Mothers' Emotional Expressiveness and Coping: Relations With Preschoolers' Social–Emotional Competence

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ABSTRACT. To investigate mothers' influence on their children's social–emotional development, mothers of 57 preschoolers gave information by interview and diary about their expression of emotions when in their children's presence. An examination of mothers' interview and diary responses revealed a coherent picture of these emotions. Moreover, results confirmed expectations that various aspects of mothers' emotions influenced their children's own expressiveness, understanding of emotions, prosocial responses to peer emotions, and overall social competence.

CHILDREN'S UNDERSTANDING OF EMOTIONS increases over the preschool years (Michalson & Lewis, 1985). Moreover, their way of expressing different emotions also changes over the first few years of life (Izard, 1971). Because mothers and preschool children engage in frequent emotional interchange (Patterson, 1980), researchers are paying more attention to the specific socialization practices by which mothers influence their children's emotional development (Lewis & Saarni, 1985). However, despite growing interest in preschoolers' emotional development and the potential importance of this focus on its socialization, there still is a need for empirical evidence on the socialization of emotion. This study was carried out to begin to fill this gap.

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Parents' emotional expressiveness should influence their children's emotional expressiveness, understanding of emotion, reaction to peers' emotions, and ability to regulate emotion in social settings (Halberstadt, in press). First, by observing their parents' ways of expressing various emotions, children learn how and when to express emotion, with what frequency, and with what intensity. Thus, we would expect to see a relationship between the intensity and means of expressing emotion in mothers and their children. For example, mothers who express strong or more frequent anger may have children who show relatively more anger in the preschool environment (Denham, 1989).

Second, by their very expression of and explanations about their emotions, mothers are coaching their children about prototypical emotional expressions and the situations in which they are expressed. Mothers who express emotion freely are exposing their children to a broad learning experience; however, if mothers indulge in an overexpression of negative emotions, the impact on their children may be so aversive and anxiety provoking that the children will learn little about emotions (Denham, Casey, Grout, & Alban, 1991).

Third, mothers' clear, moderately intense expression of and explanations about their emotions have been identified as prime components in the socialization of preschoolers' empathic, prosocial reactions to others' distress (Hoffman, 1982, 1983; Miller, Eisenberg, Fabes, Shell, & Gular, 1989; Zahn-Waxler, Radke-Yarrow, & King, 1979). Engaging with mothers in emotional situations may augment children's understanding of emotion and their likelihood of responding in a positive way to others' distress.

Mothers' characteristic ways of expressing their emotions also are influential. The emotional environment to which a child is repeatedly exposed can be calming or disregulating and can contribute to children's general social–emotional competence (Denham, 1989). For example, children whose mothers are consistently angry or sad may have difficulty with issues of independence, assertiveness, and friendliness (as evaluated by teachers).

Limited previous research has supported these contentions. Specifically, Cummings, Radke-Yarrow, and Zahn-Waxler (1981) demonstrated the emotionally disregulatory effects of environmental anger on toddlers; Crockenberg (1985; see also Denham, 1989) found that anger, even in psychologically normal mothers, is related to lower social–emotional competence in preschoolers. It has also been substantiated that young children understand emotions better when their mothers express emotions clearly (Daly, Abramovitch, & Pliner, 1980). Camras et al. (1989) also found that abusive mothers differ from nonabusive and neglectful mothers in expression, understanding, and reaction to emotion; likewise, so do their children. Thus, mothers' overt displays of emotions and the pervasive environment that these emotions create are intimately related to the emotions expressed by their children and their

children's ability to regulate their own and understand others' emotions (Cummings et al., 1981; Denham, 1989; Denham et al., 1991).

Despite this evidence, a more explicit and detailed expression of the process of socialization of emotion is needed. Given this need, and the directions in which the few explicit studies point, we attempted to answer the following questions in this study:

1. What emotions do mothers show in their preschoolers' presence, and what causes them?
2. How do mothers express emotions and cope with them in their preschoolers' presence?
3. How often and intensely do mothers display emotions?
4. What are their children's reactions to these emotional displays?
5. How do mothers evaluate incidents in which they display emotions?
6. Do mothers' methods of coping predict children's emotional expressiveness, understanding of emotions, reactions to peers' emotions, and general social–emotional competence?

We predicted that (a) mothers would report displaying a variety of emotions, but predominantly happiness and anger; (b) children would show a pattern of specific reactions to mothers' emotions, such as ignoring or persisting after anger and matching happiness; (c) mothers would show specific coping efforts toward their emotions, particularly explaining their anger, being tender when happy; and (d) mothers would evaluate their expression of happiness positively but their experiences of anger negatively.

We also predicted that mothers' emotions and coping methods would be related to children's emotional expressiveness, understanding of emotions, prosocial reactions to peers' emotions, and more general social–emotional competence. For example: (a) angrier mothers would have more emotionally disregulated children; (b) more expressive mothers, particularly those who explained their emotions' causes, would have children who scored higher on indices of knowledge about emotion; (c) mothers who showed moderate negative emotion, with explanations, would have more prosocial children; and (d) angrier mothers would likely have less socially competent children (see Denham, 1989; Denham et al., 1991).

Method

Subjects

Subjects were 57 preschoolers, 28 girls and 29 boys, and their mothers. Their average age was 46.18 months (SD = 7.78 months). Of these 57 children,

48 were observed and interviewed for social–emotional competence (24 boys and 24 girls, average age, 44.96 months, SD = 5.99). The children were recruited from six classes of the laboratory preschool of a university in a major metropolitan area, and all were from middle-class to upper-middle-class families.

Measures

Mothers were trained to maintain emotion diaries (see similar diaries used in Crockenberg, 1985; Grusec, 1991; Trickett & Kuczynski, 1986; Zahn-Waxler & Radke-Yarrow, 1982; Zahn-Waxler, Radke-Yarrow, & King, 1979). As part of the larger project on social–emotional development from which the current data are derived, each mother and child visited our laboratory together for a 2-hour play session.

At the end of each visit, mothers wrote in the diary. Susanne Denham reviewed with each mother several real incidents of her emotional display in her child's presence. To demonstrate the level of detail needed, Denham then helped each mother fill out a sample diary for the laboratory visit, eliciting the mother's ideas on specific emotional displays and reflecting on the subject's mother–child interaction during the laboratory visit. Mothers' emotional displays, children's reactions, mothers' coping methods, and mothers' evaluations of each emotional situation, were described in the diaries. (See Table 1 for examples of each category; these also are the training examples discussed in much detail with mothers.)

Mothers were instructed to write in their diaries at home for 5 days, including at least 1 weekend day. They were asked to leave the diary in an obvious, accessible place where they would remember it. After their preschooler went to bed each night, they were to reflect on emotions they had shown during each day (in the presence of the preschooler) and fill out the diary. Mothers reported that this chore was not onerous and that they had no trouble filling out the diary. Specifically, all but two mothers complied with the request to make entries on 5 days.

The various aspects of the emotional situations noted were coded as follows: (a) type of emotion (happy, sad, angry, tense/fearful, or "other"); (b) children's reaction (ignoring, complying, matching emotions, or crying); (c) maternal coping, indexed by her rewarding, punishing, or explaining (with or without emotion) after the child's reaction; and (d) mother's evaluation of her feelings about the situation after it was over (i.e., excellent, good, so-so, or bad).

Reliability statistics for these four categories are given in Tables 2 through 6. In vivo reliability of mothers' reports of emotion events was demonstrated during an observer's home visits to nine of the mothers. After 1 hour, mothers and the observer independently filled out diaries. (See Grusec,

Table 1
Example of Diary Material

Emotion/cause	What you said and did	What your child said and did	Resolution
Happiness: A compliment about cooking	I BEAMED!! "Thank you, what a lovely thing to say.."	Smiled and hugged me	We all felt good.
Sadness: Graphic war scene on TV	I cried and said I was very sad because people had died.	He tried to ignore the whole issue.	I said this was important; still felt sad.
Anger: My son fooled around and spilled his drink in a restaurant after being told how to avoid that.	I glared and said I did *not* like him messing around like that.	He looked down, poked his lip out, and said, "Sorry."	Everyone was tense; I felt guilty but justified.
Tension: Trying to get my son ready in the morning, earlier than usual	I ran around to get myself ready, barking orders at him, saying, "You *must* hurry."	He sporadically tried to do what I said, but kept trying to look at TV.	I got more tense, turned the TV off; I was late and annoyed, vowing to plan better.

Table 2
Descriptive and Reliability Data for Mothers' Diary Events

Emotion event	*M*	*SD*	% agreement (in vivo)	% agreement (coding)
Happy	2.80	2.20	.83	1.00
Sad	0.35	0.58	1.00	.50
Angry	2.35	1.70	.80	.92
Tense	1.22	1.40	.86	1.00
Total	6.73	4.51	.91	.97

Note. Emotion events were nonrandomly distributed, $\chi^2(3, N = 384) = 87.53, p < .001$.

M = mean frequencies in each category. Kappas for in vivo and diary coding emotion events = .87 and .96, respectively.

Table 3
Descriptive and Reliability Data for Causes of Mothers' Diary Events

Emotion/cause	*M*	*SD*	% agreement	Kappa
		Happy events		
Sharing/playing	0.76	1.20	.93	.85
Time together	0.53	0.86		
Child's affect	0.82	0.96		
Child's help	0.24	0.43		
Other	0.55	1.16		
		Sad events		
Loss, injury	0.33	0.49	1.00	.88
Domestic	0.08	0.29		
Daily hassles	0.33	0.49		
Nonfamily	0.42	0.52		
		Angry events		
Disobedience	0.78	0.82	.92	.75
Sibling conflict	0.38	0.64		
Overactivity	0.81	0.94		
Making a mess	0.24	0.55		
Crying	0.14	0.35		
		Tense events		
Fear for child's safety	0.50	0.60		
Disobedience	0.96	0.90		
Unrelated to child	0.64	1.00		

Note. Distributions of causes for happiness and anger were nonrandom, χ^2s (4, N = 384) = 13.05, $p < .01$, and 31.54, $p < .001$, respectively.

M = mean frequencies in each category. Means for sad events and tense events were caluclated on *n*s for mothers reporting these emotions, not for the total *N*.

1991, and Zahn-Waxler & Radke-Yarrow, 1982, for similar reliability analyses of mothers' diary reporting of their children's altruistic behaviors.) Reliability coding differed here in that the observer had to capture and code displays that were also self-reported by mothers. Interrater agreement statistics based on two raters' coding of the diary categories for emotion events, causes, child reactions, maternal coping, and resolution of the events, across five subjects, are also shown in Tables 2 through 6. All were in the good to excellent range.

A semistructured interview also was administered to obtain information on aspects of the mothers' emotionality accessible only by greater reflection, guided by interviewer's probes, and to obtain evidence convergent with that gleaned from the diaries.

Table 4
***Ms* and *SDs* for Children's Reactions to Mothers' Diary Events**

Child's reaction	Mothers' emotion event			
	Happy	Sad	Angry	Tense
Ignore				
M	0.10	0.25	0.95	0.96
SD	(0.31)	(0.45)	(0.97)	(1.00)
Match				
M	2.66	0.67	0.08	0.41
SD	(2.11)	(0.49)	(0.28)	(0.50)
Comply				
M	0.10	0.17	0.97	0.50
SD	(0.45)	(0.39)	(1.12)	(0.74)
Cry				
M	0.03	0.08	0.57	0.36
SD	(0.16)	(0.29)	(0.87)	(0.66)

Note. Reactions were nonrandomly distributed across emotion events, χ^2 (9, N = 384) = 182.20, $p < .001$. Percentage agreement and kappa for coding children's reactions = .88 and .83, respectively.

Mothers were questioned about the happiness, sadness, anger, and tension they had expressed in their children's presence. They were asked to describe the situations in which these emotions occurred (causes), the ways they expressed these emotions, their children's reactions, the intensity and frequency of each emotion, whether they used explanations in communicating their feelings to their children, whether they apologized for negative emotions, and whether they considered each emotion a negative or positive influence in the situation depicted.

Intensity and frequency of each emotion was coded *high* or *low*. Explaining or apologizing when each emotion occurred was coded *present* or *absent*. Whether the emotion helped the situation in which each was expressed was coded *yes* or *no*.

Using a content analysis of mothers' responses, we coded happy situations as play or affection from the child versus other causes (e.g., children's achievement, helping, or "other"). Sad situations were coded as loss versus other reasons (i.e., daily hassles, domestic difficulties), and angry situations were coded as due to the child's disobedience versus other reasons (i.e., fighting, pestering, dawdling, or "other"). Reasons for tension were coded as public or private misbehavior, uncooperativeness, or "other."

Mothers' predominant means of expressing emotion were coded as smiling or hugging versus words of praise or other actions for happiness, crying

Table 5
***Ms* and *SDs* for Mothers' Coping Methods After Diary Events**

Mothers' coping	Mothers' emotion event			
	Happy	Sad	Angry	Tense
None				
M	0.40	0.08	0.08	0.29
SD	(1.07)	(0.28)	(0.28)	(0.56)
Positive[a]				
M	2.78	0.38	0.46	0.67
SD	(0.80)	(0.36)	(0.40)	(0.47)
Negative[b]				
M	0.03	0.00	0.73	0.48
SD	(0.16)	(0.00)	(0.58)	(0.54)
Explain				
M	0.08	0.38	1.49	1.00
SD	(0.20)	(0.51)	(0.96)	(0.76)
Other				
M	0.03	0.23	0.14	0.14
SD	(0.16)	(0.44)	(0.35)	(0.36)

Note. Mother's coping methods were nonrandomly distributed across emotion events, χ^2 (12, N = 384) = 165.40, $p < .001$. Percentage agreement and kappa for coding children's reactions = .85 and .81, respectively.

[a]This category included reassurance, reward, modeled prosocial behavior, and moral support. [b]This category included punishment and prohibition.

versus not crying (i.e., suppressing or just talking) for sadness, yelling versus more rational means for anger, and, for tension, negative expression versus positive expression or suppression.

The children's reactions to happiness were coded as smiling, hugging, or other displays of affection versus other behaviors; reactions to maternal sadness were coded as comforting versus "other" (i.e., crying, acting sad or guilty, not reacting). Children's reactions to anger were coded as becoming upset or crying, matching anger, complying, or ignoring, and reactions to tension were coded as having no effect versus emotional or behavioral effects (i.e., crying, clinging).

Interrater reliability on coding for 24 subjects' interview responses for emotions' intensity, frequencies, explanation, apology, unhelpfulness, causes, expression, and child reactions can be seen in Tables 7 through 10. Both percentage agreements and kappas were generally good to excellent for all coding categories.

Cross-time stabilities of coded interview categories were evaluated through re-interviewing eight mothers approximately 3 weeks after their first

Table 6
***M*s and *SD*s for Resolutions of Mothers' Diary Events**

Resolution	Mothers' emotion event			
	Happy	Sad	Angry	Tense
Excellent				
M	1.63	0.00	0.03	0.00
SD	(1.36)	(0.00)	(0.16)	(0.00)
Good				
M	1.13	0.38	0.46	0.54
SD	(1.82)	(0.51)	(0.69)	(0.67)
Neutral				
M	0.10	0.31	0.73	0.77
SD	(0.39)	(0.45)	(0.96)	(0.87)
Poor				
M	0.03	0.23	1.24	0.86
SD	(0.16)	(0.44)	(0.95)	(0.83)

Note. Mothers' reports of resolutions were nonrandomly distributed across emotion events, χ^2 (9, N = 384) = 166.69, $p < .001$. Percentage agreement and kappa for coding children's reactions = .75 and .67, respectively.

interview. Responses to both interviews were coded and cross-tabulated; agreement across time averaged 75% for all emotions and categories; see Tables 7 through 10 for specific results. When child reactions were removed from this average, it increased to 80%. Mother's reports of children's reactions were rather unstable, as might be expected for developing children and from mothers who reflected on their children's behavior in the test–retest interval.

Information about the children was obtained by adults blind to all the results of the mothers' measures and to the results of other child measures. A familiar adult female administered measures related to the understanding of emotion expressions and situations in the children's preschool. For emotion expression labeling, children examined four flannel faces, on which the expressions of happy, sad, angry, and afraid were drawn (from Izard, Dougherty, & Hembree, 1980). The children were first asked to identify these facial expressions verbally, by naming them, and then non-verbally, by pointing.

Emotion situation knowledge was assessed by a task that explored the children's knowledge of others' feelings in situations that elicit unequivocal emotional reactions, such as happiness at being given an ice cream cone, or fear at having a nightmare (Borke, 1971; Denham, 1986). Puppets enacted eight vignettes, accompanied by the puppeteer's standardized vocal and visual emotion cues (Izard et al., 1980).

Table 7
Descriptive and Reliability Data for Frequency, Intensity, Helpfulness, Explanation, and Apology Interview Items

Emotion	*M*	*SD*	% agreement	Kappa	Test–retest reliability (%)
			Frequency		
Happiness	1.96[a]	0.20	.87	.65	1.00
Sadness	1.12[c]	0.33	.94	.81	1.00
Anger	1.42[b]	0.50	1.00	1.00	.80
Tension	1.26[bc]	0.45	.89	.78	.67
			Intensity		
Happiness	1.92[a]	0.27	.89	.89	1.00
Sadness	1.65[b]	0.48	.82	.55	.67
Anger	1.54[b]	0.50	.94	.88	.67
Tension	1.59[b]	0.50	.92	.80	.33
			Unhelpfulness		
Happiness	1.06[a]	0.23	1.00	1.00	1.00
Sadness	1.31[b]	0.47	.93	.85	.83
Anger	1.76[c]	0.43	.91	.82	1.00
Tension	1.86[c]	0.35	.92	.63	.86
			Explaining		
Happiness	0.87	0.34	1.00	1.00	1.00
Sadness	0.88	0.33	1.00	1.00	1.00
Anger	0.98[a]	0.14	.96	.64	.88
Tension	0.85[b]	0.36	.95	.77	.50
			Apologizing		
Sadness	0.26[a]	0.44	.86	.72	1.00
Anger	0.85[b]	0.36	.90	.58	1.00
Tension	0.76[b]	0.43	.85	.62	.57

Note. Within each category, means with different superscripts differed at the $p < .01$ level.

Next, puppeteers administered a task that measured how well children could identify others' feelings in situations where the "other" feels differently. In answer to a forced-choice questionnaire, mothers had reported their children's feelings in 12 common situations that could elicit two basic emotions; for example, mothers were asked whether their child would be happy or sad to come to preschool (Denham, 1986). Puppets enacted the 12 situations; in

Table 8
Descriptive and Reliability Data for Interview Causal Items

Cause	*n*	% agreement	Kappa	Test–retest reliability (%)
		Happiness		
Play/affection	35	.88	.81	.88
Other	22			
		Sadness		
Loss	25	.87	.73	.62
Not loss	32			
		Anger		
Disobedience	28	.83	.66	.75
Other	29			
		Tension		
Public misbehavior	9	.85	.78	.87
Private misbehavior	10			
Uncooperativeness	16			
Other	22			

Note. Causes of tension were nonrandomly distributed, $\chi^2(3, N = 57) = 9.36, p < .01$.

each, the mothers' reports determined the puppet's emotions. For example, if the subject's mother had selected happy, the puppet felt sad.

To indicate how the puppet felt, subjects affixed to the puppet one of the four flannel faces used in the expression-labeling task. The protagonist puppet was the same gender as the child. For each of the tasks, subjects received 2 points for a correct answer, 1 point for correctly specifying only the emotion's positive/ negative dimension (e.g., choosing the sad instead of the angry face). The emotion knowledge aggregate was the sum of standardized scores on each of the vignettes and expression identification items; Cronbach's alpha was .83.

The children's emotions were observed in the classroom by adult women blind to results of other measures and to the hypotheses of the study. They observed the children during free play, using focal event sampling, for a period of 6 months.

Each of the three adult women worked from a randomly ordered roster for each class, focusing on each individual child for 5-min periods. These periods were calculated using a stopwatch; if a focal child left the free-play

Table 9
Descriptive and Reliability Data for Interview Expression Items

Expression	*n*	% agreement	Kappa	Test–retest reliability (%)
		Happiness		
Hugs, kisses, smiles	45	.94	.89	.43
Other	12			
		Sadness		
Crying	32	.96	.92	.62
Other	25			
		Anger		
Negative (e.g., yelling)	32	.83	.69	.12
Rational/positive	25			
		Tension		
Overt expression	36	.86	.69	.75
Suppression	21			

Note. Expressions of happiness and tension were nonrandomly distributed, χ^2s (1, N = 57) = 19.80 and 3.95, $ps < .001$ and .05, respectively.

area for any reason, such as entering the restroom, sitting down for snack, or leaving for the playground, the actual amount of observation time was recorded. Observers continued through the random roster, skipping absent pupils, marking the child to be observed first on the next day at the end of each school day. In this manner, each child was observed for an mean total of 41.22 min, or approximately eight observation periods (SD = 11.95 min), over an average of 10.62 days (SD = 2.3 days).

Happy, sad, angry, fearful, pain, and "other" emotions were operationally defined according to broad facial, vocal, and motor indices that captured their social meaning. Happy, sad, and angry emotions were highlighted in this study. Happiness was shown by smiles, singing, laughter, voices with a relaxed pitch. Sadness was marked by hypotonicity, possibly crying, inner corners of eyebrows lifted and corners of lips down, and slow, steady-pitched speech. Anger was shown by throwing, pushing, hitting, facially by brows shoved down, tense lower lips, staring; speech was clipped and abrupt, possibly yelling.

A fourth observer (Susanne Denham) coded a subset of observation periods at the beginning, middle, and end of the 6-month period of observation.

Table 10
Descriptive and Reliability Data From Child Reaction Interview Items

Reaction	*N*	% agreement	Kappa	Test–retest reliability (%)
		Happiness		
Hugs, kisses, smiles	41	.96	.68	.14
Other actions	16			
		Sadness		
Comfort	29	.79	.55	.16
Other	28			
		Anger		
Cry	17	.88	.84	.25
Match	13			
Ignore	10			
Comply	17			
		Tension		
Reacts in any way	36	.90	.80	.50
Ignores/no reaction	21			

Note. Children's reactions to happiness and tension were nonrandomly distributed, χ^2s (1, N = 57) = 10.29 and 3.95, ps < .001 and .05, respectively.

For the entire emotion coding system, the mean percentage of agreement across observers was 81%; the mean kappa for the system was .68. Of 692 happy emotions noted, 120 were observed during reliability coding. Agreement was 82% across observers. Of 141 angry emotions noted, 31 were observed during reliability coding. Agreement was 81% across observers. Of the 57 sad emotions noted, 18 were observed during reliability coding. Agreement was 78% across observers.

In this study, the measures used for each emotion equaled its percentage of the total number of emotional displays; overall emotional expressiveness equaled the number of emotions per 5-min period. Because of the substantial negative intercorrelation between the percentage of happy and angry displays, ($r = -.88$, $p < .001$), an aggregate of their standardized difference was created, called emotional balance.

The children's reactions to peers' emotions were observed in the classroom by independent observers. Reactions to any emotional display by a focal child was coded for target children, those who were within 8 ft of the focal child and, who could hear or see the focal subject. A mutually exclusive and

exhaustive coding system for target children's reactions to peers' emotions was devised. The following codes were used in this study: (a) matching positive emotion; (b) verbal or physical reinforcement (including approaching, encouraging, or maintaining proximity); (c) helping (verbal or physical, including defending, stopping an offensive activity, giving information or strategies, assistance with tasks, or getting, giving, or moving an object not in one's previous possession); and (d) care/concern (physical comforting, questioning, reassuring, or looking quite concerned). Agreement for this system was .92%; kappa was .85. Prosocial reactions to peer emotion (i.e., matching, reinforcing, helping, and concern) were divided by the number of peer emotions each subject observed ($M = 28.32$; $SD = 13.27$), and an aggregate of prosocial reactions to peers' emotions was created, which was the sum of these four rates for each subject.

Each child's teacher completed the Baumrind Preschool Behavior Q-Sort (BPB). For this measure, teachers sort 72 cards, on which behavior descriptions are written, into 9 piles according to how well the statement describes each child (Baumrind, 1971). The BPB aggregate score was created by using the sum of friendliness, cooperativeness, purposefulness, independence, and assertiveness scales (Cronbach's alpha = .59).

The Preschool Behavior Questionnaire was also completed for all subjects by each child's teacher (PBQ; Behar & Stringfield, 1974). This is a 30-item questionnaire that includes items such as "fidgets a lot," "cries," and "destroys property." The teacher indicates by a score of 0 to 2 the prevalence of each behavior for the subject. Total PBQ scores were used in this study.

Because of the substantial negative association between the BPB aggregate and the PBQ total scores ($r = -.60$, $p < .001$), the social competence aggregate was created, to be used in analyses to follow. This aggregate was the difference in standard scores for the two indices (Cronbach's alpha = .68). Test–retest reliability over a 9-month period for this index is .48, $p < .001$.

Means and standard deviations and possible ranges for all the child measures are contained in Table 11. Children were relatively adept at understanding emotional expressions and situations and were fairly emotionally expressive and positive. They responded prosocially to peers' emotions relatively infrequently, as was also found by Zahn-Waxler and Radke-Yarrow (1982), but were seen by teachers as relatively socially competent.

Results

Descriptive data from the mothers' emotion diaries and interviews are shown in Tables 2 through 10. As seen in Table 2, mothers jotted down about one-and-one-half emotion diary entries per day; these referred predominantly to happy and angry events.

Table 11
Descriptive Data for Child Measures

Measure	*M*	*SD*	Possible range
Emotion knowledge aggregate			
Emotion expression labeling	13.98	2.09	0 to 16
Emotion situation knowledge	32.35	7.97	0 to 40
Observed emotions[a]			
Happiness	0.75	0.03	0.00 to 1.00
Anger	0.15	0.02	0.00 to 1.00
Sadness	0.05	0.01	0.00 to 1.00
Expressiveness	0.64	0.03	0.00 to —
Prosocial reactions per peer emotion			
Match positive	0.31	0.14	0.00 to —
Concern	0.02	0.04	0.00 to —
Helping	0.02	0.03	0.00 to —
Reinforcing	0.05	0.08	0.00 to —
Total	0.40	0.18	0.00 to —
Social competence aggregate			
Friendliness	2.74	9.47	−17 to 31
Cooperativeness	13.28	10.35	−23 to 33
Purposefulness	4.30	11.33	−45 to 31
Independence	−9.02	4.44	−26 to 6
Assertiveness	16.76	5.84	− 5 to 35
Total behavior problems	8.94	6.43	0 to 60

[a]Metric for happiness, sadness, and anger was the percentage of total emotional displays; for expressiveness, the metric was the number of emotions displayed per min.

Chi-square analyses were used to show the nonrandomness of frequency distributions for interview and diary categories of causes of mothers' emotion, children's reactions to mothers' emotions, mothers' responses to these child reactions, and resolution of mothers' emotional incidents. Paired *t* tests were used to compare interview results for each emotion on frequency, intensity, unhelpfulness, explaining, and apologizing. Results of these analyses are contained in Tables 2 through 10.

Regarding the frequency of emotions shown in the preschooler's presence, interview results converged with diary entries: Happiness was reportedly experienced more often than sadness, anger, or tension, whereas anger

was reportedly experienced more frequently than sadness. There was no significant difference in the frequency of sadness and tension reported in the interview. Thus, mothers often experienced the more outwardly visible emotions of happiness and anger, but less often reported sadness and tension, which can be more covert (see Tables 2 and 7). In the interview, mothers reported that they experienced happiness at a greater intensity than sadness, anger, or tension. There were no significant differences in the intensity reported for anger, sadness, and tension (see Table 7).

Mothers reported on the causes of their emotions in the diary and in the interview. Causes of happiness were nonrandomly distributed; more often than expected by chance, mothers cited affection from and playing with their child, and less often mentioned other causes of their happiness (see Tables 3 and 8).

Causes of anger cited in the diary also were nonrandomly distributed, with the child's disobedience or "acting up" mentioned more often than expected by chance (see Table 3). Mothers reported in the interview that their tension was most often caused by their children's misbehavior and uncooperativeness (see Table 8). Thus, the categories of mothers' answers suggested that children themselves most often caused mothers' happiness, anger, and tension shown in their children's presence, but that situations outside the child most often caused their sadness.

Mothers' interview reports of their own mode of expressing happiness were nonrandomly distributed; hugs and words of affection, not deeds, were mothers' predominant modes of expressing happiness. For tension, mothers reported not suppressing the emotion but did not pinpoint any one mode of expression (see Table 9).

According to mothers' diary entries, children's reactions were nonrandom across emotions. Children most often ignored or complied in maternal anger scenarios, and, as on the interview, matched happiness, but did not match anger or tension, or ignore happiness. In addition, mothers reported in the interviews that children reacted overtly to maternal tension. Thus, children reacted most vigorously (and also predictably) to the more outwardly visible emotions of happiness and anger; they reacted less predictably to the more inward emotion of sadness.

Coping attempts cited by mothers in their diaries likewise were nonrandom across emotions (see Table 5). Mothers predominantly acted tenderly toward their children after their own happy displays, used explanations or punishment after their anger, unemotional explanations after sadness or tension, or directed no behavior toward the child when tense. Interviews indicated that mothers explained the sources of their anger more than the source of their happiness, tension, or sadness (see Table 7).

Mothers apologized to their children equally often for anger and tension displays and apologized for both more than they did for sadness. Thus, as

would be expected, mothers made more specific disciplinary/coping attempts (i.e., apologizing or explaining) after their negative emotions than after their happiness (see Table 7).

Mothers felt that their happiness was more conducive to positive outcomes with their child than was their sadness, anger, or tension. They felt sadness could be more helpful than either anger or tension, which did not differ in helpfulness (see Table 7). Mothers' diary responses showed that situations' resolutions were unsatisfactory after anger and excellent after happiness (see Table 6). Thus, mothers' frequent emotions of happiness and anger were seen as useful and problematic, respectively.

The emotion knowledge aggregate, emotional balance, sadness, emotionality, prosocial responses to peers' emotions, and social competence aggregate were used as dependent variables in a 2 × 2 × 2 (Cause × Intensity × Frequency) analysis of variance (ANOVA) for each emotion reported on in the interview. A 2 × 2 (Mothers' Mode of Expression × Child Reaction, a 2 × 2 (Helpfulness × Apology) and explanation ANOVAs were also conducted with these dependent variables. Results are presented in Tables 12 through 17.

Significant ANOVA results for the emotion knowledge aggregate are shown in Table 12. A family experience of happiness, sadness, and tension affected children's scores on the emotion knowledge aggregate. When mothers reported more frequent tension or very intense sadness, children's knowledge of emotions was greater. Moreover, children scored higher when mothers reported tension over the child's uncooperativeness, or sadness over general daily domestic hassles.

When mothers expressed tension rather than suppressing it, or when children were affected by it, scores were higher. When mothers suppressed tension and children did not react, emotion knowledge aggregate scores were especially low; conversely, if mothers showed less intense sadness over loss, emotion knowledge aggregate scores were higher. Thus, children who experienced tension and sadness, the more "inward" emotions, were expected to have increased knowledge of emotions. Moreover, when sadness was greater, apologies probably included information important for understanding this "inward" emotion. Children who found verbal and behavioral means to respond to their mothers' happiness, not just smiles or hugs, were also those who had a more extensive knowledge of emotions; perhaps their greater understanding allowed them more flexibility of response.

Children's experiences of all four maternal emotions affected their emotional balance (see Table 13). For example, when mothers reported *non*disobedience reasons for anger, or less frequent but less intense anger, children were relatively more positive emotionally; they could tune out the anger they did not cause. Mothers who reported proportionately more anger in their emotion diary had children with a lower emotional balance, $r = -.30$,

Table 12
ANOVA Results: Emotion Knowledge Aggregate

Effect	*F*	Direction of effect
	Mothers' happiness	
Child's reaction	3.99*	> if "other"
	Mothers' sadness	
Cause	23.34***	> if cause is nonloss
Intensity	14.87***	> if higher level
Cause × Intensity	20.42***	
Simple effects	4.04*	> if cause is loss, and sadness is less intense
Apology	3.33+	> if mother apologizes
	Mothers' tension	
Frequency	5.66*	> if frequent
Cause	3.21+	> if child uncooperative
Mothers' expression	38.21***	> if expressed negatively
Child's reaction	20.73***	> if affects the child
Child's Reaction × Mother's Expression	46.69***	
Simple effects	35.92***	< if mother does not express negatively and child is not affected

Note. Degrees of freedom for Cause (2) × Intensity (2) × Frequency (2) ANOVAs were (1, 40), except for those involving causes of tension (these were 3, 32). Degrees of freedom for Mothers' Expression (2) × Child's Reaction (2) or Helpfulness (2) × Apology (2) ANOVAs were (1, 44), except for those involving child's reaction to anger (these were 3, 40). Degrees of freedom for explanation ANOVAs were (1, 46).

+$p < .10$. *$p < .05$. **$p < .01$. ***p .001.

$p < .05$. Mothers' less frequent tension tended to be associated with a better emotional balance in children. However, mothers who did not cry when sad (and especially when children did not react to these mothers) had children who were relatively less emotionally positive. Thus, mothers' negative emotions were associated with their children's negative emotions in the classroom.

Mothers' attitudes toward their own negative emotions were also important with respect to their children's emotional balance. For example, emotional balance was better in children whose mothers did not apologize for their sadness but who acknowledged that their sadness could be unhelpful. Paired with the above findings on the expression of, and child reaction to, sadness, it appears that straightforwardly expressing and dealing with the unfortunate

Table 13
ANOVA Results: Emotional Balance

Effect	*F*	Direction of effect
	Mothers' happiness	
Frequency	6.59*	> if expressed more often
	Mothers' sadness	
Mothers' expression	3.66+	> if mother cries
Mothers' Expression × Child's Reaction	6.76**	
Simple effects	4.14*	< if mother does not cry and child does not react
Helpfulness	2.76-	> if considered unhelpful
Apology	3.68+	> if no apologizing
	Mothers' anger	
Cause	9.24**	> if not caused by disobedience
Frequency × Intensity	6.07*	
Simple effects	3.92-	> if high frequency, low intensity
Helpfulness × Apology	3.04-	
Simple effects	4.06*	> where mother considered anger helpful and does not apologize
	Mothers' tension	
Frequency	3.40+	> if less frequent
Mothers' expression	4.89*	> if expressed negatively
Apology	4.74*	> if mother apologizes

Note. Degrees of freedom for Cause (2) × Intensity (2) × Frequency (2) ANOVAs were (1, 40), except for those involving causes of tension (these were 3, 32). Degrees of freedom for Mothers' Expression (2) × Child's Reaction (2) or Helpfulness (2) × Apology (2) ANOVAs were (1, 44), except for those involving child's reaction to anger (these were 3, 40). Degrees of freedom for explanation ANOVAs were (1, 46).

$-p < .10$. $*p < .05$. $**p < .01$. $***p$ .001.

emotion of sadness without wallowing in it promoted better emotional balance in their children.

In contrast, children showed a better emotional balance if their mothers did apologize for expressions of tension, which were more likely to be caused by their children. The value of apologies for anger was moderated by mothers' attitudes on its helpfulness; when mothers considered anger helpful, children were more emotionally positive if they did not receive mixed messages in their mothers' apologies.

Table 14
ANOVA Results: Observed Sadness

Effect	*F*	Direction of effect
	Mothers' sadness	
Intensity × Cause	4.67*	
Simple effects	6.00**	> if less intense, nonloss
Mothers' expression	4.00*	> if mother cries
	Mothers' anger	
Cause	3.28⁻	> if caused by disobedience
Cause × Frequency	13.24***	> if high frequency anger caused by disobedience
Apology	4.04*	> if no apology
	Mothers' tension	
Intensity	3.07⁻	> if higher intensity
Helpfulness × Apology	12.58**	
Simple effects	19.89***	> if mother considers tension unhelpful and apologizes, or
	4.22*	considers it helpful and doesn't apologize

Note. Degrees of freedom for Cause (2) × Intensity (2) × Frequency (2) ANOVAs were (1, 40), except for those involving causes of tension (these were 3, 32). Degrees of freedom for Mothers' Expression (2) × Child's Reaction (2) or Helpfulness (2) × Apology (2) ANOVAs were (1, 44), except for those involving child's reaction to anger (these were 3, 40). Degrees of freedom for explanation ANOVAs were (1, 46).

$+p < .10$. $*p < .05$. $**p < .01$. $***p < .001$.

Mothers who, in the interview, reported more frequent expressions of happiness had children who showed a better emotional balance. This finding is likely due to either positive socialization or temperament, or both.

Both sadness and anger in mothers affected their children's sadness, as observed during free play in the preschool (see Table 14). For example, children were sadder when their mothers showed less intense sadness over daily problems and when mothers cried to express sadness. Children whose mothers reported anger over disobedience showed more sadness in the preschool classroom, especially if their mothers' anger was also frequent. When their mothers had to apologize for anger, preschoolers showed more prevalent sadness. Moreover, if mothers' tension was more intense or there were mixed

messages regarding tension (apologies when tension was considered helpful, or lack of apology where tension was considered harmful), children's sadness was relatively greater. Thus, aspects of mothers' negative emotion were often associated with the negative emotions their children displayed in a setting in which mothers were absent.

Children whose mothers' anger was more frequent or expressed more rationally were more emotionally expressive in the preschool classroom (see Table 15). When children matched their mothers' anger, especially if mothers had expressed the anger by rational means, they also were more emotional in the preschool classroom. Thus, children's emotional expressiveness at school was associated in complex ways with their experiences of mothers' anger: Preschoolers expressed emotion more often when they had experienced the modeling of their mothers' anger, listened to rational discussions about this anger, and were allowed to respond assertively. Mothers who explained their sadness also had more emotionally expressive children; perhaps free discussion of this inward emotion represented approval of expressivity to the children, or perhaps such discussion occurred in already expressive families.

Table 15
ANOVA Results: Observed Emotional Expressiveness

Effect	*F*	Direction of effect
	Mothers' sadness	
Explanation	3.40+	> if mother explains
	Mothers' anger	
Frequency	3.15+	> if more frequent
Mothers' expression	17.91***	> if mother expresses rationally
Child's reaction	2.79+	> if child matches anger or complies
Mothers' Expression × Child's Reaction	4.47*	
Simple effects	8.22**	> if mother expresses rationally but child matches anger

Note. Degrees of freedom for Cause (2) × Intensity (2) × Frequency (2) ANOVAs were (1, 40), except for those involving causes of tension (these were 3, 32). Degrees of freedom for Mothers' Expression (2) × Child's Reaction (2) or Helpfulness (2) × Apology (2) ANOVAs were (1, 44), except for those involving child's reaction to anger (these were 3, 40). Degrees of freedom for explanation ANOVAs were (1, 46).

$+p < .10$. $*p < .05$. $**p < .01$. $***p < .001$.

Again, all maternal emotions affected preschoolers' prosocial responses to peer emotions (see Table 16). Frequent anger was associated with negative child outcomes; less frequent anger was associated with children's more frequent prosocial response to peers' emotions. When children reacted strongly to mothers' anger or tension, especially if mothers had expressed these emotions through relatively positive means, children were more often prosocial in response to peers' emotions.

When mothers explained their sadness, children were more prosocial. These explanations may have helped the children develop empathy. When mothers cited being happy because of their child's help, achievement, or causes unrelated to the child, their children were more prosocial in response to peers' emotions in the classroom.

Table 16
ANOVA Results: Observed Prosocial Aggregate

Effect	*F*	Direction of effect
	Mothers' happiness	
Cause	4.11*	> if mother cites situation other than play and affection with child
	Mothers' sadness	
Explanation	4.90	> if mother explains
	Mothers' anger	
Frequency	8.13**	> if less frequent
Mothers' Expression × Child's Reaction	3.04-	
Simple effects	11.92	> if mother expresses rationally and child reacts to anger
	Mothers' tension	
Mothers' expression	7.48**	> if expressed positively
Child's reaction	4.39*	> if child is affected

Note. Degrees of freedom for Cause (2) × Intensity (2) × Frequency (2) ANOVAs were (1, 40), except for those involving causes of tension (these were 3, 32). Degrees of freedom for Mothers' Expression (2) × Child's Reaction (2) or Helpfulness (2) × Apology (2) ANOVAs were (1, 44), except for those involving child's reaction to anger (these were 3, 40). Degrees of freedom for explanation ANOVAs were (1, 46).

$-p < .10$. $*p < .05$. $**p < .01$. $***p < .001$.

Teachers' evaluations of children's general social–emotional competence showed that children whose mothers reported less frequent tension, frequent but low-level anger (which could be "tuned out"), or more intense happiness, scored higher on the social competence aggregate (see Table 17). Social competence aggregates were also higher when mothers reported that sharing fun and affection with their children was the cause of their happiness. These scores were also higher for children of mothers who reported anger or tension for reasons other than disobedience or public misbehavior. Thus, family positive emotion, not negative emotion, was associated with preschoolers' social competence. Both parent and child effects may be at work here.

Children who did not cry or comfort mothers' sadness, especially if mothers cried, scored higher on the social competence aggregate. In contrast, socially competent children reacted to the more outward emotion of tension when mothers had expressed this emotion relatively negatively. Perhaps children who could allow mothers to be sad but stood up for themselves when mothers' emotions affected them more directly were accruing a set of skills useful in the peer arena.

Mothers' attitudes about coping with their own emotions in their children's presence also affected their children's teacher-rated social competence. Mothers who apologized after sadness or explained after tension also had children with higher social competence aggregates. In contrast, mothers who asserted that anger was helpful in the situations they described had children who scored lower on the social competence aggregate. Apologies, then, were effective in diminishing the effects of maternal sadness, and mothers who asserted that their negative emotions were positive forces in their children's lives were generally mistaken.

Where mothers felt the need to explain happiness, social competence aggregates were lower. Preschoolers who do not already understand happy expressions and situations, and need such explanation, have previously been found to be less socially competent (Denham, McKinley, Couchoud, & Holt, 1990). Alternatively, happiness may be infrequent or at a low level in families in which children's social competence is not being fostered.

Discussion

These preliminary analyses illuminate several important aspects of the socialization of emotions. Interview and diary data converge to tell a coherent story about the emotions mothers express in their children's presence. First, mothers clearly indicated that they often experience happiness and anger in their children's presence and that these emotions often are caused by the children themselves. Thus, children may be less egocentric than previously supposed when they assert that they cause their mothers' emotions (cf. Covell & Abramovitch, 1987).

Table 17
ANOVA Results: Social Competence Aggregate

Effect	*F*	Direction of effect
	Mothers' happiness	
Cause	3.26+	> if caused by play/ affection with child
Intensity	3.42+	> if higher level
Explanation	5.51*	> if not explained
	Mothers' sadness	
Child's Reaction	4.81*	> if no reaction
Mothers' Expression × Child's Reaction	5.28*	
Simple effects	9.66**	> if mother cries but child remains calm
Apology	3.33+	> if mother apologizes
	Mothers' anger	
Cause	4.97*	> if not caused by disobedience
Intensity × Frequency	6.14*	
Simple effects	7.36**	> if frequent but low level
Helpfulness	7.81**	> if mother does not consider anger helpful
	Mothers' tension	
Cause	2.39+	> if not caused by public misbehavior
Frequency	4.25*	> if less frequent
Mothers' expression	5.60*	> if expresses negatively
Mothers' Expression × Child's Reaction	5.01	
Simple effects	10.73**	> if mother expresses negatively and child reacts
Explanation	4.62*	> if mother explains

Note. Degrees of freedom for Cause (2) × Intensity (2) × Frequency (2) ANOVAs were (1, 40), except for those involving causes of tension (these were 3, 32). Degrees of freedom for Mothers' Expression (2) × Child's Reaction (2) or Helpfulness (2) × Apology (2) ANOVAs were (1, 44), except for those involving child's reaction to anger (these were 3, 40). Degrees of freedom for explanation ANOVAs were (1, 46).

+$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

The phenomenology of mother-initiated emotion episodes was also delineated. Vivid emotions were displayed by mothers, and both mothers and children reacted nonrandomly and often forcefully. Mothers also used explanation and apologies to cope with negative emotion. They perceived their happiness and sadness, especially at a low level, as helpful in their children's lives. Anger was seen as helpful only when it was infrequent and expressed rationally, and mothers generally felt less positive about the resolution of angry situations than the resolution of happy situations (see also Dix, Reinhold, & Zambarano, 1990). In general, there emerged a sharper, more coherent picture of these emotion-laden mother-child interactions than has been previously available. Many opportunities existed for the socialization mechanisms proposed here (i.e., modeling, coaching, and contingent responding).

These data also affirmed that mothers' expression of emotions and their patterns of coping with emotion influence their children's expressions of emotions, understanding of emotions, and coping with emotions, such as the anger associated with aggression, in a social setting. In particular, dimensions of mothers' anger and happiness were associated with children's emotional positivity, prosocial behavior in response to peer emotion, and teacher-evaluated social competence. For example, these new self-report findings corroborate and extend earlier observational data on the deleterious effects of anger (Cummings et al., 1981; Denham, 1989).

Mothers who explained negative emotions had children who were judged to be more prosocial and socially competent. The pairing of a verbal rationale for distress with clear emotional cues is particularly powerful encouragement for prosocial behavior (Zahn-Waxler, Radke-Yarrow, & King, 1979) and can be particularly effective, because the personal focus on mothers' emotions and their causes lead children to optimal arousal and alert attention (Hoffman, 1982, 1983). An admixture of both empathic distress and guilt then follows, along with skilled information processing in which causal connections are made between one's own actions and their consequences for others (Hoffman, 1982, 1983). The result, affectively "hot" cognitions about emotions and one's necessary reactions to them, may lay the foundation for greater social competence.

The meaning of a mother's apology for negative emotions differed according to the emotion in question: Apologizing for anger was associated with children's sadness, whereas apologizing for sadness was associated with both greater emotion knowledge and greater social competence. It could be that mothers apologize when their anger "gets the best of them" and is most likely to frighten and sadden their children. In contrast, mothers who apologize for sadness are likely to be doing so about less acute daily hassles in which the child may have had a part; these encounters may lead the child to the "hot" cognitions mentioned earlier.

Children who experienced fairly intense, frequent, clear expressions of these more inward negative emotions by their mothers, especially when they were caused by the child himself or herself or by common everyday circumstances, were benefited by a development of understanding of emotional expressions and situations themselves. Given that aspects of mothers' tension, at least, are related to other more negative child outcomes, children may pay a price for this advance in social cognitive ability.

These conclusions may lead to the assumption that negative emotions expressed by mothers will inevitably cause suboptimal child outcomes. But it also is important to remember that effects are bidirectional in parent–child relationships. It is equally plausible to assume that children who are already difficult and at risk for social–emotional problems, such as those who are disobedient or misbehave publicly, elicit mothers' negative emotion! Further, the belief that negative emotions could be helpful (which seemed to backfire on mothers) may have been used with more difficult children (e.g., "I really have to yell to get him to obey!").

However, most of our findings support and extend earlier research. Mothers and children share vivid, intense episodes of emotion, the interrelationship of which can be seen in children's own expressed emotions, their understanding of emotions, and their social–emotional competence.

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