

UNDERLYING PROCESS IN THE SOCIALIZATION OF EMOTION*

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I. INTRODUCTION

Changes occur along several dimensions of emotional experience with development. These include the appreciations that underlie emotions, the expression of emotions, the regulation of emotions, and the way emotions are understood and talked about (Barrett & Campos, 1987; Bloom & Beckwith, 1987; Bloom, Beckwith, & Capatides, 1988; Bloom, Beckwith, Capatides, & Hafitz, 1988; Campos, Barrett, Lamb, Goldsmith, & Stenberg, 1983; Hesse & Cichetti, 1982; Lewis & Michalson, 1983; Lewis & Saarni, 1985b; Thompson, 1990). In addition, as a child develops, the set of emotions that are experienced and expressed expands to include the secondary or social emotions (e.g., shame, guilt, pride, and hubris) as well as the primary or discrete emotions (e.g., sadness, anger, joy, etc.) (Lewis, 1992; Lewis, Sullivan, Stanger & Weiss, 1989). These developments are influenced by maturation, cognitive development, and socialization. Differences in emotional expression and experience that are influenced by some combination of these biological, cognitive, and social factors have also been documented across gender (Brody, 1985; Haviland & Malatesta, 1981) across cultures (Harkness & Super, 1983, 1985; Lutz, 1985; Russell, 1989), and among cultural subgroups (Miller & Sperry, 1987) or special populations, such as blind babies (Fraiberg, 1979), children with Downs syndrome (Lewis & Michalson, 1982, 1983), and premature infants (Malatesta, Culver, Tesman, & Shepard, 1989). However, although the products of emotion socialization have been well documented, the processes by which these biological, cognitive, and social factors interrelate to influence the development of emotion are not well understood. The need exists, therefore, for research that can address issues of process in the development of emotion (Bloom, 1993; Capatides, 1990; Sroufe, 1991; Thompson, 1990; Tronick, 1989).

The purpose of this chapter is to share the results and the methods we used in our ongoing program of research into the process of the socialization of emotion in the second year of life. The methods we used reflect an attempt to examine the intersection of affective, social, linguistic, and other cognitive factors which contribute to the process of emotional development. Children acquire information about their emotional lives from their social context. The process by which this happens occurs during everyday interaction and involves active participation on the part of the senders as well as the receivers in an exchange. Children learn from the direct instruction and modeling of others and also by inferring patterns and regularities in the expressions, actions, and speech of other persons. This social input contributes to a child's emotional development by influencing the cognitive, affective, and social processes involved in the expression, elicitation, regulation, and understanding of emotion.

This program of research began with a longitudinal study of 12 first-born infants, six girls and six boys, from different racial, ethnic, and economic backgrounds, beginning at 9 months of age and continuing into their second year. We observed the children and their mothers during play and while sharing a snack in our laboratory playroom, in an effort to understand how developments in emotional expression, which are already well underway at the end of the first year, come together with the emergence of language in the second year. We have reported several studies in which we documented the developmental integration of these two systems of expression, emotion and language, by the children (Bloom, 1990; Bloom & Beckwith, 1989; Bloom, Beckwith, & Capatides, 1988; Bloom, Beckwith, Capatides, & Hafitz, 1988; Bloom & Capatides, 1987a). We were then able to look at mothers' actions in the moments when their children were expressing emotion to determine how their mothers contributed to the children's emotional understanding (Capatides, 1990; Capatides & Bloom, in preparation).

This chapter has five parts. The first is a brief background for the study, following which we summarize the children's developments in emotional expression in relation to their acquisition of language in the second year. We then describe the methods we devised for studying the form, function, and content of the mothers' behaviors, which provided information for the children regarding their emotional experience and expression. This study was unique in that the focus was on the process of emotion socialization as it unfolds in a child's everyday interactions rather than on the products of emotion socialization at discrete points in time (e.g., during episodes of separation or reunion, during picture book reading, or during story-probe procedures). In particular, an attempt was made to capture this process from the point of view of the child, beginning as we did with the moments surrounding the children's own emotional expressions. To this end, we addressed the process of socialization from an integrative perspective in which input from affective, social, linguistic, and cognitive domains intersect in the processes of emotional development and understanding. After describing the methods in some detail, we then review the results of our

study of the mothers' behaviors that contributed to the socialization of emotion in their children's development (Capatides, 1990; Capatides & Bloom, in preparation). These results highlight the ways in which the interactants in a child's social context respond to the child's emotional expressions and by so doing enhance the social and cognitive components in the expression, regulation, and understanding of emotion. The chapter concludes with a proposal for a theory the socialization of emotion.

II. BACKGROUND

A child's developing knowledge of emotion depends upon internalizing input from caregiver interactions, and different kinds of input contribute to the child's understanding in different ways. The focus of our research was on the nature of the input children receive in the moments when their mothers respond to their emotional expressions. We considered that mothers might respond in these moments with their own expression of affect, with talk about the emotion which might include a label for it, or with action and action-related language directed at the child's goals or aspects of the situation. However, only a few sorts of caregiver behaviors have actually been studied as responses to children's emotions and emotional expressions. Most often, a priori decisions have been made about which mother behaviors serve as socializing agents, with the result that studies have focused on mothers' own affect expression and their use of emotion words almost exclusively. Other aspects of mothers' language and their actions have been virtually ignored.

With respect to mothers' own affect expressions, we find studies of their role in emotional resonance (Stern, Barnett, & Spieker, 1983; Stern, Hofer, Haft, & Dore, 1982), as contingent reinforcement (Malatesta, Grigoryev, Lamb, Albin, & Culver, 1986; Malatesta & Haviland, 1982), as models of display (Denham, 1985; Malatesta & Haviland, 1982; Malatesta et al., 1986), and in social referencing (e.g., Campos & Stenberg, 1981; Feinman & Lewis, 1983; Klinnert, 1984; Klinnert, Campos, Sorce, Emde, & Svejda, 1983; Klinnert, Emde, Butterfield, & Campos, 1986). With respect to mothers' use of emotion-related language, we have studies of mothers' use of emotion terms and words describing emotionally expressive behaviors (Beeghly, Bretherton, & Mervis, 1986; Broen, 1972; Dunn, Bretherton, & Munn, 1987; Grief, Alvarez, & Tone, 1984; Lewis & Michalson, 1982, 1983; Smiley & Huttenlocher, 1989). In addition, mothers verbally encourage, discourage, or acknowledge a child's emotion or its expression (e.g., Malatesta & Haviland, 1982).

Emotion labels serve to identify the emotion a child might be experiencing at the time of an expression. However, a close inspection of the studies of mothers' use of emotion terms (Beeghly et al., 1986; Broen, 1972; Dunn et al., 1987; Lewis & Michalson, 1982; Malatesta & Haviland, 1982; Miller & Sperry, 1987; Smiley & Huttenlocher, 1989) revealed that mothers actually use these terms very infrequently. Interestingly enough, the frequency of this type of emotion

talk seems to be higher when mothers are talking to very young infants during face-to-face interaction, and then decreases over time (Malatesta & Haviland, 1982). This being the case, we asked how else mothers might talk about emotions with their children. Miller and Sperry's (1987) study of mothers' responses to their children's expressions of anger provided some insight. They reported that, while mothers used words that labeled anger or its expression infrequently, they did talk about the larger emotion event in which the anger was expressed. Therefore, we needed to examine all mothers' speech that surrounded the children's emotional expressions to determine how it might contribute to a child's understanding.

Perhaps the most serious omission in the socialization literature is research into mothers' actions and encouragements of their children's actions as they relate to emotional expressions and experiences. This omission is striking, given the importance attached to action for development in other domains such as cognition and language (Piaget, 1923/1926; 1937/1954). More important, however, an individual's goals and success in maintaining and achieving goals are generally considered to be essential components of the appreciations that give rise to emotion. Since many of the goals of young children are action-centered, one might expect mothers' responses to emotional expressions to consist of actions for or on behalf of their children, or language which expresses action-related content.

One of the major intentions of the present investigation was to consider the several alternatives mothers have in responding to their children's emotional experience and expression. Children have available to them a rich array of mother behaviors, including her affect expressions, actions on objects, and social and caregiving behaviors, as well as her use of language, in general, and emotion language, in particular. Therefore, the first goal of this study was to develop a methodology for capturing the several modes a mother might use in responding to her child's emotional expression. Accordingly, the coding categories and decision rules we devised described mothers' actions, talk, and affect expressions and allowed us to examine the contributions from these several kinds of mother behaviors to children's emotional experiences from the last quarter of the first year through the second year of life. As a result, the mothers we studied provided us with valuable insights into their socialization practices pertaining to their children's emotional experience in the ongoing stream of their everyday activities.

In sum, the purpose of this study was to gain a better understanding of the processes involved in the socialization of emotion. The database for this first study in our ongoing investigation into the socialization of emotion (Capatides, 1990; Capatides & Bloom, in preparation) consisted of mothers' responses in the moments following their children's positive and negative expressions of emotion. We used a broader definition of *mother response* in this study than has been used in previous studies (e.g., Brooks-Gunn & Lewis, 1982; Denham, 1985; Malatesta & Haviland, 1985; Malatesta et al., 1986), by including all contingent

mother actions and speech, in addition to their affect expressions and emotion language, which have been the responses typically observed. Moreover, *continuity* was defined in terms of shared elements between the mother's and the child's focus of attention. These mother affect expressions, actions, and speech were described in terms of their frequency, function, form, and content. Consequently, the resulting description we offer of mothers' responses to their children's emotional expression is more comprehensive than has previously been reported in the literature.

This study of mothers' responses to their children's expression of emotion is part of a larger, longitudinal investigation into developments in children's emotional expression, language, and knowledge of objects in the period of transition from infancy to language, beginning in the last quarter of the second year and continuing through their second birthdays. Some of the results of our studies of the developmental relationship between the two systems of expression, affect and speech, will be recounted as further background for the methods we devised and the results we obtained in our studies of the mothers' socializing practices.

III. EMOTIONAL EXPRESSION AND DEVELOPMENTS IN LANGUAGE

Sometime toward the end of the first year or the beginning of the second year, most children will begin to learn words and, during the early months of language development, their words are tentative, fragile, and imprecise. At the same time, however, children's emotional development is well underway and has been for some time, since the very beginning of infancy. One-year-olds have available to them the whole gamut of smiles, chortles, laughs, frowns, whines, and cries. Parents depend on such signals for their caregiving and socialization practices, and infants soon learn the meanings in such affect expressions by other persons. We have published a series of studies in which we documented how this well-developed system of affect expression is related to the emergence of language in the second year (see Bloom, 1990, 1993, for summaries of these studies).

The results we obtained included "local" effects in the moments before and after a child said a word or expressed positive or negative effect, and broader effects in the developmental relationship between these two domains over time. We have described the global developmental effects we observed in two ways. First, we have results of correlations between measures of affect expression and ages at the language achievement landmarks of First Words (FW), Vocabulary Spurt (VS), and Multiword Utterances (MW) (the procedures we used for defining them can be found in the publications cited here) which show that affect expression and learning words were related. Second, we can point to the different developmental trends in affect expression for subgroups of early and later language learners at the ages 9, 13, 17, and 21 months.

First, the most general result was that words did not replace affect expression as the children's language developed. The children increased in the numbers

of words they said and how often they said these words from FW to VS, but frequency of affect expression did not change in this same period of time for the group of children as a whole (Bloom, Beckwith, Capatides, & Hafitz, 1988). This result means that the children continued to express their feelings through displays of affect while they were learning words for expressing what their feelings were about. However, the individual differences among the children in age of language achievement were related to differences among them in expression of affect: More time spent in neutral affect expression was associated with early ages, and more frequent expression of emotionally toned affect was associated with later ages of the language achievements (Bloom & Capatides, 1987a).

We explored these individual differences further by looking at developmental trends for the two subgroups of children who were below and above the mean age of the group at FW (the early and later word learners, respectively) (in Bloom et al., 1988a). First, these two subgroups were not different at 9 months, and the early word learners did not change in the relative frequency of their emotional expression from 9 to 21 months. In contrast, the infants who learned words later, and did not begin to say words between 9 and 13 months of age, increased in their frequency of emotional expression instead. Moreover, these later word learners subsequently *decreased* in frequency of emotional expression in the period that encompassed their transition from FW to VS and the beginning of the transition to MW. Thus, just as children differ in the onset and rate of language, which is well known, they also differ in their relative tendencies to express emotionally toned affect. Moreover, these two developments in expression appear to be intimately related. One possible basis for the relationship could be a difference in temperament style between the two groups of children. However, underlying temperament could just as well have been the consequence as well as the cause of the covarying profiles in language and emotional development we observed (Bloom & Wikstrom, 1989).

We have explored two other possibilities for the covariation in development. One is in a model of development that gives a prominent place to distribution of the essentially limited cognitive resources of the young language-learning child over several domains (Bloom, 1993, Bloom, Tinker, & Beckwith, in preparation). Just as learning and using words requires processes of attention and encoding, so do the experience and expression of emotion require cognitive resources for attention and appraisal of events in the context relative to current goals and prior experience. In fact, we have evidence of such competition for resources in the results of lag sequential analyses in which we compared the occurrence of emotional expression, in 15 1-sec lags before and after a word, with each child's baseline rate of emotional expression (in Bloom & Beckwith, 1989). Emotional expression peaked in the seconds immediately after a word, and we interpreted this to mean that the children's words were about the objects and circumstances of their feelings. However, emotional expression was suppressed in the moments before a word, which we took as evidence of a competi-

tion for resources between the two systems of expression. In the moments before saying a word, the child's attention was evidently preempted by the construction of a representation in consciousness and recalling a word for its expression. The cognitive effort of saying words had an inhibiting effect on expressing emotion at the same time.

However, another factor which could also have influenced the differences among the children in their profiles of emotional expression was the role played by their mothers, and possible differences among mothers in their socializing practices. This was another primary motivation for the study on which this chapter is based. To determine what effect the mothers might have had on the developmental trends in the children's emotional development, we looked at their behaviors in the moments which surrounded the children's emotional expressions at 9, 13, 17, and 21 months (Capatides, 1990; Capatides & Bloom, in preparation).

IV. A METHOD FOR STUDYING THE PROCESS OF EMOTION SOCIALIZATION

The research on which this chapter is based was a programmatic effort that has grown out of an observational research tradition spanning the past 3 decades and used by Bloom and her colleagues to study developments in language in the first 3 years of life (for a review of this research, see Bloom, 1991). When procedures similar to those used in the study of language development were applied to the study of emotional expression, the child's socioemotional understanding became the basis of the questions asked and, as a result, the focus of the method, the findings, and their interpretation. The procedures permitted a detailed accounting of the factors that contribute to development as it unfolds in everyday interaction between the child and other persons. In addition, the same programmatic methods of observation and analysis had already been applied to the study of the meanings expressed by the children's emotional expressions (Bloom, Beckwith, Capatides, & Hafitz, 1988) as well as to the other aspects of the children's emotional expression and development just reviewed.

A. The Discovery of Coding Categories

The methods used by Bloom and her associates to study language development begin with a large data base consisting of many observations of children in everyday interactions with other persons, their mothers or an observer-investigator primarily. From a vast corpora of children's speech, very detailed descriptions are made of the regularities in a child's use of language, and repeated collections of such corpora over time provides a basis for the longitudinal study of details of development (Bloom, 1991). The regularities that have been reported range from categories of form that have face validity to categories of

meaning content that require procedures of interpretive analysis (see, for example, Bloom, 1991; Bloom, Capatides, & Tackeffl, 1981).

Coding schemes are devised using an etic to emic approach (Bloom, 1974; Pike, 1967). That is, while the categories are influenced by the existing theoretical and empirical literature, they are also continuously and iteratively informed by, and adjusted to fit, the actual data that are observed. Description is motivated in the first place by theoretical questions and previous empirical research, but the goal is to arrive at categories faithful to the child's own first person perspective. One invariably begins with very many categories representing fine distinctions in the data. These are eventually either collapsed or eliminated according to how much of the actual data they are able to subsume, until the most meaningful categories emerge and account most economically for the greatest proportion of the data. This kind of an endeavor requires many data points, that is, many instances of speech or emotional expression, and precise, reliable procedures for defining the coding categories and the decision rules for their application. The results depend on quantification and distribution of patterns of relative frequency of categories of behavior, at a single time and longitudinally at successive times as the output of the coding schemes. The end result is a microgenetic description of developmental change that is derived from detailed observation and description of the child's behaviors over time.

Microgenetic procedures such as these were responsible for our descriptions of the covariation in development of the children's emotional expressions and emergence of language just described. We have also applied such procedures to the study of developments in object play in relation to language in the same period of time (Lifter & Bloom, 1989). The basic assumption is that all of a child's actions, including language, emotional expression, social interaction, and play with objects, express meaning. In particular and for the purpose of the study we describe here, children's emotional displays are viewed as communicative expressions that convey meaning, that is, permit the attribution of an underlying intentional state or representation, in a manner similar to language and other actions (Bloom, 1993; Bloom, Beckwith, Capatides, & Hafitz, 1988).

B. Coding a Child's Emotional Expressions

The focus of this study was on how mothers respond to their children's emotional expressions. Accordingly, our aim in devising the coding scheme for identifying and classifying the children's expressions was meant to be consistent with the way mothers might be expected to perceive those same expressions.

1. Gradient Versus Categorical Information

Children's emotional expressions were coded for the gradient properties of valence and intensity rather than according to discrete categories of emotions such as joy, anger, sadness, and the like. Russell (1989) has proposed that the

positive-negative affect distinction may be the overriding pancultural affective dimension. Indeed, Bullock and Russell (1986) report that these same dimensions underly the conceptualization of emotion in children as young as 2 years of age. Similarly, mothers sort and verbally describe the emotions of 2½-12-month-old infants in terms of the dimensions of hedonic tone and state or arousal (Emde, 1984). In fact, Emde claims that these two dimensions (a) are characteristic throughout the entire lifespan (b) are dimensions of biologically meaningful messages that are necessary for adaptation and survival, and (c) have neurophysiological underpinnings.

Tronick (1989) has argued that encouraging positive affect and discouraging negative affect may be the feature that will distinguish healthy from pathological interaction (Tronick, 1989). We expected that mothers' goals in interacting with their children were to regulate their emotional expressions so as to maintain positive affect and discourage negative affect. Therefore, we predicted that the function, meaning, and form of mother responses would vary with hedonic tone (positive and negative expression). For these reasons, mothers' responses to their children's positive and negative affect expressions were coded for the purposes of this study.

Certainly, at a later time, the empirical question of whether the distribution of mother behaviors varies with respect to the discrete emotions could be tested with these same data. The mothers' response coding scheme presented below is actually theoretically neutral with respect to either gradient properties or discrete emotions for the general form, content, and function of mothers' responses to their children's emotional expressions.

2. Validity of the Coding Scheme

Several coding schemes are available in the literature to identify the discrete emotions from facial expressions: the Facial Action Coding System (FACS) (Ekman & Friesen, 1978), the Maximally Discriminative Facial Movement Coding System (Max) (Izard, 1979b), and the System for Identifying Affect Expressions by Holistic Judgements (Affex) (Izard & Dougherty, 1980). Their use requires extensive training to identify different movements of the musculature in separate areas of the face and how these movements combine to form displays of the discrete emotions. For FACS and Max these decisions are not made in real time but instead require multiple viewings of the data. These schemes were not used, because we questioned whether such procedures are compatible with the ways in which mothers actually perceive their children's expressions in the stream of ongoing everyday activity. Mothers are confronted with the task of reacting to a child's expressions as they occur in real time. They do not have the opportunity to revisit these expressions before they interpret and act upon them, and we question if perceiving, much less identifying, the particular configurations of movements of the facial musculature enter into their decisions to respond. Interestingly, when untrained judges were asked to assign

discrete emotion categories to photographs or videotape presentations of the facial expressions of infants, they were successful in matching the categories of the Facial Expression Scoring Manual only 50% of the time (Izard, Huebner, Risser, McGinnes, & Dougherty, 1980). Although significantly greater than the 12.5% agreement that would have occurred by chance, the fact that assignment was made successfully only half the time calls the social validity of these categories into question (see Oster, Hejny, & Nigel, in press).

In addition, these coding schemes (FACS, Max, or Affex) do not use any affective cues other than facial movements. However, emotion is expressed through several channels in addition to facial display. Vocal expression; body tension; body posture; head tilt; certain voluntary actions such as hugging, kissing, or biting; and even autonomic responses such as shivering or sweaty palms can all be expressions of emotion. Furthermore, Adamson and Bakeman (1985) reported that facial display was never the dominant mode of emotional expression for the 6-18-month-old infants they observed. Younger infants used vocal, facial, and motoric displays. By the latter part of this period, however, the vocal mode became the dominant one and accounted for 75% of the children's expressions and less than 10% contained a motoric mode. Because mothers must certainly use these other cues in attributing emotions to their children's expressions, vocal, facial, and motoric cues were incorporated into the coding scheme we used.

One might question, on other grounds, the validity of using emotional expression alone to attribute discrete emotion categories to people in general, and to young infants and children, in particular. Researchers have called for the use of converging measures such as contextual information (Izard & Dougherty, 1982; Sroufe, 1979), automatic response (Sroufe, 1979), and self-report data (Izard & Dougherty, 1982) to corroborate such attributions. However, the attribution of discrete emotion can be corroborated with self-report data in adults but not children (Campos et al., 1983).

For all these reasons, the coding scheme we used was based upon identifying changes in the gradient properties of a child's affect expression which are readily apparent to an observer. In classifying the children's expressions according to their valence and intensity, the trained coders in our laboratory were making decisions that could be expected to be consistent with the attributions made by the mothers themselves in their interaction with their children. Therefore, the gradient-based scheme was believed to have both psychological reality and ecological validity. Note, however, that coding discrete emotions with the same database is always possible at some future point in time.

3. Description of the Coding Scheme

The children's affect expressions were coded continuously in the stream of the interaction so that an affect expression was identified as any change in either the hedonic tone or intensity of a child's expression. Cues to these expressions

included facial movements and such vocalizations as laughing, crying, or whining. Additional cues included paralinguistic vocalizations, body tension and posture, and voluntary actions such as hugging, kissing, aversion or avoidance, and the like.

Five categories of hedonic tone were observed; these were neutral tone and four subcategories of nonneutral tone: positive, negative, mixed positive/negative, and equivocal. (For photographic examples of these, see Bloom, Beckwith, Capatides, & Hafitz, 1988; the full coding scheme with definition of the categories and decision rules for assigning expressions to the different categories is available from the authors.) A neutral affect expression was defined as the face being in a resting or baseline position without any facial movement, as described by Ekman and Friesen (1975, 1978) and without any marked vocal or bodily cues. A mixed-affect expression included elements of both positive and negative valence, and an equivocal expression was neither positive, negative, nor neutral, such as happened with expressions of surprise or excitement. The categories of nonneutral affect were further classified into three levels of intensity according to their relative fullness of display with (a) being the slightest, (b) being a moderate display, and (c) being a full or maximum display.

Thus, this coding scheme yielded a continuous record of changes in the hedonic tone and intensity of the children's affect expression. Every coding decision was associated with a time stamp which was read by the computer from the videotape. Because affect expression was coded continuously, the onset time of one affect expression was the offset time of the one that preceded it. Obviously, the coding scheme identified the manifest expression of emotion, and no claim can be made about a child's underlying affect state, feeling, or experience. While any one or more of these may coincide with the expressed affect, they need not (e.g., Buck, 1984). Also, individuals may alter or even feign an emotional expression to conform to cultural or social practices and/or to achieve a particular social goal. The use of smiling for social-communicative purposes has been observed in infants as young as 10-month-olds (Jones, Collins, & Hong, 1991; Reddy, 1991).

The public display of affect is particularly well suited to the purposes of this study, however, because it is the communicative nature of emotion that permits its socialization. We can, therefore, locate moments of socialization in those interchanges involving child emotional expressions and mother's observation of and responses to them. For the purposes of the present study, only the nonneutral affect expressions were considered communicative, and these made up the database of children's affect expression that was then examined for evaluating mothers' responses.

C. Coding How Mothers Responded to their Children's Emotional Expression

The underlying assumption that guided this research was that the entire array of mother behaviors—including affect expressions, actions on objects, social inter-

actions with people, and caregiving behaviors, as well as mothers' use of language, in general, and emotion language, in particular—is available to a child, and that they all convey meaningful information that can contribute to a child's emotional experience and expression. The key component in the coding system we devised, therefore, was an operational definition and criteria for determining that a behavior on the part of the mother was a contingent response to the child's expression of emotion.

1. Definition of Contingent Response

Studies that have taken a more traditional learning perspective (e.g., Malatesta & Haviland, 1982; Malatesta et al., 1986) have defined contingency in terms of proximity in time: In order to be considered a contingent response, a mother's behavior must have occurred within a 1-sec interval after an infant's affect expression, and only one behavior could be considered contingent. However, this definition precludes any meaningfully related responses that occur after this brief time interval. Conversely, behaviors that are not meaningfully contingent upon a child's affect expression could also have been included inadvertently.

The alternative approach we took was to define a contingent response in much the same way that contingency has been defined for conversational turns in studies of discourse development (Bloom, Rocissano, & Hood, 1976), that is, in terms of a meaningful relation based upon a shared focus on some aspect of the emotion event. In reality, mothers often say and do many things that are related to what their children do, and any or all of these behaviors could have an impact on a child's experience. Therefore, we devised a set of coding categories and decision rules to capture affect-related interaction and include all those mother behaviors that were potentially meaningful in relation to her child's emotional experience and expression. All mother behaviors that shared the same focus as the child's emotional expression, according to aspects of the situation, the circumstances that elicited it, or the behaviors that followed from it, were considered to be responses and, therefore, potential vehicles for socialization. Because the child's expression was the starting point, the methods we used approached the social context of the child's emotional expression from the child's own point of view.

2. Deriving Molar Coding Categories

One of the purposes of the present investigation was to derive a set of theoretically relevant coding categories that were general enough to capture the entire protocol of a mothers' responses. Thus, the content categories of mothers' responses were large, molar distinctions with respect to goals and situations, as opposed to more molecular categories that might capture different kinds of goals or situations. This follows the distinction in language research between general, broad content categories and the particular topics that are included within them.

(for an extended discussion of this distinction, see Bloom & Lahey, 1978). For example, whether a mother is helping her child to put a peg person in the toy seesaw or to string some beads, her response would be coded as encouraging the child's goal in acting on objects, but the particular goals differ in each instance. According to Bloom and Lahey (1978), content categories are continuous, and it is the particular topics within them that vary across age and culture. And, in addition, one might also expect variation in topic but not content according to gender differences. For example, the two gender-specific comments, "big boys don't cry" and "don't talk back to me, young lady," would be included under the same content category of directing the child's affect expression.

Four levels of coding decisions were made: mother's response contingency, the functional meaning of mother's response, the form of mother's response, and the content of mother's response. Here again, as with the coding scheme for the child's affect, the categories coded at each of these five levels were derived from the data in an etic to emic manner (Bloom, 1974; Pike, 1967). Thus, while the four levels of coding were determined by the specific theoretical and empirical questions addressed, the categories themselves were as much the first result of this study as they were its method. The following is a description of the four levels of coding and their category definitions. For the specific coding rules along with examples of the individual coding categories, see Capatides (1990).

3. Mother Response Contingency

A mother Response was defined as any mother affect expression, action, or speech that was dependent upon or related to her child's emotional expression. This dependency was defined as a shared focus on the child's affect or its expression or on some aspect of the situation that was the occasion for it. Mothers most often directed their Responses to the child, but occasionally they directed them to the camera person who was present in the playroom.

4. Function of Mother Response

This coding level was applied to all mother behaviors which were considered to be Responses and involved a judgement of the functional, regulatory meaning of the mother's response with respect to maintaining the child's emotional expression, underlying state, feeling, or experience, or the situation that was the occasion for it. Five mutually exclusive categories of function were observed: Facilitate, Discourage, Acknowledge, Mixed Facilitate/Discourage, and Ambiguous.

In coding the functional meaning of responses, the object was to describe the social context as it was presented to the child. The coder's task was to isolate the immediate meaning of the mother's Response in and of itself and not the meaning that the mother intended or the effect that the mother's behavior had. To

borrow terms from the speech act literature (Austin, 1962; Searle, 1969), the goal was to describe the *locution* of the mother's Response and not its *illocutionary force* nor its *perlocutionary effect*. Therefore, attributions that imply effect (such as *terminate*, *mitigate*, *increase*, etc.) were empirical impossibilities. Only terms that refer to the function of mother's response with respect to the present state (e.g., *facilitate*, *maintain*, or *discourage*) were used. For example, the judgment of discouraging negative affect makes no claims as to whether mothers are also encouraging another affect state, either positive or neutral.

The following example from one of our children, Vivian, and her mother illustrates the coding decisions involved in identifying actual functional meaning as opposed to mother intent or the effect that a response had on the child. Vivian's mother persisted in feeding her despite Vivian's turning away and repeated negative affect displays. Since this mother was performing a caregiving behavior that normally serves to discourage negative affect, one can infer that she did not intend to facilitate negative affect even though that was her effect in this context. Therefore, the actual function of her behavior in this immediate context was one of a mixed facilitate/discourage. Actual function was judged, then, by the conjunction of a behavior's general meaning and the meaning it assumed in a particular context.

5. Form of Mother Response

The mother Responses were classified into three form categories: Affect expression, Action-related behavior, and Talk about the emotion event. These three categories often co-occurred in a single response. Mother Affect expressions were coded for their valence and identified by the same behavioral cues described in the coding scheme for the child's affect expressions. The Action-Related behaviors category included any verbal and/or behavioral response that involved the mother's own action, interaction, or caregiving behavior or her attempt to influence the child's action. Talk about the emotion event included any talk by the mother that provided information to the child or obtained information from the child about an aspect of the emotion event. This Talk included category labels for emotions, evaluations, explanations, descriptions, or questions regarding the child's affect expression, its communicative intent, its underlying state, feeling or experience, or the situation that was the occasion for or outcome of it.

6. Content of Mother Affect Expression

Mother Affect expressions were coded for the same mutually exclusive categories of valence as the child affect expressions: Positive, Negative, Mixed positive/negative, Equivocal (including the mock surprise expression), and Ambiguous, with one additional category. This was the relatively common maternal

expression of Comforting, an expression described by Stern (1977, p. 12) as the "oh you poor dear" expression of concern and sympathy.

7. Content of Action-Related Behaviors

The content of mother Action-Related behaviors was coded for both its focus and its relation to the child's goal in the situation. The focus of mother Action fell into three mutually exclusive categories: Action on Objects, Social Interaction, and Caregiving behaviors. The Action on Object and Social Interaction categories were further classified into four mutually exclusive subcategories according to how mothers' actions related to the goal of a child's action or the action itself: to Encourage, Stop, Substitute, or Restrict.

8. Content of Mother Talk about the Emotion Event

Mothers talked about three aspects of the emotion event: the Emotional Expression itself or the underlying affect attributed to it, the Situation that was the occasion for the child's expression, and the child's Goal or intention in that situation. Mothers' Talk about the emotional expression and its underlying state included five subcategories: labels for emotions, evaluations of the emotion, labels for the child's emotionally expressive behaviors, direction or evaluation of the child's emotional expression, and talk about the child's underlying feeling state. Talk about the situation included description, questions, evaluation, and/or elaboration of the circumstances around the child's affect. Finally, the last category of mother Talk focused on the child's goal or intention in the situation that was the occasion for the child's affect expression. This category included talk about action-related goals as well as reference to the communicative intentions underlying the child's affect expressions (for example, statements like "Oh, is that so?"). Note, although the categories of talk about the situation and talk about the child's intention were mutually exclusive, either of these could occur with talk about the emotional expression.

D. Procedures of Data Collection, Coding, Reduction, and Analysis

The database for this study consisted of four 30-min observations for each of 12 first-born children (6 boys, 6 girls) when the children were 9, 13, 17, and 21 months of age. The children were from mixed backgrounds both in terms of their ethnicity (8 were Caucasian, and 4 were children of color) and economic background. Observations took place in our laboratory playroom and consisted of free play and a snack.

Coding proceeded in the following manner. First, all affect expressions that the children produced during the first 30 min of interaction in our laboratory playroom were identified and coded. Next, the mothers' responses to their

children's affect expressions were identified and coded in real time in a separate pass through the videotape. Reliability for the children's affect code was assessed both prior to and during coding with percentage agreement (ranging from 85%–100%) and with Cohen's Kappa (Cohen, 1960) (ranging from .67 to 1.0). Reliability for the categories of mother response contingency, function, form, and content were assessed after coder training and prior to coding. Percentage agreement ranged from 79% to 93% on the various subcategories of mother response. Reliabilities were again assessed during coding to ensure that no observer drift had occurred.

The two coding schemes, one for identifying and describing the gradient properties of valence and intensity in the children's emotional expressions, and the other for identifying the mothers' responses to these expressions, were applied to the data independently, in separate passes, and were interfaced subsequently for integrated analyses. The computer-video interface we developed allowed for multiple independent coding records to be merged according to their time stamp (SMPTE), preserving the temporal relation between the coded variables (see Beckwith, Bloom, Albury, Raqib, & Booth, 1985; and Bloom, 1993, for a description of this system). Therefore, the coding record preserved the temporal relationship among the various behaviors that made up a mother's response as well as their temporal relation to her child's affect expressions.

Since each child produced a different number of expressions, all frequency scores for mothers' responses were converted to proportions. In each analysis, results were examined with respect to the valence of the child's expressed affect (positive/negative), age (9, 13, 17, 21 months), and gender, as well as the child's age of language achievement (early/late acquisition of first words). For all statistical analyses the proportional data were arc sine-transformed and tested with a 2 (gender) \times 2 (valence) \times 4 (age) repeated measures ANOVA. Post hoc analyses were done using Scheffe and simple effects tests. Only those results which were statistically significant as tested by repeated measures ANOVAs and post hoc tests will be described here. (For more details on statistical procedures see Capatides, 1990.)

The results consisted of a detailed description of the overall pattern of mother response to the children's emotional expressions in general, as well as a description of two different profiles of mother response frequency, function, form, and meaning content in relation to the children's positive versus negative emotional expressions (Capatides, 1990, Capatides & Bloom, in preparation). In Capatides and Bloom (in preparation), these results are discussed in terms of the contribution that these two distinct response profiles make toward the elicitation, expression, regulation, and understanding of positive and negative emotional experience. In this chapter, we will highlight some of the results of this study with an emphasis on the wealth of information that is conveyed to the child through the various parameters of mother response. Finally, we propose a theory for the process in which this information becomes part of the child's knowledge of emotion.

V. MOTHERS' RESPONSES TO THEIR CHILDREN'S AFFECT EXPRESSIONS

All the children's positive and negative emotional expressions were selected out of a larger database of all neutral and nonneutral emotional expressions that had been previously identified and coded continuously for valence and intensity; 3,245 nonneutral affect expressions were observed. Overall, 96% of these were either positive or negative. Seventy-seven percent were positive, and 19% were negative. This distribution of the relative rate of positive and negative expression, that is, the positivity dimension, remained constant from 9 to 21 months, $F(1,10) = 61.52, p < .001$.

Briefly, the results were as follows. The mothers responded to the majority (80%) of their children's emotional expressions, and they responded more frequently to negative (88%) than to positive affect expressions (72%), $F(1,10) = 55.01, p < .001$. The relative frequency of mothers' responses to the children's positive and negative emotional expressions remained stable over time and across gender and language ability. As we expected, mothers responded to their children's affect expressions in ways that facilitated positive affect and discouraged negative affect, $F(3,30) = 91.92, p < .001$. In addition to their own affect expression and labels of emotion or its expression (the forms of socialization most often studied in the past), mothers responded with talk about the emotion event that referred to the child's goals and/or the situations in which their emotions occurred, as well as with actions and action-directed speech in which they either acted themselves or encouraged their children to act in order to achieve their goals. Moreover, the most frequent form of mother response was action-related behavior, whereby mothers acted themselves and/or encouraged a child's action on the environment in a goal-directed way (66% of mother responses). Forty-nine percent of the mothers' responses included the mothers' own affect displays, and 49% of the mothers' responses included talk about the emotion. While there was no difference between the frequency of the affect and talk categories, $F(2,20) = 2.74, p > .05$, there was a significant difference between both affect and action, $F(2,20) = 9.27, p < .01$, and talk and action $F(2,20) = 9.17, p < .01$. While the rate of mothers' action-related behaviors did not change in the course of the study, the rate of responding with affect expression decreased, while talk about the emotion increased from 9 to 21 months, $F(3,30) = 3.29, p = 0.034$ (see Figure 1).

The distribution of the relative frequency of use of these three response types, as well as the content categories they expressed, was different for positive and negative emotional expressions; these profiles are described elsewhere (Capatides, 1990; Capatides & Bloom, in preparation).

An expression by the caregiver permits the attribution of meaning by the child, regardless of whether the attributed meaning was intended or not. By coding the regularities of meaning in the function, form, and content of mothers'

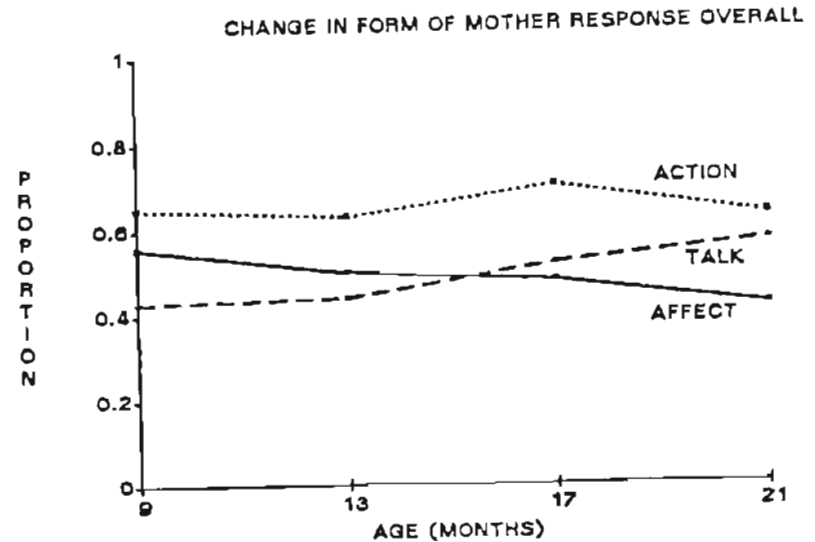


Fig. 1. Change in form of mother response overall

responses, our aim was to achieve a best estimate of the regularities of meaning that were available to the children from their own interactions with their mothers. The following discussion of these results is our best estimate of the meanings that the mothers conveyed in response to their children's affect expressions. We will conclude by suggesting some processes by which the repeated expression of these meanings are internalized to become a part of a child's knowledge and understanding of emotion.

A. Affect as Communicative Expression

The high frequency of mother response was a clear message to the children that their affect expressions were communicative and supports the perspective that affect expressions are socially regulative behaviors (Barrett & Campos, 1987; Charlesworth, 1982; Darwin, 1872/1965; Izard, 1979a; Thompson, 1990). Beyond this, the higher frequency of mother response to negative affect suggested that mothers interpreted these expressions as more potent communicative cues and/or more demanding of a response than positive expressions. Children learn that their affective expressions have a communicative quality and will come to expect a response to them. Indeed, as early as 2 months of age, infants can form social expectations and come to anticipate a soothing response to their cries of distress from caregivers and strangers (Gekoski, Rovce-Collier, & Carulli-Rabinowitz, 1983; Lamb, 1981; Lamb & Malkin, 1986). The description of the

mothers' responses to their children's emotional expressions in this study provided a reasonable estimate of what children might come to expect as the social environment of their emotions, or the "average expectable context" of emotion in a functionalist theory of emotional development (Barrett & Campos, 1987).

We argued that children's emotional displays are communicative gestures that express meaning in an earlier report on the intentional states underlying the affect expressions and early words of these same 12 children (Bloom, Beckwith, Capatides, & Hafitz, 1988). Because an emotional expression is a public display, we can attribute a private representation to it which is its meaning in much the same way as we do with language and other action. This study of the mothers' responses complements that earlier study by showing how the children's own mothers attributed intentionality to their children in responding to their affect expressions as communicative. Mothers often responded with comments like "What?" or "Okay" to indicate that they had attributed communicative intent to a child's affect expressions.

The communicative value of affect persists after language is acquired. Just as the children's emotional expressions were not replaced by words as they acquired language (Bloom, Beckwith, Capatides, & Hafitz, 1988), the frequency with which mothers responded to displays of affect did not change. The mothers responded as readily when the children were 9 and 13 months old as when they were 17 and 21 months old, before and after the children learned to talk. However, the form of their response did change to include more mother speech.

The children's affect expressions may have co-occurred with other action or talk, but that does not diminish the importance of affective communication in its own right. While a mother may respond to any child behavior as an expression, the nature of her response may be different for different sorts of expression. Indeed, in the present study, mothers responded differently both in frequency and in kind, depending on the valence of the children's affect expression. First, they responded more often to negative than to positive expressions. But, in addition, the mothers' efforts to facilitate positive and discourage negative affect were expressed with different content and different patterns of affect expressions, action-related behaviors, and speech (see Capatides, 1990; Capatides & Bloom, in preparation).

Additional support for the validity of mothers' responses to their children's affect expressions as communicative comes from those affect expressions that were not responded to by the mothers. Twenty percent of the children's affect displays were not responded to because they were either ignored, not attended to, ambiguous, or the mother was off-camera. These instances of no response are evidence that this study tapped into the processes of normal interaction. Mothers were not artificially overresponsive to each and every expression that their children produced. Furthermore, it is likely that some percentage of children's emotional expressions will always be undetected or not acknowledged in an interaction.

B. The Function of Mother Response

This study extends the description of interaction in early infancy in the literature to development in the second year and demonstrates that the mothers of older infants and toddlers also actively regulate the affective states of their children. In addition to facilitating positive affect and discouraging negative affect, a third regulatory function of the mothers' responses was observed which was not anticipated. A small proportion of the mothers' responses conveyed a mixed message that served to simultaneously facilitate and discourage different aspects of the same emotion event. For example, a mother might indicate approval of the child's affect through a shared positive affect expression while at the same time encouraging the child to stop the activity upon which it was based (e.g., if the child was smiling while trying to exit the playroom or playing with the video camera, the mother might smile back but try to stop the child's activity as well). Finally, situations in which mothers merely acknowledged that they were aware of the child's affect expression were neutral with respect to any apparent regulatory function.

The mother-child dyad has been characterized as an affective regulatory unit (e.g., Thompson, 1990; Tronick, 1982). According to Tronick (1989), normal, healthy interaction involves the successful maintenance of a mutually positive affect state. This requires frequent reparations of interactive errors whereby negative affect is transformed into positive. This experience contributes to development of the ability to cope with stress. Mothers' goals for the achievement of positive affect have been reported in numerous studies of face-to-face interaction in early infancy (e.g., Malatesta & Haviland, 1982; Stern, 1977; Tronick, 1982, 1989). Conversely, the literature on distress-comfort sequences highlights the fact that mothers work toward relieving their children's expressed distress (for a review see Thompson, 1990). Such comforting behavior has been shown to produce quiet-alert states in young infants (Korner & Thoman, 1970).

More recently, Thompson (1990) has discussed the regulation of emotional experience in greater detail. He stressed the dual function of emotion as both the target and the agent in the regulation of behavior. He proposed that emotions themselves must first be regulated before they can, in turn, function in the regulation of other sorts of behaviors. According to Thompson, the goal of regulation is emotional homeostasis, and well-regulated emotional experiences motivate behavioral responses that persist until an individual's goals are achieved. Therefore, emotion regulation involves both the achievement of a desired affect state as well as the achievement of the individual's goals. The results of this study support this suggestion. Two goals could be discerned during the mother-child interactions we observed: (a) the higher-order goal for the maintenance of a positive or neutral affect state, and (b) the particular, more immediate, personal goal that must be achieved in order for positive or neutral affect to occur. The mothers encouraged the regulation of affect state through a

variety of strategies directed at the child's goal in the situation. These included goal-directed actions, caregiving, conversation, or affective evaluation by means of social referencing.

The relationship between personal goals and affect states is further highlighted in those cases in which mothers expressed a mixed functional message of both facilitating and discouraging their children's affect. In the example given earlier, Vivian's mother continued to try to feed her, and did so while singing to her, despite Vivian's active resistance. On one level this mother was ignoring her child's negative expression by persisting in a behavior that the child was clearly rejecting. However, the mother's feeding behavior was an attempt to achieve the higher-order physiological goal of satisfying the need for food. The basic physiological needs for rest, nourishment, hygiene, and so on, must be met in order to achieve the homeostasis that protects against negative affect. In this example, the mother tried to discourage Vivian's negative reaction to her caregiving intervention by singing and expressing positive affect herself. Mixed functions occur in contexts where the mother's and child's goals are in conflict. Mothers might try to make these interactions as pleasant as possible with techniques of distraction, including the use of face-to-face interaction and play with objects.

Another example of the conflict between more immediate and higher-order goals comes from Miller and Sperry's (1987) description of how working-class white mothers in South Baltimore encouraged their daughters to express anger when it was justifiable. At first glance, it might seem as though these mothers were encouraging negative affect expression. However, Miller and Sperry make clear that these mothers viewed the regulation of such expressions of anger as essential for achieving one's personal goals in their cultural context.

The higher-order goal for the maintenance of a positive or neutral affect state, which characterizes early face-to-face interaction in infancy, remained constant in the present study from 9 to 21 months and probably persists throughout the lifespan (e.g., Freud, 1915/1948). However, development occurs in the particular personal goals that must be obtained in order for positive or neutral affect states to be achieved and maintained, highlighting the complex interconnections between developments in cognition and affect. With development, children's goals become less physiological and more psychological, more complex cognitively, and expand to include social and object-related goals (Piaget, 1981; Sroufe, 1979).

C. The Forms of Mother Response: An Expanded View

While the goal of facilitating positive affect in interaction remained the same, the means with which this was accomplished changed from the almost exclusive use of affective expression in early infancy to the use of action-related behaviors and

talk as well. Mothers of very young infants described in the literature use affective communication primarily in their face-to-face interaction (e.g., Adamson & Bakeman, 1982, 1984, 1985; Bullowa, 1979; Stechler & Carpenter, 1967; Trevarthen, 1979). Just as in these studies, the mothers of the older infants whom we studied also expressed affect themselves in responding to their children's emotional expressions, and their affect expression was positive affect most often, as reported also by Malatesta and Haviland (1982) and Malatesta et al. (1986). However, only 49% of the mothers' responses included affect expressions, which means that socialization was achieved in other ways at least half the time (49% with talk about the emotion event, and 66% with action-related behaviors).

These findings speak to the more general issue of continuity in development as well as to the qualitative changes that occur with development from pre-linguistic to linguistic communication. For these children and their mothers, the goal of facilitating or maintaining positive or neutral affect remained constant and provided the context for their interaction and communication through both action and speech, as well as affect expression. Thus, the results of the present study expand our current understanding of the vehicles for the socialization of emotion.

D. The Forms of Mother Response as Levels of Meaning

Affect expression, action-related behaviors, and talk about the emotion event convey meaning to a child on separate planes of psychological understanding.

I. Mothers' Affect Expressions

The literature on affect in social interaction highlights three important ways in which mothers' own emotional expressions can influence their children. First, at the most basic level, an affect expression can elicit a similar feeling state in those who observe it through the biological process of contagion or emotional resonance. Second, the mothers' affect expression may serve as a model for social rules of display (e.g., Denham, 1985; Malatesta & Haviland, 1982; Malatesta et al., 1986). Third, toward the end of the first year, affect begins to function for social referencing, whereby children learn to interpret others' affect expressions as meaningful cues for evaluating objects, people, and events in situations and thereby guide their own behavior in those situations (e.g., Campos & Stenberg, 1981; Feinman & Lewis, 1983; Hornik & Gunnar, 1988; Klinnert, 1984; Klinnert et al., 1983, 1986). In addition, another focus for social referencing is the use of the mother's expression as an interpretation of the child's own feeling and/or its expression. Since the child's affect expression is part of the context to which the mother's affect expression refers, it can provide information regarding the mother's evaluation of the child's feelings and their expressions as well.

2. Mothers' Talk about Emotion

As the children acquired language, the mothers were increasingly likely to use language themselves, and correspondingly less likely to express affect themselves in responding to their children's emotional expression. We would expect this trend to continue into the third year as children's language abilities continue to grow and mothers adjust their own responding accordingly. Moreover, this developmental interaction highlights the fact that socialization is a bidirectional process, reflecting the impact that children have on their own development. Parents are sensitive to the abilities and needs of children and tailor their responses to what they perceive those to be. Indeed, there are similar accounts in the literature attesting to such parent sensitivity to children from different cultures (Scheiffelin, 1979) and different subgroups, for example, children with Down Syndrome (Brooks-Gunn & Lewis, 1982), full-term and preterm infants (Malatesta et al., 1986), and unresponsive or hyperactive children (Bugental, 1985).

Most theoretical discussions of the socialization of emotion highlight the use of language, particularly words that label the emotions, as a major means of teaching children about their own and other persons' emotions (Barrett & Campos, 1987; Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986; Izard & Malatesta, 1987; Lewis & Michalson, 1983; Lewis & Saarni, 1985b; Thompson, 1990). Although the mothers in this study talked about emotion in a way that could be considered direct instruction, they did so rarely. Of all the talk that mothers directed toward their children in response to their affect expression (and they used talk in only 49% of their responses), they only talked about or evaluated the children's affect or its expression in 13% of their talk. Moreover, the use of explicit emotion labels was rarer still. Mothers actually labeled only 60 of the 3,112 emotional expressions that were observed in this study, and most of these instances were accounted for by the word *like*, as in "you like that, don't you?" The infrequent use of emotion labels might have been influenced by the playroom setting, and we might expect the frequency of emotion labels to be higher in home settings, where confrontation between siblings and other family members is more prevalent. However, this low frequency of emotion labels is consistent with reports by other researchers as well (e.g., Miller & Sperry, 1987; Smiley & Huttenlocher, 1989). And, in fact, inspection of the findings of those research studies that have emphasized the importance but not the frequency of emotion language revealed that emotion words were actually infrequent in these studies as well (Beeghly et al., 1986; Broen, 1972; Dunn et al., 1987; Malatesta & Haviland, 1982).

Mothers talked instead about their children's emotion experiences in other ways. The major meanings mothers expressed with talk about emotion served to explicitly highlight some aspect of the appreciation that was the occasion for a child's affect. Thus, mothers talked about the situation (50% of all time) or the

child's goal in the situation that elicited that affect (27% of the time). This is consistent with both cognitive (for example, Stein & Jewitt, 1986; Stein & Levine, 1987, 1989) and functionalist (Barrett & Campos, 1987) accounts of emotion elicitation that stress the importance of appraisal and appreciation for the implications of an event in relation to one's personal goals or strivings. The mothers clearly used their language to contribute to their children's knowledge of emotions and the causal and consequential contexts in which they occurred. In addition, as will be discussed below, mothers also used language to teach active emotion regulation strategies, as Kopp (1987, 1989) and Thompson (1990) have described as well. Thus, mothers helped to broaden their children's understanding of the events and goals that elicited emotions by talking to them in response to their emotional expressions.

In considering mothers' talk about emotion for the socialization of their children's emotions, the distinction must be made between providing implicit information and direct instruction. All the mothers' talk provided the children with information that might serve to broaden their understanding of emotions. However, few of these verbal exchanges could be considered didactic in the sense of direct instruction about the way emotion should be expressed, when emotions should be felt, or how emotion should be labeled or interpreted. Instead, mothers provided more implicit information that the children could then use to build their own understanding of emotions in context.

In sum, the mothers in this study rarely labeled their children's affect or directly taught their children about feeling or display rules. This was surprising given the emphasis on the use of emotion language in theoretical discussions of the processes of emotion socialization (see, for example, Hochschild, 1979; Lewis & Michalson, 1983; Lewis & Saarni, 1985). Instead, these mothers used speech either to highlight their children's goal in the situation, to elaborate their knowledge of the situation, or to encourage them to achieve their goals in the situation. For the most part, mothers did not talk about their children's feelings but, rather, about what their feelings were about and what they could do about them. Thus, mothers' talk was not directed at the expression of emotion but, rather, at the experience of emotion in terms of the situations and intentions that occasion it and how those occasions can be maintained or changed.

More importantly, perhaps, the mothers' talk in response to the child's emotional expressions highlighted the fact that the emotions can be the object of one's cognitive understanding. That is to say, emotional expressions can be interpreted, evaluated, described, questioned, and, in general, thought about. And, this understanding can be communicated to others through language.

3 Mothers' Action-Related Behaviors

Although previous studies of the socialization of emotion have not looked at mothers' actions or talk about mothers' or child's actions, the most frequent form

of response in this study was action-related behavior whereby mothers acted themselves and/or encouraged a child's action in a goal-directed way. The use of action as a source of information might be expected given the general importance attached to children's actions in most cognitive perspectives on development. The mothers' encouragement of their children's action is also compatible with numerous theoretical accounts that stress the motivational (Izard, 1979a), organizational (Campos et al., 1983; Sroufe, 1979, 1984) or regulatory (Barrett & Campos, 1987) influence that affect has on the adaptive behaviors of both the individual who is experiencing the emotion and those observing and reacting to it. When the mothers in this study directed their children's actions in a manner that encouraged and facilitated the achievement of intentions and goals, they most certainly enhanced cognitive understanding of the relationship between one's emotional states and the actions involved in reaching or maintaining a goal. And, mothers' actions and encouragements of their children's actions was clearly a strategy that served the socialization of emotion regulation. When mothers encouraged their children to act in the service of their goals or needs, they were providing them with active coping strategies. When mothers acted themselves, they modeled coping behaviors that could be used toward the achievement of goals or fulfillment of needs. Additionally, they provided the children with information regarding the social impact of their emotional expression, through the effect it had in directing the mother's actions on the child's behalf, in addition to its value for communicating.

Finally, the fact that a mother acts in relation to her child's emotions and also encourages her child to act conveys the message that emotions are not states to be experienced passively. On the contrary, individuals play an active part in the emotions they feel, experience, and express by acting to achieve their goals in the situations that are the occasion for emotions and/or that have resulted from them. And the bidirectionality of emotion regulation, whereby emotion both regulates and is regulated by the behaviors of the child and others (Thompson, 1990), becomes enhanced and is socialized in the process.

The interpretation of the forms of mother response as channels of meaningful expression is further supported by the fact that they were distributed differently with respect to positive and negative affect expressions. The particular content expressed by each of these three response modes, and the way they served to maintain positive or discourage negative affect, are discussed elsewhere (Capatides, 1990; Capatides & Bloom, in preparation).

E. Generalizability of Mother Response Practices

The results of this study provide a comprehensive picture of the frequency, function, form, and content of mothers' responses to their children's emotional expressions. Mothers expressed different regulatory goals, depending upon whether their children expressed positive or negative emotions, and their social-

izing goals were communicated through different patterns of form and content of responding (Capatides, 1990; Capatides & Bloom, in preparation). The patterns of response we identified were characteristic of all the mothers, even though they came from different ethnic and economic backgrounds. Moreover, although there was a developmental interaction in the relative frequency of use of affect expression and language, the overall frequency of mothers' responses as well as their regulatory goals and content remained constant over the time period of the study, from 9 through 21 months, and across gender. The mothers' patterns of response was also independent of the variation among the children in language achievement, that is, how old they were when they said their first words. As such, the general pattern of the form, function and content parameters of mother responses to children's emotional expressions provided a framework within which the socialization of children's emotion takes place.

In sum, we believe that the generality of the content categories in this study makes them useful for describing responses in different cultures, by different socializing agents within the same culture, and by a single socialization agent across different situations. However, the distributional frequency in the use of these global categories as well as the particular topics included in them might be expected to vary. These are empirical questions for further investigation.

The play and snacktime activities we used for this study were mutually enjoyable for both the mothers and the children. One might have expected, therefore, that the affect expressions of both would be largely neutral and positive. Although negative affect did occur, it arose primarily in contexts of frustration, while playing with the toys or on occasions of minor discomfort for one reason or another. Situations that are known to produce negative affect, such as separation from the mother, did not arise. However, other situations did arise in which the mothers' and children's goals were in conflict for reasons of safety, a child's expected level of competence, or the goals of the study. The coding scheme captured these kinds of interactions in which a mother discouraged or presented a mixed message to her child. Studies of affect expression in home settings that include the mother's routine caregiving activities and daily household chores as well as sibling interactions (see, for example, Dunn, 1988) might increase the opportunity to observe affective moments in which mother and child have conflicting goals, and disciplinary actions are required.

Nevertheless, free-play and snacktime activities are two of the most important and frequent types of interactions that children and their mothers engage in, and they share elements in common with other caregiving routines. The frequency of these mother-child play interactions was perhaps more densely distributed and occurred more frequently in this setting, but they were probably not different in kind from interactions that occur in other settings. In fact, we also visited the children in their homes each month, and informal comparisons of the interactions at home and in the playroom indicated this was the case.

Examination of a wider range of situations in which a wider range of

appreciations occasion children's emotional expression is surely needed for a more complete model of mothers' socialization practices. The results of this study, in effect, provide a baseline of mother-child interaction with which to compare interactions in different settings, under various conditions, and with respect to differing goal-related agendas on the part of one or both of the interactants.

While mothers are an important source for emotion socialization, other agents clearly contribute to the process, including fathers (Lamb, 1976; Lamb & Easterbrooks, 1981), extended family members, siblings (Dunn, 1985, 1988; Dunn et al., 1987; Dunn & Kondrick, 1982), daycare providers (Leavitt & Power, 1989), peers (Camras, 1985), schools and other formal institutions, the media (particularly television) (Dorr, 1985), and even the physical and social structure of the environment, i.e., a child's "developmental niche" (Harkness & Super, 1983, 1985). A true understanding of the development of emotion within its social context will be possible only after the contributions from these different sources are described and integrated with one another. Such investigations are only just beginning.

F. The Effect of Mothers' Responses on their Children's Emotions

The frequency of mother contingent responding did not predict the subsequent frequency of children's affect displays. Spearman rank order correlations at 9, 13, 17, and 21 months indicated no relation between the frequency of contingent mother responding and either (a) the subsequent absolute frequency of positive, negative, or overall affect expressions (i.e., the children's expressivity); or (b) the subsequent relative frequency of positive or negative affect expressions (i.e., the positivity dimension of the children's emotional expressions). Therefore, we would conclude that the changes and individual differences we observed in the children's affect profiles were not directly attributable to the frequency with which their mothers' responded to their affect expressions.

However, such effects have been found with younger infants in the first year of life. In their naturalistic study of mothers' responses to their infants' cries, including unhappy noises, fusses, and cries, Bell and Ainsworth (1972) found that, over the first 12 months of life, the more frequently and more quickly mothers responded to their infants' negative affect expressions, the less their babies cried and the more they communicated with other signals such as facial expressions, gestures, and vocalizations. More recently, Malatesta et al. (1986) reported that the more frequently mothers responded, the more their 2½- to 7½-month-old infants expressed affect and the more positive they were. They pointed out, however, that this effect was strongest between 2½ and 5 months and much weaker between 5 and 7½ months. They suggested that the contingency effect was strongest when infants were younger, because they do not yet have more sophisticated cognitive capacities for other types of responding. The children we observed were older, in their second year of life, and consequently

they were evidently more susceptible to other sorts of influence in a social interaction, particularly what people do and what they say.

In the present study, the primary means by which mothers influenced their children's emotion profile was not in the frequency of their contingent responding. Instead, the largest contribution the mothers made to their children's understanding of emotion was in the meaningful messages they conveyed through the function, form, and content of their responses. The mothers' action responses and speech were directed at maintaining and facilitating positive affect and discouraging negative affect. And their children's affect profiles consisted of many more positive than negative affect expressions. Thus, although not directly tested, one can assume that the mothers' widespread expression of meanings directed at maintaining positive affect most probably contributed to the preponderance of positive affect the children displayed from 9 to 21 months of age.

However, and more importantly, the frequency with which children express emotionally toned affect and its relative positivity may not be the best place to look for the effects of socialization. Mothers in the second year of life are contributing, instead, to their children's appreciation for the factors that elicit emotion, the possibilities that exist in a situation for regulating emotions through actions and speech, and knowledge about emotion, in general. These are the factors that contribute to the processes by which mothers socialize their children's emotional expression and experience.

VI. THE PROCESS OF SOCIALIZATION

The mothers in this study displayed positive affect expressions primarily, as did their children, and such modeling by the mothers undoubtedly contributed to the socialization of emotional expression. However, we have shown that mothers' responses to children's affect expressions are far richer than just the frequency of their own affect displays or the use of emotion labels in their speech would suggest. The forms and contents of the mothers' action-related responses and speech communicated important messages to the children about how to achieve their desires and goals in different situations, by themselves and with the help of another. The highly frequent repetition of these messages, in the moments surrounding a child's own emotional expressions, would almost have to assure that they become part of the child's understanding and knowledge about emotions. Thus, the profile of meanings the mothers presented in the content of their action-related responses and talk about the emotions, together with their own affect expressions, were responsible for the predominance of positive and neutral affect expressions we observed in the children.

Among the processes of emotion socialization typically described in the theoretical literature, those that predominate are the essentially biological processes of emotional contagion and resonance and various principles of learning.

such as imitation and classical and operant conditioning. Such processes inherently assign to the child an essentially passive role in socialization. Even direct instruction of display or feeling rules, emotion labeling, and opportunities for observation of others' emotional behaviors attributes a minimal role to the part played by the child in the socialization process.

However, children gain insight into their emotions through a process of actively inferring patterns from the frequency and regularities they experience in their interactions with people and things in their environment (Camras, 1985; Demos, 1982; Harkness & Super, 1983, 1985; Hesse & Cichetti, 1982; Saarni, 1985; Stern, 1988), in much the same way that children learn language (Bloom, 1983). Just as they infer linguistic regularities from the speech they hear, children infer regularities as well in the episodes of emotional experience and expression in their everyday interactions. Such regularities become part of their working knowledge of the emotions system. Even very young infants can infer meaningful regularities or "social expectations" (Gekoski et al., 1983; Lamb, 1981; Lamb & Malkin, 1986) from the interactions in which they participate. In the early months of life, infants form social expectations regarding how caregivers will respond to their expressions of distress, and, with development, these social expectations become increasingly differentiated.

Infants come to anticipate their mothers' responsiveness over the first year (Bell & Ainsworth, 1972). This awareness of caregivers' responsiveness causes infants to feel that they are not alone and increases their ability to hold back from responding to stimuli that might otherwise cause a negative reaction. Moreover, according to Bell and Ainsworth, mothers' responses to negative expression are a major contributor to a child's acquisition of communicative competence, in general, because children learn intentional communicative behavior when mothers respond contingently to their cries. However, the result is not an increase in crying but, rather, a developmental increase in an entire repertoire of communicative behaviors, including other facial expressions, gestures, and vocalizations. They argue that mothers' responses to their infants' cries highlight the effectiveness of the whole communicative system. And evidence that children interpret the meaningful messages in their mothers' affect expressions abounds in the social referencing literature, reviewed earlier, as well.

Thus, the appreciation that affect expressions are communicative, and the expectation that mothers will respond to negative affect in a manner that will serve to alleviate it, are two important developments in emotion in the first year (Bell & Ainsworth, 1972; Gekoski et al., 1983; Lamb & Malkin, 1986). We expect that this development continued in the second year for the children we studied, and that they were similarly influenced by the functional goals of their mothers' responses to their positive and negative expressions. In addition, there is other evidence that children in their third year and older have internalized precisely the same kinds of meanings we identified in mothers' action-related

responses and talk about emotions, for example, from studies of children's early talk about causality (Bloom & Capatides, 1987b; Hood & Bloom, 1978) and about their feelings more generally (Bretherton et al., 1986; Dunn et al., 1987), and from knowledge children express about the antecedents and regulation of emotions (Stein & Levine, 1989).

When 2-year-old children begin to talk about causal connections, the causality they express has to do with the social-psychological order of things in the world and, in particular, the way actions are related to beliefs, intentions, and feelings (Bloom & Capatides, 1987b). When children begin to use emotion words, they often talk about them in the framework of causal explanations (Bretherton et al., 1986; Dunn et al., 1987). Thus, the knowledge that 2- and 3-year-old children have of the part played by emotions in people's underlying intentions and observable actions is consistent with the kinds of information that the mothers in this study conveyed to their 1-year-old children. They talked most often about the children's emotions in relation to their goals and actions in the situation, often by encouraging or attempting to change a goal or an action that was the cause or consequence of the child's emotion.

Finally, we interpret mothers' responses as *occasions for learning* as opposed to instances of direct instruction. The meaningful information in responses to their children's emotional expressions was not the result of a deliberate effort to "teach" the children about emotions. On the contrary, a mother's responses were part of the natural social exchange in a conversational turn, just as their children's emotional expressions were in the first place. Mothers were responding to the meaning conveyed by their children's emotional expressions, and they were conveying meaning to them, in return. These meanings were less often about how the children were feeling and more often directed at what the children's feelings were about. In turn, the children's own talk in the moments when they expressed emotion had to do with what their feelings were about and not the feelings themselves (Bloom & Beckwith, 1989). Very little of mothers' talk about emotions included either emotion terms, direct evaluation, or direction of the children's emotion or its expression. Rather, the mothers were directing their children's attention to the larger situational context and encouraging them to think about and act on the physical and social context to change it. Thus, the children were learning from what they themselves inferred from these exchanges, and not from what they were being taught about them.

The mothers were responding to their children's affect expressions with a variety of behaviors which conveyed meaning on several different levels. This richness of responses also suggests a richness of processes by which knowledge about emotion becomes internalized. The prime candidate among these processes is the active inference by the children of regularities of meaning in their mothers' contingent responding, in addition to such processes as contagion or resonance, modeling, social referencing, and direct instruction.

VII. SUMMARY AND CONCLUSIONS

The 12 children whom we studied, with their mothers, from the end of their first to the end of their second year of life, displayed many emotional expressions during the play sessions and snacktimes in which they were observed. Their mothers responded to the vast majority of these with their own affect expressions, action-related behaviors, and speech. These responses created a rich and varied context out of which regularities in function, form, and content could be abstracted, by ourselves as the observers who studied them after the fact, and by the children who experienced them at the moment. Clearly, what mothers do in the moments surrounding their children's emotional expressions is more varied and provides more information than has been previously described. In addition to socializing the expression of emotion, mothers are socializing the experience of emotion, with active coping strategies for the regulation of emotion—to facilitate positive and discourage negative affect—and more cognitive strategies for understanding the causes and circumstances of emotions in the relationships between goals and situations.

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