

EMOTION SOCIALIZATION IS A TWO-WAY STREET:
RECIPROCAL EMOTION PARENTING AND CHILD EMOTION REGULATION

by

DIANA MORELEN

(Under the Direction of Cynthia Suveg)

ABSTRACT

The current study examined reciprocal interactions between parents' emotion socialization behaviors and children's emotion regulation and the relation between such interactions and child emotional and psychological outcomes. The present study adds to the literature by investigating the dynamic nature of emotion socialization through the use of a state-of-the-art behavioral coding system that captures the sequential nature of behaviors. Fifty four mother, father, and child (7 to 12 years old) triads participated in four (i.e., angry, happy, sad, anxious) emotion discussions. Parental emotion coaching and emotion dismissing and child adaptive and maladaptive emotion regulation behaviors were coded. Parents reported on their child's emotion regulation and psychological symptoms and children reported on their own emotion regulation. Results indicated that parents were more likely to follow children's adaptive emotion regulation with emotion coaching versus emotion dismissing responses and children were more likely to use adaptive versus maladaptive emotion regulation in response to parents' emotion coaching.

INDEX WORDS: Parent-child interactions, Emotion regulation, Socialization

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DIANA MORELEN
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DIANA MORELEN

Major Professor: Cynthia Suveg

Committee: Ronald L. Blount
Anne Shaffer

Electronic Version Approved:
Maureen Grasso
Dean of the Graduate School
The University of Georgia
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CHAPTER 1

INTRODUCTION

Children's emotional competence includes the ability to understand, regulate, and express emotions in a socially acceptable manner. Parents are often considered the primary socialization agents for children's emotional competence because of the influential role they have starting at birth and continuing throughout development (Field & Walden, 1982; Saarni, 1999). Certain types of emotion parenting (e.g., validating) are associated with children's adaptive emotional functioning, whereas others (e.g., dismissive, punitive) are associated with deficits in children's emotional competence (e.g., Fabes & Eisenberg, 1992; Parker, Lee, Goodwin, & Voelker, 2006). Numerous facets of children's emotional competence (e.g., emotional understanding, emotion regulation) relate to their social and psychological functioning (e.g., Cicchetti, Ackerman, & Izard, 1995; Suveg, Hoffman, Zeman, & Thomassin, 2009; Zeman, Shipman, & Suveg, 2002). Given the potential for both positive and negative outcomes, it is important to investigate the processes through which emotional competence develops.

Numerous studies have investigated parental emotional socialization practices (e.g., Eisenberg, Losoya et al., 2001; Halberstadt, 1986) and research is now moving from the question of "Do parents influence children's emotional development?" to "*How* do parents influence children's emotional development?" Observational research is increasingly used to investigate the process of emotion socialization (Calkins, Gill, Johnson, & Smith, 1999; Suveg, Zeman, Flannery-Schroeder, & Cassano, 2005); however, the current literature can be augmented in several ways. First, past research primarily focuses on how parental behaviors and beliefs affect aspects of children's emotional competence. From this empirical base, the next step is to consider the dynamic and reciprocal nature of emotion socialization. This is a well-needed

addition to emotion socialization research given that parent-child interactions are interdependent patterns of behavior (Bell, 1968; Morris, Silk, Steinberg, Myers, & Robinson, 2007). Further, the growing trend of using observational methods can be expanded by the inclusion of fathers in emotion socialization paradigms. Inclusion of fathers is important given research suggesting that behavior and outcomes associated with paternal socialization may be qualitatively different than those for maternal socialization (e.g., Fivush, Brotman, Buckner, & Goodman, 2000; Phares, Lopez, Fields, Kamboukos, & Duhig, 2005; Thomassin, Suveg, & Wood, under review). Research investigating the mechanisms through which parents influence children's emotional development primarily focuses on infants and early childhood (e.g., Cole, Dennis, Smith-Simon, & Cohen, 2009; Denham, Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997) and our understanding of emotion socialization can be enhanced by investigating such processes as they occur with older children. Thus, the primary goal of this study is to investigate reciprocal influences in parent-child emotional discussions to better understand the process through which emotion socialization occurs with school-aged children. Additionally, the study aims to examine whether parental sex influences the nature of these reciprocal interactions.

Emotional Competence and Emotion Regulation

Emotional competence, awareness and adaptive management of one's own and others' emotions, is associated with adaptive social and psychological functioning (e.g., Eisenberg, Losoya et al., 2001; Miller et al., 2005). Emotion regulation (ER), one component of children's emotional competence, is especially pertinent to consider when understanding how emotion socialization relates to children's psychological health (Cicchetti et al., 1995; Eisenberg, Gershoff et al., 2001; Samoilov & Goldfried, 2000). Although there are many conceptualizations of ER (e.g., Cole, Martin, & Dennis, 2004; Eisenberg, Spinrad, Smith,

Philippot, & Feldman, 2004), the current study defines ER as “the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one’s goals,” (Thompson, 1994; pp. 27-28). Thus ER is a construct that captures dynamic regulatory behaviors beyond simply emotional suppression. For instance, adaptive ER can involve emotional exaggeration, substitution, or neutralization, depending on cultural norms regarding emotional expression (Zeman, Cassano, Perry-Parrish, & Stegall, 2006). There are numerous ways that ER can become maladaptive (e.g., inappropriate emotional experiences or intensity, socially unacceptable emotional displays, emotional suppression) and relate to internalizing and externalizing problems in youth (e.g., Da Fonseca, Seguir, Santos, Poinso, & Deruelle, 2009; Southam-Gerow & Kendall, 2002; Suveg et al., 2009).

Emotion Socialization: Parental Influences on Children

Emotion socialization behaviors occur on a continuum from direct (e.g., didactic emotion discussion) to indirect (e.g., emotion modeling), resulting in various roles parents play in children’s emotional development. Emotion socialization research often uses two broadband constructs to study how emotion parenting styles relate to parent characteristics and child outcomes: Emotion Coaching (EC) and Emotion Dismissing (ED; e.g., Gottman, Katz, & Hooven, 1996; Lunkenheimer, Shields, & Cortina, 2007; Ramsden & Hubbard, 2002). Emotion Coaching involves parenting behaviors such as awareness of children’s feelings, use of children’s experience of negative emotions as teaching opportunities, and ability to discuss emotions in a way with children that validates their emotional experience while helping them learn appropriate ER strategies (Gottman et al., 1996). In contrast, ED is an emotion parenting style characterized by parental disapproving, dismissing, or derogatory responses to children’s

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occurs (e.g., Cassano, Perry-Parrish, & Zeman, 2007; Cole, Teti, & Zahn-Waxler, 2003; Eisenberg, Cumberland, & Spinrad, 1998; Fivush et al., 2000; Suveg, Sood, Barmish, Kendall, & Hudson, 2008). For instance, one observational study with mother-child and father-child discussions of positive and negative emotions found that fathers spoke less in the discussion, discussed the causes of emotions less frequently, and used less emotion words than mothers (Fivush et al., 2000). Similarly, another study that used emotion-related vignettes to assess how parents would respond to their child's emotions found that fathers tended to endorse minimizing the expression of sadness more than mothers (Cassano et al., 2007). Conversely, mothers reported encouraging the expression of sadness more than fathers. Thus, it is important to consider mothers and fathers separately when examining their role in children's emotional development (Bögels & Phares, 2008).

Emotion Socialization: Children's Influence on Parenting Behavior

A broad base of research considers how parents influence children through emotion socialization interactions yet few studies investigate how children may influence parents' socialization style despite a growing body of literature acknowledging families as dynamic, interdependent systems (Bell & Chapman, 1968; Cox & Paley, 2003; Fabes et al., 1994). Conceptually, family interactions involve patterns of behaviors (Bugental, Goodnow, Damon, & Eisenberg, 1998; Kuczynski, Marshall, Schell, & Grusec, 1997; Lollis & Kuczynski, 1997). Observational research, however, primarily uses rates of behaviors to measure qualities of familial functioning. Given that behaviors of family members change when an interaction shifts from dyadic (e.g., mom and child) to triadic (e.g., mom, dad, and child), it is essential to consider each family member's role in the context of other members' behavior (Gjerde, 1986; Russell, Pettit, & Mize, 1998).

Although emotion socialization research historically focuses on unidirectional behavior, the notion of evocative person-environment transactions is relevant to this line of research. Developmental research investigating evocative person-environment transactions considers how children solicit reactions from their environment and how these evocative interactions are influenced by and subsequently influence children's temperamental traits (e.g., Caspi et al., 1998). Increasingly, socialization research considers reciprocal interactions (e.g., Pineda, Cole, & Bruce, 2007) including several studies relevant to emotion socialization. One study considered the reciprocal influences of child ER and parental emotion socialization behaviors at three different time periods (i.e., 6 to 8 years, 8 to 10 years, 10 to 12 years; Eisenberg et al., 1999). Results indicated that children's ER (at ages 6-8) predicted maternal reactions (at ages 8-10), which, in turn, predicted children's ER (at ages 10-12). Another study considered mutual ER between mothers and early school-aged children through observed displays of affect in a paradigm designed to elicit frustration in children (Cole et al., 2003). Results from this study revealed that mothers and children engaged in reciprocal displays of positive affect and that more positive reciprocity was associated with fewer externalizing problems when compared to dyads with more angry reciprocal interactions. Further, when behavior problems were assessed two years later, hierarchical regressions suggested that mutual anger regulation exacerbated conduct problems whereas mutual regulation of positive affect was associated with behavior problem improvement. Additional research expanding on the notion of reciprocal influences between parents and children is needed to further understand the process of emotion socialization.

Summary and Hypotheses

This study aims to augment the existing ER literature by investigating which child ER behaviors affect emotion parenting behaviors and which emotion parenting behaviors influence

children's ER. Through using a state-of-the-art behavioral coding system (i.e., Noldus 7.0) this study can expand upon past emotion socialization research. The Noldus software allows for sequential analyses of behaviors of youth and their parents and captures reciprocal interactions of behavior. Additionally, the present study addresses current gaps in the literature through the inclusion of fathers and the examination of emotion socialization in middle childhood.

The following hypotheses are posited:

First, it is expected that children's use of adaptive ER behaviors will be followed by more EC than ED. It is also expected that parental EC will be followed by more adaptive ER than maladaptive ER.

Second, it is expected that there will be different patterns of contingent interactions depending on child ER (i.e. adaptive versus maladaptive) and parental responses (i.e., EC versus ED; see Appendix A for the four hypothesized interactions). When parental EC responses follow children's maladaptive ER (i.e., Modifying Maladaptive ER interaction) or children's adaptive ER (i.e., Reinforcing Coping interaction) it is expected that children will show more adaptive ER than maladaptive ER overall in the discussion task. Conversely, when parental ED responses follow children's maladaptive ER (i.e., Exacerbating MER interaction) or adaptive ER (i.e., Non-reinforcing Coping interaction) it is expected that children will show more maladaptive ER than adaptive ER overall in the discussion task.

Third, it is expected that adaptive patterns of interaction between parents and children (i.e., Reinforcing Coping interaction, Modifying Maladaptive ER interaction) will be associated with fewer parent-reported psychological symptoms and more adaptive parent- and child-reported ER than less adaptive socialization patterns (i.e., Non-reinforcing coping interactions, Exacerbating Maladaptive ER interactions). Conversely, it is expected that maladaptive patterns

will be associated with more parent-reported psychological symptoms and more parent- and child-reported maladaptive ER than adaptive patterns of interaction.

Lastly, it is expected that parental sex will influence the nature of these interactions. In comparison to fathers, mothers will engage in more EC behavior and less ED behavior.

CHAPTER 2

METHOD

Participants

Participants included 54 mothers (M age = 39.8), fathers (M age = 42.6), and children between the ages of 7 to 12 (M age = 9.13; 50% males). Participants were recruited through community flyers (e.g., YMCA, schools, doctors' offices, public posting kiosks) advertising a research study investigating how children learn about emotions. Caretakers lived with the child for at least two years and both caretakers had to participate. Inclusion criteria included ages of 7 to 12 and IQ equal to or above 80 due to the verbal abilities needed to participate in the various tasks and to complete self-report questionnaires included in the study. Exclusionary criteria included psychotic symptoms and suicidal ideation.

The sample was predominately Caucasian American (77.8%), and the other participants were African American (9.3%), Asian (3.7%), Hispanic (3.7%), and "other" (1.9%). There was a wide range of income levels in the sample (\$20,000 – over \$80,000) with 1.9% of the sample earning between \$10,000 and \$19,999, 18.6% earning between \$20,000 and \$39,999, 37.1% earning between \$40,000 and \$59,999, 13.0% between \$60,000 and \$79,999, and 29.6% earning over \$80,000.

Measures

Behavioral observations

Emotion Discussion Task. Parents and children engaged in an unstructured five-minute discussion for four separate events when the child felt angry, happy, sad, and anxious (20 minutes total). Trained experimenters read a script aloud, had the family specify the four events, left for the emotion discussions, and came in at the end of five minutes to let the family know it

was time to move onto the next topic. The discussions were videotaped and coded by an advanced undergraduate research assistant using the Noldus behavioral research software, which allows multiple subjects and behaviors to be temporally coded. Cohen's Kappa was used as a measure of inter-rater reliability (see Procedure for information regarding reliability computation).

Two broadband categories of parental verbalizations and behavior were coded: Emotion Coaching (EC) and Emotion Dismissing (ED). Emotion Coaching involved helping the child understand emotions or promoting adaptive coping in the child and subsumed the following categories of behavior: emotion validation/support, modeling of one's own emotions, and emotion labeling/discussion. Emotion Dismissing involved parental behavior that conveyed their child's emotions were wrong or unimportant, belittled the child's emotional expression, or created an uncomfortable climate for discussing feelings. (see Appendix B for coding descriptions)

Two broadband categories of children's ER-related behavior and verbalizations, Adaptive ER (AER) and Maladaptive ER (MER), were coded to assess adaptive and maladaptive emotion management techniques. Adaptive ER involved children's use of adaptive regulation strategies and subsumed the following categories of behavior: verbal expression of emotion, self-talk, support seeking, and emotion discussion. Maladaptive ER involved non-constructive methods used by the child to express or regulate their emotions. Specific MER coding categories included critical/rude behavior, whining, yelling, derogatory emotion comments, and inhibitory comments. See Tables 1 and 2 for a summary of Kappa coefficients, proportion of agreements, frequency of agreements, and frequency of disagreements.

Child behavioral and emotional functioning

Child Behavior Checklist (CBCL; Achenbach, 1991). The CBCL is a parent report measure of children's psychosocial functioning over the past 6 months. There are 118 items ranked on a 3-point Likert scale (i.e., not true, sometimes true, very/often true). The CBCL yields three broadband scales: Externalizing, a measure of behavior and academic problems, Internalizing, a measure of anxious, depressed, and withdrawn behavior, and Total Problems, an overall measure of general functioning. T scores are used to compare children's symptomology based on their age and sex. T scores between 65 and 69 in the "borderline" range, and scores of 70 or above are considered to be "clinically significant." The CBCL has strong psychometric properties (Achenbach & Rescorla, 2001). There were no significant differences between parents' on these scales, so a parental composite score was computed for Internalizing, Externalizing, and Total Problems ($\alpha = .92, .91, \text{ and } .98$, respectively).

Child emotion regulation: Child report

The *Children's Emotion Management Scales for Sadness (CSMS) and Anger (CAMS; Zeman, Shipman, & Penza-Clyve, 2001; Zeman, Cassano, Suveg, & Shipman, 2008) and Worry (CWMS; Zeman, Cassano, Suveg, & Shipman, 2009).* Children completed the CEMS for sadness (CSMS), anger (CAMS), and worry (CWMS) as a self-report measure of ER. The 12-item CSMS, 11-item CAMS, and 13-item CWMS use a 3-point Likert scale (1 = *hardly ever*, 2 = *sometimes*, 3 = *often*) to assess specific ER behaviors on three subscales (coping, inhibition, dysregulation). Preliminary studies indicate adequate internal consistency (i.e., alphas range from .62 to .77) and good test-retest reliability (Zeman et al., 2008). For the present study, an Adaptive ER subscale (i.e., sum of *coping* items; $\alpha = .71$) and maladaptive ER (i.e., sum of *inhibition* and *dysregulation* items; $\alpha = .71$) subscale was computed. One item (i.e., I can't stop

myself from acting really worried) was removed from the maladaptive ER composite because it was found to lower the internal consistency.

Child Emotion Regulation: Parent Report

Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997). The ERC is a 24-item adult-report measure (4-point Likert scale) of children's typical methods of managing emotional experiences. The checklist has two subscales: (a) ER (i.e., assesses appropriate emotional expression, empathy, and emotional self-awareness) and (b) Negativity/ Lability (i.e., assesses inflexibility, lability, and dysregulated negative affect). The ERC has acceptable reliability and validity ($\alpha = .83$ for ER, $\alpha = .96$ for Negativity/Lability; Shields & Cicchetti, 1997). For the present study, a parental subscales were averaged to form a parental composite score for ER ($\alpha = .85$) and Negativity/Lability ($\alpha = .87$). See Table 3 for a summary of questionnaire measures' means, standard deviations, and ranges.

Child intelligence

Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999). To ascertain whether children would be able to understand the measures and participate they were administered the Vocabulary and Matrix Reasoning subtests of the WASI.

Procedure

Caregivers and parents who were interested in participating called a number located on the flyers distributed throughout the community. A scripted phone screener was used to determine eligibility and schedule an assessment if eligible.

Eligible participants were scheduled for assessment time slots that lasted about two hours. During this time, parents signed informed consent forms for themselves and informed permission forms for their children. Assent forms were read aloud to children who either gave

verbal assent to participate or wrote their names on the form to signify their understanding and agreement regarding participation. The WASI was administered to children to ensure an IQ greater than 80. Parents and children then participated in the emotion discussion tasks and filled out self-report questionnaires with the help of research assistants as needed.

Parents were reimbursed \$40 for their time and travel expenses and children received a small token of appreciation (e.g., folder, inexpensive toy). The University Institutional Review Board approved the study procedures.

Coding

A trained research assistant blind to the hypotheses coded each member of the triad's behavior. Before coding independently, the research assistant was trained by coding alongside the author of the thesis until agreement was reached. The Noldus software allowed precise identification of when each coded behavior occurred (as captured by a time stamp). Coding occurred in real time such that the research assistant watched the discussion tasks and every time a behavior fitting a particular code description occurred, he hit the corresponding keystroke. Due to the detailed nature of the codes, the coder watched each family's discussion task three times in order to code each family member individually. The coding "event logs" refers to the data set that captured the aggregate behavior of all members of a given family for a specific discussion task (i.e., angry, happy, sad, anxious). Although each family member was coded at a separate time, these codes were all stored within the same event log that used the time stamps of each code. This allowed simultaneous behaviors to be coded, and the end result was an event log that captured the entire family's behavior. If needed, the coder could pause the video to indicate any additional information if needed (i.e., who the behavior was directed toward). Thus, the emotions discussions were not coded in intervals. Rather, every second of the discussions was

watched and a time-stamped code was assigned any time a behavior occurred that fit in the coding scheme (e.g., emotion discussion, critical/rude behavior).

Inter-rater reliability

To examine inter-rater reliability, a graduate-level research assistant coded approximately 25% of the videos. The same coding scheme and procedure as used by the original coder was followed. The Noldus system computed reliability by calculating a matrix of how much overlap or discrepancy there was between two independent observations. Because each behavior was time-stamped, reliability was calculated within a time window. For instance, Noldus could answer the question, “Did both independent observers code the behavior ‘emotion labeling’ for the mother within a 10-second window?” Reliability coefficients were calculated on the percentage of overlap between the two observers for a specified behavior for a given family within each discussion task. Thus, the Noldus program yielded Cohen’s Kappa coefficients per behavior per family and provided an averaged Kappa coefficient across families. Codes with reliability equal to or greater than .41 were included given that .41 has been considered the cut off of “moderately acceptable” inter-rater reliability in observational research (Landis & Koch, 1977).

Lag sequential analyses

Lag sequential analyses capture information regarding the timing and sequencing of multiple behaviors of interest and can be conducted within a specific time frame (e.g., 5 seconds) or within in a certain behavioral contingency (e.g., looking at the events that follow a specific behavior of interest). For this study, lag sequential analyses were conducted to examine the reciprocal interactions between parents and their child. The Noldus software computed transition probabilities on behavior combinations of interest. Values computed in Noldus (i.e.,

transition probabilities, frequencies) were exported to SPSS for traditional data analysis.

Transition probabilities calculated the likelihood of an event (e.g., parental EC) given a previous behavior (e.g., child AER) given the total number of instances of the behavior.

CHAPTER 3

RESULTS

Descriptive Analyses

Frequencies of maternal and paternal EC and ED and child ER and MER were examined. Means, standard deviations, and ranges are presented in Table 4 for EC/ED and in Table 5 for ER/MER. Transition probabilities were computed and the means, standard deviations, and ranges are presented by emotion discussion in Tables 6 -9. Where appropriate, Cohen's d was used as a measure of effect size using Morris and DeShon's (2002) equation that corrects for dependence between means given that the comparisons for hypothesis one are within-subjects.

Preliminary Analyses and Data Reduction

For mothers, two repeated measures analysis of variance (RM-ANOVA) were conducted- one examined differences in maternal EC across the four emotion discussion tasks and the other examined differences in maternal ED across the emotion discussion tasks. There was a significant main effect of emotion discussion for maternal EC, $F(3, 144) = 4.15, p = .007$. Post hoc pairwise comparisons indicated that maternal EC was significantly lower in the anger ($M = 8.39, d = -.32$) and happy ($M = 7.90, d = -.38$) discussions compared to the anxious discussion ($M = 10.22$). Maternal EC was also significantly lower in the happy ($M = 7.90, d = -.37$) compared to sad ($M = 9.80$) discussion. For maternal ED [$F(3, 144) = .744, p = .45$] there were no significant differences between emotion discussions.

For fathers, two RM-ANOVAs were conducted- one examined differences in paternal EC across the four emotion discussion tasks and the other examined differences in paternal ED across the emotion discussion tasks. Results demonstrated there were no significant differences

between emotion discussions for paternal EC [$F(3, 144) = 1.34, p = .26$] or paternal ED [$F(3, 144) = 1.58, p = .09$].

For children, two RM-ANOVAs were conducted- one examined differences in AER across the four emotion discussion tasks and the other examined differences in MER across the emotion discussion tasks. For child AER, there was a significant main effect of emotion discussion, $F(3, 144) = 5.33, p = .002$. Post hoc pairwise comparisons indicated that AER was significantly lower in the anger discussion ($M = 3.96$) compared to happy ($M = 5.76, d = -.42$), anxious ($M = 6.55, d = -.49$), and sad ($M = 5.16, d = -.31$) discussions. Child AER was also significantly lower in the sad ($M = 5.16, d = -.29$) compared to anxious ($M = 6.55$) discussion. For child MER, there was also a significant main effect of emotion discussion, $F(3, 144) = 3.64, p = .014$. Post hoc pairwise comparisons indicated that MER in the happy discussion ($M = .57$) was significantly lower than MER in the anger ($M = 1.29, d = -.56$) and sad ($M = 1.14, d = -.33$) discussions. Because of the differences, further analyses were conducted separately by emotion discussion.

Primary Analyses

Hypothesis one

First, it was expected that children's use of AER behaviors would be followed by more EC than ED. It is also expected that parental EC would be followed by more AER than MER. To test this hypothesis, transitional probabilities were computed for two possible reciprocal child-parent interactions (i.e., probability of EC given AER, probability of parental ED given AER) and two possible reciprocal parent-child interactions (i.e., probability of AER given EC, probability of MER given EC). An example of the formula is as follows (see Tables 6 - 9 for means, standard deviations and ranges of transition probabilities):

$$P(\text{Maternal EC}|\text{Child adaptive ER}) = \frac{\text{Child AER} \rightarrow \text{Maternal EC}}{\text{Child AER}}$$

Child AER

Nonparametric Wilcoxon signed-rank tests (indicated by the Z statistic) were used to test for statistical differences between the transition probabilities. The probability that children's AER was followed by EC was significantly greater than the probability that AER was followed by ED for both mothers ($Z = -4.00, p < .001$; $Z = -4.79, p < .001$; $Z = -4.85, p < .001$; $Z = -4.88, p < .001$) and fathers ($Z = -3.29, p = .001$; $Z = -3.62, p < .001$; $Z = -4.12, p < .001$; $Z = -4.54, p < .001$) for the anger, happy, sad, and anxious discussions, respectively. The probability that AER followed parental EC was significantly greater than the probability that MER followed parental EC for both mothers ($Z = -3.14, p = .002$; $Z = -4.42, p < .001$; $Z = -4.41, p < .001$; $Z = -5.57, p < .001$) and fathers ($Z = -2.31, p = .021$; $Z = -4.19, p < .001$; $Z = -4.13, p < .001$; $Z = -4.78, p < .001$) for the anger, happy, sad, and anxious discussions, respectively. Thus, hypothesis one was supported.

Hypothesis two

It was expected that there would be different patterns of contingent interactions depending on child ER (i.e. adaptive versus maladaptive) and parental responses (i.e., EC versus ED; see Appendix A for the four hypothesized patterns). When parental EC responses followed children's MER (i.e., Modifying MER interaction) or children's AER (i.e., Reinforcing Coping interaction) it was expected that children would show more AER than MER throughout the discussion task. Conversely, when parental ED responses followed children's MER (i.e., Exacerbating MER interaction) or AER (i.e., Non-reinforcing Coping interaction) it was expected that children would show more MER than AER throughout the discussion task.

To test this hypothesis, the transition probabilities for the four patterns were correlated with the frequency of AER as displayed in the emotion discussion task. Thus, a total of 8 Pearson's correlations [i.e., two outcomes (AER, MER) x four patterns of interaction] were computed for each parent. Bonferonni's correction was used to control the increase in Type I error associated with the large number of tests conducted. Based on the number of outcomes (i.e., two), alpha was set at .025.

There was a significant correlation between father-child Reinforcing Coping interaction in the anger discussion and children's AER ($r = .50, p = .011$) and between mother-child Reinforcing Coping interaction in the anger discussion and children's MER ($r = -.38, p = .016$). There were significant correlations between mother-child Modifying MER interaction in the sad discussion and children's AER ($r = .58, p = .005$) and father-child Modifying MER interaction and children's AER in the angry ($r = .50, p = .011$) and happy ($r = .78, p = .003$) discussions. There was a significant correlation between mother-child Non-Reinforcing Coping interaction in the angry discussion and children's MER ($r = .66, p < .001$). There were no significant correlations between parents' Exacerbating MER interactions and child AER or MER. These results provide partial support for hypothesis two.

Hypothesis three

It was expected that adaptive patterns of interaction between parents and children (i.e., Reinforcing Coping interaction, Modifying MER interaction) would be associated with fewer parent-reported psychological symptoms and more adaptive parent and child-reported ER than less adaptive socialization patterns (i.e., Non-reinforcing coping interactions, Exacerbating MER interactions). This hypothesis was investigated through correlating the probability values of the four patterns computed in Noldus with the CBCL (i.e., internalizing, externalizing, total

symptoms), ERC (i.e., parent report of child ER and Negativity/Lability), and CEMS (i.e., child report of ER and maladaptive ER). A total of 28 Pearson's correlations were computed (i.e., seven outcomes x four patterns of interaction) per parent per emotion discussion. Based on the number of outcomes (i.e., seven), alpha was set at .007.

Regarding psychological and behavioral outcomes, there was a significant correlation between father-child Modifying MER interaction in the happy discussion and child total symptomology ($r = -.40, p = .006$). There was also a significant correlation between mother-child Non-reinforcing Coping interaction in the anxious discussion and child externalizing symptomology ($r = .92, p = .001$). After Bonferonni's correction, there were no significant correlations between mother-child or father-child patterns of interaction and child emotional outcomes. These results provide partial support for hypothesis three.

Hypothesis four

It was expected that parental sex would influence the nature of the emotion discussion interactions, such that, in comparison to fathers, mothers would engage in more EC behavior and less ED behavior. Based on the number of emotion discussions (i.e., four), alpha was set at .013. To test this hypothesis, two paired-samples t-tests were used to investigate sex differences in the frequency of EC and ED by emotion discussion. Mothers showed significantly more EC than fathers in the anger [$t(48) = 3.27, p = .002$], happy [$t(49) = 3.51, p = .001$], sad [$t(48) = 4.73, p < .001$], and anxious [$t(48) = 4.42, p < .001$] discussions. No significant sex differences emerged in parental ED by emotion discussion.

CHAPTER 4

DISCUSSION

Parents play a pivotal role in children's emotional development, and emotion discussions are one method through which parents teach children about emotions. Past research has established links between EC parenting behaviors (e.g., validation) and positive child outcomes as well as ED parenting behaviors (e.g., criticism) and negative child outcomes (e.g., Gottman et al., 1996). This study provides support for a dynamic conceptualization of emotion socialization and extends past findings by (a) demonstrating that parents and children reciprocally influence each other's behavior, (b) specifying parent-child interaction patterns and their influence on child ER, and (c) illustrating that parental sex differences exist in emotion parenting behaviors within an emotion discussion.

Reciprocity in Parent-Child Emotion Interactions

The hypothesis that children's use of AER behaviors would be followed by more EC than ED and parental EC would be followed by more AER than MER was fully supported. Children's adaptive behaviors (i.e., AER) were more likely to solicit parental EC than ED across parent sex and emotion discussion. Similarly, parents' adaptive behaviors (i.e., EC) were more likely to solicit child AER than MER across parent sex and emotion discussion. Thus, parental behaviors were influenced by child behavior and child behavior was influenced by parental behavior, suggesting reciprocity in the emotion discussion. Such reciprocity supports the notion of evocative person-environment transactions in emotion socialization. Additionally, the finding that children influenced parental behaviors is commensurate with a growing body of literature documenting the active role a child takes in the process of emotion socialization (e.g., Cole et al., 2003). Overall, it seems that parents and children contribute to the climate of the discussion

regardless of emotion type or parental sex, a notable finding given the dearth of literature examining father's contributions to the emotion socialization process. One implication of these findings is that programs addressing emotion socialization (e.g., psychoeducation in parenting classes, early interventions) might benefit from including a discussion of reciprocal interactions. That is, highlighting the role that child behavior plays in soliciting parental behavior and coaching parents on how to be mindful of the potential (positive or negative) influence of child behavior. Additionally, the findings support the notion that teaching children ER skills is important for how they interact with others. Thus children who use more MER may pull for more negative reactions from their environment, putting them at risk for increased MER. Such reciprocity may result in negative spiral of reciprocal parent-child interactions. Subsequently children with ER difficulties may benefit from ER skills training outside of the family context (e.g., school intervention, skills based therapy).

Parent-Child Interaction Patterns and Outcomes

The second hypothesis that Modifying MER interactions and Reinforcing Coping interactions would be associated with more overall AER than MER whereas Exacerbating MER interactions and Non-reinforcing Coping interactions would be associated with more MER than AER throughout the discussion task was partially supported. Parental EC in response to AER (i.e., Reinforcing Coping interaction) was positively associated with overall AER and negatively associated with overall MER. Similarly, both mothers' and fathers' Modifying MER interactions were positively related to children's overall displayed AER. Lastly, as maternal ED in response to child AER increased, the overall level of MER in the angry discussion increased. Put together, these findings suggest that if parents respond to children's AER with EC, it is reinforcing and increases the likelihood that a child will show more AER than MER. From a

behavioral perspective, parental EC positively reinforces children's AER and models effective regulation in response to MER. Conversely, a pattern of harsh reactions/invalidation in response to children's AER (i.e., Non-Reinforcing Coping interaction) may actually punish children's use of AER, resulting in decreased AER and increased displays of MER. Additionally, parental ED and child MER might have the potential to pull families into a downward spiral of negativity and dysregulated interactions. This notion is consistent with past research that observed a relation between parental ED and lower levels of parent and teacher reported child ER (Lunkenheimer et al., 2007). The second hypothesis was only partially supported, however, because there were no significant correlations between parent-child Exacerbating MER interactions and overall AER/MER in the emotion discussion. It is expected that this lack of finding is due to the fact that ED and MER were the behaviors with the lowest base rates.

It is interesting that there were significant relations for all three interactions (i.e., Reinforcing Coping, Modifying MER, Non-Reinforcing Coping) occurring in the anger discussion, especially because the frequencies of EC and ED were not higher in anger than any other discussion. Perhaps it's not the frequency of the behavior that is as relevant (i.e., how many times a parent uses EC), but rather the quality of the interaction between parent and child (i.e., when a child displays AER, parents respond with EC versus ED). It seems intuitive that a discussion about an anger-soliciting event may be more emotionally arousing and prone to conflict than the other emotion discussions topics. Parental EC reactions may be particularly salient in the context of an emotionally arousing situation that might be challenging for children to regulate. Thus, the anger discussion may have provided more opportunities for parents to assist their child, making the nature of that assistance (i.e., supportive vs. unsupportive) an important determinate of subsequent child ER behavior.

For the third hypothesis, it was expected that adaptive patterns of interaction between parents and children (i.e., Reinforcing Coping interaction, Modifying MER interaction) would be associated with fewer parent-reported psychological symptoms and more adaptive parent and child-reported ER than less adaptive socialization patterns (i.e., Non-reinforcing coping interactions, Exacerbating MER interactions). This hypothesis was partially supported. Specifically, fathers' use of EC in the face of child MER was related to reduced rates of total psychological symptoms. This finding supports the burgeoning body of literature illustrating that fathers play an important role in children's emotion socialization. Conversely, mothers' use of ED in response to children's AER was associated with increased rates of externalizing symptoms. Assuming the cycles of interaction are a proxy for patterns of emotion socialization outside of the research setting, these findings make sense. Fathers' use of EC may model how to stay calm and cope with emotions even when children are emotionally aroused and displaying MER. On the other hand, mothers' harsh/critical reactions (ED) to children's AER may teach children that AER goes unnoticed/punished and therefore increases escalation of maladaptive behaviors (externalizing symptoms).

There were no significant correlations between patterns of interaction and the ERC or CEMS after Bonferonni's correction. This lack of findings was surprising because past research has demonstrated that maternal behavior in an emotion discussion task was associated with parent and teacher reports of child ER (e.g., Lunkenheimer et al., 2007). One possible explanation for this lack of findings is reduced power. It may have been that the sample size was not large enough and alpha was too small to detect relations between the questionnaire data and the observational data, and inspection of the correlations revealed trends towards significance for several correlations. The lack of findings may also have been a function of the limited range of

the transition probabilities and the low base rates of maladaptive codes (i.e., ED, MER). The low base rates of ED and MER could be due to the demographics of the sample (e.g., mostly middle class two parent homes). Thus the combination of a high functioning sample with relatively low rates of psychopathology may have limited our ability to find a relation between observed parental behavior and child emotional outcomes. Additionally, social desirability effects may have been present, potentially skewing families to present more positively than they might in a more natural setting. Future studies could benefit from including families with a range of SES and psychopathology to see if the relation between emotion parenting behaviors and questionnaire measured outcomes varies as psychopathology levels vary.

Parental Sex Differences in Emotion Discussion Behavior

It was expected that parental sex would influence the type of behaviors observed in the emotion discussion interactions, such that, in comparison to fathers, mothers would engage in more EC behavior and less ED behavior. This hypothesis was partially confirmed such that mothers engaged in more EC behaviors than fathers in all four emotion discussions. This is consistent with past research which demonstrated that mothers may appear more active in emotions discussions compared to fathers, but that the nature of their involvement may differ (Fivush et al., 2000; Thomassin, Suveg, & Wood, under review). The lack of sex differences in ED behavior may have been due to the low base rate of behaviors. Additionally, the nature of the EC codes (e.g., labeling children's emotions and talking about personal emotional experiences) may have resulted in the observed sex difference. If mothers talked more in the discussion overall, then there would have been fewer opportunities for fathers to jump in and contribute to the emotion discussion. Also, sex norms that make it more socially acceptable for women to discuss emotions may have influenced the sex difference (Brody & Hall, 2000).

Unfortunately, there were not enough significant correlations between cycles of interaction and child outcomes to investigate whether the nature of the relations differed as a function of parent sex. It will be important for future research to move beyond quantitative differences in parental emotion socialization (e.g., words spoken, frequency counts of behavior) to explore more qualitative differences (e.g., are parenting behaviors related to different child outcomes depending on the sex of the parent). Results from the present study are able to answer the latter question only through inferring from the fact that the significant findings in hypotheses two and three varied by parent sex. Specifically, father-child Reinforcing Coping interactions were positively related to children's AER in the emotion discussion whereas mother-child Reinforcing Coping interactions were negatively related to children's MER in the emotion discussion. Only mother-child Non-Reinforcing Coping interactions related to poorer outcomes-there were no significant relations between father-child Non-Reinforcing Coping interactions and child AER/MER. Regarding parent-child interactions and child psychological outcomes, father-child Modifying MER interactions related to lower overall symptomology whereas maternal Non-Reinforcing Coping interactions related to higher externalizing symptomology. Put together, it seems that there may be some qualitative differences in the outcomes associated with maternal compared to paternal emotion socialization behaviors.

Limitations, Future Directions, and Conclusions

Overall, results from the present study demonstrated that reciprocity occurs in parent-child emotion discussions, reciprocal interactions are related to some child emotional and psychological outcomes, and that parental sex differences exist in EC behavior within the emotion discussions. Despite these noteworthy contributions, several limitations are noted. First, the sample was relatively small and comprised mostly of middle class, Caucasian, two

parent families, who were generally well-functioning. Future research would benefit from a larger sample size and the inclusion of ethnic and socioeconomic diversity. Additionally, future research could use clinical samples to investigate whether reciprocal processes in emotion socialization vary with particular constellations of parent/child psychopathology. Second, there was a low base rate of certain behavioral codes, particularly the maladaptive codes (i.e., ED, MER). Future research could use behavioral observation tasks that would be more likely to solicit such behaviors (e.g., discussion of a parent-child conflict) as well as greater sample diversity to increase the probability of capturing the behaviors of interest. Third, the hypotheses and analyses in the present study used a dyadic framework (i.e., mother-child, father-child), yet the true nature of the interactions was triadic. Thus, future research should investigate how reciprocity changes as a function of dyadic (e.g., parent-child, parent-parent, child-peer) versus triadic (e.g., parent-child-parent; parent-child-sibling) interactions. Despite these limitations, the present study contributes significantly to the emotion socialization literature by taking using a dynamic framework of emotion socialization, employing state-of-the-art software to temporally code observational data, and including fathers in emotion discussions. The notion of reciprocal interactions affecting children's emotional development is widely accepted, yet understudied, and our results add to the growing body of empirical support for an evocative person-environment framework of emotion socialization.

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