

A Crosscultural Study of Identification of Emotions: China and the United States

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This study compared the recognition of emotions of Chinese and American subjects from photographic expressions. The author administered the Leathers Facial Meaning Sensitivity Test to 110 Chinese University students at Peoples University in Beijing, China, from all four classes, freshmen to seniors, in November 1995. The scores made by the Chinese students in correctly identifying photographs in three tasks were compared with those made by American subjects in a study which Leathers and Emigh published in 1980. (Leathers and Emigh, 1980)

Researchers in this century have established that emotions and facial expressions are intimately related. (Izard, 1970, p.16) More specifically Ekman, Freestone, & Ellsworth (1972, p.64) confirm that researchers using the categoric approach have found that the face is capable of communicating seven broad classes of emotions: happiness, surprise, fear, anger, sadness, interest, and disgust-contempt. Leathers and Emigh separated disgust and contempt into two distinct emotions and added bewilderment and determination to make the ten basic emotions which were used in this study as well. Further, they added a dimensional approach which meant that three different degrees of each emotion were developed for each of the basic ten emotions. For example, the extended sub-meanings for Anger were Rage, Hate, and Annoyance. Using this dimensional approach with their study of 268 American subjects, Leathers and Emigh (1980, p. 432) found that "that decoders can distinguish among highly specialized kinds of facial meaning with a degree of precision and accuracy not previously thought to be possible."

The claims "that emotional reactions, particularly facial and vocal expressions, are innate and thus universal as well as specific for at least some basic, discrete emotions like joy, sadness, fear, and anger," began with Charles Darwin's publishing in 1872 his work *on The Expression of the Emotions in Men and Animals*. (Walbott & Sherer, (1988), p.31) This sparked the debate between the "Universalist" and the "culture specific view" of emotional expression. Twentieth century research has favored the universalist view. For example, Izard conducted studies with photographs to Americans and European cultures to Africans and to Japanese and a modified series to American, Turkish, Indian, and Japanese samples with the accuracy of agreement across cultures being 78 percent, whereas 12 1/2 percent would be expected by chance. (Izard, 1972, pp. 265-6.)

Finally, a 1986 cross cultural study by Ekman and Freestone found a 73 to 90% agreement for the six emotions of happy, surprise, fear, disgust, and anger. Contempt was also included and validated for the first time in a cross-cultural setting. In this study,

photographs were shown to student in ten countries: Estonia, Greece, Hong Kong, Italy, Japan, Scotland, Turkey, United States, and West Germany. (Plutchik, 1994, pp. 155-6)

Chinese Communication Traits

Nanchu Li (1988, p.49) cites Jingjing Xi (1986, p. 42) in her article "Three Continents" stating that "Chinese women are well known for their quietness. But their faces are too cold and expressionless." This may testify to the "inscrutable Chinese" image as the cliché most associated with their facial expressions. This ascribed trait may have arisen from the principle of "saving face." Thus, showing anger with accompanying facial expression at an offense may be suppressed in order to save face of the offender. The Chinese have long been known for their civility, politeness, their placid, decorous behavior, and their predictable, conventional manner. But there is also a flair for theatricality which runs throughout the culture. Little was found in the literature about actual facial expressions of the Chinese. In this study, however, the decoding rather than the encoding of emotional expression will be tested.

Procedure

Test I, II, and III of the Facial Meaning Sensitivity Test (FAST) were administered to 110 students at Remin (People's) University in Beijing, China, with 70 males and 40 females participating. In Test I subjects were asked to match ten photographs with ten (10) classes of listed emotions. Ten correct choices yield a score of ten. Percentages of correct choices were then compared to the scores of United States subjects using Chi square to determine any significant differences. Loren Lewis, an American female, posed for the photographs which were used but which will not be included in this report.

Test II asked subjects to choose three sub-categories of each emotion from thirty (30) photographs. Subjects could score 0, 1, 2, or 3 correct for each emotion; a perfect score would be 321 for 107 subjects. The display of data for the Leather-Emigh article made a comparison with the Chinese data problematic, so that no conclusions have been drawn for Test II. In Test III, the three sub-categories were given for each emotion, presented randomly. The subject was asked to match a photograph from the sheet of 30 photographs with the categories for each emotion. The results were compared with American subjects' percentages of correct choices, using Chi square to determine significant differences.

Instructions for all the Tests had been translated into Chinese to minimize ambiguity of interpretation. This was especially important in Tests II and III with the different shades of meaning. Tests were administered by the author and by other American teachers of English of the four different classes (freshmen through seniors) at Renmin University. The teachers reported no problems with the students interpreting the Chinese instructions.

Results

The results from data analyses are generally positive. Though the tables will not be included in this report, Test I results show that all ten emotions were identified by Chinese subjects at 62.7% or higher or an average of 74% accuracy. Three of the emotions, **Happiness, Anger, and Determination** were identified about equally well by Chinese and American subjects with Chinese actually scoring a higher percentage on happiness than those in the U.S. study. Seven emotions, however, were recognized at significantly higher

percentages by American subjects than by Chinese subjects, with **Disgust, Sadness, Contempt, and Surprise** significant ($p < .0001$), and three, **Interest, Bewilderment and Fear**, exceeding chance expectation at $p < .05$

There were no comparison data displayed for Test II. Results demonstrate that, of 30 sub-classes of facial meaning, over half (16) were recognized by both U.S. and Chinese subjects with no significant differences. Broken down, they are as follows:

Anger:	rage
Bewilderment:	doubt, stupidity
Fear:	terror
Contempt:	disdain, arrogance
Happiness:	laughter, love, amusement
Sadness:	disappointment, pensive
Interest:	excitement
Determination:	stubborn, belligerent

In five of these Chinese actually scored a higher percentage than U.S. subjects--in *rage, love, amusement, excitement, and stubborn.*

In the other fourteen (14) sub-class meanings significant differences emerged, six at $p < .0001$, four at $p < .005$, and four at $p < .05$. The sub-class *distress* under **Sadness**, and *superior* under **Contempt** were chosen more often by Chinese subjects than Americans. The remaining twelve (12) sub-class meanings recognized more by Americans than Chinese were:

Disgust:	aversion, distaste, repugnance
Surprise:	flabbergasted anticipation
Determination:	resolute

So in 18 of 30 sub-class meanings, Chinese subjects scored about as well or better than their American counterparts.

Table III, which will not be displayed, presented the percentage of decoders correctly identifying all three Facial Expressions within a class. Thus, under Sadness the subject would choose the correct photographs depicting *disappointment, distress, and pensive.*

American subjects scored significantly higher than the Chinese in seven of the ten categories: one at $p < .0001$ (**Disgust**); two at $p < .005$ (**Fear, Interest** and four at $p < .05$ (**Surprise, Anger, Bewilderment, Determination**). In three categories (**Contempt, Happiness, and Sadness**) there were no significant differences. Chinese students did nearly as well as American subjects in two classes of meaning, and in the **Contempt** category, scores being co-linear from high to low.

Discussion

Chinese subjects are able to identify basic classes of meanings communicated by photographic facial expressions with high degrees of accuracy. This confirms other studies which affirm the universal ability to recognize emotions from still photographs. In the recognition of the ten basic classes of meaning in Test I where $e =$ seven of ten photographs

were decoded significantly better by U.S. subjects, it might be suggest that a blonde Caucasian female in black and white photographs may not have provided as many facial clues to the Chinese population where everyone, for example, has black hair. Secondly, in intercultural situations the Chinese are not famous for displaying emotions. Perhaps as decoders of others' emotions they are not as perceptive of other culture's emotional displays, although it must be noted that in Test III, the Chinese university subjects were successful more often than not in detecting the nuances of meaning posed by the Caucasian female. Finally, the Chinese have not been exposed to as many movies or as much television in the last forty years as other Asian countries such as Japan so may not have frequently seen Caucasian facial expressions of emotion.

Having offered these caveats for Americans scoring higher in seven of ten cases in Test I and fourteen of thirty in Test III, it must still be noted that Chinese subjects were able to identify all ten emotions in Test I quite accurately, and able to separate within class constituents in Test III with a high degree of accuracy. In explaining differences for individual class or sub-class choices, several reason surface, but since the author is not an expert on Chinese personality traits, these may only conjecture. For example, **Happiness** was correctly chosen by a slightly higher percentage of Chinese over American subjects. Though Americans may seem to smile more, this phenomenon seems to corroborate the axiom the smile is the premiere international passport to a friendly relationship and that one has nothing to fear from the greeter. In sub-class choices where the Chinese subjects were higher than American subjects – *rage, love, amusement, excitement, and stubborn* – more questions than answers emerge. Why are there bi-polar emotions and the mild *amusement*? Probably the same reason that there were over half of the thirty sub-class facial expressions about equally recognized by both cultures. One cannot discount the theatricality of the Chinese culture, sometimes expressive, always latent. Why U.S. subjects had significantly higher scores can be partially attributed to a more familiar Caucasian face as the stimulus material and decades of diets of movies and television soap operas where constant cues are provided for the emotional state of the actor.

The Leathers-Emigh Facial Meaning Sensitivity Test proved to be a reliable instrument with which to test subjects from another culture. Having all the instructions translated into Chinese was a necessary condition for the smooth and problem-free administration of the test and, thus, added to the confident conclusions drawn in the study.

Notes

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1 This study included the emotions: interest, enjoyment, surprise, disgust, distress, anger, shame, and fear. Thirty-two photographs (four for each emotion) were used. Each emotion above was paired with a corollary emotion, e.g., anger with rage. Though this is categoric research, it anticipates the dimensional breakdown by Leathers of three constituents for each emotion.

2 The use of posed photographic expression by one sex was addressed by Leathers and Emigh (1980, p.22), citing Zuckerman, et. al. (1976) having found that no significant differences in the ability of males and females encoding emotions through facial expressions.

3 For example, under the emotion, Disgust, the sub-categories are: Aversion, Repugnance, Distaste.

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