Mothers' Self-Reported Control of Their Preschool Children's Emotional Expressiveness: A Longitudinal Study of Associations with Infant–Mother Attachment and Children's Emotion Regulation

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Abstract

In the present longitudinal study we examined the associations between mothers' self-reported control of their preschoolers' emotional expressiveness and two other key facets of early socioemotional development: the quality of the infant–mother attachment and children's emotion regulation. Seventy-six white preschool-aged children (46 boys and 30 girls) and their mothers participated. Principal assessments included the Parent Attitude Toward Child Expressiveness Scale (PACES; Saarni, 1985), the infant Strange Situation, and 'Beat the Bell,' a measure designed for this study to elicit children's emotional expression, sharing, and suppression in the presence of their mothers. Mothers' control of their children's expressiveness was associated with both attachment and children's emotion regulation in theoretically predicted ways. First, mothers of children who had been classified insecure-avoidant in the Strange Situation reported greater control of their children's negative expressiveness than other mothers, and mothers of children who had been classified insecure-ambivalent reported less control of their children's negative expressiveness than other mothers. Second, mothers who reported greater control of their children's expressiveness had children who were less *likely to express and share their feelings and* more *likely to suppress their anger in the 'Beat the Bell' emotion regulation assessment. Findings are discussed in terms of the role of maternal emotion socialization in children's early socioemotional development.*

Keywords: infant–mother attachment; emotion socialization; emotion regulation

Parental socialization of emotion is a central component of parenting and an increasingly prominent topic of research (Cassidy, 1994; Denham, 1998; Denham, Mitchell-Copeland, Strandberg, Auberbach, & Blair, 1997; Eisenberg, Cumberland, & Spinrad, 1998; Saarni, 1990, 1997; Thompson, 1990, 1994). Parental emotion socialization—parents' implicit and explicit expectations about and control of their children's

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expressiveness—has been examined in terms of several different aspects of parenting behavior (e.g., parents' own expressiveness, parents' 'coping' with their children's negative emotions), all of which have been shown to relate to children's socioemotional development (see, e.g., Cassidy, Parke, Butkovsky, & Braungart, 1992; Denham *et al*., 1997; Fabes, Leonard, Kupanoff, & Martin, 2001; Gottman, Fainsilber Katz, & Hooven, 1997; Malatesta, Culver, Tesman, & Shepard, 1989).

The research concerning emotion socialization highlights two guiding principles. First is the principle that the socialization of emotion includes both heightening and suppressing processes—socialization practices that systematically encourage and discourage children's emotional expressiveness (e.g., Cassidy, 1994; Malatesta-Magai, 1991; Saarni, 1985, 1990, 1997; Thompson, 1990, 1994). Second is the principle that healthy emotion socialization is defined neither by exclusive heightening nor exclusive suppression but by acceptance of positive *and* negative emotions and parents' moderate control of children's expressiveness (Buck, 1984; Denham, 1998; Denham & Grout, 1992; Gottman *et al*., 1997; Malatesta-Magai, 1991; Roberts & Strayer, 1987). One especially promising approach to understanding emotion socialization incorporates both of these principles and focuses on parents' self-reported control of their children's emotional expressiveness (Fabes, Poulin, Eisenberg, & Madden-Derdich, in press; Saarni, 1985). This approach, galvanized by Saarni's development of the 'Parent Attitude Toward Child Expressiveness Scale' (1985), provided the groundwork for the present study. We examined the associations between mothers' self-reported control of their preschoolers' expressiveness and two other key facets of early socioemotional development: the quality of the infant–mother attachment and children's emotion regulation.

Mothers' Control of Their Preschool Children's Emotional Expressiveness and Infant–Mother Attachment

Given the importance of emotion socialization, it is essential to understand the associations between maternal emotion socialization and other pivotal aspects of the child–mother relationship. A 1995 report issued by the National Advisory Mental Health Council in fact called for research '. . . to clarify how patterns of emotional communication relate to the development, maintenance, and erosion of emotional bonds . . . between caregiver and [child]' (National Advisory Mental Health Council, 1995, p. 22). Attachment theory and research have made a substantial contribution to the field of human development, especially with respect to understanding child–parent relationships and their influence on subsequent socioemotional functioning (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969/1982, 1973, 1980; Cassidy & Shaver, 1999; Thompson, 1999). And whereas several scholars have noted apparent overlaps between attachment theory and emotion socialization theory and research (Cassidy, 1994; Denham, 1997; Thompson, 1990; see also Bell, 1998), our explicit examination of child–parent attachment in relation to parents' emotion socialization is new.

Cassidy (1994) proposed connections between each of the three principal attachment patterns [secure (Group B), insecure-avoidant (Group A), and insecure-ambivalent (Group C); Ainsworth *et al*., 1978)] and particular emotion socialization practices, especially those concerning negative emotions. Drawing on the work of Main (1990), Cassidy (1994) argued that parents' emotion socialization practices are rooted in their own attachment experiences and ensuing attachment-based 'strategies'—unconscious goals and plans that guide thinking and behavior, especially

with respect to close relationships. Cassidy (1994) suggested that mothers of secure children socialize their children's emotions to help provide a 'secure base from which to explore' (Ainsworth, 1963). Both negative and positive emotions are accepted and there is moderate control of children's expressiveness. Mothers of insecure-avoidant children are proposed to socialize their children's emotions in the service of minimizing attachment behavior and emphasizing independence. Accordingly, these mothers are expected to disavow their children's negative emotions and suppress their children's negative expressiveness. Suppressing negative affect, in turn, minimizes children's needs for comfort and closeness (see also Cassidy & Kobak, 1988; Main, 1990). Mothers of insecure-ambivalent children are proposed to socialize their children's emotions in the service of maximizing attachment behavior and emphasizing dependence. These mothers are proposed to heighten their children's expressiveness, especially negative expressiveness, in order to 'encourage' their children's attachment behaviors and dependency (see Cassidy & Berlin, 1994; Main, 1990).

Support for these propositions has come from several studies revealing associations between mothers' responses to their infants' emotions and infant–mother attachment. These studies highlight the importance of mothers' responsiveness to infants' negative emotions. For example, the sensitive caregiving found to characterize mothers of secure infants (especially *vis-à-vis* responsiveness to crying, see, e.g., Ainsworth *et al*., 1978; Isabella, 1993; Pederson & Moran, 1996) can be viewed as illustrating these mothers' acceptance of their infants' negative *and* positive emotions. Several laboratory investigations are also relevant. In one study, mothers of avoidant infants appeared to divert their attention when their children expressed distress (Escher-Graub & Grossmann, 1983). In an investigation of infant–mother face-to-face interaction, mothers' expressions of surprise in response to their infants' angry expressions—which can be viewed as an intimation that the infant's anger is inappropriate—was associated with infants' suppressed anger in the Strange Situation (Malatesta *et al*., 1989). Suppressed anger was in turn most characteristic of avoidant infants. And in a more recent study in which Strange Situations were coded for attachment quality as well as for infants' 'affective events,' mothers of avoidant infants were *less* likely to respond to their infants' negative events than their positive and neutral events, mothers of ambivalent infants were *more* likely to respond to their infants' negative events than their positive and neutral events, and mothers of secure infants responded equally to all of their children's affective events (Goldberg, MacKay-Soroka, & Rochester, 1994). Finally, in an intervention study with Dutch mothers and their temperamentally irritable infants, intervention mothers who had been coached in responding to infants' positive and negative expressions were subsequently more likely to have securely attached infants than control group mothers (van den Boom, 1994, 1995).

These associations between mothers' responses to their children's emotions and infant–mother attachment parallel the emotion socialization literature in highlighting the benefits of parents' acceptance of their children's negative as well as positive emotions. Attachment quality, however, has not been examined in relation to parents' more explicit emotion socialization strategies, such as those practiced by parents of preschoolers.

Our first research question addressed the association between mothers' self-reported control of their preschoolers' emotional expressiveness and infant–mother attachment. We focused on attachment in infancy because of its central role in early development and because the infant Strange Situation is the assessment for which the most extensive psychometric evidence exists (Solomon & George, 1999). Our expectation of a

connection between infant–mother attachment and later maternal socialization reflects a belief that maternal socialization of emotion is (a) a component of maternal sensitivity and thus an important contributor to attachment security; and (b) a set of behaviors which would remain stable enough for us to see connections to infant–mother attachment assessed roughly two years prior. Mothers' control of their children's expressiveness was assessed with a modified version of the Parent Attitude Toward Child Expressiveness Scale (Saarni, 1985). Our specific hypotheses focused on mothers' control of their children's negative expressiveness. We expected that the mothers of children who had been avoidant would report greater control of their children's negative expressiveness than other mothers [Group A mothers > (Groups B + C mothers)]. We also expected that the mothers of children who had been ambivalent would report less control of their children's negative expressiveness than other mothers [Group C mothers < (Groups A + B mothers)].

Mothers' Control of Their Preschool Children's Expressiveness and Children's Emotion Regulation

Our second question addressed the associations between mothers' self-reported control of their preschool children's emotional expressiveness and these children's emotion regulation. To date, a program of research conducted by Eisenberg, Fabes and colleagues has consistently demonstrated associations between parents' control of their children's expressiveness and multiple aspects of their children's socioemotional development. Parents' acceptance of their children's expressiveness has been found to relate to children's social skills and peer relationships while parental restriction and punishment of expressiveness is related to children's emotional suppression, avoidant coping, and anxiety (e.g., Eisenberg *et al*., 1988; Eisenberg *et al*., 1991; Eisenberg, Fabes, Carlo, & Karbon, 1992a; Eisenberg, Fabes, Carlo, Troyer, *et al*., 1992b; Eisenberg, Fabes, & Murphy, 1996; Fabes *et al*., 2001; Fabes *et al*., in press). Parallel findings have emerged from the work of Denham (Denham, 1997; Denham & Grout, 1992; Denham *et al*., 1997). For example, one recent study indicated associations between mothers' self-reported acceptance of children's behaviors during emotion-provoking situations and preschool teachers' ratings of children's social competence (Denham, 1997).

We examined the associations between mothers' control of their preschoolers' expressiveness and three distinct aspects of these children's emotion regulation: emotional expression, sharing, and suppression. Emotion regulation was observed during 'Beat the Bell,' a competitive game played in the presence of the mother. Based on the work of Lutkenhaus and his colleagues (Lutkenhaus, Grossmann, & Grossmann, 1985), the game was designed to serve as a mild stressor and to elicit children's emotional reactions. We predicted associations between mothers' self-reported control of their children's expressiveness and children's reactions to winning and losing the game. Specifically, we hypothesized that mothers who reported greater control of their children's expressiveness would have children who were less expressive, less likely to share their emotions, and more likely to suppress their emotions.

Infant–Mother Attachment and Children's Emotion Regulation

In addition to the two principal research questions investigated, this study provided the opportunity to examine the relation of infant–mother attachment to children's emotion regulation. Despite a wide range of approaches to defining and assessing

emotion regulation, it is widely held that one of the most—if not *the* most—important influences on the development of emotion regulation is the parent–child relationship (Cassidy, 1994; Kopp, 1989; Thompson, 1990, 1994). Cassidy (1994) has proposed specific associations between attachment and emotion regulation. Paralleling her proposals concerning attachment and emotion socialization, Cassidy has argued that attachment group differences in emotion expression, sharing, and suppression reflect people's attachment-based strategies. Specifically, the secure person is hypothesized to communicate positive and negative emotions openly, flexibly, and as a direct reflection of true feelings, as part of a strategy to use attachment figures as secure bases. Especially under stress, the secure person is hypothesized to share negative affect with attachment figures in order to gain comfort (see also Main, 1990). The avoidant individual is hypothesized to suppress the expression of vulnerability and negative affect, to minimize his own or his attachment figures' attachment behaviors (see also Cassidy & Kobak, 1988; Main, 1990). The ambivalent individual is hypothesized to exaggerate the expression of vulnerability and negative affect, to heighten his own and his attachment figures' attachment behaviors (see also Cassidy & Berlin, 1994, Main, 1990).

Several studies have illustrated associations between attachment and emotion regulation. These include studies of attachment group differences in infants' emotional expression, sharing, or physiological arousal (heartrate, cortisol levels) during the Strange Situation procedure (Braungart & Stifter, 1991; Grossmann, Grossmann, & Schwan, 1986; Izard, Haynes, Chisholm, & Baak, 1991; Malatesta *et al*., 1989; Spangler & Grossmann, 1993; Waters, Wippman, & Sroufe, 1979); of adult attachment and physiological arousal (skin conductance) (Dozier & Kobak, 1992), problem-solving (Kobak, Cole, Ferenz-Gillies, Fleming, & Gamble, 1993; Kobak, Everhart, Ferenz-Gillies, & Seabrook, 1994), and peer reports of affective expressiveness (Kobak & Sceery, 1988); and a small number of longitudinal investigations of infant–mother attachment and toddlers' affective sharing (Waters *et al*., 1979) and expression during problem-solving (Matas, Arend, & Sroufe, 1978). Last, a longitudinal study which directly informed the current investigation revealed attachment group differences in three-year-old children's expression and sharing of their sadness in response to losing a competitive game played against a confederate experimenter (Lutkenhaus *et al*., 1985). In this study we examined the relation of infant–mother attachment to preschool children's expression, sharing, and suppression of their emotions during the Beat the Bell game.

Method

Sample

Seventy-six white preschool-aged children (46 boys and 30 girls) and their mothers participated. All but five children were between 42 and 48 months (age range = 42 to 50 months; $M = 45$ months, $SD = 1.7$ months). Most children were either first-born (46%) or second-born (36%). Participants came from a northeastern U.S. university town and its surrounding rural community. Most of the sample (76%) reported an annual family income of $30,000 or more. Ninety-two percent (92%) of the children's parents were married. Mothers had received an average of 16 years of education.

All children had taken part in one of two infancy studies. To examine attachment group differences as efficiently as possible, participants for the present follow-up were

re-recruited on the basis of the quality of infant–mother attachment as assessed at 15–18 months. Of the previous participants contacted for this study, 89% ($N = 76$) agreed to participate. Of the nine who did not participate, five had moved far away.

Procedures

At 15–18 months, children and their mothers visited the laboratory for the standard Strange Situation procedure (Ainsworth & Wittig, 1969). At 42–48 months, children and their mothers revisited the laboratory, a mid-sized, comfortably furnished playroom with a one-way mirror. Each visit was coordinated by trained graduate and undergraduate female students. Mothers completed a brief demographic questionnaire and a slightly modified version of the Parent Attitude Toward Child Expressiveness Scale (PACES; Saarni, 1985) (labeled the 'Parent Attitude Questionnaire'). The children's emotion regulation task, the competitive game, was videotaped with the camera focused on the child's face.

Measures

Infant–Mother Attachment Quality. Three independent coders trained by the second author and having no other information about the participants classified attachment according to Ainsworth *et al*. (1978) and Main and Solomon (1986). Infants were classified secure (Group B), insecure-avoidant (Group A), insecure-ambivalent (Group C), or insecure-disorganized/disoriented (Group D). When an infant was classified disorganized/disoriented, the infant was also assigned a best-fitting, underlying classification (of secure, insecure-avoidant, or insecure-ambivalent).

Inter-rater reliabilities for each possible pair of coders were calculated via percent agreement prior to coding and intermittently during coding. Each pair of coders coded at least 15 tapes in common. Percent agreement across all pairs of coders for all four attachment classifications ranged from 75% to 81% ($M = 79\%$). Percent agreement across all pairs of coders for the three major attachment classifications ranged from 88% to 93% ($M = 91\%$). Disagreements were conferenced with the second author.

Attachment theorists have proposed that minimizing and maximizing strategies are associated with the individual's *underlying* (organized) attachment pattern *whether or not there is disorganization present* (Cassidy, 1994; Main, 1990; Main & Solomon, 1990). Thus, the infants classified as disorganized/disoriented were not considered as a separate group. These infants were analyzed according to their underlying classifications. Thus, three attachment groups were considered: a 'secure' ('B') group (secure plus disorganized/secure infants; 65%; $n = 49$); an 'insecure-avoidant' ('A') group (avoidant plus disorganized/avoidant infants; 18%; $n = 14$); and an 'insecure-ambivalent' ('C') group (ambivalent plus disorganized/ambivalent infants; 17%; $n = 13$).

Unanticipated gender differences in the attachment group distributions precipitated further data reduction. Specifically, 85% of the children who returned for the follow-up study and had been classified as insecure were boys.[1] In light of this atypical distribution, and because aspects of both emotion socialization and emotion regulation have been found to differ by gender (e.g., Eisenberg *et al*., 1991; Fivush, 1989, 1991; Gross & Ballif, 1991; Zahn-Waxler, Cole, & Barrett, 1991), we examined attachment group differences in two ways: for the whole sample and for the boys only. Of the 46 boys, 50% ($n = 23$) were secure, 24% ($n = 11$) were insecure-avoidant, and 26%

(n = 12) were insecure-ambivalent. There were too few insecure girls to examine attachment group differences for the girls only.

Mothers' Self-Reported Control of Their Preschool Children's Emotional Expressiveness: The Parent Attitude Toward Child Expressiveness Scale. Saarni's Parent Attitude Toward Child Expressiveness Scale (1985; 'PACES') consists of 20 vignettes in which a child experiences and/or expresses a particular emotion. The items cover a range of settings, emotions, and behaviors. The parent is asked to imagine herself and her child in that situation and to choose her most likely response. Parents' responses are coded on a four-point scale (range = 1–4) with higher scores indicating more parental control of children's expressiveness. Originally developed for parents of school-aged children, we reworded the questionnaire slightly to examine parents' (mothers') control of their *pre*schoolers' emotional expressiveness (see Table 1 for sample items and responses).

As a self-report measure, the PACES is, of course, subject to any number of well-known criticisms of self-report instruments. Several qualities of the PACES, however, made it ideally suited to the present investigation. First is its conceptual approach to emotion socialization (i.e., as including both suppressing and heightening processes; as most effective in the moderately controlling range). This approach is also consistent with attachment theory and research. Specifically, we viewed higher PACES scores as suggestive of mothers' suppression or minimizing of children's expressiveness and

Table 1. Sample PACES Items

If my child attends a family birthday dinner in a nice restaurant and happily jumps out of his chair and shouts, 'Happy Birthday!', I would:

a. smile but also tell my child not to be so rambustious [3].
b. say nothing [2].
c. smile understandingly about my child's feeling so happy [1].
d. say that proper restaurant behavior requires sitting down and speaking quietly, even when he feels happy and excited [4].

If my child becomes angry at his sibling or friend and begins to shout and stomp around the room, if I am nearby, I would:

a. tell my child to speak civilly and to apologize [4].
b. leave him alone [1].
c. try to find out what the fight was all about [2].
d. tell my child to calm down [3].

If my child appears to be quite afraid during an amusement park ride where other children do not seem to be afraid, I would:

a. tell my child to shape up or he will be teased by the other kids [4].
b. comfort and reassure my child [1].
c. let him cope with the fear without my intervening [2].
d. tell my child to get better control of himself [3].

Note: Scores for each response are indicated in brackets. Higher scores indicated greater self-reported control of children's expressiveness.

lower scores as suggestive of mothers' permissiveness—and possible heightening or maximizing—of children's expressiveness. Second is the make-up of the items. As described, the PACES items consist of vividly described scenarios. The items address mothers' behaviors in a wide range of scenarios that would be extremely difficult to capture via observation. Moreover, rather than having mothers rate themselves, which could be confused by mothers' own definitions of (e.g.) 'very' or 'somewhat' controlling, mothers choose their most likely behavior in the given scenarios. The response choices do not include obviously socially desirable or 'correct' answers. Thus, the questionnaire uses specific vignettes that are easy to answer spontaneously to tap mothers' overarching approaches to their children's emotional expressiveness. It is these approaches which are expected to relate to infant–mother attachment and to children's emotion regulation.

Initial psychometric inquiries revealed the PACES to have acceptable internal consistency ($\alpha = .76$), test-retest reliability ($r = .77$ over 4 weeks), and construct validity (see Saarni, 1989). For example, women reported being less controlling of their children's expressiveness than men; PACES scores for both women and men were higher for those who also scored higher on the 'control' subscale of the Family Environment Scale (Moos, 1974), and women with more children scored higher than women with fewer children. Several other studies have also illustrated the external validity of the PACES (e.g., Eisenberg *et al*., 1991; Eisenberg *et al*., 1992b).

In all analyses we used three PACES scales: (a) Total, consisting of the mean of all items ($M = 1.86$, $SD = .26$; $\alpha = .70$); (b) Positive, consisting of the mean of the 6 items about controlling children's expression of positive emotions ($M = 2.40$, $SD = .52$; $\alpha = .60$); and (c) Negative, consisting of the mean of the 14 items about controlling children's expression of negative emotions ($M = 1.63$, $SD = .21$; $\alpha = .53$). As would be expected, the Positive and Negative scales are both highly correlated with the Total scale (r's .88 and .86, respectively, p's $< .001$). The PACES Positive and Negative scales are also moderately correlated with one another ($r = .51$, $p < .001$).

Children's Emotion Regulation: The Competitive Game (Beat the Bell). Beat the Bell was a ring-stacking game modeled after the work of Lutkenhaus *et al*. (1985) and Cassidy (Cassidy *et al*., 1992). The object of the game was for the child to stack a set of rings on a peg before a bell sounded. The child and mother sat next to each other at a child-sized table. The experimenter explained the game until the child clearly understood what to do. A written card for the mother instructed her not to interact with the child while the child was actually playing the game nor initiate interaction after the game had ended. She was, however, permitted to respond to the child's initiations as she normally would. The child was instructed to begin stacking the rings when the experimenter said, 'Go!,' after which she quickly left the playroom. There were three trials. We manipulated the experimenter's manner as well as the outcome of each of the three trials in order to create a mildly stressful situation that would elicit children's emotion regulation in the presence of their mothers. Specifically, experimenters spoke excitedly to the children about playing the game and promised the children a 'special surprise' if they won. The game was further manipulated so that each child lost the first two trials and then won the third trial.

The coding system, developed specifically for this study, drew on those of Lutkenhaus *et al*. [1985, based on the Maximally Discriminative Facial Movement Coding System (MAX; Izard, 1979)] and of Malatesta *et al*. (1989). The coding system was designed to capture the child's *immediate* reactions to each trial of the game.

Table 2. 'Beat the Bell' Scales: Descriptive Information

	Possible Range	Actual Range	Mean (SD)
Losing Trial			
Beat the Bell Scales:			
Expression of Sadness	0–30	0–24	2.80 (4.83)
Sharing of Sadness	0–30	0–11	.83 (1.90)
Suppressed Anger	0–30	0–25	3.11 (5.05)
Winning Trial			
Beat the Bell Scales:			
Expression of Happiness	0–15	0–15	11.46 (3.96)
Sharing of Happiness	0–15	0–10	2.96 (2.42)

Note: Higher scores indicated greater expression of sadness, sharing of sadness, suppressed anger, expression of happiness, and sharing of happiness.

Coding focused on the 15 seconds immediately following the end of each trial. For the losing trials, for each one of the 15 seconds, following MAX criteria, coders rated the presence/absence of facial expressions of sadness. For the losing trials, for each one of the 15 seconds, coders also rated the presence/absence of suppressed anger. Following Malatesta *et al*. (1989), suppressed anger was indicated by the child pressing his/her lips tightly together. For the winning trial, coders noted facial expressions of happiness. Additionally, for both losing and winning, for each of the 15 seconds, the child was coded as 'looking to' or 'not looking to' the mother. These 'looking' scores were then used to code shared emotions. For example, a sad facial expression accompanied by a look to the mother was coded as shared sadness.[2]

A single trained, independent coder with no other information about the children coded all Beat the Bell episodes with reliability coding provided by the first author. Inter-rater reliabilities for a randomly selected 34% of the sample were assessed via Pearson's correlations prior to and intermittently during coding. Reliabilities ranged from .81 to 1.00 (M = .94).

Subsequently, because of low frequencies and for simplicity's sake, the two losing trials were combined, resulting in a 'Losing' and 'Winning' trial. For the Losing trial, we used the following scales: 'Expression of Sadness,' 'Sharing of Sadness,' and 'Suppressed Anger.' For the Winning trial, the scales were 'Expression of Happiness' and 'Sharing of Happiness' (see Table 2 for descriptive information).

Results

Preliminary Analyses

Previous studies have illustrated links between sociodemographic factors (e.g., education, gender) and emotion socialization and emotion regulation (e.g., Eisenberg *et al*., 1991; Zahn-Waxler *et al*., 1991). To explore the validity of our modified PACES and newly developed Beat the Bell scales, we conducted correlational analyses of the associations between the PACES scales, Beat the Bell scales, and several

sociodemographic factors. Specifically, given previous findings of inverse correlations between the (Total) PACES and mothers' education (e.g., Eisenberg *et al*., 1991), we examined the association between the PACES scales and mothers' education and family income. One significant correlation emerged: as in previous studies, mothers with less education were more controlling of their children's negative expressiveness ($r = -.24$, $p < .05$). Additionally, given previous findings of gender differences in both emotion socialization and emotion regulation (e.g., Eisenberg *et al*., 1991; Zahn-Waxler *et al*., 1991), we examined gender differences in the PACES and Beat the Bell scales. Analyses revealed significant differences in two Beat the Bell scales only: after losing, girls expressed and shared their negative feelings with their mothers significantly more frequently than boys, t (63) = 2.42 and t (63) = 2.08, respectively, p's < .05. Taken as a whole, these findings provided preliminary evidence of the validity of our PACES and Beat the Bell scales and guided the principal data analyses.

Mothers' Control of Their Preschool Children's Emotional Expressiveness and Infant–Mother Attachment

We first conducted analyses of covariance (ANCOVAs) of attachment group differences in the PACES Negative scale with maternal education as a covariate (see Tables 3 and 4). As predicted, mothers of children who had been avoidant reported greater control of their children's negative expressiveness than other mothers [Group A mothers > (Groups B + C mothers)], and mothers of children who had been ambivalent reported less control of their children's negative expressiveness than other mothers [Group C mothers < (Groups A + B mothers)]. This effect emerged for the sample as a whole and for the boys only.

While our hypotheses focused on mothers' control of their children's negative expressiveness, we also explored the relation of mothers' control of their preschoolers' total expressiveness and positive expressiveness to infant–mother attachment by analyzing attachment group differences in the PACES Total (Positive + Negative) and Positive scales (see Tables 3 and 4). For the sample as a whole, mothers of avoidant children reported significantly greater control of their children's total expressiveness and positive expressiveness than all other mothers. Mothers of ambivalent children reported significantly less control of their children's total (but not positive) expressiveness than all other mothers. For the boys only, mothers of avoidant children (sons) reported significantly greater control of their children's total expressiveness and marginally greater control of their children's positive expressiveness than all other mothers. Mothers of ambivalent sons reported significantly less control of their children's total expressiveness and positive expressiveness than all other mothers.

Mothers' Control of Their Preschool Children's Emotional Expressiveness and Children's Emotion Regulation

In order to examine the relation of mothers' control of their preschoolers' expressiveness to children's emotion regulation, we correlated the three PACES scales with each of the Beat the Bell scales. Correlational analyses with the PACES Negative scale controlled for maternal education. Although not all tests conducted were statistically significant, these analyses generally confirmed our predictions (see Table 5). In the Losing trial, children whose mothers reported greater control of their children's total expressiveness were significantly less likely to share their sadness. Children whose mothers

Table 3. Infant–Mother Attachment Group Means for PACES Scales: All Children ($N = 76$)

PACES Scales	Insecure-Avoidant (Group A) ($n = 14$)	Secure (Group B) ($n = 49$)	Insecure-Ambivalent (Group C) ($n = 13$)	Groups B + C ($n = 62$)	Groups A + B ($n = 63$)	$F(1, 73)$ or $t(74)$: Group A vs. Groups B + C	$F(1, 73)$ or $t(74)$: Group C vs. Groups A + B
Negative[+]	1.74[a] (.20)	1.63[ab] (.19)	1.51[b] (.21)	1.56 (.20)	1.66 (.20)	4.41*	4.57*
Total	2.01[a] (.19)	1.85[ab] (.25)	1.73[b] (.29)	1.82 (.26)	1.88 (.25)	3.07**	2.03*
Positive	2.63 (.34)	2.37 (.54)	2.24 (.55)	2.34 (.54)	2.43 (.51)	2.55**	1.17

Note: Higher scores indicated greater self-reported control of children's expressiveness. Standard deviations are in parentheses. Means in the same row with different superscripts differ significantly at $p < .05$.

[+] Analyses of variance in the PACES Negative scale control for maternal education.

*$p < .05$; **$p < .01$.

Table 4. Infant–Mother Attachment Group Means for PACES Scales: Boys Only ($N = 46$)

PACES Scales	Insecure-Avoidant (Group A) ($n = 11$)	Secure (Group B) ($n = 23$)	Insecure-Ambivalent (Group C) ($n = 12$)	Groups B + C ($n = 35$)	Groups A + B ($n = 34$)	$F(1, 43)$ or $t(44)$: Group A vs. Groups B + C	$F(1, 43)$ or $t(44)$: Group C vs. Groups A + B
Negative[+]	1.73[a] (.21)	1.61[ab] (.16)	1.52[b] (.21)	1.58 (.18)	1.65* (.18)	4.25[#]	3.63[#]
Total	2.02[a] (.19)	1.87[ab] (.21)	1.72[b] (.30)	1.82 (.25)	1.92 (.21)	2.42*	2.55**
Positive	2.70[a] (.32)	2.49[ab] (.46)	2.19[b] (.55)	2.39 (.50)	2.56 (.43)	1.93[#]	2.34*

Note: Higher scores indicated greater self-reported control of children's expressiveness. Standard deviations are in parentheses. Means in the same row with different superscripts differ significantly at $p < .05$.

[+] Analyses of variance in the PACES Negative scale control for maternal education.

[#] $p < .10$; * $p < .05$; ** $p < .01$.

Table 5. Correlations Between PACES and 'Beat the Bell' Scales

	PACES Scales		
	Total	Positive	Negative[+]
Losing Trial			
Beat the Bell Scales:			
Expression of Sadness	–.17	–.35**	.05
Sharing of Sadness	–.26*	–.31**	–.14
Suppressed Anger	.20	.07	.28*
Winning Trial			
Beat the Bell Scales:			
Expression of Happiness	.06	.06	.05
Sharing of Happiness	–.25*	–.22[#]	–.21[#]

Note: Higher scores indicated greater self-reported control of children's expressiveness and greater expression of sadness, sharing of sadness, suppressed anger, expression of happiness, and sharing of happiness.
[+]Correlations between the PACES Negative scale and the Beat the Bell scales are partial correlations, controlling for maternal education.
[#]$p < .10$; *$p < .05$; **$p < .01$.

reported greater control of their children's positive expressiveness were significantly less likely to express and share sadness. And children whose mothers reported greater control of their children's negative expressiveness were significantly *more* likely to suppress their anger. In the Winning trial, children whose mothers reported greater control of their children's total expressiveness were significantly less likely to share happiness. Children whose mothers reported greater control of their children's positive expressiveness were marginally less likely to share happiness. Children whose mothers reported greater control of their children's negative expressiveness were also marginally less likely to share their happiness after winning the game.

Given evidence (described earlier) of some gender differences in children's emotion regulation during Beat the Bell, these sets of correlations were also examined for boys and girls separately, and, given the confound between attachment and sex, for secure boys and secure girls separately. Findings generally mirrored the results for the sample as a whole, giving no indication of gender differences in the associations between mothers' control of their preschool children's expressiveness and these children's emotion regulation in the Beat the Bell assessment.

Infant–Mother Attachment and Children's Emotion Regulation

In addition to the two principal research questions investigated, this study provided the opportunity to examine the relation of infant–mother attachment to children's emotion regulation. We examined the relation of infant–mother attachment to

preschool children's expression, sharing, and suppression of their emotions during the Beat the Bell game. Analyses of variance (ANOVAs) of attachment group differences in the Beat the Bell scales for the sample as a whole and for the boys only revealed no significant differences.

Discussion

In response to our first research question, we found an association between mothers' self-reported control of their preschoolers' expressiveness and infant–mother attachment. This finding emerged for the sample as a whole and for the boys only. By demonstrating connections between mothers' explicit control of their preschoolers' expressiveness and infant–mother attachment, our findings add a new dimension to the existing theory and research linking mothers' responses to their children's emotions and infant–mother attachment.

Our findings are consistent with Cassidy's (1994) proposition that mothers socialize their children's emotions in the service of unconscious attachment-based strategies. Specifically, the relatively greater control of negative expressiveness reported by the mothers of the avoidant children in this study is consistent with a strategy in which attachment behavior is minimized, as the limiting of negative expressiveness can preclude the need for comfort and nurturance. In addition, the mothers of the ambivalent children in this study reported relatively less control of their children's negative expressiveness which is consistent with a strategy in which dependence is emphasized: the more upset a child becomes, the more likely he is to need soothing and nurturance and the less likely he is to practice independent exploration.

Although we neither advanced nor tested a specific prediction about the secure group, it is interesting to note that our pattern of findings (which resulted from combining the secure group with the avoidant group and then with the ambivalent group) suggests that the mean scores for the secure mothers were consistently between those of the two other groups. Post-hoc, pair-wise comparisons (including Bonferonni corrections) of each attachment group to the others generally confirmed this suggestion (see Tables 3 and 4). This pattern of findings implies that the mothers of the secure children were neither heightening nor suppressing of their children's negativity but rather accepting and moderately controlling. Acceptance and moderate control are, in turn, consistent with a strategy in which attachment behavior is neither systematically minimized nor systematically maximized and children are provided with a secure base. These findings also parallel the emotion socialization literature in highlighting the benefits of parents' acceptance of their children's negative and positive emotions.

Although there are some correlations among the PACES scales, it was nonetheless interesting to note that the predicted pattern of associations between mothers' control of their children's expressiveness and infant–mother attachment was not limited to mothers' control of their children's negative expressiveness but also extended to mothers' control of their children's total expressiveness and (to a somewhat lesser degree) positive expressiveness. These findings also fit with the findings of previous theoretical and empirical work. Specifically, the expression of positive feeling generally facilitates social interaction and connectedness. For the mothers of avoidant children, controlling positive expressiveness is consistent with a pattern of limiting interpersonal connectedness. Conversely, the ambivalent group mothers' lesser control of their sons' positive expressiveness could be indicating a policy of freer emotional expression, which, in turn, can increase opportunities for intimacy and dependence.

A different explanation for the attachment group findings is also plausible. Specifically, the association between mothers' control of their children's expressiveness and infant–mother attachment may simply be a methodological artifact of (a) mothers' ongoing control of their children's expressiveness and (b) the fact that the attachment classification system draws heavily on infants' emotionality. It may be that mothers' control of their children's expressiveness is a powerful and stable phenomenon such that by the time of the Strange Situation, mothers' control has effectively prescribed their children's expressiveness. Thus, the fact that the mothers of children who had been avoidant infants were more controlling of their children's expressiveness may reflect these mothers' past and continuing suppression of their children's expressiveness (without reflecting the quality of the infant–parent attachment per se). The relatively neutral and impassive behavior that contributes to classification as avoidant may not have reflected the quality of the infant–mother attachment but rather may have reflected an emotionally hyper-controlled style. Further longitudinal research will help to disentangle these explanations.

Our second research question addressed the connections between mothers' control of their children's expressiveness and three fundamental aspects of these children's emotion regulation observed during a competitive game: expression, sharing, and suppression. As predicted, mothers who reported greater control of their children's expressiveness had children who were less likely to express and share their emotions and more likely to suppress their emotions immediately after losing and winning at Beat the Bell. These findings parallel and extend the findings of existing studies linking parental control of their children's expressiveness to children's socioemotional functioning. Our data suggest that children as young as three cooperate with their mothers' preferences concerning emotional expression. Additionally, it was interesting that more maternal control of *positive* expressiveness was related to less child *negative* (sad) expressiveness and sharing (in addition to less sharing of happiness). Maternal control of positive expressiveness may be a less typical and stronger form of control than control of negative expressiveness, which is a regular part of virtually all parents' emotion socialization. That this stronger form of maternal control of child expressiveness could influence children's expressions of both sad and happy emotions is not surprising yet also bears further investigation. As Eisenberg and her colleagues note, '. . . little is known about parental reactions to, and discussion of, positive emotions (Eisenberg *et al*., 1998, p. 267).

We were surprised to see no significant relations between infant–mother attachment and children's emotion regulation, especially in light of the connections that we did find between infant–mother attachment and maternal emotion socialization. The lack of a theoretically predicted connection between infant–mother attachment and emotion regulation in the Beat the Bell game may result (a) from an incorrect theory; or (b) because emotion regulation relates to concurrent but not earlier attachment quality; or (c) because the Beat the Bell measure is not a sufficiently powerful assessment of the aspects of emotion regulation that do relate to earlier attachment quality. Based on our review of the existing literature (e.g., Lutkenhaus *et al*., 1985; Malatesta *et al*., 1989) and our inspection of our own attachment group means for the Beat the Bell scales, we believe that the Beat the Bell measure was not sufficiently powerful to tap the aspects of preschoolers' emotion regulation that do relate to infant–mother attachment.

Two limitations to the present study are important to mention. The first is the unusual association between attachment quality and child sex which limits the

generalizability of the attachment findings principally to mothers and their sons. The second is that we used a newly revised version of the PACES questionnaire and newly adapted emotion regulation (Beat the Bell) scales. Although both of these measures performed in theoretically predicted ways, their relative newness requires our findings to be interpreted with some caution.

In conclusion, this study highlights the role of maternal emotion socialization in children's early socioemotional functioning—in infant–mother attachments and in children's emotion regulation. Our data also raise questions for future studies, especially in terms of the role of context in emotion socialization processes. For example, it would be interesting to examine the extent to which mothers' control of their children's expressiveness varies by context. Some contexts will certainly elicit more maternal control than others. Are there any contexts in which there are no individual differences in mothers' control of their children's expressiveness? It would also be interesting to examine the extent to which attachment group differences in mothers' control of their children's expressiveness vary by context. For example, mothers of avoidant children may be more likely to discourage positive expressiveness in relation to attachment and to favor positive expressiveness in relation to their children's autonomous skills and accomplishments. Conversely, ambivalent children and their mothers have been observed to exhibit overly cheery, saccharine displays of affection and intimacy during Strange Situations conducted at ages three and four (Main, 1991). Mothers of ambivalent children may heighten positive expressiveness in relation to attachment but suppress positive expressiveness in relation to their children's autonomy. Finally, it would be interesting to examine the extent to which the associations between mothers' control of their children's expressiveness and children's emotion regulation vary by context: for example, does maternal control of children's expressiveness relate to children's regulation in a game of Beat the Bell played against a friend or an unfamiliar peer? Future studies addressing these and other questions will help illuminate parental emotion socialization as a whole.

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Notes

1. χ^2 (4) = 16.12, $p < .01$.
2. For the losing trial, angry and happy expressions were also coded but occurred too infrequently to count. Similarly, for the winning trial, sad and angry expressions were coded but were too infrequent to analyze.