research (see Bond & Van de Vijver, in press) to further inform us of what is universal and what is unique about Chinese emotion. These are not tangential questions; their answers represent a fundamental but under-studied issue that illuminates the ultimate concerns informing the psychology of emotion.

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Chapter note

1 I am indebted to Kluckhohn and Murray (1953), whose original observation I have applied here to the Chinese people.

References

Bagozzi, R. P., Wong, N., & Yi, Y. (1999). The role of culture and gender in the relationship between positive and negative affect. *Cognition and Emotion, 13*, 641–672.

Bai, L., Ma, H., & Huang, Y. (2005). The development of Native Chinese Affective Picture System – A pretest in 46 college students. *Chinese Mental Health Journal, 19*, 719–722. (in Chinese)

Beaupré, M. G. & Hess, U. (2005). Cross-cultural emotion recognition among Canadian ethnic groups. *Journal of Cross-Cultural Psychology, 36*, 355–370.

Bedford, O. A. (2004). The individual experience of guilt and shame in Chinese culture. *Culture & Psychology, 10*, 29–52.

Benedict, R. (1946). *The chrysanthemum and the sword.* Boston, MA: Houghton-Mifflin.

Berry, J. W. (1969). On cross-cultural comparability. *International Journal of Psychology, 4*, 119–128.

Bond, M. H. (1993). Emotion and their expression in Chinese culture. *Journal of Nonverbal Behavior, 17*, 245–262.

Bond, M. H. (2009). Circumnavigating the psychological globe: From yin and yang to starry, starry night. In S. Bekman & A. Aksu-Koç (eds), *Perspectives on human development, family, and culture* (pp. 31–49). Cambridge, UK: Cambridge University Press.

Bond, M. H. & Van de Vijver, F. J. R. (in press). Making scientific sense of cultural differences in psychological outcomes: Unpackaging the *Magnum Mysterium.* In D. Matsumoto & F. J. R. Van de Vijver (eds), *Cross-cultural research methods.* New York: Oxford University Press.

Camras, L. A., Chen, Y., Bakeman, R., Norris, K., & Cain, T. R. (2006). Culture, ethnicity, and children's facial expressions: A study of European American, Mainland Chinese, Chinese American, and adopted Chinese girls. *Emotion, 6*, 103–114.

Camras, L. A., Kolmodin, K., & Chen, Y. (2008). Mothers' self-reported emotional expression in Mainland Chinese, Chinese American and European American families. *International Journal of Behavioral Development, 32*, 459–463.

Cannon, W. B. (1927). The James–Lange theory of emotions: A critical examination and an alternative theory. *The American Journal of Psychology, 39*, 106–124.

Casimir, M. J. & Schnegg, M. (2003). Shame across cultures: The evolution, ontogeny, and function of a 'moral emotion'. In H. Keller, Y. H. Poortinga, & A. Scholmerich (eds), *Between culture and biology: Perspectives on ontogenic development* (pp. 270–300). Cambridge, UK: Cambridge University Press.

Chan, D. W. (1985). Perception and judgment of facial expressions among the Chinese. *International Journal of Psychology, 20*, 681–692.

Chu, C. L. (1972). On the shame orientation of the Chinese from the interrelationship among society, individual, and culture. In I. Y. Lee & K. S. Yang (eds), *Symposium on the character of the Chinese: An interdisciplinary approach* (pp. 85–125). Taipei, Taiwan: Institute of Ethnology, Academia Sinica. (in Chinese)

Dixon, R. M. W. (1977). Where have all the adjectives gone? *Studies in Language, 1*, 19–80.

Duffy, E. (1957). The psychological significance of the concept of arousal or activation. *Psychological Review, 64*, 265–275.

Eid, M. & Diener, E. (2001). Norms for experiencing emotions in different cultures: Inter- and intranational differences. *Journal of Personality and Social Psychology, 81*, 869–885.

Eisenberg, N., Cumberland, A., & Spinrad, T. L. (1998). Parental socialization of emotion. *Psychological Inquiry, 9*, 241–273.

Ekman, P., Friesen, W. V., O'Sullivan, M., Chan, A., Diacoyanni-Tarlatzis, I., Heider, K., Krause, R., Le Compte, W. A., Pitcairn, T., Ricci Bitti, P. E., Scherer, K., Tomita, M., & Tzavaras, A. (1987). Universals and cultural differences in the judgments of facial expressions of emotion. *Journal of Personality and Social Psychology, 53*, 712–717.

Elfenbein, H. A. & Ambady, N. (2002). Is there an in-group advantage in emotion recognition? *Psychological Bulletin, 128*, 243–249.

Elfenbein, H. A. & Ambady, N. (2003). When familiarity breeds accuracy: Cultural exposure and facial emotion recognition. *Journal of Personality and Social Psychology, 85*, 276–290.

Fivush, R. (1998). Children's recollections of traumatic and nontraumatic events. *Development and Psychopathology, 10*, 699–716.

Fivush, R. & Wang, Q. (2005). Emotion talk in mother–child conversations of the shared past: The effects of culture, gender, and event valence. *Journal of Cognition and Development, 6*, 489–506.

Frijda, N. H. & Mesquita, B. (1995). The social roles and functions of emotions. In S. Kitayama & H. R. Markus (eds), *Emotion and culture: Empirical studies of mutual influence* (pp. 51–87). Washington, DC: American Psychological Association.

Fung, H. (1999). Becoming a moral child: The socialization of shame among young Chinese children. *Ethos, 27*, 180–209.

Goldberg, L. (1981). Language and individual differences: The search for universal in personality lexicons. *Review of Personality and Social Psychology, 2*, 141–165.

Green, D. P., Goldman, S. L., Salovey, P. (1993). Measurement error masks bipolarity in affect ratings. *Journal of Personality and Social Psychology, 64*, 1029–1041.

Hamid, P. N. & Cheng, S. T. (1996). The development and validation of an index of emotional disposition and mood state: The Chinese Affect Scale. *Educational and Psychological Measurement, 56*, 995–1014.

Ho, D. Y. F., Fu, W., & Ng, S. M. (2004). Guilt, shame, and embarrassment: Revelations of face and self. *Culture and Psychology, 10*, 64–84.

Hu, S., Wei, N., & Guo, W. (2005). Cross-cultural study of affective reactions of Chinese and American healthy adults. *Chinese Journal of Clinical Psychology, 13*, 265–276. (in Chinese)

Izard, C. E. (1977). *Human emotions.* New York: Plenum Press.

James, W. (1884). What is an emotion? *Mind, 9*, 188–205.

Jiang, D. & Yik, M. (2009, May). *What affective feelings do Chinese want to feel?* Poster session presented at the 2009 APS Annual Convention, San Francisco, CA.

Kam, C. C. S. & Bond, M. H. (2008). The role of emotions and behavioral responses in mediating the impact of face loss on relationship deterioration: Are Chinese more face-sensitive than Americans? *Asian Journal of Social Psychology, 11*, 175–184.

Kitayama, S., Markus, H. R., & Matsumoto, H. (1995). Culture, self, and emotion: A cultural perspective on 'self-conscious' emotions. In J. Tangley & K. W. Fischer (eds), *Self-conscious emotions: The psychology of shame, guilt, embarrassment, and pride* (pp. 439–464). New York: Guilford.

Kleinman, A. & Kleinman, J. (1985). Somatization: The interconnections in Chinese society among culture, depressive experiences, and the meanings of pain. In A. Kleinman & B. Good (eds), *Culture and depression: Studies in the anthropology and cross-cultural psychiatry of affect and disorder* (pp. 429–490). Berkeley, CA: University of California Press.

Klineberg, O. (1938). Emotional expression in Chinese literature. *Journal of Abnormal and Social Psychology, 33*, 517–520.

Kluckhohn, C. & Murray, H. A. (1953). *Personality in nature, society and culture.* New York: Alfred A. Knopf.

Kroeber, A. L. & Kluckhohn, C. (1952). *Culture: A critical review of concepts and definitions.* Cambridge, MA: Peabody Museum of Archaeology & Ethnology.

Lang, P. J., Bradeley, M. M., & Cuthbert, B. N. (2001). *International Affective Picture System (IAPS): Instruction Manual and Affective Ratings. Technical report A-5.* Gainesville, FL: The Center for Research in Psychophysiology, University of Florida.

Larsen, R. J. & Diener, E. (1992). Promises and problems with the circumplex model of emotion. In M. S. Clark (ed.), *Review of Personality and Social Psychology: Emotion* (Volume 13, pp. 25–59). Newbury Park, CA: Sage.

Lee, A. Y., Aaker, J. L., & Gardner, W. L. (2000). The pleasures and pains of distinct self-construals: The role of interdependence in regulatory focus. *Journal of Personality and Social Psychology, 78*, 1122–1134.

Lee, K. J. & Levenson, R. W. (1992, October). *Ethnic differences in emotional reactivity to an unanticipated startle.* Paper presented at the meeting of the Society for Psychophysiological Research, San Diego, CA.

Leighton, D. & Kluckhohn, C. (1947). *Children of the people: The Navaho individual and his development.* Cambridge, MA: Harvard University Press.

Levy, R. I. (1973). *Tahitians: Mind and experience in the Society Islands.* Chicago, IL: University of Chicago Press.

Li, J. (2002). A cultural model of learning: Chinese 'heart and mind for wanting to learn'. *Journal of Cross-Cultural Psychology, 33*, 248–269.

Li, J., Wang, L., & Fischer, K. W. (2004). The organization of Chinese shame concepts. *Cognition and Emotion, 18*, 767–797.

Mak, W. W. S. & Zane, N. W. S. (2004). The phenomenon of somatization among community Chinese Americans. *Social Psychiatry and Psychiatric Epidemiology, 39*, 967–974.

Markham, R. & Wang L. (1996). Recognition of emotion by Chinese and Australian children. *Journal of Cross-Cultural Psychology, 27*, 616–643.

Markus, H. R. & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224–253.

Markus, H. R., Uchida, Y., Omoregie, H., Townsend, S., & Kitayama, S. (2006). Going for the gold: Models of agency in Japanese and American contexts. *Psychological Science, 17*, 103–112.

Matsumoto, D. (1992). American-Japanese cultural differences in the recognition of universal facial expressions. *Journal of Cross-Cultural Psychology, 23*, 72–84.

Mauss, I. B. & Robinson, M. D. (2009). Measures of emotion: A review. *Cognition and Emotion, 23*, 209–237.

McGaugh, J. L. (2003). *Memory and emotion: The making of lasting memories.* New York: Columbia University Press.

Meng, Z., Yan, J., & Meng, X. (1985). A preliminary study on facial expression patterns of infants. *Acta Psychologica Sinica, 1*, 55–61. (in Chinese)

Miller, P. J., Wiley, A. R., Fung, H., & Liang, C. H. (1997). Personal storytelling as a medium of socialization in Chinese and American families. *Child Development, 68*, 557–568.
Nelson, K. & Fivush, R. (2004). The emergence of autobiographical memory: A social cultural developmental theory. *Psychological Review, 111*, 486–511.
Ots, T. (1990). The angry liver, the anxious heart, and the melancholy spleen: The phenomenology of perceptions in Chinese culture. *Culture, Medicine, and Psychiatry, 14*, 21–58.
Potter, S. H. (1988). The cultural construction of emotion in rural Chinese social life. *Ethos, 16*, 181–208.
Remington, N. A., Fabrigar, L. R., & Visser, P. S. (2000). Re-examining the circumplex model of affect. *Journal of Personality and Social Psychology, 79*, 286–300.
Russell, J. A. (1979). Affective space is bipolar. *Journal of Personality and Social Psychology, 37*, 345–356.
Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology, 39*, 1161–1178.
Russell, J. A. (1983). Pancultural aspects of the human concept organization of emotions. *Journal of Personality and Social Psychology, 45*, 1281–1288.
Russell, J. A. (1991). Culture and the categorization of emotions. *Psychological Bulletin, 110*, 426–450.
Russell, J. A. & Carroll, J. M. (1999). On the bipolarity of positive and negative affect. *Psychological Bulletin, 125*, 3–30.
Russell, J. A., Lewicka, M., & Niit, T. (1989). A cross-cultural study of a circumplex model of affect. *Journal of Personality and Social Psychology, 57*, 848–856.
Russell, J. A. & Yik, M. (1996). Emotion among the Chinese. In M. H. Bond (ed.), *The handbook of Chinese psychology* (pp. 166–188). Hong Kong: Oxford University Press.
Schachter, S. & Singer, J. E. (1962). Cognitive, social, and physiological determinants of emotional state. *Psychological Review, 69*, 379–399.
Schimmack, U., Oishi, S., & Diener, E. (2002). Cultural influences on the relation between pleasant emotions and unpleasant emotions: Asian dialectic philosophies or individualism-collectivism? *Cognition and Emotion, 16*, 705–719.
Schneider, C. D. (1977). *Shame, exposure, and privacy.* Boston, MA: Beacon.
Schoenhals, M. (1993). *The paradox of power in a People's Republic of China middle school.* Armonk, NY: Sharpe.
Scollon, C. N., Diener, E., Oishi, S., & Biswas-Diener, R. (2005). An experience sampling and cross-cultural investigation of the relation between pleasant and unpleasant affect. *Cognition and Emotion, 19*, 27–52.
Shaver, P. R., Murdaya, U., & Fraley, R. C. (2001). Structure of the Indonesian emotion lexicon. *Asian Journal of Social Psychology, 4*, 201–224.
Shaver, P. R., Wu, S., & Schwartz, J. C. (1992). Cross-cultural similarities and differences in emotion and its representation: A prototype approach. In M. S. Clark (ed.), *Review of Personality and Social Psychology* (Vol. 13, Emotion, pp. 175–212). Newbury Park, CA: Sage.
Singelis, T. M., Bond, M. H., Sharkey, W. F., & Lai, C. S. Y. (1999). Unpacking culture's influence on self-esteem and embarrassability: The role of self-construals. *Journal of Cross-Cultural Psychology, 30*, 315–341.
Soto, J. A., Levenson, R. W., & Ebling, R. (2005). Cultures of moderation and expression: Emotional experience, behavior, and physiology in Chinese Americans and Mexican Americans. *Emotion, 5*, 154–165.
Sommers, S. (1984). Adults evaluating their emotions: A cross-cultural perspective. In C. Z. Malatesta & C. Izard (eds), *Emotion in adult development* (pp. 319–338). Beverly Hills, CA: Sage.
Stipek, D. (1998). Differences between Americans and Chinese in the circumstances evoking pride, shame, and guilt. *Journal of Cross-Cultural Psychology, 29*, 616–629.
Tangney, J. P. & Fischer, K. W. (1995). *Self-conscious emotions: The psychology of shame, guilt, embarrassment, and pride.* New York: Guilford.
Tangney, J. P., Miller, R., Flicker, L., & Barlow, D. H. (1996). Are shame, guilt, and embarrassment distinct emotions? *Journal of Personality and Social Psychology, 70*, 1256–1269.
Thayer, R. E. (1996). *The origin of everyday moods: Managing energy, tension, and stress.* New York: Oxford University Press.
Tsai, J. L., Knutson, B., & Fung, H. H. (2006). Cultural variation in affect valuation. *Journal of Personality and Social Psychology, 90*, 288–307.
Tsai, J. L. & Levenson, R. W. (1997). Cultural influences on emotional responding: Chinese American and European American dating couples during interpersonal conflict. *Journal of Cross-Cultural Psychology, 28*, 600–625.
Tsai, J. L., Levenson, R. W., & Carstensen, L. L. (2000). Autonomic, subjective, and expressive responses to emotional films in older and younger Chinese Americans and European Americans. *Psychology and Ageing, 15*, 684–693.
Tsai, J. L., Levenson, R. W., & McCoy, K. (2006). Cultural and temperamental variation in emotional response. *Emotion, 6*, 484–497.
Tsai, J. L., Louie, J. Y., Chen, E. E., & Uchida, Y. (2007). Learning what feelings to desire: Socialization of ideal affect through children's storybooks. *Personality and Social Psychology Bulletin, 33*, 17–30.
Tsai, J. L., Simeonova, D. I., & Watanabe, J. T. (2004). Somatic and social: Chinese Americans talk about emotion. *Personality and Social Psychology Bulletin, 30*, 1226–1238.
Tseng, W. S. (1975). The nature of somatic complaints among psychiatric patients: The Chinese case. *Comprehensive Psychiatry, 16*, 237–245.
Wang, K., Hoosain, R., Lee, T. M. C., Meng, Y., Fu, J., & Yang, R. (2006). Perception of six basic emotional facial expressions by the Chinese. *Journal of Cross-Cultural Psychology, 37*, 623–629.

Wang, L., Li, Z., Liu, H., & Du, W. (2007). Factor structure of general dimension scales of PANAS-X in Chinese people. *Chinese Journal of Clinical Psychology, 15*, 565–568. (in Chinese)

Wang, L. & Markham, R. (1999). The development of a series of photographs of Chinese facial expressions of emotion. *Journal of Cross-Cultural Psychology, 30*, 397–410.

Wang, Q. (2001a). Culture effects on adults' earliest childhood recollection and self-description: Implications for the relation between memory and the self. *Journal of Personality and Social Psychology, 81*, 220–233.

Wang, Q. (2001b). 'Did you have fun?': American and Chinese mother–child conversations about shared emotional experiences. *Cognitive Development, 16*, 693–715.

Wang, Q. (2003). Emotion situation knowledge in American and Chinese preschool children and adults. *Cognition and Emotion, 17*, 725–746.

Wang, Q. (2008). Emotion knowledge and autobiographical memory across the preschool years: A cross-cultural longitudinal investigation. *Cognition, 108*, 117–135.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS Scale. *Journal of Personality and Social Psychology, 54*, 1063–1070.

Watson, D. & Tellegen, A. (1985). Toward a consensual structure of mood. *Psychological Bulletin, 98*, 219–235.

Wiggins, J. S. (1979). A psychological taxonomy of trait-descriptive terms: The interpersonal domain. *Journal of Personality and Social Psychology, 37*, 395–412.

Wu, D. Y. H. (1982). Psychotherapy and emotion in traditional Chinese medicine. In A. J. Marsella & G. M. White (eds), *Cultural conceptions of mental health and therapy* (pp. 285–301). Dordrecht, Holland: D. Reidel.

Yik, M. (2007). Culture, gender, and the bipolarity of momentary affect. *Cognition and Emotion, 21*, 664–680.

Yik, M. (2009a). The bipolarity of momentary affect: Reply to Schimmack. *Cognition and Emotion, 23*, 605–610.

Yik, M. (2009b). *The structure of affect in a stressful moment.* Poster session presented at the 2009 APS Annual Convention, San Francisco, CA.

Yik, M. (2009c). Studying affect among the Chinese: The circular way. *Journal of Personality Assessment, 91*, 416–428.

Yik, M. (2009d). *What's interpersonal about the Chinese circumplex model of affect?* Poster session presented at the Association for Research in Personality, Evanston, IL.

Yik, M., Meng, Z., & Russell, J. A. (1998). Adults' freely produced emotion labels for babies' spontaneous facial expressions. *Cognition and Emotion, 12*, 723–730.

Yik, M. & Russell, J. A. (1999). Interpretation of faces: A cross-cultural study of a prediction from Fridlund's theory. *Cognition and Emotion, 13*, 93–104.

Yik, M. & Russell, J. A. (2003). Chinese Affect Circumplex: I. Structure of recalled momentary affect. *Asian Journal of Social Psychology, 6*, 185–200.

Yik, M., Russell, J. A., Ahn, C. K., Fernández Dols, J. M., & Suzuki, N. (2002). Relating the Five-Factor Model of personality to a circumplex model of affect: A five language study. In R. R. McCrae & J. Allik (eds), *The Five-Factor Model of personality across cultures* (pp. 79–104). New York: Kluwer Academic/Plenum.

Yik, M., Russell, J. A., & Barrett, L. F. (1999). Structure of self-reported current affect: Integration and beyond. *Journal of Personality and Social Psychology, 77*, 600–619.

Yik, M., Russell, J. A., & Steiger, J. H. (2010). *A 12-point circumplex model of core affect.* Manuscript submitted for publication.

Zeng, K. J. & Yik, M. (2009). *Testing relativity in the perception of emotion within the circumplex model.* Poster session presented at the 2009 APS Annual Convention, San Francisco, CA.

Zhong, J. & Qian, M. (2005). A study of development and validation of Chinese Mood Adjective Check List. *Chinese Journal of Clinical Psychology, 13*, 8–13. (in Chinese)

The Oxford Handbook of Chinese Psychology

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