# THE EMOTION EXPERIENCE OF CHINESE AMERICAN AND EUROPEAN AMERICAN CHILDREN

by

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A DISSERTATION

Presented to the Department of Psychology
and the Graduate School of the University of Oregon
in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy

June 2008

**University of Oregon Graduate School**

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Title:

"The emotion experience of Chinese American and European American children"

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in the Department of Psychology to be taken June 2008

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Emotion experiences such as internalized distress have been described mostly in European Americans and adults in the psychological literature and less in Asian American children. Associations between emotion experience and expressivity have been established mostly through samples of European American children. Finally, the functionality of emotion experience and expressivity across cultural norms has not been examined thoroughly, especially in ethnic minority or bicultural children. This is of concern given that cultural ideals for emotion differ across cultural groups. This dissertation incorporates a cultural perspective to understanding the emotion experience while also relying on the functionalist approach as an organizing framework to understand expressivity in children from an Asian background.

This study examined 70 Chinese American and 71 European American mothers and their 5 to 7 year old children. Mother and child reports of children's internalized

experience were obtained. Observers also rated children's expressivity in a frustration-eliciting task, alone and in the presence of their mothers. The first objective of the dissertation was to characterize the emotion experiences of Chinese American and European American young children, in particular, internalized distress. The second objective of this dissertation sought to observe children's expressivity in response to a frustrating situation, with and without their mothers.

As a whole, Chinese American children experienced greater internalized distress than European American children based on mother and child reports. Contrary to hypotheses, Chinese American children were just as expressive as European American children during the frustration eliciting task, especially when mothers were present in the room. Furthermore, it appeared that European American children with greater child-reported anxiety and mother-reported depression showed less increase in their expressivity than all the other children when their mothers entered into the room. This study explored the role of culture in the socialization of emotion and the functionality of expressivity in solitary and social situations. Overall, this dissertation suggests that cultural, situational, and internal emotion experience are factors which concurrently play a role in children's emotion expressivity.

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Malti, T., Liu, C. H., & Noam, G. G. (Submitted). A clinical-developmental assessment approach to multisystemic prevention. *Journal of Prevention and Intervention in the Community.*

# ACKNOWLEDGMENTS

I am most indebted to my advisor, Dr. Jeffrey Measelle, for helping me to actualize this dream project so early on in my graduate career. His persistent encouragement covered any doubts that this project could be brought to fruition and his wisdom helped to elevate its scientific merit. I am deeply grateful to Dr. Gordon Nagayama Hall, who never allowed me to forget how integral culture is to development, in this project and in my own professional career. I thank Dr. Sanjay Srivastava for his amazing patience and guidance in my navigation of the statistical analyses used in this project. Furthermore, I thank Dr. Jennifer Ablow for her insights in the conceptualization and design of this study. I appreciate the time and effort that my committee members spent in reviewing and providing feedback for this project.

This project would not exist if it were not for the following research assistants: Julia Oppenheimer, Aiko Takahashi, Patrick Long, Jennifer Monte, Amenee Siahpush, LuAnn Wu, Jennifer Liang, Peter Khiew, Melinda Wong, Alicia Harlow, Jacqueline Kimmey, Sasha Narayan-Schmidt, Nadia Lau, Jaimee Scheffler, Meagan Shaw, Jasmine Yik, Kai Ling Chong, Soichi Yamase, and Christina Low. I thank them for their time, energy, curiosity, and for the privilege it was for me to learn from them. The project was exponentially enhanced through the expertise of professional translators, Mr. and Mrs. Yang, who graciously volunteered their time in the translation of the questionnaire measures. They did it with near perfection. I am also humbled by the Chinese American and European American participants who joined me in the data collection efforts. They

opened up their homes and allowed me know them because of the faith they had in me to serve their communities through research.

My sister Heidi served as the impetus for my decision to study child development. Through her adolescent years, she quietly listened to my moments of frustration in the research process. As an undergrad, she accompanied me to the coffee shop for hours of dissertation writing; she inspires me to work even harder. My partner-in-crime, Miwa Ogo, literally and figuratively stood by my side at critical moments in my life throughout this project. She has been the ultimate answer to prayer. I am blessed by my church families from the SF Bay Area, Boston, and Eugene (notably, Lisa DeMarni Cromer, Courtney Stevens, Linda Ivy, and Miwa Ogo) who have prayed for me in person, over the phone, and in quiet moments of their own. Such persistence comes only from above.

Finally, I am eternally grateful to my husband, Harvard Pan, whose devotion and sacrifice goes unparalleled. His unconditional love seems to know no bounds as attested by his day-to-day patience, humor, rationality, affections, efforts to keep me awake to work (or to wake me up), and allowing me to benefit from his technical know-how. Like iron, he sharpens me.

This research was supported in part by a Ruth L. Kirschstein National Research Service Award, Number F31HD052490-01A1 from the National Institutes of Child and Human Development, the American Psychological Association Minority Fellowship Award, the American Psychological Association Minority Fellowship Follow Up and Dissertation Awards, and the University of Oregon Department of Psychology Dissertation Support Award.

# DEDICATION

To my parents Wen Yueh and Su-Ping Liu. You knew what was best for me, but you never pushed. Instead, you supported me as I reached for more. Thank you. This dissertation is for you.

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# CHAPTER I

## INTRODUCTION

Philosophers and scientists from around the world have spent considerable attention on the nature of emotion. Modern psychologists have taken various theoretical approaches in their empirical work to understand emotion (James, 1884; Cannon, 1927; Schacter & Singer, 1962; Fridja, 1986; Lazarus, 1991), its development (e.g. Campos, Campos, & Barrett, 1989; Izard & Malatesta, 1987; Sroufe, 1996), and its relations to psychopathological distress and functioning (e.g. Berenbaum, Raghavan, Le, Vernon, & Gomez, 2003; Kring & Bachorowski, 1999; Rottenberg & Gross, 2003; Samoilov & Goldfried, 2000).

Several approaches have attempted to clarify the nature of emotion by examining it across different ethnic or cultural groups (Ekman & Friesen, 1971; Matsumoto, 1989). There is great utility to this approach: cross-cultural research has revealed cultural similarities and differences in the effect of emotion experience and expressivity on individual functioning, leading to various debates on and revisions in the definition of emotion (see Kagan, 2007 for review). Importantly, culturally based theories are integral for understanding how one might begin to address the emotional distress experienced by people from different cultural groups.

Cultural ideals for emotion originate from identifying how individuals are best organized in a society. These ideals are often articulated and promoted by movements

such as Confucianism in East Asia or the Age of Enlightenment in the Western world, both of which take very specific stances on how emotion ought to be experienced and expressed. Psychological theories such as the *self-construal theory* (Markus & Kitayama, 1991a) incorporate these historically rooted beliefs in a culturally based framework in order to further understanding of psychological principles such as emotion.

It is no surprise then that emotion serves a functional purpose in a given culture. In addition to culturally based theories, the *functional approach* to emotion, a developmentally derived framework, helps to explain more specifically, the purpose of emotion in various social situations. This approach has been especially useful in understanding the communicative purpose of emotion within the mother-child relationship. Moreover, it suggests that this communicative purpose can in turn help children to regulate their internal emotion state without the reliance of another individual.

The inability to regulate emotion distress and expressivity is defined and highlighted by the cultural and situational behavior norms. The experience of internalized distress in any culture is likely associated with the way an individual actually expresses and copes in an emotion-eliciting situation. Emotion experiences such as internalized distress has been described mostly in European Americans and adults in the psychological literature, and less on Asian American children. While the association between internalized distress and expressivity has been established mostly through samples of European American children, the way internalized distress and expressivity function with cultural norms that differ from mainstream American culture has not been examined thoroughly in ethnic minority children.

This dissertation incorporates a cultural perspective to understanding emotional well-being while also relying on the functionalist approach as an organizing framework to understand expressivity in Asian culture. It first proceeds to examine cultural differences in emotion well-being, specifically, reported subjective internalized distress in 5 to 7 year old children in two cultures, Chinese- and European American, and then examines the role of their expressivity as reactions to a distress situation across solitary and social contexts. What follows is a discussion on how culture and internalized distress might explain the development of intrapersonal and interpersonal regulation of emotion expressivity.

# CHAPTER II

# BACKGROUND AND LITERATURE REVIEW

## *Independent and interdependent views of self*

The independent and interdependent self-construal theory (Markus and Kitayama, 1991a) is helpful in conceptualizing emotion within an Asian perspective. According to Markus and Kitayama (1991a), non-Western cultures, such as Asians, view the self as connected to others. This interdependent self-construal is derived from both Buddhist and Confucian ideals of compassion and role obligation (Ames, Dissanayake, & Kasulis, 1994; Markus & Kitayama, 1991b), principles, which have been instantiated into the day-to-day functioning of Asians across time. In contrast, the independent view of self as believed and practiced in European American culture is based upon rational thought and the idea of a self that is "natural," ideas attributable to the Age of Enlightenment (Morris, 1991; Taylor, 1989).

According to the independent and interdependent self-construal theory, individuals in an interdependent culture tend to act in accordance to the anticipated expectations of others in the group, instead of in accordance to individual desires. For those who hold the interdependent self-construal, "The understanding of one's autonomy as secondary to, and constrained by, the primary task of interdependence distinguishes interdependent selves from independent selves, for whom autonomy and its expression is

often afforded primary significance" (Markus & Kitayama, 1991a). Behaving according to the culture and avoiding conflict then would help to maintain connectedness and harmony between relationships. Thus, Asians may tend to see themselves as part of an encompassing social relationship whereby emotions and behaviors organize based on the perceptions of others in the relationship, compared to European Americans whose emotions and behaviors depend less on the interrelationships and more on the individual experience.

*Shame serves a social function in Chinese culture*

The interdependent construal suggests that those with an Asian background modify their behavior to social expectations. The need to regulate emotions according to social ideals for functioning likely produces the tendency to have greater awareness of shame (Ha, 1995). Shame is considered a self-conscious emotion that individuals experience when they are aware of having violated a moral or social standard, and where they perceive that others are others making a negative judgment on them (Fischer & Tangney, 1995). This emotional experience can be painful, with outward manifestations consisting of hiding the face, turning away, and escaping (Lewis, 1992; Scheff & Retzinger, 1991; Tangney, 1995). In a way, the aversive properties of shame may be adaptive when used to regulate behavior according to Asian norms, and considered worthy of pursuit (Hwang, 1987; Schoenhals, 1993). It is in fact beneficial to experience shame in Asian cultures, whereas it is considered dangerous to do so in Western cultures (Schneider, 1977; Wurmser, 1981).

The "face" is a shame concept which helps to regulate behavior among the

Chinese. Zane and his colleagues (2002) describe "face" as "a person's set of socially-sanctioned claims concerning one's social character and social integrity. Socially-sanctioned claims include certain prescribed roles as a member and representative of a group. As such, the potential to "lose face" and the efforts to "save face" pertains largely to the attempt by the individual to minimize their contribution of disruptions to social order (Zane & Yeh, 2002). Continually striving for "face" is a socialization goal for interdependent or shame-based societies such as Chinese culture.

*Confucian principles within Chinese culture emphasize self-improvement*

Confucian principles stress the importance of harmonious relationships with others. In addition to this social goal is the improvement of self, although the improvement is not at all a separate goal from maintaining harmonious relationships. In actuality, a self that is contextually defined requires that an individual improves upon themselves to maintain cultural standards and norms required for social functioning. This includes the ability to change oneself in order to achieve high moral integrity and quality social relationships (Lee, 1996). Achieving self-perfection in this way, according to Confucian values, should be one's highest purpose in life (Tu, 1979). As one might expect, the self is seldom seen as immutable in Asian cultures (Li &Wang, 2004) and feelings of shame can function as a mechanism by which such self-improvement can take place. With shame as a social emotion, its role in self-improvement suggests that such change in the individual is still part and parcel to the larger interdependent goals of the society.

*The effect of emotion in social and individual functioning*

The expression of emotions is largely dictated by these Confucian principles that emphasize harmonious relationships and self-improvement. In particular, displays of emotion tend to be discouraged in interdependent cultures (Markus & Kitayama, 1994) as they can be counterproductive to both interpersonal relations (Bond, 1991) and individual well-being (see Leung, 1998 for review).

In Chinese culture, maintaining harmonious relationships requires moderation of both positive and negative emotion expressions from members of the society (Ho, 1986; Russell & Yik, 1996). The moderation of positive emotion expression reflects modesty and self-effacement, which are personal characteristics that enhance social harmony in Chinese culture (Russell & Yik, 1996). Expressions of positive emotion such as affection within families may also be inappropriate in Chinese culture (Yi, 1993). European American culture, however, promotes the positive expression of emotion, especially when it reflects attainment, individual uniqueness, and self-worth, all of which are core values within mainstream American society. The moderation of negative expressions is important in Chinese culture, more so than mainstream American culture because negative displays of emotion in Chinese culture are thought to contribute directly to the disturbance of harmonious relationships (Markus & Kitayama, 1994). There is empirical evidence of this moderation of emotion in Asians (Chen, 2000; Le, Berenbaum, & Raghavan, 2002). Often, Asians will rely on specific display rules, culturally sanctioned behaviors that guide attempts to minimize disruptions to social order (Ekman & Friesen, 1969). Thus, display rules that

encourage emotional restraint are often used in the presence of outsiders. This may mean minimization of negative affect in interdependent cultures to avoid interpersonal conflict or minimization of positive affect to reduce any exhibitions of individual pride (Matsumoto, Yoo, & Fontaine, 2008; Scollon, Diener, Oishi, & Biswas-Diener, 2004).

The way people express and experience emotions have a particular effect on the mind and body in Chinese culture. Much of this stems from the longstanding Chinese belief in the yin and yang, polar opposite states in nature, which need to be maintained to achieve harmony. The overexertion of emotions interrupts the balance and can adversely affect the body, such as the production of disease (Leung, 1998). Leung (1998) refers to "The Great Treatise of the Interaction of Yin and Yang" in articulating the effect of emotion on the body in Chinese culture "The emotion of joy and anger are injurious to the spirit; cold and heat are injurious to the body. Violent anger is hurtful to *yin,* violent joy is hurtful to *yang*… When joy and anger are without moderation, then cold and heat exceed all measure and life is no longer secure. *Yin* and *yang* should be respected to an equal extent," (Huang, 1972, p. 117). As with the moderation of expression in social situations, the moderation of both positive and negative emotions is necessary for the well-being and functioning of the individual.

*Asian conceptions regarding internalizing symptoms*

There are apparent differences in mood, emotion, and internalizing disorders when comparing European Americans with those that have a Chinese background. Several researchers (e.g. Lambert, Weisz, & Knight, 1989; Weine, Phillips, &

Achenbach, 1995) have suggested that while European Americans are more likely to show externalizing behaviors such as physical aggression, Asian Americans are more likely to experience internalizing symptoms of depression and anxiety than externalizing problems. Researchers attribute such findings to cultural values on emotional display, specifically, the tendency to discourage open displays of emotion (Markus & Kitayama, 1994). As such, the emphasis on controlling emotion in Chinese may contribute to even further decreased emotion reactivity and flat affect observed in depression, and greater control of fear, commonly found in anxiety. Some researchers who observed greater levels of internalizing symptoms in Thai children have gone so far to suggest that while moderating emotion may preserve harmonious relationships, it could carry a personal cost by increasing children's risk of internalizing symptoms (Sangsingkeo, 1969; Weisz, McCarty, Eastman, Suwanlert, & Chaiyasit, 1997).

Unlike Western cultures, the mind and body are inextricably linked in Asian cultures (Kleinman, 1977; 1986). The mind and body are sometimes thought of undistinguishable (Lin, 1996), rather, it is much more accurate to state that the change in mental status alters the status of the body when conceptualizing traditional Asian beliefs regarding the mind and body. Holding such traditional beliefs and the potential for being stigmatized for having mental health symptoms are oft-cited reasons for the Chinese tendency to exhibit more somatic complaints than psychological symptoms (Chang, 1985; Hsu & Folstein, 1997). These reasons suggest that Chinese Americans could exhibit different symptom patterns than European Americans. If these cultural beliefs are

socialized early on, discrepant reporting in young children's symptomatology across ethnic groups could be detected.

*Internalizing symptoms in Asian and Asian American children and youth*

A handful of studies have made cultural comparisons of symptomatology in Asian and European American children while focusing primarily on adolescents and not on younger children. Most find discrepant levels of internalizing symptoms between the two groups. Thus, the cultural differences regarding psychopathology may already exist in Asian and Asian American children. The observed cultural differences have been attributed to numerous factors including parent relationships dictated by Asian values, ideas about distress, and adjustment due to immigration and minority status, to name a few.

Specifically, the studies conducted on Asian American adolescents suggest that they tend to experience higher levels of emotional difficulties compared European American adolescents. Asian Americans adolescents reported greater psychological maladjustment than European American adolescents (e.g. Abe & Zane, 1990). Although there were no significant differences among seventh and eighth graders, one study found that older adolescents in college reported more frequent symptoms of depression than European Americans (Greenberger & Chen, 1996). Likewise, in a study by Lorenzo and colleagues (1995), Asian American ninth graders reported higher levels of depressive and anxiety symptoms compared to their European American counterparts. Although Asian American boys were less likely to receive a diagnosis of depression compared to European American boys, depression was more prevalent in Asian American girls than

European American girls (Kim & Chun, 1993). In fact, the National Center for Health Statistics (1994) found that Asian American adolescent girls have the highest rates of depressive symptoms among all racial groups and they have the highest suicide rate among all women between 15 and 24 years of age. The high rates of depression and suicide has been attributed to "model minority" expectations and family stress (Noh, 2007) coupled with cultural constraints on how emotional distress should be expressed and regulated.

Studies specific to individuals with a Chinese background show similar findings. Some studies have found Chinese American youth to exhibit more psychological distress than native Chinese or European American adolescents (Sue & Frank, 1973; Zhou, Peverly, Xin, Huang, & Wang, 2003) but that younger school age Chinese children had similar depression scores as children in the West (Chen, Rubin, & Li, 1995). Existing studies on anxiety have found Chinese children and adolescents reporting greater experience of fear than European Americans (Ollendick, 1983), including separation anxiety (Yao, Zou, Zhu, Abela, Anerbach, & Tong, 2007; Zhou, Xu, Inglés, Hildago, & LaGrega, 2008) and experiences of social-evaluation (Austin & Chorpita, 2004; Dong, Yang, & Ollendick, 1994).

Some suggest that temperamental constructs such as shy-anxiousness or fearfulness reflect children's internal anxiety and depression (Asendorpf, 1990). Unlike mainstream American children from the U.S. however, extant studies showed that Chinese children with shyness and fearfulness have better psychological adjustment (Chen, Dong, & Zhou, 1997, Chen, Rubin, & Sun, 1992). Though, more recently, Chen

and his colleagues (2005) have found a reversal in this association. That is nowadays, shyness is associated with self-reported depression among 10 year old Chinese children. Chen and his colleagues argue that the growth of capitalism in China reduced the adaptive value of shy behavior. This raises the question as to how social environments with both Chinese and Western attitudes have an effect on young children's emotion.

*Socialization practices in Chinese American and mainstream American culture*

Socialization practices that impact emotion stem from cultural models of emotion (Harkness & Super, 1995). With Confucian ideals being one of the most durable ideological systems in the world, Chinese parenting attitudes strongly reflect these principles (Miller, Wiley, Fung, & Liang, 1997). Interestingly, the parenting behaviors based on these Confucian principles manifest differently as children develop. The optimal parent behaviors in Chinese culture include being involved and physically present for children, especially for children in their first few years of age (Wu, 1985; Young, 1972). Chinese American mothers likely hold a greater interdependent construal, which promotes relatedness. This relatedness is understood as emotional/psychological interdependence, rather than an autonomous-related self (e.g. Kagitcibasi, 2002), which is found more often in mainstream American parenting. As a form of relatedness, Asian parents tend to be closer in physical proximity to their children in caregiving (Lee 1994; Wang, 1995) based on the belief that close body contact across all daily activities conveys warmth and care (MacDonald 1992; Radke-Yarrow, Zahn-Waxler, & Chapman, 1983). On the other hand, some researchers argue that this physical closeness in Chinese mothers is primarily for protection rather than for meeting children's affective needs

(Ryback, Sanders, Lorentz, & Koestenblatt, 1980). Either way, parents from Asian backgrounds in general consider themselves as protectors of their children (Chao, 1994; Wang & Ollendick, 2001), though the close parent-child bond in Asian cultures is sometimes negatively construed as overprotection. It is likely that young Chinese American children experience greater distress upon physical separation from their parents if their parents practice this style of caregiving.

Parenting during these early years, while protective, is considered appropriately indulgent and lenient within Chinese culture. *Dongshi,* or the "age of understanding" is a concept found to occur around 4 to 6 years of age (Fung, 1999), or sometimes earlier as proposed by some (Ho, 1989). It is at this stage of development that greater instances of discipline are incorporated into parenting because of the belief that children are capable of acquiring moral understanding. During this period of development, parents are responsible for "training" or "governing" (i.e. teaching or educating) their children so that they adhere to socially desirable and culturally sanctioned behavior (Chao, 1994); these behavioral goals include *maintaining social conformity* (Chung, 1994) and at the same time, *task achievement* in educational or academic endeavors (Wu & Tseng, 1985). Training involves monitoring and correcting children's behaviors to determine whether they appropriately follow social norms or meet the expectations in learning a task (Chao, 1994). Parents put forth great effort in adhering to these parenting standards since Chinese society considers children's behaviors a reflection of parenting ability. Loss of face can occur if people outside the family are aware of failed achievements or

interpersonal difficulties experienced by a family member. Thus, Chinese mothers help their children to achieve, often by assuming responsibility for the completion of tasks.

*Socialization of child emotion in Chinese and mainstream American culture*

Regardless of culture, the ability to regulate emotions is crucial at the age of school entry. During this point in development, children are faced with challenges that require an ability to follow rules and complete schoolwork. Whereas both Chinese and European American parents expect their children to exercise self-control, the means by which socialization of self-control takes place can differentially affect emotion expressivity and emotion. European American parents take more of a "child-centered" approach, in that they tend to allow their children to express their opinions and feelings (Rubin, Stewart, & Chen, 1995). This is consistent with European American parents' emphasis on autonomous self-expression and on helping children to feel happy or confident through praise (Chao, 1996).

Optimal emotion socialization behaviors among European American parents of preschool and young school age children include encouragement of children's autonomous expressivity and of their ability to identify and share personal feelings. These practices reflect mainstream American values and predict positive behavioral outcomes in European American young children. High levels of parent support of children's everyday emotion relate to positive child outcomes, whereas punitive reactions and minimization of emotion tend to associate with low levels of children's constructive coping, and adaptive strategies such as behavioral escape (Eisenberg,

Fabes, & Murphy, 1996).

Gottman, Katz, and Hooven (1996, 1997) studied parents of 5 to 8 year old children and found that explicitly helping the child verbally label emotions, directly teaching the child appropriate rules of expression, and openly educating the child about the nature of the emotion positively relate to children's regulation. A comparative study by Fivush and Wang (2005) on Chinese and European American mothers and their 3 year old children showed that European American dyads tended to discuss experiences of sadness whereas Chinese dyads rarely did. European American mothers encouraged their children to talk about their feelings as a way to help support their children's negative emotional experience. Rather than focusing on sadness, Chinese mothers picked children's anger experiences from failing to attain a goal as a point of discussion. Chinese mothers used it as an opportunity to teach and socialize proper behavior. If sadness is less emphasized in discussions among Chinese mother-child dyads, it could affect the understanding and self-perception of sadness or depression experiences in Chinese children.

Due to Chinese socialization goals that include helping children to acquire proper morals, Chinese parenting behaviors promote task achievement and social conformity. This is in contrast to the explicit teaching of emotion behavior (Miller et al., 1997), such as talking about and labeling emotions or discussing strategies that help to regulate emotions (Gottman et al., 1996; 1997) as observed in mainstream American parenting. Chinese parents give frequent parental directives to the child (Chiu, 1987; Lin & Fu, 1990) and much less praise to their children. For children to complete a task

within an emotion-eliciting situation (e.g. frustration with homework), Chinese parents' focus not on children's explicit emotion, per se, but rather on *task completion.* It is hypothesized that Chinese children likely acquire the ability to regulate emotion without explicit parent emotion teaching or by parents' explicit downplay of children's emotion behavior.

Although Chinese parents might not verbalize emotion experiences explicitly, they may use particular socialization practices that implicitly induce particular emotion states to promote children's regulation of behavior. The prospect of being shamed and the need to "save" face is cultivated in Chinese culture early on (Fung & Chen, 1999) and may play a role in the strategies used to focus on a task. In their socialization practices, Chinese parents will explicitly review past transgressions with their children to invoke shame, even at the age of 2 years (Fung & Chen, 2001). By the age of 3 a greater percentage of Chinese children understand "shame" compared to European American children (Shaver, Wu, & Schwartz, 1992). At age of 5, most Chinese children understand the meaning of "shame." It is common to experience fear when faced with the prospect of being shamed (Bedford, 2004). Chinese parents may rely on their children's understanding and experience of shame in this way so that the child can better regulate their behavior. These socialization practices may have a wide-ranging effect in the way children from different groups experience and express their emotions.

*Social expressivity*

The self-construal theory is useful for providing a rational explanation for the socialization of emotion experiences and expressivity. This current review now turns to a

developmentally derived approach that is also used to understand the purposes of emotion experience and expressivity in children.

The functionalist approach to emotion considers expressivity as one of many forms in the communication of emotion, while emphasizing its regulatory role in intrapersonal and interpersonal situations. Specifically, the theory argues that expressivity can serve as an interpersonal regulator because it is a method of communication within a social context. Expressivity also acts as an intrapersonal regulator by regulating individual behavioral goals. Thus, in its most fulfilled role, expressions are adaptive because they can meet the needs of social and individual goals (Barrett, 1993).

The context of the individual's environment is central to the functional perspective of emotion regulation. The functional perspective of emotion regulation was derived largely from the study of mother-child interactions, which found that within these dyadic contexts, mothers could regulate infant emotional states in synchronous interactions, as precursors to children's own development of their emotions (Campos et al., 1989; Sroufe, 1996).

According to the functionalist perspective, children's expressivity serves as a source of communication to their mother. Children learn to develop expectancies of parental responses to their emotionally expressive behavior. Eventually, children learn that their expressions are a way to elicit their mothers' attention and support. It is through the mother-child interactions and other socialization experiences that these expectancies develop (Saarni, Mumme, & Campos, 1998; Saarni, 1999; Tronick, 1989). For both

ethnic groups, children may have learned from previous experiences that their mothers would offer some sort of support if they expressed the need for assistance.

Children's expectations likely depend on culturally informed parental responses. Given the socialization of emotion moderation in Chinese culture (Chen, 2000; Kagan et al., 1978; Lin & Fu, 1990; Wu, 1996), it is unclear the extent to which Chinese American children might increase their expressivity in front of their mothers. The underlying rationale for children to moderate emotions is to adhere to social norms that encourage the maintenance of harmonious relationships. If Chinese American children moderate their emotions, is it to ensure that they do not disrupt the harmony between them and their mothers? Or is it more likely that an increase in children's expressivity in the presence of their mothers indicate desire for their mother's support? The conditions under which emotions are expressed interpersonally have yet to be characterized thoroughly for Chinese American children. Doing so offers an understanding of how culture and emotional functioning might manifest for an ethnic group that emphasizes very different emotion standards than mainstream American.

In contrast, European American parenting generally promotes emotion expressivity (e.g., Heider, 1991; Lutz, 1989; Russell & Yik, 1996; Wu & Tseng, 1985). In following with mainstream American norms of expressivity, European American children may use their expressivity as a way to communicate to the mother their emotional experience, which helps them to obtain support. From a functional approach, the expressivity of children from either group may serve to maintain social norms or to communicate a need from their mothers. However, children could have different

expectations for what support they will receive based on culturally different socialization experiences.

The expectations children have about the way their expressivity might function to affect caregiver behavior may depend on their own individual characteristics as well. Specifically, children's self-view and beliefs about the projected parental response may also affect the way they express themselves with their mothers. For example, young children who have low self-worth and feel helpless often have low expectations for parental response, and may be less communicative through their expressions (Cain & Dweck, 1995; Smiley & Dweck, 1994). The way children feel about themselves and how they express themselves in front of caregivers may differ as a function of cultural norms. However, how relations between internalized distress and expressivity generalize across ethnic groups is yet to be examined.

*Solitary expressivity*

Whereas expressivity may be understood as a means of communication, expressivity exists in solitary situations. Even more, cultural differences have been found in the expressivity of solitary situations, with European American infants and children showing greater reactivity than Chinese American infants and children (Freedman, 1974; Camras, Chen, Bakeman, Norris, & Cain, 2006). While it may be possible that such ethnic differences exist at a biological level early in development (Freedman, 1974; Camras et al., 1998; Kagan et al., 1978, 1994; Kisilevsky et al., 1998), socialization practices that emphasize moderation of expressivity that take place later in development likely play a role in the ethnic differences of expressivity (Cole & Tamang, 1998; Parke,

1994; Saarni, 1999; Thompson, Easterbrooks, & Padilla-Walker, 2003), given the relations found between socialization and children's expressivity in general (e.g. Camras, 1990; Cohn & Tronick, 1988; Eisenberg, Spinrad, & Cumberland, 1998).

Such differences in expressivity even in solitary situations may be due to cultural beliefs about emotion in general. To achieve better health and well-being, Chinese culture emphasize emotional balance and moderated expressivity (Leung, 1998). On the other hand, mainstream Americans see emotions as personal spontaneous manifestations of experience (Markus & Kitayama, 1991a). Furthermore, expressing your emotions affords better health and well-being in European Americans samples (Gross, 2002; Gross & John, 2003, John & Gross, 2004; Butler, Lee, & Gross, 2007). Chinese American and European American children likely have expressive tendencies in solitary situations that reflect these socialized values.

The internalization model is a model that explains the function of solitary expressivity. It suggests that expressivity in solitary situations is useful but diminishes during intrapersonal situations once it is no longer a communicative signal to another (Holodynski, 2004). Instead, children decrease their expressivity in the "pruning of the superfluous aspect of expression" (Holodynski, 2004, p.17) once they are able to internally regulate on their own and without the reliance on others through communicative exchanges. The inability to regulate this expressivity may coincide with the decreased capacity to persist in a task. Furthermore, a greater need to focus or persist in a goal given the cultural norm may result in a differential rate by which expressivity diminishes across ethnic groups.

*Parent and child perceptions of internalizing symptoms*

Researchers have emphasized the importance of assessing children's psychological functioning from different perspectives, incorporating both parents' and children's report (Achenbach, McConaughy, & Howell, 1987; Stanger & Lewis, 1993). However, the low parent-child agreement for internalized distress has long been problematic as noted in the literature (e.g. Achenbach et al., 1987; Bird, Gould, & Staghezza, 1992; Edelbrock, Costello, Dulcan, Conover, & Kalas, 1986) and is often attributed to difficulties in parental awareness to children's internal experiences and thoughts regarding distress, as opposed to externalizing behaviors that are more observable (Achenbach et al., 1987; Comer & Kendall, 2004; Faraone, Biederman, & Milberger, 1995; Yeh & Weisz, 2001). How cultural differences in the interpretation of internalizing symptoms contribute to parent-child agreement has not yet been examined thoroughly. Furthermore, most of the self-reported internalizing symptoms assessed have come primarily from Asian and Asian American adolescents, and not from younger children (Greenberger & Chen, 1996; Lorenzo et al., 1995). The factors that play a role in young Chinese American children ability to report on their own emotional experiences are unclear.

*The present study*

This dissertation relied on two main theoretical frameworks in understanding the complex interactions between culture, expressivity, and emotional well-being as manifested by internalized symptomatology. By integrating two very relevant theories, the independent and interdependent self-construal and the functionalist approach to

emotion, an attempt was made to provide a comprehensive and theoretically driven explanation for similarities and differences in emotion among Chinese- and European American children.

The following aims and hypotheses were explored. The first objective of the dissertation was to characterize the internalized distress of Chinese- and European American young children. To examine these internalizing symptoms, the study relied on both children's and mothers' report. Given the young adult literature showing increased report of internalized distress among Asian Americans than European Americans, this study asked whether this difference would appear even in young children. A prediction was made that these ethnic differences indeed would appear even in children as young as 5 to 7 years of age. Specifically, it was hypothesized that Chinese American mothers would report greater levels of internalizing symptoms in their children compared to European American mothers. Similarly, it was hypothesized that Chinese American children would report greater levels of internalizing symptoms compared to the report by European American children. Of particular interest was the level of agreement between children's and mothers' on children's internalizing symptoms. The relations between children's and mothers' report on the symptoms for each group were explored, with no hypothesizes made regarding ethnic group differences.

Second, this dissertation sought to understand expressivity in Chinese- and European American children. Several questions and hypotheses were made in this regard. It was hypothesized that two different types of expressivity, specifically, levels of facial and postural affect, would be highly correlated. Group differences in children's

expressivity across a frustration-eliciting task conducted alone and with their mothers were examined. It was expected that both Chinese- and European Americans groups would be more expressive in the presence of their mothers (social) than when they were alone completing a frustrating task (solitary). Based on the existing literature that both Asian adults and children tend to be less expressive than European Americans, it was predicted that Chinese American children in this sample would be less expressive than European American children in both solitary and social task situations. Given that European American children tend to use expressive behavior to obtain their mothers' attention, it was hypothesized that the ethnic differences between Chinese- and European American expressivity would be more pronounced when children performed the task in front of their mothers than alone. Thus, it was expected that there would be an "interaction" between ethnicity and task on expressivity levels.

Expressivity is often considered a behavioral manifestation of subjective emotion experience, with much of the existing literature focused on the relations between anger/frustration and externalizing symptoms. The last aim was exploratory. It focused on the relations between internalizing symptoms and expressive behavior during frustration tasks. It was expected that children's and mother's report of internalizing symptoms, in addition to task and ethnicity, would play some role in children's expressivity during a frustrating situation. Given the exploratory nature of this last aim, no specific hypotheses were made.

# CHAPTER III

# METHODS

## *Participants*

This sample consisted of 70 Chinese American (36 female, 34 male), 71 European American (36 female, 35 male) children, and their mothers from the San Francisco Bay Area. On average, Chinese American children were 6.5 years old (SD=0.8) and European American children 6.1 years old (SD=0.8).

All mothers and fathers in the Chinese American sample were of Chinese descent. Of the Chinese American mothers and fathers, 5% were born in the U.S. and 95% were born in China, Taiwan, Hong Kong, Malaysia, or Vietnam. Approximately 92% of Chinese American children were born in the U.S. while approximately 8% were born in Canada, Taiwan, or Hong Kong, but immigrated to the U.S. before the age of 2. Chinese American mothers lived in the United States for an average of 8 years. All mothers and fathers in the European American sample were of European descent, and grew up in the U.S. Two children were adopted before the age of 1 year of age (1 Chinese American child, 1 European American child); all other mother-child dyads were biologically related. The adopted children shared the same ethnicity as their adoptive parents. All participating families were in the middle to upper middle class socioeconomic class. Table 1 presents demographic data.

Mothers were compensated $10 and the children received small toys for their

participation.

*Recruitment*

Chinese- and European American families were recruited from community centers, schools, mothers clubs, and through word-of mouth around the San Francisco Bay Area. Word-of-mouth sampling is a common and established method for obtaining data from ethnic minority groups apprehensive about psychological research (Atkinson & Flint, 2001; Ying, Tsai, Yeh, & Huang, 2000). A word-of-mouth strategy with the European American sample was adopted to ensure comparable sample variability.

Although an attempt was made to control for the recruitment strategy across samples by using similar methods of advertising (e.g. contact schools, community centers), approximately 22.9% percent of Chinese Americans chose to participate after receiving a newsletter from a program. The other 77.1% participated after a phone call from an acquaintance who already participated; once they learned of the study, potential study participants requested that the experimenter contact them to explain and schedule participation. On the other hand, all European Americans contacted the experimenter on their own accord, after having read the study information in a newsletter or email that they received from an acquaintance. European American mothers tended to refer other mothers to the study by sending a group email rather than phone.

The difficulty in recruiting Asian Americans for psychological studies overall is well known due in part to their apprehension in initiating contact with study investigators. Most of the Chinese American participants who served as referral sources in this study

were eager to refer but apprehensive about referring without their own contact to their acquaintances. However, the approach utilized by European Americans in our sample yielded a slower referral rate than Chinese Americans, suggesting that participant telephone calls to refer others was highly effective recruiting Chinese Americans participants in this study.

*Measures*

All questionnaires were translated from English to Chinese by two collaborating professional translators and back-translated by 2 Chinese and English speakers as recommended by Brislin (1970).

*General Ethnicity Questionnaire – Chinese and American versions* (GEQ-C and GEQ-A; Tsai, Ying, & Lee, 2000). In order to measure cultural orientation, two 37-item versions assessed the degree of affiliation with Chinese and American culture, respectively. Using a 5-point Likert scale (1 being "strongly disagree" and 5 being "strongly agree"), mothers were asked to rate their endorsement of language use and proficiency, social affiliation, cultural pride, participation in cultural activities and food preference toward Chinese and American culture. Additionally, the Chinese version asks about exposure to Chinese culture and the American version asks about preference of media in English.

The internal consistency of each of the subscales ranged from .57 to .75 for American-born Chinese Americans and .50 to .81 for immigrant Chinese Americans (Ying, Lee, & Tsai, 2000). Ying and her colleagues (2000) demonstrated construct validity of the six domain subscales. Specifically, they found that American-born Chinese

Americans consistently score higher on all American-oriented subscales (including English use and proficiency, affiliation with Americans, and pride in American culture) and that immigrants scored higher on Chinese language use and proficiency, and affiliation with Chinese. Analyses utilized a mean score across all items.

*The Berkeley Puppet Interview Symptomatology scales* (BPI-S; Measelle, Ablow, Cowan & Cowan, 1998; Ablow et al., 1999). Children's report of their own symptomatology was assessed using the BPI-S, a semi-structured interview for measuring children's self-reported level of Depression, Overanxiousness, Separation Anxiety, Social Inhibition, and Asocial with Peers. Other scales were assessed but not used for the present analyses.

Two identical puppy dog puppets named Iggy and Ziggy were used to interview the children. After Iggy and Ziggy offered opposing statements about themselves, the experimenter asked the child to provide responses pertaining to their own perception of themselves. For instance, one puppet would say "I'm a sad kid," and the other puppet would say, "I'm not a sad kid." Both puppets asked the child, "How about you?" Children were allowed to respond in whatever way they felt comfortable, either by using a verbal or gestural response style. All the interviews were administered by a trained interviewer (see Ablow & Measelle, 1993), videotaped, and coded in a laboratory.

Children's responses on the BPI-S were coded on a 7-point Likert scale, with 1 indicating very positive self-perception or no symptomatology (e.g. "I'm never a sad kid") and 7 indicating very negative self-perception or severe distress in reported symptomatology (e.g. "I'm always sad."). However, for reporting purposes in the results

of this study, the scores were reversed so that a higher score indicates greater distress. Internal consistency, test-retest reliability, and discriminant validity for the BPI-S was previously demonstrated in a community sample (Ablow et al., 1999).

Two coders trained to code the BPI-S coding system coded all the data. Training included approximately 2 hours of formal didactics and 3-5 hours of practice scoring, followed by a coding test whereby coders had to achieve a .80 interrater agreement of scores from a standard set of taped interviews, before the coding of actual data. Chinese- and European American research assistants coded all data, with two research assistants coding each interview. Chinese- and European American coders did not significantly differ in their coding. Reliability between the two coders were monitored throughout data coding. Discrepancies greater than 2 points were resolved by discussions among coders. Scores were calculated by obtaining the mean of items in each subscale.

In this sample, the internal consistency of the Chinese American group ranged from .55 to .65 (Depression $\alpha = 0.60$; Overanxious $\alpha = 0.65$; Separation Anxiety $\alpha = .61$; Asocial With Peers $\alpha = .55$; Social Inhibition $\alpha = .61$). For the European American sample, the internal consistency ranged from .54 to .68. (Depression $\alpha = 0.68$; Overanxious $\alpha = 0.54$; Separation Anxiety $\alpha = .59$; Asocial With Peers $\alpha = .56$; Social Inhibition $\alpha = .66$). The alpha values are consistent with previous studies that have used these scales in community samples and considered acceptable for child report (Ablow et al., 1999; Measelle et al., 1998).

*MacArthur Health and Behavior Questionnaire* (HBQ; Essex et al., 2002). To obtain mothers' report of children's functioning, we asked mothers to complete the HBQ,

a questionnaire that assesses four domains (1) emotional and behavioral symptomatology, (2) impairment, (3) adaptive social functioning, and (4) physical health. Given the study's focus on children's internalizing symptoms, only those scales in the first domain were examined. These subscales included Depression, Overanxious, Separation Anxiety, Social Inhibition, and Asocial with Peers.

Parents were asked to respond how much a given behavior (e.g. "Worries about things in the future," or "Unhappy, sad, or depressed.") best describes their child within the past six months. They indicated this using a 3-point Likert scale consisting of 0 ("never or not true"), 1 ("sometimes true"), and 2 ("often or very true.") Scores were calculated by obtaining the mean of items in each subscale.

Internal consistency for the HBQ among community children has been demonstrated previously, with Cronbach's α levels ranging from .57 to .87 (Ablow et al., 1999). In this sample, the internal consistency of the Chinese American group ranged from .57 to .76 (Depression $\alpha = 0.57$; Overanxious $\alpha = 0.60$; Separation Anxiety $\alpha = .76$; Asocial With Peers $\alpha = .66$; Social Inhibition $\alpha = .73$). For the European American sample, the internal consistency ranged from .52 to .77. (Depression $\alpha = 0.52$; Overanxious $\alpha = 0.69$; Separation Anxiety $\alpha = .54$; Asocial With Peers $\alpha = .77$; Social Inhibition $\alpha = .74$).

*Observed emotion and expressivity coding.* Children's facial, and postural expressions during disappointment and frustration tasks were coded using an adaptation of a coding system developed by Cole (1986). Research assistants coded 15-second epochs over the course of each task. For each epoch, the coder observed the entire 15-

second interval and then determined which emotions were present, choosing up to two (one primary and one secondary) of four basic emotion families: happiness, anger, anxiety, and sadness. Coders were given the option to choose up to two emotions in order to capture any instances of blended or mixed emotions (Yirmiya, Kasari, Sigman, & Munday, 1989). Coders also rated the level of intensity in these observed emotions.

To determine the primary and secondary emotions, coders relied on specific facial and postural/gestural cues. Facial cues were based on facial activity, such as muscle movements that change the faces' appearance (i.e. furrowed brow and narrowing of eyes). Postural/gestural cues included children's body movements that communicate emotion (i.e. hands on hips, finger wagging). The rationale for utilizing these cues was based on research, which indicates that facial and postural/gestural expressions are consistently associated with particular emotions. If no signs of facial or postural/gestural cues were exhibited in an epoch, coders classified such epochs as "neutral" instead of any four basic emotion families. Epochs were classified as "non-codable" when the coder was not able to see the child's face or body.

The original coding system asked coders to rate the overall level of intensity of the emotion for each epoch. To increase cultural sensitivity for the purposes of this study, coders were asked to rate the level of intensity by modality, specifically, the child's facial, and postural/gestural expressions for each epoch. Ratings relied on a 3-point Likert Scale. with 0 indicating no sign of any cue, 1 indicating slight intensity including brief to faint expression when extended in duration, 2 indicating moderate intensity ranging from

brief clear to enduring moderate level expression, and 3 indicating strong intensity that ranges from brief but full expression to full and more enduring expression of emotion.

Interrater agreement between coders was assessed for 15% of the data. All coders were unaware of study hypotheses. Percentage agreement was used to calculate reliability with the coding of discrete emotions. Because this study specifically examines negative emotions in tasks designed to elicit frustration, the data was reduced by collapsing the negative emotions. Anxiety, anger, and sadness were recoded together as negative emotions. There were only a few instances of mixed emotions throughout all the ratings, which included happiness. Given that so few instances were observed, these ratings were disregarded. Raters achieved at least 80% agreement during training and maintained agreement at this level throughout coding.

Cronbach's α was used to estimate reliability (Bakeman & Gottman, 1986, pp. 92-95). During training, coders achieved agreement of $\alpha > .80$ and maintained a moderate to high level of agreement throughout coding. In the first frustration task when the child was asked to work on a task alone (solitary), α levels were .69 for facial intensity and .77 for postural/gestural intensity. In the second frustration task when the child was asked to work on a project with their mother present (social), α levels were .56 for facial intensity and .66 for postural/gestural intensity. The mean ratings of expressivity across the epochs was used to produce a mean expressivity score for the solitary situation, and another mean expressivity score for the social situation.

*Observed children's persistence.* Children's persistence on performing the tower task on their own was coded as a possible behavioral outcome measure. Coders were

asked to use a 7-point Likert scale, with 1 referring to "no interest in task; no initiative; does not begin task," and 7 referring to constant interest and persistence; always on-task." Reliability among coders for persistence coding was $\alpha$ =.97.

*Procedures*

One set of questionnaires was sent to mothers prior to the visit. Mothers completed a second set of questionnaires during the visit. The experimenter conducted the 2-hour home visits. Upon the arrival to the home, the experimenter obtained consent from the Chinese American mothers in Mandarin, Taiwanese, and/or English and child assent in English. The experimenter obtained consent and assent from European Americans in English.

Because the protocol involved the mother's observation of her child's participation in a task from another room, a home surveillance system was set up at the beginning of the visit to mimic a one-way observational mirror traditionally used in psychology laboratories. A wireless video camera was set up to record the child during the laboratory task in the home visit. With the wireless video camera, a router, and a laptop with wireless access, a secure, password-encoded wireless connection was set up within the home to enable a recording of the child's face to broadcast live on a laptop for the mother to view from another room. Because the protocol also involved recording mother's reactions to her child during child's participation in the task, her reaction was recorded with a small unassuming webcam set on top of the laptop which she used to view her child. Another video camcorder was used to record all the activities in the child's room.

*Family background interview with mother.* The experimenter conducted a videotaped interview with the mother to obtain information about her family, ethnicity, and family's immigration background.

*Child self-perception interview.* Children were administered the Berkeley Puppet Interview - Symptomatology scales. The interview lasted approximately 40 minutes with a five minute break in the middle of the interview.

*Independent child tasks.* The independent child tasks used were episodes from the Laboratory Temperament Assessment Battery (Lab-TAB; Goldsmith & Rothbart, 1993), a standardized observation system developed for assessing emotionality and emotion regulation in preschool children. The tasks described below includes the Tower building task with the child alone (solitary) and in the presence of their mothers (social). The task was used to elicit frustration and assessed solitary and social displays of affect.

*Tower building task alone (solitary).* The child was instructed to build a tower using the sides of dominoes. The experimenter explained to the child that other children their age were able to build a tower at a certain height. The experimenter then asked the child to build the tower to that height as fast as they could and to continue trying even if the dominoes fell.

*Tower building task in the presence of mothers (social).* Mothers were asked to sit next to her child during the frustration task but instructed not to touch the dominoes or teach the child how to build the tower. Mothers were told that they could talk to the child. After 2 minutes, the experimenter entered into the room and apologized to the child for providing the wrong height standard. The experimenter pointed to a lower

height level and indicated that the child built it as high as other children did. The child received a prize.

*Data analysis plan*

Means and standard deviations were calculated for several demographic variables to describe the participants in this study. Pearson correlations were also used to detect any relations between age, gender, and SES on the central variables to determine whether any demographic variables should be controlled in subsequent analyses.

The objective of Aim 1 was to characterize the emotional well-being of the Chinese- and European American children. Mean levels of mothers' and children's report for each internalizing symptom (Depression, Overanxiousness, Separation Anxiety, Asocial with Peers, and Social Inhibition) were calculated. A series of ANCOVAs were used to compare ethnic differences in mothers' mean levels on the five symptoms while controlling for demographic variables. Similarly, a series of ANCOVAs were used to compare the ethnic differences in children's mean levels on the five scales while controlling for demographic variables. Although no predictions were made about specific ethnic differences at an item level, post hoc t-tests were conducted for certain subscales. To determine the relation between mothers' and children's reported symptoms, Pearson correlations were conducted for each ethnic group.

To obtain the expressivity scores used in Aim 2, the facial expressivity observer ratings of each 15-second epoch were averaged for each task, solitary and social. The same was done for the postural expressivity rating. The codes for each epoch were averaged rather than summed because the length of task time varied across participants.

Fifteen-second epochs were chosen to increase coder reliability. Because this study focused on general expressivity levels rather than expressivity variability, the averaging of codes across epoch were determined to be most appropriate in obtaining a composite expressivity score.

Four scores were obtained from these calculations: (1) facial expressivity during the Solitary task, (2) facial expressivity during the Social task, (3) postural expressivity during the Solitary task, and (4) postural expressivity during the Social task. Pearson correlations were used to obtain the relation between facial and postural affect, and to thereby determine whether the two ratings could be collapsed to create a single expressivity score. A two-way ANCOVA controlling for demographic variables was used to examine the effects of ethnicity and task on expressivity. This was followed by planned contrasts to compare mean differences in (1) Chinese- and European American children's expressivity during the Solitary task (independent t-test), (2) Chinese American and European American children's expressivity during Social task (independent t-test), and (3) Expressivity in the Solitary and Social tasks for Chinese American children only (paired t-test).

Aim 3 sought to understand whether symptoms played a role in expressivity, in addition to task and ethnicity. An exploratory approach was taken with this aim. In question were the effects of two symptoms reported by both mothers and children: (1) children's reported Depression, (2) mothers' reported Depression, (3) children's report Overanxiousness, and (4) mothers' reported Overanxiousness on children's expressivity, internalizing variables that were likely to have the most impact on children's expressivity

during the frustration tasks. Each of these variables was dichotomized using the mean as the cut off point for Low and High Depression and Overanxiousness. They were then introduced as potential moderators of the relation between task and ethnicity examined in Aim 2, resulting in a three-way ANCOVA procedure. Observed group differences in expressivity were subjected to additional ANCOVA analyses to determine group differences in children's persistence during their performance in the Solitary task.

# CHAPTER IV

# RESULTS

## *Descriptives*

Table 1 presents means and standard deviations for the demographic characteristics of Chinese- and European American samples. The number of boys and girls were distributed evenly between the two ethnic groups. All but five children were born in the U.S. while the majority of parents were born in Taiwan. Almost all Chinese American mothers and fathers were born in Asian, with the majority born in Taiwan. All European American parents were born in the U.S. The Chinese American children in this study were slightly older than European American children which was statistically significant ($t(139)=2.41$, $p<.05$), but not to a emotion developmentally meaningful degree as it pertains to emotion experience or expressivity (mean difference: 3.8 months).

The reported income of the family was used as a measure of socioeconomic status (SES). The Chinese- and European American families in this study reported statistically different incomes ($t(138.6)=5.62$, $p<.001$) with Chinese Americans having approximately 30% greater income than European Americans (Chinese Americans: $M=87,800$, $SD=22,200$; European Americans: $M=67,200$, $SD=21,300$). Although statistically significant, a median income disparity has existed in these two groups within the U.S for several decades. In general, a bimodal distribution has been observed with Chinese American income clustered in the upper and lower levels of the socioeconomic

distribution (DHHS, 2000), which has been largely attributed to increases in non-manual occupations since the 1960s (Wong, 2006). This may be especially true during the past decade in the San Francisco Bay Area, with many recent Chinese American families having immigrated to Silicon Valley for high tech professional positions (Wong, 2005). In 2000, the average Chinese American household income was approximately 30% higher then the national average (Ameredia, 2000). In the San Francisco Bay Area counties where this data was collected, the median incomes of Chinese Americans were approximately 26.2% greater than the median incomes of White Americans (U.S. Census Bureau, 2007). Thus, the disparity found in these study samples is representative of the median income disparity documented in both Chinese American and White American populations in the San Francisco Bay Area.

Participants self identified as Chinese American or European American. Further, their levels of acculturation to both Chinese and American culture were assessed. Although it is by no means a comprehensive assessment of culture in either group, ethnicity was highly correlated with acculturation. Being European American was negatively correlated with acculturation to Chinese culture ($r(125)=-.778$, $p<.001$), and positively correlated with American culture ($r(130)=.813***$, $p<.001$). Thus, ethnicity accounted for 60.5% variability of Chinese acculturation and 66.1% variability of American acculturation as assessed by the GEQ measure administered to the mothers. Given the high and significant correlations between ethnicity and acculturation, ethnicity, rather than acculturation were used as the independent variable in subsequent analyses.

Table 1
*Demographics Means and Frequencies*

| Variable | Ethnicity | |
|---|---|---|
| | Chinese American (n=70) | European American (n=71) |
| Gender | | |
| Female | 36 (51.4%) | 36 (50.7%) |
| Male | 34 (48.6%) | 35 (49.3%) |
| Children's Age (months) | 77.5 (9.0) | 73.7 (9.7) |
| Child's Birthplace | | |
| United States | 65 (92.8%) | 71 (100%) |
| China | 1 (1.4%) | 0 (0%) |
| Taiwan | 2 (2.9%) | 0 (0%) |
| Hong Kong | 1 (1.4%) | 0 (0%) |
| Canada | 1 (1.4%) | 0 (0%) |
| Mother's Birthplace | | |
| United States | 3 (4.3%) | 71 (100%) |
| China | 15 (21.4%) | 0 (0%) |
| Taiwan | 49 (70.0%) | 0 (0%) |
| Hong Kong | 1 (1.4%) | 0 (0%) |
| Malaysia | 1 (1.4%) | 0 (0%) |
| Vietnam | 1 (1.4%) | 0 (0%) |
| Father's Birthplace | | |
| United States | 4 (5.7%) | 71 (100%) |
| China | 16 (22.9%) | 0 (0%) |
| Taiwan | 44 (62.9%) | 0 (0%) |
| Hong Kong | 4 (5.7%) | 0 (0%) |
| Malaysia | 1 (1.4%) | 0 (0%) |
| Vietnam | 1 (1.4%) | 0 (0%) |
| Family Income | $87,900 | $67,200 |
| Community | | |
| % of Mother's Friends With Same Ethnicity | 83.1 (14.3) | 77.2 (16.6) |
| % of Child's Friends With Same Ethnicity | 68.7 (24.4) | 70.2 (18.7) |
| Acculturation to American Culture | 3.09 (.50) | 4.31 (.37) |
| Acculturation to Chinese Culture | 3.66 (.49) | 2.27 (.62) |

*Age and gender effects*

Correlations were calculated to examine child age and gender effects on central tests variables. Small, albeit significant correlations were detected in the data. Specifically, child age was associated with mothers' report of children's social inhibition ($r(132)=-.186$, $p<.05$), facial expressivity in the Solitary task ($r(132)=-.205$, $p<.05$) and Social task ($r(132)=-.265$, $p<.01$). Only one significant gender difference was identified. Mothers reported greater social inhibition ($t(132)=3.09$, $p<.01$) in girls ($M=1.86$, $SD=.57$) than in boys ($M=1.58$, $SD=.47$). All subsequent analyses controlled for age and gender.

*SES Effects*

Correlations were also calculated to determine the relation between SES and central test variables. SES was negatively associated with mothers' report of children's depression ($r(134)=-.175$, $p<.05$) and being asocial with peers ($r(134)=-.195$, $p<.05$). All subsequent analyses controlled for SES.

*Aim 1: Children's internalizing symptoms*

The first aim of the dissertation was to characterize the internalized distress of Chinese- and European American young children through children's and mothers' reports. First, an ANCOVA was performed to determine to how ethnicity related to mothers' report of children's symptomatology as rated on the Health Behavior Questionnaire. Age, gender, and SES served as covariates.

As hypothesized, Chinese American mothers reported greater Depression, Overanxiousness, and Separation Anxiety compared to European American mothers' report of their children. Interestingly, the direction was reversed for Asocial with Peers:

European American mothers rated their children to be more Asocial with Peers than Chinese American mothers. These findings are presented in Table 2.

Table 2
*Mothers' Reported Children's Internalizing Symptoms by Ethnicity*

| | Ethnicity | | |
|---|---|---|---|
| | Chinese American | European American | F-Test (1, 130) |
| Internalizing Subscales | | | |
| Depression | 1.26 (.03) | 1.12 (.03) | 9.77** |
| Overanxious | 1.62 (.04) | 1.42 (.04) | 10.40** |
| Separation Anxiety | 1.59 (.04) | 1.23 (.04) | 40.48*** |
| Asocial With Peers | 1.20 (.04) | 1.34 (.04) | 4.96* |
| Social Inhibition | 1.80 (.07) | 1.64 (.07) | 2.623 |

*Note: Means adjusted for age, gender, and SES covariates*

To investigate possible ethnic differences in children's reports of their internalizing symptoms, another ANCOVA was conducted while controlling for age, gender, and SES. As expected, Chinese American children reported greater levels of internalizing symptoms than European American children; however, Overanxiousness and Separation Anxiety were the only two variables were statistically different between the two groups, as shown in Table 3.

With Overanxiousness and Separation Anxiety being the two subscales that showed ethnic differences among children's reported symptomatology, post hoc

comparisons of the two ethnic groups were conducted at an item level for these two scales to identify specific items with greater observed ethnic differences.

Table 3
*Children's Reported Internalizing Symptoms by Ethnicity*

| | Ethnicity | | |
|---|---|---|---|
| | Chinese American | European American | F-Test (1, 141) |
| Internalizing Subscales | | | |
| Depression | 2.57 (.09) | 2.38 (.09) | 1.76 |
| Overanxious | 3.29 (.11) | 2.94 (.10) | 4.95* |
| Separation Anxiety | 3.53 (.12) | 2.88 (.11) | 14.35*** |
| Asocial with peers | 2.94 (.11) | 2.85 (.11) | .345 |
| Social inhibition | 3.67 (.14) | 3.58 (.14) | .207 |

*Note: Means adjusted for age, gender, and SES covariates*

Independent t-tests were conducted on the 8 items that comprised of the Overanxious subscale. Out of these 8, statistically significant differences ($\alpha<.05$) were observed for 3 items. Chinese American children endorsed more worry than European American children through the following items: "I worry that bad things are my fault," "I worry bad things are going to happen," and "I worry if other kids will like me." The independent t-test results of Overanxious items are presented in Tables 4.

Additional independent t-tests were conducted on the 7 items that comprised of the Separation Anxiety subscale. Out of these 7, statistically significant differences ($\alpha$

<.05) were observed for 2 items. Chinese American children endorsed more separation anxiety than European American children through the following items: "I worry my mom or dad will go away and never come back," and "I don't get scared if my mom or dad goes somewhere without me." Chinese American children endorsed more anxiety in the

Table 4
*Means of Children's Reported Overanxious Items by Ethnicity*

| | Ethnicity | | |
|---|---|---|---|
| Overanxious Items | Chinese American | European American | F-Test (1, 139) |
| I have lots of bad dreams | 3.26 (1.54) | 3.12 (1.52) | .52 |
| I get nervous when my teacher asks me a question | 2.76 (1.43) | 2.45 (1.05) | 1.46 |
| I worry that bad things are my fault | 4.38 (1.90) | 3.51 (1.71) | 2.87** |
| I get headaches a lot | 2.97 (1.63) | 2.80 (1.60) | .62 |
| I worry bad things are going to happen | 4.11 (1.94) | 3.31 (1.70) | 2.59* |
| I get tummy aches a lot | 2.58 (1.29) | 2.96 (1.62) | -1.55 |
| I worry a lot | 3.02 (1.66) | 2.81 (1.40) | .80 |
| I worry if other kids will like me | 3.16 (1.81) | 2.59 (1.33) | 2.15* |

*Note: Means adjusted for age, gender, and SES covariates*

Table 5
*Means of Children's Reported Separation Anxiety Items by Ethnicity*

| | Ethnicity | | |
|---|---|---|---|
| Separation Anxiety Items | Chinese American | European American | F-Test (1, 139) |
| I worry about my mom or dad when I'm at school | 2.87 (1.52) | 2.84 (1.46) | .12 |
| I worry my mom or dad will go away and never come back | 3.95 (1.96) | 2.73 (1.41) | 4.24*** |
| It's not hard to say goodbye to my mom or dad | 2.63 (1.44) | 2.97 (1.65) | 1.33 |
| If my mom or dad isn't my bed, I'm scared to go to sleep | 3.24 (1.80) | 2.75 (1.40) | 1.83† |
| When I'm at school I miss my mom or dad | 3.35 (1.83) | 3.09 (1.69) | .89 |
| I don't get scared if my mom or dad or somewhere without me | 4.08 (1.91) | 2.98 (1.63) | 3.68*** |
| I don't like going places without my mom or dad | 4.03 (1.96) | 3.41 (1.82) | 1.93† |

*Note: Means adjusted for age, gender, and SES covariates*

items "If my mom or dad isn't near my bed, I'm scared to go to sleep," and "I don't like going places without my mom or dad" at a $\alpha<.05$ The independent t-test results of the Separation Anxiety items are presented in Tables 5.

The last analysis in Aim 1 examined parent-child agreement in internalized distress. The five internalizing subscales were collapsed into a children's reported mean internalizing score and a mothers' reported mean internalizing score. A partial correlation was conducted that controlled for age, gender, and SES. An ethnic difference in the correlation between children's and mother's internalizing scores emerged. Whereas Chinese American children's and mothers' ratings were non-significant ($r(63)=.084$, $p$=ns), European American children's and mothers' ratings were significantly correlated ($r(63)=.387$, $p=.001$). A Fisher's R-to-Z transformation showed these correlations to be significant at a $p=.06$ level.

Overall, Aim 1 characterized children's emotion well-being in the following way: Chinese American children had greater internalized distress compared European American children, in general, by mothers' and children's report. Specific items from symptomatology scales used showed greater ethnic differences than other items. Parent-child agreement on children's internalizing symptomatology was observed in the European American sample, but not in the Chinese American sample.

*Aim 2: Observed expressivity in a frustration-eliciting situation*

The second aim sought to examine observed expressivity as Chinese American and European American children completed a frustration-eliciting task, by themselves (Solitary) and then in the presence of their mothers (Social).

Pearson correlations were conducted to examine the relation between facial expressivity and postural expressivity. The two types of expressivity were highly correlated for both tasks with Chinese Americans (Solitary, $r(66)=.640$, $p<.001$; Social, $r(66)=.824$, $p<.001$) and European Americans (Solitary, $r(66)=.859$, $p<.001$; Social, $r(66)=.832$, $p<.001$). Given these high and significant correlations, the facial expressivity and postural expressivity means were collapsed for each task to create mean expressivity scores for both Solitary and Social tasks.

A two-way (2x2) repeated ANCOVA controlling for age, gender, and SES was then conducted to analyze expressivity in the tasks with Ethnicity as the between-subjects factor and the Task (Solitary vs. Social) as the repeated measures. The analysis revealed a significant main effect of Task ($F(1, 127)=4.92$, $p=.028$), and a significant Task by Ethnicity interaction ($F(1, 127)=7.89$, $p=.006$). Surprisingly, there was no significant main effect of Ethnicity. Table 6 presents expressivity means by ethnic group and task. Figure 1 displays the interaction effect.

Planned contrasts revealed a significant ethnicity effect in the Solitary task ($t(130)=-3.00$, p=.003), with European American children showing greater expressivity than Chinese American children. Chinese American children showed greater expressivity than European American children during Social task, though not at a statistically significant level ($p=.86$). A paired t-test showed that Chinese American children had significantly greater expressivity during the Social task than in the Solitary task ($t(65)=-7.24$, $p<.001$).

Overall, the results indicate that both Chinese- and European American children

show greater levels of expressivity when performing a frustration task in the presence of their mothers than when performing alone. Contrary to expectations, Chinese American children were less expressive than European American children only when performing the task alone; when in the presence of their mothers, Chinese American children showed just as much expressivity, if not more so than European American children.

Table 6
*Observed Child Expressivity by Task and Ethnicity*

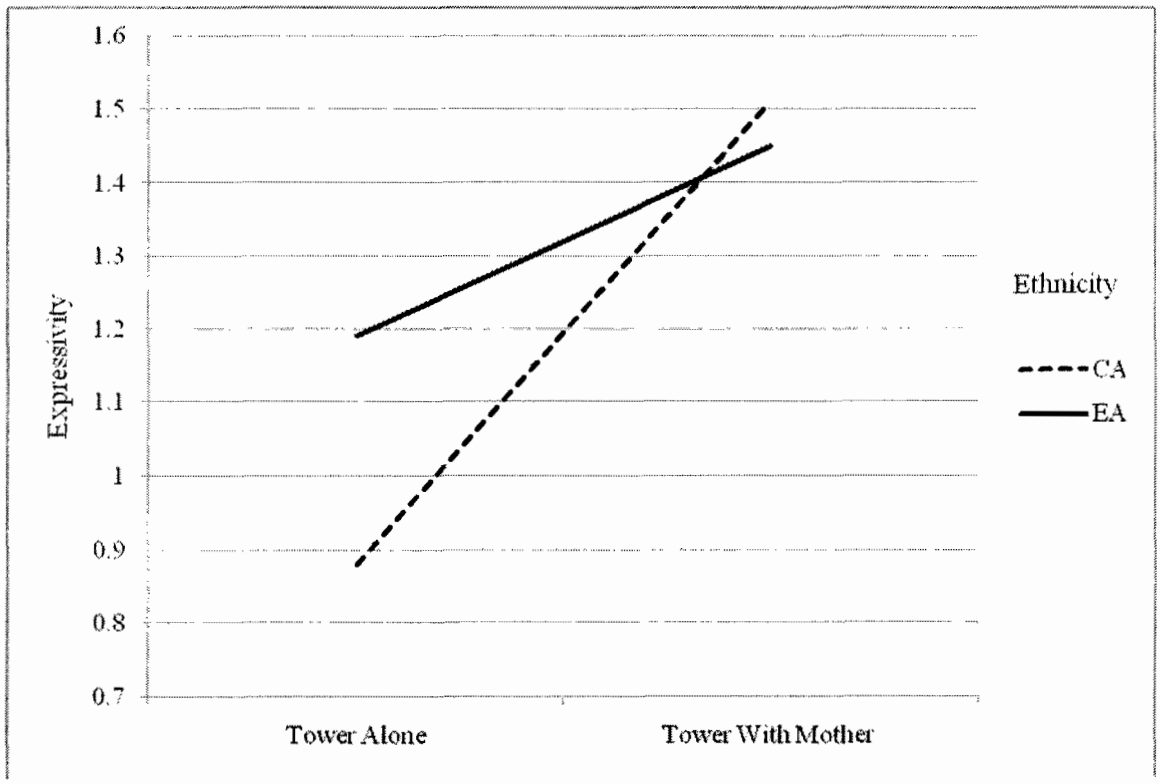
| | Solitary (Tower) | | Social (Tower With Mom) | |
|---|---|---|---|---|
| | Chinese American | European American | Chinese American | European American |
| Expressivity | .88 (.06) | 1.19 (.07) | 1.51 (.06) | 1.45 (.07) |

*Note: Means adjusted for age, gender, and SES covariates*

*Aim 3: The effect of symptomatology on observed expressivity in a frustration-eliciting situation*

An exploratory approach was taken in Aim 3 to determine whether internalizing symptoms might moderate the Task by Ethnicity interaction found in Aim 2. Aim 3 specifically examined two internalizing symptom subscales rated by both children and mothers: Depression and Overanxiousness. These variables were selected primarily because it was believed that a predisposition to depressed mood would show lack of expressivity and that children who tended to be overanxiousness would show more expressivity, especially in the presence of their mothers.

Figure 1
*Expressivity in Chinese American and European American children across tasks*




*Note: Means adjusted for age, gender, SES covariates*

In total, four internalizing symptom variables were used in this aim: (1) Depression by child report, (2) Depression by mother report, (3) Overanxiousness by child report, and (4) Overanxiousness by mother report. Mothers' and children's report of depression and overanxiousness were kept as separate variables because mothers' and children's report were uncorrelated as found earlier. Each of the four variables was split into High and Low using the overall group means of reported levels of symptomatology as a cut off point.

A series of four separate three way (2x2x2) repeated ANCOVA controlling for age, gender, and SES were conducted to analyze expressivity. The four symptom

variables served as between-subjects factors for the four ANCOVA. As with Aim 2, Ethnicity was set as a between-subjects variable and Task served as the repeated measures factor.

The first ANCOVA examined the child-reported Depression as a between-subjects variable. A significant effect of Task was observed ($F(1, 125)=4.67$, $p=.033$) such that children were more expressive in the presence of their mothers, and a significant Task by Ethnicity interaction was obtained ($F(1, 125)=8.30$, $p=.005$) which had been observed in Aim 2. There was no significant Task by Symptom or Task by Ethnicity by Symptom interactions.

The second ANCOVA examined the child-reported Overanxiousness as a between-subjects variable. The analysis revealed a significant main effect of Task ($F(1, 125)=4.30$, $p=.040$), a significant Task by Ethnicity interaction ($F(1, 125)=12.17$, $p=.001$), and a significant Task by Internalizing Symptom interaction ($F(1, 125)=5.13$, $p=.025$). These two-way interactions were further qualified by a Task by Ethnicity by Internalizing Symptom interaction ($F(1, 125)=9.77$, $p=.002$). Specifically, European American children who reported greater levels of Overanxiousness showed little change in expressivity after their mothers entered the room, compared to European American children with lower Overanxiousness and all Chinese American children regardless of their level of Overanxiousness. Figure 2 presents the expressivity in low overanxious children across the two tasks. Figure 3 presents the three-way interaction effect on expressivity in high overanxious children across the two tasks.

The last two ANCOVA focused on mothers' reported depression and anxiety, in

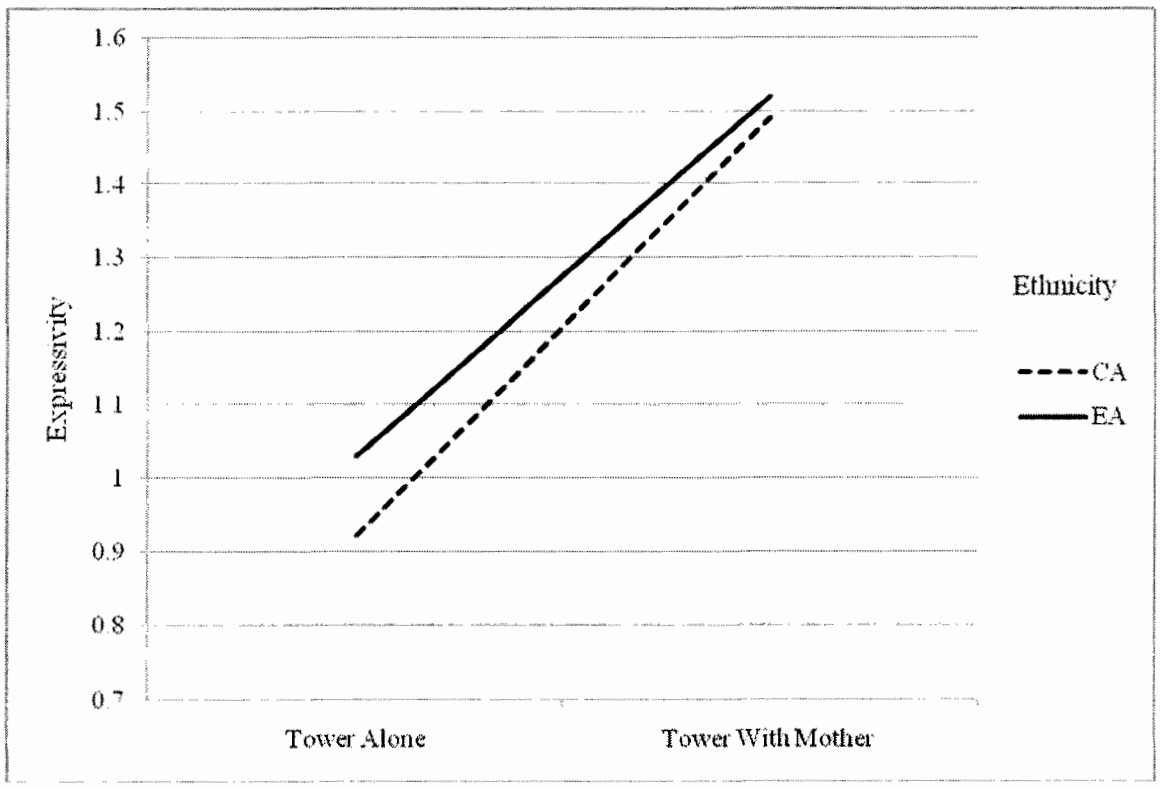
addition to ethnicity and task effects on children's expressivity. With mother-reported Depression as a between-subjects variable, a main effect of Task emerged ($F(1, 125)=5.00$, $p=.027$) as with a Task and Ethnicity interaction ($F(1, 125)=10.70$, $p=.001$). This two-way interaction was qualified by a Task by Ethnicity by Symptom interaction ($F(1, 125)=4.33$, $p=.039$). European American children with greater levels of depression as rated by their mothers showed little change in their expressivity when their mothers entered into the room, compared to European American children with lower levels of depression symptoms and all Chinese American children regardless of the way their mothers rated their levels of depression. Figure 4 presents the expressivity in low depressed children across the two tasks. Figure 5 presents the three-way interaction effect on high depressed children's expressivity across tasks.

The last ANCOVA examined mothers' reported Overanxiousness which showed a main effect of Task ($F(1, 125)=4.98$, $p=.027$) such that children were more expressive in the presence of their mothers. A Task by Ethnicity interaction ($F(1, 125)=7.76$, $p=.006$) was observed, as found in Aim 2.

These follow-up analyses to Aim 2 suggest that some internalizing symptoms moderate the Task and Ethnicity interaction. Specifically, European American children with greater levels of overanxiousness by their report and depression by their own and mothers' report show little to no difference in their expressivity as their mothers enter into room while they perform a frustration task. Surprisingly, all the other children: European American children with reported lower levels of symptoms and Chinese Americans with high and low ratings on these symptoms increased their expressivity

when their mothers enter the room.

Figure 2
*Expressivity in Child-Reported Low Overanxious Chinese American and European American children across tasks*



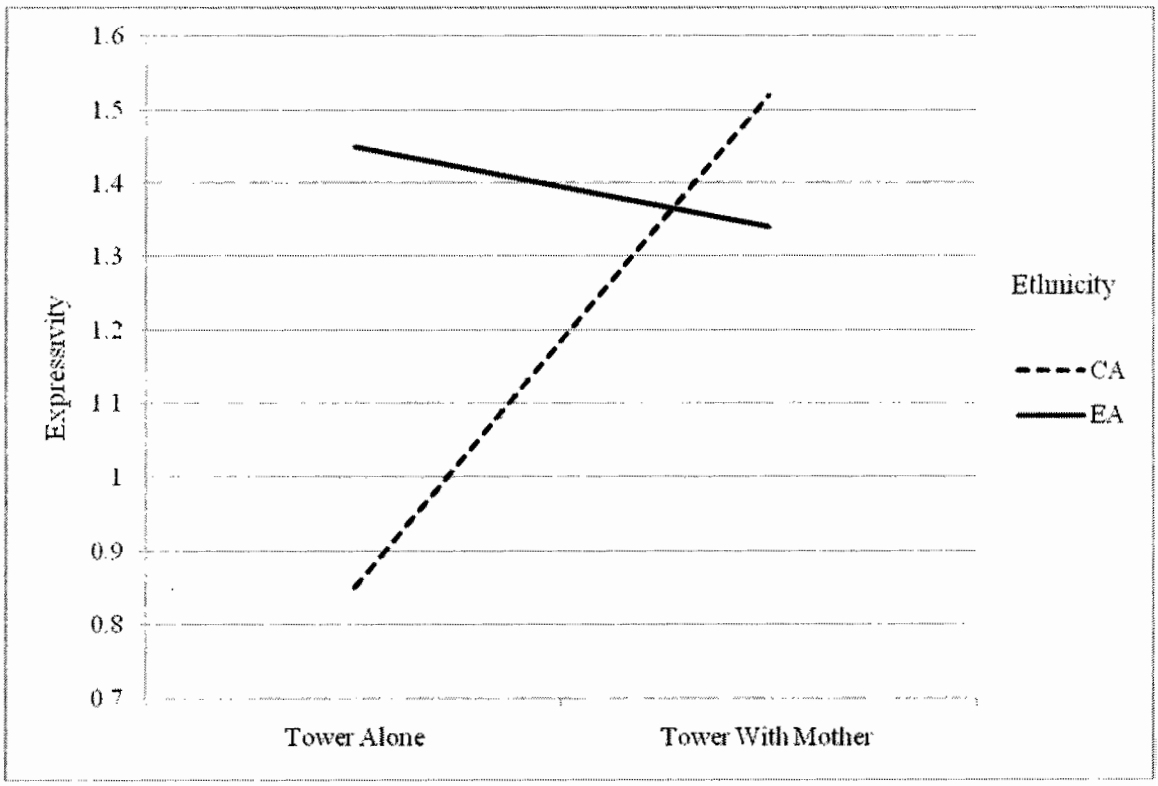

*Note: Means Adjusted for Age, Gender, SES Covariates*

*The effect of ethnicity and symptomatology on persistence*

Two univariate ANCOVA analyses both controlling for child age, gender, and SES were conducted as post hoc analyses to identify possible ethnic and high/low symptom group differences in children's persistence when performing the Tower task alone. The first ANCOVA compared two groups: European American children who endorsed high overanxiousness and all the other children, specifically, European

American children with self-reported low overanxious symptoms and Chinese American children with self-reported high and low overanxious symptoms. These groups were

Figure 3
*Expressivity in Child-Reported High Overanxious Chinese American and European American children across tasks*



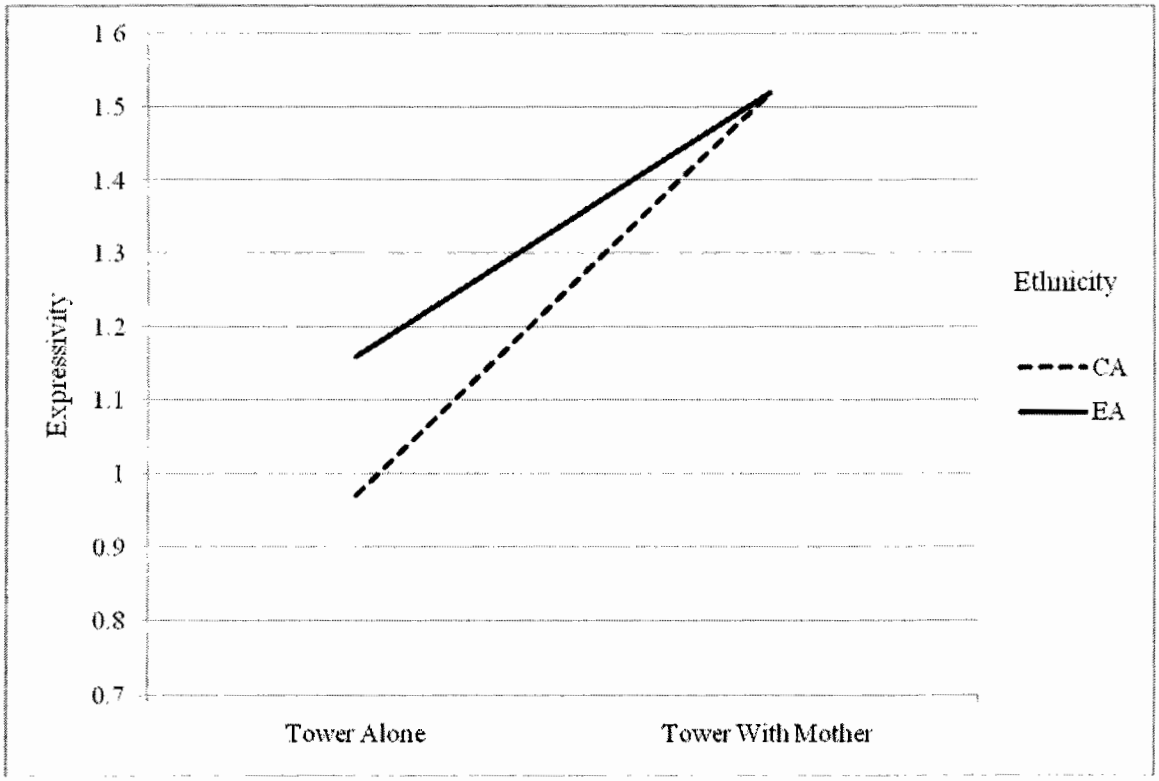

*Note: Means adjusted for age, gender, SES covariates*

based on the findings from Aim 2, which showed that European American children with higher rated levels of symptomatology did not increase expressivity when their mothers entered into the room.

With Persistence as a between-subjects variable, only a main effect of Age emerged ($F(1, 125)=13.02$, $p=.002$) and not for Group ($F(1, 125)=.493$, $p$=ns). Younger children were less persistence overall than older children across groups. High

Figure 4

*Expressivity in Mother-Reported Low Depression Chinese American and European American children across tasks*

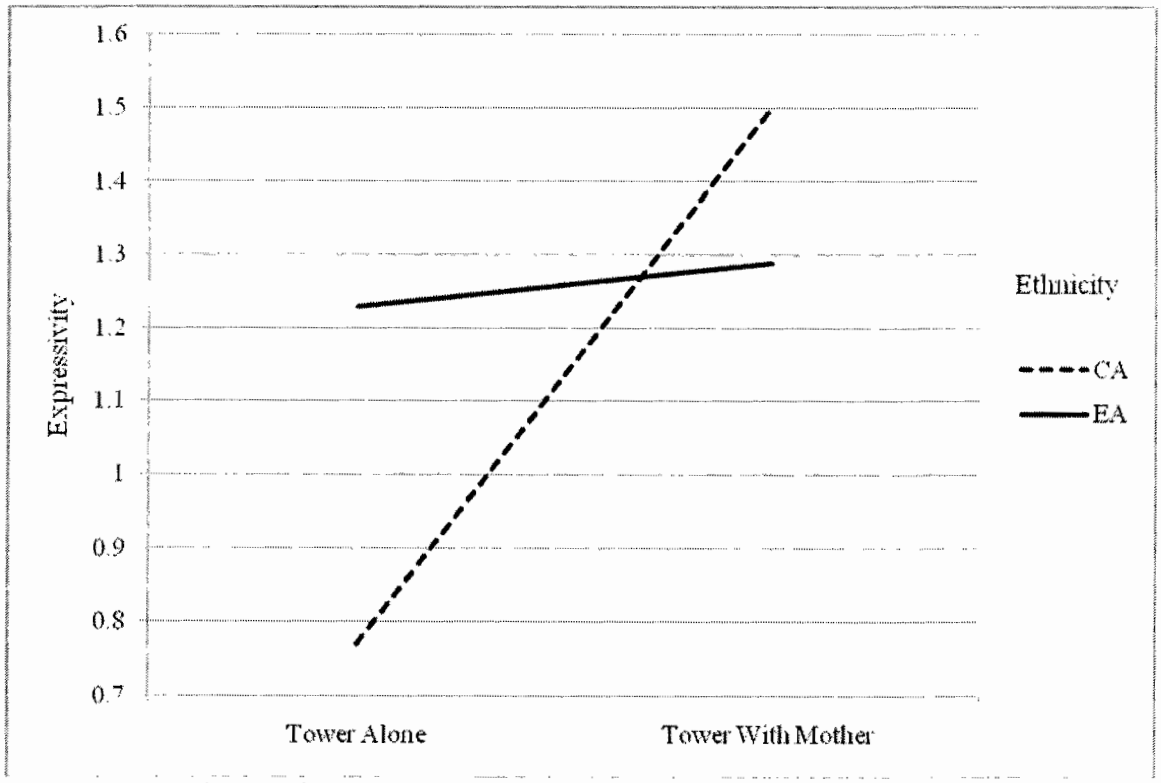



*Note: Means adjusted for age, gender, SES covariates*

overanxious European American children were just as persistent in the Tower task ($M$=6.03, $SD$=.24) as the other children ($M$=6.22, $SD$=.11).

The second ANCOVA compared two groups: one consisting of European American children whose mothers reported their children to have high depression and another with all the other children, specifically, European American mothers who reported their children with low depression symptoms and Chinese American children whose mothers reported them as having high and low depression symptoms.

Figure 5
*Expressivity in Mother-Reported High Depression Chinese American and European American children across tasks*

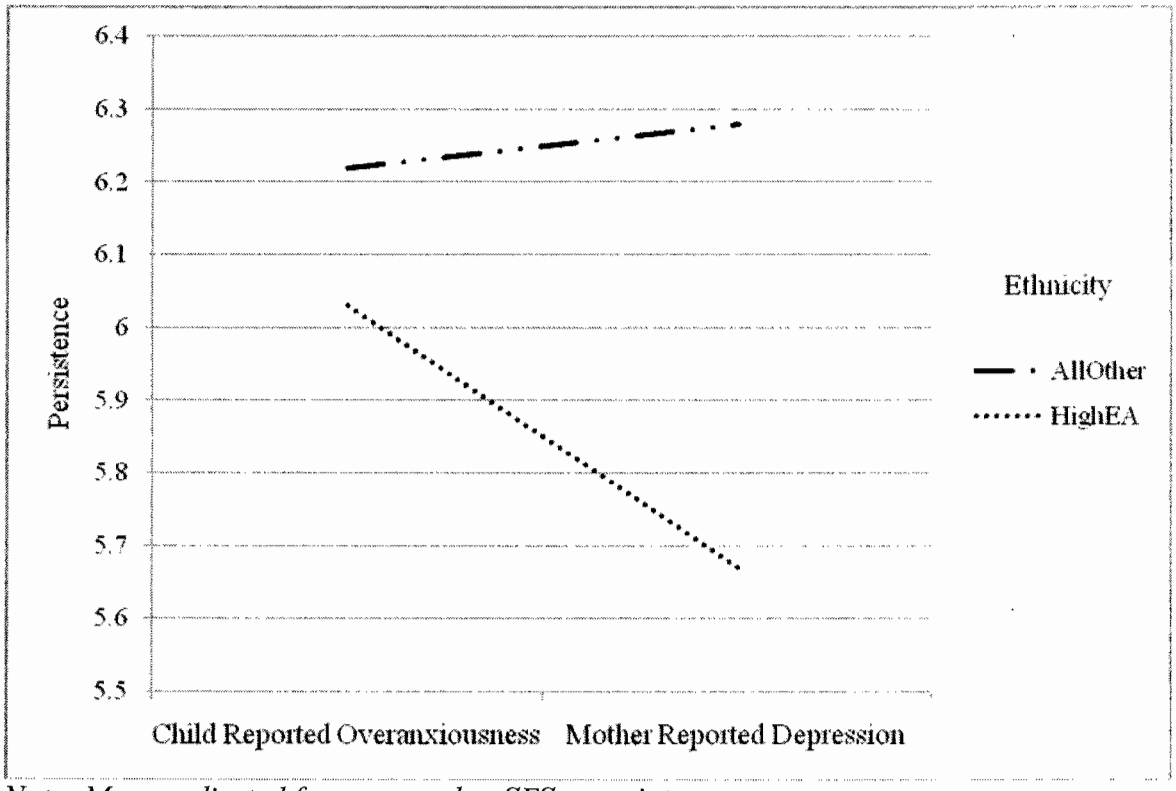



*Note: Means adjusted for age, gender, SES covariates*

With Persistence as a between-subjects variable, a main effect of Age emerged ($F(1, 125)=8.30$, $p=.005$) as with Group ($F(1, 125)=4.66$, $p=.033$). European American children with greater levels of depression symptoms as rated by their mothers were less persistent on performing the task on their own ($M=5.67$, $SD=.26$) compared to all the other children ($M=6.28$, $SD=.11$). The group means for persistence are presented in Figure 6.

Figure 6

*Mean differences in Task Persistence by Ethnicity and Reported Symptomatology*




*Note: Means adjusted for age, gender, SES covariates*

# CHAPTER V

# DISCUSSION

Obtaining an understanding of deeply rooted cultural ideals helps to reveal when and how emotion expressivity operates in a given culture. The interdependent self-construal theory assumes that the self is meaningful when placed in relation to the social context. Thus, in an interdependent society, individuals behave according to the roles and expectations prescribed by the group. For Chinese culture in particular, Confucian principles emphasize self-improvement as a moral virtue that fosters harmonious social relationships. Shame operates as a social control to maintain self-improvement and adherence to group expectations, both of which are highly valued by the Chinese. These culturally based theories underlying Chinese culture were used in this study to explain how cultural ideals, beliefs, and practices contribute to the emotion well-being and expressive behaviors in Chinese American children. It also highlights how such emotion processes operate differently in European American children.

While these cultural theories provide an understanding of ideal emotion behaviors, a functionalist approach to emotion was also taken to explain the function of expressivity. Such an approach specifies how the regulation of emotion expressions is used to achieve goals, whether by regulating to perform better at a task or to communicate in a way that affect change in other people's behavior. The functionalist approach was taken because its emphasis on intrapersonal and interpersonal regulation of

expressivity fit with the importance for self-improvement and social harmony in Chinese culture.

For these reasons, the cultural theories and the functionalist approach to emotion were used to clarify the nature of expressivity for Chinese- and European American children. This study characterized the emotion well-being in Chinese- and European American children by examining two different facets of emotion: (1) internalized distress and (2) emotion expressivity. Despite the difficulty in ascertaining symptomatology in children as young as five years old, the study specifically examined the extent to which Chinese- and European American children experience and manifest internalized distress, and is the first known study that assesses the symptomatology of 5 to 7 year old Chinese Americans using both mothers' and children's report.

The levels of expressivity were examined among Chinese- and European American children to determine whether any ethnic group differences in expressivity would emerge even at this early age. An attempt was made to elicit emotion expressivity by administering a frustration task to the children. Importantly, this study sought to determine whether expressivity levels during frustration would differ based on ethnicity and also whether regulation of expressivity would take place among the two groups as a function of the mothers' presence in the room during this task. Of interest was whether internalized distress would play a role in the expressivity observed in the frustration tasks. An exploratory approach was taken to examine this last question.

*Internalized distress in children across ethnic groups*

Analyses that examined mean differences of internalizing symptoms while controlling for child age, gender, and SES showed that Chinese Americans mothers reported significantly greater levels of depression, overanxiousness, and separation anxiety in their children compared to European American mothers, although European American mothers reported that their children were more asocial with peers than Chinese Americans. Chinese American children reported experiencing significantly greater levels of overanxiousness and separation anxiety than European American children.

In general, these findings were consistent with the adolescent and adult literature on the greater severity of symptoms experienced among Asian Americans (e.g. Lorenzo, Frost, Reinherz, 2000; Okazaki, 1997; Sue, Sue, Sue, & Takeuchi, 1995). The findings suggest that ethnic group differences do emerge early, even at the age of five years. The following discussion considers how cultural beliefs and practices might inform the way that Chinese- and European American children endorsed symptoms of internalized distress.

*Overanxiousness*

Post hoc comparisons were conducted on an item level to determine specific overanxious items that had the greatest difference between groups. There were three items with significantly greater ratings by Chinese American than in European American children, including: (1) worried about having done something bad, (2) that something bad would happen, and (3) how what other people thought of them.

Socialization practices in Chinese culture emphasize obedience in children to a greater extent compared to mainstream American culture, and often rely on shaming as a way to inculcate good behavior. As a culture, the Chinese makes use of the aversive properties in shame, especially in child rearing (Fung, 1999; Fung & Chen, 2001). The anxiety about their behavior or potential negative outcomes as experienced by the Chinese American children in this study may be the natural mechanism by which Chinese parents have set forth in their parenting to motivate their children towards good behavior. If this is the case, the worry experienced by Chinese American children could have been socialized deliberately and be adaptive for children who are expected to operate under Chinese social norms.

Specifically, the Chinese American children also indicated greater worry about being liked by others compared to European American children. The emergence of ethnic differences in social anxiety is consistent with previous studies examining social anxiety in children (Austin & Chorpita, 2004; Dong et al., 1994; Yao et al., 2007, Zhou et al., 2008). Although the greater endorsement of anxiety among Chinese American children could be ideal, as explained by socialization practices in an interdependent culture, it is possible that such worry leads to negative behavioral outcomes, especially in bicultural individuals who operate in two cultures that hold opposing norms for adaptive emotion behavior. For instance, being an immigrant or holding a minority status may be a source of social anxiety (Austin & Chorpita, 2004) due to acculturative stress (e.g. Iwamasa, 1997; Sue & Zane, 1985). Although this study did not specifically examine these

stressors in its role in anxiety, it could still be a source of anxiety and of problematic outcomes for the young Chinese American children in this study.

*Separation anxiety*

Chinese American children showed greater separation anxiety than European American children according to the report by both mothers and children. At present, only two known studies have examined separation anxiety in children of Asian or Chinese background. This difference in the two groups is consistent with these studies which found that Chinese adolescents had greater separation anxiety than American adolescents (Yao et al., 2007; Zhou et al., 2008). This is the first known study that has identified this difference in young bicultural Chinese American children.

The greater level of anxiety experienced by Chinese American children may be partially attributable to different parenting beliefs and practices across cultures. Specifically, the Chinese American children in this study may have become accustomed to parenting consisting of close physical proximity between mother and child (Lee, 1994; MacDonald 1992; Radke-Yarrow et al., 1983; Wang, 1995).Thus, Chinese American children may experience greater distress upon physical separation from their parents.

It has been pointed out that such differences in child rearing could foster maladaptive functioning, especially if the child is raised in both Chinese and mainstream American communities (Rapee, 1997). Yet, individuation, rather than relatedness has been found to be maladaptive for Asian adolescents (e.g. Chou, 2000) and there is evidence that Asians rely on a combination of relatedness and autonomy in parenting

children (Stewart, Bond, Deeds, & Chung, 1999), as with Chinese Americans (Jose, Huntsinger, Huntsinger, & Liaw, 2000; Suizzo & Cheng, 2008). Further research should explore the extent to which experience of distress in bicultural children leads to future maladaptive outcomes in social or academic domains.

*Depression*

Chinese American mothers' report of their children's depression level was significantly greater than European American mothers' report, although this difference was not seen in children's report. There are a number of cultural and developmental explanations for the lack of significant differences observed in children's report for this particular study, in contrast to what has been previously documented in Asian American adolescents and adults (e.g. Lorenzo et al., 2000; Okazaki, 1997; Sue, Sue, Sue, & Takeuchi, 1995). First, Asians tend to experience depression with more somatic distress given the interrelations between somatic symptoms and interpersonal harmony (e.g. Hsu & Folstein, 1997; Yen, Robins, & Nan, 2000). The tendency to endorse somatic symptoms is greater among clinical than nonclinical populations. The inclusion of items that are relevant to the way that depression is experienced and construed somatically among Chinese Americans may better capture the level of depression experienced by Chinese American children.

In addition, assessing depression is especially difficult with young children (e.g. Achenbach et al., 1987; Cole, Hoffman, Tram, & Maxwell, 2000), and perhaps even more so among Chinese Americans given how emotions are socialized within Chinese families. In a study comparing European American and Chinese mothers-child dyads,

European American dyads tended to discuss the experience of sadness whereas Chinese dyads rarely did. The difficulty in ascertaining depression may be particularly difficult in Chinese American children, given that their socialization experience focus less on the experience of sadness (Fivush & Wang, 2005). Further studies should clarify the structure of depression as perceived by both parents and children to develop culturally relevant informant measures.

Furthermore, the statistically significant greater experience of anxiety in Chinese Americans, as opposed to the non-significant differences in depression could be due to the general discouragement of externalizing behavior in Asian culture. It has been suggested Asian children are more likely to internalize rather than externalize their distress because of the culturally expectation that emotions should be restrained and inhibited (Weisz, Sigman, Weiss, & Mosk, 1993; Weisz et al., 1993). Rather than manifested through depressed mood, any tendencies to experience distress could be manifested more through the endorsement of anxiety.

Lastly, developmental factors may play a role in the lack of significant ethnic differences observed. That is, differences in depression symptoms might not manifest so early on in development since anxiety often precedes depression in the development and manifestation of internalizing symptoms (see Seligman & Ollendick, 1998 for review). This may be another reason why ethnic differences were not detected with this particular age group. Given that gender differences have been observed in depression and suicide rates among adolescent and young adult Asian American women, it is interesting to note that no gender differences were obtained in this sample. Like ethnic differences, gender

differences may not emerge until later in development, when psychosocial stressors play a larger role in the onset and manifestation of depression (Okazaki, 1997).

*Asocial with peers and social inhibition*

Interestingly, European American parents rated their children to be more likely to be asocial with their peers. This was the only internalizing symptom where European Americans gave higher ratings than Chinese Americans. At first glance, the reversed direction of mean differences seemed unusual in light of the greater internalized distress endorsed by Chinese American children and mothers in the other subscales. However, the "Asocial with Peers" items tap children's preference for social activities, with items that include "My child is a solitary child," and "My child prefers to play alone." This subscale should be considered less of a measure of distress as the other subscales are considered. When preference for social activities is taken into consideration, this finding is easier to interpret, especially under the independent and interdependent construal theory. Although Chinese American mothers reported their children to be more socially inhibited than European Americans, Chinese American children may still desire to engage in social activities with their peers as part of the overarching ideal to remain connected to others, whereas European American children are more likely to exert their preferences to play on their own.

*Parent-child agreement on internalized distress*

Subscales collapsed into an overall internalized distress construct showed significant parent-child agreement in internalized distress for European Americans but not for Chinese Americans. While previous studies have noted significant but low

concordance (e.g. Achenbach et al., 1987; Bird et al., 1992; Edelbrock et al., 1986), it is striking that no significant concordance was observed for the present Chinese American sample. Furthermore, existing studies have shown that increasing age tends to correlate with greater parent and child discrepancy (Tang, 2002). If such age related changes are consistent across groups, it is especially problematic that no agreement was found among Chinese American children and parents at this age group.

A number of possible explanations for the poor parent-child agreement have been explored, including measurement issues, which may be further amplified by cultural factors that affect the way Chinese American parents and children view internalized distress. For example, differing underlying factors have been uncovered in parents' and children's report of anxiety (Cole et al., 2000) suggesting that parents and children conceptualize internalized distress differently. Among Chinese Americans, children could either see their distress as more serious than their parents who minimize the possibility of distress. On the other hand, children could mask their response or report the most socially desirable response (Dadds, Perrin, & Yule, 1998; Kenny & DePaulo, 1993); this may be even truer for Chinese American children especially within a culture that emphasizes social harmony.

The ways that parents and children perceive and remember emotional experiences might also differ culturally. Certain experiences considered salient are better recalled (Murphy & Balzer, 1986) and socialization practices that differ by culture may affect the way children remember their emotional experience. For instance, European American parents often focus on the antecedents of children's internal experiences in their

conversations with them as a method for helping them to cope. Chinese parents emphasize discipline for children's actions, which lead to negative feeling states (Wang, 2001; Wang, 2004; Wang & Fivush, 2005). They also encourage their children to focus on the emotional states of others (Wang & Leichtman, 2000). Compared to European American parents who tend to regard their children as independent beings with their own internal experiences, Chinese Americans dictate what their children should feel more so than European Americans as a method of socialization (Fivush & Wang, 2005).

Due to their tendency for greater dialogue about emotion with children, it is possible that European American parents in this study sample were privy to their children's own experiences of distress to a greater extent than Chinese American parents. The less elaborated style of emotional reminiscing likely affects accessing of specific emotion events and experiences (Fivush & Nelson, 2004) with Chinese American children recalling less specific information about their experiences. There is evidence to suggest that mainstream American children are better able to verbalize emotions than Chinese children at the age of three (Wang, Leichtman, & Davies, 2000). As such, children in this study may have had a greater difficulty in accessing and verbalizing internalized distress.

Only a couple of studies have looked closely at parent-child agreement by ethnicity, with one finding no differences in parent-child agreement across groups on the report of anxiety (Wren et al., 2004), and another which found greater concordance among European Americans than in African American and Latinos on various mental health and life satisfaction variables (Roberts, Alegria, Roberts, & Chen, 2005). The

finding in this dissertation study calls for greater examination of parent-child agreement and the identification of variables that could explain agreement level in ethnic minorities.

*Solitary expressivity in a frustration task*

As hypothesized, Chinese American children were found to be less expressive than European American children when performing the frustration task on their own. These findings coincide with research showing Chinese infants to be less reactive than European American infants. Although biological differences may exist early on in development (Camras et al., 1998; Freedman, 1974; Kagan et al., 1978, 1994; Kisilevsky et al., 1998), socialization practices likely play a role in ethnic differences in expressivity later in development (Camras, 1990; Cohn & Tronick, 1988; Cole & Tamang, 1998; Eisenberg, Spinrad, & Cumberland, 1998; Parke, 1994; Saarni, 1999; Thompson et al., 2003). The following discussion focuses on the socialization of cultural norms to explain expressivity in these two groups, given the age of the children in this study.

Chinese American children may have been less expressive than European American children since moderating their expressivity could have increased their focus and ability to perform the task. That is, miniaturization may have been operating, according to the theory that expressivity diminishes during intrapersonal situations once it no longer serves as a communicative signal to another within an interpersonal regulatory process (Holodynski, 2004).

But why would there be greater miniaturization of affect in Chinese American children than in European American children? Chinese American children may have needed to immediately increase their focus to perform the task because of the cultural

expectation to succeed. Although the Chinese American children might not necessarily be cognizant of it in the moment, their efforts during the task could be a way to "save" face, especially since such a concept is usually familiar to Chinese children at this young age (Fung & Chen, 2001; Shaver et al., 1992).

Both the Chinese American mother and child may have construed the experimenter as an outside evaluator, so that any failure to perform the task would be shameful. Indeed, "Saving face" may have been operating during the home visit itself, with the mother having explicitly defined the social role of the experimenter within their home. Chinese Americans mothers tended to refer to the experimenter as "teacher" during the home visits. They also reminded their children to "listen to the words" or follow the directions of the "teacher" whereas none of the European American mothers asked their child to call the experimenter "teacher." Instead European American mothers and children referred to the experimenter as a visitor who needed the child's help for a project.

Chinese American children may have felt it was necessary to impress the experimenter for the sake of their family, especially given the task instructions that the child should do just as well as other children their age. All children were told to stack the dominoes at the height in which other children their age could stack them. This comparative quality was purposely built into the task instructions to increase the chance that children would persist in a difficult task. Yet, these task instructions are very similar to the competition that parents and schools foster in Chinese culture. Competition is used as a way to achieve "perfection," a cultural expectation in Chinese culture. Chinese

parents are known to make comparisons of their children to other children, and even among siblings in the family to foster self-improvement. The drive for success is especially salient for this sample, given that the Chinese Americans in the San Francisco Bay Area have a reputation for academic competition (Hwang, 2005).

Aside from moderating expressivity to increase attention and focus, it is also possible that the Chinese American children masked their anxiety during the task even as they performed the task on their own because they were aware of being recorded on videotape. "Face" concerns may have been greater due to knowing that their performance would be observed later on. They may have moderated even further any expressivity during the performance of the task. Such an explanation has been used in understanding the low variability of observable behavior of social anxiety in Asian Americans (Okazaki, Liu, Longworth, & Minn, 2002). Thus, a concealed camera may be important to consider in future studies that examine expressivity in Chinese Americans to ensure that the presence of a camera does not differentially affect one group over another.

European American children may have been more expressive during the task for at least two reasons. First, the internalization of regulation to increase focus on the task was not as necessary since the consequences of poor performance would not necessarily result in shame for themselves and for their family. European American mothers believe it is important to built self-esteem (Miller et al., 2002; Miller et al., 1997) by providing positive feedback for their children's efforts rather than performance results (Miller et al., 2002; Hess, Chih-Mei, & McDevitt, 1987). In fact, European American parents generally downplay the use of comparisons in child rearing because it damages self-esteem (Cho,

Sandel, Miller, & Wang, 2005). Indeed, the European American children in this study were often encouraged by their mothers to "give it a try" but to also "have fun" while doing the task. Thus, cultural differences in the way such instructions are construed in Chinese- and European American families may have had an impact on children's expressivity in the task.

Another reason why European American children showed greater expressivity than Chinese American may be due to the general encouragement of expressivity in mainstream American culture and discouragement of expressivity in Chinese culture (Chen, 2000; Kagan et al., 1978; Kitayama et al., 2000; Lin & Fu, 1990; Markus & Kitayama, 1991a; Mesquita, 2001; Wu, 1996). For all these reasons, the European American children may have retained this value for self-expression even while performing the task on their own.

*Increased expressivity in the presence of the mother*

Both Chinese- and European American children increased their expressivity when their mothers entered into the room. According to the functionalist perspective, children's expressivity serves as a source of communication to their mother. Given the social aspect of the task, this study suggests that the expressivity likely serves as a way for both Chinese- and European American children to communicate through their expressions.

It is likely that both Chinese- and European American children in this study increased their expressions to elicit support from their mothers, given the difficult nature of the task. Although both groups of children might have been more expressive to elicit support, they may have done so for different reasons. Because of the potential to "lose

face" for the family, obtaining help from the mother may have been more important for the Chinese American child than relying on their own ability to complete on the task. Thus, the increase in expressivity as a method of communication to elicit help from the mother was more worthwhile than any efforts of affect miniaturization. If the Chinese American children and mothers shared the understanding that the potential to fail at the task would lead to "loss of face," the mothers would probably be more willing to assist her child. Furthermore, an expectation is placed on Chinese parents to be physically available and to promptly attend to their young child, especially when it comes to academic achievements (Wu, 1985; Young, 1972). If so, Chinese American children may have been accustomed to their mothers help and expected that their mothers would help them in the frustration task.

It is likely that European American children increased their expression to elicit support when performing the task in the presence of their mothers. However, it seems less likely that they did so due to the prospect of being shamed for being unable to perform the task on their own. Instead, European American children may have expressed not only to elicit support but also because they have been socialized to do so. By expressing their frustration, European American children may have received more praise for their efforts, which could have ultimately helped them to continue with the task. Follow up studies should clarify cultural similarities and differences in the reasons that children elicit support from their parents and how such support affect children's performance.

Surprisingly, the Chinese America children in this study were just as expressive as European American children in the presence of their mothers. This was unexpected since so much research has focused on the tendency among Chinese Americans to moderate emotion expression. Yet, this finding makes sense in light of the functional tenets of emotion expression. Chinese Americans do not moderate their expressions indiscriminately, but rather when the situations calls for a decrease in expression. These may include instances where moderation for expression helps an individual to attend to a task or to preserve relationships in social situations (Wierzbicka, 1994). Although performing the task in the presence of mothers is a social situation, the functioning between mother-childs dyad did not necessarily hinge on the children's expressivity in the task. In fact, both Chinese American mothers and children were likely aligned in their understanding of performing well on the task so that together, both do not "lose face." Even if the mother points how shameful it is that the child expresses their frustration, such shame is not necessarily to be avoided. In the context of a supportive relationship, shame is a useful vehicle for self-improvement.

*Clinical symptomatology and expressivity*

As shown through the three-way interactions, European American children who reported high overanxiousness were more expressive than the high overanxious Chinese American children when performing the task alone. These high overanxious European Americans however, did not increase their expressivity after their mothers entered into the room, whereas the high overanxious Chinese American children did. Likewise, mother-rated high depressed European American children did not increase expressivity

when their parents entered into the room, in contrast to high depressed Chinese American, low depressed Chinese American, and low depressed European American children. Whereas child-reported overanxious European American children were just as persistent as all other children in performing the task alone, mother-reported depressed European American children were less persistent than the other groups.

Why was it the case that child-reported overanxiousness and mother-reported depressed European American children did not increase their expressivity after their mothers entered the room? Initially, one might wonder if ethnicity was mediated by either overanxiousness or depression on expressivity. However, if this were the case, only a Task by Symptom interaction would have been observed, and not a three-way Task by Ethnicity by Symptom interaction. Instead, ethnicity should be considered as a contributing factor in addition to symptom experience on expressivity in these tasks.

Explanations for the ethnic differences in expressivity in the tasks and the lack of change in expressivity in depressed European American children and overanxious European American children are offered. Among children rated with greater depression by their mothers, European Americans showed greater expressivity than Chinese Americans. Given the frustrating nature of the task, greater depressed European American children likely exhibited greater negative affect. The high depressed European American children may have been discouraged from the tough task. Feelings of helplessness are much more characteristic of depression in young children, versus older children and adults (Cain & Dweck, 1995; Smiley & Dweck, 1994). In particular, depressed children who exhibit helplessness give up quickly in the face of failure because

they have low expectations in their ability to perform the task. If, in the presence of mothers, greater child expressivity functions as a way to elicit support from their mothers, it is possible then that the European American children with greater depression symptoms did not think that obtaining support would be at all worthwhile to them.

Young children who are helpless often attribute failure to ability rather than effort (Burhans & Dweck, 1995), where their self-perception is tied closely to outcomes. Thus, doing well is an indication of positive worth whereas doing poorly is an indication for negative worth. Furthermore, children who seek validation for their ability are likely to view themselves negatively following failure (Dykman, 1998). This may explain the significantly lower persistence exhibited by these European American children than all the other children.

Why weren't high depressed Chinese American children just as expressive as the high depressed European American children? It may be that the structure of helplessness does not underlie depression in Chinese American children as it does for European American children. Although individuals within Chinese culture value validation of their contributions from other people, Chinese culture values effort over ability (Miller et al., 2002; Hess et al., 1987) and parents in Chinese culture are expected to train their children to put forth greater effort in tasks and schoolwork (Chao, 1994; Wu & Tseng, 1985). In contrast to European American children with greater depression, Chinese American children with similar levels of depression may have increased their expressivity once their mothers entered into the room as a way to elicit support, given that Chinese American parents tend to offer direct support for these types of tasks. The cultural values

on effort may explain why Chinese American children with greater depression were less expressive and more persistent in the task.

It is distinctly possible that children showed little increase in expressivity once they were in the presence of their mothers because they felt they could do it on their own without the assistance. This explanation fits why overanxious European American children did not increase in their expressivity when their mothers entered into the room, but were just as persistent in the task as the other children. The overanxious European American children might be less helpless than the depressed children. Although the puppet interview aimed to access trait anxiety, the children may have used their previous experiences of task performance as a reference point when identifying and reporting their anxiety, thus reporting more state than trait anxiety. In addition, the lack of expressivity could also be due to masking the anxiety in front of their mothers, so that their mothers do not perceive them poorly. This would be in contrast with Chinese Americans who are counting on their mothers to help them. The anxiety for not being able to perform successfully could override any masking of anxiety.

It is also important to remember that community samples were used. The levels of depression and overanxiousness endorsed by children and mothers were not near clinical levels (Ablow et al., 1999), even for the Chinese American children with significantly greater reported anxiety than European American children. Thus, the findings suggest that differences in expressivity exist at low levels of depression and overanxiousness for the two cultural groups. These observations may not generalize to major negative outcomes given that the children did not come from a clinical sample.

*Limitations and areas for future research*

Despite the study's contributions to the field of culture and emotion development, several limitations are noted. First, the independent and interdependent self-construal theory is a predominant framework for understanding the emotion experience and expressivity tendencies across cultures, but it is far from perfect. One major criticism is its simplicity and reductionist nature, which is often relied upon as a proxy for culture (Killen & Wainryb, 2000). Within-group differences have been documented in both of the samples used in this study. Chinese Americans, like those in our study, are bicultural and hold both independent and interdependent qualities; mono-cultural Chinese are also shown to hold both values (Jose, Huntsinger, Huntsinger, & Liaw, 2000; Stewart, Bond, Deeds, & Chung, 1999).

Interestingly, European American groups show the coexistence of both independent and interdependent self-construals depending on original heritage from several generations past (Tsai & Chentsova-Dutton, 2003). The impact that Western values have on Asia, *and* the way Asian values influence on the West which take place through globalization may have a great effect on the socialization of children (Greenfield & Suzuki, 1998) as observed through longitudinal study (e.g. Chen, Cen, Li, & He, 2005). It is likely that different groups hold these two self-construals but have different priorities toward the adoption of these values (Greenfield & Cocking, 1994). Furthermore, the factors that stem from each of the two types of construals play a differential role in the psychopathology found in Asian Americans and European Americans (Hall, 2003). The way that these self-construals informs beliefs and behavior

may change over time. If so, perhaps the development of a more comprehensive theory that articulates the time limited and relative priorities for the independent and interdependent goals could have a greater explanatory value in understanding cultural differences.

Second, this study also relied on ethnicity as a proxy for culture, primarily because of its high correlation to acculturation, another construct commonly used to understand culture. Researchers have called for the use of culturally relevant constructs in understanding the complexities of cultural processes (Cauce, 2002). However, several definitional and validity issues remain in the reliance of these constructs. For instance, an individual's ethnic identity is dynamic; it varies across time and context (Phinney, 2003). The utility of the construct itself may also depend on the extent to which an individual self identifies with a particular ethnic group (Fuligni, Witkow, & Garcia, 2005). The assessment of acculturation is important because it refers to an individuals' adaptation to a host or mainstream culture and has important implications for psychological functioning. However, the construct itself is also measured by proxy variables, such as language use, participation in ethnic activities, or family values. The use of acculturation has been criticized due to the lack of consistency in measurement, its implicit meaning and validity (Harwood, 1994; Rudmin, 2003; Salant & Lauderdale, 2003; Zane & Mak, 2003), and the tendency to make generalizations about group attitudes or behavior due to the acculturation of the sample (Hunt, Schneider, & Comer, 2004). Furthermore, the equivalence of psychological concepts assessed in the mothers was a limitation in this study. While every attempt was made to achieve translation equivalence in the

questionnaires, greater attention is required to determine the extent to which metric and conceptual equivalence were achieved. Future studies might also attempt to measure cultural processes in a more dynamic fashion by examining moment-to-moment outward behaviors or physiological experience rather than relying solely on variables based on self-report. This would be important since cultural processes could possibly be embedded in the various facets of emotion (e.g. visually observed or physiological response) or in the transmission between two people (e.g. communicative exchanges that are verbal or affective). This dynamic measurement of culture can then be correlated with other traditional measures of culture.

Such a multi-measure approach is also important in accessing for both the expressivity and emotion of the participant, not only from a cultural standpoint, but also from an emotion measure perspective. While this study assessed emotion through mother-, self-, observer-report, obtaining the physiological response would greatly enhance our understanding of the relation between expressivity and experience. Heart rate was obtained for the study participants. The next steps of this research aim to incorporate this data to the current findings.

A third limitation is the global coding of children's expressivity during the tasks which provides less specificity and explanation to its function when the child is alone and with their mothers. Given the frustrating nature of the task, it was assumed that children experience with the task was negative, and that much of their expressivity was due to this negative experience. Indeed, this is what they displayed. However, greater specificity of children's expressions displayed alone and in the presence of mothers could suggest

different functions that expressions might have given the situation. Furthermore, the function of children's expressivity could also be clarified through the coding of mothers' behaviors. Subsequent coding and analyses of this data will be conducted next, since there is data on mothers' verbal and expressive behaviors in interaction tasks with these participants. This can help to reconcile mothers' role in children's expressivity and experience. Future studies that examine emotion in mother-child dyads across groups should incorporate qualitative data from mothers to access their beliefs and attitudes behind actual behavior to determine how much of the socialization they provide is purposeful.

The fact that data was collected in the participants' homes is a major strength of this study since it could have increased the likelihood of recording more spontaneous expressions than in a laboratory. The study suggests that Chinese American children can be just as expressive as European American children, at least with their mothers. However, whether their expressivity generalizes to others settings (e.g. classroom) remains to be seen. A more naturalistic approach may need to be taken in future studies to determine this.

*Clinical implications*

This study holds several implications for the development of assessment and intervention in ethnic minority children, even though a nonclinical sample was used. First, this study provides preliminary data on children's report of internalized distress. Chinese American children between the ages of five to seven were able to report their symptoms reliably through the Berkeley Puppet Interview. Although this instrument was

devised with a primarily European American sample, it has been widely used internationally. These preliminary results suggest that it is reliable for Chinese American children, so that clinical and developmental researchers interested in understanding symptomatology in young Chinese American children should consider the use of this instrument.

Second, ethnic differences in internalized distress emerge early in development based on both children's and mothers' report. Even more, the two groups differed in the source of their distress, suggesting that differences in the structures that comprise internalized distress (e.g. depression, overanxiousness, separation anxiety) occur even at an early age. It is easy to overlook or underestimate distress due to cultural prescriptions for moderating emotion and behavior in Asians in addition to the unobservable nature of internalized experience, not only in adults but in children. These results should encourage other investigators to examine distress at a symptomatology or item level as a way to target items that might indicate the distress experienced by different groups and across development. This study highlights the need for clinicians and researchers to inquire about specific debilitating effects of reported internalized symptoms rather than relying on an overall score or diagnosis.

Third, this study dispels the belief that Chinese American children are less expressive than European American children are in general, but that such observed ethnic differences depend on the situational context. Several theoretically driven reasons were offered in explaining the variability of these ethnic differences from a solitary to a social situation. But more importantly, this finding strongly urges the need to consider both

ethnicity and situational contexts when inferring the meaning of observed expressivity, in adding to the growing literature on cultural competence among educators and clinicians. This particular finding, furthermore, highlights the significance of the caretaker in children's expressivity in that Chinese American children might tend to express more to their mothers, presumably for support in a frustrating situation. It raises the question as to whether such increased displays of expressivity or explicit verbal request for support could or should be made to occur through an intervention, in multiple dyadic contexts (e.g. parent-child, teacher-student, therapist-child). The potential for generalizing this expressivity effect in this way has significant academic and therapeutic implication.

In addition to ethnicity, reported distress also plays a role in the variation of expressivity across situational context. European American children who tended to be more anxious by their report and depressed by their mother's report were less expressive in the presence of their mothers compared to all Chinese American children. The fact that this effect occurred even in a nonclinical sample underscores the need to examine closely the way in which distress in different groups manifest through expression. It also cautions the dependence on observed children's overt behavior in evaluating their distress. Finally, it further emphasizes differences in the way that children might cope with distress in the context of a caregiver, which should inform the way parents, educators, and clinicians encourage children when they are feeling frustrated.

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