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Links Between Remembered Childhood Emotion Socialization and Adult Adjustment: Similarities and Differences Between European American and African American Women

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Abstract

The purpose of this paper was to examine whether recollections of mothers' emotion socialization practices during childhood are linked to adult emotional well-being as indexed by depression, trait anger, and cardiac vagal tone, and whether these effects vary for African American and European American women. Participants included 251 women (128 European American; 123 African American) who ranged in age from 18 to 44 years (M = 25 years). Multigroup confirmatory factor analyses indicated strong measurement and factor invariance across African American and European American participants. Remembered non-supportive emotion socialization was linked with elevated depressive symptoms for European American women, but not African American women and with elevated trait anger for both groups. Remembered supportive emotion socialization was linked with higher resting vagal tone for both groups. The results provide some support for the view that non-supportive emotion socialization may be more detrimental for European Americans than African Americans.

Keywords

Emotion Socialization; Ethnicity; Depressive symptoms; Anger; Vagal Tone

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Research has consistently demonstrated that parents' non-supportive or minimizing reactions to child distress are linked with poorer child adjustment as evidenced by difficulties with emotion regulation and increased behavioral problems; whereas supportive responses to distress are linked with better understanding of emotions, adaptive emotion regulation, and social competence (see Eisenberg, Cumberland, & Spinrad, 1998 for a review). Most of this research has been conducted in samples composed primarily of European American participants. Thus, the possibility that the manner in which emotion socialization strategies affect child outcomes varies across ethnic groups remains untested. In this paper, we examine whether adult women's recollections of the extent to which their parents engaged in supportive and non-supportive emotion socialization strategies during childhood are linked to adult emotional well-being as indexed by depression, trait anger, and cardiac vagal tone, a physiological indicator of emotional adjustment, and whether these effects vary for African American and European American women.

Emotion Socialization Practices and Child Outcomes

Parental emotion socialization is defined as the set of practices parents employ to teach their children about the causes and consequences of emotions, the appropriate display of emotions, and how to regulate emotions effectively (Eisenberg, Cumberland, & Spinrad, 1998). Although a number of practices have been examined in the literature, we focus on six specific practices that can be described by two over-arching themes that have been examined extensively across a wide age range. The first three have been described as "supportive" emotion socialization practices (Eisenberg et al., 1998; Fabes, Poulin, Eisenberg, & Madden-Derdich, 2002). These include: (a) *emotion-focused reactions* such as comforting or distracting a child when distressed, (b) *problem-focused reactions* such as encouraging the child to solve the problem that caused the child's distress, and (c) *expressive encouragement* which includes encouraging a child to express negative emotions and validating his or her negative emotional states. A number of studies have demonstrated that these practices are in fact associated with positive outcomes such as adaptive emotion regulation at the behavioral and physiological level (Calkins, Graziano, Berdan, Keane, & Degnan, 2008; Gottman, Katz, & Hooven, 1996; Morris et al., 2011) and fewer emotion-related behavior problems such as depression and aggression (Abaied & Rudolph, 2010; Hunter et al., 2011) likely because parents' supportive emotion socialization teaches children strategies to effectively express and regulate their emotions and encourages them to seek external assistance and comfort when needed.

The remaining three practices have typically been described as "non-supportive" and include: (a) *minimizing reactions* such as devaluing (e.g., there is no reason to be upset) or teasing the child's distress or telling them not to over-react, (b) *punitive reactions* such as scolding or disciplining a child for being upset, and (c) *distress reactions* such as expressing anger or embarrassment when a child displays negative emotions (Eisenberg et al., 1998; Fabes et al., 2002). Prior research has demonstrated that these practices are linked with emotional dysregulation, including poor anger regulation, avoidant coping, and emotion suppression (Eisenberg, Fabes, & Murphy, 1996; Hastings et al., 2008; Shortt, Stoolmiller, Smith-Shine, Eddy & Sheeber, 2010), and heightened internalizing and externalizing symptoms (Klimes-Dougan et al., 2007; Krause, Mendelson, & Lynch, 2003).

Rationale for Examining Ethnic Differences

The bulk of research on emotion socialization either is based on primarily European American samples (see for example Eisenberg et al., 1996; Hastings et al., 2008; Klimes-Dougan et al., 2007) or treats ethnicity as a control variable (see for example Calkins et al., 2008), neglecting the possibility that processes linking emotional socialization and outcomes operate differently for ethnic minority families. Substantial literature in the area of parent–child relations has demonstrated that beyond observing mean differences in parenting behaviors and child outcomes between groups, there is evidence that the effect of parenting on child outcomes varies between groups, particularly when comparing African Americans with European Americans. Most of this work has focused on the impact of physical discipline or authoritarian parenting styles on child development and demonstrated that these parenting behaviors have a more negative effect on European American children than

African American children (Deater-Deckard, Dodge, Bates, & Pettit, 1996; Ispa et al., 2004; Lansford, Deater-Deckard, Dodge, Bates, & Pettit, 2004; Polaha, Larzelere, Shapiro, & Petit, 2004; Steinberg, Mounts, Lamborn, & Dornbusch, 1991).

Three compelling explanations for this ethnic difference have been made in the discipline literature. First, the adaptiveness of a particular behavior varies depending on the perceived fit with the context, including cultural context (Ogbu, 1981). Consistent with this perspective, Dodge, Mcloyd, and Lansford (2005) stated that racial discrimination and disadvantage among African Americans "presents parents with a dilemma about how to prepare their children to succeed in a world that will scrutinize their every action and will be unforgiving" (p. 249). Such concerns may prompt African American parents to engage in firmer efforts to control their children's behavior, a behavior that seems appropriate in the context of racism given the potentially greater stakes if an ethnic-minority child misbehaves. Second, the normativeness of a behavior within a group affects how it is interpreted by group members and, subsequently, may influence the affective response children from the group have towards specific socialization strategies (Deater-Deckard & Dodge, 1997). That is, parenting that might be considered harsh in the context of European American family life may instead be perceived as normative and a sign of parental investment or love among African Americans (Mason et al., 2004).

Finally, some have argued that firm parental control in ethnic minority families reflects a deliberate child-centered strategy to instill valued cultural norms such as proper demeanor or respect for elders; whereas in other families firm control is a reactive behavior prompted by parental stress or negative feelings toward the child (Dodge, McLoyd, & Lansford, 2005; Grusec, Rudy, & Martini, 1997; Ispa et al., 2004). As such, African American parents may enact control strategies in a consistent and reasoned manner; whereas European American parents may enact control strategies inconsistently and in anger. These stylistic differences may explain why harsh discipline is less detrimental for the development of African American children than European American children.

A number of authors have commented on the need to examine the role of ethnicity in shaping emotion socialization practices and their effect on child outcomes (Cole & Tan, 2007; Denham, Caal, Bassett, Benga, & Geangu, 2004; Klimes-Dougan et al., 2007; Parke & McDowell, 1998). In particular, Cole and Tan (2007) laid out a series of important cultural considerations relevant to emotion socialization including that the extent to which parents encourage their children to express or suppress negative emotions should be contextualized within cultural norms and culture-specific socialization goals. Notably, the scant research on this topic somewhat parallels the behavioral control literature reviewed above. That is, African American parents engage in more minimizing, punitive, and non-supportive emotion socialization behaviors than European American parents (Halberstadt, Craig, Lozada, & Brown, 2011; Leerkes & Siepak, 2006; Montague, Magai, Consedine, & Gillespie, 2003; Nelson et al., 2012), behaviors that could be described as highly controlling of child emotions. Moreover, in one study that found this pattern, African American parents reported that it was less appropriate for their children to display their negative emotions and that there would be more negative social consequences for doing so than did European American parents (Nelson et al.). This is consistent with evidence that African American

adults view the expression of negative emotions as less acceptable than do European Americans (Matsumoto, 1993), and suggests that African American parents may deliberately utilize firm emotion socialization strategies that emphasize control of emotions (i.e., non-supportive) to teach their children to suppress their negative emotions in an effort to protect them.

A different pattern is apparent with regard to supportive emotion socialization. That is, African American and European American mothers do not differ in the extent to which they engage in supportive emotion socialization behaviors such as emotion encouragement and emotion teaching (Lunkenheimer, Shields, & Cortina, 2007; Nelson et al., 2012). Furthermore, African American mothers and fathers were observed to engage in more talk about positive and negative emotions with their infants than parents from other groups (Garrett-Peters, Mills-Koonce, Adkins, Vernon-Feagans, & Cox, 2008; Garrett-Peters, Mills-Koonce, Zerwas, Cox, & Vernon-Feagans, 2011). Although engaging in a high degree of both supportive and non-supportive emotion socialization practices may seem counterintuitive, it may reflect a highly nuanced approach to emotion socialization among African American parents that varies across contexts (i.e., public vs. private) and specific negative emotions (i.e., sadness versus anger) (Nelson et al.). For example, African American parents may engage in a high degree of expressive encouragement and emotion focused responses when children express negative emotions within the family, but engage in a high degree of minimizing and punitive strategies when children express negative emotion in a public setting. In fact, it has been argued that this pattern of supportive and non-supportive emotion socialization among African American parents reflects an effort to protect their children from racism by teaching them to be vigilant of their own and others' negative emotions and to suppress the expression of their own negative emotions (Garrett-Peters et al., 2008, 2011; Nelson et al.). To date, the extent to which such emotion socialization practices have similar or different associations with psychological well-being in adulthood across African Americans and European Americans, however, has not been considered.

Thus, drawing from the research about behavioral control and the available comparative data on emotion socialization, we posit that the effect of parental non-supportive emotion socialization on subsequent adjustment will vary by ethnicity such that non-supportive emotion socialization will be negatively associated with emotional well-being among European American women but not among African American women. Essentially, we propose that the appropriateness and hence effect of parents' non-supportive emotion socialization on women's emotional adjustment varies by ethnicity because of different socio-cultural experiences and expectations (Ogbu, 1981). Specifically, non-supportive emotion socialization is more normative in African American families and appears to be a deliberate effort to teach children to control or minimize their emotions. As such, it may be more temperate or accompanied by more warmth than non-deliberate non-supportive reactions to child distress thereby reducing the negative effect. Likewise, African American women may accurately perceive that their parents engaged in highly controlling responses to their negative emotions in an effort to protect them from discrimination (by recognizing that the expression of negative emotions may be interpreted negatively by European Americans) and view this as evidence of their parents' concern thereby reducing the negative effect of

this type of emotion socialization. In contrast, European American women likely perceive non-supportive emotion socialization as evidence that their parents did not understand, validate or care about their emotions. Given the relative absence of differences in supportive emotion socialization in prior research and the lack of a compelling conceptual reason to expect differences, we posit that supportive parental emotion socialization practices will have a positive effect on subsequent emotional well-being regardless of ethnicity.

The Current Study

In the current study, we examine ethnicity as a moderator of the associations between parental emotional socialization(supportive and non-supportive) and emotional well-being using a sample of pregnant women who were asked to retrospectively report their emotion socialization experiences in childhood. The sample is ideal to address this question because it included nearly equal numbers of African American and European American participants and included measures of adult emotional-well-being. Specifically, self-reported depressive symptoms and trait anger were assessed, and we also measured women's cardiac vagal tone to obtain a physiological indicator of emotional well-being. Cardiac vagal tone (or respiratory sinus arrhythmia, RSA) is thought to index the parasympathetic influence on heart rate by way of the vagus nerve (Porges, 2007). Specifically, the vagus nerve sends input to the heart that causes changes in cardiac activity that allows the body to transition between sustaining metabolic processes and generating responses to the environment. In the absence of a stressor, high vagal tone is considered adaptive because it maintains homeostasis. Moreover, high baseline vagal tone is generally viewed as a physiological marker of social-emotional adjustment and competent emotion regulation (Porges, 2007). Consistent with this view, prior research with adults and adolescents has demonstrated that individuals with high resting vagal tone are less likely to be depressed, anxious, hostile, and aggressive than individuals with low resting vagal tone (see Beauchaine, 2001 for a review). These outcomes were selected for considerations because they reflect individual differences in emotion experience, expression, and regulation, key outcomes identified in Eisenberg et al's (1998) heuristic model of emotion socialization and are consistent with outcome measures used in other recent studies of links between emotion socialization and adjustment (e.g., Calkins et al., 2008; Krause et al., 2003; Shortt et al., 2010).

In sum, we hypothesized that: (a) parents' non-supportive responses to negative emotions would be more strongly associated with higher depressive symptoms and trait anger and lower resting vagal tone among European American women than among African American women and (b) parents' supportive responses to negative emotions in childhood would be associated with lower depressive symptoms and trait anger and higher resting vagal tone among both African American and European American women.

Method

Participants

Participants were 259 pregnant women, expecting their first child, who were participating in a larger study on the origins of maternal sensitivity. Eight women who self-identified as both African American and European American were removed from the analytic sample given the

goals of this study. This resulted in an analytic sample of 251 women of whom 128 were European American and 123 were African American. Participants ranged in age from 18 to 44 years (M = 25). Twenty-seven percent had a high school degree or less, 27% had some college, and 46% had a 4 year college degree or beyond. The majority was married or living with their child's father (57%), 24% were in a relationship but not cohabitating with their child's father, and 19% were single. Annual family income ranged from less than $2,000 to over $100,000 (median = $35,000).

Procedures

Women were recruited from child birth education classes, breast-feeding classes, local obstetric practices, clinics, and by referrals from other participants via informational flyers or presentations by members of the research team. Women who were interested in learning more about the study either signed a consent form to be called at a later time or called our research office to hear the details of the study. Over the course of recruitment, a comparable number of class attendees were African American (925) and European American (897) based on recruiters estimation from physical appearance, and the proportion who ultimately completed the first phase of the study was comparable across ethnic groups. Thus, recruitment and participation were not confounded by ethnicity. Inclusion criteria included that women were 18 or older, African American or European American, fluent in English, and expecting their first child. Upon enrollment in the study, women were mailed their consent forms and a packet of questionnaires including measures of demographics, emotion socialization during childhood, depressive symptoms, and trait anger. Women returned their completed consent forms and questionnaires to us when they visited our laboratory for an interview during which heart rate was recorded. Participants received $50 and a small gift. All procedures were approved by the university's institutional review board.

Measures

Childhood emotion socialization—Participants completed a revision of the Coping with Children's Negative Emotions Scale (CCNES). The CCNES (Fabes, Eisenberg, & Bernzweig, 1990) was created to assess parental reactions to their children's negative emotions. In this study, women completed a modified version of the CCNES in which they rated the extent to which they recalled how their mothers and fathers (each rated separately) responded to their negative emotions in specific ways across 9 different situations (e.g., being teased by peers, being scared of injections, being nervous about possibly embarrassing herself in public) during their first 16 years of life, similar to the time-span used on the Parental Bonding Instrument, a frequently used retrospective measure of parental care and control during childhood (Parker, Tupling, & Brown, 1979)For each situation, participants rated how likely on a 7-point scale from 1 (*very unlikely)* to 7 (*very likely)* their own parents were to react in each of 6 alternative fashions: (a) *minimizing reactions*—the degree to which parents minimize the seriousness of the situation or devalue the child's distress, (b) *punitive reactions*—the degree to which parents respond with punitive reactions that decrease their exposure or need to deal with the negative emotions of their children, (c) *distress reactions*—the degree to which parents experience distress when children express negative affect, (d) *emotion-focused reactions*—the degree to which parents respond with strategies that help the child feel better, (e) *problem-focused reactions*—the degree to which

parents help or encourage the child to solve the problem that caused the child's distress or cope with it, and (f) *encourage expression of emotion*—the degree to which parents encourage children to express negative affect or validate their children's negative emotional states. Separate scores were created for mothers and fathers by averaging the ratings on individual items within a scale as described in the preliminary results section. Although the accuracy of retrospective reports of parenting has been called into question, prior research has demonstrated that adults' reports of childhood parenting are highly consistent over time and correlate significantly, albeit modestly with their parents' reports, and more strongly with their siblings' reports of parenting (Brewin, Andrews & Gotlib, 1993). In this sample, more African American women (23) were missing father data than were European American women (12) because their fathers were primarily absent during their childhood (χ^2 (1) = 4.55; $p < .05$). Given that a high proportion of data about fathers was missing, and was not missing at random, we focused on childhood emotion socialization practices used by mothers only.

Depressive symptoms—Depressive symptoms were assessed using the 20-item Center for Epidemiologic Studies–Depression Scale (CES–D; Radloff, 1977), which consists of a checklist of moods, feelings, and cognitions associated with depression (e.g., "I felt depressed," "I felt that people dislike me"). Respondents indicated how often they felt a particular way during the previous week on a 4-point scale ranging from 1 (*rarely/never*) to 4 (*most of the time*). The CES–D has demonstrated convergent validity with the Research Diagnostic Criteria, a standardized psychiatric interview, and with the Beck Depression Inventory (Spitzer, Endicott, & Robins, 1978). Items were averaged to derive a global measure of depressive symptomatology.

Trait anger—Trait anger was assessed via the anger subscale of the Differential Emotions Scale (DES; Izard, Libero, Putnam, & Haynes, 1993). Respondents rated the extent to which they "feel mad at somebody," "feel like screaming or banging something," and "feel angry, irritated, or annoyed with somebody" in daily life on a 5-point scale from 1 *(never/rarely)* to 5 *(very often)*. In prior research, scores on this scale have been highly stable over time and correlated with aggression (Izard et al., 1993), one type of externalizing behavior. Items were averaged such that higher scores indicate higher trait anger.

Vagal tone—Participants' heart rate was monitored during a 2-minute baseline period via three disposable electrodes (1 placed on each ribcage and one placed on their collarbone) which were connected to the Biolog (UFI, Morro Bay, CA) for R-wave detection. During this time, participants were instructed to remain as calm and quiet as possible. The experimenter pressed an event mark button on the Biolog to denote the start and stop time of the baseline on the data file. A data file containing the interbeat intervals (IBI), or the time between R-waves, was transferred to a computer for artifact editing (resulting from movement) and analyzed using the CardioEdit and CardioBatch software (Brain Body Center, University of Illinois at Chicago). Estimates of RSA were calculated using Porges' (1985) method. That is, heart period (HP) was derived from the IBI data then an algorithm was applied to the sequential HP data. A band-pass filter then extracted the variance of HP within the frequency band of spontaneous respiration (.12–.40 Hz) in adults. RSA was

calculated for every 15-second epoch during the two minute baseline and was then averaged across epochs. Brief epochs such as these are typical and have been validated for short duration tasks such as this one (Huffman et al. 1998). High baseline RSA scores indicate high resting vagal tone.

Results

Preliminary Analyses

Missing data—Less than 2% of data was missing overall, and the data were missing completely at random based on Little's test, χ^2 (52) = 62.40, ns. For the primary analyses based on structural equation modeling, missing data were handled via full information maximum likelihood (FIML) which uses all available information to generate the parameter estimates in SEM analyses (Acock, 2005). For the preliminary analyses to identify covariates, examine ethnic group differences, and test simple correlations that were conducted using SPSS, single imputation was used. Single imputation was deemed appropriate given the small amount of missing data (Acock, 2005) and was carried out in SPSS version 18 using a fully conditional specification model which is based on an iterative Markov chain Monte Carlo method.

Measurement equivalence—Because the primary analyses involve a comparison of measures across two ethnic groups, preliminary multi-group confirmatory factor analyses (MGCFA) were conducted to consider measurement invariance across the two ethnic groups following the approach outlined by Byrne (2004). In cases where measurement items demonstrate statistically significant differences in factor loadings across groups, bias in conclusions regarding groups differences in associations involving a construct and other factors may result. That is, if factor loadings linking items to a latent construct vary across groups, patterns of association across groups may exists due to measurement differences and not for substantive reasons.

Measurement invariance was considered via MGCFA analyses where latent factors representing the target construct were specified as having a specific number of items (per the measure's typical strategy) loading onto the target factor. Two models were then compared, one with factor loadings freely estimated across groups and another model where factor loadings were constrained to equality across groups. To the extent that the two alternative models' fit statistics do not differ by a significant amount (using a χ^2 difference test), there is evidence of measurement invariance (forcing factor loadings to be equal across groups doesn't adversely affect model fit). Measurement invariance analyses were conducted on each measure separately.

Results suggested that factor loadings and item intercepts were invariant across the African American and European American participants (strong invariance; Meredith, 1993) for the measures designed to assess remembered supportive emotion socialization (emotion-focused, problem-focused, expressive encouragement) Measures designed to assess non-supportive responses to children's emotions required the deletion of certain items that demonstrated low factor loadings in the sample overall (e.g., 4 items from distress reactions and 1 item each from the punitive and minimizing subscales). The reduced 5-item distress

reactions factor and 8-item minimizing factor demonstrated good fit and were invariant across groups. In contrast, 2 of the 8 items retained for the punitive scale had significantly different factor loadings across groups necessitating their removal to achieve measurement invariance. This final 6-item punitive scale demonstrated a good fit and was invariant across groups. The measures of depressive symptoms and trait anger were invariant across the two groups and no items were removed. Details about these analyses are available from the second author upon request. Descriptive statistics and internal consistency reliability for all key variables are reported separately for African American and European American participants in Table 1.

Identifying covariates—African American participants were significantly younger (M = 23.02; SD = 4.69) and less educated (M = 3.22, SD = 1.58) than European American participants (M_{age} = 26.95, SD = 5.46; $M_{education}$ = 4.41; SD = 1.82), $t(248) = 6.12$ and 5.50 respectively, both $p < .01$. In addition, age and education correlated negatively with depression and trait anger, $r(249) = -.14, -.23, -.25, -.29$, respectively, all $p < .01$, and age correlated negatively with resting vagal tone, $r(249) = -.15$, $p < .05$. Thus, age and education were controlled when the primary hypotheses were tested to ensure that they did not account for observed ethnic differences.

Mean Differences—Ethnic differences in all key variables were examined via analysis of covariance in which education and age were controlled. Only one difference emerged. African American women reported higher trait anger (M = 2.56, SE = .08) than European American women (M = 2.30; SE = .08), $F(1, 250) = 5.10$, $p < .05$.

Simple Correlations—Simple correlations among all study variables are reported separately for African American women (above the diagonal) and European American women (below the diagonal) in Table 2.

Primary Analyses

Structural equation modeling analyses (SEM; using Amos 20) were conducted to examine associations between both remembered maternal non-supportive and supportive emotion socialization with maternal reports of depressive symptoms, anger, and resting vagal tone. To consider ethnicity as a moderator of associations between remembered maternal emotion socialization and the outcomes, we conducted a multigroup analysis to compare coefficients across African American and European American respondents. Consistent with our conceptualization, and prior research, mothers' emotion-focused, problem-focused, expressive encouragement reactions to distress were specified as loading onto a latent factor reflecting supportive emotion socialization, and mothers' punitive, minimizing, distress reactions to child distress were specified as loading on a latent factor reflecting non-supportive emotion socialization. As such, there were two main latent factors specified to predict two outcomes indicative of current emotional distress, depressive symptoms and anger (both estimated as manifest variables), and one indicator of emotional well-being (resting vagal tone). Age and maternal education were included as control variables. To evaluate model fit we relied on χ^2 values (with nonsignificant χ^2 values indicative of good fit), the Root Mean Error of Approximation (RMSEA, good fit < .06) and the Comparative

Fit Index (CFI, good fit > .95; Hu & Bentler, 1999; Kline, 2011). Multigroup analyses were used to determine if path coefficients varied in their magnitude and χ^2 difference tests were used to determine statistical significance of such differences across African American and European American respondents.

Prior to considering differences across the groups of mothers in structural coefficients (i.e., paths in the model) we examined whether or not the factor loadings linking the emotional socialization latent factors to their respective indicators were invariant across groups. This analysis involved χ^2 difference tests to consider if constraining factor loadings to be equal across groups would significantly worsen the model fit. The baseline model (represented in Figure 1) demonstrated an adequate fit to these data (χ^2 = 65.31, *df* = 59, $p > .05$; RMSEA = .02; CFI = .99) when factor loadings across groups were freely estimated. Adding equality constraints on the loadings resulted in a worsened model fit (χ^2 = 76.15, *df* = 63, $p > .05$; RMSEA = .03; CFI = .99; $\Delta\chi^2$ = 10.84, *df* = 4, $p < .05$) and suggested that the loading linking non-supportive emotional socialization and distress reactions varied across groups. After freeing that factor loading, the model fit improved and a comparison of the baseline model and the constrained model (but with the one noninvariant item freed) were statistically comparable (χ^2 = 72.86, *df* = 62, $p > .05$; RMSEA = .03; CFI = .99; $\Delta\chi^2$ = 7.55, *df* = 3, $p > .05$). Subsequent analyses were conducted with all factor loadings constrained to equality across groups with the exception of the item representing distress reactions. All other parameters were freely estimated across groups (variances and covariances).

To examine the main study questions, multigroup analyses comparing a model with all path coefficients specified as freely estimated across the two samples of mothers to an alternative model with all path coefficients equal across the two groups (including associations between control variable and the outcomes). Results suggested that the baseline model demonstrated a good fit to these data (see fit statistics above) and that forcing path coefficients to equality across the two groups of mothers also led to a model that fit moderately well (χ^2 = 96.06, *df* = 74, $p < .05$; RMSEA = .04; CFI = .98). A comparison of χ^2 values across the two models, however, suggested that constraining paths to equality led to a statistically significant decrement in model fit ($\Delta\chi^2$ = 23.20, *df* = 12, $p < .05$) suggesting that there were significant differences in path coefficients across the groups. An examination of critical ratios statistics comparing coefficients across the two groups revealed that there was a statistically significant difference in the path from non-supportive emotion socialization by mothers to depressive symptoms across ethnic groups. In addition, the association between maternal age and depressive symptoms varied across the two groups. In a subsequent model, those two specific paths were freed and, with all other paths equal across groups, the final model demonstrated a good fit to the data (χ^2 = 79.18, *df* = 72, $p > .05$; RMSEA = .02; CFI = .99) and, more importantly, there was no longer a decrement in model fit when constraining all other regression paths to equality across the two groups of women ($\Delta\chi^2$ = 6.32, *df* = 10, $p > .05$).

Based on these results, it appears that all associations linking emotion socialization to maternal outcomes are similar across African American and European American respondents with the exception of the path linking non-supportive emotion socialization and depressive symptoms. As illustrated in Figure 1, in the African American sample this

coefficient was B = .02 (β = .05), p > .05, while for the European American mothers, this same coefficient was B = .13(β = .30), p < .001. Thus, consistent with prediction, remembered non-supportive emotion socialization by mothers was related to elevated depressive symptoms among European American women but not among African American women. Contrary to prediction, non-supportive emotion socialization was comparably associated with higher trait anger for both groups (B = .14, β = .16/.17 for African American/European American women, p < .05). Finally, consistent with prediction, supportive emotion socialization was linked with emotional adjustment as indicated by higher resting vagal tone regardless of ethnicity (B = .17, β = .18/.14 for African American/ European American women, p < .05). Remembered supportive emotion socialization was not related to depressive symptoms (B = −.03, β = −.10/−.09 for African American/ European American women, p > .05) or trait anger (B = −.05, β = −.08 for both African American and European American women, p > .05) across groups. Similarly, remembered non-supportive emotion socialization was not associated with resting vagal tone across ethnicities (B = .05, β = .04/.03 for African American/European American women, p > .05).

In addition to these key findings, our results also indicated that the control variables were related to the outcomes variables. Specifically, age was positively associated with depressive symptoms among African American women (B = .22, β =.22, p < .05) but this association was negative, although nonsignificant for European American women (B = −.12, β = −.17, p >.05). Age was negatively associated with resting vagal tone (B = −.69, β = −.23/−.26 for African American/ European American women, p < .01) but was not associated with trait anger across groups (B = −.08, β = −.04/−.06 for African American/ European American women, p > .05). Education was negatively associated with both depressive symptoms (B = −.04, β = −.15/−.20 for African American/ European American women, p <.05) and trait anger (B = −.09, β = −.14/−.22 for African American/ European American women, p < .05), but was not associated with resting vagal tone (B = .09, β = .10/.11 for African American/ European American women, p > .05).

Discussion

The goal of this study was to examine potential ethnic differences in the extent to which two types of emotion socialization practices affect adult emotional well-being. Drawing on theory and research related to ethnic differences in the effects of parental discipline and parenting styles on child outcomes (Deater-Deckard et al., 1996; Steinberg et al., 1991), we predicted that non-supportive emotion socialization would be more detrimental to the emotional well-being of European American women than African American women. In contrast, we predicted that supportive emotion socialization would be linked with emotional well-being among both groups. The results were somewhat consistent with prediction.

First, consistent with prediction, the extent to which European American participants recalled their mothers engaging in non-supportive responses to their negative emotions in childhood was associated with heightened depressive symptoms. This was not the case for African American participants. This pattern is consistent with prior evidence that low mother-child openness, which includes the extent to which children share emotions with and seek comfort from their mother, was associated with depressive symptoms for European

American children but not African American children (Vendlinksi, Silk, Shaw, & Lane, 2006). Contrary to expectation, this moderating effect was not replicated for trait anger. Rather, recollections of mothers' non-supportive emotion socialization was related to heightened trait anger for the sample as a whole suggesting that a history of having parents respond to one's negative emotions with anger, embarrassment, scolding, and messages that one is over-reacting feels negative in the moment and contributes to heightened anger and difficulty regulating anger over time regardless of ethnicity. Comparable results were reported by Shortt et al. (2010) who found that mothers who were low on emotion coaching had adolescents who struggled to regulate their anger. That ethnicity moderated the effect of remembered non-supportive emotion socialization on depression but not anger warrants explanation. It may be this difference stems from differences in the nature of these outcomes. The CES-D captures individual difference in clinically relevant depressive symptoms whereas the Differential Emotions Scale captures variation in anger within the normative range. Perhaps results would have been comparable had a clinical measure of externalizing symptoms been available.

The results for depression are consistent with the view that African American women may be less likely to interpret non-supportive emotion socialization as a negative reflection on them, but rather view it as a sign of parental investment thereby protecting them from negative cognitions and affect about themselves whereas European American women may interpret non-supportive emotion socialization to reflect a lack of parental investment or concern thereby eroding their sense of self and contributing to heightened depressive symptoms. Consistent with this view, African American women reported feeling more loved and less ashamed when their parents engaged in non-supportive emotion socialization practices than European American women (author reference). In fact, differences in the manner in which African American and European American women perceive parental non-supportive emotion socialization, and hence the appropriateness of this behavior in context, was one of three explanations we posed for possible ethnic differences in the effects of non-supportive emotion socialization on emotional well-being.

The data we have presented also allow us to comment on the other two explanations we raised: differences in the normativeness of non-supportive emotion socialization and stylistic differences in parents' enactment of non-supportive emotion socialization. First, contrary to prior research, there were no group level differences in the extent to which African American women and European American women reported that their emotions were responded to in non-supportive fashion by their mothers during childhood in this sample (Leerkes & Siepak, 2006; Montague et al., 2003). This appears to undermine the normativeness argument somewhat. However, in the current study some items indicative of non-supportive emotion socialization were dropped because they failed to achieve measurement invariance across the two groups of respondents (African Americans versus European Americans). Consequently, our test of group differences may be more conservative. This reduces the likelihood of observing mean differences in our study compared to other studies in which these steps were not taken (Lee, Little, & Preacher, 2011). Second, in regard to stylistic differences, the negative association between mothers' supportive and non-supportive socialization practices did not vary between groups (as demonstrated by the fact that the model did not fit worse when this parameter was

constrained to equality). This is contrary to the pattern observed in the parenting styles literature in which the use of highly controlling discipline is less likely to be associated with low warmth in African American families (Deater-Deckard et al., 2011; Jackson-Newsom et al., 2008). So, it is not the case that European American mothers were more likely than African American mothers to engage in non-supportive emotion socialization practices in the context of limited supportive emotion socialization practices ruling out one type of style difference in how non-supportive emotion socialization is enacted, at least in this sample. However, other relevant types of style differences cannot be addressed in the current study. For example, the extent to which mothers' non-supportive emotion socialization correlates with general maternal warmth or the quality of the mother–child relationship may vary across groups. This possibility warrants consideration in future research to better understand why mothers' non-supportive emotion socialization is unrelated to the development of depressive symptoms among African American women.

Consistent with prediction maternal supportive reactions to negative emotions in childhood were associated with emotional well-being as evidenced by higher resting vagal tone for both European American and African American women. Mothers who encourage their children to express feelings and to problem solve while also providing comfort likely teach their developing children flexible strategies to express and regulate emotions and instill emotional openness or flexibility (Eisenberg et al., 1998). Hypervigilance to external threat, which low resting vagal tone is believed to reflect (Beauchaine, 2001), should be unnecessary in this type of context. Emotionally supportive and sensitive parenting has been linked with higher resting vagal tone among infants and young children (Haley & Stansbury, 2003; Hastings et al., 2008), but to our knowledge our study is the first to demonstrate a link between adult's recollections of early parenting and adult resting vagal tone.

Four major limitations of the current study must be considered. First, this is not a representative sample. Rather, this is a community sample of expectant mothers. Thus, it is unclear if similar results would be apparent in young women in general or among young men. Second, participants' retrospectively reported on the parenting they received in childhood. This raises questions concerning the accuracy of their reports. Importantly, there is evidence that adults' retrospective reports of parenting on other measures correlate both with their parents' own self-reports of parenting, albeit weakly, and moderately with their sibling's reports of parenting lending support to the validity of this approach (Harlaar et al., 2008; Parker, 1981). Relatedly, shared method variance may account for some of the associations as the independent variable, emotion socialization in childhood, and two of the three outcome variables (depressive symptoms and trait anger) were self-reports as well. However, that supportive emotion socialization was significantly associated with resting vagal tone, a physiological indicator of emotional well-being, somewhat undermines this concern. Finally, as data were collected concurrently, the direction of effects is unclear. The possibility that compromised emotional well-being caused participants to recall their childhood experiences more negatively cannot be ruled out. Likewise, the possibility that well-regulated children elicited more supportive emotion socialization cannot be ruled out. Nevertheless, this study offers intriguing early evidence that ethnic differences in links between emotion socialization and subsequent adjustment exist. Replication and extension in prospective longitudinal designs including males and females are needed.

In conclusion, this study provides evidence that mothers' use of non-supportive emotion socialization practices is more detrimental to the emotional well-being of European American children than African American children in regards to depressive symptoms. This finding supports the view that cultural context can alter the link between a specific parenting behavior and children's subsequent development and underscores the importance of being cautious when extrapolating research based primarily on European American samples to other groups. This finding also suggests that using the label "non-supportive" emotion socialization may be inappropriate in ethnically diverse samples because the effects of these practices are not uniformly negative. Alternative labels such as emotion minimizing socialization or emotion controlling socialization may be preferable as they appear to reflect the apparent goal of these practices, to encourage children to suppress or reduce their display of negative emotions, without an evaluative connotation. In contrast, the positive link between mothers' supportive emotion socialization practices and positive emotional adjustment was apparent in both groups. Important future directions include closer examination of the effects of fathers' emotion socialization practices on adjustment, determining if similar ethnic differences in the effect of emotion minimization on subsequent outcomes are found among representative samples of males and females, and examining the effect of emotion socialization styles (i.e., clusters or patterns across practices) on child outcomes.

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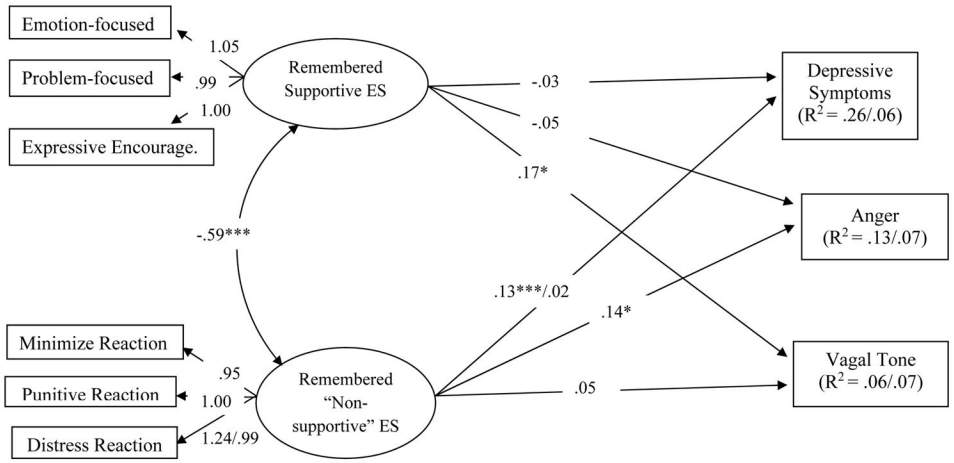

Figure 1.

Remembered childhood emotion socialization and adult women's emotional well-being controlling for age and education. Measurement errors, residuals, and controls are not shown to simplify presentation. Unstandardized parameter estimates are presented for the full sample with the exception of the path from minimizing emotion socialization to depressive symptoms which varied significantly between groups (presented European American/ African American women). Standardized parameter estimates are reported in the text. R^2 statistics and the one factor loading that varied between groups are also presented European American/ African American women. ES = Emotion Socialization. Encourage. = Encouragement.
*p < .05, **p < .01.

Table 1

Descriptive Statistics

	European American				African American			
Variables	***n***	***M***	***SD***	**α**	***n***	***M***	***SD***	**α**
M emotion-focused	128	5.16	1.26	.91	123	4.86	1.53	.92
M problem-focused	128	5.13	1.19	.89	123	4.92	1.54	.90
M expressive encouragement	128	4.01	1.50	.93	123	4.01	1.62	.91
M minimizing	128	3.03	1.20	.82	123	3.26	1.22	.71
M punitive	128	2.09	.95	.71	123	2.10	1.38	.78
M distress reactions	128	2.51	1.24	.76	123	2.76	1.29	.67
Depressive symptoms	128	12.32	7.97	.87	123	15.33	9.28	.87
Trait anger	128	2.23	.72	.79	123	2.69	.95	.84
Resting vagal tone	128	5.82	1.46	—	123	5.66	1.38	—

Note. M = Mother

Table 2

Simple Correlations Within Ethnic Group

	1	2	3	4	5	6	7	8	9	10	11
1. Age	-	.53**	.00	−.02	−.02	.15	.05	.13	.14	−.12	−.24**
2. Education	.74**	-	.21*	.12	.20*	.07	.01	.05	−.08	−.22*	−.07
3. Emotion-focused	−.06	.00	-	.88**	.91**	−.16	−.39**	−.37**	−.14	−.18*	.12
4. Problem-focused	−.11	−.18*	.74*	-	.83**	−.16	−.34**	−.30**	−.07	−.16	.10
5. Expressive enc.	−.08	−.02	.91**	.73**	-	−.11	−.38**	−.34**	−.16	−.21*	.11
6. Minimizing	.01	−.10	−.34**	−.30*	−.32**	-	.60**	.59**	.05	.09	.06
7. Punitive	−.03	−.19*	−.43**	−.35**	−.42**	.68**	-	.62**	.07	.07	−.06
8. Distress reactions	−.03	−.06	−.53**	−.45**	−.51**	.72**	.71**	-	.13	.17	−.07
9. Depressive symp.	−.31*	−.34**	−.23**	−.10	−.27**	.26**	.30**	.38**	-	.54**	−.06
10. Trait anger	−.20*	−.25**	−.13	.03	−.14	.15	.18	.28**	.49**	-	.02
11. Vagal tone	−.14	−.01	.25**	.16	.22*	.09	−.06	−.07	.00	.10	-

Note. Correlations for African American participants reported above the diagonal. Correlations for European American participants reported below the diagonal.

* $p < .05$;

** $p < .01$