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Emotion socialization in the context of risk and psychopathology: Mother and father socialization of anger and sadness in adolescents with depressive disorder

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Abstract

This study examined parental emotion socialization processes associated with adolescent unipolar depressive disorder. Adolescent participants (N=107; 42 boys) were selected either to meet criteria for current unipolar depressive disorder or to be psychologically healthy as defined by no lifetime history of psychopathology or mental health treatment and low levels of current depressive symptomatology. A multisource/method measurement strategy was used to assess mothers' and fathers' responses to adolescent sad and angry emotion. Each parent and the adolescents completed questionnaire measures of parental emotion socialization behavior, and participated in meta-emotion interviews and parent-adolescent interactions. As hypothesized, parents of adolescents with depressive disorder engaged in fewer supportive responses and more unsupportive responses overall relative to parents of nondepressed adolescents. Between group differences were more pronounced for families of boys, and for fathers relative to mothers. The findings indicate that parent emotion socialization is associated with adolescent depression and highlight the importance of including fathers in studies of emotion socialization, especially as it relates to depression.

Keywords

emotion socialization; adolescent depression; parent-child interactions

Parents' emotion-related socialization behaviors are a key process by which children develop the skills necessary to function in emotionally competent ways. Supportive parental responses to children's emotions are associated with children's greater emotion regulation ability and adaptive psychosocial functioning (Eisenberg, Cumberland, & Spinrad, 1998; Katz, Maliken, & Stettler, 2012; XXX ; Morris, Silk, Steinberg, Myers, & Robinson, 2007). Though these findings are based largely on research conducted with non-clinical samples of young children and focused solely on maternal behavior, the limited research available on

families of older children and adolescents, father behavior, and youth that have clinically significant adjustment difficulties also suggest that differences in emotion socialization parenting practices are associated with developmental outcomes (Dunsmore, Booker, & Ollendick, 2013; Dunsmore, Booker, Ollendick, & Greene, 2015; Katz et al., 2014; Suveg, Zeman, Flannery-Schroeder, & Cassano, 2005; Zeman, Dallaire, & Borowski, 2015), providing support for ongoing research on these populations.

Parental emotion socialization behaviors are thought to be guided by parents' meta-emotion philosophy – i.e., parents' feelings and thoughts about their children's emotions (Gottman, Katz, & Hooven, 1997). Considerable empirical evidence suggests that an emotion coaching meta-emotion philosophy and the supportive parental emotion socialization responses it underlies, such as actively helping children understand and cope with their emotions, are associated with adaptive child outcomes. Conversely, an emotion dismissing meta-emotion philosophy, which can result in unsupportive responses, such as minimizing children's emotions, are associated with maladaptive child outcomes (Katz et al., 2012). Though the role of parent emotion socialization behavior in older children has received less attention, a growing body of work demonstrates the ongoing importance of supportive parental emotion socialization behavior into adolescence and continued associations with better adjustment in this developmental phase (Morris et al., 2007).

Adolescence may be a particularly important time to study parental socialization as it relates to depressive symptoms and disorder. Adolescence is a time of increased risk for depressive disorder, particularly for girls (Lewinsohn, Rohde, & Seeley, 1998; Merikangas et al., 2010). Significantly, disturbances in emotional functioning are a core component of depressive disorder, as indicated by greater duration, frequency, and intensity of angry and dysphoric affect and shorter duration and lower frequency of happy affect (Schwartz, Sheeber, Dudgeon, & Allen, 2012; Sheeber et al., 2009). As well, depressed adolescents and those at risk for depression have been found to use less effective emotion regulation strategies (McLaughlin, Hatzenbuehler, & Hilt, 2009; Yap, Allen, & Ladouceur, 2008). The gender difference in adolescent depressive disorder is, moreover, reflected in emotion regulation difficulties, specifically with adolescent girls experiencing less access to effective emotion regulation strategies, greater non-acceptance of negative emotions, and less emotional clarity than adolescent boys (Bender, Reinholdt-Dunne, Esbjorn, & Pons, 2012; Neumann, van Lier, Gratz, & Koot, 2011).

Parental emotion socialization behaviors appear to be related to adolescent depressive symptomatology. Behaviors that convey acceptance of emotions appear to be a particularly important during adolescence and may play a role in the development of adolescent depressive symptomatology (Katz & Hunter, 2007; Katz et al., 2014). Conversely, mothers' invalidating responses to adolescent negative emotions including anger and sadness have been shown to be concurrently associated with internalizing behavior problems (Buckholdt, Parra, & Jobe-Shields, 2013; O'Neal & Magi, 2005). Adolescents of mothers observed to be punitive and rejecting while discussing their adolescents' experiences of fear and sadness reported greater depressive symptoms two years later (Hastings, Klimes-Dougan, Kendziora, Brand, & Zahn-Waxler, 2014). Similarly, mothers' aggressive and dysphoric responses to adolescents' aggressive and positive affect, as observed during parent-

adolescent interactions, prospectively predicted the onset of major depressive disorder six years later (Schwartz et al., 2014). These findings indicate the relevance of parent emotion socialization for adolescents with depressive disorder.

Mothers and fathers may respond differently to adolescent emotion and these differences may have implications for adolescent depression (Brand & Klimes-Dougan, 2010). With regard to supportive emotion socialization strategies, mothers have been shown to engage in more emotion coaching of adolescent anger and sadness than fathers, though higher levels of both mother and father emotion coaching are related to lower levels of adolescent internalizing symptoms (Stocker, Richmond, Rhoades, & Kiang, 2007). Though overall it has been shown that unsupportive parent responses to emotion are associated with more adolescent depressive symptoms during early adolescence, the nature of the effect differed as a function of parent gender. In particular, mothers' unsupportive responses to adolescent sadness and fathers' unsupportive to adolescent anger that were implicated (Sanders, Zeman, Poon, & Miller, 2015). Observations of father (but not mother) emotion dismissing were linked to higher internalizing behavior problems for early adolescents (Lunkenheimer, Shields, & Cortina, 2007). These differences suggest that findings related to mothers' emotion socialization may not generalize to fathers. As well, evidence suggests that the quality of fathers' parenting behavior, specifically low support and high conflict, were more strongly related to adolescents' depressive symptoms than parenting by mothers (Sheeber, Davis, Leve, Hops, & Tildesley, 2007). Nonetheless, few studies involving adolescents have examined how mothers' and fathers' emotion socialization may relate differentially to adjustment in their sons and daughters and emotion socialization involving specific emotions.

In previous work with the sample included in the present study, we reported that angry behavior by fathers was associated with increased heart rate reactivity for adolescents with depressive disorder compared to nondepressed adolescents (Allen et al., 2012). Also with this sample, we reported differences in physiological responses to parental behavior between adolescents with depressive symptoms and nondepressed adolescents with different patterns for mothers and fathers (Allen, Kuppens, & Sheeber, 2012). Adolescents with depressive disorder exhibited an increase in heart rate in response to fathers' angry behavior and a decrease in heart rate in response to fathers' dysphoric behavior but no changes in heart rate in response to mothers' angry or dysphoric behavior. We also examined parents' supportive and nonsupportive responses to adolescent positive affect for parents of adolescents with depressive disorder compared to parents of nondepressed adolescents. Parents of adolescents with depressive disorder were more likely to engage in unsupportive responses and minimize or ignore their adolescents' positive affect relative to parents of nondepressed adolescents (Katz et al., 2014). Parents of adolescents with depressive disorder were less likely to engage in supportive responses and were less accepting of their adolescent positive affect, and that fathers were also less likely to respond in supportive ways that maintained or amplified their adolescents' positive affect compared to parents of nondepressed adolescents. The present study extends this work and contributes to the empirical base by identifying mothers' and fathers' supportive and nonsupportive responses to boys' and girls' negative emotions specifically anger and sadness in the context of adolescent depressive disorder.

The Present Study

We compare the emotion-socialization behaviors of mothers and fathers in two-parent families of adolescents with depressive disorder to those of families in which the adolescent is free of psychopathology. The examination focuses on parental responses to anger and sadness, both of which are experienced differentially by adolescents with depressive disorder relative to nondepressed peers (Sheeber et al., 2009). This study provides the opportunity to identify the emotion-related socialization behaviors associated with adolescent depressive disorder, and to assess whether these associations are moderated by parent or adolescent gender. A multisource/method measurement strategy was utilized to provide multiple perspectives in which reports and interviews from mothers, fathers, and adolescents and observations of parental responses to adolescent emotional behaviors during parent-adolescent interaction were obtained to integrate multiple perspectives (Zeman, Klimes-Dougan, Cassano, & Adrian, 2007). As well, we examined adolescent gender as a moderator due to evidence above indicating that girls may have greater difficulty regulating negative emotions, as well as that which suggests that girls may be differentially sensitive to family processes (Compton, Snyder, Schrepferman, Bank, & Shortt, 2003). We hypothesized that adolescent depressive disorder would be associated with fewer supportive and more unsupportive responses to adolescent negative emotion amongst mothers and fathers. As there is little research available on whether emotion-specific parent emotion socialization practices contribute differentially to adolescent outcomes (O'Neal & Magai, 2005; Schwartz et al., 2012), no specific hypotheses regarding differential relations between adolescent depression and socialization of sadness versus anger were proposed.

Methods

Participants

Participants were 107 adolescents (42 boys) and their parents, selected from a larger sample of families participating in a study of adolescent unipolar depressive disorder ($N = 152$; data collection 2003–2008; Sheeber et al., 2009). Because we were interested in comparing relations between emotion socialization and adolescent depression as a function of parent gender, only two-parent families, in which both parents participated, were included.

The adolescents were between the ages of 14 and 18 and met research criteria for placement in one of two groups (adolescents with depressive disorder, $n = 47$ or nondepressed adolescents, $n = 60$). Adolescents with depressive disorder evidenced elevated scores on the Center for Epidemiological Studies-Depression Scale (CES-D; Radloff, 1977; > 31 for boys and > 38 for girls) during a school-based screening and subsequently met Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV; American Psychiatric Association, 1994) diagnostic criteria for current Major Depressive or Dysthymic disorder ($n = 1$) based on the Schedule of Affective Disorders and Schizophrenia- Children's Version diagnostic interview (K-SADS; Orvaschel & Puig-Antich, 1994). Nondepressed adolescents scored below an adolescent-appropriate cut-off on the CES-D (< 21 for boys and < 24 for girls), had no current or lifetime history of psychopathology based on the K-SADS, and no history of mental health treatment. Adolescents with depressive disorder were excluded if they evidenced current comorbid externalizing or substance dependence disorders or were taking

either serotonin norepinephrine reuptake inhibitors or tricyclic antidepressants. These exclusion criteria were put in place because of the potential of these factors to influence psychophysiological measures collected as part of the larger investigation, though not the subject of this report. Nondepressed adolescents were matched to adolescents with depressive disorder on age, gender, ethnicity, and the socioeconomic characteristics of their schools. Demographic information is provided in Table 1.

Recruitment and Assessment Procedures

Families were recruited and selected using a two-gate procedure consisting of an in-school screening and an in-home diagnostic interview. Selected families were invited to participate in the family assessment.

School screening—Students ($N = 4,182$) from 8 area high schools participated in the school-based screening. Approximately 70% of eligible students participated, 12% declined or had parents who declined their participation, and 18% were absent on the day of the assessment. Participating students completed the CES-D, a demographic information form, and a contact form.

Diagnostic assessment—Interviewers conducted the K-SADS (Orvaschel & Puig-Antich, 1994) interviews with adolescents with elevated CES-D scores. Subsequent to the interviews, the families of adolescents who met diagnostic criteria for a unipolar depressive disorder were invited to participate in a lab-based assessment. After each adolescent in the depressive disorder group completed the laboratory assessment, a nondepressed comparison participant, demographically matched to the adolescent with depressive disorder, was recruited from the pool of students who scored within the normal range on the CES-D and invited to participate.

Approximately 9% of families contacted by phone were not eligible to participate based on inclusion criteria described above. Of families invited to participate in the informational meeting, approximately 26% declined. Rates of decline did not vary as a function of pre-interview group status (i.e., elevated or nondepressed CES-D score), age, or racial/ethnic background. Rates of decline were higher for boys than girls (31.6% vs. 23%), $\chi^2(1, n = 498) = 4.57, p < 0.05$. Of adolescents with elevated CES-D scores who participated in the interview, 38% met criteria for a unipolar affective disorder (Depressive disorder group). Of adolescents with CES-D scores in the nondepressed range, approximately 76% met criteria for inclusion in the nondepressed group.

Lab assessment—Families who met criteria for the investigation after the diagnostic interview were invited to participate in the lab assessment. Approximately 4% of families declined. The decline rate did not vary as a function of group status, age, racial/ethnic background, or adolescent gender. The lab assessment included questionnaire, interview, and observed interaction indices of parental socialization of adolescent emotion.

Measures

Depression screener—The CES-D is a widely-used, self-report measure of depressive symptomatology with a well-established record of use as a screener for depressive symptomatology in adolescent samples (e.g., Asarnow et al., 2005; Dierker et al., 2001; Sheeber et al., 2007). As described above, the CES-D was used as the initial gate of a two-stage recruitment and screening procedure.

Diagnostic interview—The K-SADS interview was conducted with the adolescents to obtain current and lifetime diagnoses. Interviewers participated in a rigorous training program and demonstrated agreement with a senior interviewer ($\kappa > 0.80$) on at least two interviews before conducting independent interviews. All interview-derived diagnoses were confirmed by master's level supervisors who reviewed both item-endorsement and interviewers' notes. Reliability ratings were obtained on approximately 20% of the interviews, chosen at random. The average agreement was $\kappa = 0.94$.

Parent Emotion Socialization Constructs

Multisource (parents and adolescents) constructs were created to measure the quality of parental emotion socialization behavior. On the CCNES questionnaire, each family member reported separately on each parent's responses to adolescent display of emotion. In order to create a more reliable index of each parent's socialization behaviors we averaged family member reports on each subscale. On the meta-emotion interviews, the adolescent reported on each parents' coaching. Each parent reported on their own awareness, acceptance, and coaching. The average of each family member's report of mother and father behavior was computed.

Coping with children's negative emotions scale—This measure was adapted from the Coping with Children's Negative Emotions scale (CCNES; Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002), a measure of parents' reactions to their children's negative emotions, to be appropriate for older adolescents and to examine responses to sad and angry affective states as reported by both parents and adolescents. Scales reflecting responses to negative affect included: problem-focused reactions, emotion-focused reactions, expressive encouragement, punitive reactions, minimization reactions, and distress reactions. The reliabilities of the scales range from 0.72 to 0.95 with an average of 0.86.

Parent meta-emotion interview (PMEI; Katz & Gottman, 1986)—Mothers and fathers were interviewed individually about their responses toward their adolescents' anger and sadness. Sample questions include: "What do you do to help your adolescent get over feeling sad?", and "Can you give me a recent example of a time when your adolescent was angry?" The interview has been used successfully in research on adolescent emotional development and depression (Katz & Hunter, 2007; Stocker et al., 2007). Interviews typically lasted 45–60 minutes, and were recorded for subsequent coding by trained research staff.

The PMEI was coded using the Revised Meta-Emotion Coding System (Hunter, Hessler, Katz, Hooven, & Mittman, 2006) to obtain scores for parental awareness (8 items), coaching

(6 items), and acceptance (6 items) of anger and sadness. Items were coded using a 5-point Likert rating. Scores were calculated separately by emotion and for mothers and fathers, and were derived by summing the items within each dimension. Across anger and sadness, Cronbach's alphas for parental awareness, acceptance, and coaching ranged from 0.52 to 0.90. Approximately 33% of parent meta-emotion interviews were coded by a second interviewer for reliability, and PMEI scales were also found to have adequate interrater reliability with correlations ranging from 0.65 to 0.79.

Child and adolescent meta-emotion interview (CMEI; Katz & Windecker-Nelson, 2006)—The CMEI was used to obtain adolescent reports of parental coaching. Modeled after the PMEI, it includes open-ended, structured questions about the adolescents' emotions as well as about how their parents help them with their emotions. Sample questions from the interview were: "Can you give me an example of a time when your father knew you were sad?", "What did your father do when he saw you were sad?", and "In general, can you go to your mother when you are feeling angry?" Interviews lasted approximately 30 minutes and were audiotaped to be later coded. The CMEI was coded using the Child and Adolescent Meta-Emotion Coding System (Hessler, Hunter, Katz, & Windecker-Nelson, 2005), a checklist rating system based on the established Parent Meta-Emotion Interview Coding System (Katz, Mittman, & Hooven, 1994). Each item was coded on a 5-point Likert-type scale. Adolescent report of parental coaching was coded based on seven items that tapped such items as the degree to which adolescents reported that their parents were aware of their emotions, comforted or talked about the emotionally-arousing situation while they were upset, and had a coaching philosophy they felt good about. Scores for each emotion were derived by summing the items within each dimension. Scores were calculated separately for mothers and fathers. Adequate internal reliability was observed across anger and sadness, with an alpha of 0.86 for maternal emotion coaching and 0.87 for paternal emotion coaching. Approximately 33% of interviews were coded by a second interviewer and CMEI scales were also found to have adequate interrater reliability with correlations ranging from 0.65 to 0.79.

Parent-adolescent interactions and behavioral observations—Adolescents along with their mothers and fathers participated in three family interaction tasks, each lasting 18 minutes (Sheeber et al., 2009). In the first task, families were first instructed to plan a vacation and then to reminisce about a fun time they had experienced together. The second task consisted of two consecutive problem-solving interactions in which families were asked to discuss and resolve two areas of conflict. In the last interaction, families were asked to discuss two areas of family life; one focused on identifying and describing the best and most difficult years the adolescent had experienced, and the other focused on the most challenging and most rewarding aspects of parenting the adolescent.

The Living in Family Environments coding system (LIFE; Hops, Biglan, Tolman, Arthur, & Longoria, 1995) was used to code adolescent affective behavior during family interactions. Observers, blind to diagnostic status, coded the parents' and adolescents' nonverbal affect and verbal content. Two constructs, angry and sad, were derived from individual affect and content codes in the present investigation. Angry behavior included aggressive or

contemptuous nonverbal behavior and cruel or provoking statements. Sad behavior was defined by sad nonverbal behavior or complaining statements. Approximately 25% of videos were coded by a second observer for reliability purposes. Kappas for included codes ranged from 0.60 to 0.74, indicating good overall agreement (Fleiss, 1981). Observed parent emotion socialization behavior was indexed by computing adjusted log odds of parent angry and sad responses to adolescent angry and sad behavior during the parent-adolescent interactions across the three tasks.

Results

Repeated-measures analyses of variance (ANOVAs) were conducted on indicators of parent socialization behavior with a between-subjects factor of group (adolescents with depressive disorder vs. nondepressed adolescents) and a within-subjects factor of parent (mother behavior vs. father behavior). Adolescent gender was included as a between-subjects factor to examine its potential moderating effect. Significant group by parent interactions were followed by between group ANOVAs within each parent gender. Analyses for parent responses to adolescent anger were conducted separately from parent responses to adolescent sadness. Indicators for unsupportive parent responses included the CCNES scales punitive, minimization, and distress reactions and the observational measures parent angry given adolescent angry, parent angry given adolescent sad, parent sad given adolescent angry, and parent sad given adolescent sad from the parent-adolescent interaction. Indicators for supportive parent responses included the CCNES scales expressive encouragement, emotion-focused reactions, and problem-focused reactions and the meta-emotion interview scales awareness, acceptance, and emotion coaching. Means and standard deviations are presented in Table 2 by group, parent, and adolescent gender.

Unsupportive Responses

CCNES scales—Significant group effects emerged on the punitive reactions to adolescent anger scale, such that parents of adolescents with depressive disorder demonstrated more punitive reactions than did parents of nondepressed adolescents, $F(1, 103) = 10.79, p < 0.001, \eta^2 = 0.10$, however this was qualified by a significant group by parent by adolescent gender interaction, $F(1, 103) = 6.34, p < 0.05, \eta^2 = 0.06$. Subsequent ANOVAs indicated that mothers of boys with depressive disorder demonstrated more punitive reactions to boys' anger compared to mothers of nondepressed boys, $F(1, 40) = 6.93, p < 0.05, \eta^2 = 0.14$. There was also a nonsignificant trend at the $p < .10$ level for fathers of boys with depressive disorder to show more punitive reactions to boys' anger compared to fathers of nondepressed boys, $F(1, 40) = 3.76, p = 0.06, \eta^2 = 0.09$. Fathers but not mothers of girls with depressive disorder demonstrated more punitive reactions to girls' anger relative to fathers of nondepressed girls, $F(1, 63) = 7.62, p < 0.01, \eta^2 = 0.11$. A significant group by parent interaction was also observed on the punitive reactions to adolescent sadness scale, $F(1, 103) = 4.69, p < 0.05, \eta^2 = 0.04$. Subsequent ANOVAs revealed that fathers of adolescents with depressive disorder were more punitive in response to adolescent sadness than were fathers of nondepressed adolescents, $F(1, 105) = 6.36, p < .05, \eta^2 = 0.06$, but this difference was not observed in mothers' behavior. A significant group by parent by adolescent gender interaction emerged for the minimization reactions to adolescent anger

scale, $F(1, 103) = 4.60, p < 0.05, \eta^2 = 0.04$. Subsequent ANOVAs indicated that fathers of girls with depressive disorder were more likely to minimize girls' anger than fathers of nondepressed girls, $F(1, 63) = 4.19, p < 0.05, \eta^2 = 0.06$. As well, a significant group by parent by adolescent gender interaction emerged on the minimization reactions to adolescent sadness scale, $F(1, 103) = 4.43, p < 0.05, \eta^2 = 0.04$. Subsequent ANOVAs indicated that parents of adolescents with depressive disorder were different in their minimizing reactions to adolescent sadness as a function of parent and adolescent gender, $F(1, 45) = 4.40, p < .05, \eta^2 = 0.08$. No between group differences emerged on the index of parents' distress reactions to adolescent anger or sadness.

Observed parent-adolescent interaction—A significant group effect emerged for parent angry given adolescent angry, such that parents of adolescents with depressive disorder were more likely to show this pattern than parents of nondepressed adolescents, $F(1, 99) = 5.09, p < 0.05, \eta^2 = 0.05$. A significant group effect emerged for parent angry given adolescent sad, $F(1, 99) = 4.98, p < 0.05, \eta^2 = 0.05$, such that parents of adolescents with depressive disorder were more likely to display this pattern than were parents of nondepressed adolescents. However, this effect was qualified by a group by adolescent gender interaction, $F(1, 99) = 5.59, p < 0.05, \eta^2 = 0.05$. Subsequent ANOVAs indicated that this pattern of parental behavior was more common in parents of boys with depressive disorder relative to parents of girls with depressive disorder, $F(1, 43) = 4.26, p < 0.05, \eta^2 = 0.09$. No significant between group differences emerged for parent sad given adolescent angry or sad.

Supportive Responses

CCNES—Significant group effects emerged on the problem-focused reactions to adolescent anger scale, $F(1, 103) = 11.27, p < 0.001, \eta^2 = 0.10$, and the problem-focused reactions to adolescent sadness scale, $F(1, 103) = 6.87, p < 0.01, \eta^2 = 0.06$. Parents of adolescents with depressive disorder were significantly less problem focused in response to adolescent anger and sadness than were parents of nondepressed adolescents. No other between group differences emerged on questionnaire indices.

MEI—A significant group by parent by adolescent gender interactions emerged for the awareness of adolescent anger scale, $F(1, 98) = 8.50, p < 0.01, \eta^2 = 0.08$ and for the awareness of adolescent sadness scale, $F(1, 98) = 6.29, p < 0.05, \eta^2 = 0.06$. Subsequent ANOVAs revealed that fathers of boys with depressive disorder were significantly more aware of boys' anger, $F(1, 38) = 5.49, p < 0.05, \eta^2 = 0.13$, and sadness, $F(1, 38) = 5.95, p < .05, \eta^2 = 0.14$, compared to fathers of nondepressed boys. The acceptance of adolescent sadness scale analyses revealed a significant group by adolescent gender interaction, $F(1, 98) = 9.26, p < 0.01, \eta^2 = 0.09$. Subsequent ANOVAs revealed that parents of boys with depressive disorder were significantly more accepting of their sadness than parents of girls with depressive disorder, $F(1, 43), 6.26, p < .05, \eta^2 = 0.13$. A significant group effect emerged on emotion coaching¹, $F(1, 98) = 7.21, p < 0.01, \eta^2 = 0.07$, such that parents of

¹In light of the low intercorrelation between parent and adolescent report for mother emotion coaching of sadness, a repeated-measures ANOVA was conducted for parent emotion coaching of sadness with the addition of a within-subjects factor of reporter (parent vs. adolescent) that yielded a similar group main effect, $F(1, 98) = 7.50, p < 0.01, \eta^2 = 0.07$.

adolescents with depressive disorder engaged in less emotion coaching of adolescent sadness relative to parents of nondepressed adolescents. No significant between group differences emerged for acceptance or emotion coaching of adolescent anger.

Discussion

This study increases our knowledge of parent emotion socialization behavior by identifying mothers' and fathers' responses to adolescent anger and sadness in depressed and nondepressed adolescents. Few studies have examined how mothers' and fathers' emotion socialization behaviors may relate to adolescent depressive disorder within the same sample. Our inclusion of fathers and mothers, as well as boys and girls, provided the opportunity to examine the extent to which parent and adolescent gender moderated the relations between parent emotion socialization behavior and adolescent depressive disorder. As hypothesized, parents of adolescents with depressive disorder engaged in more unsupportive responses and fewer supportive responses to adolescent emotions overall relative to parents of nondepressed adolescents. Associations with adolescent depressive disorder were generally not emotion specific and parent responses to adolescent anger and sadness were related to adolescent depressive disorder, often in a similar fashion.

Across parent and adolescent gender, parents of depressed adolescents were more likely to respond angrily to adolescent anger during parent-adolescent interactions than were parents of nondepressed adolescents. However, both parent and adolescent gender moderated other associations between unsupportive responses and adolescent depressive disorder. Parents of boys with depressive disorder were more likely than those of girls with depressive disorder to respond angrily to adolescent sadness. Moreover, fathers of adolescents with depressive disorder, but not mothers, demonstrated more punitive reactions to adolescent sadness than did parents of nondepressed adolescents. As well, fathers were more likely to show punitive and minimizing reactions to girls' anger and mothers were more likely to show punitive reactions to boys' anger. These findings, albeit moderated by parent and/or adolescent gender, were consistent with the hypothesis that unsupportive parent responses to negative adolescent emotion would be associated with depressive disorder. These nuanced findings provide specificity to the growing evidence linking mothers' and fathers' unsupportive responses including punishing, avoiding, dismissing, and rejecting adolescent negative emotions to adolescent internalizing behaviors and symptoms (Buckholdt et al., 2014; Hastings et al., 2014; O'Neal & Magai, 2005; Lunkenheimer et al., 2007; Sanders et al., 2015; Stocker et al., 2007),

One way to understand the results is that the propensity for parents of adolescents with depressive disorder to respond to adolescents' negative emotions in less adaptive ways creates an affective environment that may contribute to the development and maintenance of adolescents' depressive disorder. The finding of parent anger in response to adolescent anger and sadness in this study adds to the existing literature on the elicitation of parent negative responses to adolescent negative behaviors as a risk factor for negative socioemotional outcomes, including adolescent depression. Parental reciprocation of adolescent negative emotions may prolong and escalate parent-adolescent conflictual exchanges (Schwartz et al., 2011), and in related work maternal aggression in response to adolescent aggression has

been shown to prospectively predict the onset of major depressive disorder for girls (Schwartz et al., 2011; Schwartz et al., 2014). Current research and theory, moreover, suggest that unsupportive responses, such as punitive or minimizing reactions, heighten children's emotional arousal and impair emotion regulation abilities by teaching children to avoid or suppress rather than understand and adaptively cope with negative emotions (Eisenberg et al., 1998; Gross & Levenson, 1993; Morris et al., 2007).

An important consideration in understanding the findings is the potential influence of adolescent depression on parental behavior. It is likely that the differential behavior displayed by depressed and nondepressed adolescents has implications for understanding parenting behaviors (Brand & Klimes-Dougan, 2011; Yap et al., 2008). Adolescents with depression may require more emotional support from their parents due to their difficulties regulating negative emotions relative to nondepressed adolescents (Sheeber et al., 2009), or their parents may cease trying to support their adolescents if their attempts to do so have been ineffective. Consistent with this possibility, previous work has shown that adolescents with depression rated their mothers' responses to their negative emotions as less effective compared to nondepressed adolescents (Garber, Braafladt, & Weiss, 1995). Indeed, increased parental punitive responses toward adolescents with depressive disorder may reflect parents' rejection and negative affect in response to adolescent depressive behavior (Hale, Van der Valk, Akse, & Meeus, 2008). Minimizing responses, on the other hand, may be a strategy that parents use to reduce their own discomfort around negative adolescent emotions. Use of a longitudinal design would help determine the presence of reciprocal processes and whether parents and adolescents shape each other's behaviors over time, and also ascertain the significance of parent emotion socialization behaviors as etiological or maintaining factors of adolescent depressive disorder.

It is important to note, moreover, that there were some exceptions to the overall pattern of depression being associated with less adaptive parenting behavior, particularly as related to parenting of depressed boys. Parents of adolescent boys with depressive disorder were more accepting of the adolescents' sadness compared to parents of adolescent girls with depressive disorder. Fathers of adolescent boys with depressive disorder were more aware of boys' anger and sadness compared to fathers of nondepressed boys. Though these findings were unanticipated, it is possible that this greater awareness is driven by the greater frequency and intensity of negative emotional experiences that are associated with adolescent depression (e.g., Sheeber et al., 2009), resulting in strong interpersonal signals that demand the father's awareness (although why this is not also true for mothers is not clear – perhaps mothers tend to be more aware of their adolescent's emotions irrespective of their frequency or intensity). Across parent and adolescent gender, there was also an indication that parents of adolescents with depressive disorder used fewer supportive responses than did parents of nondepressed adolescents. In particular, they reported engaging in less emotion coaching when the adolescents were sad and less problem solving when the adolescents were angry or sad.

Focusing on the role of parent and adolescent gender enhances our understanding of the possible contribution of parent socialization behavior in relation to adolescent depression. Little is known about adolescent gender as a moderator of the processes involved in parent

socialization of emotion. Findings in this study specific to adolescent gender suggest that the association of parental socialization behavior to adolescent depressive disorder may be stronger for boys than girls. However, this was not always the case as there was also one finding that indicated girls with depressive disorder received more punitive and minimizing behaviors in reaction to their anger from fathers relative to nondepressed girls. It does appear that parent emotion socialization behavior results in different contingencies for boys' versus girls' emotional behaviors and outcomes. Differences in parent emotion socialization behavior related to adolescent gender and depressive disorder warrants further investigation.

Less empirical attention has been given to the emotion socialization behaviors of fathers compared to mothers. Prior work does, however, indicate the importance of father-child relationships for child and adolescent adjustment. For children, paternal hostility has been associated with higher levels of child internalizing symptoms (Parke et al., 2004) and more anger by fathers, particularly toward boys, was related to increased child behavior problems (Denham et al., 2000). Lower perceived relationship quality with fathers was related to depressive symptoms for adolescent boys (Branje, Hale, Frijns, & Meeus, 2010). The findings of the current study also suggest the importance of fathers' emotion socialization behavior in adolescent depression. Consistent with prior work (Sheeber et al., 2007), fathers' behavior was differentially associated with depressive disorders, in that the quality of paternal behavior during family interactions was more strongly associated with depression than was the quality of maternal behavior. Also in prior work with this sample, fathers' meta-emotion philosophy was found to make a unique contribution to predicting adolescents' own meta-emotion philosophy and adolescents' beliefs about negative emotions (Hunter et al., 2010). Taken together, these findings highlight the importance of examining both fathers' and mothers' emotion socialization strategies in relation to adolescent depression. In families where both parents are engaging in unsupportive parenting practices, adolescents with depressive symptoms may feel particularly isolated and rejected. Studies of the additive effects of both parents' emotion socialization strategies can help address this issue.

The limitations in the study point to important directions for future research. First, parents in this study were part of two-parent families. Future studies will need to determine whether findings generalize to parents living apart from their adolescents. Relatedly, it would be beneficial to examine emotion socialization behaviors in samples more economically and ethnically/racially diverse than this study's sample. Second, as alluded to earlier, this study's cross-sectional design precluded examination of mediated effects involving adolescent capabilities such as emotion regulation. It is likely that parent emotion socialization has indirect effects on adolescent depressive disorder through direct effects on adolescent emotion regulation (Eisenberg et al., 1998; Gottman et al., 1997). As indicated by other studies, parent socialization behavior is linked to emotion regulation, which in turn is associated with their adjustment in childhood (e.g., Cunningham, Kliewer, & Garner, 2009; Valiente et al., 2006) and adolescence (e.g., Hastings et al., 2014; Shortt, Stoolmiller, Smith-Shine, Eddy, & Sheeber, 2010; Yap et al., 2008).

There are also important methodological strengths in the study, including the multisource/method assessment that included observations of parent responses to adolescent negative

emotions. This approach reduces the likelihood that observed associations are due to depressive biases and limits the extent to which shared method variance contribute to overestimation of observed effects. That associations between parent emotion socialization behavior and adolescent depressive disorder were found for each type of method allows for greater confidence in results. Also, the examination of micro-social family interactional patterns relevant to parent emotion socialization and adolescent depression was a unique aspect of this study. Though parents may not report reacting differently to girls' and boys' emotions, differences in parent responses are apparent when parents are observed interacting with their children.

This study expands on previous research that examined parental responses to adolescents' positive affective states (e.g., Katz et al., 2012). Findings of the current study are consistent with those of earlier work in indicating that family processes related to parent emotion socialization are associated with adolescent depression, and identifying supportive (e.g., parents' acceptance of boys' sadness and fathers' awareness of boys' anger and sadness) and unsupportive parent responses (e.g. parents' punitive reactions) to adolescent anger and sadness that were differentially associated with adolescent depression. As noted, it extends the literature by examining parent gender as a modifying factor, and highlighting the role of father behavior. Because the cross-sectional design precludes conclusions regarding the etiological role of these socialization behaviors, replication in prospective studies will be critical. Pending replication, the specific parent emotion socialization behaviors identified herein, may be important to target as potentially modifiable risk factors in the prevention and treatment of adolescent depressive disorder. In related work, Kehoe and colleagues (Kehoe, Havighurst, & Harley, 2013) evaluated a parenting program to improve emotion socialization practices in order to reduce adolescent internalizing difficulties, and reported that parents and preadolescents in the intervention group reported reductions in both parent dismissiveness of adolescent negative emotions, and adolescent internalizing symptoms such as anxiety relative to those in the comparison group. These results highlight the potential significance of attending to parental emotion socialization as a component of family interventions for internalizing disorders.

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Table 1

Demographic data

Demographic category	Depressive disorder (<i>n</i> = 47)	Nondepressed (<i>n</i> = 60)	Test Statistic
Adolescent gender			
Boy	17 (36.2%)	25 (41.7%)	$\chi^2 = 0.33$, ns
Girl	30 (63.8%)	35 (58.3%)	
Age			
Mean (SD)	16.38 (1.20)	16.15 (1.07)	$t = 1.01$, ns
Income			
Median	\$52,500	\$67,500	$\chi^2 = 1.42$, ns
Racial background			
European-American	32 (68.1%)	46 (77.7%)	$\chi^2 = 0.60$, ns
African American	1 (2.1%)	1 (1.7%)	
Asian	0 (0.0%)	1 (1.7%)	
Native American	0 (0.0%)	0 (0.0%)	
More than one race	11 (23.4%)	10 (16.7%)	
Ethnic background			
Hispanic	4 (8.5%)	7 (11.7%)	$\chi^2 = 0.20$, ns
Not Hispanic	40 (85.1%)	52 (86.7%)	
Unknown	3 (6.4%)	1 (1.7%)	

Table 2
Means of negative emotion socialization indicants by group, parent, and adolescent gender

	Parents of adolescents with depressive disorder						Parents of nondepressed adolescents									
	Mothers			Fathers			Mothers			Fathers						
	Boys	Girls		Boys	Girls		Boys	Girls		Boys	Girls					
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Unsupportive emotion socialization responses																
CCNES parent punitive reactions to adolescent emotion																
Anger	26.75 ^a	7.38	22.69	5.17	27.04	7.55	26.11 ^c	7.48	22.17 ^b	3.82	20.82	4.99	23.47	4.37	21.78 ^d	5.12
Sadness	23.57	6.75	21.21	5.25	25.40 ^a	7.59	25.71 ^c	7.54	22.01	4.49	20.65	4.49	23.65 ^b	4.76	21.78 ^d	5.01
CCNES parent minimization reactions to adolescent emotion																
Anger	25.86	7.40	24.20	6.08	26.29	7.43	26.74 ^c	7.20	24.15	4.88	22.44	5.53	25.97	5.19	23.38 ^d	6.04
Sadness	28.93	4.85	29.00	4.52	27.54	4.33	29.12	5.86	28.07	4.42	28.58	5.03	27.88	4.73	27.54	5.54
CCNES parent distress reactions to adolescent emotion																
Anger	29.77	5.78	28.56	4.04	29.72	6.43	28.20	4.73	28.50	4.45	28.18	6.11	28.14	4.87	27.53	5.56
Sadness	23.61	5.31	22.42	3.33	24.79	5.82	22.76	4.15	24.21	4.07	22.59	3.69	23.80	3.88	22.33	3.80
Observed parent angry given adolescent emotion																
Angry	15.70 ^a	23.39	16.80 ^a	18.20	8.85 ^c	19.19	13.28 ^c	15.24	14.38 ^b	21.07	10.58 ^b	18.48	3.76 ^d	10.43	3.39 ^d	10.37
Sadness	9.69 ^a	23.33	1.70	12.80	9.37 ^c	12.48	0.89	14.05	-0.20 ^b	14.56	1.59	13.64	-0.23 ^d	10.46	1.84	10.24
Observed parent sadness given adolescent emotion																
Angry	3.57	12.45	2.93	18.42	-0.19	8.79	4.64	14.03	0.71	9.27	0.54	15.64	3.95	9.64	4.68	12.81
Sadness	16.99	15.23	18.79	26.04	9.56	12.16	16.87	16.59	21.25	16.85	16.96	16.54	11.26	16.03	13.89	14.30
Supportive emotion socialization responses																
CCNES parent expressive encouragement to adolescent emotion																
Anger	35.49	6.75	35.00	6.94	30.31	6.58	28.43	6.67	34.63	9.56	36.11	6.93	30.56	8.86	30.37	6.79
Sadness	38.61	6.86	41.01	5.32	33.58	6.40	33.68	7.00	40.00	7.28	41.98	5.79	35.54	7.71	36.02	6.04
CCNES parent emotion-focused reactions to adolescent emotion																
Anger	34.54	5.86	36.94	5.40	29.99	3.28	31.45	6.41	36.13	6.42	37.41	6.24	32.42	6.99	33.66	5.25
Sadness	40.30	5.51	42.86	6.12	35.19	5.28	36.96	7.21	42.11	5.85	43.64	5.93	38.40	5.98	39.20	5.56

	Parents of adolescents with depressive disorder						Parents of nondepressed adolescents									
	Mothers			Fathers			Mothers			Fathers						
	Boys	Girls		Boys	Girls		Boys	Girls		Boys	Girls					
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
CCNES parent problem-focused reactions to adolescent emotion																
Anger	40.76 ^a	4.87	41.87 ^a	5.66	36.84 ^c	5.42	37.11 ^c	7.05	43.60 ^b	6.12	44.64 ^b	4.73	40.72 ^d	6.45	41.63 ^d	4.84
Sadness	42.17 ^a	4.68	43.91 ^a	5.97	37.92 ^c	6.27	38.49 ^c	6.77	44.60 ^b	5.50	45.78 ^b	5.52	41.42 ^d	6.73	41.96 ^d	4.93
MEI parent awareness of adolescent emotion																
Anger	26.29	1.31	26.40	1.13	26.71 ^c	1.31	24.86	3.65	26.56	1.36	25.74	1.69	24.00 ^d	4.61	25.28	2.05
Sadness	25.83	2.32	26.28	1.20	26.35 ^c	2.47	24.50	2.65	25.82	2.42	25.87	2.04	23.79 ^d	3.77	24.76	2.56
MEI parent acceptance of adolescent emotion																
Anger	13.24	1.58	13.05	1.50	12.93	2.36	12.75	1.87	13.64	1.67	13.94	1.86	12.92	1.29	13.51	1.83
Sadness	15.41 ^a	0.62	14.77	1.16	14.88 ^c	1.17	14.15	1.43	14.93 ^b	0.85	15.10	0.70	14.19 ^d	1.14	14.58	1.18
MEI parent emotion coaching of adolescent emotion																
Anger	23.77	2.43	23.92	2.29	24.36	2.40	23.05	2.43	24.31	2.02	24.92	2.25	23.83	3.11	24.51	2.31
Sadness	25.68 ^a	1.83	25.98 ^a	1.93	24.65 ^c	2.89	24.47 ^c	2.31	26.72 ^b	1.34	26.85 ^b	1.55	25.14 ^d	3.10	25.67 ^d	1.21

Note. Means with different subscripts indicate group differences at $p < 0.05$ (a and b for mothers; c and d for fathers).