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Emotion Representation and Perception Across Cultures

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Abstract

Are emotion words or emotion categories universal, or are particular emotions and emotion categories specific to certain cultures? The current review explores the answer to this question by summarizing the limited number of studies that have addressed this issue. The representation of emotion is discussed with regards to verbal and nonverbal (facial) processing, in turn. The evidence indicates that the answer is often conflicting and that issues such as methodological, linguistic, social and cultural variance have contributed to the often contradictory findings.

INTRODUCTION

The importance of understanding the representation and processing of emotion words and concepts cannot be underestimated. It is commonly known that the ability to recognize emotions in oneself and those of others leads to a greater degree of positive mental health and well-being (see e.g., Altarriba & Morier, 2004). However, there appears to be a dearth of literature concerning the ways in which emotion word concepts are represented in the cognitive framework that is memory. Further still, there is a need to expand upon the known research concerning the identification of emotion in others vis a vis facial expressions and facial displays. Cross-culturally, it is known that words that label emotions are often language-specific, that is, they are difficult to translate into a single word or a group of words in another distinct language (Altarriba, 2003). Therefore, there is an inherent challenge in trying to discover whether or not the representation of emotions can be qualified as "universal". The work reviewed here presents a critical analysis of the extant literature that directly relates to the above questions in both the verbal (word) and nonverbal (facial) domains.

The Representation of Emotion Concepts in Memory

One of the major models of emotion in the English language is the Circumplex Model of Affect proposed by Russell (1980). The Circumplex Model of Affect is a spatial model based on dimensions of affect that are interrelated in a very methodical fashion (Russell, 1980). Affective concepts fall in a circle in the following order: pleasure (0°), excitement (45°), arousal (90°), distress (135°), displeasure (180°), depression (225°), sleepiness (270°), and relaxation (315°) (see Figure 1). According to this model, there are two components of affect that exist: (1) pleasure-displeasure, the horizontal dimension of the model, and (2) arousal-sleep, the vertical dimension of the model. Therefore, it seems that any affect word can be defined in terms of its pleasure and arousal components. The remaining four variables mentioned above do not act as dimensions, but rather help to define the quadrants of the affective space.

In an attempt to study the pan-cultural aspects of the conceptualization of emotion, Russell (1983) compared the circular ordering for English emotion words to that of four other languages–Croatian, Gujarati, Chinese (Cantonese), and Japanese. Each participant was given a deck of 28 cards, with one emotion term on each card. Each participant was asked to sort the cards into 4, 7, 10, and 13 groups on successive trials, with more similar emotional states grouped together. Results revealed that a similar structure emerged for each language. The emotion terms fell into a circular order among the two dimensions of pleasure-displeasure and arousal-sleep. Although individual words varied somewhat in their circular ordering and position space, they never varied enough to obscure the overall configuration.
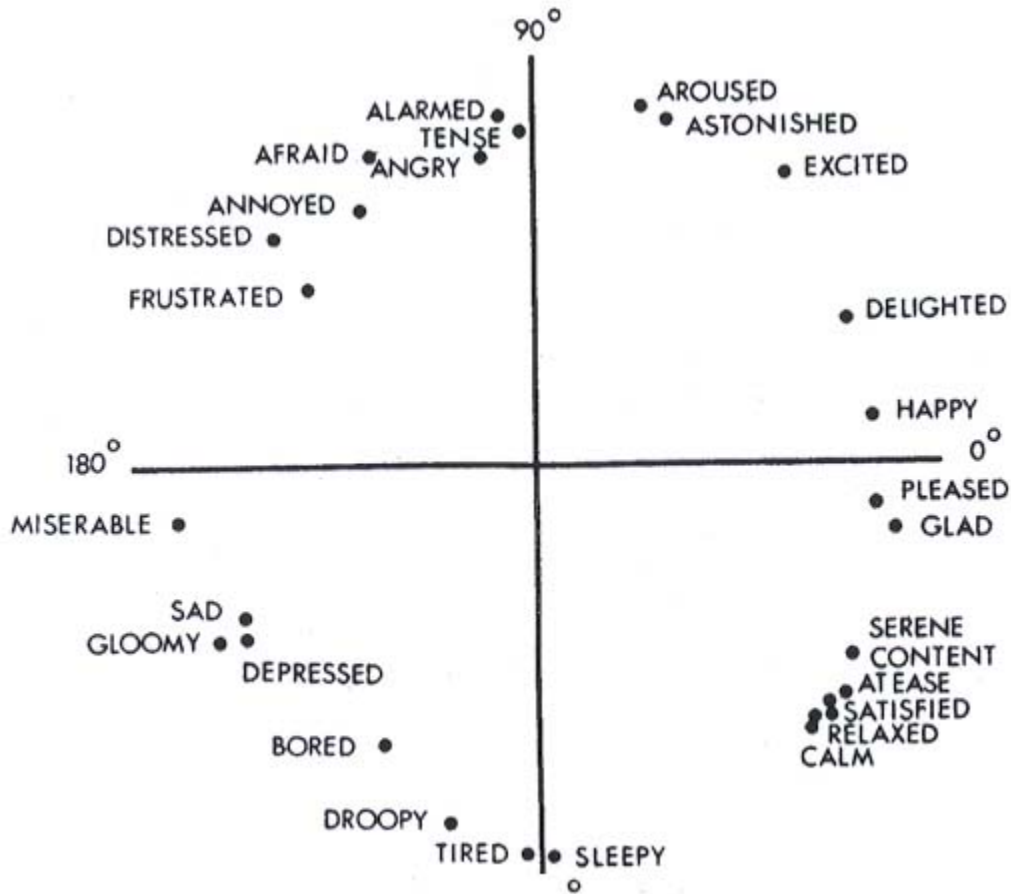
Figure 1. The circumplex model of affect (Russell, 1980).

The results of Russell's study (1983) suggest that emotion words are organized in a similar pattern across cultures. However, a few objections can be raised. First, it is possible that the particular sample of English words on which the study is based may be responsible for the emergence of the two major dimensions, pleasure-displeasure and arousal-sleep. In other words, by including the terms "happy" and "miserable" the pleasantness dimension was assured. Also, by including the terms "aroused" and "sleepy", arousal was assured. The second objection suggests that the process of translation was responsible for the same structure emerging in all five languages. It is possible that the translation was carried out in such a manner that the English meaning and structure of the word was still preserved. Both of these arguments involve the particular set of words that were studied.

Along a similar cross-cultural vein, Brandt and Boucher (1986) examined the concepts of depression in the emotion lexicons of eight cultures, Australia, Indonesia, Japan, Korea, Malaysia, Puerto Rico, Sri Lanka, and the United States. The data for their research was part of a larger research project on the native organization of "everyday" language of emotion in eight cultural groups. Respondents in each culture were asked to

list all of the words that they could think of which indicated emotion and completed the frame "I feel... ," or "I am..." All of the words were verified by a group of judges as acceptable members of the emotion lexicon and represented true feelings such as "happy" or "anger", but not "smile" or "smart". Another independent sample of participants from each culture were asked to sort the emotion terms into categories that made sense to them. No restrictions were placed on the number of groups or number of words per group that could be formed. A cluster analysis was completed and at this point cluster labels, according to meaning, were formed. Fluent bilinguals translated the emotion labels and terms. Half of the bilingual's first language was English and for the remaining half their first language was the native language being studied.

Results indicated that groups of words that met the criterion for a depression cluster were apparent in four of the eight culture language groups – Indonesia, Japan, Sri Lanka, and the United States. The emotion lexicons of the four remaining groups that did not reveal a depression cluster did contain depression-type words. Many of these depression-type words formed part of the cluster labeled "sadness" in each of the four groups. Brandt and Boucher (1986) indicated that these four cultures, Australia, Korea, Puerto Rico, and Malaysia, organize their lexicons around the affective concept of sadness which subsumes depression, suggesting that depression is a less salient organizational construct for these four groups.

Brandt and Boucher (1986) stated that the two pan-cultural depression results were: (a) no association with positive affect, and (b) an intimate association with sadness.

Although every culture did not reveal a depression cluster, depression, as expressed in the emotion words, was associated with sadness and seems to be apparent across all of the cultures studied. It seems logical to suggest that depression or an emotion similar to depression might be considered universal. Culture and social restraints and influences may cause this emotion to be expressed somewhat differently across cultures, but it is still linked to sadness and reflects a negative affect across all of the cultures studied.

Hupka, Lenton, and Hutchison (1999) sought to claim that human universals are present for emotion words and emotion lexicons. They stated that universals have been demonstrated in natural language in semantics, phonology, grammar, and so on. Hupka et al. did not have access to native speakers of the languages that were used in the study so they used dictionaries. It is important to note that some researchers question the use of dictionaries because they believe the emotion words in different languages are rarely equivalent. Moreover, they claim that emotion words are not simply labels for universal, internal feeling states, but are more a reflection of social relations and interactions. Despite these claims, Hupka et al. believe that these assertions should not be cited as evidence that there are no universal categories of emotions and that the use of dictionaries falsely assumes translation equivalence.

Hupka et al. (1999) attempted to establish whether the naming of emotion categories evolved in a similar sequence across languages and to determine what may have been the motivation for the naming of the initial stages. The researchers used foreign dictionaries to establish whether an English emotion category had an equivalent term in the other languages. They then rank ordered the emotion categories (25 emotion

categories were used) from those that were present in all languages to those that were infrequent across the languages. A probability sample of 60 major geographical and linguistic groupings of the world's languages was used.

Results indicated that the naming of emotion categories was relatively consistent across the languages when English terms were used as the referents. One third of the sample of languages had terms for all 25 of the emotion categories. Of the remaining languages, all had terms for at least 15 of the emotion categories. These results suggest that the emotion lexicon is quite similar across many different languages. These results tend to support the universality of emotion words across cultures.

Frijda, Markam, Sato, and Wiers (1995) also stated that there exists a high degree of similarity in the emotion concepts of different languages. In fact, a rather small set of emotion categories accounts for the most frequently mentioned emotion words in many different languages. Groups of subjects in 11 different cultures (Belgium, France, Switzerland, Italy, Netherlands, England, Canada, Indonesia, Japan, Surinam, and Turkey) were asked to name as many emotion words as they could in five minutes. The researchers then created a table of the 12 most frequently mentioned words for each of the 11 groups.

An unspecified positive emotion, "joy" or "happiness" equivalents in English, occurred in 10 of the 11 groups. An unspecified negative emotion, the equivalent of "sadness" in English, occurred in all of the 11 groups, as well as, an emotional equivalent to the word "anger", an emotion of negative personal reaction. An emotional response to threat, "fear", and an emotion of strong affection, "love", occurred in 10 of the 11 cultures. These five categories, joy/happiness, sadness, fear, anger, and love appear to be quite general or universal. However, the other emotion words, such as a "hate" equivalent in English, are less common across many cultures. It is important to mention that this could be an underestimation because emotion words across cultures may not have an exact equivalent across other cultures.

Russell (1991) suggests the other possibility that different languages recognize different emotions because emotion words in other languages do not exist in the English language. For example, the word "ijirashi" in Japanese refers to a feeling associated with seeing someone praiseworthy overcoming an obstacle. There is no English equivalent for this emotion word. There are also English emotion words that are missing altogether in other languages. The emotion word "anxiety" does not exist among the Eskimos and Yorubas. In addition, there is no translation equivalent for the word "anxiety" in Chinese. There is also the claim that there is no word for "depression" among many non-Western cultural groups. However, the study conducted by Brandt and Boucher (1986) suggests otherwise. Depression-type words were a part of each culture studied, in both Western and non-Western cultures. It is also important to note that much of the research concerned with cross-cultural similarities and differences in emotion lexicons focuses on single words, such as "love" and "sadness". Although there may not be a one word equivalent across cultures it is possible that languages can express emotions and ideas other than those that are coded in single words.

Russell (1991) stated that it is quite difficult to obtain information on the prevalence of the differences among emotion words in different cultures because counting the number of emotion words is difficult and ethnographers tend to report differences more than similarities. Russell suggests that similarities may be taken for granted and mentioned in passing, often to contrast with differences.

Russell (1991) cited evidence that the concept of emotion may in fact be universal, as described in the study conducted by Brandt and Boucher (1986). Russell reviewed many studies and stated that regardless of the culture studied, the same three dimensions of pleasure, arousal, and dominance were used to make emotion judgments. Some studies revealed that arousal and pleasure were the two dominant dimensions, while others suggested that pleasure and dominance were the two most important dimensions. Russell suggested that the reason that arousal emerged in some studies and dominance in others could be due to the words used in the studies. Dominance-submissiveness may have emerged as the second dimension when the sample of words emphasized interpersonal contexts and arousal-sleepiness may have emerged as the second dimension when the sample words emphasized non-interpersonal contexts.

A major focus of cross-cultural research has been basic emotion theory. This theory states that basic emotions are supposed to be part of the human potential and therefore universal (Mesquita, Frijda, & Scherer, 1997). Mesquita et al. stated that most languages possess limited sets of emotion-labeling words that refer to a small number of commonly occurring emotions, such as sadness, joy, anger, and fear. The "basic" emotions generally include "anger", "fear", "happiness", "sadness", and "disgust" (Russell, 1991). Mesquita et al. pointed out that researchers have had great success translating English terms for emotions into many other languages. Further, research has revealed that basic emotion categories, with lexical equivalents in all languages, are also the most frequently used emotion words in most cultures.

However, Mesquita et al. (1997) also pointed out that there are differences in the connotations and meanings of emotion terms across languages. The term "lexical equivalents" is not the same as "linguistic equivalents". In other words, although words may be translated across languages their meanings may not be the same or even similar across cultures. The research reviewed thus far has not painted a clear picture about the universality of emotion words across cultures. Some research has suggested that emotion words, particularly the basic emotions are universal; however, that notion has not gone uncontested. The fact that translation equivalents are present does not guarantee that the meaning or use of the word is the same. This seems to beg the question, "Why do emotion lexicons vary across cultures?"

It has been suggested that emotion lexicons may differ across cultures because of cultural regulations and the relationship between a person and others (Semin, Gorts, Nandram, & Semin-Goossens, 2002). It is believed that such cultural variations may reflect how emotions and emotion events are represented in language. Semin et al. (2002) studied cultural variations in the representation of emotions by investigating how people in different cultures talked about emotions and emotional events. It is believed that differences in emotion terms and events may reflect the social differences across cultures.

In cultures that value individualism, emotion terms are more likely to be individual or self-markers because individual preferences and goals prevail over group goals, thoughts, and feelings. In contrast, in a socio-centered culture, emotion terms would be more prominent as relationship-markers because the thoughts, feelings, and goals of the group are valued more highly than those of the individual. Semin et al. suggested that one way of determining whether emotions are used as self-markers or relationship-markers is by means of the relative frequency of different grammatical categories, such as verbs and nouns, which are spontaneously mentioned.

Semin et al. (2002) used the Linguistic Category Model or LCM (Semin & Fiedler, 1988) as a framework to examine the relative prominence of different emotion terms and the linguistic characteristics of emotion event descriptions. The researchers hypothesized that in cultures where group goals are predominant, the use of concrete language, mostly interpersonal verbs, would be more accessible than abstract language, such as adjectives and nouns, because concrete language marks relationships. However, in cultures where individualism is emphasized it was expected that abstract language would be more accessible.

In the first study, Semin et al. (2002) focused on the relative prominence of different linguistic categories in the spontaneous listing of emotion terms, as well as examining whether the causes of emotional events were perceived to be individual or interpersonal, and the degree to which significant others were perceived to shape emotion events. Hindustani-Surinamese (group-focused culture) and Dutch (individually-focused culture) participants were given four tasks: (a) an emotion term generation task, (b) generate five examples of critical life events or five critical emotions that one might experience, (c) generate emotions that are likely to occur in those critical life events or the types of situations that gave rise to the critical emotions, and (d) judge the relative contribution that others made to shape the events they had listed. All subjects were also given a 17-item independence-interdependence scale with three sub-dimensions, traditional interdependence, independence-dependence, and family interdependence.

The results of the emotion generation task were analyzed and revealed that the Dutch participants listed significantly more emotions than did the Hindustani-Surinamese participants. It was also found that the Hindustani-Surinamese used more state verbs and fewer state referent nouns than the Dutch. Also, the Hindustani-Surinamese participants mentioned significantly more interpersonal events than did the Dutch and significant others had a stronger influence on the Hindustani-Surinamese participants. These results supported the hypothesis suggesting that emotional events and emotion lexicons may vary due to social differences across cultures.

The second study conducted by Semin et al. (2002) addressed the structure of emotion events by examining the overall pattern of predicate use as a function of cultural background. Again, the researchers expected that the language used to represent emotion events would be more abstract in cultures where individual goals prevail over group goals and concrete language would be used more often in cultures that value group goals over individual goals. Dutch and Turkish participants were asked to complete a questionnaire that consisted of two parts: (a) an event-description task and (b) an emotion-description

task. The Dutch participants represented an individualistic culture and the Turkish participants represented the collectivist culture.

The results once again supported the prediction. The Dutch participants used more abstract language to represent emotions and emotion events, while the Turkish participants used more concrete language for the same tasks. These two studies revealed that individualistic cultures and collectivist cultures represent emotions and emotional events using different linguistic markers and levels of abstraction. It seems logical to suggest that culture affects one's emotional lexicon. However, it would be interesting to see if the emotion words reported by the different cultures were in fact the same or at least had a similar meaning for the different contexts studied. These differences were either not studied or not reported in the current study.

A study that compared the similarity of the words generated may be more telling of the cross-cultural similarity of the emotion lexicon across cultures. However, the study conducted by Semin et al. (2002) provides a possible explanation for the differences found in the emotion lexicons across cultures. Studying emotions across cultures has proven to be a difficult task. It seems some want to argue that there must be exact translation equivalents for each and every emotion word, while others believe that the universality of basic emotion categories provides evidence that there is cross-cultural similarity of emotions. Emotion research is often plagued by the lack of a commonly accepted definition of the word "emotion". This problem makes it even more difficult to study emotion across cultures and to accept a distinct position on the results of such research.

The Processing of Facial Expressions Across Cultures

An additional method often used to determine how one's culture influences emotional development and perception is facial expression recognition. This area of cross-cultural research has seen a steady increase in interest ever since Darwin's, *The Expression of Emotion in Man and Animals* was first published in 1872. This work emphasized that facial expressions were primarily a result of genetic and hereditary factors. Meanwhile, other research has indicated that one's environment plays a more influential role in determining how emotion is expressed. For example, Piderit (1925, cited in Izard, 1980) suggested that environmental factors were more influential, a conclusion he came to by observing that the amount of expression elicited by blind people was positively correlated with the length of time that each individual had sight prior to their current condition. Therefore, it is apparent that the main question arising from these two pieces of very early work is whether genetic or environmental factors are more responsible for the way that emotion is visually expressed. Cross-cultural research aimed at examining the way different cultures categorize or recognize certain facial expressions has been able to shed some light on this rather controversial issue.

By the early 1970's, research conducted on the way in which facial expressions were categorized across cultures indicated that eight different emotions – interest-excitement, joy, surprise, distress-anguish, disgust-contempt, anger, shame, and fear were perceived the same way in American, European, South American and Asian cultures (Dickey &

Knower, 1941; Ekman & Friesen, 1972; Izard, 1968). Ekman et al. (1969, as cited in Izard, 1980) expanded this area of research to preliterate cultures. The participants in their study were from an isolated area of New Guinea, which allowed for very little Western influence. Extra effort was taken to ensure that those who actually participated in the experiment had never been exposed to Western society, had never seen television or magazines, and had never worked for a Caucasian person. Whereas previous experiments required participants to label or categorize emotions observed in photographs, the methodology employed in this study was slightly different. Ekman et al. (1969, as cited in Izard, 1980) presented participants with three different pictures of emotion expressions representing either happiness, sadness, disgust, surprise, anger or fear. The experimenters verbally described a story that depicted one of the emotions in the pictures, to which participants determined which emotion was being described. The results indicated that significantly correct responses were obtained for all of the pictures, except for instances when fear and surprise were presented in the same trial. However, when compared with other emotions, correct responses to fear and surprise were observed. Therefore, the apparent universality of these six emotions provides support for the idea of an innate emotion perceptual ability in humans.

Following Ekman's (1972, cited in Izard, 1980) review of research on facial expression judgment, Fridlund, Ekman and Oster's (1987) literature review analyzed more recent work conducted on the topic. This review, incorporating fifteen years of additional research, supported the previous conclusion that there is universality among six basic emotions – happiness, surprise, fear, sadness, anger and disgust.

Although data gathered over several decades proved to be fairly consistent for these six emotions, research from the past decade has been useful in narrowing down specific cultural and methodological factors that appear to influence participant's responses. Schimmack (1996) was able to determine which factors are most influential by analyzing data from various studies in a stepwise regression analysis. The purpose of this study was to examine why Ekman's data revealed better accuracy for the recognition of surprise and sadness when compared to Izard's participants. In addition, a second trend in Ekman's research indicated that disgust was more poorly recognized than it was in Izard's work. Schimmack (1996) was also concerned with why Caucasian participants tended to recognize emotions more accurately than other races. Lastly, the amount of influence elicited by cultural dimensions of uncertainty avoidance (UAI) and individualism (IDV) were analyzed. The individualism factor (IDV) was hypothesized to influence accuracy scores in that individualistic cultures tend to be more receptive to negative emotions than do collectivistic cultures. The dimension of uncertainty avoidance (UAI) predicts that individuals raised in cultures that are high in this type of avoidance will not feel as comfortable in new or uncertain situations and therefore tend to avoid any type of situation that has potential to elicit fear. This naturally leads to the hypothesis that UAI will affect facial expression perception by decreasing one's ability to recognize fear expressions since they have been infrequently observed.

The regression analysis carried out consisted of 23 samples from 17 countries. Initially, Schimmack (1996) determined whether each culture should be classified as

Caucasian or non-Caucasian. This was done using the definition of Caucasian presented in the Encyclopedia Britannica. However, it is mentioned that this type of classification may be problematic in that some countries are composed of many ethnic groups. For example, the United States consists of not only Caucasian people, but of significant numbers of African Americans, Asians, and Latinos.

The results from this analysis indicated that discrepancies in Ekman and Izard's data may be due to the number of emotions that were included in each trial. For example, participants in Izard's studies were less accurate at recognizing surprise and sadness when additional options such as interest and shame were also included. As would be expected, larger set size led to increased confusion among emotion categories, which resulted in poorer recognition. In a similar vein, it was observed that Ekman's data produced lower accuracy for the recognition of disgust whenever contempt was presented as well. This further supports the idea that set size is an influential factor in facial recognition tasks (Schimmack, 1996).

With regards to ethnic variables influencing expression recognition accuracy, the results indicated that Caucasians produce more accurate responses when recognizing happiness, fear, anger and disgust, but not when recognizing surprise or sadness. Data broken down to analyze each specific emotion indicated that happiness had higher accuracy when judged by individualistic cultures. As predicted, fear appeared to be significantly affected by UAI. Lastly, emotions of anger and disgust were most influenced by the ethnic variable, with Caucasians being more accurate than non-Caucasians. Overall, the author was able to determine that the Caucasian factor, type of study and UAI were responsible for more than 70% of the variation observed across all studies. This analysis allows for a better understanding of how specific factors are capable of influencing the results of cross-cultural studies conducted on facial expression recognition. With regards to methodology, additional implications resulting from this research suggest that set size (the number of categories presented to participants on each trial) should be considered more carefully in future work.

More recent research conducted on facial expression perception has been specifically aimed at examining how genetic factors influence recognition accuracy. In a study conducted by Teitelbaum and Geiselman (1997) participants representing either African American, White, Latino, or Asian ethnic groups were randomly assigned a packet containing two written passages, one designed to induce a positive mood on the individual and a second that would serve to induce an unpleasant mood. Half of the participants read the pleasant mood passage first, while the other half read the unpleasant one first. Each passage contained blank areas throughout the story, allowing participants to fill in words that corresponded with their thoughts and mood at the time. The experimenter also questioned individuals after they read each passage to ensure that they were accurately receptive to the mood inducing passage. Participants were shown 20 pictures of African American and White faces (10 photographs for each mood). In addition, equal numbers of each race were depicted in the pictures (Teitelbaum & Geiselman, 1997).

During the testing portion of the experiment, participants were shown 20 pictures. However, this time half of the photographs were new and half were old. Individuals had to

decide if the face presented was previously seen or not. The results indicated a cross-race recognition effect in that African American and White participants had higher accuracy ratings for faces corresponding with their own race than with those pictures that did not. With regards to Latinos and Asians, it was observed that they were capable of recognizing White faces as well as White participants; however, they showed more difficulty than African American participants when recognizing African American faces. Lastly, the data revealed that participants had higher accuracy ratings when they experienced an unpleasant mood than when they were in a pleasant mood (Teitelbaum & Geiselman, 1997).

Although this experiment mainly focused on face recognition and did not directly explore the way that facial expressions are interpreted, the data presented prove to be helpful by once again showing how certain methodological factors can influence the outcome of a study. Since it appears that certain races are better adapted to recognizing faces from their own culture, it will be important for cross-cultural researchers exploring facial expressions to include a variety of ethnic faces in their experimental materials so that participants will not produce results that are heavily affected by cultural bias. This study also reveals that a person's mood may affect their perception of faces. Therefore, it may be helpful for experimenters looking at facial expression recognition to question and document the mood of each individual participant prior to data collection. This may provide additional insight into why some individuals are more sensitive to certain expressions, as well as revealing if some cultures are more or less affected by their mood at the time of study.

In an effort to create a good set of pictures expressing emotion, Wang and Markham (1999) examined how Chinese participants rated facial expressions produced by Chinese people in previously taken photographs. In line with previously discussed studies, these authors chose to analyze the six basic emotions – happiness, sadness, anger, fear, surprise and disgust, that appear to be universal across cultures. Adding support to a common trend observed in other studies, their results indicated that happiness and sadness produced the strongest and most consistent agreement of the six emotions. The emotion of anger was also determined to have very high agreement and consistency. However, it was occasionally mistaken for disgust in a few cases. The results also showed that fear and surprise were commonly confused; however, the authors did add that posers often experienced difficulty when trying to create an expression that accurately depicted fear. Finally, the emotion of disgust proved to have the worst percentage agreement of the six emotions. The authors suggest that not only is disgust difficult to pose for, but it is also difficult to recognize, an observation that extends back to some of the earlier work on facial expression recognition.

Although the results from Wang and Markham's (1999) work appear to support much of the previous work conducted on facial expression, in order to gain a better understanding of emotion recognition in other cultures, it would be interesting to present the photograph set selected to be the most valid in this study to people of different ethnic backgrounds. In addition, if one wants to form a stronger conclusion on how Chinese

people perceive facial expressions, it is essential to replicate this study using not only Chinese faces, but those of White, Black and Latino individuals as well.

In a very recent study, Matsumoto et al. (2002) examined the way that American and Japanese participants judged facial expressions. This experiment was unique in that it is the first experiment designed to test how facial expressions of varying intensities are perceived in two different cultures. American and Japanese participants were presented with computer generated pictures of Japanese and Caucasian faces depicting one of nine emotion choices – anger, contempt, disgust, fear, happiness, sadness, surprise, no emotion, and other. Upon viewing each picture, individuals were instructed to determine which emotion best described the picture, to rate the intensity of the emotion expressed using a nine point scale, and to rate the intensity level that they believed the poser was experiencing in the picture. If the participant decided that "other" best represented the picture, they were urged to write down the emotion that they felt accurately described the expression presented.

The results indicated that low intensity expressions were correctly recognized at levels above chance and that these expressions also differed from the responses given for neutral expressions. Therefore, it appears that individuals are capable of correctly recognizing emotions even when they are presented at lesser degrees and may not be as blatantly obvious. However, when compared to high intensity expressions, it was evident that agreement levels for low intensity expressions were more inconsistent. In regards to differences across cultures, further analysis revealed that the two groups did not differ in the way that they categorized the facial expressions. However, analyses of the ratings produced by participants at high intensity levels of expressions indicated that Americans rated internal experience as lower than external displays, while Japanese participants did not show any differences in the ratings at this level. Interestingly, at low intensity levels of expression, Americans did not show any differences in their ratings, but Japanese participants tended to give higher ratings to internal experience than to external observation. This suggests that when Japanese view facial expressions at low intensities, they tend to think that the poser is experiencing a more intense feeling of the emotion than is actually portrayed. On the other hand, when Americans view high intensity expressions, it is thought that they perceive emotions as being portrayed in an exaggerated way and therefore are inclined to think that the poser does not feel the emotion as intensely as the facial expressions suggests (Matsumoto et al., 2002).

The fact that this study is the first of its kind to examine intensity levels suggests that there are many factors that can be manipulated in future work on facial expression across cultures. Intuitive experiments designed to examine some of these factors are necessary to increase understanding of specific aspects of certain cultures that might otherwise be left unexplained. Therefore, it is important that this study be replicated with other cultures, especially since the sample size was relatively small in the current study, a factor that may have affected the results. However, it is apparent that the methodology utilized here will serve as a stepping-stone for future work

Conclusions

In conclusion, several decades of cross-cultural research appear to suggest that there is an element of universality in regards to some of the basic fundamental human emotions. However, in addition to some of the methodological issues of concern already discussed, there are several other problems that may influence cross-cultural research in this domain. Russell (1991) brings up a very important point in that studies requiring participants to choose an emotion label from a prespecified list that best corresponds with a presented picture may result in an inability to show "precise equivalence of the emotion *concepts* in the different cultures" (Russell, 1991, p. 435). For example, Russell (1991) proposes that if a participant is shown a picture of a smiling person, they would be inclined to choose the word *happy* from a list of *sad*, *happy*, *afraid* or *angry*. However, if the word *happy* was replaced by the word *elated*, the participant would now choose this word being that it is the only word in the list with positive connotation. He points out that any positive word ranging from *content* to *ecstatic* would result in a similar response. Basically this means that forced-choice tasks may require a person to make a judgment that is not culturally sensitive to the actual meaning of the emotion being examined. Therefore, it is suggested that this problem may be potentially responsible for cross-cultural research showing that people from different cultures interpret facial expressions in a similar manner. This response biasness often arises because cross-cultural studies of this nature involve creating a list of emotion words in English that are then translated into the specific language used by the culture being studied. For this reason, it is quite possible that the translated emotion word choices in the other language are not good representatives of the emotions that one wishes to examine.

In addition to this language problem, there are also other cultural differences that may influence the data that are produced by facial recognition studies. For example, not all facial expressions are the same in every culture. Although common emotions are expressed, it is possible that some of these emotions are expressed in different ways, using different hand gestures and facial movements. Lastly, a longtime concern in cross-cultural research that must be addressed in these types of experiments as well is the testing situation employed by experimenters. If two cultures are to be examined and compared, it is essential that similar testing situations be used and proficient translators be employed to present experimental tasks in an unbiased way.

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Questions for Discussion

1. What are the two major dimensions of Russell's Circumplex model of affect? Why might arousal constitute one dimension instead of dominance?

2. Do you believe that the presence of depression-type words, but no depression cluster, is convincing evidence for the universality of depression?

3. Is it reasonable to study single words across cultures to determine the universality of emotions or might phrases and ideas be more appropriate?

4. Distinguish between "lexical equivalents" and "linguistic equivalent".

5. How might culture and socialization influence a culture's emotion lexicon?

6. What do you believe was the most convincing evidence for the universality of emotion across cultures? What was the most convincing evidence for the non-universality of emotions across cultures?

7. Can you think of any facial expressions or gestures used to signify emotion that are specific to one culture and are not universal?

8. Can you think of any reasons why Schimmack's (1996) data indicated that Caucasians produce more accurate responses when recognizing happiness, fear, anger and disgust, but not when recognizing surprise or sadness? Are there specific characteristics of Caucasian society that would be responsible for this result?

9. How might specific child-rearing practices in certain cultures influence one's emotional development and the way that they express emotion?

10. We have already seen how cultural variables (individualism vs. collectivism, uncertainty avoidance, etc.), genetic factors and methodological issues (set size of emotions presented, number of participants, and testing situation) can be important factors in influencing data. What additional methodological factors do you think should be regulated when designing an experiment within this area of study?