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CROSS-CULTURAL STUDY OF EXPRESSIVE BEHAVIOR OF MOTHERS IN RESPONSE TO THEIR 5-MONTH-OLD INFANTS' DIFFERENT EMOTION EXPRESSION

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The purpose of this study is to present descriptive data on mother-infant emotional communication in Japan and in the US. It is the first phase of a longitudinal, cross-cultural study of socialization of emotion. This study focused on how infants' regulation of their expressions is enculturated through the mother's behavior. In order to understand this process, we gathered data on maternal responses to different types of infant expressions and on the nature of the emotion expressions mothers display to their infants in the home.

To date, we found some trends toward similarities in maternal behavior. Both Japanese and American mothers almost never display negative affect to their 5-month-old infants. By contrast, when infants showed positive expressions, American mothers as well as Japanese mothers tended to respond with the same expression with slight exaggeration. Our results suggest mothers' role of modulator of their infants' negative and positive emotion.

Key words: cross-cultural study, socialization of emotion, infant emotional expression, maternal expressive behavior

INTRODUCTION

It is said that the psychology of emotion has entered in a new era. The development

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of facial expression is one of the areas of research receiving the most attention in the infancy literature. Melzoff & Moore (1977) reported that three-week-old infants would imitate an adult model in sticking out their tongues and opening their mouths. According to Field et al (1982), even two-day-old neonates would reliably imitate an adult model who either smiled, frowned, or showed a surprise face. Izard developed the measurement system of infant facial expressions (1983). According to the research of the motivations to control affective display, defense of self-esteem, avoidance of punishment and disapproval for revealing unregulated negative expressive behavior are involved in the motivations of children (Malatesta and Haviland, 1985). Izard and Malatesta (1987) pointed out that some types of expressions (e.g. anger) must be suppressed, attenuated, or transformed in order to avoid social contagion, escalation of feelings, and hostile encounters. On the other hand, it is adaptive to be able to encode some emotion expressions (e.g. smiling and attentive gazing) in order to facilitate interpersonal harmony (p. 523). What is not so readily understood is how and when children learn to regulate their expressive behavior and their underlying feelings.

As Barrett and Campos (1987) mentioned, increasing attention has been devoted to the topics on socialization of emotion and emotional communication. A phenomenon termed "social referencing" (Campos and Stenberg, 1981; Klinnert et al., 1982) is an aspect of emotional signaling that begins toward the end of the first year and continues to have major importance during second year. It is a general process whereby a person of any age seeks out emotional information from a significant other in order to regulate her/his own behavior in uncertain settings. Emde (1984, 1987) emphasized the importance of social referencing for the emergence of self-awareness.

With regard to the topic of emotional communication, Stern (1984, 1985) approached from a different viewpoint. By observing mother-infant interaction, he discovered that attunements were the most common maternal response to an infant expression of affect. He speculated the clinical implications of affect attunement, misattunement and nonattunement because attunement at the interpersonal level of subjective relatedness becomes a powerful tool in social development. He also inquired into underlying mechanisms for affect attunement.

Concerning socialization of emotion, there are many questions that deserve further study. Cross-cultural study is one of the most interesting approaches. Bradshaw et al. (in press) investigated the differences in compliance by observing mother and toddlers in Japan and the US in a laboratory setting. They found a quicker reaction on the part of American mothers to anticipated child misbehavior and the apparent greater hesitancy of the Japanese mothers to prohibit their children. American mothers used power assertive method more than Japanese mothers.

The above is a rough outline of the current researches on emotional expressions and emotional socialization. The purpose of this study is to present descriptive data on mother-infant emotional communication in Japan and in the US. It is the first phase of a longitudinal, cross-cultural study of socialization of emotion. This study focused on how infants' regulation of their expressions is enculturated through the mother's behavior. In order to understand this process, it is necessary to gather data on maternal responses to different types of infant expressions and on the nature of the emotion expressions mothers

display to their infants in the home.

METHOD

Subjects

The Japanese sample consisted of 42, 5-month-old infants and their mothers living in Sapporo, and participating in a longitudinal study of socialization of emotion. The American sample was composed of 15, 5-month-old infants and their mothers from middle-class families residing in Champaign, Illinois. The American pairs are also the participants in a longitudinal study. However, data collection in the US and data analysis in both countries are still ongoing and the present paper reports only the data from 12 Japanese and 10 American, mother-infant pairs.

TABLE 1
Japanese and American samples

	Japanese		American	
	First-born	Second-born	First-born	Second-born
<i>Infants</i>				
Male	14(3)	10(3)	2(1)	5(4)
Female	10(3)	8(3)	3(3)	5(2)
<i>Mothers</i>				
Average age	27.4(28.0)		30.5(28.3)	
Average years of schooling	14.0(14.0)		15.5(16.0)	

N. B.: American sample contains two third-born infants (male and female) and one fifth-born female.

The numbers in parentheses indicate the subjects selected randomly for this analysis.

PROCEDURE

(1) *Home observation of mother-infant emotional communication*

A total 90 minutes of spontaneous mother-infant interactions in the home was videotaped using 2 cameras, one focusing on each partner. The naturalistic observation included breast or bottle feeding, solid food feeding, mother-infant play, infant fussing and mother's response, and putting the infant to sleep for a nap. The exact sequence of events and whether all were included depended on the individual. When contacting mothers, we told them we hoped to observe the everyday life of the infant and would like to see feeding and nap times as well as times when the infant was alert and awake. But for this paper, the feeding and sleepy situations were omitted from the analysis.

Each mother was instructed to behave as usual and to try to reduce their anxiety about being observed. The two camera operators and one observer made every effort not to interfere with the mother and infant's ongoing flow of behavior.

(2) *Coding system for describing maternal and infant emotion expression*

For this analysis, 30 seconds of every 2 and a half minutes were coded. The digital timer images superimposed on the tapes were used.

Categories used for infants' facial and vocal expressions were as follows: (1)

intense cry, (2)cry, (3)fuss, (4)intense negative vocalization/face, (5)negative vocalization/face, (6)slightly negative vocalization/face, (7)laugh, (8)smile, (9)positive vocalization/face, (10)slightly positive vocalization/face, (11)neutral vocalization/face. Negative emotion expressions are (1), (2), (3), (4), (5), and (6). Neutral emotion expressions are (10) and (11). Positive emotion expressions are (7), (8), and (9). Maternal expressions were rated for hedonic tones (negative, slightly negative, neutral, positive, and clearly positive) and quality (as playful, stimulating, sympathetic, or soft when relevant). Categories for mothers' neutral expressions were (1)N/N (neutral vocalization and neutral face), (2)N/N soft (neutral face and vocalization neutral but soft), (3)N/N-(neutral face but sympathetic negative tone of voice or mock sad tone of voice), (4)N/N play (neutral face but a little playful tone of voice). Categories for mothers' positive expressions are (5)N/P (neutral face but positive voice), (6)N+/Nplay (slightly positive face and slightly playful vocal tone), (7)P(SM)/N (neutral vocal tone but with smiling), (8)P(SM) (smiling face). Mothers' clearly positive expressions are (9)P(SM)/P (smiling face and positive or playful voice), (10)N+/P(LA) (slightly positive face with laughing voice), (11)P(SM)/P(LA) (smiling face and laughing voice), (12)P(SM)/Play (smiling face and playful tone of voice), (13)Pplay/N+play (playful face and playful voice), and (14)Pplay/P(playful face and positive voice). Categories for maternal negative expressions were not used because mothers almost never responded negatively to their 5-month-old babies' each emotion expression.

Coding systems used for analyzing infant and mother's expressive behavior were tentatively developed by consulting Izard's MAX (1983) and Sherer's research on vocal expression (1982). Izard developed the discriminative facial expression coding system. He explained the differences of happiness, anger, sadness, fear, surprise and interest. Although we categorized facial expressions, we did not use such classification of emotion. Because our focus in this analysis was to present descriptive data on the mothers' expressive behavior in response to their infants' negative, neutral and positive emotion expression. Three coders independently coded both the maternal and infant facial and vocal expression. With regard to disagreements, final decision was made after thorough examination and discussion among the coders.

RESULTS AND DISCUSSIONS

(1) Mothers' different hedonic tones in response to infants' different emotional expressions

Regarding maternal responses to infants' different emotional expressions, clear trends are evident. Both Japanese and American mothers almost never display negative affect to their 5-month-old infants except for occasional empathetic mock sad signals. Compared with infants' neutral and positive emotional expressions, infants' negative expressions were more likely to be responded in a neutral tone of voice and/or neutral facial expression by the mothers of both countries (Figure 1). By contrast, when infants showed positive expressions, American mothers as well as Japanese mothers tended to respond with the same expression with slight exaggeration (Figures 2 and 3).

(2) Mothers' non-response to infants' different emotional expression

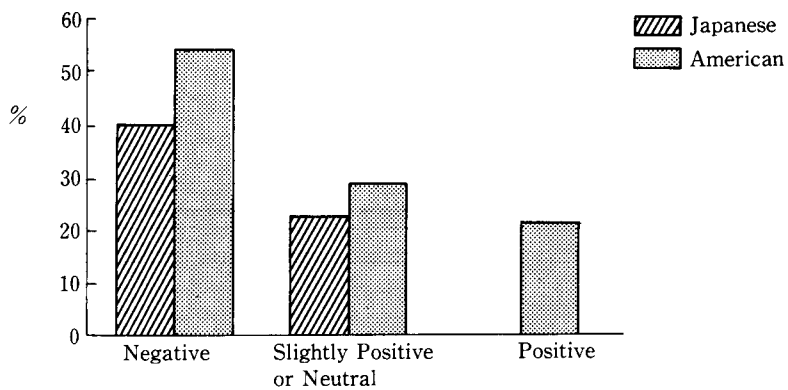


FIGURE 1 Mothers' neutral response to infant each emotion expression

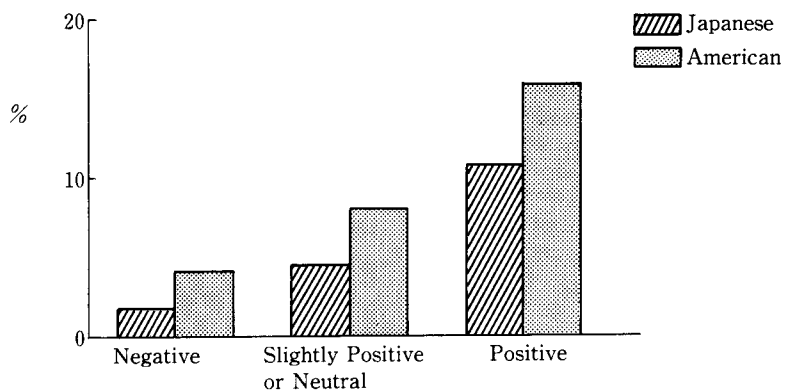


FIGURE 2 Mothers' positive response to infant each emotion expression

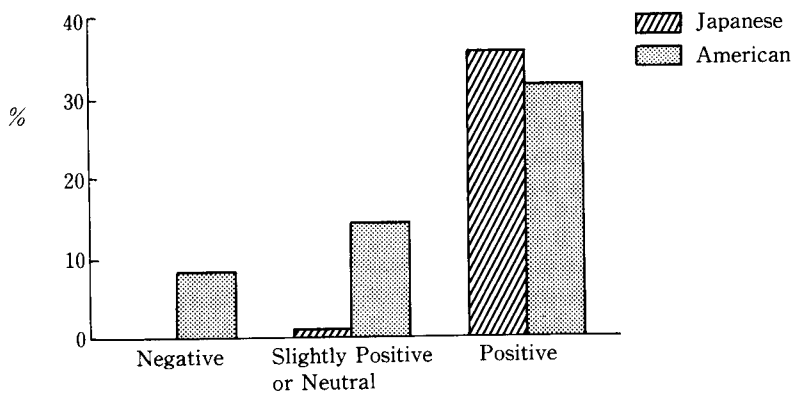


FIGURE 3 Mothers' clearly positive response to infant each emotion expression

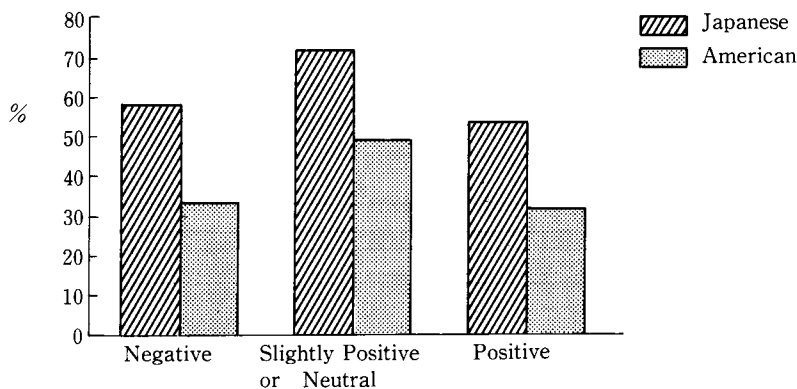


FIGURE 4 Mothers' non-response to infant each emotion expression

Kanaya et al. (1987) reported that Japanese mothers' non-response to infants' interest face and slightly positive (facial and/or vocal) expressions were higher than to infants' positive expressions. As shown in Figure 4, the similar trend was found in American mothers.

According to Tomkins (1962, 1963), the minimization of negative affect, the maximization of positive affect, and the goal of the minimization of affect inhibition are basic goals relevant to feelings that regulate the conduct of human lives. Our results also suggest mothers' role of modulator of their infants' negative and positive emotion. Rather than matching infant negativity, mothers displayed neutral or slight (but not intense) positive emotions to their infants' negative emotion. Mothers expressed clearly positive emotion in responding to their infants' positive emotion in order to encourage or sustain their infants' pleasantness. In other words, their behavior are consistent with what Tomkins said.

To date, we have been able to identify some trends toward similarities in maternal behavior, and in future analyses we will try to confirm these trends with a larger sample and examine in more detail cultural differences in emotion expression. In continuing this work, we will be looking more closely at how different modalities of emotional expressions (face, voice, posture, and locomotion) are related to different emotional states (anger, sadness, joy, interest, fear, surprise and so on). There are some data on emotional expressions in each of those four different modalities, but the relationships among them have received almost no attention. As Lewis and Michalson (1983) have discussed, the particular modality to express an emotion might be a function of specific rules of socialization or a response hierarchy in which one modality has precedence over another. We need empirical data on this problem.

We will also examine what emotion an infant display in frustrated situations such as sleepiness, hunger, or interruption by sibling and how his(her) mother regulate his (her) frustration. Concerning infant emotional development, we need to explore not only display rules but also inhibitory rules of emotion expressions. In order to know the long-term effects of emotional communication in early infancy and processes of emotional socialization, we will compare the data from 5-month home observation and 5-month experiments (e.g. infant reaction to restraint) and the data from 12-month assessments

which were carried out to explore infant induced positive and negative affect in the laboratory setting.

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