

Cultural Differences in Maternal Emotion Socialization of Anxiety and Anger in Young  
Children: Links with Temperament

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by

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## **DEDICATION**

This is dedicated to my loving parents, who have been my source of strength and encouragement, my sister Rohini, and my best friend and future life partner Dayesh.

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## LIST OF ABBREVIATIONS

Analysis of Variance.....	ANOVA
Anger Expression Scale for Children .....	AESC
Early Adolescent Temperament Questionnaire .....	EATQ
Effortful Control .....	EC
Emotion-Related Parenting Styles Self-Test .....	ERPSST
Meta Emotion Philosophy.....	MEP
Negative Affect.....	NA
Paper-and-Pencil .....	PP
State-Trait Anxiety Scale for Children .....	STAIC
Symptom Questionnaire.....	SQ
United States .....	US
World-Wide Web.....	WWW

## **ABSTRACT**

### **CULTURAL DIFFERENCES IN MATERNAL EMOTION SOCIALIZATION OF ANXIETY AND ANGER IN YOUNG CHILDREN: LINKS WITH TEMPERAMENT**

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There are individual differences in children's emotional experiences, and cultural context is believed to play an important role in emotion socialization (Eisenberg, Spinrad, & Cumberland, 1998). However, little is known about emotion socialization in children from collectivist cultures such as India (e.g., Raval, Martini, & Raval, 2010). In this study, I attempt to understand cross culturally how maternal meta-emotion philosophy (MEP; Gottman, Katz, & Hooven, 1996) is related to children's emotional expression of anxiety, somatic problems, and anger. Children (ages 10-13 yrs) and their mothers completed self-report measures on temperament, emotion-related socialization, anxiety, somatic complaints, and anger. The three cultural groups examined were Caucasians in the U.S. ( $n = 40$ ), Indian Americans in the U.S. ( $n = 31$ ), and Indians in India ( $n = 64$ ). The Early Adolescent Temperament Questionnaire (EATQ; Capaldi & Rothbart, 1992) was completed by the mother who also filled out a measure, Emotion-Related Parenting

Styles Self-Test (ERPSST; Gottman, Katz, & Hooven, 1997) that assessed parenting style based on Gottman's MEP theory (Gottman et al., 1996), and the children reported their levels of anxiety by responding to the State-Trait Anxiety Inventory for Children (STAIC; Spielberger, 1973), somatic complaints by completing the Symptom Questionnaire (SQ, Kellner, 1987), and anger, by filling out the Anger Expression Scale for Children (AESC; Steele, Legerski, Nelson, & Phipps, 2009). The two temperament factors used in this study were negative affect (NA; one's proneness to experience emotional distress) and effortful control (EC; one's self-regulation of attention and impulsive behavior). And, the role of maternal socialization practices that may contribute to cultural differences in child emotional outcomes was examined. First, it was hypothesized that children's NA and EC may predict differences in children's expression of negative emotions. It was found that NA was a positive predictor of all three emotional outcomes, namely anxiety, somatic complaints, and anger, but EC was not significantly predictive of negative emotional outcomes. The interaction between EC and coaching was found to be predictive of both somatic complaints and anger in children. Second, gender and MEP differences in emotional outcomes, as well as interactions between MEP and gender were explored. Results indicated that emotion dismissing MEP was a positive predictor of anxiety in children, and emotion coaching MEP was a negative predictor of somatic complaints in children. Emotion coaching and dismissing were associated with anxiety and anger expression in the same way for boys and girls. Interestingly, emotion dismissing MEP was associated with more somatic problems in girls, but not in boys. Third, cultural variations in relations between temperament, maternal meta-emotion

socialization, and child's emotional outcomes were statistically tested using correlations, ANOVAs, and regressions. It was hypothesized that Indian children would have higher levels of anxiety, and Caucasian children would report more anger expression. Results found that the Indian children were significantly more anxious, and higher on NA (as reported by mothers) than Indian American and Caucasian children. As hypothesized, Indian mothers reported more emotion dismissing MEP and less emotion coaching MEP compared to the Indian Americans and Caucasians. Emotion dismissing was related to anger expression in Indian children, and emotion coaching was associated with anger in Indian Americans. Both coaching and dismissing MEPs were related to gender differences in anxiety, somatic complaints, and anger among Caucasian children. Implications of the results for parenting, intervention, and future research are discussed.

## **INTRODUCTION**

Culture plays a significant role in emotion socialization (Bugental & Grusec, 2006), influencing parents' emotion-related behaviors (Eisenberg et al., 1998). The appropriateness of emotional displays varies across and within cultures (Kirmayer, 1984). Thus, the cultural context in which a child is reared has a direct effect on a child's emotion expression, even though this relation can be influenced by family expressiveness (Halberstadt, 1991), parental emotion socialization (Eisenberg et al., 1998), and meta-emotion philosophy (MEP; Gottman et al., 1996). A family's expressiveness or emotional climate can be considered the affective environment, an implicit part of emotion socialization (Halberstadt, 1991). Meta-emotion philosophy (MEP) involves parental awareness of own emotions, inhibition of parental negative affect, and labeling and validation of child's emotional experiences (Gottman et al., 1996). Emotion socialization practices are affected by the cultural norms and values concerning the meaning attributed to emotional events (Suveg, Zeman, Flannery-Schroeder, & Cassano, 2005). That is, the emotions that are expressed and suppressed, and the rules in regard to their expression vary across cultures (Butler, Lee, & Gross, 2007; Kirmayer, 1984; Le, Berenbaum, & Raghavan, 2002). Thus, culture plays an overarching role in how children express emotions; although, emotional experiences may be affected by temperament, parental emotion socialization, and gender of the child.

In this dissertation, I examine associations among children's temperamental traits [e.g., negative affect (NA) and effortful control (EC)], maternal MEP (Gottman et al., 1996), child gender, and the emotional outcomes of anxiety, somatization, and anger in middle-school children, and how these links vary based on cultural group membership. Children's anger, anxiety, and somatization are important emotional outcomes which deserve attention, and these outcomes are often affected by factors such as temperament, gender, and child-rearing practices. In this dissertation, I first discuss the relation between temperament and emotional expression – specifically, looking at NA and EC as two temperamental factors, and their contribution to anxiety, anger, and somatic problems in early adolescence. Next, I define parental emotion socialization and elaborate on Gottman's theory of meta-emotion philosophy (i.e., an organized set of thoughts – a philosophy with which an individual approaches one's own emotions and one's children's emotions), and examine the role of maternal meta-emotion philosophy (MEP) in relation to children's temperament and emotions. Then, I talk briefly about gender differences in children's emotional outcomes. Last, I discuss the role of culture in child emotions and maternal emotion socialization. Particularly, I distinguish between individualistic and collectivistic cultures, and elaborate on cultural variations in how children's emotional expressions are socialized. The dynamic interactions between the child's characteristics, culturally regulated socialization, and maternal MEP can be seen as a developmental niche in which children's emotional development occurs. Decades ago, Harkness and Super (1985) suggested that cultural values serve as the jumping off point for parents' socializing behavior. There exists a developmental niche within which

dynamic interactions occur between the developing individual (child) and the socio-cultural environment (Harkness & Super, 1985). In the present study, I examine three forms of emotion expression: generalized internalizing behavior in the form of anxiety, displaced manifestation of emotional distress through somatic complaints, and overt externalizing through anger expression. Three cultural groups are explored: Caucasians (White Americans), Indian-Americans (first-generation Indian children growing up in the U.S.), and Indians (Indian children in India).

### **Temperament and Emotional Outcomes**

Children's mental health problems are often categorized into externalizing and internalizing symptoms. Externalizing symptoms refer to overt behaviors exhibited by children/adolescents that create conflict with others, including aggression and delinquent behavior. Internalizing symptoms refer to the internal stress experienced by the child/adolescent, including anxiety, depression, and somatic symptoms. One goal of this study is to understand to what degree temperament predicts children's internalizing and externalizing symptoms of anxiety, somatization, and anger.

Anxiety is a feeling of uncertainty, wherein a danger is perceived as actual, present, and impending. There is a marked sense of uncontrollability focused on possible future threat, danger, or other potential negative events (Barlow, Chorpita, & Turovsky, 1996). There is a sense of fear and helplessness in anxious individuals that is coupled with an aroused central nervous system (Chua & Dolan, 2000). For many children and adolescents, some level of anxiety is a normal and transient experience, which parallels the biopsychosocial changes and challenges inherent throughout human development.



However, research suggests late childhood and early adolescence are a critical time in the development of anxiety disorders (e.g., Chorpita & Barlow, 1998; Hey, Bailey, & Stouffer, 2001), which persist in early adulthood and can adversely impact social functioning (Keller et al., 1992). Childhood anxiety problems have been shown to carry significant risk for adult psychopathology, most importantly depression (e.g., Cole, Peeke, Martin, Truglio, & Seroczynski, 1998). Hence, it is important to understand the temperamental predispositions as well as environmental factors that could contribute to children's anxiety levels. Anxiety is a state of helplessness, accompanied by one's perceived inability to predict, control, or obtain desired outcomes in upcoming salient social situations (Barlow, 2000). Often accompanying this negative affective state is a strong physiological or somatic component that may reflect activation of distinct brain circuits (e.g., the corticotrophin-releasing-factor system and Gray's behavioral inhibition system; Chorpita & Barlow, 1998).

Somatization is the tendency to experience and report psychological distress through physical complaints that cannot be explained by known medical findings (Garraalda, 1996). Somatization is commonly noted as an anxiety disorder characterized by an impaired ability to verbalize one's emotional distress, and such psychological suffering is central to the display of somatic symptoms. Somatizers (i.e., individuals who report somatic complaints) often express their psychological pain through physical illness and seek medical help (Pennebaker & Watson, 1991). Because children lack cognitive and verbal skills, and they possess limited vocabulary for emotional expression (Garraalda, 1996), somatization is particularly common in childhood and adolescence

(e.g., Dufton, Dunn, & Compas, 2009; Haugland, Wold, Stevenson, Aaroe, & Wojnarowska, 2001; Santalahti, Aromaa, Sourander, Helenius, & Piha, 2005). In addition, child temperament characteristics and parenting practices tend to make children more prone to somatization (Garraida, 1996; Raval & Martini, 2009; Walker & Zeman, 1992).

Anger is defined as a state of arousal that results from social conditions involving threat or frustration (Averill, 1982). Anger expression in children has been associated with a number of negative health and mental health outcomes, including elevated blood pressure, psychosomatic symptoms, poor perceived health, depression, aggression, and externalizing problems (Kerr & Schneider, 2008). Parental socialization of anger (and other emotions) is complicated by individual differences in temperament (Kagan, 1994). Vulnerability to certain emotional experiences is problematic in early adolescence and temperament is one potential contributor to such emotional outcomes.

Temperament is a biologically driven component of personality, an innate attribute that reflects individual differences in regulation, reactivity, and sociability (Thomas & Chess, 1977), and influences one's sensitivity and response to stressful situations. It is well known that there is a general relation between early temperament, related behavior patterns, and poor psychosocial outcomes such as anxiety problems (e.g. Prior, Smart, Sanson, & Oberklaid, 2000). In this study, two overarching aspects of temperament, Negative Affectivity (NA), and Effortful Control (EC) are examined as contributors to emotional expressiveness. NA refers to one's proneness to experience feelings of worry and emotional discomfort (Rothbart, Ahadi, & Evans, 2000). EC is a

multidimensional construct reflecting biologically-driven individual differences in the ability to shift and focus attention and to actively control emotional and attentional responses (Capaldi & Rothbart, 1992; Putnam, Ellis, & Rothbart, 2001). EC reflects an individual's voluntary and willful regulation of attention and behavior (Rothbart et al., 2000), and EC fosters the regulation of approach and withdrawal tendencies when confronted with rewards and punishments, and is used to control or modulate reactivity (Rothbart & Bates, 2006). Specifically, Ellis and Rothbart (2001) noted that high NA and low EC predicted internalizing behaviors such as depressed mood. Low EC, high surgency (characterized by extraversion, high activity level and impulsivity, and risk-taking behaviors), and low affiliation (refers to (less) desire for warmth and closeness with others, independent of shyness or extraversion) predicted externalizing behaviors (e.g., aggression) (Ellis & Rothbart, 2001).

Several temperamental traits are linked to the emotional experience of anxiety, somatization, and anger. For instance, NA is found to be a vulnerability factor for the development of anxiety and depression (Clark, Watson, & Mineka, 1994). Mildly depressed youth as compared to non-depressed youth reported higher levels of NA, higher frustration with negative life events; as well as more emotion-focused, as compared to problem-focused coping strategies (Khosla, 2006). In addition, as a child grows, his/her reactive forms of regulation are supplemented by an increasing capacity for EC (Rothbart, Posner, & Boylan, 1990). Specifically, EC has been found to be linked with attentional efficiency, such that, children who show stability of EC in preschool are more attentive and resistant to stress in adolescence. Such individuals (with high EC)

often show low levels of NA, have better ability to delay gratification, exhibit less impulsive behaviors, express less intense anger (Kochanska, Murray, & Harlan, 2000), and successful regulation of fear (Kochanska, 1993) hence, reducing the probability of internalizing problems (Oldehinkel et al., 2004). On the other hand, children who have lower levels of EC are vulnerable to anxious psychopathology, as well as ADHD and anger/aggression problems (Derryberry & Rothbart, 1997).

Low EC is mainly associated with externalizing problems such as attention problems, aggression, and rule-breaking behavior (Kochanska, Murray, & Coy, 1997; Oldehinkel et al., 2004). EC tends to affect children's maladjustment by contributing to the processing of information, as well as to the modulation of emotion and behavior. Lonigan and Vasey (2009) noted that EC moderated the relation between NA and attentional bias; that is, only children with low levels of EC and high levels of NA showed an attentional bias to threat stimuli and related anxiety pathology in children (Lonigan & Vasey, 2009). Hence, researchers argue that in addition to the reactive temperament factor of negative emotionality, the regulative process of EC also plays an important role in the etiology and maintenance of internalizing and externalizing problems in children and youth (Eisenberg, Fabes, & Murphy, 2007; Muris & Ollendick, 2005).

Overall, there is substantial evidence that negative reactivity (high NA) and poor self-regulation (low EC) contribute to the development of internalizing and externalizing problems (Muris, Meesters, & Blijlevens, 2007; Rothbart & Bates, 2006). For instance, regression analyses noted that low EC, high NA, and gender (e.g., being female), best

predicted depressive mood scores (Ellis & Rothbart, 2001). Recently, a study examining mother–adolescent interactions indicated that adolescents who are higher in temperamental NA and lower in EC were generally exposed to more frequent aggressive and less frequent positive interpersonal maternal behavior, which adversely affected the adolescents’ emotional well-being (Davenport, Yap, Simmons, Sheeber, & Allen, 2011). Hence for the purpose of this study, it was hypothesized that NA will be positively related to these negative emotional outcomes, and EC will be negatively associated with anxiety, somatic problems, and anger.

### **Maternal Emotion Socialization and Meta-Emotion Philosophy**

Emotion socialization refers to the process of developing children’s understanding, experience, expression, and regulation of emotions (Saarni, 1985). From the time of birth, a child’s behavior is shaped by an interaction between biological predispositions (e.g., temperament and gender) and contextual influences (e.g., parenting, family environment, and socio-economic status) (Plomin, DeFries, & McClearn, 1990). There are multiple ways to conceptualize the role of the context in the relation between child temperament, gender, and emotional expressions. Children’s emotional development is socialized (Denham, Basset, & Wyatt, 2007), and seminal work has identified three primary ways in which parents socialize their children’s emotional development - a) parent reactions to children’s emotion, b) parent expressiveness, and c) parent-child discussion of emotion (Eisenberg et al., 1998). Thus, environmental factors, such as parental emotion socialization, and socio-cultural contexts (Raval & Martini, 2009; Shweder & Haidt, 2000) play an influential role in children’s emotions.

For the purpose of this study, parental emotion socialization is conceptualized by Gottman's Meta-Emotion Philosophy (MEP) theory (Gottman et al., 1996). Gottman and associates (1996) proposed that what parents think and feel about emotions in themselves and their children are related to the process by which they socialize emotions for their children. Subsequently, the authors introduced a new concept of parenting called a parental meta-emotion philosophy, which refers to an organized set of feelings and thoughts about one's own emotions and one's children's emotions (Gottman et al., 1996). The MEP model claims that parental meta-emotion philosophy is related to both the inhibition of parental negative affect and the facilitation of positive parenting vis-à-vis a child's emotional experiences, and that parental MEP affects children's regulatory physiology as well as their ability to regulate their own emotions (Gottman et al., 1996).

According to the MEP, parents respond primarily to their children's emotional behaviors via two means of socialization. Gottman and colleagues (1997) described 'emotion-coaching' parents as being fully aware of their child's emotions, helping their child to verbally label and discuss feelings, perceiving the experience of negative affect as healthy, viewing their child's negative emotions as an opportunity for intimacy, teaching, and problem-solving with their child to constructively resolve an emotional situation. When a child is experiencing negative emotions, emotion-coaching parents will help their child verbally label what they are feeling, validate their child's emotions, and participate in problem solving with the child regarding the situation that led to the negative emotion (Gottman et al., 1997). Emotion-coached children have high levels of self-esteem and are successful in both social and academic situations. In terms of

emotions, these children are able to trust their feelings, regulate their emotions, and effectively employ adaptive problem-solving skills (Gottman & Declaire, 1997). Emotion coaching parents tolerate their children's negative mood states without becoming upset or impatient, and use these social events as opportunities to offer guidance on how to regulate such emotions (Denham et al., 2007; Lagacé-Séguin & Coplan, 2005). Discourse about emotion is most beneficial to children when discussion includes parents' sensitive structuring and acceptance, i.e., emotion coaching (Gottman et al., 1996; Halberstadt, 1991). In addition, emotion coaching by mothers is found to positively influence the ability of children and adolescents to regulate their emotions (such as anger), which in turn reduces the incidence of problem behaviors (e.g., Shortt et al., 2010). For instance, a mother's acceptance and awareness of her own emotions is associated with fewer depressive symptoms, higher self-esteem, and fewer externalizing problems in young adolescents (Katz & Hunter, 2007).

In contrast, 'emotion-dismissing' parents lack awareness of their children's emotions, have an impoverished emotion vocabulary, avoid child's negative emotions, and attempt to alter the child's emotion itself rather than use emotions as an opportunity to teach self-management and coping skills (Gottman et al., 1996). Children of parents who adopt the emotion-dismissing MEP are taught to believe that their negative feelings are unwarranted and inappropriate (Gottman & DeClaire, 1997). Research suggests that children being brought up in an environment where emotions are minimized, denied, and ignored experience poorer social and emotional development (Lagacé-Séguin & Coplan, 2005; Silk et al., 2011).

Several means of emotion socialization, such as parental imitation, social referencing, and parental communication about their expectations contributes to shaping emotional expression in children. Mothers' reports of unsupportive reactions to their children's negative emotions (i.e., dismissing, punitive, or minimizing reactions) are associated with poorer child emotion regulation and increased emotion dysregulation as reported by mothers (Garside & Klimes-Dougan, 2002). The expression of anger is often heavily influenced by parental socialization forces; for example, both maternal emotion coaching of adolescent anger and adolescent difficulty in regulating anger are found to reduce adolescent externalizing behavior problems (Raval & Martini, 2009; Shortt, Stoolmiller, Smith-Shine, Eddy, & Sheeber, 2010).

Elaborating on the MEP model, Yap, Allen, Leve, and Katz (2008) explored the association between maternal MEP and maternal socialization of preadolescents' positive and negative emotions. Results suggest that developing an emotion socialization style that is high in both awareness and acceptance of anger and sadness in the child could help mothers respond less aversively to adolescents' positive and dysphoric affect in normative contexts (Yap et al., 2008). Similarly, Hooven, Gottman, and Katz (1995) found that children of emotion-coaching parents showed lower levels of physiological stress, greater ability to focus attention, and were physically healthier than non-emotion coaches (Hooven et al., 1995). Raval (2004) noted that children with somatic complaints had mothers who reported using more minimizing and punitive responses and less physical and verbal comforting in response to their children's expression of anger as compared to children with no externalizing or internalizing problems. The more



responsive mothers were those who guided their parenting after evaluating the cause of their child's anger. For instance, if they perceived the child's anger to have a justifiable cause, they reported feeling sympathy for the child (Raval, 2004). Hence, maternal MEP plays an important role in children's socio-emotional outcomes.

Eisenberg et al. (1998) noted that parents' own negative emotionality and their negative reactions to children's expression of emotion (for instance, dismissing MEP which is low in awareness and acceptance of child's negative emotion) are associated with children's negative emotionality and low socio-emotional competence (Eisenberg et al., 1998). Mothers who reported engaging more in magnifying, neglecting, and punitive responses to children's negative emotion had children who scored higher on internalizing symptoms (Silk et al., 2011). Recently, Newland and Crnic (2011) noted stronger relations among maternal negative affect and child externalizing behavior problems than among maternal negative affect and child internalizing emotions and behaviors. Thus, children whose parents dismiss negative emotions and do not talk about such emotions in a supportive way are likely to be relatively low in their ability to manage both their emotions and their attention in social situations (e.g., Eisenberg & Fabes, 1994; Eisenberg et al., 1997). Lunkenheimer, Shields, and Cortina (2007) found that while emotion-dismissing MEP is a risk factor, contributing to poorer emotion regulation and more behavioral problems; emotion coaching MEP does not necessarily offer direct benefits for children's emotional and behavioral outcomes, but can interact with emotion dismissing such that coaching protects children from the detrimental effects of dismissing behaviors. Moreover, this protective effect is sometimes found for parents' coaching of

negative but not positive emotions (Lunkenheimer et al., 2007). Overall, the MEP theory suggests that being reared by parents who are accepting and coaching of emotion is associated with child awareness and acceptance of various emotions, as well as better emotion regulation abilities.

In this study, I hypothesized that mothers who adopt more of an emotion coaching parenting style would have children who exhibit lower levels of anxiety and anger, and report fewer somatic problems. Talking about emotions with children helps them understand their own emotional selves and reduces their vulnerability to negative emotional outcomes. On the other hand, the mothers who practice more of an emotion dismissing style, with their low acceptance of child's negative emotions, may lead to the expression of anxiety, somatization, and anger in children.

### **Interaction between Child Temperament and Maternal MEP on Child Emotions**

In the recent years, research on socio-emotional development has shifted from a focus on a person to a focus on interaction (Kopp, 1989). Hence, moderation processes are possible in the relations between child temperament, parental socialization, and emotional outcomes. For instance, Lagacé-Séguin and Gionet (2009) assessed the role of maternal meta-emotion on adolescent temperament and coping skills. Results indicated that there is a significant interaction between maternal emotion-coaching and NA in the prediction of distractive coping strategies (i.e., distracting actions, physical release of emotions). Specifically, a significant positive relation was found between emotion coaching parenting and distraction coping strategies for children lower in NA but

emotion-coaching parenting was not associated with distractive coping skills for children higher in NA (Lagacé-Séguin & Gionet, 2009). In contrast, there was a negative relation between emotion-coaching parenting and distraction coping for children who were low in EC and emotion-coaching parenting was not associated with distraction coping in children who were high in EC (Lagacé-Séguin & Gionet, 2009). Herein, temperament was a moderator to the relation between maternal MEP and adolescent coping skills. It is important to recognize that children's temperament may evoke certain parenting reactions and alternatively, parental MEP can influence relations between child temperament and children's emotions, and such moderation by MEP on the relation between temperament and emotional outcomes is explored in the current study.

Thus, it is possible that the relations between child temperament and emotional outcomes may vary depending on the MEP adopted by the mother. For example, maternal hostility and punitive parenting is found to be associated with an increase in externalizing behavior problems in children who are high in NA and low in EC as compared to temperamentally similar children who received less hostile and punitive parenting (Davenport et al., 2011; Morris et al., 2002). As a result, the adverse effects of negative maternal behaviors, especially dismissive and neglectful parenting may amplify negative emotional expressions (such as anxiety, anger) among children with temperamental vulnerabilities such as high NA and low EC. In this study, I look at the possible moderating role of maternal MEP in the relation between temperament and emotional expressions. I hypothesized that children who are high in NA and/or low in EC may be prone to negative emotions, particularly in the context of emotion-dismissing

MEP. I also expected that children with high NA and/or low EC, if given an emotion-coaching environment may overcome their vulnerability to negative emotions, and exhibit lower levels of anxiety and anger, as compared to similarly temperamentally vulnerable children who get exposed to emotion-dismissive parental behaviors. Thus, in addition to a direct link between child temperament and emotions, there may also exist a potential moderating role of maternal MEP affecting the relation between these two variables.

### **The Role of Gender in Emotion Expression and Socialization**

Gender differences in parenting, emotion socialization, and emotional expressions exist as well. Emotion socialization tends to be differentiated by child's gender (Cassano, Perry-Parrish, & Zeman, 2007; Eisenberg et al., 1998), such that certain emotional experiences are more acceptable for one gender and not for the other. In general, beliefs about what emotions are acceptable or appropriate to express - known as "display rules" - are often gender specific (Saarni, 1993). For girls, "tender emotions" (empathy, guilt) and positive affect are considered especially important, and for boys, anger and related outer-directed negative emotions help to support activities associated with autonomy, authority, dominance, and combat (Zahn-Waxler, 2010). Females express emotions more intensely and reportedly experience a wider variety of emotions than males (Brody & Hall, 1993). As evidence for adherence to display rules, a study examining children's method of expressing negative affect found that girls prefer using verbal means to communicate emotion, whereas boys tend to choose to react in mild aggressive ways (Zeman & Shipman, 1996). Moreover, the experience of fearfulness and anxiety may be more

acceptable for girls than boys (Park, Belsky, Putnam, & Crnic, 1997). In contrast, anger expressions are more tolerated in boys than in girls (Condrey & Ross, 1985). Therefore, boys and girls exhibit significant variations in emotional expression of anxiety, pain, sadness, and anger (Le et al., 2002; Zeman & Garber, 1996).

Parents discuss emotions with their daughters more than with their sons, and are generally likely to discourage anger and aggression in their daughters (Zahn-Waxler, Klimes-Dougan, & Slattery, 2000). Parents are also found to socialize more relationship-oriented strategies for regulating emotions among girls, and tend to be more active with instrumental strategies for regulating emotions among boys (Eisenberg et al., 1998). For instance, Chaplin, Cole, and Zahn-Waxler (2005) reported gender differences in the acceptance reactions of parents for children's emotional expression, such that parents express their desire for boys to inhibit sadness and fear, and for girls to inhibit anger (Chaplin et al., 2005). In fact, anger expressions by girls are more likely to be followed by punitive reactions from mothers thereby reducing anger in girls, whereas anger responses from boys tend to receive empathic maternal reactions leading to more anger expression among boys (Malatesta & Haviland, 1982). Similarly, Feito (1998) reported that older girls (7 to 9 yr olds) expected their mothers to be more disapproving of anger than the fathers and/or peers, suggesting that gender role requirements for emotional expression may be enforced when children reach school age and that the same-sex parent may come to be the primary socialization agent for these roles (Feito, 1998). One reason to explain why girls are less likely to overtly express anger than boys is parental socialization of emotions because emotion-related behaviors of family members teach

children how and when to express emotions. There are gender differences in emotional outcomes, as well as gender-based variations in socialization practices (Denham, Zoller, & Couchoud, 1994).

However, such differences in emotional expression among boys and girls could also vary by cultural context. For instance, Caucasian boys who display sadness are likely to violate a societal emotion display rule and are considered ‘unmanly’, whereas expressing sadness is more socially acceptable for Caucasian girls (Brody, 2000). Additionally, in Western nations, adolescence is a time when gender norms become more pronounced, resulting in an increase in gender differences in emotion regulation patterns (Perry-Parrish & Zeman, 2011; Zeman & Shipman, 1996). For example, based on both self-report and peer report, adolescent boys were more likely to control sadness expression than adolescent girls who were more likely to report expressing sadness through crying and other overt behaviors (Perry-Parrish & Zeman, 2011). Hence, girls often express more sadness and anxiety, and boys express more anger (Cassano et al., 2007).

Larsson and Frisk (1999) examined emotional/behavioral problems in Swedish school-aged children/adolescents, and reported that girls had significantly higher scores on somatic complaints than boys (Larsson & Frisk, 1999). Among Indian children, Pai (1999) noted that 9 to 12 year old Gujarati girls hid their emotions more often and gave fewer inappropriate responses as compared to Gujarati boys, and this pattern of response was more common in the presence of authority figures (Pai, 1999). Furthermore, girls in Asian cultures (such as India, Thailand, and Japan) often express distress through somatic

complaints rather than psychological problems, as physical illness is more acceptable than psychological symptoms (Raval & Martini, 2009). One of the goals of this study is to understand how the relations between child temperament and emotional outcomes, and between child gender and emotional outcomes, are influenced by maternal emotion socialization as embedded in a cultural context.

### **Interaction between Child Gender and Maternal MEP on Child Emotions**

The relationship between MEP and children's emotional experiences may differ for boys and girls. For instance, in a 6-month longitudinal study with a high-risk urban sample, Cunningham and colleagues (2009) found that coaching MEP predicted girls' later social skills by improving their emotion understanding, and predicted decreases in boys' internalizing behavior. Also for boys, but not for girls, MEP was related to emotion regulation abilities, which in turn predicted higher grades, fewer internalizing and externalizing behaviors, and greater social skills (Cunningham, Kliewer, & Garner, 2009). Hence, the current study will examine both gender differences in emotional experiences, but also note whether links between maternal MEP and child emotion expressions are the same for boys and girls. Overall, there is emerging evidence suggesting that child gender shows promise as a moderator of relations between MEP and child emotional adjustment (Katz, Maliken, & Stettler, 2012), and in this dissertation, I will test for such moderation. In addition to gender, culture can and does play a central role in shaping how emotions are socialized within families (Markus & Kitayama, 1994; Mesquita, 2001).

## **The Role of Culture in Emotional Expressions and Emotion Socialization**

There are important cultural variations in how parents relate to their child's emotional lives. Culture is defined as a set of shared values, beliefs, and behaviors driven by symbols (such as language and art), and social learning (Shweder & Haidt, 2000). Children in varied social and cultural contexts are deliberately taught how to label, express, and regulate emotions by their parents and others in the environment (Halberstadt, 1991; Super & Harkness, 2002). In addition, emotions are often viewed as emergent mental phenomenon (Clore & Ortony, 2008) suggesting that children come to know about emotions via socialization and acculturation practices which might influence what they actually feel, and that cultural differences in emotion language may produce cultural differences in feeling (Khosla, 2010).

Previous work indicates that although core emotional experiences may be universal, culture influences the form and content of emotional expression (e.g., Kirmayer, 1984; Mesquita & Frijda, 1992), affects parents' emotion-related behaviors (Eisenberg, Spinrad, & Cumberland, 1998), and determines the social appropriateness of emotional displays (e.g., Cole, Bruschi, & Tamang, 2002; Raval & Martini, 2009). Children are taught to be aware of cultural "rules" for emotional expression because appropriate emotional expression plays a critical role in social competence (e.g., Halberstadt, Denham, & Dunsmore, 2001). Culture is often internalized as a model that acts as cognitive templates for perception, directing individual attention toward the relevant internal and external stimuli, including attention to physical and emotional sensations (Markus, Kitayama, & Heiman, 1996). For example, the Japanese foster both



attention to social context and a well-articulated perceptual orientation toward changes in the somatic experience (Saint Arnault, Sakamoto, & Moriwaki, 2006).

Cultural context influences parenting, emotion socialization, and childhood anxiety. There are cultural variations in how members of a cultural group appraise situations, communicate emotions, and act on them (e.g., Cole et al., 2002; Raval & Martini, 2009), which, in turn, plays an important role in emotion socialization. A family's expressiveness or emotional climate is a salient factor influencing emotion socialization (Halberstadt, 1991), and it is the cultural norms and values concerning the meaning attributed to emotional events that partly drive the family's emotional expressiveness, and these norms and values are communicated to the child over time (Halberstadt & Eaton, 2002; Super & Harkness, 2002; Suveg et al., 2005). For example, a family environment driven by collectivistic ideology (where the focus is on maintaining group harmony) may discourage a child's negative emotional expression, implicitly encourage the child to rely on affect-suppression methods of managing emotions, and consequently may promote internalizing problems (such as anxiety and physical pain) (Raval & Martini, 2009). Suppressive regulation involves avoiding or minimizing the experience of negative emotions. Usually, collectivist societies require that members learn to inhibit the expression of their own needs and instead, attend to the needs of others in the in-group (Markus & Kitayama, 1991). For instance, socialization toward an interdependent self-construal in Eastern cultures may orient Asian Americans "to be acutely attuned to social cues," rendering a vulnerability to experiences of social anxiety (Okazaki, 2002).

Cultural expectations are intergenerationally transmitted through societal norms and in turn, they influence parenting practices. For example, parents in individualistic cultures tend to facilitate emotion learning through two ways: direct methods (actions in response to children's emotions and coaching them to regulate their feelings via positive, supportive praise or punishment), and indirect methods (modeling emotional behaviors they want to see) (Eisenberg et al., 1998). However, in a collectivist cultural context, an important goal of emotion socialization is teaching children to control "uncivilized" emotions such as anger (Raval & Martini, 2011). Anger is often discouraged by parents in Asian societies because it threatens authority and relationship harmony (Cole et al., 2002). Negative emotions (such as anger or sadness) may be experienced but not readily expressed in the family, to avoid conveying discomfort with the social world. It is seen as harmful to one's family relations, as well as, to one's sense of self (Markus & Kitayama, 1991).

In many Asian societies, the body is holistically integrated with emotions. East-Asian cultures typically have more display rules than there are in Western cultures, and these rules restrict the open experience and expression of emotions (Le, Berenbaum, & Raghavan, 2002). The emotion display rules and expressions of psychological stress through the body are the cultural norm within many Asian cultures (Kirmayer, 1984). Often a socially inappropriate display of emotion may be legitimized through culturally accepted somatic or physical illnesses. For example, Weisz, Sigman, Weiss, and Mosk (1993) conducted a cross-cultural comparison of behavioral and emotional problems in children (ages 11-15 yrs). They noted that Kenya's Embu children, and Thai children

exhibited a strong tendency toward somatic expression of psychological stress, as compared to the Caucasian-American and Black-American children (Weisz et al., 1993). Similarly, the Japanese are noted to have higher somatic symptoms than Americans (Saint Arnault et al., 2006). On the other hand, American culture values individualism, and American mothers endorse emotional expression more than Japanese mothers, even encouraging the expression of negative emotion (Zahn-Waxler et al., 1996). In fact, for most Western nations, encouragement of emotion labeling and expressions, and direct verbal discussions about emotions appear to be associated with positive outcomes in the child (Kench & Irwin, 2000). In contrast, the collectivist Japanese culture emphasizes interpersonal goals (Matsumoto, 1996; Zahn-Waxler et al., 1996); thus, Japanese mothers often may discourage their children from expressing negative emotion because of the importance of maintaining interpersonal relationships. Thus, many parents in Eastern, collectivistic cultures often fall into the “emotion-dismissing” category of the MEP model (Friedlmeier, Corapci, & Cole, 2011). Although such parents are sensitive to their children’s feelings and may want to help, they often practice emotion dismissive parenting that is likely to ignore or deny children’s emotional needs (Friedlmeier et al., 2011).

Consistent with the collectivist perspective, the traditional Indian family values interdependence and hierarchical relationships (Verma & Saraswathi, 2002). Thus, a high level of parental involvement and control is characteristic of Indian families. As per the Hindu ideology (or the collectivists in the sub-Indian continent), Eastern parents are likely to show lower acceptance of displays of negative emotions like anger and sadness

(e.g., Eisenberg et al., 1998; Raval & Martini, 2009), and are found to be highly evaluative of their children's emotions (Markus & Kitayama, 1991). Asian people are often seen to use strict control on their children (e.g., punitive behavioral strategies such as scolding and spanking) that involve less direct emotion-related communication (e.g., Kelley & Tseng, 1992; Raval & Martini, 2009; Raval et al., 2010). These parents' behavioral responses therefore serve as communicative mechanisms that convey to the child that their negative emotions are not acceptable (Saarni, 1985, 1993), and often promote emotional dysregulation. For example, Asian parents often attend to a child's distress with anger and rejection, which promotes high levels of self-restraint in Asian children (Cole, Tamang, & Shrestha, 2006). Indian mothers specifically report more sympathy and less negative reactions toward children's pain than their anger (Raval & Martini, 2011), which tends to promote somatic behaviors in children. In addition, Indian mothers do not often label emotions for their children and a study reported that when Indian children (aged 10-12 years) were presented with photos of basic emotions posed by Indian participants of their parents' age, they were able to recognize the emotion depicted by elaborating on the expression rather than labeling it in one word (Khosla, 2010). For these reasons, Asian (Indian) children are more likely to exhibit lower levels of emotional awareness, and internalize rather than externalize their psychological problems as compared to their Western counterparts.

Cultural norms reflect beliefs about the functionality of various emotions (e.g., Cole et al., 2002; Super & Harkness, 2002), and these beliefs may, in turn, influence parents' desires for their children's happiness, fearlessness, and anger suppression (e.g.,

Diener & Lucas, 2004) as reflected through parental MEP. For instance, in a qualitative study examining emotion-related conversations between American and Chinese mother-child dyads, Wang (2001) found that American mothers employed an “emotion-coaching style” of providing rich explanations for emotions and Chinese mother-child conversations employed an “emotion-criticizing style” of emphasizing proper behavior and providing minimal explanations (Wang, 2001). Additionally, Chinese-American mothers are more likely to approve parental expression of hostility or rejection than Caucasian mothers, and they score higher on physical punishment and yelling at the child as compared to Caucasians (Kelley & Tseng, 1992). Recently, Saw and Okazaki (2010) noted that most of the Asian Americans in interviews recalled being socialized by their family to suppress their emotions, whereas more than half of White Americans recalled being encouraged by their families to openly express emotions, and that emotional suppression was associated with greater emotional distress (Saw & Okazaki, 2010). In a multinational study that compared the frequency of various disciplinary practices (i.e., physical discipline, scolding, giving a time-out) across six cultures, mothers in India reported using physical discipline more than mothers in other Asian countries such as China and Thailand, but less than mothers in Kenya (Gershoff et al., 2010; Lansford et al., 2005).

### **Interaction between Culture and Maternal MEP on Child Emotions**

Next, let us look at how maternal MEP and related parenting behaviors may vary across cultural groups and influence child emotional outcomes. Rudy and Grusec (2006) assessed mothers and their children (ages 7 to 12 yrs) from individualist (Western

European) and collectivist (Egyptian, Iranian, Indian, and Pakistani) nations. The study found that mothers in collectivist societies endorse authoritarian parenting more than the mothers from individualist societies, but they did not necessarily feel or think negatively about their children. Authoritarian parenting is characterized by being low in warmth and high in demandingness, such that mothers require obedience from children without giving them a chance to express their own point of view. However, research notes that maternal authoritarianism is associated with maternal negative emotions only in the individualistic-oriented group (Rudy & Grusec, 2006). More work is needed to determine how and why socialization differs in various subcultures and minority groups (Eisenberg et al., 1998).

In another study, researchers examined parents' self-reports about their emotion regulation patterns and coaching of their children about emotions across three racial and ethnic groups (African American, European American, and multiracial) in the United States. Results indicated that for the African American families, a higher level of coaching about anger and sadness by mothers was linked with lower depressive symptoms in their children. A higher level of anger coaching by fathers within the multiracial group was also associated with lower anxiety and depressive symptoms (Bowie et al., 2011). Hence, research supports the importance of cultural values both within racial and ethnic groups, and across cultural contexts, in parenting and MEP associated with children's mental health outcomes (Bowie et al., 2011; Cunningham et al., 2009; Raval & Martini, 2009; Saw & Okazaki, 2010).

The potential moderating role of racial and ethnic groups as well as the generalizability of MEP cross-culturally needs exploration (Katz et al., 2012). The

current study examines three cultural groups – Caucasians (white, European-decent parents and their American children), Indians (parents and children living in India), and Indian Americans (first-generation American-born children to Indian parents living in the U.S.). It is expected that gender differences in emotional outcomes may be consistent across Indians and Americans, such that girls will express more sadness and anxiety, and boys express more anger (Raval & Martini, 2009; Zeman & Garber, 1996; Zeman & Shipman, 1996). In terms of maternal socialization, Indian mothers will likely remain consistent with their collectivist norms of suppressive regulation, and use more of emotion dismissing MEP. In contrast, Caucasian mothers may encourage emotion labeling and expressions, and employ more emotion coaching MEP with their children.

Viewing patterns of emotional outcomes and MEP among the Indian Americans can help us understand the role of both culture (that is, socialization norms of the native country) and context (residing in the U.S.), and how it influences their emotion socialization. It is expected that aspects of emotional development and expression may be different for children from families where their Indian parents have experienced acculturation in the U.S. for some time and have raised their US-born children within a cultural context different from the native one (i.e., India). Acculturation refers to how people belonging to ethnic minority groups adapt to the dominant culture and embrace the changes in their beliefs, values, and behavior that result from contact with the new culture and its members over time (Berry, Trimble, & Olmedo, 1986).

Despite acculturation, with a rise in social class status and a close identification with American customs, many Indian Americans continue to hold a relatively

collectivistic orientation (i.e., emphasizing the extended family, traditional gender roles, obedience to elders, and group interdependence) many years after immigration (Patel, Power, & Bhavnagri, 1996). Integrative acculturation refers to becoming bicultural by maintaining characteristics of one's own ethnic group while selectively acquiring those of the host culture (Farver, Narang, & Bhadha, 2002). Farver and colleagues (2002) noted that Asian Indian parents who displayed more integrative acculturation attitudes toward the dominant culture (that is, the U.S.) resulted in their children experiencing less conflict at home and reporting higher self-esteem and lower levels of anxiety as compared to children of parents who had a separated or marginalized style of acculturation (Farver et al., 2002). Although acculturation is not being assessed in this study, the Indian American group may provide us with interesting leads on the role that both social context (i.e., America) and natal culture (i.e., Indian values) play in the emotional development of immigrant children. It is possible that first-generation Indian American children may differ in their emotional expressions as compared to the Caucasian and Indian children. Research suggests that Asian American youth, especially recent immigrants, are at high risk for various psychological symptoms such as anxiety, depression, low self-esteem, and behavioral problems such as aggression and social withdrawal (e.g., Hovey, Kim, & Seligman, 2006; Shrake & Rhee, 2004).

### **Rationale for the Present Study**

This dissertation attempts to understand among three cultural groups, namely Caucasians, Indian Americans, and Indians, how child temperament (NA and EC), gender, and maternal MEP practices relate to children's expression of anxiety, somatic



problems, and anger. There are several ways in which this study could help extend our understanding of individual differences in children's emotions as well as cross-cultural variations in parenting and children's emotional development. A child's temperament influences the manner in which he/she perceives and processes environmental stimuli (Fox & Calkins, 2003), and mother-child interactions and cultural norms mold the way in which parents respond to their child's temperament and emotion expression (Cole et al., 2002; Raval et al., 2010). Having systematic information across cultural groups could help fill gaps in existing literature on the role of cultural context in children's emotional outcomes. For instance, a recent study mentioned that comparative studies of children's emotion expression and control in Indian and Western White samples are needed to examine differences in cultural models of emotion communication across groups (Raval et al., 2010). The present cross-cultural work on children's emotional experiences may lead us to a better understanding of the mechanisms involved in socio-emotional development, from micro- (child-centered) to macro- (cultural) levels of influence.

In this study, I gathered data from young adolescents (ages 10 to 13 years). Early adolescence is a time of excitement and of anxiety; it is time full of challenges about how to handle emotional experiences. Dealing with different stressors (e.g., at school, pubertal changes, and peer relations) tends to make teenagers vulnerable to maladaptive coping patterns of emotion suppression, anxiety, and somatic behavior (Arnett, 2010). Although less research has been conducted on emotion socialization in adolescence compared with childhood, early adolescence is indeed an important period for the development of

emotion regulation (Spear, 2000), especially, due to increased frequency of parent-child conflicts (Morris et al., 2007).

Further, parental emotional expression may serve as a model for early adolescents of the appropriateness and efficacy of interpersonal emotional behavior. Past research indicates that mothers are the primary source of emotion socialization (Davenport, Yap, & Allen, 2010; Raval et al., 2010). Especially in traditional Indian families, the mother is mainly responsible for the child's socialization, while the father's role is limited to that of the provider and disciplinarian (Kao & Sinha, 1997). Children (ages 8 to 12 yrs) report being most comfortable expressing emotions to their mothers compared to fathers and peers (Zeman & Garber, 1996). Yet less research has been conducted on emotion socialization during adolescence than during childhood (Davenport et al., 2010; Spear, 2000). Hence, the present study collected data from young teenagers (ages 10 to 13 yrs) and their mothers.

In the current study, I examine three forms of emotion expression: anxiety, somatization, and anger, thus providing a comprehensive picture of children's emotional experience. Somatization is often an indirect, but an effective way of calling attention via body pain or physical discomfort. In this way, the child can signal to others that something is wrong (Kirmayer, 1984). Often a socially inappropriate display of emotion may be legitimized through culturally accepted somatic or physical illnesses. The literature suggests that children in Eastern, collectivist cultures (e.g., India, Japan) tend to present with more somatic complaints than psychological difficulties (Kirmayer, 1984; Le et al., 2002; Raval et al., 2010, Saint Arnault et al., 2006). However, it is unclear

whether withdrawal from verbal communication and instead, the use of somatic complaints is an effective means of emotional expression, or whether it is maladaptive coping through thought suppression and emotional control with the recognition that verbal communication may be ineffective and socially inappropriate. Further research is needed to understand processes concerning emotion expression and control in Indian-descent children who are vulnerable to somatic complaints.

Cultural group comparisons between individualistic (the U.S.) and collectivistic (India) societies allow me to examine more closely some of the factors involved in emotional expressions such as anxiety, anger, and somatic complaints that may be socio-culturally influenced. Specifically, the present study assessed Caucasian children growing up in the U.S., Indian children growing up in the U.S., and Indian children growing up in India, so that both, culture and context are tapped vis-à-vis children's emotional development and maternal socialization practices. Last, this study may have practical implications for parent interventions across cultures, such that if parents from Asian cultures show more emotion-dismissing meta-emotion philosophy, then they could be encouraged to engage in emotion-coaching behaviors and be made aware of strategies to teach effective emotional skills to cope with their children's negative emotions, which may enhance their children's socio-emotional functioning.

In this study, I attempt to understand links between child temperament (NA and EC), gender, and emotional expressions, as moderated by maternal emotion socialization (Gottman's MEP), and by cultural background. Several relationships are tested in order to understand the associations among the variables, and to see if there are differences across

cultural groups. Following are the research questions and related hypotheses that the current study attempted to answer:

1. (a) Do children's NA and EC levels predict differences in children's expression of emotions like anxiety, somatic complaints, and anger? (b) Does maternal MEP influence relations between children's NA and EC levels and emotional outcomes?

a. Based on previous findings, NA appears linked to negative emotional outcomes in children, and EC is seen as a positive temperament trait associated with good emotional well-being, regardless of one's gender or cultural group. It is expected that children with low EC will report higher levels of externalizing (i.e., anger); and those with high NA would show vulnerability for internalizing (anxiety) and externalizing (anger) problems. Specifically, EC will be negatively related to emotional outcomes like anger, anxiety, and somatic complaints. NA will be positively related anxiety and anger.

b. Relations between child temperament and emotional experience may vary depending on the MEP adopted by the mother. For instance, it is expected that children who are high on NA may be prone to elevated levels of anxiety, anger, and somatic behavior, but especially so in the context of high levels of emotion-dismissing by the mother. On the other hand, children who are low on EC will have better emotional outcomes in the context of emotion coaching by the mother, while the emotions of children who are high on EC will not depend as much on maternal MEP.

2. (a) What role does child gender play in the emotional expression of the child? (b) Are associations between emotional expressions and maternal MEP the same for boys and girls?

a. It is expected that girls will exhibit higher levels of anxiety and somatization as compared to boys. Boys will show higher levels of anger as compared to girls.

b. It is likely that being a girl will increase one's vulnerability for the experience of anxiety and somatic complaints, especially in the context of emotion-dismissing MEP, and this may not be so for the boys. Conversely, girls will experience lower levels of anxiety in the context of emotion-coaching MEP, while boys will report low levels of anxiety irrespective of maternal MEP. However, boys will express higher levels of anger in the context of emotion-dismissing MEP more than the girls who will show more somatic complaints with emotion dismissing parenting.

3. Are there main effects of culture on child temperament, gender, maternal emotion-related parenting style, and child emotional outcomes? Does cultural group membership moderate the relations between gender, maternal MEP, and child emotional outcomes?

a. Main effects of culture: First, I examine the main effects of culture on temperament, maternal MEP, and emotional expressions. No differences across cultural groups are expected on the temperamental traits such as NA and EC. It is expected that Indian mothers will adopt less of an emotion-coaching parenting style and much of emotion-dismissing with their children, as compared to Caucasian counterparts who would show more emotion-coaching. It is predicted that Indian children will exhibit less anger responses as compared to the Caucasian children, and the Indian-Americans would be in the middle. On the other hand, it is expected that Indian children will exhibit higher

levels of anxiety and somatic behavior as compared to the Caucasians, and the Indian-American group would show moderate levels of anxiety and somatization.

b. Moderating role of culture: Second, I look at some of the interactions that may be possible among these variables. (i) It is expected that the gender differences in emotional outcomes would be bigger for the Indian group as compared to the Caucasians. For example, Indian and Indian-American girls in particular may exhibit higher levels of anxiety and somatic behavior compared to their Caucasian female counterparts. Based on previous research, I expect no cultural differences in the levels of anger and anxiety for boys. (ii) There also may exist bigger gender differences in maternal MEP across cultural groups, especially for girls and Indian mothers. For instance, Indian mothers are expected to practice emotion-dismissing MEP more for their girls than boys. On the other hand, Caucasian mothers will show more equal MEP for boys and girls. (iii) It is expected that Caucasian children with low EC and/or high NA will report higher levels of externalizing (i.e., anger) problems, as compared to Indian children. Specifically, the Indian children with high NA and/or low EC will report higher levels of somatic problems as well as anxiety. The Indian-American children may show mixed findings in their levels of anger and anxiety problems. (iv) There might be a differential effect of emotion-coaching MEP across children belonging to different cultural groups. Specifically, it is predicted that emotion-coaching MEP would be a buffering factor to help reduce vulnerability to negative emotional outcomes, more so for Indian children than Caucasians.

## **METHOD**

### **Participants**

A sample ( $N = 135$ ) of 10-13 year-olds was recruited to participate in the study along with their mothers. The data are thus from 135 dyads, but because some measures are completed either by the child or by the mother, I refer to sample size at the child level. The three cultural groups targeted were mother-child dyads of Caucasians in the U.S., Indian-Americans in the U.S., and Indians in India. The Indian children were born and raised in India. The Caucasian children were born and raised in the United States by white, European-descent parents. The Indian American group consisted of those who were Indian-born parents and their American-born or American-raised children. When recruiting participants in the U.S., the following criteria were used to define cultural group membership – “This study is on young children between the ages of 10 and 13 years. The parent and child have to be either Caucasian or Indian American in order to be able to participate in this study. By Caucasian, we mean white, European-decent parents with their child being born in the U.S. By Indian American, we mean that the child participant could either be born in the U.S., or have migrated to the U.S., with at least 1 parent/ guardian being born in India.” Both mothers and children were given the chance to accept or reject participation, and the consent and assent forms were provided.

Demographic information such as age, gender, maternal education, and SES was collected from the participants (see Appendix A).

**Table 1. Descriptive information, overall and by cultural group.**

Background Variables	Overall <i>N</i> = 135	Indians <i>n</i> = 64	Indian Americans <i>n</i> = 31	Caucasians <i>n</i> = 40
Gender, <i>N</i> (% Male)	71 (52.6%)	31 (48.4%)	16 (51.6%)	24 (60%)
Child's Age (yrs)* <i>M</i> ( <i>SD</i> )	11.80 (.88)	<b>12.07 (.51)</b>	<b>11.32 (1.01)</b>	11.72 (1.06)
Annual Income* <sup>1</sup> <i>M</i> ( <i>SD</i> )	3.25 (2.02)	<b>1.02 (.15)</b>	4.70 (1.03)	<b>4.86 (1.02)</b>
Mother's Age (yrs)* <i>M</i> ( <i>SD</i> )	38.33 (5.55)	<b>36.96 (3.38)</b>	<b>40.0 (3.94)</b>	38.94 (8.17)
Mother Ed* <sup>2</sup> <i>M</i> ( <i>SD</i> )	4.25 (1.04)	<b>4.14 (.96)</b>	<b>4.64 (.66)</b>	4.07 (1.32)

\*  $p < .05$  (significant comparisons are bolded)

<sup>1</sup>Income: 2 = \$25,001 - \$50,000; 3 = \$50,001 - \$75,000; 4 = \$75,001 - \$100,000; 5 = \$100,001 - \$150,000

<sup>2</sup>Mother Ed: 3 = some college, not completed Bachelor's degree; 4 = Bachelor's degree; 5 = Master's Degree

Range (*N*) = 110 to 135 (with some missing data points on annual income and mother education)

Table 1 presents descriptive demographic information for the whole sample, as well as broken down by cultural group. For the entire sample, a little more than half of the participants were male and average age was 11.8 yrs (range = 9 to 13 years). There were significant group differences in children's age,  $F(2, 132) = 8.84, p < .001$ . Post-hoc comparisons using the Tukey's HSD test revealed that participants in the Indian group ( $M_{\text{age}}=12.07, SD=.51$ ) were about 6 months older than the Indian American group



( $M_{\text{age}}=11.31$ ,  $SD=1.01$ ). However, the Caucasian children were not significantly different in their age from Indians and Indian Americans. Similarly, there were significant group differences in mothers' age,  $F(2, 122) = 3.43$ ,  $p < .05$ . Post-hoc comparisons using the Tukey's HSD test revealed that mothers in the Indian group ( $M_{\text{age}}=36.96$ ,  $SD=3.38$ ) were, on average, younger than the Indian American mothers ( $M_{\text{age}}=40.0$ ,  $SD=3.94$ ). However, the Caucasian mothers ( $M_{\text{age}}=38.95$ ,  $SD=8.17$ ) were not significantly different in age from Indians and Indian American mothers.

In terms of maternal education, there was a difference across groups,  $F(2, 121) = 3.09$ ,  $p < .05$ . The categories that mothers chose from to report their education level were 1 = less than high school, 2 = completed high school, 3 = some college but not completed Bachelor's degree, 4 = Bachelor's degree, 5 = pursuing/completed Master's Degree, and 6 = pursuing/completed PhD., MD. Most mothers were educated with at least a Bachelor's degree (see Table 1), and that remained consistent across the three cultural groups. However, post-hoc analyses revealed that there was a significant difference in maternal education level of Indian American mothers ( $M_{\text{ed}} = 4.64$ ,  $SD = 0.66$ ) and Indian mothers ( $M_{\text{ed}} = 4.14$ ,  $SD = 0.96$ ),  $t(68) = 2.18$ ,  $p < .05$ , wherein the Indian American mothers were more educated or professionally qualified as compared to the Indian mothers.

Income was an open-ended question on the demographic sheet provided to the Indian sample, wherein most participants reported their family's annual income in lakhs (in Indian rupees). The open-ended type of this question led to inconsistent responses with sole numbers being reported by some of the participants. Also, most Indian children

did not know their family income as it is something not often shared by parents with young children. Many Indian mothers chose to not respond to this question on the demographic sheet (missing data,  $n = 19$ ). On the other hand, participants in the U.S. were asked to report their annual family income in one of the six categories provided, which were as follows 1 = less than \$25,000; 2 = \$25,001 - \$50,000; 3 = \$50,001 - \$75,000; 4 = \$75,001 - \$100,000; 5 = \$100,001 - \$150,000; and 6 = more than \$150,001. The clear structure of the question generated more consistent responses from the participants in the U.S. Average annual family income was in the range of \$50,001 - \$75,000 with significant cultural group differences,  $F(2, 107) = 303.60, p < .001$ . While the Indians reported the lowest income (less than \$25,000), the Indian Americans and Caucasians had incomes in the range of \$75,001 to \$100,000. Such discrepancy in socioeconomic status (SES) across cultural groups is a matter of concern and there is reason to believe that the Indians have under-reported their income (as discussed below). The correlation between family income and maternal education for the whole sample was significant,  $r(102) = .21, p < .05$ . However, when seen separately by cultural group, the Indian group had a significant negative correlation between family income and maternal education,  $r(38) = -.38, p < .05$ , which does not appear to be correct. There was the expected positive relation between family income and maternal education for Indian Americans,  $r(27) = .34, p < .10$  and Caucasians,  $r(37) = .48, p < .05$ . Because the income variable appears invalid for the Indian group (discussed more below), Indians will not be included in overall analyses of income, and maternal education will instead be used for a measure of SES across groups when needed.

## **The Indian Sample**

The Indian sample (from India) included 64 adolescents (mean age = 12.08; SD = 0.51; 52% female), and their mothers (mean age = 37; SD = 3.38), recruited through two branches of an English-medium, privately-owned institute (in other words, a school that is not run by the Government of India) named Cambridge School, governed by the Society for the Advancement of Education, India and located in Noida and Greater Noida, U.P. (India). I chose to recruit using convenience sampling due to time constraints of my summer visit to India. The literacy rate of this urban city is high at 88.76% (Census of India, 2011) and the per capita income of urban households is Indian Rs.1,86,000 (approx. \$3500 per annum) (Bajpai, 2009). However, a) the per capita income of a city or country does not give a true picture of the living conditions of the entire population, and b) in this case, children studying in the school do not necessarily live in this urban city and they often commute from nearby places such as Delhi and Ghaziabad, where the per capita income is Indian Rs. 2,75,812 (approx, \$5200 per annum). The annual tuition fee for a sixth grader studying at Cambridge school is Rs. 65,000 (approx. \$1200 per annum). With some missing data ( $n = 19$ ) on family annual income, most of those reported their income as less than \$25,000 (98%), with an exception of one participant whose family income was between \$25,000 and \$50,000. This is likely a response bias in individuals from the Indian community where people resist sharing information about their economic status. There is reason to believe that Indian participants have not reported their income truthfully. In fact, there is very consistent under-reporting from people in India when asked questions on income - no matter which agency does the survey (Bijapurkar, 2007;

Bijapurkar & Bhandari, 2006). Moreover, the method of reporting for the Indian sample was to just report a value, which may not be the best way to help them report their income. It is also important to keep in mind that converting Indian rupees into US dollars may not be the most appropriate representation of Indian people's economic status. The conversion rate as of today is 1 US dollar equals 53.87 Indian rupees (CNNMoney.com), and the buying power of the two currencies is very different. The living cost of the area, tuition expenses of the school, and reported income's correlation with maternal education all point to the fact that income information appears to be invalid for Indians in this sample.

With some missing data ( $n = 9$ ) on maternal education level, the sample consisted of mothers who have either graduated with a bachelor's degree (45%), or graduated with a master's degree (41%) and the remaining mothers had completed high school with some college experience, but not completed a bachelor's degree (14%). Most children and their mothers reported Hindi (85%) as their first language, followed by other local languages such as Telegu (5%), Tamil (5%), Urdu (2.5%), and Marathi (2.5%). Regardless of what all languages were reported, almost all children fluently spoke English and understood English as they were all studying in an English-medium school. People in India speak English fluently, and English (along with Hindi) is considered the official language at the federal level (Ball, 2011; Pennycook, 1998).

### **The Indian American Sample**

The Indian Americans (from the U.S.) comprised 31 young adolescents ( $M_{\text{age}} = 11.32$ ;  $SD = 1.01$ ; 48% female), and their mothers ( $M_{\text{age}} = 40$ ;  $SD = 3.95$ ); but the

sample's data was partially incomplete as there was missing data on child-report measures (EATQ, SAI, SQ, and AESC) from a few children ( $n = 4$ ). This group was recruited in person during Indian community gatherings, temple events, and grocery store visits or through personal emails to friends and family with an Indian background who may have had or known other families with children 10-13 years in age. It is important to keep in mind that the Indian American child participants were either born in the U.S., or migrated to U.S. However, no specific information was obtained on when (at what age) the child arrived in U.S. Demographic information on maternal education level indicated that the sample included mothers who have either graduated with a bachelor's degree (45%), or have graduated with a master's degree (45%), or are pursuing/graduated with PhD/ MD/ JD (10%). With some missing data ( $n = 4$ ) on the demographics for annual family income, there were a few earning between \$50,001 and \$75,000 (11%), followed by many who were earning between \$75,001 and \$100,000 (37%), and then there were those with income greater than \$100,000 (52%). Most Indian American mothers' reported that their own first language was not English (87%) but instead they spoke other languages such as Hindi (25%), Kannada (19%), Telugu (13%), and Marathi (9%). When reporting child's first language, 55% claimed it to be English for their U.S. born child, while others reported Hindi (29%), Telugu (10%) and Kannada (6%). It may be the case that mothers take pride and expect their child to know the mother's native language (or mother tongue) first as that is the language the child is first exposed to at home, and these mothers may not necessarily report the language in which the child is most fluent. This could be explained by the idea of 'impact belief,' which refers to the extent to which

parents believe they have direct control over their children's language use (De Houwer, 1999). Asian parents (such as Koreans, Indians, Chinese) tend to show strong impact beliefs and make active efforts to provide particular language experiences and environments for their children, and reward particular language behaviors (Ball, 2011; Lao, 2004). In addition, maintaining the use of mother tongue serves both as a marker of cultural identity and for certain instrumental purposes (e.g., success in the local economy or global trade) (Ball, 2008). However, the majority of the Indian American children self-reported English to be their first language (55%) followed by a few claiming Hindi (14%) and Telegu (10%) as their first languages. Other languages spoken by children included Gujarati, Malayalam, and Kannada. Regardless of the diversity in languages spoken and/or reported by the sample, all these Indian American children knew English and were attending English-medium schools in the U.S.

### **The Caucasian Sample**

The Caucasian group (from the U.S.) consisted of 40 preadolescents ( $M_{\text{age}} = 11.72$ ;  $SD = 1.06$ ; 40% female), and their mothers ( $M_{\text{age}} = 38.95$ ;  $SD = 8.17$ ); however the sample's data were partially incomplete as there was missing data on child-report measures (EATQ, SAI, SQ, and AESC) for a third of children in the Caucasian sample ( $n = 12$ ). This group was recruited by distributing flyers at churches, children's parks, and sending mass emails on listservs of several parenting groups and summer camp organizations. With just 1 missing data point on demographic information for maternal education level, the sample included mothers who had completed high school (13%), mothers who have some college but not graduated with a bachelors (18%), mothers who

have graduated with a bachelor's degree (33%), and those who graduated with a master's degree (18%) and finally those who were pursuing or graduated with a PhD/ MD/ JD (18%). With some missing data ( $n = 2$ ) on the demographics for family annual income, there were those who earned between \$25,000 and \$75, 000 (10.5%), then about 18% whose income was between \$75,000 and \$100,000, and most of them earned greater than \$100,000 (71.5%). Most Caucasian mothers' reported their first language to be English (82%) but other languages were also reported such as German, Russian, Spanish, and Arabic (2.5% each). However, the majority of the Caucasian children self-reported English to be their first language (95%) followed by a couple of them claiming Arabic (2.5%) and Russian (2.5%) as their first language.

## **Procedure**

In India, packets of questionnaires were distributed to students in sixth grade at two schools in Noida. Mothers responded by signing the consent form, filling out the demographic sheet as well as the questionnaires, and sending the packet back to school with their child. They were informed that their child will be answering a similar set of questions at school (EATQ child and parent forms have similar-worded items). Then, the children whose mothers had responded filled out the questionnaires during regular school hours in their classroom. They were assured of the confidentiality of their responses. They were informed that their mothers had answered similar questions. Both mothers and children were asked to provide consent and assent, respectively. The consent and assent forms informed the participants that they will be completing a set of questionnaires that include questions covering normal day-to-day variations of behaviors and emotions. The

forms also mentioned confidentiality of responses, minimal risks involved, as well as the fact that participation is voluntary. The measures used were kept in their original language (i.e., English), as education is imparted in English-medium in most schools in India. There was little perceived need to translate the measures in Hindi or any other local language. In the end, I collected 64 packets of questionnaires, filled by both the mother and the child.

In the United States, I recruited Caucasian and Indian American participants by distributing flyers at local community centers, private schools, religious centers (e.g., church, temple), and grocery stores as well as by sending personalized emails to friends and family. Mass emails were also sent out on listservs of parenting groups, music/dance schools, and summer camp organizers. Those who agreed to participate were either handed a paper-pencil packet to fill out and mail back at the university address, or they were provided a flyer that briefly mentioned the study and had web links to two online surveys on Survey Monkey, one of which was to be filled out by the mother and the other by the child. The participants were also asked to complete a demographic sheet wherein they reported the child's age, date of birth, gender, first and second language along with mother's age, education level, and family income. It is important to note that the method of response was different across samples. That is, in India, the participants completed a paper-pencil version of the questionnaires; in the US, they completed either paper-pencil ( $n = 8$ ) or a web-based version ( $n = 63$ ) via the internet on a computer.

Online assessment is gradually becoming common in the modern day world with increased access to electronic media (e.g., computer touch-screen and/ or web-based) for



the collection of self-report data. Online assessment has a number of advantages over paper assessment such as a) accurate data entry (e.g., reduced missing values and double entry), b) immediate data entry, c) more participant self-disclosure, and d) higher levels of perceived privacy (Davis, 1999; Luce et al., 2007). Another reason to have chosen the use of online administration for the participants in the U.S. was to facilitate anonymity and reduce responding based on social desirability. Research has found that participants using the world-wide web (WWW) anonymously tend to show the lowest levels of social desirability, whereas participants answering on a paper-and-pencil (PP) non-anonymously tend to score higher on measures of self-consciousness, social anxiety, and self-esteem (Joinson, 1999). And, past research indicates that using WWW computer-administered measures makes administration and scoring of tests more efficient.

Although Luce and colleagues (2007) noted that the responses on a mood measure with a 5-point Likert scale were less stable when completed online; the two modes of self-report were moderately correlated (Luce et al., 2007). Also, Pettit (2002) conducted a study to compare the responses on a personality measure through two means of test administration – a WWW questionnaire and PP questionnaire. Results revealed that on four out of five scales, responses did not differ across WWW and PP administration in terms of either means or scale reliabilities.

Another recent study asked participants to fill out the General Health Questionnaire (GHQ-28) and the Symptoms Check-List-90-Revised (SCL-90-R) both with PP (test) and WWW (retest) versions. Results revealed that both WWW and PP versions were fairly equivalent, with higher test-retest reliability values for the SCL-90-R

as compared to the GHQ-28 (Vallejo, Jordan, Diaz, Comeche, & Ortega, 2007).

Nevertheless, no one seems to have previously administered temperament and parenting measures using both WWW and PP. Hence, WWW data may be comparable to PP data and that online administration is a potentially useful and valid data collection tool (Pettit, 2002). In the present study, we adopted both as a means of test administration.

Preliminary analysis using independent samples t-test revealed that those who completed the survey via PP were not different from those who did the survey online via WWW on either the demographics (income, maternal education, mothers' age, child's age) or the outcomes (MEP, NA, EC, anxiety, anger and somatic problems). So there were no statistical differences between PP and WWW modes of data collection, and it appeared fine to consider the data equivalent across groups for statistical analyses.

## **Measures**

### **Temperament**

The Early Adolescent Temperament Questionnaire (EATQ; Capaldi & Rothbart, 1992) is a temperament questionnaire designed to assess temperament in adolescents aged 9-15 years. The questionnaire specifically taps the experiences common to adolescents and is available in self- and parent-report formats. This is a 65-item questionnaire consisting of statements that are rated on a 5-point Likert scale. It contains behavioral scales that allow examination of the relationship of temperament to social-emotional functioning. This measure generates four main factors of temperament: 1) negative affectivity (NA), 2) surgency, 3) affiliativeness, and 4) effortful control (EC). The 11 subscales assessed fear, surgency, shyness, depressive mood, aggression,

affiliation, pleasure sensitivity, perceptual sensitivity, frustration, activation, inhibitory control, and attention. Alphas for the scales as reported by test authors were high (see Table 2), and test publishers' average convergence between parent report and adolescent report for the scales was .29 (Capaldi & Rothbart, 1992). For the purpose of this study, I use six out of eleven subscales (namely depressive mood, aggression, frustration, activation, inhibitory control, and attention) to create NA and EC factors. The EC score comes from the attention, activation control, and inhibitory control subscales; and NA score consists of depressive mood, aggression, and frustration subscales. Previous studies as well as test publishers suggest that the combination of low EC and high NA increases vulnerability to negative emotional outcomes, such as aggression and depressed mood, and so I used these factors in this study. The test authors report a correlation of -.36 between EC and NA (Ellis & Rothbart, 2001).

In the current study, the correlation between EC and NA for parent report was -.40 ( $n=135$ ,  $p < .001$ ), and for child report was -.48 ( $n=119$ ,  $p < .001$ ). Parent and child reports on NA and EC were also positively correlated, such that NA,  $r(119) = .42$  ( $p < .001$ ), and EC,  $r(119) = .37$  ( $p < .001$ ). However, there were several missing cases ( $n = 16$ ) among the participants recruited in the U.S. , and so I was unable to compute NA and EC scores for many children, which was adversely affecting the sample size of child-reports on EATQ. Because a) there were more responses on temperament from the mothers, and not from the children (missing data), and b) the mother and child reports were significantly correlated; for the purpose of analysis, I used mother report of child's temperament (NA and EC from the parent-form of EATQ).

**Table 2. Cronbach alphas of all measures separated by construct for overall sample and by cultural groups.**

Scales	Overall	Publishers	<i>Indians</i>	<i>Indian Americans</i>	<i>Caucasians</i>
<b>Temperament</b>					
Negative Affect ( $k=18$ )	0.82	0.76	0.66	0.76	0.89
Effortful Control ( $k=18$ )	0.80	0.77	0.63	0.81	0.89
<b>Emotion Socialization</b>					
Coaching ( $k=23$ )	0.71	0.62	0.58	0.73	0.79
Dismissing ( $k=25$ )	0.80	0.76	0.57	0.82	0.86
<b>Emotional Outcomes</b>					
Anxiety ( $k=20$ )	0.84	0.84	0.72	0.90	0.87
Somatic complaints ( $k=17$ )	0.84	0.84	0.80	0.88	0.88
Anger expression ( $k=16$ )	0.90	0.69	0.85	0.93	0.95

$k$ =number of items

Table 2 given above reports the Cronbach alphas for all the measures (both parent-report and child-report) separately for the overall sample, the three cultural groups, as well as for the publisher's findings. In the present study, alphas reported for the five measures were similar or better to the publishers' findings, and were moderate to high. Even across cultural groups, Cronbach alphas were good and okay to use but it is notable that for the Indians, the alphas were somewhat lower (see Table 2). Reliability analyses did not indicate the need to delete any item to improve internal consistency of these subscales and scales. Hence, I left all the required items in the scale when computing the alphas.

## **Maternal Meta-Emotion Philosophy**

The Emotion-Related Parenting Styles Self-Test True/False version (ERPSST-T/F; Gottman et al., 1997) is an 81-item true/false format questionnaire that results in four scale scores, each representing a different parenting style based on Gottman's meta-emotion philosophy theory. There is also a four-point Likert scale (ERPSST-L) measure based on the MEP theory which is psychometrically better than the T/F version (Hakim-Larson et al., 2006), but at the time of planning the study, I was unaware of the ERPSST-L version. The mothers were asked to complete the ERPSST-T/F measure to assess their meta-emotion philosophy. Responses marked as 'true' on each scale are summed and divided by the total number of items for that style. The emotion-coaching scale is comprised of 23 items (e.g., If there's a lesson I have about anger, it's that it's okay to express it.; It's important to help the child find out what caused the child's anger); the laissez-faire scale includes 10 items (e.g., I'm not really trying to teach my child anything in particular about sadness; When my child is angry, I try to let her know that I love her no matter what); the dismissing scale has 25 items (e.g., When my child is angry, I usually don't take it all that seriously; I don't want to make a big deal out of my child's sadness), and the disapproving scale has 23 items (e.g., When she gets sad, I warn her about developing a bad character; Kids get angry to get their own way). The test-retest reliability reported during validation studies was emotion coaching,  $r = .43, p < .001$ , and dismissing,  $r = .87, p < .001$  (Hakim-Larson, Parker, Lee, Goodwin, & Voelker, 2006). The alpha coefficients reported by the test publishers for ERPSST-T/F ranged from .73 to .88 for the four scales, and the test-retest reliability had a correlation of .88 over 1 month

on the ERPSST-T/F version (Hakim-Larson et al., 2006). Internal consistency generated during validation studies was in the moderate range, and the publishers values are reported in Table 2 (Hakim-Larson et al., 2006).

Table 2 reveals the Cronbach alphas for emotion coaching and emotion dismissing scales for the overall sample as well as separately for three cultural groups. For the purpose of this study, we will be using scores from only emotion-coaching and dismissing scales of the ERPSST-T/F version. The scores on emotion coaching and emotion dismissing were used one at a time in the regression models being tested. The overall Cronbach alpha for emotion coaching was .71, and for emotion dismissing was .80. The alphas for both coaching and dismissing were good for Indian American and Caucasian groups, but lower for the Indians. In this study, we found a non-significant relation between emotion coaching and dismissing,  $r(127) = .06, p = .53$  for the overall sample on this T/F version of the scale.

### **Anxiety**

The State-Trait Anxiety Inventory for Children (STAIC; Spielberger, 1973) consists of two 20-item scales that measure state and trait anxiety in children between the ages of 8 and 14. The state scale (STAIC-S) examines the short-term state anxiety that is commonly specific to situations. It prompts the child to rate 20 statements on a four-point Likert scale ranging from hardly ever true to often true. The trait scale (STAIC-T) measures long-term trait anxiety, which addresses how the child generally feels. A separate score is produced for the two scales to determine which type of anxiety is dominant. The Cronbach alpha reliability of the STAIC S-Anxiety scale, computed for a

validation study was .82 for males and .87 for females. For the T-Anxiety scale, the alpha coefficients were .78 for males and .81 for females (Spielberger, 1973). Evidence of the convergent validity of the STAIC T-Anxiety scale is shown by its correlation with the two most widely used measures of trait anxiety in children - the Children's Manifest Anxiety Scale (Castaneda, McCandless, & Palermo, 1956) and the General Anxiety Scale for Children (Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960). In a sample of 75 children, the STAIC T-Anxiety scale correlated .75 with the CMAS and .63 with the GASC (Platzek, 1970). For the present study, the STAIC S-Anxiety scale score was used as an outcome and the Cronbach's alpha for the S-Anxiety scale was .84 (20 items). Similar to the original (test publisher) findings, the alpha coefficients were .86 for males and .82 for females for the current sample. Table 2 summarizes the Cronbach alphas on the three emotional outcomes, namely anxiety, somatic complaints, and anger, separately by overall and by the cultural groups.

### **Somatic Complaints**

The Symptom Questionnaire (SQ; Kellner, 1987) consists of 92 Yes/No items, out of which 68 items indicate anxiety, depression, anger-hostility, and somatic symptoms. There were 24 items as antonyms of some of the symptoms to indicate a corresponding well-being scale. In this study, this questionnaire is only used to generate the somatic score of participants (17 items) (see Appendix B). Respondents (in this case, the child participants) were asked to describe symptoms they have experienced during the past week. Then the score on the somatic subscale was obtained by adding the number of "yes's" on the somatic problems, which served as one of the three outcome variables

(wherein a higher score would indicate more somatization). It is a decent indicator of somatic distress in the normal population (Kellner, 1987). However, the somatic scale score cannot be regarded as evidence of somatization for clinical patients, especially in the presence of physical disease (Kellner, 1987). The correlations with corresponding scales, for e.g., Hopkins Symptom Checklist (HSCL)-anxiety with SQ-anxiety, and HSCL-depression with SQ-depression (range = 0.39 to 0.86; median = 0.63 for anxiety) is indicative of good concurrent validity (Kellner, 1987). In a validation study with anxious outpatients after 4 weeks ( $n=18$ ), the test-retest correlations were anxiety = + 0.71 ( $p < .001$ ) and somatic = + 0.77 ( $p < .005$ ) (Kellner, 1987). In the present study, Cronbach's alpha for somatic symptoms was .84 (17 items) (see Table 2).

The SQ has four subscales namely, anxiety, depression, anger-hostility, and somatic symptoms; and one could generate anxiety, anger, and somatic scores for this sample from just this one measure. Pearson correlations between anxiety and anger scores from SQ and other measures used in this study (STAIC and AESC; described next) were positively significant. For instance, SQ-anxiety and STAIC-anxiety positively correlated with each other,  $r(119) = .46, p < .001$ , and SQ-anger-hostility was also positively associated with AESC-anger expression,  $r(118) = .54, p < .001$ . But in the present study, I only take the somatic score from SQ and use other standardized instruments (STAIC and AESC, respectively) for generating anxiety and anger scores. I choose to use Kellner's SQ for somatic score in this study because SQ is a commonly used measure for assessing psychosomatic distress and emotional well-being, and is simple for use (Rafanelli & Ruini, 2012). The reason for choosing to use STAIC for



anxiety was discussed earlier, and AESC as a suitable measure of anger will be discussed in the following section.

## **Anger**

The Anger Expression Scale for Children (AESC; Steele et al., 2009) is a 26-item measure that utilizes a four-point Likert response format (almost never, sometimes, often, and almost always). Based on factor analysis, the measure generates two factors, anger expression and anger control. For the purpose of this study, I used the “anger expression” factor that consists of 16 items from both the *a priori* ‘trait anger’ and ‘anger-out’ subscales (Steele et al., 2009, p 55). Higher scores on this scale indicate more frequent experience of anger and greater outward expression of anger. In a validation study, the AESC was administered on healthy controls and chronically ill cancer patients, and results indicated acceptable internal consistency estimates for all subscales for both groups of respondents (Steele et al., 2009). Internal consistency reliability (Cronbach’s  $\alpha$ ) on the anger expression subscale was 0.69 for the healthy controls (Steele et al., 2009, p 57) (see Table 2).

In the current study, the Cronbach alphas for the three scales used were moderate to high, that is, trait anger (10 items,  $\alpha = .87$ ), anger-out (6 items,  $\alpha = .71$ ), and anger expression (total 16 items,  $\alpha = .90$ ) (see Table 4). The internal consistency reliability of the anger expression scale was high and consistent across cultural groups as well; that is, Indians ( $\alpha = .85$ ), Indian Americans ( $\alpha = .93$ ), and Caucasians ( $\alpha = .95$ ). I chose to use AESC as the source for obtaining anger scores of the participants and not use SQ-anger hostility score because validation studies have shown that with strong cross-cultural

findings on factor loadings and good invariance, the factor structure of AESC is found to be invariant for healthy controls as well as clinical pediatric populations (Steele et al., 2009). In addition, both trait anger and anger expression (the two sub-factors used in this study) have shown short- and long-term stability in previous validation studies indicating that AESC measures state-driven anger as well as trait-anger (Steele et al., 2009).

## **RESULTS**

In order to answer the research questions of this study, the initial plan was to run structural equation modeling and test the various paths between the variables of interest. However, due to a small sample size and not having enough participants in each of the three cultural groups, I was unable to run the most appropriate type of statistical analysis. Instead I ran analyses with the current sample size and looked for group differences using ANOVAs. ANOVA is a statistical test used to compare means of two or more groups, and is used when one has categorical variables, such as gender and cultural group in this study. Regression models were also run – once for the whole sample, and then in some cases separately for the three cultural groups with the goal of detecting different patterns of prediction across the groups. Regression is a statistical technique employed to estimate the relations among continuous as well as dichotomous predictor variables, and continuous outcome variables. In this study, NA, EC, coaching, and dismissing were continuous predictors, and gender was a dichotomous predictor. The three emotional outcomes, namely anxiety, somatic complaints, and anger were continuous in nature.

The results of this study are presented in two sections. The first section provides descriptive statistics and preliminary analyses for the sample and for the measures used. The second section provides inferential statistics – results from ANOVAs and regressions associated with each of the research questions.

**Table 3. Bivariate correlations between demographics and all variables, for overall sample and separately by cultural group.**

Variables	NA				EC				Coaching				Dismissing				Anxiety				Somatic				Anger			
Groups	O	I	IA	C	O	I	IA	C	O	I	IA	C	O	I	IA	C	O	I	IA	C	O	I	IA	C	O	I	IA	C
Girl	<b>.22*</b>	-0.04	<b>.41*</b>	<b>.41*</b>	-0.05	-0.1	-0.2	0.11	-0.12	0.03	-0.16	-0.28	-0	-0.01	-0.04	-0.13	0.12	0.17	0.14	-0.13	-0.1	-0.08	-0.14	-0.01	0.02	0.02	0.05	-0.02
Child Age (yrs)	0.15	-0.03	-0.25	0.18	-0.01	0.02	0.13	0	-0.03	-0.05	0.34	-0.04	0.08	0.07	0	-0.08	0.08	0.07	-0.28	0.13	0.11	-0.15	-0.26	<b>.55*</b>	0.01	0	-0.36	0.17
Mother Age (yrs)	-0.01	0.05	-0.27	0.19	0.13	-0.07	0.06	0.17	-0.08	0.19	<b>-.36*</b>	<b>-.34*</b>	<b>-.18*</b>	-0.05	-0.23	-0.11	<b>-0.2</b>	-0.09	-0.18	-0.27	-0	-0.07	<b>-.40*</b>	0.17	-0.1	-0.12	-0.22	0.11
Mother Education	-0.15	-0.09	0.03	-0.15	0.15	-0.07	0.03	0.28	0.11	0.26	-0.07	0.05	<b>-.22*</b>	-0.11	0.11	<b>-.43*</b>	-0.1	-0.11	<b>.45*</b>	-0.36	-0	-0.09	<b>.50*</b>	-0.05	0	0	0.45	-0.11
Annual Income <sup>A</sup>	-0.03		-0.12	-0.01	0		0.11	-0.05	0.03		-0.23	0.22	<b>-.25*</b>		-0.15	-0.28	-0.1		-0.19	-0.08	0.18		0.03	0.21	0.12		-0.3	0.31

\*  $p < .05$  (significant correlations are bolded)

<sup>A</sup> Indian sample's income reports were not included in the overall  $r$ s and were not reported separately in the table because they were invalid (see Methods)

O = Overall sample, I = Indian, IA = Indian American, C = Caucasian

## Preliminary Data Analyses

Correlations between variables of interest and demographics were run for the whole sample as well as separately by each cultural group, and results are summarized in Table 3. The relations between the main variables of interest (emotion coaching, emotion dismissing, NA, EC, anxiety, anger, and somatic complaints) and demographic variables, including child gender, child age, mother age, mother education, and annual family income were examined for the overall sample, as well as by cultural group and gender (see Table 3). For the whole sample, child's gender was only positively correlated with NA ( $r = .22, p < .05$ ), such that girls had higher scores on NA but this was only true for Indian Americans and Caucasians. Mother age was negatively related with emotion dismissing MEP ( $r = -.18, p < .05$ ) such that older mothers dismissed less, and children's anxiety ( $r = -.24, p < .05$ ) such that with increasing mothers' age, child anxiety levels reduced. Mother education level was also negatively associated with the use of emotion dismissing ( $r = -.22, p < .05$ ), suggesting that higher maternal education was associated with less use of dismissing MEP with the child. Income was only negatively associated with emotion dismissing MEP ( $r = -.25, p < .05$ ) indicating that families with lower income used more emotion dismissing when interacting with their children.

Because maternal education and income were found to be associated with some of the outcomes, maternal education (rather than income, given the problems discussed earlier with this variable) was used as a measure of SES and controlled for in the regression analyses that were conducted for RQs 1 and 2. Results revealed that the betas,  $R^2$  change, and  $p$ -values did not change in strength or magnitude for any of the predictors when

maternal education was entered as a control predictor in step 1 of the regression models. In fear of losing degrees of freedom as well as complicating the reporting of values in tables, it was decided to report results below without maternal education controlled. However, it is important to inform the readers that analyses were run with maternal education as a control predictor, and the results were not any different from those reported in this study.

Child age was positively related to reports of somatic complaints ( $r = .55, p < .01$ ) only among the Caucasians, and it was not related to other outcomes for any cultural group. Maternal age was negatively associated with the use of emotion coaching for both Indian American ( $r = -.36, p < .05$ ) and Caucasian ( $r = -.34, p < .05$ ) participants, suggesting that older mothers in both the groups used less emotion coaching with their children. Maternal age was also negatively associated with somatic complaints in Indian American children ( $r = -.40, p < .05$ ) indicating that Indian American children with older mothers had fewer somatic problems. Next, mothers' education was negatively related to the use of emotion dismissing among Caucasian mothers ( $r = -.43, p < .01$ ), and it was positively associated with anxiety ( $r = .45, p < .05$ ) and somatic scores ( $r = .50, p < .01$ ) for Indian American children. Finally, we examine the relations between the three emotional outcomes (see Table 4). Results indicate that all three emotional outcomes (anxiety, somatic problems, and anger), were reasonably correlated with each other.

**Table 4: Zero-order correlations between three outcome variables**

	Anxiety				Somatic			
	O	I	IA	C	O	I	IA	C
Somatic	.42**	.45**	.46*	.28				
Anger	.43**	.30*	.71**	.30	.43**	.30*	.59**	.44*

O = Overall ( $n=118$ ); I = Indians ( $n=63$ ); IA = Indian Americans ( $n=27$ ); C = Caucasians ( $n=28$ )

\*  $p < .05$ ; \*\*  $p < .001$

## Data Analysis

In order to answer the research questions, several regression models were run using SPSS. Herein, possible predictor variables were NA, EC, child's gender (girl), and MEP (that is, emotion coaching and emotion dismissing); along with related interaction terms with MEPs (such as coaching x EC, coaching x NA, and coaching x gender; dismissing x EC, dismissing x NA, and dismissing x gender). There were three outcome variables – anger, anxiety, and somatic behavior. For moderated regressions, there were four continuous variables as predictors (NA, EC, coaching, and dismissing), and gender was a categorical variable with a meaningful zero (that is, 0 = boy, 1 = girl). The predictors were centered in order to run moderated regressions with interaction terms. Centering helps reduce collinearity effects and generates better coefficients, as well as helps in the interpretation of interactions.

## Research Question 1: Temperament and MEP

Do children's NA and EC levels predict differences in children's expression of emotions like anxiety, somatic complaints, and anger? Does maternal MEP influence relations between children's NA and EC levels and emotional outcomes?

Before answering this question, I first look at the relations between NA, EC, and the three emotional outcomes. Table 5 reports the Pearson's correlations between the two temperament variables, and the three emotional outcomes. Results revealed that NA is significantly positively related to anxiety ( $r(119) = .37, p < .001$ ), somatic problems ( $r(119) = .22, p = .01$ ), and anger expression ( $r(118) = .31, p < .01$ ), indicating that with higher levels of NA, children are more prone to negative emotional experiences. On the other hand, EC was not found to be bivariately associated with anxiety and somatic complaints in children, but it was negatively related to anger expression ( $r(118) = -.23, p = .01$ ), suggesting that children with lower levels of EC tend to express more anger.

Table 5: Zero-order correlations between NA, EC, and emotional outcomes

Variables	Anxiety ( $n=119$ )	Somatic ( $n=119$ )	Anger ( $n=118$ )
NA	<b>0.37*</b>	<b>0.22*</b>	<b>0.31*</b>
EC	-0.15	-0.11	<b>-0.23*</b>

\*  $p < .05$  (significant values are **bolded**)

Next, I examined temperamental traits (NA, EC) as predictors of emotional outcomes in children, and whether maternal emotion socialization moderated the relation between temperament and emotion. Cultural group membership was not taken into



account at this point of analysis. First, using the whole sample ( $N = 135$ ), three regression models were run where in step 1, NA and EC were the independent predictors followed by step 2 in which both coaching and dismissing MEPs were entered. Next for step 3, two versions of the model were run separately. First, in step 3a, EC x coaching and EC x dismissing were entered, and then in another model as step 3b, the interaction terms NA x coaching and NA x dismissing were entered instead, with anxiety, anger, and somatic scores as dependant variables one at a time (see Table 6 below). Although the order of variable entry at steps 1 and 2 was theoretically motivated (with temperament entered first), there was no particular theoretical reason behind the ordering of interaction terms so it was decided that separate models could help us to understand interactions involving the relationship between temperament and MEP.

**Table 6: Moderated regression results for MEP as a moderator of the relationship between temperament (NA and EC) and emotional outcomes**

	DV = Anxiety				DV = Somatic				DV = Anger			
	<i>B</i>	<i>SE(B)</i>	$\beta$	$\Delta R^2$	<i>B</i>	<i>SE(B)</i>	$\beta$	$\Delta R^2$	<i>B</i>	<i>SE(B)</i>	$\beta$	$\Delta R^2$
STEP 1:												
NA	.30	.077	.37*	.138*	.08	.041	.213*	.051*	0.57	0.21	.26*	.11*
EC	.00	.081	.001		-.01	.043	-.026		-0.27	0.22	-.12	
STEP 2:												
Coaching	-.37	.245	-.113	.104*	-.17	.136	-.116*	0.04	-.40	.71	-.05	0.01
Dismissing	.74	.196	.314*		.20	.109	.164		.65	.57	.104	
STEP 3a:												
EC x coaching	.46	.496	.077	0.01	.56	.272	.186*	.036	3.405	1.397	.215*	.045*
EC x dismissing	.31	.429	.065		.08	.235	.033		-.38	1.21	-.03	
STEP 3b:												
NA x coaching	-.43	.49	-.077	0.013	-.892	.26	-.313*	0.89*	-3.70	1.38	-.247*	.057*
NA x dismissing	-.30	.32	-.084		.167	.168	.091		-.35	.89	-.065	

\* $p < .05$

**B,  $\beta$**  are initial betas from the first time they were entered in the model

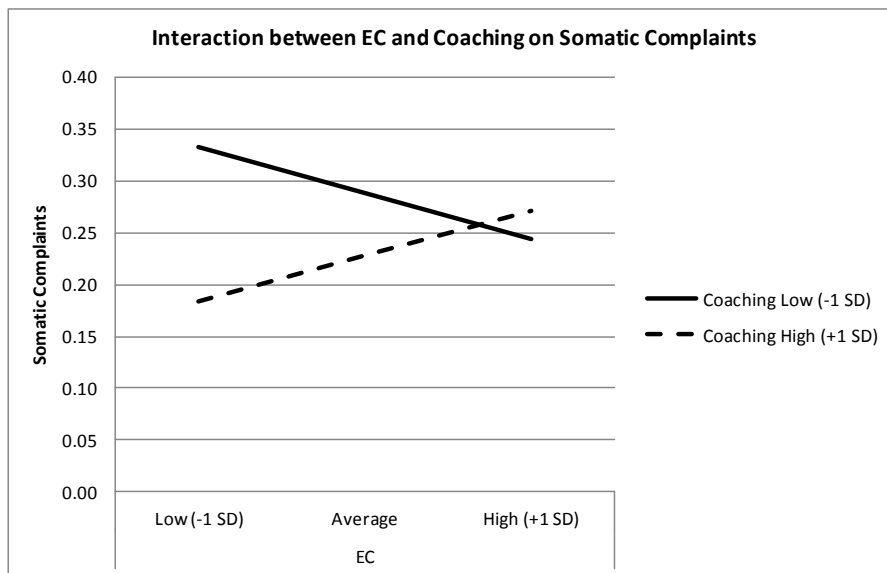
## **Anxiety**

The results from the regression models reveal that there was a significant main effect for temperamental traits (NA, EC) on anxiety,  $\Delta F(2, 115) = 9.213, p < .001$ , such that an increase in NA was associated with higher anxiety,  $b = .372, t = 3.94, p < .001$ . EC did not contribute to children's anxiety. Together, NA and EC accounted for 13.8% of variance in anxiety scores. Next, maternal MEP (coaching, dismissing) significantly contributed to predicting child anxiety,  $\Delta F(2, 113) = 7.73, p = .001$ , where specifically, it was emotion dismissing MEP that was a positive predictor of anxiety in children,  $b = .314, t = 3.76, p < .001$  (see Table 6). It was hypothesized that children who are high on NA and/or low on EC would show more anxiety, but if mothers use much emotion coaching with them then MEP will act as a buffer in reducing anxiety problems. However, I found no supporting evidence for interactions between EC or NA and MEP, in predicting anxiety in children. The full model explained 20.7% of variance in anxiety scores for the whole sample.

## **Somatic Complaints**

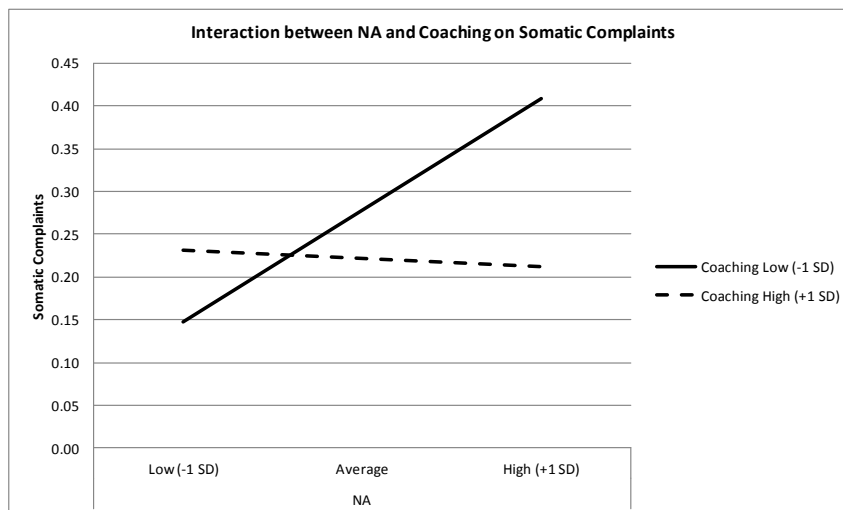
Regression analyses using the same models as mentioned above revealed that there was a significant main effect for temperamental traits (NA, EC) on somatic complaints,  $\Delta F(2, 115) = 3.07, p < .05$ , where an increase in NA was associated with an increase in somatic scores,  $b = .213, t = 2.155, p < .05$ , and together NA and EC accounted for 5.1% of variance in somatic complaints reported by children (see Table 6). The addition of MEP in the model did not significantly increase the prediction of children's somatic behaviors. However, emotion dismissing was marginally associated

with somatic complaints in children,  $b = .164$ ,  $t = 1.79$ ,  $p < .10$ . The interactions between EC and MEP did not contribute to the prediction of somatic problems in children, step 3a  $\Delta F(2, 111) = 2.27$ ,  $p = .11$ . Although, the EC interaction with emotion coaching was positively associated with somatic complaints,  $b = .186$ ,  $t = 2.067$ ,  $p < .05$ . It was noted that for children high on EC, emotion coaching did not play much of a role in somatic complaints. However, among children low on EC, much use of emotion coaching was associated with fewer somatic problems as compared to those children who did not receive much emotion coaching. In fact, children low on EC reported more somatic problems in the context of low emotion coaching (see Figure 1).



**Figure 1:** Line graph showing emotion coaching as a moderator to the relation between EC and somatic complaints.

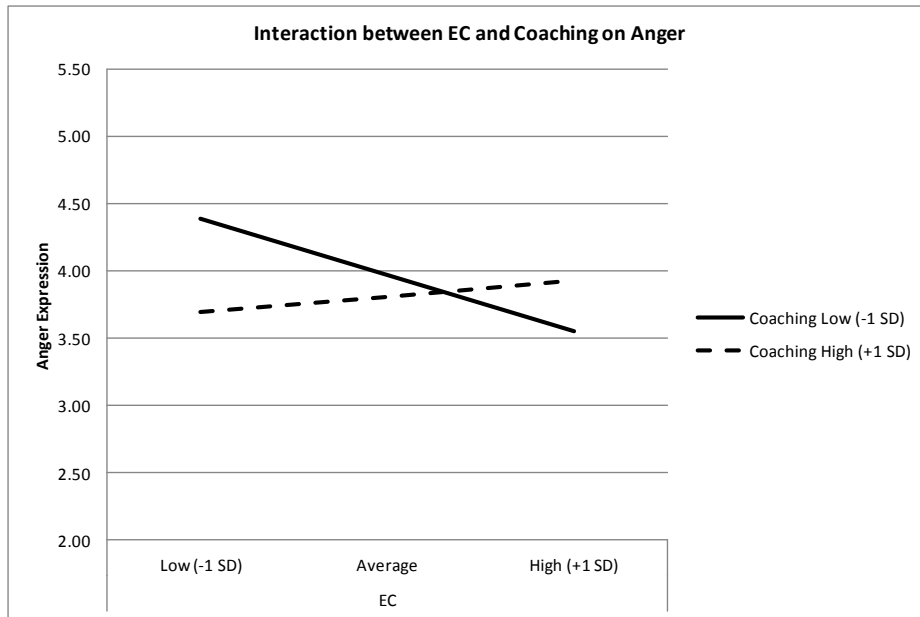
Further, results indicated that the interaction between NA and emotion coaching predicted a significant portion of the variance (that is, 6.5%) in somatic complaints, step 3a  $\Delta F(2, 109) = 4.36, p < .01, b = -.297, t = -2.904, p < .01$ . Specifically, children with high NA levels in the context of low emotion coaching are vulnerable to somatic problems (see Figure 2). It was hypothesized that specifically children who are high on NA, when they receive high emotion coaching by the mother, may show reduced levels of somatization as compared to children who receive low emotion coaching by the mother. I found support for this since for children with low NA, the presence or absence of emotion coaching did not make much of a difference in their experience of somatization, but for children who were high in NA, much emotion coaching worked as a buffer to reduce their somatic complaints. The full model explained 19% of variance in children's somatic complaints.



**Figure 2:** Line graph showing emotion coaching as a moderator to the relation between NA and somatic complaints.

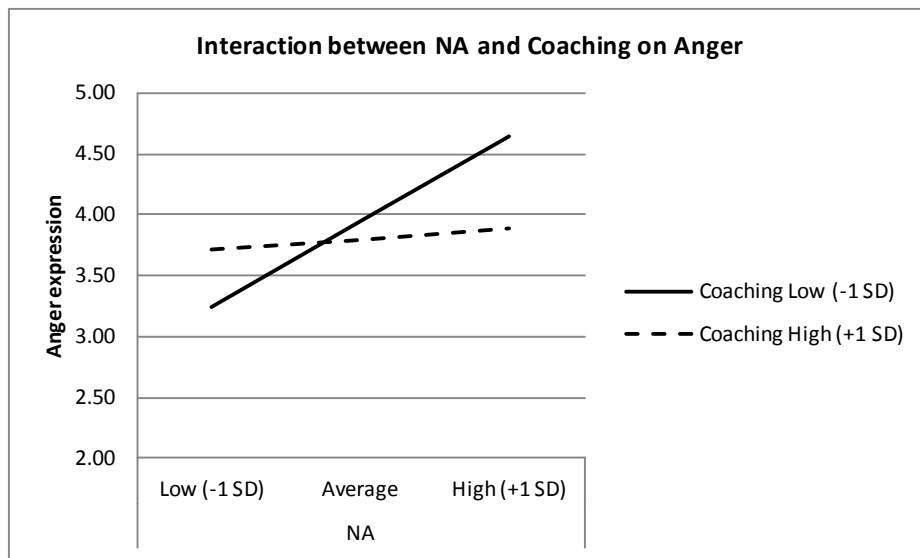
## Anger

Regression results indicated that there was a significant main effect for temperamental traits (NA, EC) on anger,  $\Delta F(2, 114) = 6.95, p = .001$ , where NA was a positive predictor of anger,  $b = .265, t = 2.747, p < .01$ , and together NA and EC accounted for 11% of variance in anger scores (see Table 6). There was no main effect of MEP on children's anger expression, suggesting that coaching or dismissing MEP by themselves did not increase or decrease anger expression in children. However, there were significant interactions between EC and MEP, step 3a  $\Delta F(2, 110) = 2.97, p = .05$  that predicted 4.5% of variance in anger expression. In particular, the interaction between EC and emotion coaching was a positive predictor of anger in children,  $b = .215, t = 2.44, p < .05$ . It was hypothesized that particularly children low on EC in the context of much emotion coaching by the mother may show reduced levels of anger, and this hypothesis was supported by the data (see Figure 3). Children with low EC were prone to more anger problems if their mother did not employ much emotion coaching with them, and the use of much emotion coaching was associated with lesser anger expression in children. In contrast, children with high EC had less different scores on anger, irrespective of maternal MEP (see Figure 3).



**Figure 3:** Line graph showing emotion coaching as a moderator to the relation between EC and anger.

Next, the results indicated that the interaction between NA and coaching predicted a significant portion of the variance (that is, 5.7%) in anger expression, step 3b  $\Delta F(2, 110) = 3.85, p < .05, b = -.247, t = -2.68, p < .01$ . Specifically, children with high NA in the context of low emotion coaching are vulnerable to anger (see Figure 4). It was hypothesized that particularly children high on NA in the context of much emotion coaching by the mother may show reduced levels of anger, and this hypothesis was supported by the data (see Figure 4). Children with high NA reported more anger problems if their mother did not employ much emotion coaching with them, and the use of emotion coaching was associated with lesser expression of anger. In contrast, children with low NA had low scores on anger, irrespective of maternal MEP.



**Figure 4:** Line graph showing emotion coaching as a moderator to the relation between NA and anger.

## Research Question 2: Gender and MEP

What role does child gender play in the emotional expression of the child? Do the links between child gender and emotional expressions vary by the maternal MEP? To answer this question and examine the role of MEP as a moderator of the relation between gender and emotions, three regression models were executed on the whole sample ( $N=135$ ). In step 1, gender (girl), coaching, and dismissing were entered, and then in step 2, the interaction terms – gender x coaching and gender x dismissing were entered with anxiety, anger, and somatic scores as dependant variables one at a time. Regression results are reviewed in Table 7.

**Table 7. Moderated regression results for MEP as a moderator of the relationship between gender and emotional outcomes.**

	DV = Anxiety				DV = Somatic				DV = Anger			
	<i>B</i>	<i>SE</i> ( <i>B</i> )	$\beta$	$\Delta R^2$	<i>B</i>	<i>SE(B)</i>	$\beta$	$\Delta R^2$	<i>B</i>	<i>SE(B)</i>	$\beta$	$\Delta R^2$
STEP 1:												
Girl	.09	.08	.10		-.037	.04	-.08		.04	.22	.018	
Coaching	-.4	.26	-.13	.14*	-.22	.14	-.15	.06	-.60	.74	-.07	.03
Dismissing	.8	.21	.34*		.22	.11	.18*		.92	.58	.16	
STEP 2:												
Gender X Coaching	.57	.52	.50		-.34	.27	-.59		-.40	.71	-.05	
Gender X Dismissing	.22	.41	.15	.01	-.46	.215	-.62*	.05*	.65	.567	.10	.00

\* $p < .05$  (significant values); *B*,  $\beta$  are initial betas

### Anxiety

Emotion dismissing was a significant positive predictor of anxiety,  $b = .80$ ,  $t = 3.89$ ,  $p < .001$ ; and gender (girl) and MEP together accounted for 14% of variance in anxiety scores, step 1  $\Delta F(3, 114) = 6.20$ ,  $p = .001$ . However, the interaction between gender and MEP was not a significant predictor of anxiety in children, step 2  $\Delta F(2, 112) = .876$ ,  $p = .42$ , suggesting that emotion dismissing was associated with anxiety in the same way for boys and girls.

### Somatic Complaints

Regression analyses indicated that emotion dismissing MEP was a significant positive predictor of somatic scores,  $b = .22$ ,  $t = 1.99$ ,  $p < .05$ ; and gender (girl) and MEP together accounted for only 5.6% of variance in somatic scores, step 1  $\Delta F(3, 113) = 2.25$ ,  $p < .10$ . The interaction between gender and MEP (coaching and dismissing) predicted a



significant portion of the variance (5%) in somatic complaints, step 2  $\Delta F(2, 111) = 3.20$ ,  $p < .05$ , such that being a girl and receiving much emotion dismissing MEP negatively predicted somatic complaints,  $b = -.46$ ,  $t = -2.16$ ,  $p < .05$  (see Table 7). As seen in Figure 5, much emotion dismissing adversely affects boys, such that the reports of somatic problems increase in boys with more emotion dismissing by mothers.

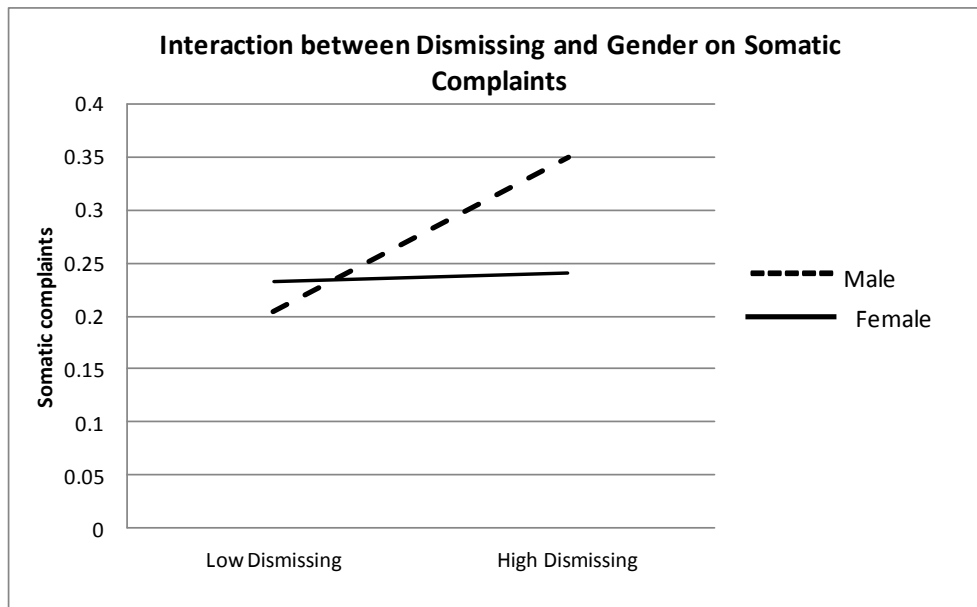


Figure 5: Line graph showing emotion dismissing as a moderator to the relation between gender and somatic complaints.

## Anger

Neither gender nor MEP significantly predicted anger in children, step 1  $\Delta F(3, 113) = 1.04$ ,  $p = .37$  (see Table 7). The interactions between gender and MEP were also not significant predictors of anger in children, step 2  $\Delta F(2, 111) = .12$ ,  $p = .88$ ,

suggesting that the maternal use of emotion coaching and dismissing was not associated with anger expression in the same way for boys and girls.

### **Research Question 3: Culture as a Moderator**

Are there main effects of culture on child temperament, gender, maternal emotion-related parenting style, and child emotional outcomes? Does cultural group membership moderate the relations between gender, maternal MEP, and child emotional outcomes? There are several possible relationships that could exist among the variables. First, there may be main effects of culture on MEP as well as the emotional outcomes (anxiety, somatic, and anger). In order to first elaborate on the main effects of culture (and gender), Table 8 presents mean differences on outcome variables, separately by cultural group and gender. Second, there may be interactions between gender and culture on MEP and emotional outcomes. To test these interactions, I employed 2 x 3 ANOVAs (e.g., gender x culture) on the three emotion variables as well as the two MEPs as DVs in turn. Finally to test the associations between culture, gender, MEP, and emotional outcomes, the regression models that were used in RQ 2 were run again, but this time separately for the three cultural groups. First I will interpret the main effects of culture and gender, and the interactions will be discussed later.

**Table 8. Mean differences on predictor and outcome variables, separately by cultural group and gender.**

Variables Mean (SD)	Cultural Group			
	Indians	Indian Americans	Caucasians	Overall for all groups
Anxiety	<b>2.13 (.37)<sup>A</sup></b>	<b>1.84 (.50)<sup>B</sup></b>	<b>1.78 (.42)<sup>B</sup></b>	1.97 (.44)
Boys	2.07 (.41)	1.77 (.47)	1.82 (.44)	1.93 (.45)
N	31	14	16	61
Girls	2.18 (.34)	1.92 (.55)	1.71 (.40)	2.03 (.44)
N	31	13	12	56
Somatic	.28 (.21)	.19 (.22)	.25 (.25)	
Boys	.30 (.21)	.22 (.27)	.26 (.25)	.27 (.24)
N	31	14	16	61
Girls	.26 (.21)	.16 (.14)	.25 (.25)	.24 (.21)
N	31	13	12	56
Anger	4.05 (1.08)	3.62 (1.20)	3.84 (1.36)	
Boys	4.02 (1.04)	3.56 (1.02)	3.86 (1.44)	3.87 (1.15)
N	31	14	16	61
Girls	4.09 (1.15)	3.70 (1.41)	3.81 (1.30)	3.93 (1.22)
N	31	13	12	56
NA	<b>2.9 (.45)<sup>A</sup></b>	<b>2.37 (.43)<sup>B</sup></b>	<b>2.57 (.63)<sup>B</sup></b>	
Boys	2.91 (.46)	2.20 (.39)	2.36 (.55)	<b>2.57 (.57)<sup>C</sup></b>
N	31	16	24	71
Girls	2.87 (.45)	2.55 (.42)	2.89 (.61)	<b>2.81 (.50)<sup>D</sup></b>
N	33	15	16	64
EC	3.1 (.38)	3.31 (.45)	3.31 (.71)	
Boys	3.18 (.45)	3.39 (.50)	3.25 (.59)	3.25 (.51)
N	31	16	24	71
Girls	3.12 (.31)	3.21 (.41)	3.40 (.85)	3.21 (.52)
N	33	15	16	64
Coaching	<b>.71 (.15)<sup>A</sup></b>	<b>.79 (.14)<sup>B</sup></b>	<b>.84 (.13)<sup>B</sup></b>	
Boys	.71 (.15)	.81 (.12)	.87 (.10)	.78 (.14)
N	31	16	24	71
Girls	.72 (.14)	.76 (.16)	.79 (.15)	.75 (.15)
N	32	15	16	63
Dismissing	<b>.63 (.14)<sup>A</sup></b>	<b>.51 (.16)<sup>B</sup></b>	<b>.40 (.15)<sup>B</sup></b>	
Boys	.63 (.14)	.52 (.18)	.47 (.23)	.55 (.19)
N	31	16	24	71
Girls	.63 (.14)	.51 (.15)	.41 (.18)	.54 (.17)
N	32	15	16	63

Values that do not share a common superscript are significantly different ( $p \leq .05$ ).

**Bolded** (significant,  $p < .05$ )

## Main Effects of Culture and Gender

Results revealed that there were significant cultural group differences in children's anxiety scores, main effect for culture  $F(2, 116) = 9.02, p < .001$ , as well as NA,  $F(2, 132) = 12.57, p < .001$ . Tukey's HSD (post-hoc) analyses found that Indian children had higher levels of anxiety and NA compared to Indian Americans and Caucasians (see Figure 6 and 7).

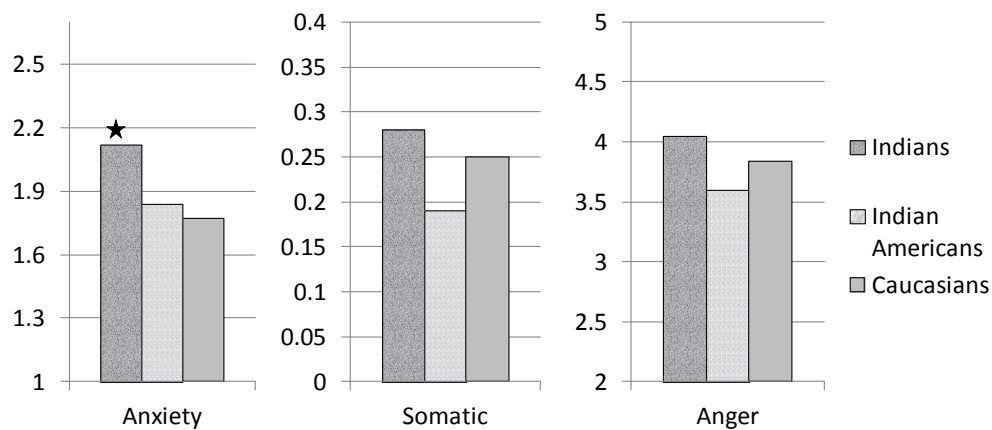


Figure 6: Bar graph showing mean differences in emotional outcomes across cultural groups.

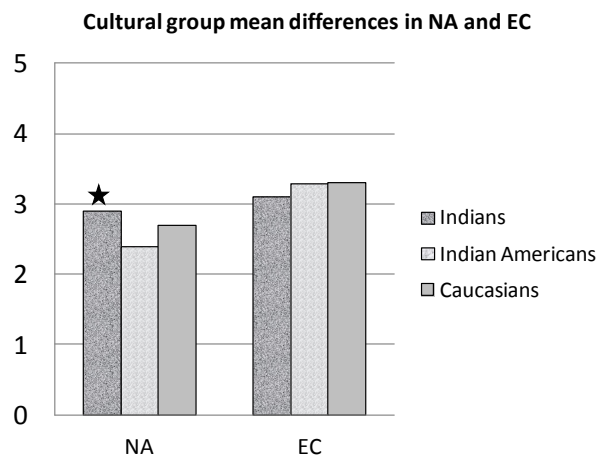
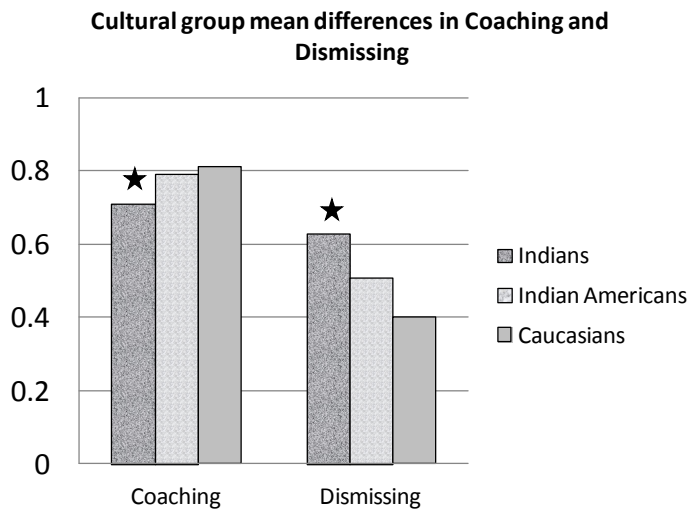


Figure 7: Bar group showing mean differences in NA and EC across cultural groups.

It was also found that mothers across cultural groups significantly differed in their use of emotion coaching, main effect for culture  $F(2, 131) = 9.28, p < .001$ , and dismissing styles,  $F(2, 131) = 14.60, p < .001$ . It was hypothesized that Indian mothers will employ more emotion dismissing and Caucasian mothers would use more of emotion coaching. Indeed, Tukey's HSD revealed that Indian mothers exhibited more emotion dismissing parenting and significantly less emotion coaching as compared to the Indian Americans and Caucasians (see Figure 8). As expected, emotion coaching MEP was used most by Caucasian mothers, but they were not very different from Indian American mothers in their use of the two MEP styles.



**Figure 8:** Bar graph showing mean differences in coaching and dismissing across cultural groups.

In terms of gender differences, the only significant gender main effect was that girls exhibited significantly higher levels NA as compared to boys,  $t(133) = -2.56, p =$

.01. Post hoc analysis revealed that it was specifically Indian American and Caucasian mothers who were significantly reporting higher NA in girls than in boys (see Figure 9).

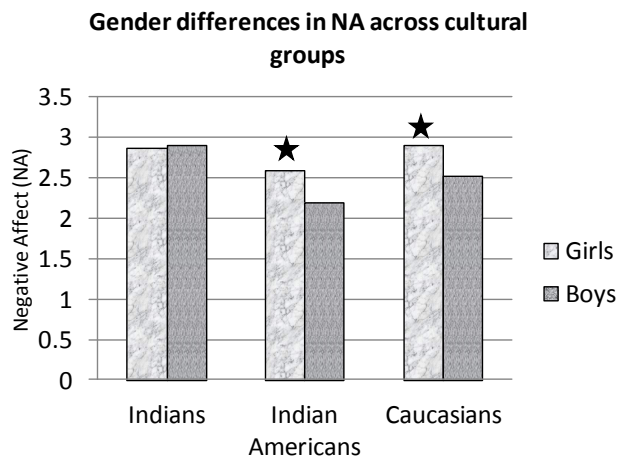


Figure 9: Bar graph showing mean gender differences in NA across cultural groups

### Culture, Gender, and Emotions

To see if gender differences in emotions were similar across cultural groups, the interaction terms from the 2 x 3 ANOVAs were interpreted when (1) anxiety, (2) somatic, and (3) anger served as dependent variables. In this model, there were 71 boys and 64 girls across three cultural groups, and the expectation was that girls and boys in the three cultural groups would show different levels of anxiety, somatic complaints, and anger. It was hypothesized that gender differences in emotional outcomes would be bigger for the Indian groups as compared to the Caucasians. For example, Indian and Indian-American girls may exhibit higher levels of anxiety and somatic behavior compared to their

Caucasian counterparts. Let us look at each emotional outcome and what was the pattern of gender differences across cultural groups.

### ***Anxiety***

Are there gender differences in anxiety and do they differ across the three cultural groups? As already discussed, ANOVA results revealed that there was a significant main effect of cultural group on anxiety scores, wherein the Indian children ( $n = 62$ ) showed the highest scores on anxiety, while the Indian American ( $n = 27$ ) and Caucasian ( $n = 28$ ) groups had similar and lower anxiety levels (see Table 8). However, there was no significant interaction between gender and cultural group,  $F(2, 119) = .87, p = .42$ , for anxiety in children.

### ***Somatic Problems***

Examining gender differences in somatic complaints and whether they differed across the cultural groups, ANOVA results already discussed indicate that there were no significant effects of culture,  $F(2, 119) = 1.62, p = .20$ , or gender,  $F(1, 119) = .54, p = .46$ , on somatic complaints in children. In addition, there was no significant interaction between gender and cultural group,  $F(2, 119) = .09, p = .91$ , for somatic problems in children.

### ***Anger***

ANOVA analyses conducted to examine gender and cultural differences in anger expression found no significant effects of culture,  $F(2, 118) = 1.23, p = .29$ , or gender,  $F(1, 118) = .03, p = .85$ , on anger expression in children. Moreover, there was no

significant interaction between gender and cultural group,  $F(2, 118) = .04, p = .96$ , indicating that the lack of gender differences in anger was steady across cultural groups.

It is important to keep in mind that the cell *ns* are very small, and any interpretation needs to be made with much caution. Due to missing data in the samples from the U.S., the child outcome cells were in the range of 12-16 responses only. Those are very small groups of children, and it is essential to keep in mind that these findings are preliminary. For instance, it was hypothesized that Indian children, especially girls would show more somatic complaints than boys, and in comparison to children from other cultural groups. This expectation was only partially met, such that Indian children did have higher scores on somatic complaints as compared to Indian Americans and Caucasians but the mean difference was not statistically significant. However, the trend among boys and girls were reversed, with boys scoring (non-significantly) higher on somatization.

### **Culture, Gender, and MEP**

Next, to note if gender differences in MEP were similar across cultural groups , the earlier-discussed ANOVAs were conducted with gender and cultural group as independent factors and (1) emotion coaching and (2) emotion dismissing as dependent variables, this time the interest being the interaction terms.

#### ***Emotion Coaching***

It was hypothesized that there will be bigger gender differences in maternal MEP across cultural groups, especially for Indian mothers' MEP with girls. However, data from this study revealed that there were no significant gender differences on emotion



coaching,  $F(1, 134) = 2.04, p = .16$ . As already discussed in Table 8, there were significant group differences for cultural background on emotion coaching,  $F(2, 134) = 8.20, p < .001$ , indicating that mothers from three cultural groups used emotion coaching differently with their children. However, the interaction between gender and cultural group on MEP was not significant,  $F(2, 134) = 1.03, p = .36$ , suggesting that the cultural differences in the use of coaching MEP were the same for boys and girls.

### ***Emotion Dismissing***

It was hypothesized that Indian mothers will use more dismissing with girls, and that the Caucasian mothers will show more equal MEP for boys and girls. Results were similar to coaching MEP, as there was no significant gender differences on emotion dismissing,  $F(1, 134) = .59, p = .44$ , indicating that mothers did not differ in their use of emotion dismissing with boys and girls. As already discussed earlier, there were significant cultural group differences on the use of emotion dismissing MEP,  $F(2, 134) = 14.89, p < .001$ , showing that Indian mothers used more emotion dismissing and less emotion coaching with their children than the other two groups (see Table 8). However, the interaction between gender and cultural group was not significant on emotion dismissing,  $F(2, 134) = .31, p = .73$ , showing that the cultural group differences in emotion dismissing were the same across boys and girls. In other words, mothers from different cultural groups did not seem to practice differential parenting with boys and girls. Again, it is important to keep in mind that the cell *ns* were small and unequal, and although it was expected that Indian and Indian American mothers would show more

dismissive parenting toward girls than boys, such a pattern was not seen in the means from this sample (see Table 8).

### **Culture, Gender, and MEP on Emotional Outcomes**

It was hypothesized that the pattern of gender differences and the use of coaching and dismissing MEPs will relate to different emotional outcomes in children and that many of these associations will vary across cultural groups. To explore this in a very preliminary way, the same regression models that were run in step 1 of RQ 2 [with gender (girl), coaching, and dismissing MEP entered in step 1, [with anxiety, anger, and somatic scores as dependant variables one at a time] were re-run separately for the three cultural groups, and the results are compared visually for differences across cultural groups. Results from multiple regressions are summarized in Table 9 below. Because of the small sample sizes when broken down by gender within cultural group (sometimes as low as  $n = 11$ ), I decided not to examine the interactions between gender and MEP (step 2 of the regressions run in Q2). Thus, I will only interpret the main effects.

**Table 9: Regression standardized coefficients and R sq change for MEP and Gender as predictors of Emotional outcomes.**

Cultural Groups	DV = Anxiety						DV = Somatic						DV = Anger					
	<i>I</i>		<i>IA</i>		<i>C</i>		<i>I</i>		<i>IA</i>		<i>C</i>		<i>I</i>		<i>IA</i>		<i>C</i>	
	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$	$\beta$	$\Delta R^2$
STEP 1:																		
Girl	.17		.16		-.09		-.07		-.13		-.05		.03		.04		.05	
Coaching	-.17	.057	-.03	.21	.02	.075	-.22	.05	-.10	.41*	-.15	.02	-.16	.04	-.27	.33*	.22	.06
Dismissing	.00		.45		.24		.03		.66*		.07		-.09		.63		.07	
STEP 2:																		
Gender X Coaching	.81		-1.6		3.62		-.76		-1.3		1.7		-.63		-2.7		2.87	
Gender X Dismissing		.054		.05		.28*		.02		.14		.22		.06		.15		.24*
	.67		.34		-.29		.06		-.82		-1.04		1.22		.67		-.72	

\* = significant,  $p < .05$  $\beta$  are initial betas

## **Anxiety**

Recall back from RQ 2 and Table 7, it was noted that experiencing much emotion dismissing MEP by the mother was positively associated with anxiety, and there was no interaction between gender and MEP. Regression analyses done separately for the three cultural groups (see Table 9) found that although emotion dismissing was not significantly associated with anxiety for any group due to sample size, the pattern for Caucasians and Indian Americans was the same, that is, a positive association as was found overall, but no association existed for Indians.

## **Somatic Complaints**

As previously discussed, the same regression model with gender and MEP as predictors of somatic problems was run separately for the three cultural groups. Recalling back from the results of RQ 2 for the overall sample, in step 1 it was found that emotion dismissing was a significant positive predictor of somatic problems (see Table 7). In other words, in the context of high emotion dismissing MEP employed by the mother, children reported more somatic complaints. However, this pattern was only found to be statistically significant for Indian Americans (see Table 9). Indian American children who received much emotion dismissing MEP from the mother were noted to have more somatic problems,  $b = .66$ ,  $t = 3.74$ ,  $\Delta F(3, 23) = 5.37$ ,  $p < .01$ , suggesting that emotion dismissing MEP adversely affects the somatic health of Indian Americans more than their Indians and Caucasians counterparts.

## **Anger**

The regression model from RQ 2 was run separately for the three cultural groups with anger expression as an outcome. Recalling from our discussion on the results summarized in Table 7, neither gender (girl) or MEP nor their interactions were significant predictors of anger in children. A similar trend was noted for each group in step 1, with no significant predictor of anger. ).

To sum up, the relations between MEP, gender, and emotional outcomes were indeed different across cultural groups. It is important to note that all the separate group analyses are very preliminary due to the small sample size and preliminary analyses. The findings must be considered with much caution.

## **DISCUSSION**

The purpose of the current study was to examine the associations between temperament, parenting, and emotional outcomes in a socio-cultural context for a sample of 10 to 13 year old children. The main goals of this study were a) to add to the existing literature about the relation between temperament and the emotional experiences of children, b) to understand the role of maternal emotion socialization practices (MEP) in modifying relations between temperament and children's emotions, c) to further this literature by understanding this relation for children being raised in different cultural groups (that is Indians, Caucasians, and Indian Americans), and d) to explore potential gender and cultural differences in relations between MEP, and emotional outcomes.

The developmental niche framework developed by Harkness and Super (1985) can be used to explain the findings of this current study. The developmental niche framework explains the dynamic interactions between the developing individual (child) and the socially and culturally determined environment. The three components of the niche are a) characteristics of the individuals, b) culturally regulated child rearing/socialization practices, and c) belief systems of the parents/ socializing agents (Harkness & Super, 1985). In the current study, our components of the niche were a) temperament and gender of the child, b) cultural background of the parents (either

American or Indian), and c) MEPs of the mothers. Herein, I will look at each of the components separately.

Before expanding on the main findings based on the research questions and related components of the developmental niche, let us discuss the general findings on temperament, emotional outcomes, and the MEP used by mothers. First of all, for both parent and child reports of temperament factors, NA and EC, were negatively correlated with each other supplementing the test authors' claim that NA and EC are temperamental traits that significantly differ from each other (Ellis & Rothbart, 2001).

Next, the emotional outcomes were correlated with each other, indicating that children tend to experience a variety of related negative emotions (such as anxiety, sadness, and anger). Particularly, anxiety had a strong positive association with anger expression for the whole sample suggesting that dysregulated expression of anger and/or suppressive coping with anger could be associated with internalizing problems (e.g., anxiety) in young children (Zeman, Shipman, & Suveg, 2002), or that internalizing symptoms (like anxiety) could make children vulnerable to feelings of anger (and frustration) as well. Anxiety and somatic behaviors were also found to be strongly associated with each other as both anxiety and somatic complaints are categorized as internalizing symptoms (Dufton et al., 2009; Hughes, Lourea-Waddell, & Kendall, 2007; Weersing, Rozenman, Maher-Bridge, & Campo, 2012). These findings support comorbidity between different negative emotions, and indicate the need for parental attention to children's negative feelings. The presence of negative emotional tendencies in young children may be an early marker for the nature of clinical symptoms that might

prevail in adolescence and adulthood (Chaplin et al., 2005; Zeman et al., 2002). For example, although STAI for children/adolescents (STAIC) does not provide clinical cutoffs to denote elevated levels of anxiety (Spielberger, 1973), other researchers have used a total score of 34 as indicative of pathological anxiety in 8- to 12-year-old children (Vila, Porche, & Mouren-Simeoni, 1999). In the present study, scores on anxiety ranged from a total score of 20 to 62, with a mean on 38.85 for the whole sample, which is slightly above the clinical cutoff previously used. However, the pattern was not same in case of somatic problems. Kellner (1987) reported that psychiatric patients show an average of 7.5 symptoms (out of 18) on the somatic complaints scale. In the current study, children reported an average of 4.1 symptoms suggesting that the present sample did not have pathological somatic behavior.

Finally, in terms of emotion socialization, mothers displayed both emotion coaching and emotion dismissing MEP. Although some groups employed more coaching MEP while others employed more dismissing MEP, it was in line with the test authors and other researchers' expectation that there is often a mix of different socialization MEPs used by parents (Gottman et al., 1996; Lunkenheimer et al., 2007). Moreover, emotion coaching and dismissing MEP were associated with outcomes across temperament, gender, and cultural groups.

### **Temperament, Emotions, and MEP**

Substantial support was found for NA being associated with negative emotions in children, where NA (as rated by mothers) was positively related with children's reports of anxiety, somatic behavior, and anger. This suggested that children who were



temperamentally prone to negative feelings and emotional discomfort reported higher levels of anxiety, somatic complaints, and anger. Conversely, EC was found to be related to anger expression in children such that children who were higher on EC showed lower levels of anger expression as compared to children who were lower on EC. This finding is in line with previous research where it has been found that children high on EC are slower to anger and express less intense anger (Kochanska et al., 2000). As expected, children with high NA showed higher amounts of internalizing (anxiety and somatic) problems, and those with low EC reported higher levels of externalizing behavior (i.e., anger) (similar to Rothbart & Ellis, 2001). In a similar vein, longitudinal findings in the past have also noted that emotional problems (externalizing and internalizing symptoms) are associated with low EC, high impulsivity, and negative emotionality (especially anger) (Eisenberg et al., 2005).

MEP also played a role in children's emotional outcomes such that emotion coaching was associated with lower reports of somatic complaints, and emotion dismissing was related to higher levels of anxiety in children. As suggested by Gottman and colleagues (1996, 1997), parents who engage in coaching their children about emotions, labeling their children's feelings, and creating awareness of children's emotional experiences help children cope better with emotional distress. It makes sense that children in this study who received more emotion coaching had lower incidence of somatic problems, as they could probably communicate their emotions maturely and did not feel the need to express them through somatic symptoms. On the other hand, it has been found that parents who are low in awareness of their own as well as their children's

emotions, and dismiss emotional talk/conversations contribute to poorer emotion regulation and more behavioral problems in children (Lunkenheimer et al., 2007). Similarly, in this study, it was noted that mothers who reported using higher levels of emotion dismissing had children with higher anxiety scores, and dismissing MEP accounted for a substantial proportion of anxiety in children. Usually, negative emotionality in children requires much vigilance and attention from parents in order to help children avoid emotional distress. Warm parenting as well as coaching about negative emotions could reduce their risk for emotional and behavioral problems. Thus, parents may be taught to focus more on children's understanding and regulation of negative emotions (Gottman et al., 1997; Lagattuta, 2008).

The relationship between temperament and emotional experience did vary depending on maternal MEP. Specifically, it was hypothesized that children who are high in NA may be prone to elevated levels of anxiety, anger, and somatic behavior, but especially in the context of an emotion-dismissing MEP being adopted by the mother. There was some support for this. In particular, children high in NA, especially when receiving much emotion coaching by the mother reported fewer somatic complaints. Similarly, children high in NA, when receiving much emotion coaching from the mother exhibited less anger expression as compared to children who did not receive much emotion coaching. This finding partially relates to previous claims that emotion coaching a) has a protective effect for negative emotions, and b) it does not always offer direct benefits for children's emotional and behavioral outcomes (Lunkenheimer et al., 2007).

## **Gender, Emotions, and MEP**

It was hypothesized that girls would exhibit higher levels of anxiety and somatic problems as compared to boys, and boys would tend to show higher levels of anger. Surprisingly, there were no significant mean differences in the three emotions among boys and girls in this sample. Potential reasons for such null findings could be that a) the use of self-report measures of emotion are less likely to yield clear and reliable gender differences as compared to direct observations and/or interviews (Lafrance & Banaji, 1992; Shields, 1991), and b) the strongest evidence of gender differences in emotionality often occurs on measures of non-verbal expressivity rather than self-reports of subjective experience (King & Emmons, 1990; Zuckerman, 1989). In the present study, self-report measures were used to assess children's subjective experience of emotions (intensity, frequency) over the past few weeks, and not emotion expression itself.

In the current study, it was expected that maternal use of emotion-dismissing MEP may promote expression of anger in boys and somatic complaints in girls. In this study, we found that maternal emotion dismissing was indeed associated with more somatic complaints in girls. However, dismissive MEP was associated with negative emotions in boys, such that somatic problems increased as mothers employed more emotion dismissing styles with them. Interestingly, neither coaching nor dismissing played a role in anger and anxiety among boys and girls. We know from previous research that there is an attention bias in socialization of children's certain emotional states, and that encouraging/discouraging of emotions is often gender differentiated

(Denham et al., 1994; Gottman et al., 1997). Nevertheless, such gender differentiation in maternal socialization did not occur in the present sample.

### **Culture and Temperament**

Although no differences between cultural groups on temperament were hypothesized, it was found that Indian children reported to be higher on NA by mothers than Indian American and Caucasian children. All groups had similar EC scores reported by mothers. This finding may reflect the nature of Indian mothers (as they were reporting child temperament, in this case). It is widely accepted that temperament is a fairly universal construct (Thomas & Chess, 1977), but the goodness of fit may be culturally embedded. Many East-Asian nations (including India) are collectivistic societies that adopt cultural norms which promote ‘other-focused’ emotions (e.g., sympathy, shame), and often discourage negative emotional expressions (e.g., anxiety, sadness, anger) (Friedlmeier et al., 2011). In this study, the Indian mothers seem to show a low threshold to accept even a little display of negative emotionality in their children and reported higher levels of NA in children. Or it could be that the Indians were actually higher in NA. I note that subsequent ANOVA analysis revealed that the *child* reports on NA were not significantly different across cultural groups, showing perhaps that Indian parents have a bias for a low threshold toward children’s negative emotions.

In addition, it was found that temperamental vulnerability may contribute to cultural differences in emotional outcomes, such that Indian American children who were low on EC and high on NA had higher anxiety scores as compared to their Indian and Caucasian counterparts. Some of the potential reasons for Indian American children

experiencing significantly higher levels of anxiety could include – a) acculturative stress and high parental expectations among Indian immigrant children/youth (Dasgupta, 1998; Farver et al., 2007), b) underutilization of mental health services among Asian Americans (Gee, 2010), and c) parental emotion socialization practices (e.g., Saw & Okazaki, 2010). In this study, I did not assess the acculturative stress of the participants, nor did I ask the sample about their use of mental health services. However, maternal emotion socialization practices were assessed, and it was noted that Indian American mothers employed similar amounts of emotion coaching and dismissing with their children as did Caucasian mothers. Thus, parental emotion socialization alone is not a reasonable explanation for Indian American children's anxiety levels in this sample. It is possible that the context (of residing in the U.S.) is impacting Indian American mothers' parenting, and original Indian cultural values are not playing much of a role in their interactions with the children.

### **Culture, Gender, Emotions, and MEP**

Now let us discuss first, the main effects of culture on emotional outcomes and maternal MEP. Second, I will talk about the role of culture as a potential moderator in the relation between MEP, gender, and emotional outcomes. It was hypothesized that Indian and Indian American children would show higher levels of anxiety and somatic complaints, and the Caucasians would report more anger. There was some support to this expectation such that children from Indian families indeed reported significantly higher anxiety scores as compared to the Indian Americans and Caucasians. Again, there is enough supporting evidence from previous work that because of Indian cultural values

about socializing children not to express their negative emotions, Indian parents exhibit relative ignorance about children's feelings, and rather, they encourage children to suppress one's emotions (Khosla, 2006; Raval & Martini, 2009). This may be reason enough to see the pattern that we find in this study. For instance, Indian mothers who reported more dismissing MEP were found to see truth in statements such as "if you ignore a child's sadness it tends to go away and take care of itself", "I prefer a happy child to one that is overly emotional", "when my child gets angry, my goal is to get him to stop", and "When my child gets angry with me, I think, "I don't want to hear this"."

However, the finding that Indian children did not report more somatic problems as compared to their Caucasian counterparts is surprising. Physical symptoms (such as pain) are considered more tolerable and justifiable than psychological processes (like anger, anxiety and sadness) in Asian Indian culture (Raval, 2004). In Eastern cultures, psychological symptoms (such as anger, anxiety) are seen as within the spectrum of normal human experiences and are considered controllable (Kazarian & Evans, 1998). In contrast, physical illness (somatic complaints like headache, stomachache etc) are perceived as beyond the control of the individual and so are acceptable in children. It is important to note here that there is a difference between experience and expression of an emotion. In this study, through child-report, we were able to tap the experience of children's emotions, and not necessarily their emotional expressions (which occur in front of others). Previous studies may have accounted for emotional expression as well and reported that Indian children prefer somatic behavior over anger expression in front of parents. In the current sample of Indian children, they seem to have overcome the

Indian norm of suppressive regulation and reported their experience of somatic problems through questionnaires that were completed in the absence of parent(s).

From the overall analysis, there were no differences in anger expression reported by children from the three cultural groups. These findings were inconsistent with previous research documenting U.S. school-aged children as more likely to experience and express socially disengaging emotions (i.e., anger) than rural Nepali children (Cole et al., 2002) and Indian Gujarati children (Raval et al., 2010). Also as expected, both Indian and Indian American children showed similar trends in their anxiety scores where girls had higher levels of anxiety than boys (parallel to previous findings, e.g., Zeman & Shipman, 1996). Interestingly enough, this pattern was reversed in the case of the Caucasians where boys had higher anxiety scores than girls. However, this finding among Caucasians could be due to the small sample size in certain groups giving poor estimates.

As for the Indian Americans, it was expected that children and mothers will be in the middle of Indians and Caucasians on all the measures. The idea was that if Indian Americans were more similar to Indians, then the cultural norms were dominant in their influence of maternal socialization behavior and children's experience of emotions. On the other hand, if Indian Americans were more similar to Caucasians, then the social context in which mothers reside influences their socialization practices and children's emotional outcomes. However, the pattern noted in this study was that a) Indian Americans were indeed in the middle of Indians and Caucasians on emotion coaching, emotion dismissing, and anxiety, b) Indian Americans were the same as Caucasians on EC, and lastly, c) Indians Americans were lowest on NA, somatic problems, and anger. It

is a known phenomenon of self-selection that those who chose to emigrate are systematically different from persons who do not choose to migrate from their native country (Borjas, 1988), and the mixed findings in this study do suggest that Indian Americans as an immigrant group could be unique in and not necessarily like one group or other. There is some evidence for this where we note that in this sample, the Indian Americans mothers were more educated, older in age, and had younger children as compared to the other two groups (see Table 1).

In terms of MEP, it was expected that Indian mothers will employ more emotion dismissing and Caucasian mothers would use more emotion coaching. This was indeed supported by the findings in this study, where we noted that Indian mothers used significantly less emotion coaching and more emotion dismissing as compared to their Caucasian and Indian American counterparts. Here, it is essential to keep in mind that the use of emotion dismissing MEP ties well with the Indian parenting beliefs on discouraging negative emotions in children, not labeling emotions and communicating about emotional events with children, and implicitly encouraging children to rely on affect-suppression methods of managing emotions (Friedlmeier et al., 2011; Le, Berenbaum, & Raghavan, 2002; Raval & Martini, 2009, 2011).

Previously, Indian mothers have reported using more emotion dismissing, which is associated with disregarding child's emotions and showing less acceptance of child's emotional experiences. Interestingly, the current study's findings also reflect the previous finding that Indian parents (e.g., Gujarati) discourage overt physical expression of emotion (e.g., hugging, temper tantrum, feet stomping to show anger etc) as they believe



that it reduces the socio-emotional distance between the parent and child, which is disrespectful (Pai, 1998). Distancing is valued in the Indian culture as it is believed to enhance respect. In addition, Gujarati parental ethnotheories about emotions have revealed Gujarati parents' belief that their children are aware of the differential rules for expressing emotions (Pai, 1998). The current findings reflected such socialization beliefs of Indian mothers.

As for gender differences in use of MEP across the three cultural groups, it was hypothesized that there would be bigger gender differences in maternal MEP across cultural groups, especially for Indian girls. However, there were no gender differences in the use of both emotion coaching and emotion dismissing MEP across the cultural groups. The phenomenon of differential parenting across gender is well-established and not finding enough evidence for the same in this study is surprising. There could be several reasons for such null findings – a) small and unequal sample sizes of boys and girls across the three groups, and/ or b) use of less sophisticated analyses to test this relation (as when the study was being planned, this moderation by culture of the link between gender and MEP was to be tested in SEM).

Next, as hypothesized, there were specific cultural group differences in relation between MEP, gender, and emotional outcomes in this study. First, there were gender differences in the relations between emotion coaching and anxiety, in the association between emotion dismissing and somatic behavior, as well as in the links between emotion coaching and anger expression, specifically among Caucasian children. One possible reason behind such findings could be that among the White middle-class

families, an internalized form of individualism is most salient whereby emotions are experienced and expressed as internal personal attributes, and communication of emotions symbolizes an expression of individuality (Kusserow, 2004). Given the belief that emotions serve an important self-expressive and communicative function, parents may encourage communication about one's feelings, and parental responses to children's emotions in Caucasian families are likely to encourage the expression of emotion in children (Keller & Otto, 2009). This could be a potential reason for Caucasian children exhibiting varied amount of negative emotions.

Another interesting finding was that there were gender differences in the links between MEP and somatic problems as well as anger expression among Indian American children. This finding could possibly be supported by the cultural model of autonomy-relatedness (Kagitcibasi, 1996), which proposes that with increasing modernization among the urban-educated middle-class Asians (such as suburban middle-class Indians in US), individuals could exhibit an autonomous agency along with a focus on inter-relations within the family (autonomy-relatedness). For such individuals (for e.g., Indian Americans in the current study), the experience as well as the expression of emotions may be related to both supporting an autonomous agency as well as the maintenance of social relationships (in line with the collectivist ideology). And, for their parents engaging in a balancing act, teaching children to control negative emotions with some encouragement to express feelings may work well for adolescents' emotional development. For instance, recently Raval and colleagues (2012) reported that Indian mothers in a suburban community were found communicating their disapproval of

children's anger in an implicit way so as not threaten the child's autonomous agency while also teaching the child that the expression of anger may be harmful to interpersonal relationships (Raval et al., 2012). Such disciplinary behaviors serve as an indicator of the cultural values incorporated in maternal MEP.

### **Limitations and Considerations for Future Research**

There are several limitations to the present study. First, the sample size was rather small ( $N = 135$ ), especially when broken down by cultural group (Indian  $n = 64$ , Indian Americans  $n = 31$ , Caucasians  $n = 40$ ), and gender (girls  $n = 64$ , boys  $n = 71$ ). Within the cultural groups, the gender distribution was uneven. That is, among Caucasian participants there were 24 boys and 16 girls, but among the Indians, there were 31 boys and 33 girls, and in Indian Americans, there were 16 boys and 15 girls. Despite this, the sample size of the current study is similar to other recent studies also examining adolescents' problem behaviors in Indian immigrants (Atzaba-Poria & Pike, 2007). For instance, in the study by Atzaba-Poria and Pike (2007), the sample consisted of 68 young adolescents (31 Indian and 37 British) between the ages of 10 and 13. In addition, this study's findings are similar to the present study wherein Indian adolescents exhibited more internalizing problems than did their English peers in the United Kingdom. Within the Indian group, the more acculturated the Indian mothers were, the more externalizing problems were exhibited in the Indian adolescents. On the contrary, in the more traditional families, adolescents displayed more internalizing problems (Atzaba-Poria & Pike, 2007). There are only a handful of studies that have looked at emotion socialization practices in Indian children/families (e.g., Pai, 1999; Raval & Martini, 2009, 2011), and

the current study is one of its kind. Nonetheless, future research could include more participants, and could also look at immigrants' generation status of the Indian American group in order to further explore variations in the influences of parenting on emotional outcomes between diverse cultural groups.

Second, all the measures used were self-report, and convenience sampling was employed for the purpose of data collection, thus, leaving the current findings far from being generalizable to the populations in the three groups. As mentioned in the methods section, there were several reports of the same measure (temperament as well as emotions), and only one of the 2-3 reports were used for analysis. For instance, a) only parent-report on temperament was used for analyses, b) anxiety score from STAIC was used and SQ-anxiety score was ignored, and c) anger expression from AESC was used and SQ-anger hostility score was ignored. In the present study, composite scores were not created using all the reports on any given measure, and factor analysis was not run to make the data more stable. Moreover, in an ideal study, a combination of both quantitative (e.g., questionnaires) and qualitative (e.g., observations) methods yields the best assessment of some of the variables being used in this study, for e.g. temperament, parenting styles, and negative emotions (Cole et al., 2006; Suveg et al., 2005). Previous research claims that qualitative assessment methods such as interviews and observations provide a better understanding of parents' meaning systems, personal beliefs, cognitive schemas, and cultural values (e.g., Dumka, Gonzales, Wood, & Formoso, 1998; Franklin & Jordan, 1995; Kähkönen, 1999). In this study, only a self-report measure of MEP was employed to assess mothers' emotion socialization style which may not be the best

report. There is a likert-scale version of the ERPSST measure as well, and it is found that there is better reliability and validity for the ERPSST–Likert scale than for the ERPSST–T/F, the version used in this study (Denham & Kochanoff, 2002; Hakim-Larson et al., 2006).

Furthermore, in terms of methodology, collecting ethnographic information about the members of the three cultural groups could have helped in a better conceptualization of emotion socialization. And/or using the meta-emotion interview by Gottman and colleagues (1997) could have also provided more information on maternal MEP. In addition, information about negative emotions is obtained more easily through interviews than self-report measures (Pai, 1998). Moreover, ideally temperament is assessed in infancy, and maternal report at age 10 may not be the most appropriate method of measuring temperamental traits. Previous research has shown cultural differences in temperament early in life, as well as its links with anxiety symptoms in school-age children (Kagan, Snidman, Zentner, & Peterson, 1999), and it is well known that NA is well correlated with both anxiety and somatic behavior. Research claims that the temperamental trait, NA, closely corresponds to the dominant personality factor of anxiety/neuroticism within the Big Five personality traits (Watson & Clark, 1984). However, in this study, we did not consider NA and anxiety as the same constructs. NA was looked at as a predispositional factor that is associated with an individual's vulnerability to the feeling of anxiety. The two concepts were measured differently, that is, anxiety was reported by child participants as their experience of the emotion, and NA was reported by mothers as their perception of their child's trait of negative emotionality.

Hence, single-source bias was reduced in this case because we had different informants for each of these constructs. Besides, the measures were given to all participants in English, and the consistent pattern of Indians having lower reliabilities on the measures may indicate that it was not okay to give the measures in English, and language may have played a role in poor assessment of some variables. For instance, the STAI has been translated into Hindi and standardized with college students at Punjab University, Chandigarh, India; and the Hindi version could have been used for the purpose of this study. For future studies, use of other means (such as interview, observation) to gather data on the variables as well as longitudinal investigations of bidirectional relations between MEP and child characteristics (temperament, gender) may help identify how parents and children's responses shape each other's emotional development over time in varied cultural contexts.

Third, all of the participants volunteered, which means they were a self-selecting group; thus, these findings may not be generalizable to all Indian, Indian American, and Caucasian families. Also, this study is correlational in nature and one should avoid any attempt to make a causal link between emotion socialization, temperament, and emotional outcomes as recorded from participants belonging to different cultural groups. Future studies should focus on recruiting more participants, ensuring that the groups are given the measures in a consistent manner (same method of test administration), and are from equitable SES backgrounds. Also, it is important in the future to account for acculturative stress to determine if some or all of the emotional problems seen in the

immigrant group of Indian Americans is attributable to their immigration status and/or generation effect (being 1<sup>st</sup> or 2<sup>nd</sup> born).

Fourth, the current study has examined only maternal MEP, but there is growing evidence that fathers' MEP plays an important role in children's emotional development as well (Carlson, 2006; Hunter et al., 2010). Hunter et al. (2010) found that fathers' MEP makes unique contributions to predicting adolescents' emotional knowledge, awareness, and emotional adjustment. In fact, once fathers' MEP was taken into account, mothers' contributions dropped below statistical significance, suggesting that fathers may play a particularly important role in the development of adolescents' emotional competence (Hunter et al., 2010). In addition, family structure also plays a crucial role in emotion socialization, and in the prevalence of mental and behavioral problems, especially in the Indian context (Reddy & Chandrashekar, 1998). One important aspect of family structure not accounted for in the present study is nuclear (single) family versus joint (or extended) families. Usually living in a nuclear family provides fewer opportunities for learning about relatedness, harmony, and complex emotion display rules (Gordon, 1989). On the other hand, children living in nuclear families are at significantly higher risk for psychopathology (Reddy & Chandrashekar, 1998). It is possible that in the current study's sample, most children came from nuclear families thereby reducing their chances to learn about negative emotions. But we do not know for sure because we did not collect information on the number of people living at home. Future studies must take this into consideration and examine how fathers' involvement as well as how nuclear versus extended families in a cross-cultural scenario may play a role in children's emotional

competence and well-being. Finally, additional research is needed to explore both the unique contributions and interactions of parent (mother and father) and other emotion socialization agents (such as teachers, siblings, and peers) in the development of children's emotional competencies.

## **Implications**

This comparative study examining cross-cultural and within-context differences in mothers' socialization of children's negative emotions could help in developing a cultural understanding of emotion socialization in middle childhood. Moreover, understanding normative patterns of maternal behaviors in response to children's emotions in a non-Western culture such as India helps inform the study of parenting associated with child psychopathology, which has practical implications for the development and evaluation of culturally sensitive interventions. For instance, an emotion-coaching intervention such as Tuning into Kids, a six-session emotion-focused parenting intervention with school-going children, has been found to significantly improve parental emotion coaching particularly related to expressiveness and emotion-focused responses to children, and reductions in punitive, minimizing reactions to children's emotions (Havighurst, Harley, & Prior, 2004; Havighurst, Wilson, Harley, & Prior, 2009). Similarly, an emotion coaching intervention could be incorporated into a public health system to be offered to all immigrant families (including Indian Americans) to improve children's emotional competence.

It is indeed important to translate these empirical findings on risk and adaptation into culturally appropriate preventive intervention methods (Havighurst et al., 2004).



Some of the preventive interventions that could be targeted at adolescents and their parents could include a) increasing parental understanding of emotional development in adolescence, b) enhancing understanding of parents' own regulation of emotions, c) increasing supportive parenting in the context of child's emotional repertoire, and d) acquiring skills that serve to facilitate parent emotion coaching (Izard, 2002; Havighurst et al., 2009).

## **Conclusion**

In the end, it is important to further our understanding on how socio-cultural context plays a role in emotion socialization of young children, and there is a need to conduct more cross-cultural research using sophisticated methods to examine the phenomenon of parenting and emotional development. Moreover, parents need to be made aware of emotion coaching as being a helpful form of parenting, and that it helps buffer the detrimental effects of negative emotionality in children. Across cultural groups, coaching MEP was found to be related to better child outcomes, and this was true for Indians too. The home environment is a safe haven to teach children about emotions, and help them cope better with negative emotions as emotion socialization as well as family expressiveness has been found to contribute to emotional intelligence (Gottman, 2001) as well as academic success (Hooven et al., 1995; Rosenzweig, 2001).

Today, the world is a global society, and children from various cultural backgrounds are growing together. The current study investigated the links between child temperament and maternal socialization to note how it plays a role in emotional experiences of Indian, Indian American, and Caucasian children. It is important to further

this research to identify family processes that may be contributing to early negative emotions in young children as well as develop suitable interventions to reduce their risk for later anxiety disorders (Havighurst et al., 2009). Both India and the USA are diverse countries with significant regional and socio-demographic differences in lifestyles and belief systems. It is important to begin to tease apart complex influences of nationality, SES, individualism-collectivism ideology, religion, and other variables that contribute to the conceptualization of 'culture' and influence emotional socialization processes such as MEP (Raval et al., 2012). Comparative studies attempting to evaluate cross- and within-culture differences in maternal socialization of children's emotions will help develop a culturally informed theory of emotion socialization in childhood and adolescence.

## APPENDIX

### Appendix A: Demographic Sheet

*Items on the Demographic Sheet (to be filled by child and parent)*

Subject ID: \_\_\_\_\_ (to be filled by researcher)

Date: \_\_\_\_\_

Child's first name: \_\_\_\_\_

Child's date of birth: \_\_\_\_/\_\_\_\_/\_\_\_\_ (MM/DD/YYYY)

Child's age: \_\_\_\_\_ (in yrs)

Child's place of birth: \_\_\_\_\_

Child's sex: Male or Female (please circle)

Child's first language: \_\_\_\_\_

Child's second language: \_\_\_\_\_

Mother's first name: \_\_\_\_\_

Mother's date of birth: \_\_\_\_/\_\_\_\_/\_\_\_\_ (MM/DD/YYYY)

Mother's age: \_\_\_\_\_ (in yrs)

Mother's place of birth: \_\_\_\_\_

Mother's first language: \_\_\_\_\_

Mother's second language: \_\_\_\_\_

Father's place of birth: \_\_\_\_\_

Mother's Education level (✓ the applicable):

- Less than high school
- Completed high school
- Some college, not completed Bachelors degree
- Graduated with Bachelors degree
- Pursuing/ Graduated with Masters (MA/ MSc/ MBA/ RN etc.)
- Pursuing/ Graduated with PhD/ MD/ JD

Approximate family income per annum (✓ the applicable):

- Less than \$25,000
- \$25,000 - \$50,000
- \$50,001 - \$75,000
- \$75,001 - \$100,000
- \$100,001 - \$150,000
- More than \$150,000

Ethnic background (✓ the applicable):

- Caucasian, non-Hispanic (white, European-decent parents; child born in the U.S.)
- Indian-American (1st generation; child born in the U.S. and parents born in India)
- Indian-American (Immigrants; child not born in the U.S. and parents born in India)

## **Appendix B: Somatic scale from SQ**

*Items from the Somatic scale (SQ, Kellner, 1987) used to characterize somatization patterns*

1. Feeling of not enough air
2. Heavy arms or legs
3. Appetite poor
4. Tight head or neck
5. Choking feeling
6. Feeling of pressure in head or body
7. Weak arms or legs
8. Breathing difficult
9. Parts of the body feel numb or tingling
10. Heart beating fast or pounding
11. Pressure on head
12. Nauseated, sick to stomach
13. Upset bowels or stomach
14. Muscle pains
15. Headaches
16. Cramps
17. Head pains

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