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Child Regulation of Negative Emotions and Depressive Symptoms: The Moderating Role of Parental Emotion Socialization

Wesley Sanders · Janice Zeman · Jennifer Poon · Rachel Miller

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Abstract Research indicates that parents' methods of emotion socialization impact the development of their children's emotion expressivity, which, in turn, is implicated in the emergence of internalizing symptoms. Relatively little research, however, has examined the emotion socialization behaviors that mothers and fathers use to socialize their children's emotion regulation with respect to how these behaviors may differentially predict depressive symptoms in their sons and daughters. In the current study, the relations among these three variables were investigated by having mothers and fathers report on their children's dysregulation and regulation coping of anger and sadness. Sons and daughters reported on their perceived receipt of parents' responses to their anger and sadness expressivity, as well as their own depressive symptoms. Correlational analyses revealed that unsupportive responses to emotional expressivity were related to greater child emotion dysregulation, poorer emotion coping, and depressive symptoms. Moderation analyses revealed that, for both mothers and

fathers, at high levels of unsupportive responses to emotions, children were perceived to have more anger dysregulation, less anger coping, less sadness coping, and more depressive symptoms. Regression analyses indicated that mothers' unsupportive responses to sadness and fathers' unsupportive responses to anger are associated with their children's depressive symptoms. These findings support the notion that mothers and fathers play unique roles in children's emotion regulation skills and subsequent risk for depression.

Keywords Emotion regulation · Emotion socialization · Depression · Fathers

Introduction

Emotional development entails advances and maturation in children's abilities to understand, express, and manage their emotions in a functional and adaptive manner (Zeman et al. 2006). Although biological mechanisms contribute to this development, socialization by parents and others (e.g., peers, siblings) strongly influences how children learn to regulate their emotions (for a review, see Zeman et al. 2013). Parental discouragement of emotional expressivity (i.e., contingencies) is one socialization mechanism that influences children's development of emotion regulation skills (Lunkenheimer et al. 2012; Zeman et al. 2013). Gottman et al. (1996) suggested that optimal emotion socialization encourages children to express a range of emotions while learning how to manage both negative and positive emotions in socially desirable ways (e.g., sustain an adaptive level of positive emotionality, promote a return to neutral affect). Through observing and interacting with parents, children develop regulatory strategies that help

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them understand and meet the demands of their social environment (Campos et al. 2004).

Emotion regulation has been conceptualized 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). In contrast, emotion dysregulation may be reflected by an inflexible and/or inconsistent and unpredictable management of emotion; neither approach meets the demands of the social context (Chaplin and Cole 2005; Keenan 2000). Research indicates that adaptive emotion regulation is associated with greater social competence and lower internalizing and externalizing symptoms (Zeman et al. 2006). Children who are unable to effectively and routinely manage their emotions show poor social functioning (Eisenberg et al. 2003) and signs of depression, depending on the type of emotion and the manner in which it is dysregulated (Deater-Deckard 2001; Rudolph and Asher 2000). Although emotion dysregulation is associated with many different forms of psychopathology (Schwartz et al. 2011), we chose to examine depressive symptoms because of its high prevalence rates that rise dramatically in adolescence (Merikangas et al. 2010). Moreover, depression predicts the presence of other psychological disorders and negative life outcomes, such as anxiety, substance use, self-injurious behavior, and suicide (Copeland et al. 2009). Thus, potential risk factors experienced in childhood that forecast later depressive symptoms are a relevant and pressing concern.

When examining the relations between emotion regulation and depression, research indicates that frequent feelings of sadness can influence children’s subsequent response to this emotion, increasing the risk for depression (Abela et al. 2002; Izard 2002). In general, frequent under-regulation of sadness can serve as a risk factor for depression in childhood (Kovacs et al. 2008; Zeman et al. 2002). Importantly, the expression of sadness does not necessarily reflect maladaptive behavior because sadness serves a functional purpose of soliciting attention and gaining social support to alleviate the distress (Barrett and Campos 1987; Buss and Kiel 2004). However, children in a family environment in which negative emotions are frequent, erratic, and intensely expressed are more likely to respond with sadness that, although contextually appropriate, reinforces the likelihood of a dysregulated response (Zeman et al. 2013). Taken together, it appears that experiencing sadness frequently and under-regulating sad emotions may place children at risk for depression. Limited research, however, has examined how mothers’ and fathers’ anger and sadness socialization may differentially predict depressive symptoms in their sons and daughters (Kovacs et al. 2008).

Maladaptive regulatory responses to anger may also contribute to depression. Although previous research

suggests that children who consistently suppress their anger are more vulnerable to depression (Zahn-Waxler et al. 2000), other research indicates that children’s reported dysregulation of anger is associated with internalizing symptoms (Zeman et al. 2002). For example, Goodwin (2006) found that 11–15 year old youth who reported using a dysregulated, aggressive style of coping with negative emotions had a higher likelihood of experiencing depressive symptoms. These findings point to the importance of differentiating between specific emotional experiences as potential indicators of risk for psychopathology. By socializing regulatory patterns of different negative emotions, parents can influence the likelihood of these responses in their children, thus indirectly influencing the development of depressive symptomatology.

Gottman et al. (1997) proposed that parents who dismiss and invalidate rather than support their child’s emotions provide a less conducive environment for children to learn adaptive emotion regulation skills. The notion of unsupportive emotion socialization can reflect a diverse range of parental responses, with some research aggregating these strategies into a unified construct in order to reduce complexity (Baker et al. 2011; Cassano et al. in press; Gottman et al. 1996; Klimes-Dougan and Zeman 2007). In general, parents who utilize an unsupportive emotion socialization style tend to have children who express emotions in a dysregulated manner, resulting in a higher likelihood for internalizing and externalizing disorders, as well as poorer social competence (Fabes et al. 2001; Gottman et al. 1996; Lunkenheimer et al. 2007). By consistently responding to their child’s emotions in an unsupportive way, parents reinforce the notion that emotions are “bad” and should be suppressed. In turn, the child internalizes this emotion philosophy and adopts maladaptive regulatory styles.

Parents may differentially socialize sadness and anger in children because these emotions have different purposes and consequences in a social context. It has been posited that the function of sadness expression is to gain support, whereas anger is thought to be instrumental in removing obstacles to obtaining goals (Barrett and Campos 1987). It appears that parents socialize sadness and anger differently in their sons and daughters based on their evaluation of the goal of the emotion, whether the expression of the emotion is contextually and socially appropriate, and how consistent the expression is with their meta-emotion philosophy (Cassano and Zeman 2010; Cassano et al. in press). Both child and parent gender play a significant role in determining the socialization strategies employed by parents when discussing emotions with their child (Cassano et al. 2007). Research demonstrates that parents are more likely to discuss sadness with girls and anger with boys, and that mothers tend to talk about emotions more with their daughters than sons (e.g., Fivush et al. 2000). Less is

known about the impact that fathers have on their children when discussing emotions, as previous research primarily has focused on maternal or combined parental responses (Cassano et al. 2006). The available literature, however, suggests that fathers are more likely to engage in gendered emotion socialization, encouraging the discussion of anger in boys and sadness in girls, but not vice versa (Cassano et al. 2007; Cassano et al. in press).

Although research demonstrates that parents play a critical role in the emotional development of their child, many gaps in the literature remain. The link between emotion regulation difficulties and depression has been established (Kovacs et al. 2008), yet the influence of parental emotion socialization on this association needs more empirical consideration. The present study focuses on the emotion socialization roles of both mothers and fathers because, historically, fathers have received scant attention in the parental emotion socialization literature (Cassano et al. 2006) despite indications of their important role in children's development (Chaplin et al. 2005; Flanders et al. 2009; Garside and Klimes-Dougan 2002). In addition, little research has examined differences between maternal and paternal emotion socialization practices as a function of emotion type. Research indicates that parents respond differentially to specific types of emotions in their children that reflect gender-typical emotion expression norms (Cassano and Zeman 2010; Fivush et al. 2000). Finally, research on emotion socialization and emotion regulation has focused largely on infancy or early childhood with little focus paid to middle childhood with its unique milestones and challenges (Klimes-Dougan and Zeman 2007). We examined this age group (i.e., ages 8–11), in order to better understand how parents continue to exert influence on emotional development in a stage when children are consolidating emotion skills learned in preschool and early childhood and becoming more independent and skilled in their emotion regulation efforts. Parents' expectations concerning their children's emotional competencies change with increasing age, which are then reflected in their emotion socialization behaviors (Cassano et al. 2007). Although there is not a high prevalence of clinical depression in middle childhood, this age group marks an important latency period prior to the upsurge in depression in adolescence, particularly for girls (Keenan and Hipwell 2005). Thus, investigating risk factors that potentially contribute to setting the stage for later depressive episodes is critical for prevention and early intervention efforts (Garber 2006).

In this study, we utilized a multi-informant method in which parents reported on two facets of their child's emotion management (i.e., emotion dysregulation, emotion regulation coping). Children reported on their perceived receipt of parents' anger and sadness socialization strategies because children's experience and subsequent report

of their parents' socialization efforts are less likely to be impacted by social desirability. Consistent with previous research (Baker et al. 2011; Cassano et al. in press; Klimes-Dougan and Zeman 2007), a composite variable was formed using socialization strategies that characterize perceived unsupportive emotion socialization practices. Because children in middle childhood and adolescence are thought to be the best informants on their internalizing experiences (Durbin 2010), they were asked to report on their depressive symptoms.

Based on theory and the empirical literature, we offer four hypotheses. First, we hypothesized that children's perceived unsupportive parenting would be positively associated with more emotion dysregulation, less adaptive coping, and greater depressive symptoms. Second, emotion dysregulation was expected to be positively associated with depressive symptoms, whereas emotion coping was expected to be inversely related to depressive symptoms. Third, regarding parental differences, we hypothesized that perceived maternal unsupportive responses to sadness would be a stronger predictor of depressive symptoms than for anger. The opposite was hypothesized for fathers; that is, perceived paternal unsupportive responses to anger would be a stronger predictor of depressive symptoms than for sadness. Fourth, we tested the moderating effect of unsupportive emotion socialization on the association between child emotion dysregulation and coping and depressive symptoms. We expected that more unsupportive parental responses would increase a child's vulnerability to depressive symptoms, whereas less unsupportive parenting would decrease the association.

Method

Participants

A total of 133 families participated as part of a larger study. For the purposes of the current research, only 2-parent households were included yielding a final sample of 84 families. All families had complete data from both mothers and fathers. There were 48 sons and 36 daughters ranging from 8 to 11 years old (M age = 10.1 years, SD = 1.00) who were enrolled in the second (n = 2, 2.4 %), third (n = 28, 33.3 %), fourth (n = 25, 29.8 %), or fifth (n = 29, 34.5 %) grades. Although the sample was comprised of significantly more boys than girls, $t(81) = 7.96$, $p < .001$, there were no significant differences between the sexes on age, race, or socioeconomic status (SES). Children identified as Caucasian (84.1 %), African-American (6.1 %), Hispanic (1.2 %), Asian (2.4 %), or Other (6.1 %). Mothers and fathers identified as Caucasian (84.1, 87.7 %), African-American (6.1, 6.2 %), Hispanic (3.7, 2.5 %), Asian (2.4,

1.2 %), or Other (2.4, 1.2 %). The majority of parents were the child's biological parents (94.0 % of mothers, 89.3 % of fathers), whereas 3.6 % of mothers and 3.6 % of fathers were adoptive parents and 2.4 % of mothers and 6.0 % of fathers were step-parents. On average, families were of middle to upper SES ($M = 50.11$, $SD = 11.97$; Hollingshead 1975).

Measures

Emotion Socialization

Emotions as a Child Scale: Child Report

(EAC; Magai 1996). The EAC is a 15-item measure of child perceptions of parental emotion socialization strategies. Children are asked to rate on a 5-point Likert-style scale (1 = *not at all like my mother/father*, 5 = *a lot like my mother/father*) how likely it is that their mothers and fathers responded to their emotional behavior in certain ways within the last month. Children reported on their mothers and fathers separately. These questions correspond to five types of parental responses to children's expressions of anger and sadness: Neglect, Punish, Magnify, Override, and Reward. The Neglect subscale evaluates whether children perceive their parents as ignoring or dismissing their angry or sad emotions (e.g., "When I was sad, my mom did not pay attention to my sadness"). The Punish subscale measures the extent to which children perceive their parents as providing negative consequences for their anger or sadness displays (e.g., "When I was angry, my dad told me I was acting younger than my age"). The Magnify subscale measures the degree to which parents' emotions match or exceed that of their child's (e.g., "When I was sad, my mom got very sad"). The Override subscale reflects the parents' attempt to dismiss or disregard their child's emotions (e.g., "When I was sad, my dad bought me something to cheer me up"). Finally, the Reward subscale is a measure of the parent's acknowledgement and validation of their child's emotions (e.g., "When I was sad, my mom helped me deal with the issue that made me sad"). Reliability and validity of the EAC have been established in the literature (Magai 1997).

Based on these five subscales, a mean score for perceived unsupportive emotion socialization was initially computed for mothers and fathers. Exploratory factor analyses revealed item loadings below the recommended .4 value (Browne 1968; Stevens 1996) for items 12 (neglect) and 5 (punish), as well as conflicting loadings for the items on the Override subscale. Given the poor incremental value of these items, they were dropped from subsequent analyses. In order to increase reliability while maintaining a

focus on negative emotion socialization styles, the Reward subscale items were reverse-coded and also included in the unsupportive socialization scale. Given our interest in comparing mothers and fathers, scores for each parent were used as separate predictors. Internal consistencies for the unsupportive emotion socialization subscales were adequate (Mother: Anger, $\alpha = .70$, Sadness, $\alpha = .60$; Father: Anger, $\alpha = .77$, Sadness, $\alpha = .68$). Skewness and kurtosis for each subscale were within the normative range prior to centering.

Child Emotion Regulation

Children's Anger and Sadness Management Scales: Parent Report

(P-CAMS, P-CSMS; Cassano et al. 2007). This scale consists of 11 items for anger and 12 items for sadness and assesses parents' perception of their child's ability to manage his or her anger or sadness. Parents are asked to rate how often their child exhibits the following behaviors using a 3-point Likert-style scale (1 = *hardly ever*, 2 = *sometimes*, 3 = *often*). This scale is applicable for children ranging in age from 6 to 16. This questionnaire yields three subscales but for the purposes of this study only the Dysregulated Expression and Regulation Coping scales were used.

The 3-item Dysregulated Expression subscale assesses the under-control of anger or sadness (e.g., "My child says mean things to others when he/she is mad"). The Regulation Coping subscale consists of four items for anger and five items for sadness, and assesses the child's ability to cope constructively with anger or sadness (e.g., "My child stays calm and doesn't let sad things get to him/her"). The CEMS have consistently demonstrated acceptable coefficient alphas and test-retest reliability (Zeman et al. 2001, 2010). Given the significant pattern of correlations between mother and father reports of their child's emotion management (see Table 1), the reports were combined. Internal consistencies were in the acceptable range (Anger: Coping, $\alpha = .87$, Dysregulation, $\alpha = .74$; Sadness; Coping, $\alpha = .76$, Dysregulation: $\alpha = .63$). Skewness and kurtosis for each subscale were within the normative range prior to centering.

Child Depressive Symptomology

Children's Depression Inventory: Self-report

(CDI; Kovacs 1992) The CDI is a 27-item measure of depressed mood in children aged 7–17. Children were asked to choose one of three statements that best describes how they felt over the past 2 weeks, with each corresponding to an absence of symptoms, a mild or probable

Table 1 Summary of intercorrelations, means, and standard deviations among controls, predictors and outcomes

Measure	1	2	3	4	5	6	7	8	9	10	11
1. Child age	–	.02	.11	.02	.16	.10	–.12	.17	.04	–.18 [^]	.03
2. SES		–	–.21 [^]	–.16	–.32 ^{**}	–.16	.11	–.05	.20 [^]	–.03	–.18
3. UER-AM			–	.82 ^{**}	.58 ^{**}	.57 ^{**}	–.16	.19 [^]	–.21 [*]	.11	.34 ^{**}
4. UER-AF				–	.63 ^{**}	.69 ^{**}	–.19 [^]	.34 ^{**}	.33 ^{**}	.22 [*]	.46 ^{**}
5. UER-SM					–	.75 ^{**}	–.19 [^]	–.34 ^{**}	–.18	.14	.42 ^{**}
6. UER-SF						–	–.25 [*]	.33 ^{**}	–.32 ^{**}	.22 [*]	.32 ^{**}
7. Coping-anger							–	–.43 ^{**}	.61 ^{**}	–.46 ^{**}	–.38 ^{**}
8. Dys-anger								–	–.43 ^{**}	.33 ^{**}	.40 ^{**}
9. Coping-sadness									–	–.74 ^{**}	–.41 ^{**}
10. Dys-sadness										–	.24 [*]
11. CDI											–
M	121.11	50.11	2.00	2.15	1.91	2.00	3.12	2.49	3.02	2.48	7.69
SD	12.02	11.97	.55	.66	.47	.57	.77	.71	.57	.59	6.91

Age scores reflected in months

UER unsupportive emotion responses, AM anger, mothers, SM sadness, mothers, AF anger, fathers, SF sadness, fathers

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

symptom, or a definite symptom. The CDI has demonstrated acceptable psychometric properties (Kovacs 1992) with strong internal consistency demonstrated in the present study ($\alpha = .89$). In the current sample, 15.5 % of the sample (13 children) received total raw scores of 13 or higher, indicating mild to moderate levels of depression (Kazdin 1989; Smucker et al. 1986).

Procedure

After obtaining IRB approval, we contacted local elementary schools from a southeastern USA school district. Principals provided permission to send letters home with children in grades three to five. Parents were given the option of contacting the researcher by phone, mail, or email. Participating families came to the university lab, where parents completed questionnaires in separate rooms while the research assistant read questionnaires aloud to the child and recorded the answers. Families were compensated for their time.

Results

Correlational Analyses

Correlational analyses were computed to test for associations between controls (child sex, SES), predictors (perceived parent unsupportive socialization, child emotion regulation, child sex), and outcome variable (depressive symptoms). Table 1 displays correlations among the study variables as well their means, standard deviations, and ranges.

Hypothesis 1: Correlational Analyses for Unsupportive Parenting

Correlational analyses were conducted to test associations between perceived unsupportive emotion socialization and child emotion regulation as well as child depressive symptoms. Unsupportive parental responses for anger from both mothers and fathers were associated with greater child anger dysregulation and poorer coping with anger with one exception: perceived unsupportive responses by mothers were not associated with child anger coping. For sadness, unsupportive paternal responses were associated with greater child sadness dysregulation and poorer coping whereas for mothers these associations were not significant. Further, unsupportive parental responses for both anger and sadness by both mothers and fathers were positively associated with depressive symptom scores.

Hypothesis 2: Correlational Analyses for Child Emotion Regulation

Correlational analyses were used to test for associations between child emotion regulation and depressive symptoms. Parental reports of child anger and sadness dysregulation were positively associated with depressive symptom scores, whereas parental report of child coping was negatively associated with depressive symptoms.

Preliminary Analyses for Regressions

Bootstrapped comparisons of child sex revealed a significant difference for anger coping [M difference = $-.34$, 95 % CI ($-.65, -.01$), $p = .04$], with parental reports of child anger coping higher for girls than for boys, and a marginally significant difference for sadness coping [M difference = $-.20$, 95 % CI ($-.44, .04$), $p = .09$]. No

Table 2 Regressions predicting depressive scores by emotion type

Predictor variables	Mothers		Fathers	
	b (bias; SE)	ΔF	b (bias; SE)	ΔF
Step 1				
SES	-.10 (.00; .07)	1.94	-.10 (-.00; .07)	1.94
Sex	-1.64 (-.02; 1.52)		-1.64 (.06; 1.49)	
Step 2				
UER-anger	1.50 (-.12; 1.60)	5.11**	4.62 (-.04; 1.54)**	5.40**
UER-sadness	4.91 (.04; 2.17)*		-.02 (-.01; 1.94)	

UER unsupportive emotion responses

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

significant differences were found for comparisons of child age for all predictors. Child sex and SES were entered in the first block as control variables in all regressions.

Hypothesis 3: Differences Between Anger and Sadness

Our third hypothesis proposed that perceived maternal unsupportive responses for sadness would be a stronger predictor of depressive symptoms than for anger, whereas for fathers, perceived unsupportive responses for anger would be a stronger predictor of depressive symptoms than for sadness. Bootstrapped unstandardized regression coefficients (the mean regression coefficient across bootstrapped samples), two-tailed significance levels for the bootstrapped regression coefficients, bias, and the bootstrap standard error are presented in Table 2. In order to compare associations between depressive symptoms and parental socialization by type of emotion, two bootstrapped regressions were conducted. In the first regression, perceptions of mothers' unsupportive responses to anger and sadness were entered as predictors of depressive symptoms in step 2 after entering child sex and SES in step 1. The model was significant, $F(2, 81) = 5.11$, $p = .001$. Mothers' unsupportive responses to sadness

were significantly associated with depressive symptoms [$\beta = 4.91$, 95 % CI (.77, 9.50), $p = .009$], whereas mothers' unsupportive responses to anger were not ($\beta = 1.50$, *ns*). In the second regression, perceptions of fathers' unsupportive responses to anger and sadness were entered as predictors of depressive scores in step 2 after entering child sex and SES in step 1. This model was also significant, $F(2, 81) = 5.40$, $p = .001$; fathers' unsupportive responses to anger [$\beta = 4.62$, 95 % CI (1.66, 7.79), $p = .009$] but not sadness ($\beta = -.02$, *ns*) were significantly associated with depressive symptoms (Table 2).

Hypothesis 4: Moderation Analyses In order to test our hypothesis that parents' unsupportive emotion socialization moderated the association between child emotion regulation and depressive symptoms, eight hierarchical multiple regression analyses were conducted to predict depressive symptoms from emotion coping and dysregulation. These analyses were conducted separately by emotion type (anger or sadness), parent gender (mothers or fathers), and the emotion management subscale (coping or dysregulation). In order to reduce the likelihood of Type I error, a nonparametric resampling method (bias-corrected and

Table 3 Coping \times unsupportive emotion responses predicting child depressive symptoms

Predictors	Mother, anger		Father, anger		Mother, sadness		Father, sadness	
	b (bias; SE)	ΔF	b (bias; SE)	ΔF	b (bias; SE)	ΔF	b (bias; SE)	ΔF
Step 1								
SES	-.09 (-.00; .07)	1.81	-.10 (-.00; .07)	1.94	-.10 (-.00; .07)	1.94	-.10 (-.00; .07)	1.94
Sex	-1.79 (.00; 1.51)		-1.64 (-.01; 1.53)		-1.64 (.01; 1.49)		-1.64 (-.06; 1.47)	
Step 2								
Cope	-2.91 (-.00; 1.02)*	9.44**	-2.66 (-.06; 1.03)*	14.02**	-4.05 (.10; 1.56)**	14.22**	-3.96 (.09; 1.50)*	8.50**
UER	3.31 (.02; 1.33)*		4.14 (-.03; 1.19)**		5.24 (-.02; 1.56)**		2.39 (.04; 1.50)	
Step 3								
UER \times Cope	-5.16 (-.03; 1.89)*	10.19**	-3.13 (.19; 1.43)*	7.08**	-3.61 (.30; 1.89)*	5.98*	-4.13 (.32; 1.76)*	8.49**

UER unsupportive emotion responses, Cope coping

[^] $p < .10$. * $p < .05$. ** $p < .01$

Table 4 Dysregulation × unresponsive emotion responses predicting child depressive symptoms

Predictors	Mother, anger		Father, anger		Mother, sadness		Father, sadness	
	b (bias; S.E.)	ΔF	b (bias; S.E.)	ΔF	b (bias; S.E.)	ΔF	b (bias; S.E.)	ΔF
Step 1								
SES	-.09 (-.00; .07)	1.81	-.10 (-.00; .07)	1.94	-.10 (-.00; .07)	1.94	-.10 (.01; .07)	1.94
Sex	-1.79 (.01; 1.49)		-1.64 (.03; 1.43)		-1.64 (.06; 1.50)		-1.64 (-.02; 1.49)	
Step 2								
Dys	3.40 (-.03; .98)**	10.68**	2.66 (-.04; .90)**	12.89**	2.14 (-.12; 1.12) [^]	9.39**	2.10 (-.07; 1.18) [^]	5.03**
UER	3.05 (-.01; 1.27)*		3.61 (-.04; 1.19)**		5.54 (-.16; 1.71)**		3.02 (-.02; 1.59) [^]	
Step 3								
UER × Dys	5.40 (-.27; 2.12)*	7.89**	4.63 (-.18; 1.17)**	13.80**	2.02 (-.57; 2.44)	1.32	3.46 (-.45; 2.07) [^]	4.39*

UER unresponsive emotion responses, Dys dysregulation

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

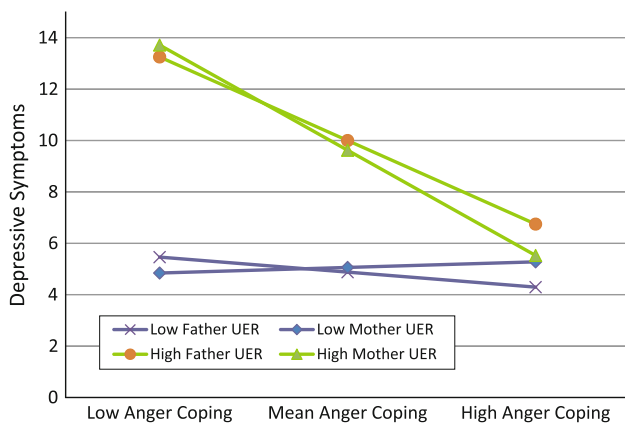


Fig. 1 Interaction between child's anger coping and parent's unresponsive responses on depressive symptoms. Note UER unresponsive emotion responses

accelerated bootstrapping) was used to estimate a 95 % confidence interval (CI) based on 1,000 randomized samples drawn with replacement from the original data ($N = 84$). This form of resampling has been used in previous analyses to adjust for bias in datasets (Hayes 2009; Russell and Dean 2000). All continuous variables were centered prior to analysis in order to reduce the likelihood of multicollinearity. Predictor variables were entered in three blocks: (a) the control variables of child sex and SES; (b) mothers' and fathers' unresponsive responses, child emotion management subscales; and (c) all two-way interactions between the variables (Tables 3 and 4).

In order to observe interactions among the parenting and emotion management variables, significant models were plotted at low ($-1 SD$) and high ($+1 SD$) values of perceived unresponsive parental responses. This allowed us to evaluate whether the child's emotion regulation related to depressive symptoms differently at varying levels of perceived unresponsive parental socialization. Using procedures discussed

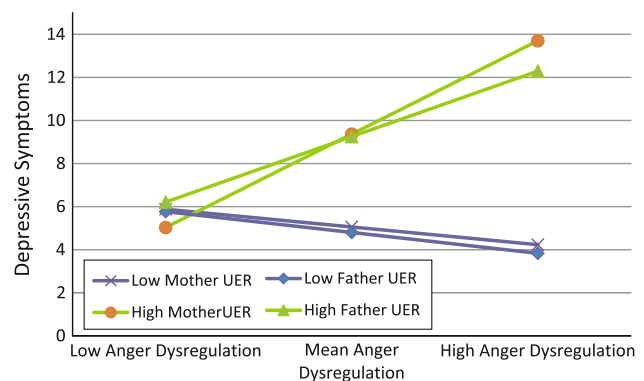


Fig. 2 Interaction between child's anger dysregulation and parent's unresponsive responses on depressive symptoms. Note UER unresponsive emotion responses

by Aiken and West (1991), significance testing was conducted to determine if the simple slopes differed from zero. Plots for these interactions can be found in Figs. 1, 2, 3, 4.

Regression Models for Mothers

Anger Socialization and Anger Dysregulation

Predictor variables of perceptions of mothers' unresponsive responses to anger and child anger dysregulation in block 2 accounted for 21 % additional variance from block 1, $F(2, 78) = 10.68, p < .001$. Both maternal unresponsive responses to anger and child anger dysregulation were positively associated with depressive symptoms scores in block 2. In block 3, the interaction of perceived unresponsive maternal responses × anger dysregulation was significant [$\beta = 5.40, 95\% \text{ CI } (1.26, 8.98), p = .013$], and accounted for an additional 7 % of the variance, $F(1, 77) = 7.89, p = .006$. When interpreting the interaction, a positive association between anger dysregulation and depressive symptom scores was found for high levels of

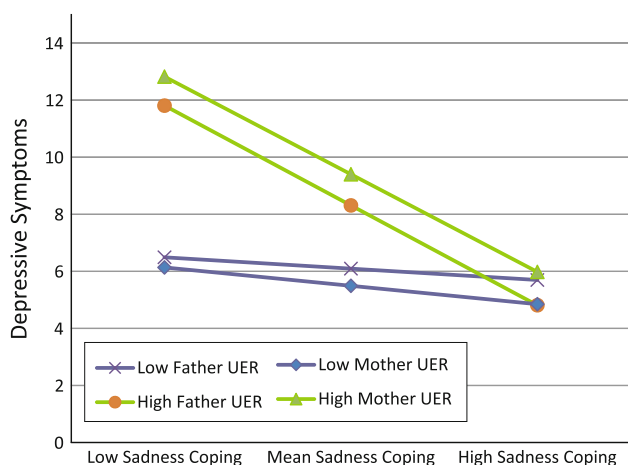


Fig. 3 Interaction between child's sadness coping and parent's unresponsive emotion responses on depressive symptoms. *Note* UER unresponsive emotion responses

maternal unresponsive responses [$\beta = 6.09$, 95 % CI (2.80, 10.63), $p = .002$], whereas the association at low levels of maternal unresponsive responses was not significant ($\beta = -1.16$, *ns*).

Anger Socialization and Anger Coping

Predictor variables of perceptions of mothers' unresponsive responses to anger and child anger coping at block 2 accounted for 19 % additional variance, $F(2, 78) = 9.44$, $p < .001$. Unresponsive maternal responses to anger was positively associated with depressive symptoms in block 2, whereas child anger coping was negatively associated with depressive symptoms. In block 3, the interaction of unresponsive anger responses \times anger regulation coping was significant [$\beta = -5.16$, 95 % CI (-8.94, -1.48), $p = .015$], and accounted for an additional 9 % of the variance, $F(1, 78) = 10.19$, $p = .002$. When interpreting the interaction, a negative association between anger coping and depressive symptom scores was found for high levels of maternal unresponsive anger responses [$\beta = -5.31$, 95 % CI (-8.07, -2.30), $p = .009$], whereas the association at low levels of unresponsive maternal anger response was not significant ($\beta = .28$, *ns*).

Sadness Socialization and Sadness Dysregulation

Predictor variables of perceptions of mothers' unresponsive responses to sadness and sadness dysregulation at block 2 accounted for 18 % additional variance, $F(2, 79) = 9.39$, $p < .001$. Both maternal unresponsive sadness responses and child sadness dysregulation were positively associated with depressive symptoms in block 2. In block 3, the interaction of maternal unresponsive sadness responses \times sadness dysregulation was not significant ($\beta = 2.02$, *ns*).

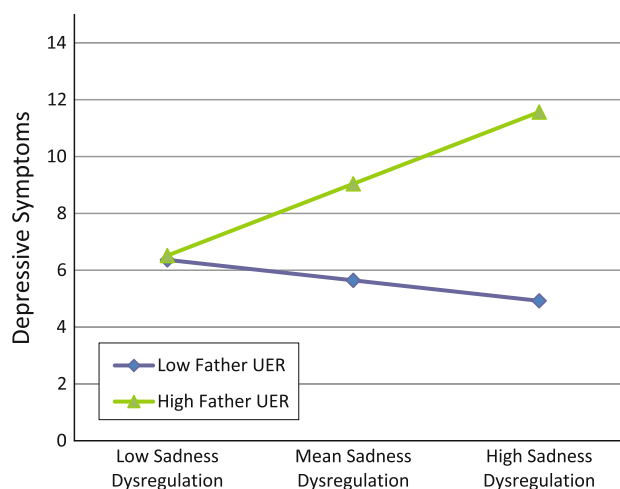


Fig. 4 Interaction between child's sadness dysregulation and fathers' unresponsive responses on depressive symptoms. *Note* UER unresponsive emotion responses

Sadness Socialization and Sadness Coping

Predictor variables of perceptions of mothers' unresponsive responses to sadness and child sadness coping at block 2 accounted for 25 % additional variance, $F(2, 79) = 14.21$, $p < .001$. Unresponsive maternal responses to sadness were positively associated with depressive symptoms in block 2, whereas child sadness coping was negatively associated with depressive symptoms. In block 3, the interaction of unresponsive sadness maternal responses \times sadness regulation coping was significant [$\beta = -3.61$, 95 % CI (-6.60, 2.33), $p = .045$], and accounted for an additional 5 % of the variance, $F(1, 78) = 5.98$, $p = .017$. When interpreting the interaction, a negative association between sadness coping and depressive symptom scores was found for high levels of maternal unresponsive sadness responses [$\beta = -6.00$, 95 % CI (-8.92, -1.16), $p = .004$], whereas the association at low levels of maternal unresponsive sadness responses was not significant ($\beta = -1.13$, *ns*).

Regression Models for Fathers

Anger Socialization and Anger Dysregulation

Predictor variables of perceptions of fathers' unresponsive responses to anger and child anger dysregulation at block 2 accounted for 24 % additional variance, $F(2, 79) = 12.89$, $p < .001$. Both paternal unresponsive responses to anger and child anger dysregulation were positively associated with depressive symptoms in block 2. In block 3, the interaction of paternal unresponsive responses to anger \times anger dysregulation was significant [$\beta = 4.63$, 95 % CI (1.71, 6.39), $p = .002$], and accounted for an additional 11 % of the variance, $F(1, 78) = 13.80$, $p < .001$. When interpreting the

interaction, a positive association between anger dysregulation and depressive symptoms was found for high levels of fathers' unsupportive responses to anger [$\beta = 4.27$, 95 % CI (2.16, 6.56), $p = .001$], whereas the association at low levels of fathers' unsupportive parental responses to anger was not significant ($\beta = -1.36$, *ns*).

Anger Socialization and Anger Coping

Predictor variables of perceptions of fathers' unsupportive responses to anger and child anger coping at block 2 accounted for 25 % additional variance, $F(2, 79) = 14.02$, $p < .001$. Unsupportive paternal responses to anger was positively associated with depressive symptoms in block 2, whereas child anger coping was negatively associated with depressive symptoms. In block 3, the interaction of paternal unsupportive responses to anger \times anger regulation coping was significant [$\beta = -3.13$, 95 % CI (-5.65, .46), $p = .032$], and accounted for an additional 6 % of the variance, $F(1, 78) = 7.08$, $p = .009$. When interpreting the interaction, a negative association between anger coping and depressive symptoms was found for high levels of fathers' unsupportive parental responses to anger [$\beta = -4.22$, 95 % CI (-7.28, -.99), $p = .009$], whereas the association at low levels of fathers' unsupportive responses to anger was not significant ($\beta = -.76$, *ns*).

Sadness Socialization and Sadness Dysregulation

Predictor variables of perceptions of fathers' unsupportive responses to sadness and sadness dysregulation at block 2 accounted for 11 % additional variance, $F(2, 79) = 5.03$, $p = .009$. Paternal unsupportive responses to sadness and child sadness dysregulation were marginally positively associated with depressive symptoms in block 2. In block 3, the interaction of unsupportive paternal responses to sadness \times sadness dysregulation was marginally significant [$\beta = 3.46$, 95 % CI (-.70, 6.14), $p = .092$]. When interpreting the interaction, a positive association between sadness dysregulation and depressive symptoms was found for high levels of fathers' unsupportive responses to sadness [$\beta = 4.29$, 95 % CI (.87, 6.39), $p = .013$], whereas the association at low levels of fathers' unsupportive responses to anger was not significant ($\beta = -1.22$, *ns*).

Sadness Socialization and Sadness Coping

Predictor variables of perceptions of fathers' unsupportive responses to sadness and child sadness coping at block 2 accounted for 17 % additional variance, $F(2, 79) = 8.50$, $p < .001$. Child sadness regulation coping was negatively associated with depressive symptoms in block 2, whereas paternal unsupportive responses to sadness were not

significantly associated with depressive symptoms. In block 3, the interaction of paternal unsupportive sadness responses \times sadness coping was significant [$\beta = -4.13$, 95 % CI (-6.93, 1.05), $p = .014$], and accounted for an additional 8 % of the variance, $F(1, 78) = 8.49$, $p = .005$. When interpreting the interaction, a negative association between sadness coping and depressive symptoms was found for high levels of fathers' unsupportive responses to sadness [$\beta = -6.14$, 95 % CI (-9.41, -1.19), $p = .001$], whereas the association at low levels of fathers' unsupportive responses to sadness was not significant ($\beta = -.70$, *ns*).

Discussion

The results of the current study indicated that children's perceptions of unsupportive parental responses to their emotions interacted with parent report of their child's emotion regulation, which, in turn, was associated with child report of depressive symptoms. (For ease of communication, the reporter used to evaluate the constructs will not be reported herein). These findings highlight the link between child emotion regulation and depressive symptoms such that children's regulation coping of both anger and sadness was associated with fewer depressive symptoms. Finally, the current study documented that parental emotion socialization practices play an important role in this association through both maternal and paternal responses to their child's expression of anger and sadness.

Our first hypothesis proposed positive associations between parents' unsupportive emotion responses to anger and sadness, child's emotion dysregulation, and depressive symptoms, and negative associations between parents' unsupportive emotion responses, children's emotion coping, and depressive symptoms. This hypothesis received partial support. Unsupportive responses to both anger and sadness by mothers and fathers were associated with greater dysregulation and less frequent coping of both anger and sadness. There was one exception, in that mothers' unsupportive responses to anger and sadness were not related to children's coping with anger or sadness, respectively. These results extend previous research that links negative parental responses to emotions with resultant dysregulated emotions by the child (Katz and Hunter 2007; Morris et al. 2007). In this study, positive associations between unsupportive responses to sadness and sadness dysregulation, and negative correlations between these unsupportive responses and sadness coping were found only for fathers. These findings appear to highlight potential differences in emotion socialization between mothers and fathers that are specific to sadness. One potential explanation for these parent sex differences may concern

the role of expectancy violations in emotion responses. Research indicates that fathers respond more negatively when their children express emotions atypical of expected gender norms (Cassano and Zeman 2010). Thus, fathers' responses to sadness might be moderated by the degree to which norms are violated. It also may be that mothers are more comfortable with and accepting of their children's sadness expression. Thus, the consistency of mothers' positive responses result in their reactions not being as salient as fathers' responses to children's sadness expressivity (Brody and Hall 2000; Cassano et al. 2007).

Building on past research (Eisenberg et al. 2003; Schwartz et al. 2011), for both mothers and fathers and across both emotions, unsupportive parental responses were positively associated with children's depressive symptoms. The current study provides more specificity to previous established general patterns of findings by indicating that both parents' responses mattered for both discrete emotions. Although the link between sadness and depression is intuitive, research has recently indicated that the management of anger is also implicated in depression (Goodwin 2006; Zeman et al. 2002). The findings of this study point to the importance of considering parents' responses to their own as well as their children's anger expressions. That is, parental responses may be setting the stage for how children learn to cope with their anger in ways that may place them at risk or protect them from depressive symptomatology (Bariola et al. 2011). These findings also suggest the need to study multiple negatively valenced emotions rather than global negative emotionality when examining emotion socialization processes and their contributions to child depressive symptoms.

Our second hypothesis proposed that depressive symptoms would be positively associated with emotion dysregulation and inversely related to emotion coping. The results provided support for this hypothesis, with findings emerging for both anger and sadness. It appears that in addition to sadness, dysregulated anger may contribute to depressive symptoms in middle childhood. Our findings are consistent with previous studies linking maladaptive anger coping to depressive symptoms (Goodwin 2006; Zeman et al. 2002). Overall, the present findings add further evidence to the well-validated link between emotion dysregulation and child psychopathology (Kovacs et al. 2008; McCauley et al. 2001; Schwartz et al. 2011).

A unique addition to the literature is our focus on discrete emotion and sex differences in parents' emotion socialization. Our third hypothesis proposed that, after controlling for shared variance between emotions, perceived unsupportive responses to sadness by mothers would predict depressive symptoms more strongly than their unsupportive responses to anger. The opposite pattern was predicted for fathers. Despite differences in

associations between sadness and anger for mothers and fathers, unsupportive responses across both emotions and parental sexes were significantly associated with depressive symptoms. Thus, regardless of which parent responded to the child's sadness or anger, unsupportive parental responses to a child's emotions were associated with child depressive symptoms. When comparing the individual contribution of each emotion type however, results indicated that the associations between parental unsupportive responses for anger and sadness differed with respect to parent sex. For mothers, unsupportive responses to sadness predicted depressive symptoms after accounting for unsupportive responses to anger; the opposite pattern was found for fathers. These results extend previous research suggesting that fathers' responses to anger can be especially salient, whereas mothers' emotion socializing influences may lie more in the domain of sadness (Brody and Hall 2000; Cassano et al. 2007). These results also attest to the importance of socializing responses to emotional expressivity while also highlighting the significant role that fathers play in this socialization process, an important contribution to the emotion socialization literature that has previously lacked empirical acknowledgement (Cassano and Zeman 2010; Cummings et al. 2004).

Our fourth hypothesis stated that the associations between child emotion regulation and depressive symptoms would vary as a function of unsupportive parental responses to emotion; it received partial support. For children who perceived receiving high levels of maternal and paternal unsupportive responses to anger and sadness, depressive symptoms were higher if they also experienced high levels of anger and sadness dysregulation, as well as low levels of anger and sadness regulation coping. Future research is needed to disentangle the directionality of these results. For example, similar to previous studies showing biased reporting from depressed mothers), perhaps children who report more depressive symptoms may perceive their parents' socialization efforts more negatively than those who report fewer symptoms. Nevertheless, these findings suggest that frequent unsupportive responses to negative valence emotions may be particularly influential for those children who are not viewed as effective emotion regulators.

It would be interesting for future research to uncover whether this pattern of reactivity may be explained as a diathesis-stress interaction, in which the diathesis represents a genetic or temperamental predisposition (e.g., inhibitory style) that is influenced by the presence of stressors in the environment. Previous research has proposed such a model in the development of depression (Monroe and Simons 1991) and subsequent research has supported this association between stress and depression (Abela 2001; Driscoll et al. 2009). It may be that when

children with poor emotion regulation are faced with high levels of unsupportive emotion parenting, some children may experience an emergence of depressive symptoms. Interestingly, no differences were found for unsupportive parental responses at low levels of emotion dysregulation and high levels of emotion coping. Consistent with the diathesis-stress model, it is possible that children who are able to cope well with negative emotions and not become dysregulated may be able to withstand unsupportive parenting responses to emotion. However, it is important to note that low levels of unsupportive responses to emotion are not necessarily equivalent to high levels of supportive responses to emotion. Thus, it is not clear whether low levels of unsupportive responses to emotion contribute to children's emotional competence. It may be that there is a certain threshold that must be exceeded in order for unsupportive responses to exert a negative influence on child depressive symptoms. For example, parents who are occasionally unsupportive in response to their child's emotions may not necessarily increase the frequency or intensity of depressive symptoms.

Although we were unable to address the directionality of effects given the cross-sectional design, previous research indicates the dynamic bidirectionality of parent-child influence (Morelen and Suveg 2012). That is, children with greater dysregulated emotions may elicit more unsupportive responses to their emotions from their parents, which then result in more dysregulation. Additionally, potential reporter bias might be operating in children who evidence emotion dysregulation. For example, past research has indicated that adult informants with depressive symptomatology may provide distorted reports of their child's behavior (Boyle and Pickles 1997). When examining children who perceived experiencing low or high levels of unsupportive parental responses to emotion, those children with better regulatory abilities (i.e., low dysregulation and high coping) were perceived as exhibiting few differences in depressive symptoms. These findings suggest a potential compensatory effect of emotion regulation skills. That is, children low in emotion dysregulation and high in emotion coping may be less sensitive to unsupportive parental responses to their emotions with respect to experiencing depressive symptoms.

The present findings highlight the contribution of fathers in the emotion socialization process. Although significant models predicting depressive symptoms from unsupportive responses to emotion were found for both mothers and fathers across both emotion types, mothers' responses to sadness and fathers' responses to anger provided a unique contribution to depressive scores after controlling for overlap between the two emotions. Although mothers' and fathers' responses to specific emotions appear to contribute differently to children's depressive symptoms, both

parents' emotion socialization practices are important (Cassano et al. in press; Lunkenheimer et al. 2012). Future research should direct more attention to how the roles of father and mother are conceptualized within families given the societal changes that are producing more flexible parenting roles (e.g., stay-at-home dads; see Cummings et al. 2004) that may impact emotion socialization practices.

Strengths and Limitations

The present study provides additional support for the notion that parental socialization of their child's emotional expressivity continues into middle childhood, predicts child emotion regulation skills, and has an indirect association with child depressive symptoms. The use of multiple reporters in the family provided a more nuanced picture of the role mothers and fathers play in the emotion socialization process. Indeed, although much of the research to date has focused on the contributions of mothers, it appears that parenting responses from fathers are also associated with child emotion regulation and depressive symptoms. In addition, the examination of specific emotions permitted evaluation of mothers' and fathers' unique responses to their child's sadness versus anger expressions.

Several limitations must be considered that can offer directions for future research. First, a relatively small sample size prevented the use of alternative analyses that would have allowed for comparisons of fit between different models. Although bootstrapped regressions were used to account for these limitations, some of these results yielded significant *p* values while still indicating a null value within the 95 % confidence interval. Thus, although these results were significant, these interactions should be interpreted with caution. Second, the use of multiple methodologies would have strengthened the validity of the findings as would examining different emotion socialization practices among single-parent, two-parent, and multi-caregiver families in order to determine how family constellation affects children's emotional development. Third, our examination of emotion socialization relied on a composite variable that incorporated several negative parenting behaviors. It would be valuable to determine whether each type of parenting behavior may be differentially associated with children's emotion regulation strategies and depressive symptoms, and whether certain socialization behaviors by mothers versus fathers are more predictive of negative outcomes than others. For example, given that children report expressing negative emotions more often to their mothers than their fathers due to an expectation that they will receive more interpersonal support from their mothers (Zeman and Garber 1996; Zeman and Shipman 1996), perhaps the active punishment of negative

emotions by mothers may be more strongly associated with children's depressive symptoms relative to that of fathers. As previously mentioned, it is possible that children's perceptions of their parents' responses may reflect their own emotion regulation deficits or psychopathology such that children who are perceived by their parents to be highly emotionally dysregulated and/or depressed may perceive their parents to be less supportive, regardless of their parents' actual behavior. Fourth, we recruited a community sample of middle childhood age children that reflects general population norms for depressive symptoms. However, despite the low incidence of depression observed in both the current sample and middle childhood more generally (Kazdin 1989; Smucker et al. 1986), we chose to examine depressive symptoms in this age group in order to discover whether there are patterns of emotion socialization that may place children at risk for the development of depressive symptoms in adolescence. Lastly, future studies could explore other contextual variables that may influence parental emotion socialization (i.e., parent/child characteristics, situational factors, culture) and exert an influence on how mothers and fathers respond to their children's anger and sadness expressions (Morris et al. 2007). The current study's relatively homogenous sample (i.e., Caucasian, middle-to-upper SES, two-parent families), as well as its lack of measurement of other, potentially relevant contextual variables, may account for the similar pattern of findings regarding mothers' versus fathers' socialization practices. It may be that in other, more diverse contexts, mothers' and fathers' emotion socialization practices may differ more substantially.

The use of a prospective, longitudinal design would allow for the examination of bidirectional associations among unsupportive parent emotion socialization, child emotion regulation, and child depressive symptoms as they unfold over time, which could not be ascertained using a cross-sectional design. The transition from middle childhood to adolescence is a particularly interesting time to study given the increase in depressive symptoms observed during this development period. Further, it may be the case that children's emotion dysregulation moderates the association between negative parenting practices and childhood depressive symptoms. Emotion dysregulation and poor emotion coping abilities have been shown to precede the onset of depression in adolescence (Bradley 2000). It may be that certain maternal or paternal emotion socialization practices shape children's burgeoning emotion regulation skills that may inadvertently place children at risk for, or protect them against, the development and/or maintenance of depressive symptoms as they age. Indeed, recent research has demonstrated that certain maternal and paternal responses to children's emotional expressions, most notably, those that reinforce depressive behavior,

reciprocate aggression, and fail to positively reinforce positive behaviors, have been associated with an increase in depression in adolescence (for a review, see Schwartz et al. 2012).

In sum, the present findings provide a nuanced look at the moderating role of parental emotion socialization in the link between child emotion regulation and depressive symptoms. Our findings suggest that unsupportive parental responses to emotion may impact children differently, depending on the child's present ability to regulate his or her emotions in an adaptive manner. Future research should examine how children's emotion regulation may influence later parental socialization, such that a negative cycle of influence may increase the risk for different types of child psychopathology.

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