

## ABSTRACT

### ASIAN INDIAN IMMIGRANT AND WHITE AMERICAN MATERNAL EMOTION SOCIALIZATION, CHILD EMOTION REGULATION, AND CHILD BEHAVIOR PROBLEMS

by Bethany McCord

Research on parental emotion socialization and its relation to child functioning among ethnic minority groups in the United States is scarce. This study compared reports of Asian Indian immigrant and White American mothers' responses to their children's negative emotions and examined relations among mothers' responses, child emotion regulation strategies, and child outcomes. Indian immigrant ( $n = 34$ ) and White American ( $n = 38$ ) mothers completed self-report measures of their responses to children's emotions and child functioning, and children completed self-report measures of emotion regulation and social competence. Indian immigrant mothers were more likely than White American mothers to report responding to their children's emotions with overriding and nonsupportive responses. However, only in the White American group, mothers' nonsupportive responses to children's emotions and child emotion dysregulation were positively related to child behavior problems. Moderated mediation analyses were performed with these variables but were nonsignificant. Results are discussed in the context of cultural influences on emotion socialization and its relation to child functioning.

ASIAN INDIAN IMMIGRANT AND WHITE AMERICAN MATERNAL EMOTION  
SOCIALIZATION, CHILD EMOTION REGULATION, AND CHILD BEHAVIOR  
PROBLEMS

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## Asian Indian Immigrant and White American Maternal Emotion Socialization, Child Emotion Regulation, and Child Behavior Problems

Parents raise their children to act in accordance with sociocultural norms, including norms of emotional experience, expression, and control. This process of shaping children's emotions is referred to as emotion socialization (ES). The sociocultural norms that drive parents' ES practices are determined by many factors, including cultural meanings of emotion expression (Markus & Kitayama, 1991), adaptations to the unique social circumstances faced by one's ethnic group (Nelson, Leerkes, Perry, O'Brien, Calkins, & Marcovitch, 2012; Parker et al., 2012), gendered social roles (Brody & Hall, 2010), and the specific emotion in question (O'Neal & Magai, 2005). It is important to understand variation in ES because this process fosters children's emotion regulation (ER), the ability to express and control emotions in an adaptive way. Furthermore, previous research suggests that child ER mediates the relation between parental ES and child socio-emotional functioning (Eisenberg, Cumberland, et al., 2001; Eisenberg, Valiente, et al., 2003; Spinrad et al., 2007; Eisenberg, Zhou, Spinrad, Valiente, Fabes, & Liew, 2005; Valiente et al., 2006; Raval, Raval, & Deo, 2013; Eisenberg, Pidada, & Liew, 2001; Eisenberg Liew, & Pidada, 2004). Thus, a context-specific understanding of parental ES, child ER, and relationships between the two processes may help clarify the diverse pathways that lead to positive and negative socio-emotional outcomes for children.

Although there is an emerging cross-cultural literature that examines ES, research pertaining to ES and ER in ethnic minority groups in the US is scarce. Research has shown that parents' beliefs concerning emotions vary across ethnic groups (Parker et al., 2012), though parents' ES behaviors and their relation to child functioning has received scant research attention. Asians have been the fastest growing ethnic group in the US within the past decade, with the Asian Indian population growing at a rate of 69.37% (US Census Bureau, 2012). Asian Indians also have a rich sociocultural heritage that provides a very different cultural context to examine ES than White Americans (Raghavan, Harkness, & Super, 2010). Demographically, Asian Indians represent a well-educated and upper-middle class community in the US that is considered one of the "model minorities." However, attention has been drawn to the mental health needs of Asian Indians in the US, and research is needed to understand parental influences on child functioning in this population (Tummala-Narra, Inman, & Ettigi, 2011). Moreover, few

cross-ethnic studies of emotion have included Asian Indian immigrants. For these reasons, the present study focuses on this group.

The purpose of this study was two-fold: First, mothers' reports of their responses to children's negative emotions, a specific form of ES was compared across Asian Indian immigrant and White American families. The effects of child gender and type of emotion expressed were also examined. Second, interrelations among reports of mothers' responses to their children's negative emotions, child ER strategies, and child socio-emotional functioning in the two ethnic groups were investigated. Specifically, moderated mediation models were tested that assessed the mediating role of child ER in the relation between maternal reports of responses to children's negative emotions and child behavior problems, and ethnicity as a moderator of the relation between reports of mothers' responses to children's emotions and child ER (See Figure 1).

### **Parental ES and Child ER in Context**

Parental ES involves parent-child discussions about emotions, parental emotion expressivity, including parents' modeling of emotions to their children, and parents' responses to children's emotions (Eisenberg, Cumberland, & Spinrad, 1998). The overall emotional climate of the parent-child relationship and parental evaluations of children's emotions are also considered a part of parental ES (Thompson & Meyer, 2007). Parents' responses to children's emotions have been the most widely studied aspect of ES, which is the focus of the current study. Parental ES is thought to influence children's developing skills for ER, which has been defined as the "behaviors, skills, and strategies, whether conscious or unconscious, automatic or effortful, that serve to modulate, inhibit, and enhance emotional experiences and expressions" (Calkins & Hill, 2007; p. 229). Conversely, children's emotion dysregulation (EDR) has been broadly defined as "difficulties with the flexible integration of emotion with other processes and poor control over affective experience and expression" (Cole, Michel, & Teti, 1994; p. 77). Emotion overregulation, a blunted or curtailed experience or expression of emotion, and underregulation, an intense or prolonged experience or expression of emotion are two forms of EDR. Child ER and EDR, in turn, have unique links to child outcomes. For example, child ER is associated with social competence, peer acceptance, and psychological wellbeing across cultures (Eisenberg, Pidada, & Liew, 2001; Eisenberg et al., 2004; Eisenberg, Gershoff, et al., 2001; Denham, Workman, Cole, Weissbrod, Kendziora, & Zahn-Waxler, 2000), whereas child EDR



has been associated with low social competence, internalizing and externalizing problems, and psychopathology across cultures (Raval, et al., 2014; McLaughlin, Hatzenbuehler, Mennin, & Nolen-Hoeksema, 2011; Dollar & Stifter, 2011; Silk, Steinberg, & Morris, 2003; Eisenberg, Cumberland, et al., 2001).

Finally, it is important to note that as the relationship between parental ES and child ER is conceptualized as reciprocal, child ER is likely to influence the ways in which mothers respond to children's negative emotions (Eisenberg et al., 1998). However, the focus of the present study is to examine the influence of maternal ES on child ER.

**Parental responses to children's emotions.** Based primarily on work with White, middle class, American samples, parents' responses to children's emotions have been conceptualized as either facilitating or interfering with children's ability to regulate emotions (Malatesta-Magai, 1991). Eisenberg and colleagues (1998) similarly describe these as supportive or nonsupportive responses. Supportive responses, or those that facilitate the development of children's ER, include emotion-focused responses (e.g. comforting the child), problem-focused responses (e.g. helping the child resolve the upsetting issue) and responses that encourage children to express their emotions (Eisenberg et al., 1998). In contrast, nonsupportive responses to children's negative emotions, or those that interfere with the development of ER, include punitive responses (e.g. verbal or physical punishment) and minimizing responses (e.g. minimizing the significance of the child's emotion) (Eisenberg et al., 1998).

In addition to the aforementioned supportive and nonsupportive responses to children's emotions, O'Neal and Magai (2005) have also examined mothers' neglect responses (e.g., ignoring the child's emotion), magnifying responses, and overriding responses. Although neglect has been considered a nonsupportive response, magnify and override have not been conceptualized as exclusively facilitative or interfering ES strategies (O'Neal & Magai, 2005). O'Neal and Magai (2005) define magnifying as "when the child expresses an emotion and the parent subsequently responds to the child by expressing the same emotion with equal or stronger intensity" (p. 468). Similar to Eisenberg and colleagues' (1994) parental distress reactions, which are operationalized as the parent experiencing distress in response to children's emotions, magnifying responses more specifically involve the parent expressing distress to the child. As Garside (2004) identifies, slight changes in the wording of items describing parental magnifying responses can give rise to punitive and non-punitive interpretations by respondents. For example,

the magnifying responses “I got upset for my child,” and “I got upset” have non-punitive and punitive undertones, respectively. Previous studies have assessed different combinations of punitive and non-punitive magnifying responses (Garside, 2004; O’Neal & Magai, 2005). As the measure used in the current study primarily assessed punitive magnifying responses, they were conceptualized as nonsupportive in the present study.

O’Neal and Magai (2005) define overriding as a “parent silencing a child’s expressed emotion by dismissing or distracting the child” (p. 468). This category includes dismissive responses that may be nonsupportive (e.g. telling a child to cheer up; O’Neal & Magai, 2005), inhibiting further expression or discussion of children’s emotions (Garside & Klimes-Dougan, 2002), or distraction responses that are intended to comfort the child (e.g. distracting an upset child by buying her/him something; O’Neal & Magai, 2005). The relation of overriding responses to child functioning is less clear. Global overriding responses have been associated with child internalizing behaviors (O’Neal & Magai, 2005), and overriding anger, but not sadness and fear, has been associated with children’s psychological distress (Garside & Klimes-Dougan, 2002). Overriding responses were conceptualized as neither supportive nor nonsupportive in the current study.

**Cross-cultural and cross-ethnic differences in parental ES and child ER.** A bulk of the research concerning ES and children’s and adults’ strategies for expressing and controlling emotions has been conducted with White, middle-class families in the US and other Western cultures. In general, these groups value independence and encourage the expression of emotions as an exercise of agency, autonomy, and self-expression, and as a strategy to ensure that one’s needs are met (Kağıtçıbaşı, 1996; Markus & Kitayama, 1991). Kitayama, Mesquita, and Karasawa (2006) suggest that individuals in these cultural groups are more likely to experience and express socially disengaging emotions (i.e. pride, anger). Socialization practices in these groups are likely to encourage the expression of emotions such as anger, as these expressions symbolize individuality (Keller & Otto, 2009).

In contrast to a cultural model of independence, in Asian and Asian American families, interdependence or inherent connectedness of individuals is generally valued (Kağıtçıbaşı, 1996; Markus & Kitayama, 1991). In this context, emotion expression is encouraged when it serves the purpose of maintaining relationships and is discouraged when it indicates dissatisfaction with interpersonal relationships (Wilson, Raval, Salvina, Raval, & Panchal, 2012). Kitayama and

colleagues (2006) suggest that individuals in these groups are less likely to experience and express socially disengaging emotions such as anger because these emotions are disruptive to harmonious social relationships. Thus, socialization practices are likely to teach children to control socially disengaging emotions. Consistent with this line of thinking, in one study, mothers in India were less likely to report responding to their children's negative emotions with expressive encouragement and problem-solving responses than were White American mothers (Raval et al., 2013). Moreover, mothers in India reported responding to their children's expressions of anger and sadness by "making the child understand" the consequences of emotional displays more than White American mothers (Raval et al., 2012; Raval & Martini, 2011). Overall, mothers in India were teaching their children to accept the emotion-eliciting situation rather than utilize strategies to resolve the situation. Consistent with maternal goal of teaching children to control negative emotions, children in India reported controlling expressions of negative emotions (anger, sadness, and pain) more than children in the US (Wilson et al., 2012). Indian children reported facial concealment of emotions more than US children, though no difference was found for other methods of emotion control (e.g., distraction).

Parental ES also varies within cultures as a function of ethnicity (Parker et al., 2012; Nelson et al., 2012; Kusserow, 2004) and immigrant status (Wang, 2012; Cervantes, 2002). Few studies of cross-ethnic differences in ES have included Asian Indian immigrants. Thus, the current study is additionally informed by the cross-cultural studies described above, as well as by research with other ethnic groups in the US. Several studies have indicated that Asian immigrants in the US strive to uphold the traditional cultural value systems of their countries of origin (Wang, 2012; Chang & Karl Kwan, 2009; Kim, 2009), including Asian Indian immigrants (Raghavan, Harkness, & Super, 2010). Interestingly, some studies suggest that in this effort, Asian immigrant parents more strongly uphold traditional cultural value systems than Asian parents living in Asia, who are affected by forces of globalization (Wang, 2012; Raval et al., 2013; Kağıtçıbaşı, 1996). Furthermore, regardless of immigrant status, norms of emotion expression vary cross-ethnically in the US, and this variation may be adaptive (García Coll, Lamberty, & Jenkins et al., 1996). García Coll and colleagues (1996) proposed an integrative model of ethnic minority children's developmental competencies that highlights the effects of social class and ethnicity and ensuing racism and discrimination on the characteristics of adaptive development. According to this model, ethnic variation in parental ES may reflect a

combination of upholding traditional cultural value systems and adaptation to experiences of racism and discrimination. In fact, a qualitative study by Fishman and colleagues (2014) demonstrates that Asian Indian immigrant mothers' beliefs concerning emotions represent a blend of Indian cultural values and experiences related to immigration. Mothers in this study considered negative emotions as inevitable, and described the goal of "moving on" from these emotions. Fishman et al. (2014) contrasted this approach with that of White American mothers who view negative emotions as teaching opportunities and use strategies such as comforting and problem solving to do this. In the current study, mothers' overriding responses may serve the goal of "moving on" from children's emotional experiences more than the goal of teaching children about emotions. Therefore, it is expected that maternal overriding of children's emotions will be more strongly related to child functioning in the Indian immigrant group than in the White American group.

**Child gender differences in parental ES and child ER.** In addition to ethnicity, child gender plays a pertinent role in parental responses to children's emotions. Parents respond differently to daughters' and sons' expressions of emotions, which is due in part to women and men's unique social roles (Brody & Hall, 2010; Root & Rubin, 2010). In the US, women are generally expected to be communal (i.e. friendly, helpful, altruistic), and men are generally expected to be agentic (i.e. assertive, instrumental, independent) (Brody & Hall, 2010; Chaplin, Cole, & Zahn-Waxler, 2005; Eagly & Wood, 1991). Although the gender roles literature is less developed for Asian Indian immigrants, there is some support for the idea that these families promote traditional, patriarchal gender roles (Kallivayalil, 2004). Thus, parents may socialize daughters to express and control emotions as a means of supporting relationships, whereas they may socialize sons to express and control emotions as a means of exercising autonomy and achieving goals (Chaplin et al., 2005). According to this theory, nonhostile emotions such as sadness and fear are encouraged in girls and discouraged in boys, and the opposite socialization pattern occurs for hostile emotions like anger (Chaplin et al., 2005). Some empirical work has found support for this theory (Cassano, Perry-Parrish, & Zeman, 2007; Chaplin et al., 2005; Garside & Klimes-Dougan, 2002; Fivush, Brotman, Buckner, & Goodman, 2000; Casey & Fuller, 1994), yet other studies have not found expected effects of child gender on parental ES (Eisenberg, Fabes, Shepard, Guthrie, Murphy, & Reiser, 1999; Eisenberg, Fabes, & Murphy, 1996; Eisenberg & Fabes, 1994). It should be noted that even among studies reporting some

significant gender differences in parental ES, not all effects that would be expected based on gender norms are supported. Brody and Hall (2010) provide some explanation for these mixed findings, suggesting that child gender should not be expected to have consistent effects on parental ES given that adaptive ER is determined not only by gender, but by all factors that comprise identity (e.g. ethnicity, age, social class, status). Furthermore, much of the empirical work investigating the effect of child gender on parental ES has been focused in two areas: parent-daughter versus parent-son discussions about emotions (Zeman, Perry-Parrish, & Cassano, 2010; Fivush et al., 2000), and parents' differential responding to daughters' and sons' expressions of emotions in the infant to toddler developmental stages (Root & Rubin, 2010; Chaplin et al., 2005; Fivush et al., 2000). The current study contributes to the understanding of child gender differences in parental ES by examining mothers' reports of their responses to daughters' and sons' expressions of emotions in middle childhood and early adolescence. In addition to addressing this gap, this developmental period is of interest because children face new social challenges and become more independent from their parents during this time (Klimes-Dougan & Zeman, 2007; Zeman et al.; Oberle, Schonert-Reichl, & Thompson, 2010).

**Emotion-specific differences in parental ES.** Much of the existing empirical work in the area of parental ES has studied global patterns of responses to children's emotions rather than parents' responses to specific emotions (Root & Denham, 2010; Cassano et al., 2007; O'Neal & Magai, 2005). However, according to a functionalist perspective of emotions, every given emotion carries a unique social function (Campos, Mumme, Kermoian, & Campos, 1994). For example, children may express sadness in order to elicit comforting responses, whereas they may express anger in attempt to change another's behavior. Thus, parental responses to children's emotions are expected to vary depending on the function of the specific emotion in question. Indeed, children report that they anticipate (Fuchs & Thelen, 1988) and receive (O'Neal & Magai, 2005) different parental responses to their expressions of anger and sadness. The current study contributes to the understanding of emotion-specific socialization by examining maternal responses to children's sadness, anger, and fear.

As discussed in the previous section, in the present study, interactive effects of child gender and type of emotion were expected such that mothers, regardless of ethnicity, would be more likely to report supportive (e.g. comforting, problem solving) responses and less likely to report nonsupportive (e.g., punitive, distressed) responses to their daughters' nonhostile emotions

(i.e. sadness and fear) than to their sons' nonhostile emotions. Conversely, mothers were expected to be more likely to report supportive responses and less likely to report nonsupportive responses to their sons' than to their daughters' hostile emotions (i.e. anger). Interactive effects of ethnicity and type of emotion on maternal ES were also anticipated. Although anger, sadness, and fear can all be considered socially disengaging emotions, anger in particular has a high potential for disrupting social relationships as it may be directed at a particular individual. Thus, Indian immigrant mothers were expected to be less likely to report supportive responses and more likely to report nonsupportive responses particularly to their children's expressions of anger than White American mothers.

### **Interrelations among Parent Responses to Children's Emotions, Child ER, and Child Socio-emotional Functioning**

**Child ER as a mediator.** Eisenberg et al. (1998) hypothesized that the effect of parental ES on child outcomes is not direct, but rather is mediated by child ER. This model has been supported by several studies of White middle-class American samples. In two studies, Eisenberg and colleagues (2001; 2003) found that observed and mother-reported child regulation (the attentional and inhibitory capacities used to regulate emotions) mediated the relation between mothers' observed and self-reported emotion expressivity, and child externalizing problems and social competence. Similarly, Spinrad et al. (2007) found that mother-rated child effortful control, a component of child ER, mediated the relation between mothers' reported responses to toddlers' negative emotions and children's externalizing behavior and social competence. Eisenberg et al. (2005) and Valiente et al. (2006) found longitudinal support for this mediation. Both teams found that Time 3 child effortful control mediated the relation between Time 2 parental expressivity and Time 4 child externalizing problems. There have been few cross-ethnic or cross-cultural investigations of this relationship. Raval et al. (2014) found that Indian children's self-reported ER mediated the negative relation between mothers' 'explanation-oriented supportive responses to children's negative emotions (a culture-specific category of parental responses) and child behavior problems, though mothers' problem-focused supportive responses were unrelated to child outcomes. In an Indonesian sample, teacher-reported child regulation mediated the relation between parents' self-reported emotion expressivity and children's externalizing problems and school popularity (Eisenberg, Pidada, & Liew, 2001; Eisenberg et al., 2004). Thus, previous investigations of the mediating role of child ER have

largely examined child effortful control and mother emotion expressivity and have focused on White American samples. The current study will add to these findings by examining child ER and mothers' responses to children's negative emotions in an Indian immigrant sample as well as a White American sample. In this study, it is expected that child ER will mediate the relation between mothers' responses to children's negative emotions and child functioning.

**Ethnicity as a moderator.** Few studies have formally tested ethnicity as a moderator of the effect of parental ES on child socio-emotional functioning. Nelson and colleagues (2012) examined African American and European American mothers' self-reported responses to their five-year-old children's negative emotions, children's academic performance, and children's social-emotional competence. They found that mothers' responding to children's emotions with expressive encouragement was associated with teacher's reports of low academic and social-emotional competence for African American children, whereas mothers' problem-focused responses were positively associated with child competence for European American children (Nelson et al., 2012). Ethnicity may also serve as a moderator of the relation between child ER and child functioning. In one study, mothers' reports of children's emotional expressivity toward their mothers were correlated with internalizing problems for European American children but not for African American children (Vendlinski, Silk, Shaw, & Lane, 2006). Children's physical comfort seeking and self-soothing have been positively correlated with externalizing problems for African American children and negatively correlated with externalizing problems for European American children (Supplee, Skuban, Shaw, & Prout, 2009). Thus, although an explicit assessment of the moderating role of ethnicity in the relationships between parental ES, child ER, and child functioning is rare, there is some evidence that these relationships vary by ethnicity. Furthermore, as much of this research has focused on comparing African American and European American families, the current study's focus on comparing Asian Indian immigrants and European Americans will add to this literature. Given that the supportive responses examined in the present study primarily involve comforting and problem-solving responses that were unrelated to child outcomes in Raval et al.'s (2014) Indian sample, it was expected that the relationship between supportive responses and child functioning would be stronger in the White American group than in the Indian immigrant group. It was also expected that ethnicity would moderate child ER's mediation of the relation between mothers' responses to children's emotions and child functioning.

### **The Present Study**

This study examined differences in reports of mothers' responses to children's emotions based on ethnicity, child gender, and emotion type. In particular, reports of mothers' responses to children's hostile (i.e., anger) and nonhostile (i.e., fear and sadness) emotions were examined. It was hypothesized that mothers' responses to their daughters' nonhostile emotions would be more supportive and less nonsupportive than their responses to sons' nonhostile emotions. Similarly, it was expected that mothers' responses to their sons' hostile emotions would be more supportive and less nonsupportive than their responses to daughters' hostile emotions. Finally, Indian immigrant mothers were expected to be less supportive and more nonsupportive of children's hostile emotions compared to White American mothers. No specific hypotheses were made regarding mothers' overriding responses as a function of child gender, emotion type, and ethnicity.

Second, this study investigated interrelations among mothers' responses to children's negative emotions, child ER, and child functioning. It was hypothesized that reports of mothers' supportive responses would be positively correlated with child socio-emotional functioning, whereas mothers' nonsupportive and overriding responses would be negatively correlated with child functioning. Further, it was expected that these relations between mothers' responses to children's negative emotions and child functioning would be mediated by child ER and moderated by ethnicity. Specifically, the following three moderated mediation models were tested (See Figure 1). In Model 1, it was hypothesized that child ER would mediate the positive relation between reports of mothers' supportive responses and child functioning, and that ethnicity would moderate the A path of this mediation. The positive relationship between supportive responses and child ER was expected to be stronger in the White American group than in the Indian immigrant group. In Model 2, it was expected that child EDR would mediate the negative relation between mothers' nonsupportive responses and child functioning, and that ethnicity would moderate the A path of this mediation. The positive relationship between nonsupportive responses and child EDR was expected to be stronger in the White American group. In Model 3, it was hypothesized that child EDR would mediate the negative relation between mothers' overriding responses and child functioning and that ethnicity would moderate the A path and of this mediation. The positive relationship between overriding responses and child EDR was hypothesized to be stronger in the White American group.



## **Method**

### **Participants**

Forty Indian immigrant and 54 White American children and their mothers participated in this study. Four Indian immigrant mothers and 13 White American mothers participated with two or three of their children. This dataset violated the independence of observations assumption of ordinary least squares regression, the primary statistical analysis employed in this study. To correct this, one child from these families was selected at random for inclusion in analyses for this study. The final sample included 34 Indian immigrant and 38 White American mothers and one of their children (59.0% and 42.6% female, respectively) between the ages of eight and sixteen years. It should be noted that when study analyses were performed using the original sample, results were similar with those reported below, which are based on the final sample. Overall, a majority of mothers in both groups were married, and had completed a college degree or higher level of education. A majority of the families had annual family income higher than \$48,000 (median annual household income in Ohio is \$48,246) (US Census Bureau, 2014) indicating middle to upper middle class status. Table 1 provides detailed demographic data for both groups.

### **Procedure**

This study was part of a larger project about Indian immigrant and White American mothers' meta emotion philosophies and ES strategies and their children's ER strategies and socio-emotional functioning. Mothers and children were recruited through flyers distributed to middle and high schools in three schools districts, flyers posted in Hindu and Jain temples, South Asian grocery stores and restaurants, through community events, and through word of mouth. Interested mothers contacted the researchers via email or telephone, and interviews were scheduled at the university or the participants' home. All participant mothers and children were fluent speakers of English, and all measures were completed in English. Informed consent and assent were obtained from mothers and children, respectively. During the data collection visit, mothers completed an interview (not relevant for present analyses) while children completed questionnaires (Emotions as a Child Scale, Magai, 1996 and Home and Community Social Behavior Scales, Merrell, Streeter, Boelter, Caldarella, & Gentry, 2001) on a laptop with a trained graduate or undergraduate student in a separate room. Mothers completed all the measures used in the present study (a demographics questionnaire, Response to Children's

Emotions Scale, Magai, 1996; The Child Behavior Checklist for Ages 6 to 18 (CBCL) (Achenbach & Rescorla, 2001; and Home and Community Social Behavior Scales, Merrell, et al., 2001) online within 10 days of the visit.

## Measures

**Responses to Children's Emotions Scale (RTC; Magai, 1996).** Mothers completed the RTC, a self-report measure of mothers' responses to their children's experiences of sadness, anger, and fear. For example, in reference to children's sadness, the RTC asks mothers, "When your child was sad or feeling down over the past month, how often did you respond in these ways?" For each negative emotion, mothers rate 15 items on a 5-point Likert scale (*1 = Never, 5 = Very often*). The RTC's subscales assess five types of responses to children's emotions, and O'Neal and Magai (2005) report moderate to high internal consistencies for these five subscales (Reward,  $\alpha = .93$ ; Override  $\alpha = .80$ ; Neglect  $\alpha = .75$ ; Magnify  $\alpha = .66$ ; Punish  $\alpha = .72$ ). In the current study, the Reward subscale was used as an indicator of mother's supportive responses to children's emotions. It assesses comforting and problem-solving responses (9 items; e.g., *When my child was sad, I comforted her/him. When my child was sad, I helped my child deal with the issue that made her/him sad.*). Three RTC subscales, Magnify, Punish, and Neglect, were combined to create an indicator of nonsupportive maternal responses to children's emotions. The Magnify subscale refers to mothers' becoming distressed in response to their children's emotions or experiencing the same negative emotion as their children (9 items; e.g., *When my child was sad, I got very sad.*). The Punish subscale measures mothers' punitive responses to children's emotions (9 items; e.g., *When my child was sad, I told my child that s/he was acting younger than her/his age.*). The Neglect subscale assesses mothers' ignoring children's emotions (9 items; e.g., *When my child was sad, I did not pay attention to her/his sadness.*). Finally, in the present study mothers' overriding responses were not combined with supportive or nonsupportive responses, and were examined as a separate variable. The Override subscale measures distracting and dismissing strategies (9 items; e.g., *When my child was sad, I told her/him to cheer up.*). Internal consistency values for mothers' supportive, nonsupportive, and overriding responses in the present sample were comparable to those reported by O'Neal and Magai (2005) and ranged from .76 to .88 across Indian immigrant and White American groups (See Table 2 for specific values).

**Emotions as a Child Scale** (EAC; Magai, 1996). Children completed the EAC, a self-report measure of children's emotion regulation strategies. The EAC measures children's emotion regulation strategies with regards to sadness, anger, and fear. For example, in reference to children's sadness, the EAC asks children "When you felt sad or down over the past month, how often would you respond in these ways?" For each negative emotion, children rate 18 items on a 5-point Likert scale ( $1 = \text{Never}$ ,  $5 = \text{Very often}$ ). The EAC's subscales assess five types of emotion regulation strategies. Two subscales, Express to Mother and Express to Friend, were combined to create an indicator of child ER for the current study. The Express to Mother subscale refers to children telling their mothers about their negative emotions (10 items; e.g., *When I was sad, I would share my feelings with my Mom.*). The Express to Friend subscale refers to children telling their friends about their negative emotions (10 items; e.g., *When I was sad, I would share my feelings with a friend.*). In this study, two subscales, Express and Withdraw, were combined to create an indicator of child EDR. The Express subscale assesses emotion underregulation (10 items; e.g., *When I was sad, I would tell or stomp around.*). The Withdrawal subscale assesses children's emotion overregulation (10 items; e.g., *When I was sad, I would clam up and keep to myself.*). In this study, the Distract subscale was not combined with child ER or EDR and was examined as a separate variable. The Distract subscale assesses children's use of distraction to regulate negative emotions (10 items; e.g., *When I was sad, I would try to get my mind off of it.*). Internal consistency values for children's ER, EDR, and distraction strategies in the present sample ranged from .70 to .90 across Indian immigrant and White American groups (See Table 2 for specific values).

**Child Behavior Check List** for ages 6 to 18 (CBCL; Achenbach & Rescorla, 2001). Mothers completed the CBCL to assess children's internalizing and externalizing behavior. The Internalizing scale is comprised of Anxious/Depressed, Withdrawn/ Depressed, and Somatic Complaints subscales. The Externalizing scale is comprised of Rule-Breaking Behavior and Aggressive Behavior subscales. Mothers rate items on a 3-point Likert scale ( $0 = \text{Not at all true/Does not happen}$ ,  $2 = \text{Very true/Happens very frequently}$ ). Achenbach and Rescorla (2001) reported good internal consistency for the Internalizing scale,  $\alpha = .90$  and for the Externalizing scale,  $\alpha = .94$ . The scales were highly correlated in this sample  $r = .87, p < .001$ , and  $r = .66, p < .001$  for the Indian and White samples, respectively. Thus, the combined measure was used in all remaining analyses, which showed adequate internal consistency in Indian immigrant and White

American groups (See Table 2).

**Home and Community Social Behavior Scale**, mother and child report (HCSBS; Merrell, Streeter, Boelter, Caldarella, & Gentry, 2001). Mothers and children completed the HCSBS, a measure of children's social competence. Mothers rate 32 items referencing children's social behaviors in the past 3 months (e.g. *Follows family or community rules.*) on a 5-point Likert scale (*1 = Never, 5 = Frequently*). Children rate the same items in reference to their own behavior (e.g. *I am good at starting or joining in conversations with other kids.*) Merrell and Caldarella (1999) reported high internal consistency for the HCSBS ( $\alpha$  ranging .96 to .98). See Table 2 for the internal consistencies of the HCSBS mother and child reports for both ethnic groups.

## Results

### Analysis of Missing Data

Data were missing from many study variables. Percent missing data from each study variable is as follows: supportive responses, 8.6%; overriding responses, 5.4%; nonsupportive responses, 15.1%; child ER, 16.1%; child EDR, 26.9%; child behavior problems, 20.4%, child-rated child social competence, 25.0%, mother-rated child social competence, 11.1%. The pattern of missing data was examined using Missing Value Analysis in SPSS to determine if data are missing systematically or at random. *T*-tests were conducted to determine whether missingness for each of these variables was related to other study variables. A number of demographic and other variables were significantly or marginally related to missingness. Little's MCAR (Little, 1988) test failed to reject the null hypothesis that data were not missing completely at random (MCAR),  $\chi^2(64) = 65.51, p = .424$ . As explained by Graham (2009), missingness that depends on observed data but not on unobserved data is considered missing at random (MAR). Multiple imputation (MI) is recommended as an appropriate technique for managing MAR data (Graham, 2009). The effects of variables related to missingness are represented in the imputed data by including those variables as predictors in the MI model (Widaman, 2006). Thus, in addition to key study variables, variables that were found to be significantly or marginally related to missingness were included in the MI model. Following current guidelines (Graham, 2009; Widaman, 2006), interaction terms needed to test hypothesized moderations were computed using the original dataset and were also included in the MI model. Twenty datasets were

generated using MI. Means for each variable were calculated across the 20 imputed values, resulting in a single dataset with no missing data. This strategy has been implemented in recent studies on child ER and outcomes (Dollar & Stifter, 2012). It was chosen over the procedure that analyses be performed on each imputed dataset, parameter estimates and their standard errors summarized across all datasets, and conclusions drawn on those summaries (Widaman, 2006).

### **Data Analytic Plan**

Multivariate Analysis of Covariance (MANCOVA) simultaneously examines two or more dependent variables (DVs) in relation to one or more independent variables (IVs) and accounts for one or more covariates (Mayers, 2013a). In this study, a 2 (Indian immigrant, White American)  $\times$  2 (Male, Female)  $\times$  2 (Hostile emotions, Nonhostile emotions) MANCOVA was planned to examine the impact of ethnicity, child gender, and emotion type on mothers' responses to children's emotions (Supportive, Nonsupportive, Overriding) while controlling for child age. A covariate must be significantly related to the DVs to reduce error variance in MANCOVA (Mayers, 2013a), thus the bivariate correlations between child age and each of the planned DVs (Supportive responses to hostile emotions, Supportive responses to nonhostile emotions, Nonsupportive responses to hostile emotions, Nonsupportive responses to nonhostile emotions, Overriding responses to hostile emotions, Overriding responses to nonhostile emotions) were analyzed. Child age was not significantly related to any of the DVs in the planned model and was therefore removed from the model. With this modification, the planned analysis shifted to a Multivariate Analysis of Variance (MANOVA).

Mayers (2013b) recommends that correlations among DVs in MANOVA range from  $r = .30$  to  $r = .90$  (or from  $r = .00$  to  $r = -.40$ ) to find a significant multivariate effect. The low end of the range of correlations among the DVs for the planned model fell outside the recommended limits (minimum:  $r = .032$  between supportive and nonsupportive responses to hostile emotions). These preliminary results would be informative in the case of a null multivariate effect. Appropriate use of MANOVA requires that the correlation among dependent variables be equal among groups (Mayers, 2013b). Box's M test for equality of variance-covariance matrices was nonsignificant (Box's M = 89.35,  $p = .180$ ), supporting the assumption of homogeneity of variance-covariance matrices. Furthermore, Levene's test supported the assumption of between-group homogeneity of variance for all DVs except for nonsupportive responses to nonhostile emotions,  $F(3,66) = 2.87$ ,  $p = .043$ . Thus, univariate results for this DV are reported but are

interpreted with caution. Finally, although specific hypotheses were made regarding the direction of gender and ethnicity differences on the DVs, planned comparisons were not needed because each level had only two groups.

Conditional process analysis is the appropriate statistical tool to examine the conditional indirect effect of a predictor on an outcome variable (Hayes, 2013). Hayes (2013) describes various types of moderated mediation models. In this study, it was hypothesized that ethnicity would moderate the A paths of three mediation models (See Figure 1). For each model, the simple mediations and moderations were tested first. Simple mediation was tested following the recommended procedures of Preacher and Hayes (2004). First, the relation between the predictor and mediator (A path in terminology of Baron & Kenny, 1986) was examined. Next, the relation between the mediator and outcome with the predictor in the model would be examined (B path in terminology of Baron & Kenny, 1986). If both paths were statistically significant, the indirect effect would be tested using bootstrapping, a nonparametric resampling procedure that derives confidence intervals for the indirect effects (Preacher & Hayes, 2008). Bootstrapping was planned to be executed using PROCESS, an SPSS macro (Hayes, 2013). Mediations would be considered significant if zero was not contained in the 95% confidence interval of the bootstrapped estimate of  $ab$ . Moderations were tested using a series of hierarchical regression analyses following the guidelines set forth by Aiken and West (1991). Ethnicity was dummy-coded, and continuous variables were centered before creating interaction terms. Dummy-coded ethnicity and the other term involved in the interaction (centered) were entered in Step 1, and the interaction term was entered in Step 2. If significant, conditional process analysis would be used to examine the full, moderated mediation model using PROCESS.

### **Differences in Mothers' Responses to Children's Emotions using MANOVA**

To examine differences in mothers' responses to children's emotions by ethnicity, gender, and emotion type, a 2 x 2 x 2 MANOVA was performed. Results showed significant multivariate effects for ethnicity, Pillai's Trace = .479,  $F(6,61) = 9.36$ ,  $p < .001$ , Partial  $\eta^2 = .479$ , and gender, Pillai's Trace = .247,  $F(6,61) = 3.34$ ,  $p = .007$ , Partial  $\eta^2 = .247$ . The multivariate interaction effect of gender by ethnicity was nonsignificant. There were five significant univariate effects for ethnicity. As hypothesized, compared to White American mothers, Indian immigrant mothers were more likely to respond nonsupportively to children's hostile emotions,  $F(1,66) = 4.35$ ,  $p = .041$ , Partial  $\eta^2 = .062$ . However, this effect was not

specific to hostile emotions, as Indian mothers were also more likely to respond nonsupportively to children's nonhostile emotions,  $F(1,66) = 42.02, p < .001$ , Partial  $\eta^2 = .389$ . As indicated above, this result should be interpreted with caution as mothers' nonsupportive responses to children's nonhostile emotions did not meet the assumption of equality of variance-covariance matrices. Indian mothers were also more likely to override children's hostile,  $F(1,66) = 14.48, p < .001$ , Partial  $\eta^2 = .180$ , and nonhostile emotions,  $F(1,66) = 27.92, p < .001$ , Partial  $\eta^2 = .297$ . Although MANOVA results indicated that Indian immigrant mothers were more likely to respond supportively to children's nonhostile emotions than White mothers,  $F(1,66) = 4.44, p = .039$ , Partial  $\eta^2 = .063$ , this effect is interpreted to be an artifact of MI. As shown in Table 3, White American mothers reported slightly higher levels of supportive responses to children's emotions than Indian immigrant mothers. Breaking the variable down by emotion type and subjecting it to MI resulted in higher means for Indian immigrant mothers than White American mothers on the supportive responses to children's nonhostile emotions variable. Descriptive statistical analysis of the original dataset confirmed that White American mothers reported slightly higher levels of supportive responses to children's hostile, nonhostile, and total negative emotions than Indian immigrant mothers. These differences were nonsignificant in an identical MANOVA computed from the original dataset.

Univariate tests showed two significant effects for child gender. As hypothesized, mothers were more nonsupportive of daughters' hostile emotions than sons' hostile emotions,  $F(1,66) = 7.24, p = .009$ , Partial  $\eta^2 = .099$ . Mothers were also more likely to override daughters' hostile emotions compared to sons' hostile emotions,  $F(1,66) = 5.59, p = .021$ , Partial  $\eta^2 = .078$ . All other hypothesized gender by emotion type effects were nonsignificant.

### **Interrelations among Mothers' Responses to Children's Emotions, Child ER, and Child Functioning using Bivariate Correlation Analyses**

First, bivariate correlations were examined among all key study variables for all participants combined (See Table 4). Mothers' nonsupportive responses to children's emotions were significantly correlated with mothers' overriding responses,  $r(70) = .54, p < .001$ , and children's EDR was significantly correlated with children using distraction to regulate emotions,  $r(70) = .31, p = .009$ . Notably, none of the three maternal responses to children's emotions was significantly correlated with any of the child ER or functioning variables, nor were any of the child ER variables correlated with any of the child functioning variables.

Second, bivariate correlations were examined among all key study variables for each ethnicity separately (See Table 5). In the White American group, mother's overriding responses were significantly positively correlated with mother's supportive,  $r(36) = .41, p = .010$ , and nonsupportive responses,  $r(36) = .41, p = .011$ . Children's use of distraction to regulate emotions was significantly positively related to child EDR,  $r(36) = .40, p = .014$ . As hypothesized, mothers' reports of their nonsupportive responses to children's emotions and child EDR were positively related to child behavior problems,  $r(36) = .34, p = .035$ , and  $r(36) = .35, p = .031$ , respectively. Interestingly, each of the maternal responses to children's emotions was negatively correlated with children's self-report ratings of social competence: supportive responses,  $r(36) = -.43, p = .022$ , nonsupportive responses,  $r(36) = -.42, p = .026$ , and overriding responses,  $r(36) = -.42, p = .027$ . In the Asian Indian immigrant group, each of the maternal responses to children's emotions variables was positively related to children's use of distraction to regulate emotions: supportive responses,  $r(32) = .35, p = .046$ , nonsupportive responses,  $r(32) = .37, p = .031$ , and overriding responses,  $r(32) = .49, p = .003$ . However, none of the maternal responses to children's emotions variables was related to any of the child functioning variables, and none of the child ER variables was related to any of the child functioning variables.

These varying correlations between ethnic groups provided further basis for the planned moderation analyses. In both groups, the maternal responses to children's emotions variables were weakly and inconsistently related to the child ER variables and to the child functioning variables. This was true of the relations among the child ER variables and the child functioning variables as well. This pattern of bivariate correlations reduced support for the planned mediation analyses. Despite this, the significant relationships among key study variables did vary between ethnic groups, providing some support for the planned moderated mediation analyses. In order to minimize probability of Type 1 error, only one child functioning variable was selected as the outcome variable for further analyses. Based on the observed pattern of bivariate correlations, child behavior problems was chosen for further analyses.

### **Moderation and Mediation Analyses**

In the first moderated mediation model, it was expected that ethnicity would moderate the A path of the indirect effect of maternal supportive responses on child behavior problems through child ER. Results showed that neither the A path,  $t(68) = 1.43, p = .158$ , nor the B path,



$t(67) = 0.34, p = .737$ , was significant, therefore the indirect effect was not tested. A hierarchical regression analysis predicting child ER was conducted with child age entered in the first block, mothers' supportive responses and ethnicity entered in the second block, and the interaction term entered in the third block. The interaction was nonsignificant,  $t(66) = -0.36, p = .718$ . As the simple mediation and moderation were nonsignificant, the full moderated mediation model was not tested.

In the second moderated mediation model, it was expected that ethnicity would moderate the A path of the mediation of maternal nonsupportive responses to child behavior problems through child EDR. Results demonstrated that both the A path,  $t(68) = 1.56, p = .124$ , and B path,  $t(67) = 1.08, p = .284$ , of the mediation model were nonsignificant, so the indirect effect was not tested. A hierarchical regression analysis predicting child EDR was conducted with child age entered as a covariate in the first block, mothers' nonsupportive responses and ethnicity entered in the second block and the interaction term entered in the third block. The interaction was nonsignificant,  $t(66) = -0.95, p = .346$ . Thus, the moderated mediation model was not tested.

In the third moderated mediation model, it was expected that the A path of the mediation of maternal overriding responses on child behavior problems through child EDR would be moderated by ethnicity. Again, results were nonsignificant for the A path,  $t(68) = 1.33, p = .189$ , and B path,  $t(67) = 1.17, p = .246$ , therefore the indirect effect was not tested. A hierarchical regression analysis predicting child EDR was conducted with child age entered first, mothers' overriding responses and ethnicity entered second, and the interaction term entered third. The interaction was nonsignificant,  $t(66) = -1.24, p = .221$ . The moderated mediation model was not tested.

### **Additional Exploratory Moderation Analyses**

As the moderated mediation models tested were nonsignificant, additional exploratory analyses were conducted. Three simple moderation models were tested (See Figure 2). First, a hierarchical regression analysis predicting child behavior problems was conducted with mothers' supportive responses and ethnicity entered in the first block and the interaction term entered in the second block. The interaction was nonsignificant,  $t(67) = -1.45, p = .153$ , indicating that ethnicity did not moderate the relation between mothers' supportive responses and child behavior problems.

Second, a hierarchical regression analysis predicting child behavior problems was conducted with mothers' nonsupportive responses and ethnicity entered in the first block and the interaction term entered in the second block. The interaction was nonsignificant,  $t(67) = -0.95$ ,  $p = .348$ . Thus, ethnicity did not moderate the relation between mothers' nonsupportive responses and child behavior problems.

Finally, a hierarchical regression analysis predicting child behavior problems was conducted with mothers' overriding responses and ethnicity entered in the first block, and the interaction term entered in the second block. The interaction was nonsignificant,  $t(67) = -1.68$ ,  $p = .097$ , indicating that the relation between mothers' overriding responses and child behavior problems was not moderated by ethnicity.

### **Discussion**

The broader aims of this study were to examine reports of mothers' responses to their children's emotions as a function of ethnicity, child gender, and emotion type, and to examine the relations of mothers' responses to children's emotions, child ER, and child socio-emotional functioning in a sample of Asian Indian immigrant and White American families.

#### **Mothers' Responses to Children's Emotions as a Function of Ethnicity, Child Gender, and Emotion Type**

The developing cross-cultural emotion socialization literature suggests that Indian immigrant mothers would socialize their children to control expressions of negative emotions within the broader context of familial interdependence. Consistent with this notion, the current study found that Indian immigrant mothers were more likely to report nonsupportive responses to children's hostile and nonhostile emotions than White American mothers. Indian immigrant mothers were also more likely to report overriding responses to children's hostile and nonhostile emotions. Interestingly, neither of these ES behaviors was related to child outcomes for this group in the current study. Fishman and colleagues' (2014) qualitative thematic analysis of open-ended interviews with Indian mothers revealed that they considered negative emotions as inevitable, though they wished to teach their children to "move on" in response to negative emotions. These mothers emphasized a practical approach towards emotions, and aimed to teach their children to not let emotions disrupt their daily activities and relationships. In light of Fishman et al.'s findings, it would be useful to determine whether Indian immigrant mothers' overriding responses in the present study may be intended to facilitate "moving on" from

children's negative emotions. Future research may include open-ended interviews with targeted questions to provide further understanding of the roles that nonsupportive and overriding responses play in Indian immigrant mothers' ES.

In this study, it was hypothesized that mothers' responses to children's emotions would vary by child gender consistent with gender norms. These norms prescribe women to be communal, or relational and unselfish, and prescribe men to be agentic, or assertive and instrumental (Brody & Hall, 2010; Chaplin et al., 2005; Eagly & Wood, 1991). Previous findings regarding child gender differences in parental emotion socialization have been varied. Findings of the current study were mixed as well, only showing support for one hypothesized gender difference. Mothers were more likely to respond nonsupportively to daughters' hostile emotions than to sons' hostile emotions. However, the hypothesized opposite effect for mothers' supportive responses to children's hostile emotions was nonsignificant. Mothers were also more likely to override daughters' hostile emotions than sons' hostile emotions, although no hypotheses were made about overriding responses. Previous research provides limited evidence of gender differences in parental ES of children's hostile emotions. For example, Chaplin and colleagues (2005) found that fathers attended more (a supportive ES behavior not discussed in this paper) to sons' disharmonious emotions than daughters' disharmonious emotions. However, Garside and Klimes-Dougan (2002) and Fivush et al. (2000) report gender differences in parental ES of children's nonhostile emotions but not hostile emotions. Thus, the current study contributes to these mixed findings by providing some evidence of mothers socializing hostile emotions in line with gender norms.

In contrast, mothers in this study were not more likely to report more supportive or less nonsupportive responses to daughters' nonhostile emotions compared to sons' nonhostile emotions, as was hypothesized. Previous studies provide some support for these hypothesized gender differences. Cassano et al. (2007) found that parents were more likely to report responding to daughters' sadness with expressive encouragement compared to sons' sadness. In another study, fathers reported responding to sons' nonhostile emotions with punishment, whereas they reported responding to daughters' nonhostile emotions with reward (Garside and Klimes-Dougan, 2002). Finally, Fivush et al. (2000) found that parents talked about sadness more (i.e. more utterances) with daughters than with sons. Although some authors report finding gender differences in parental ES of nonhostile emotions but not hostile emotions (Garside &

Klimes-Dougan, 2002; Fivush et al., 2000), and others report finding no gender differences in parental ES (Eisenberg et al., 1999; Eisenberg et al., 1996; Eisenberg & Fabes, 1994), the current study's findings of gender differences in parental ES of hostile emotions but not nonhostile emotions is relatively uncommon in the literature.

Two possible explanations are offered for the three null findings of the hypothesized gender effects on maternal ES. First, observed power of these univariate tests ranged from .053 to .318, which is lower than the conventionally recommended .80 (Howell, 2013). In contrast, observed power for the significant univariate test for mothers' nonsupportive responses to children's hostile emotions was .755. Alternatively, these results could reflect a shift in parental ES of sons. For example, Parker and colleagues (2012) found that Lumbee Native American parents and European American parents reported that parents should encourage boys to be more emotionally expressive than past generations of men. However, support of such a shift is limited in the ES literature as well as in the gender stereotypes literature. In a recent review of male stereotypes, Steinberg and Diekmann (in press) report that although female stereotypes have undergone significant change in recent decades, male stereotypes have remained relatively stable. These authors provide a detailed account of the social structural, cognitive, and motivational factors contributing to this stability. Current ES theory suggests that a shift in parental ES of sons would likely involve an underlying change in parental beliefs about sons' emotions (Eisenberg et al., 1998). In turn, such a change in parental beliefs about sons' emotions would likely be linked to a broader shift in male stereotypes. Given the current stability of male stereotypes (Steinberg & Diekmann, in press), evidence for a shift in parental ES of sons is insufficient at this time.

### **Interrelations among Mothers' Responses to Children's Emotions, Child ER, and Child Behavior Problems**

Bivariate correlations indicated that, as expected, reports of mothers' nonsupportive responses to their children's negative emotions and children's reports of EDR were positively related to mother-rated child behavior problems in White American group. This finding is consistent with a bulk of the literature that has documented links between mothers' nonsupportive ES behaviors, children's difficulties in regulating their emotions, and behavior problems in middle-class White American samples (Spinrad et al., 2007; Eisenberg and colleagues, 2001; 2003; 2005; Valiente et al., 2006). Interestingly, mothers' nonsupportive

responses and child EDR were unrelated to child behavior problems in the Indian immigrant group. This finding is somewhat surprising given the link between these variables in a middle-class sample in India (Raval et al., 2014). One potential explanation is that the Raval et al. (2014) study employed different self-report measures of mother ES and child ER than the current study. Specifically, Raval et al. (2014) utilized a modified version of the Coping with Children's Negative Emotion's Scale (CCNES; Fabes, Eisenberg, & Bernzweig, 1990) that included culture-specific parental ES behaviors. The parental nonsupportive response composite included punitive and minimizing responses from the original CCNES, along with culture-specific responses such as scolding and parental refusal to talk to the child. In the present study, the nonsupportive response composite included punitive, magnifying, and neglecting responses. Given the inclusion of culture-specific responses, Raval et al.'s (2014) measure may have had increased relevance for Indian families, and thus, these responses may be implicated in child functioning. In addition, as discussed above, the available literature suggests that ES behavior and its relation to child outcomes in Indian immigrant families may differ from both White middle-class American families and Indian families. For example, Asian Indian immigrant mothers' emotion beliefs have been found to reflect traditional Indian values as well as experiences related to immigration (Fishman et al., 2014). As mother ES behavior is largely impacted by mother emotion beliefs (Eisenberg et al., 1998), Indian immigrant mothers' unique emotion beliefs suggest that their responses to children's emotions and their children's related outcomes may also differ from White American and Indian families.

The expected positive relation between mothers' supportive responses to children's emotions and child social competence was not found for the Indian immigrant or White American group, regardless of whether mother or child ratings of child social competence were used. This is believed to be due to restricted variance in mothers' reports of supportive responses to children's emotions ( $s^2 = 16.17$  and  $34.02$  for White American and Indian immigrant samples, respectively). Future studies should obtain reports of mothers' responses to children's emotions from multiple informants (e.g. children, fathers) or use observational methods to help avoid the ceiling effect on mothers' supportive responses observed in the current study.

Previous studies have provided support for the mediating roles of child ER and EDR and for the moderating roles of ethnicity in the relation between maternal responses to children's negative emotions and child behavior problems. The current study sought to contribute to this

evidence base by testing three moderated mediation models. In each of these models, it was hypothesized that child ER or EDR would mediate the relation between maternal responses to children's emotions and child behavior problems, and that ethnicity would moderate the relation between maternal responses and child ER or EDR. Results failed to demonstrate significant effects for these models. Simple moderation analyses testing the moderating role of ethnicity in the relationship between maternal responses and child ER or EDR and in the relationship between maternal responses and child behavior problems were also nonsignificant.

Statistical explanations may help understand the null moderation and mediation findings in this study. First, the current study had a relatively low sample size compared to studies in the literature finding support for similar moderated mediation models (e.g. Suveg et al., 2011), suggesting that overall, these analyses may have been underpowered. Similarly, results of a power analysis using five predictors (1 covariate, 1 predictor, 1 moderator, 1 interaction term, and 1 mediator) with  $\alpha$  level set to 0.05 indicated that a sample size of 138 would be appropriate to detect a significant effect of medium size in the moderated mediation models in this study. Further power analyses demonstrated that the simple mediations and moderations examined in this study were underpowered as well. Future studies testing similar models should use adequately large sample sizes, as well as prospective longitudinal designs for true tests of mediation. Notably, restricted sample size does not explain the null bivariate correlations obtained in this study.

Methodological limitations may help explain the null mediation findings. The Emotions as a Child measure (EAC; Magai, 1996) used to assess child ER and EDR in the current study has not been used in previous studies, although similar measures based on the EAC have been used (Brand & Klimes-Dougan, 2010; Klimes-Dougan et al., 2007; O'Neal & Magai, 2005; and Garside & Klimes-Dougan, 2002). It is not clear whether the components of ER (expressing negative emotions to mother or friend) and EDR (dysregulated expression of emotions and withdrawing) that the EAC assesses are valid measures of these constructs. It could be that in the present study, neither child ER nor child EDR acted as a mediator because the EAC did not adequately measure these constructs. Future studies should evaluate the validity of this measure by investigating its relation to more established measures of ER and EDR and by comparing its performance as a predictor, outcome, and mediating variable against more established measures.

Finally, the inadequacy of ethnic identification to account for important cultural differences could explain the lack of significant moderations in this study. Central theorists have justified the need for an understanding of ethnic and cultural differences that goes beyond analyzing the effect of ethnicity on study variables (García Coll & Crnic et al., 1996). The relation between maternal responses to children's emotions and child ER and EDR may be moderated by multiple cultural variables that are not well represented by participants' ethnic identification. In other words, participants' ethnic identification may be an overly simplistic indicator of nuanced cultural influences that contribute to ES processes. Future studies with larger sample sizes could test this hypothesis by testing models with multiple moderators that incorporate important cultural variables rather than testing the simple two-way interaction of ethnicity and the predictor. Specifically, parents' beliefs about emotions, children's perceptions of the normativeness of their parents' ES behaviors, and cultural norms of appropriateness of emotional expression are all promising explanatory variables for more complex models.

### **Limitations and Future Directions**

The findings of the current study are generalizable to demographically similar Asian Indian immigrants and White Americans. The average income and education levels of the Indian immigrant sample were comparable to the reported average levels of Indian families in the US (US Census Bureau, 2012). Acculturation data obtained from Indian immigrant participants (not reported in the current study) indicated that this sample was highly acculturated to US culture. Thus, these findings are not generalizable to Indian immigrant families who are of lower socio-economic status or who are less acculturated. Similarly, the average income and education levels of the White American sample were consistent with middle-class norms in Ohio (US Census Bureau, 2014). These findings are not generalizable to upper- or working-class American families or to other ethnic minority groups.

In the present study, internal consistency of all measures was adequate for both ethnic groups. However, it is not clear if the measures used in the current study were relevant and adequately captured study constructs particularly for the Indian immigrant group. Although it was not possible in this study, follow up interviews with Indian immigrant and White American participants focusing on the subjective adequacy of these measures would be one possible method for investigating the relevance of the measures. Responses from such interviews can help create new measures or modify existing measures of parental ES, child ER, and child

functioning. Moreover, as discussed above, the present study was also limited by its sample size and cross sectional study design. Future studies may utilize larger samples, employ culturally relevant measures of ES, ER, and child functioning, utilize multiple informants and observational data, and utilize prospective longitudinal designs.

In conclusion, despite limitations, this study makes important contributions to the developing literature on maternal ES and its impact on child functioning in Asian Indian immigrant families and has broader implications for the literature on ethnicity and ES. Consistent with previous findings suggesting that Indian immigrant mothers would socialize their children to control the expression of negative emotions, Indian immigrant mothers in this study were more likely than White American mothers to report overriding and responding nonsupportively to children's negative emotions. Interestingly, these nonsupportive responses to children's emotions and child EDR were unrelated to child outcomes in the Indian immigrant group. It may be that specific parental ES behaviors are related to maladaptive child outcomes in one cultural group but not another. If replicated, such findings call for broadening ES theory to include the influence of culture and ethnicity more centrally, and for future research to examine processes that help explain the complex influence of culture on ES behaviors and child outcomes.



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## Tables

Table 1.

*Demographic differences between Asian Indian immigrant and White American participants*

	Asian Indian immigrant ( <i>n</i> = 34)	White American ( <i>n</i> = 38)
Child age	11.38 (2.22)	11.48 (1.66)
Mother age	39.11 (3.07)	43.02 (4.49)
Child gender (% female)	59.0%	42.6%
Mother education		
A few years of college or below	2.6%	27.8%
College degree or above	94.9%	72.2%
Mother occupation		
Homemaker/unemployed	48.7%	25.9%
Secretarial/Clerical	2.6%	5.6%
Managerial/Professional	43.6%	50.0%
Annual family income		
Less than \$48,000	5.1%	14.8%
\$48,100 - \$96,000	20.5%	44.4%
\$96,100 - \$144,000	23.1%	22.2%
\$144,100 - \$192,000	12.8%	0%
\$192,100 - \$240,000	2.6%	5.6%
Greater than \$240,000	30.8%	13.0%
Mother marital status (% married)	97.4%	83.3%
Household		
Joint	12.8%	0%
Nuclear	82.1%	94.4%
Religion		
Atheism	0%	1.9%
Christianity/Catholicism	5.1%	90.7%
Hinduism	76.9%	0%



Islam	5.1%	0%
Jainism	12.8%	0%
Judaism	0%	1.9%
Average years in US	13.60 (4.15)	-

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Table 2.

*Internal consistencies for study measures*

Construct	Measure and subscale	Number of items	Indian immigrant Cronbach's $\alpha$	White American Cronbach's $\alpha$
Supportive	RTC Reward	9	.89	.81
Nonsupportive	RTC Neglect	9	.64	.68
	RTC Magnify	9	.81	.78
	RTC Punish	9	.75	.73
	Nonsupportive total	27	.76	.79
	RTC Override	9	.84	.88
Child ER	EAC Express to mother	9	.93	.95
	EAC Express to friend	9	.91	.87
	ER total	18	.90	.89
Child EDR	EAC Express	12	.79	.81
	EAC Withdraw	12	.65	.86
	EDR total	24	.70	.85
	EAC Distract	12	.70	.74
Child behavior problems	CBCL total	58	.97	.92
Social competence	HCSBS (mother report)	32	.95	.96
	HCSBS (child report)	32	.88	.94

Table 3.

*Means and standard deviations of key study variables by ethnicity*

	Indian immigrant		White American	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Mother Supportive Responses				
Total	39.16	5.83	41.00	4.02
Nonhostile Emotions	28.20	2.14	26.22	4.25
Hostile Emotions	13.12	1.80	12.53	2.24
Mother Nonsupportive Responses				
Total	54.64	8.80	44.16	7.77
Nonhostile Emotions	38.58	7.56	28.09	4.70
Hostile Emotions	21.69	6.43	17.71	5.21
Mother Overriding Responses				
Total	28.56	7.17	19.69	6.72
Nonhostile Emotions	20.29	4.78	13.72	4.55
Hostile Emotions	8.75	2.96	5.90	2.38
Child ER	47.60	11.70	48.10	12.41
Child EDR	59.13	7.22	56.79	11.92
Child Distraction Regulation	48.44	9.22	49.08	9.88
Child Behavior Problems	66.61	15.63	67.94	9.23
Child Social Competence (mother report)	135.65	13.81	128.82	18.78
Child Social Competence (child report)	136.65	15.14	132.15	15.34

Table 4.

*Bivariate correlations among key study variables for all participants*

	1	2	3	4	5	6	7	8	9
1. RTC Supportive	1								
2. RTC Nonsupportive	-.13	1							
3. RTC Override	.20	.54**	1						
4. EAC Regulation	.17	.04	.09	1					
5. EAC Dysregulation	.03	.18	.16	.20	1				
6. EAC Distract	.22	.14	.13	.18	.31**	1			
7. CBCL Total	-.18	.09	.03	.01	.14	.11	1		
8. Child HCSBS	-.19	-.05	.00	.09	-.07	.03	.00	1	
9. Mother HCSBS	.12	-.10	.04	-.08	-.09	-.01	-.45**	.20	1

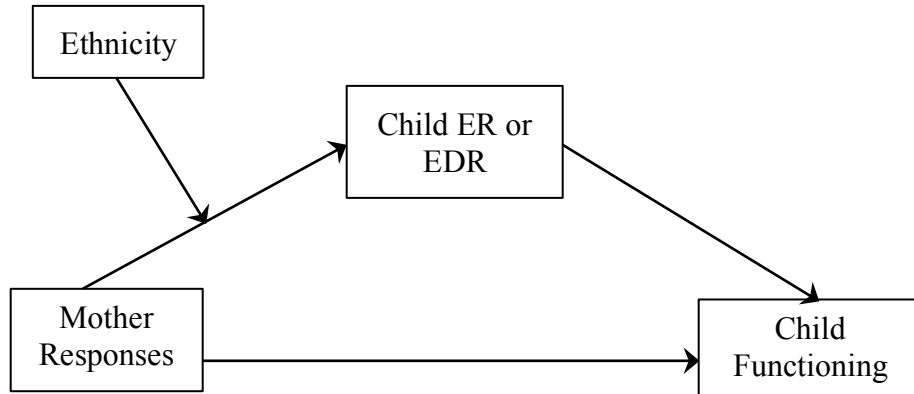
*Note:* \*\* Indicates significance at the  $p \leq .01$  level.

Table 5.

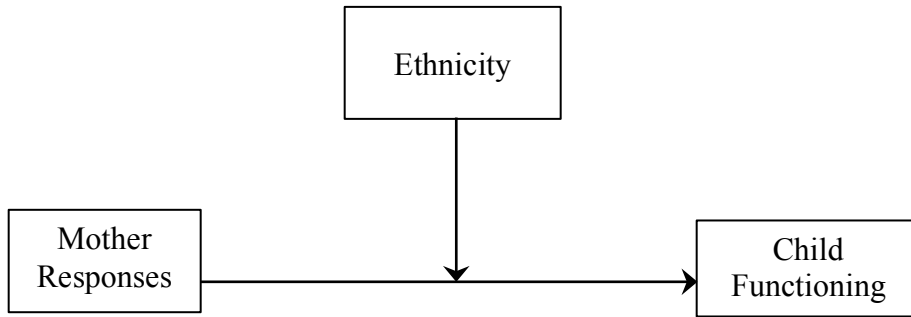
*Bivariate correlations among key study variables by ethnicity. Asian Indian Immigrant participants above the diagonal, White American participants below the diagonal.*

	1	2	3	4	5	6	7	8	9
1. RTC Supportive	---	.07	.33	.16	.07	.35*	-.30	.07	.28
2. RTC Nonsupportive	-.20	---	.31	.14	.04	.37*	.03	.05	-.24
3. RTC Override	.41*	.41*	---	.19	-.08	.49**	.00	.20	-.07
4. EAC Regulation	.18	-.01	.07	---	.26	.31	-.12	.08	-.24
5. EAC Dysregulation	.05	.22	.23	.19	---	.16	-.03	-.01	.08
6. EAC Distract	.08	.01	-.10	.08	.40*	---	.01	.10	.03
7. CBCL Total	.05	.34*	.20	.19	.35*	.26	---	.25	-.44*
8. Child HCSBS	-.43*	-.42*	-.42*	.11	-.17	-.01	-.31	---	.19
9. Mother HCSBS	-.00	-.20	-.03	.07	-.20	-.03	-.50**	.19	---

*Note:* \* Indicates significance at the  $p \leq .05$  level. \*\* Indicates significance at the  $p \leq .01$  level.



*Figure 1.* General moderated mediation model. It was hypothesized that ethnicity would moderate the indirect effect of mothers' responses to children's emotions on child functioning through child ER or EDR.



*Figure 2.* General exploratory simple moderation model. It was hypothesized that ethnicity would moderate the relation between mothers' responses to children's emotions and child functioning.