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THE INFLUENCE OF INDIVIDUALISTIC VERSUS COLLECTIVE
CULTURAL PATTERNS ON ATTACHMENT PATTERNS
IN ADULT FEMALES

A Thesis
Present to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Psychology:
Lifespan Development

by
Dih Hong Tan
December 2002

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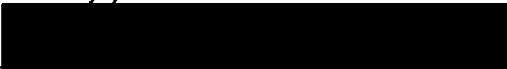
December 2002

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ABSTRACT

The purpose of the present study was to examine the impact of "individualistic" vs. "collective" cultural patterns on the distribution of attachment patterns. Participants were English-speaking Anglo-American (n=70), Hispanic (n=70), and Asian (n=60) females. It was hypothesized that: 1) Anglo-American participants would score higher on the individualism (and lower on the collectivism) compared to the Asian and Hispanic participants; 2) at the group-level of analysis, "individualism" would be more strongly related to secure attachment than "collectivism" (and "collectivism" would be more related to ambivalent attachment and less related to avoidant attachment than "individualism"); 3) at the individual-level of analysis, high "individualism" would be related to higher rates of secure attachment (and high "collectivism" would be related to ambivalent attachment and lower rates of avoidant attachment); 4) high acculturation would be more strongly related to secure attachment than low acculturation (and low acculturation would exhibit higher rates of ambivalent attachment and lower rates of avoidant attachment). Participants completed a (self-report) questionnaire comprised of the

following scales: the Relationship Questionnaire, the Experience of Close Relationship Inventory, the Inventory of Parent-Peer Attachment, and the Self-Construal scale. Results showed that Anglo females (i.e., the individualistic-cultural group) were more independently-oriented than Hispanic but not Asian females and were less interdependently-oriented than Asian but not Hispanic females. The proposed cross-cultural model of attachment was not supported at the group-level of analysis, but was supported at individual-level of analysis. Acculturation was positively and significantly correlated with secure attachment. Surprisingly, no correlation was found between acculturation and insecure attachment. Overall findings provide marginal support for a cultural effect on attachment. An alternative secure-base model of attachment reflecting collectivism is discussed.

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CHAPTER ONE

INTRODUCTION

Attachment research has identified, categorized, and examined the developmental effects of early attachment patterns across the life span. There is, however, a lack of understanding regarding cross-cultural variations in the distribution of attachment patterns (Van IJzendoorn & Kroonenberg, 1988). This study attempts to investigate how the "individualistic" vs "collectivistic" distinction across cultures influences the distribution of attachment patterns.

Attachment Theory

According to Bowlby (1969), attachment is an enduring, affective bond that innately motivates an individual to form a relationship with other specific persons across the life span. The first attachment bond is formed during the early infant-mother relationship. It is believed that the quality of this early attachment relationship will become a major subsequent influence on a person's development. The attachment relationship provides feelings of comfort and security (Ainsworth et al., 1978; Bowlby, 1988). Later in life, this early

attachment bond acts as a buffer enabling one to cope in unsupportive or dangerous circumstances.

The Attachment Control System

Bowlby's pioneering insight into an infant's need for developing an attachment bond with his or her mother was that this need is regulated by an ethologically-based control system. His insight is contrary to Freud's view that the attachment bond was caused by the infant's need for food (Waters & Cummings, 2000). In general, this attachment control system is an *inner organizational structure*. This structure is aided by a feedback system which allows people to correct their behavior and to reach a specific goal of homeostasis (Water et al., 1991).

There are a variety of attachment behaviors which have been thought to represent the observable behavioral outputs of this system, e.g., cooing, crying, clinging, searching, etc. Bowlby (1988) asserted that these behaviors are species-specific characteristics that result from our evolutionary environment of adaptiveness. Thus, all infants across contexts and cultures exhibit these behaviors. The goal of eliciting attachment behavior is initially thought to gain mothers' (or other attachment figures') protection and care and later to achieve attachment security (Posada et al., 1995). Thus, this

goal leads to a survival advantage for infants during those helpless months in early infancy.

Attachment-Exploration Balance. How do these attachment behaviors elicit an infant's mother's attention for protection and attachment security? It is believed to be motivated by the attachment control system (Ainsworth et al., 1978). This attachment control system has two interlocking systems: 1) the attachment system, which functions to assure protection and care, and 2) the exploratory system, which functions to support competence and autonomy (Zach & Keller, 2000). The word "interlocking" means that when the attachment system is activated, the exploration system is deactivated, and vice versa. The attachment system is activated in times of distress, e.g., separation from the attachment figure, or the presence of an unfamiliar environment (Bowlby, 1969).

Under these situations, the infant exhibits attachment behaviors for his or her mother's attention, and this infant is unlikely to explore the environment. When the attachment system is deactivated under a safe environment or when the threat is resolved, the infant will use his or her mother as a secure base for exploration and will return to her for assurance (Ainsworth, 1967).

Although both the attachment and exploration systems are competitive in nature, they can reach a "balanced" state of attachment-exploration (Zach & Keller, 2000). The essence of the attachment control system is to reach a balance of attachment-exploration. It is, however, unrealistic to expect that this attachment-exploration balance always occurs in all mother-infant pairs under all situations, even though this balance is evolution-based (Bretherton, 1985).

The balance between attachment and exploration is the foundation for creating a trusting infant-mother relationship and thus the infant is able to use his or her mother as a secure base for exploration (Clark & Ladd, 2000). The formation of trust and confidence in the self promotes the infant's sense of autonomy and individuality (Winnicott, 1965). Similarly, this formulation is also the ideal ingredient for developing a secure attachment. In short, when the infant's sense of security, autonomy, and competence is enhanced, the attachment-exploration balance is achieved, and secure attachment prevails. Main (1999) believed that secure attachment is a universally adaptive form of attachment pattern and the primary strategy of survival. However, she also argued that ambivalent and avoidant attachment patterns are adaptive

within a certain environment (e.g., one where the attachment figure is rejecting), but this adaptation comes with the expense of psychological well-being.

The imbalance between attachment and exploration is expected because of differing qualities of infant-mother interactions. When the attachment-exploration balance is restricted and leads to an imbalanced state (e.g., unable to use mother as secure base to explore), this infant's sense of security, autonomy, and competence is compromised and thus insecure attachment prevail (Bretherton, & Munholland, 1999). The insecure attachment has been related to a higher risk of psychopathology (i.e., anxiety, depression, etc.) (Sroufe, 1983). In contrast to Sroufe's (1983) point of view, Hinde and Stevenson-Hinde (1990) have argued that insecure attachment patterns are relatively safe or secure within different environments.

The Assessment of the Quality of Attachment. How can the secure base or an attachment-exploration balance be measured? Based on Bowlby's theoretical framework of attachment, coupled with time-consuming naturalistic observations in Uganda (1967), Ainsworth and her colleagues (1978) created the Strange Situation procedure, first used in Baltimore. This procedure is a 20-minute experimental laboratory paradigm consisting of three timed

phases which assess the pre-separation, separation, and reunion behaviors of the approximately 12 month-old infant toward his or her mother. The infant's attachment behaviors and maternal responsiveness (e.g., sensitivity to infant signals, cooperation, availability, and acceptance) upon reunions are measured and then categorized into three attachment patterns (i.e., avoidant, secure, and ambivalent patterns).

This Baltimore study found that 65% of infants were classified as secure, 22% of infants as avoidant, and 12% of infants as ambivalent. When observing mothers' reactions at reunion, they found that mothers of secure infants were generally more available, responsive, and sensitive to their children's signals, and these infants welcomed the reunion with their mothers. By contrast, mothers of avoidant infants were often rejecting and uncomfortable with bodily contact, and these infants avoided contact with their mothers. Mothers of ambivalent infants were more sensitive to their own needs than to their children's needs, and they also showed intrusive behaviors toward their child. These infants showed "resistant" behaviors (i.e., a mix of weak contact and strong protest).

A fourth attachment pattern, i.e., the disorganized pattern, was later added through observations in the Adult Attachment Interview (Main & Solomon, 1990). Mothers of disorganized infants exhibited frightening behaviors toward their child (e.g., backing away when the infant approached), which was usually related to unresolved trauma or loss. The infant typically responded with a frozen expression (Main & Hesse, 1990).

This Strange Situation procedure has expanded the understanding of different levels of maternal sensitivity to a child's needs in the attachment-exploration balance (Ainsworth et al., 1978; Grossmann & Grossmann, 1990). Basically, there are four types of care relating to how a mother may respond to her infant's attachment-seeking behaviors: warm, rejecting, unpredictable, and inconsistent (Bartholomew & Horowitz, 1991). These four care patterns yield the four different patterns of infant attachment. It is believed that through repeated interactions with his or her mother, the infant comes to develop a strategic plan for regulating or buffering stressful emotions (Crittenden, 1998; Main, 1999).

The secure pattern develops when the mother provides warm and accepting care to the infant's attachment and exploration needs in a consistent matter. This infant,

therefore, feels secure to explore an unfamiliar environment within a close distance from his or her mother. This response indicates that this secure infant has achieved an optimal state of attachment-exploration balance. Additionally, according to Crittenden (1988), this secure infant tends to regulate his or her inner state in a balance of affective and cognitive memories.

The avoidant pattern develops when the mother responds with rejection to the infant's attachment and exploration needs. This avoidant infant, therefore, will deactivate the attachment system by ignoring contact from his or her mother and instead become preoccupied with objects (e.g., toys). This reaction acts to minimize further distress from the rejection of his or her mother. In this situation, the avoidant infant is believed to experience a disequilibrium in the attachment-exploration balance. Additionally, this avoidant infant, who is unable to access true affect due to emotional suppression, tends to be unable to recall emotional memories, but able to recall "cognitive" memories (i.e., objective or factual) (Crittenden, 1988).

The insecure-ambivalent pattern develops when the mother routinely provides unpredictable care to the infant's attachment and exploration needs. The ambivalent

infant, therefore, will attempt to activate the attachment system by heightening attachment behaviors (i.e., clinging to his or her mother) for the purpose of physical and psychological security. In this situation, this ambivalent infant is believed to experience a disequilibrium in the attachment-exploration balance. Additionally, this ambivalent child, who has a heightened fear of separation and abandonment, tends to be more likely to recall affective memories than cognitive memories (Crittenden, 1988).

Finally, the disorganized pattern develops when the mother provides inconsistent care (e.g., rejection and/or unpredictable) to the infant's attachment and exploration needs. The disorganized infant, therefore, will exhibit disoriented behaviors (e.g., freezing expression, hands in the air, or clinging while leaning away). In this situation, this disoriented infant is believed to be experiencing a disequilibrium in the attachment-exploration system. Furthermore, the disorganized infant lacks any consistent strategy to draw on and thus is the type most vulnerable to stressful environments (Main & Hesse, 1990).

From Attachment-Seeking Behavioral to Mental Representational Processes

Although attachment-seeking behavior upon reunion in the Strange Situation is the major indicator in assessing attachment patterns, Bowlby (1969) was aware that, as infants mature, they utilize less attachment-seeking behaviors and more "mental representations" or "internal working models". These internal working models refer to one's beliefs and expectations that guide and regulate one's behaviors (Bowlby, 1973). They influence one's expectations of self-worth and trustworthiness of others' attentions.

How do these mental representations or internal working models become stable over time? When both the *type* of environment (i.e., safe or dangerous) and the *patterns* of maternal sensitivity remain relatively stable over time, the infant comes to expect certain behaviors of the attachment figure's typical responses. The repeated early experiences then become internalized, and they form more complex internal working models of self, others, and the world (Bowlby, 1973; Bretherton, 1985). Simply put, a child defines who he or she is from the early experiences of what he or she has learned. Thus, children's

expectations in the early years will affect how they see and interpret the world around them later in life.

These internal working models are resistant to *dramatic* changes, yet they are open for future (although *slight*) modification. These models have the potential for assimilation or modification during the onset of formal operational thought (Bowlby, 1988; Bretherton, 1985). Other researchers have suggested some negative events or stressful experiences (e.g., parental divorce, serious illness in the parent or the child, low socioeconomic status, etc.) which may be responsible for the slight modification (Bretherton, 1985; Weinfield, Sroufe, & Egeland, 2000).

One may wonder what attachment patterns mean in the context of behavioral or mental representations? Attachment patterns can be simply referred to as patterns of organized attachment behaviors. In addition, these patterns of organized attachment behaviors are reflections of internal working models of self and other (e.g., the attachment figure or mother) (Crowell, Fraley, & Shaver, 1999). In general, individual differences in the organization of attachment behaviors, or attachment patterns, are reflections of differences among an

individual's organization of internal working model of self and other.

The Continuity and Change of Attachment Patterns

The assumption of the internal working model persisting across the life span allows Ainsworth's behavioral classifications to extend beyond infancy. Parallel to Ainsworth's three behavioral classifications in infancy, a variety of adult measures ranging from interviews to self-report measures have been developed and utilized to capture the continuity of attachment patterns from infancy to adulthood (i.e., Armsden & Greenberg, 1987; Hazan & Shaver, 1987).

Several studies have shown considerable continuity of attachment patterns. The three recently published longitudinal studies in the United States investigated the stability of attachment classification from infancy to early adulthood. The measures used in these three studies were Ainsworth's Strange Situation in infancy and the Adult Attachment Interview in early adulthood. Waters and his colleagues (2000) found that 64% of infants in the middle-class sample were exhibiting the same attachment patterns when those infants became 20 years old. Similarly, Hamilton (2000) found a 63% rate of attachment pattern stability for non-conventional family samples

(i.e., unmarried couples, communal groups, single mothers) over a 19-year period. However, the Minnesota longitudinal study, which includes a sample of disadvantaged families who experienced different types of stressful life events found only a 37% rate of stability (Weinfeld, Sroufe, & Egeland, 2000).

In sum, the evidence of high rates of stability of attachment patterns from infancy to early adulthood indicates that attachment classifications are generally stable for at least 20 years, and at least under non-stressful conditions. The low rate of continuity in the Weinfeld et al. study indicates the change of attachment classifications and provides support for the possible modification of internal working models under stressful life events.

Since the publication of these three recent longitudinal studies and other studies, there is a growing consensus on the stability of internal working models across the life span within a stable environment. The question of interest now becomes what does this stability imply? One, the stability provides support for the prototype hypothesis wherein the quality of early infant-mother attachment relationships predicts subsequent relationships, e.g., adult-adult romantic relationship

and/or parent-child relationships (Bowlby, 1973). If this prototype hypothesis is correct, then it is not surprising to find high rates of stability in attachment classification between pregnant women and their future infants (Fonagy et al., 1991), between infancy and young adulthood as demonstrated by these longitudinal studies (i.e., Hamilton, 2000; Waters et al., 2000; Weinfield, Sroufe, & Egeland, 2000), and another longitudinal study of three generations of infants, mothers, and maternal grandmothers (i.e., Benoit & Parker, 1994).

Second, the stability provides a support for the notion of intergenerational transmission of attachment. According to Sagi et al. (1997), intergenerational transmission refers to "...a parent's mental representation of his or her past attachment experiences [i.e., an individual's internal working model] influences their parenting behavior and the quality of the attachment relationship with their child" (p. 288). It is critical to point out that only parents' *pattern* of behaviors internalized as a result of their early childhood experiences, and not *particular discrete behaviors*, are transmitted to their children (Sroufe, 1977). In general, studies have found that secure mothers tend to raise secure infants while insecure mothers tend to raise

insecure infants. However, for unknown reasons, fathers' attachment patterns are less likely to influence their infants' attachment security (Freedman & Gorman, 1993). For this reason, only the review on mothers' (not fathers') attachment patterns and infants' attachment security is discussed in this study.

Beyond intergenerational transmission, there must be a broader cultural effect that influences mental representations of groups of individuals (Bretherton, 1985). Based on the strong consensus of the stability of internal working models across stable situations and time, it is reasonable to assume that a group of individuals who share the same cultural values and traditions may possess a common *cultural* internal working model (Gehrie, 1979). This is discussed in detail below.

Culture and Attachment

Similar to an *individual* internal working model, the cultural working model may guide the group's expectations and behaviors. The cultural working model may influence the group's expectations of self-worth and the trustworthiness of others' attentions. More specifically, these proposed *cultural working models* may indeed have a significant impact on child-rearing practices, and also affect the ways mothers socialize their children to meet

cultural norms. For example, "If a cultural niche requires the suppression of negative emotions, infants may develop an avoiding attachment to meet this cultural demand. In such a culture, the avoiding attachment may well be normative in the sense that it promotes inclusive fitness and general adaptation" (LeVine & Miller, 1990, p. 714).

Culture transmission represents the main point of interest within this study. The focus is, then, "...how groups of individuals are patterned by cultural practices and how that pattern is passed on to the next generation" (Bretherton, 1985, p. 24). A key question to ask here is whether cross-cultural findings of attachment provide support for such proposed cultural working models. Before further exploration of the plausible influence of proposed cultural working models on attachment, a review of cross-cultural studies of attachment is necessary.

One general consensus of the cross-cultural studies of attachment reviewed below is that all attachment patterns (i.e., avoidant, secure, and ambivalent) apparently occur cross-culturally. A key difference, however, is that the *distribution* of these patterns may vary across cultures (Crittenden, 2000). Similarly, a meta-analysis of cross-cultural attachment also found that

there was a small yet significant cultural influence on the distribution of attachment patterns (Van IJzendoorn & Kroonenberg, 1988). In order to better address cultural influences on attachment, cross-cultural studies on infant attachment measured by the Strange Situation are discussed below.

German Samples. Researchers from Bielefeld, North Germany investigated the quality of attachment in 49 infants and their parents using the Strange Situation (Grossmann et al., 1981). Results revealed that a majority of northern German infants were categorized as avoidant (49%). The high distribution of the avoidant pattern was explained by the researchers as a result of cultural differences in child-rearing. The fact that German mothers strive for early independence in their infants, discourage bodily contact, and practice didactic rather than cooperative discipline may be responsible for the high distribution of these avoidant patterns.

Another Bielefeld study conducted by Grossmann et al. (1985) investigated the quality of mother-infant interactions (N=44) at home and in the laboratory. Their results revealed that a majority of northern German infants (46%) were categorized as avoidant. These authors argued that in this culture the high predominance of

avoidant patterns may not reflect intentional maternal rejection, but rather, may mirror the desire of parents to strive for their children to be self-reliant in this culture.

Surprisingly, Escher-Graeb and Grossmann (1983) (see in Grossmann et al. (1985) examined infant-parent attachment in Regensburg, South Germany, and found that the distribution of attachment patterns was similar to the Baltimore samples (i.e., a higher percentage of secure patterns). Grossmann et al. (1985) suggested that, based on their non-empirical observation, the difference stems from the tendency of Northern German mothers to start independence training of their children earlier than Southern German mothers.

Israeli Samples. A group of researchers from Israel (Sagi et al., 1985) compared infants' attachment security with mother, father, and caregivers from intact middle-class families who were raised in a traditional kibbutz communal¹ (N=104). These infants were compared to those being raised at home and attending city day care (N=36). Because the Strange Situation procedure was too stressful for Kibbutz infants due to under-exposure to strangers, one third of the Strange Situation procedure had to be modified. Therefore, two types of data analyses were

given³: the unmodified Kibbutz sample which includes stressed infants and the modified Kibbutz sample which excludes the stressed infants within this Kibbutz sample. There were more ambivalent patterns in the *unmodified* sample than in the modified sample (63% vs. 17%). By contrast, there were more secure patterns in the modified sample than in the unmodified sample (69% vs. 36%). No avoidant pattern was found in the unmodified sample, and 13% of the avoidant pattern was found in the modified sample. Interestingly, the city-sample found 75% of securely attached infants, 16% of ambivalently attached infants, and 3% of avoidantly attached infants. Because of the small sample size of this city-sample, the authors cautioned against over reliance on this city sample. Nevertheless, the authors concluded that some unexplored cultural differences may exist between Israeli and American infants contributing to the over-representation of ambivalent patterns.

Sagi et al. (1994) later added two elements to their 1985 study: 1) an increased sample size (N= 48 mother-infants pairs), and 2) a new group of kibbutz infants raised in a home-based arrangement². Results of this study showed that about half of the infants (52%) raised in the Kibbutz arrangement were ambivalently attached to their

mothers versus 20% of infants in the home-based arrangement with no avoidant patterns. The researchers concluded that infants raised away from home experienced a diminished quality within the mother-child relationship. Additionally, Sagi et al. (1994) cautioned that the Kibbutz arrangement only partially accounted for the ambivalent pattern because this study also found about 20% of infants raised in the Kibbutz arrangement were classified as secure. Instead, Sagi et al. reaffirmed the conclusion of the 1985 study that "...some factors unique to Israeli society and yet unexplored may cause the overrepresentation of ambivalent attachment" (p. 1001).

Japan Samples. A study conducted in Japan (N=31) examined the relationship between infant temperamental differences and attachment patterns, and how maternal behaviors are related to subsequent attachment (Miyake, Chen, & Campos, 1985). This study found 62% of securely attached infants, 38% of ambivalently attached infants, and no avoidantly attached infants. The authors concluded that cultural factors (i.e., infants rarely left alone or separated from mothers, and who rarely encountered a stranger) are the additive factor to infant stress. Thus, the researchers concluded that the predominance of the ambivalent pattern only, with no avoidant pattern, was due

to the overwhelming stress in infants and did not reflect the idea that Japanese infants were more prone to insecure attachment.

A separate study referred to as the Sapporo Japan study (N=60) investigated whether the Strange Situation procedure was responsible for the over-representation of ambivalent patterns in Japanese samples. To eliminate the stress level in the Strange Situation, Takashi (1986) decided to reduce the number of separations from the mother from two to one, and to eliminate the infant-alone session. With this modified procedure, which has only five episodes of Ainsworth's Strange Situation compared to the original eight episodes, Takashi (1986) found that 68% of the infants were classified as secure, 32% as ambivalent, and 0% as avoidant. The author concluded that a predominance of the ambivalent patterns were associated with overwhelming stress resulting from the Strange Situation procedure and Japanese childrearing practices that promote physical closeness (e.g., rarely left alone by the mother and rarely exposed to strangers).

China Sample. The Peking China study was the first study using the Strange Situation in China (Hu & Meng, 1996). This study of 31 infant-mother dyads from intact middle-class families investigated attachment patterns of

Chinese infants and the relationships between attachment and temperament. The study found that 68% of infants were classified as secure, 16% as ambivalent, 16% as avoidant. According to Van IJzendoorn and Sagi (1999), "Chinese mothers' stress on early independence in their infants, as well as their reliance on the non-parental caregiver" (p. 721) may be responsible for the unusually high distribution of avoidant patterns in this sample.

Berkeley Chinese-American Sample. Li-Pac (1982) investigated the relationship between acculturation and child-rearing in the attachment context. There were 36 Chinese-American families involved in this study at Berkeley, California. Within this sample, mothers varied in their degree of acculturation, and Li-Pac found that 46% of infants were classified as secure, 23% as avoidant, and 31% as ambivalent. Because the author's main focus was on the ambivalent pattern (which was double that of Ainsworth's (1978) findings) and child-rearing practices, she did not further explain the secure pattern finding. She found that the highly-acculturated Chinese American mothers tended to adopt American child-rearing practices which emphasized independence, and these mothers were found to have more securely attached infants than the low-acculturated Chinese American mothers.

Korean Adult Sample. A cross-national comparative study between America and Korea is the only published cross-cultural study to look at an adult population and use a self-report measure. This study attempted to investigate the link between adult attachment patterns and close friend relationships between Korean and Caucasian-Americans (You & Kathleen, 2000). As predicted, the authors found that the adult Korean students exhibited more ambivalent attachment (measured by the Relationship Questionnaire) compared to Caucasian Americans. These authors explained that a preponderance of preoccupied attachment (a concept similar to the ambivalent pattern) was related to Korean culture's emphasis on social interdependence. Inevitably, this study showed a trend toward interdependence leading to ambivalent attachment.

Summary of Cross-Cultural Studies of Attachment

Studies that show a higher percentage of secure patterns (approximately 50% or higher) include the following: the Regensburg Southern German sample (46%) (Grossmann et al., 1981); the modified communal Kibbutz Israel sample (69%) (Sagi et al., 1985); the city sample (75%) (Sagi et al., 1985); the home-based Kibbutz (80%) (Sagi et al., 1994); the Japan sample (62%) (Miyake, Chen, & Campos, 1985); the modified Sapparo Japan sample

(68%) (Takashi, 1986); the Peking China sample (68%) (Hu & Meng, 1997); and the Berkeley Sample (46%) (Li-Pac, 1982). Conversely, studies that show a higher percentage of insecure attachment⁴ (approximately over 50% avoidant or ambivalent attachment patterns) include the Bielefeld German sample with 49% showing the avoidant pattern (Grossmann et al., 1981); the other Bielefeld German sample with 46% showing the avoidant pattern (Grossmann et al., 1985); the unmodified communal Kibbutz Israel sample with 63% showing the ambivalent pattern (Sagi et al., 1985); the communal Kibbutz Israel sample with 52% showing the ambivalent pattern (Sagi et al., 1994); and the Korean adult sample with 50% showing the ambivalent pattern (You & Kathleen, 2000).

In general, these findings suggest three important points: 1) a predominance of the secure attachment pattern across cultures; 2) the relation between insecure attachment and cultural variation; and 3) the relationship between secure attachment and cultural "modifications" in childrearing practices. After these three points are addressed, the question of how to link the different modes of interaction to different cultural patterns will be discussed.

A Predominance of the Secure Attachment Pattern across Cultures. The first point was that the preponderance of cross-cultural studies shows a predominance of secure over insecure attachment. Why is this? One possible explanation may be that this supports Bowlby's notion that secure attachment is the most practiced, universal form of attachment patterning. Bowlby and a number of attachment researchers believe that secure attachment is the primary strategy for survival of the human species (e.g., Bowlby, 1988; Main, 1999). This implies that the motivation of both parents and infants to achieve a secure attachment across cultures is ingrained through evolutionary processes for survival and is less likely to be influenced by cultural variations.

This universal claim of secure attachment is in close agreement with the study by Posada et al. (1995). This cross-cultural study found a substantial correlation between experts' and mothers' conceptions of an ideal secure child across six countries. Although this study has provided strong empirical evidence to support this claim, it has been criticized because the concept of secure attachment was evaluated based on the Attachment Q-sort which may carry a potential bias of American individualistic values (Rothbaum et al., 2000). In a

culturally sensitive account, another group of researchers (Harwood, 1992; Harwood et al., 1996) also found support for the secure pattern as a universally ideal form of attachment, but they found that there are culturally-specific reasons for preferring the secure pattern. This study found that Anglo-American mothers focused on an individual child's needs for independence and autonomy, whereas the Puerto Rican mothers were more likely to focus on their culturally desirable norms of obedience and relatedness to the cultural group.

Parallel to Harwood's (1992) and Harwood et al.'s (1996) findings on both universal and culturally-specific elements of attachment, it is the assumption of the current study that secure attachment is the universally desirable form of attachment. However, the reason that secure (or insecure) attachment is preferred may reflect the ways parents socialize their children to best fit their cultural expectations⁵. In other words, because of different cultural expectations, the meaning of secure (or insecure) attachment may vary across cultures (Levine & Miller, 1990); even though the secure attachment has been found empirically to be the most desirable form of attachment across cultures.

In short, this first point suggests that secure attachment is the universally desirable pattern, yet the interpretation of the quality of secure (or insecure) attachment patterns may be influenced by cultural expectations of *independence*, as demonstrated in the American culture, and of *interdependence*, as seen in the Puerto Rican culture.

The Relation between Insecure Attachment and Cultural Variation. The second point was that when higher percentages of insecure (vs. secure) attachment are found, they tend to relate to overly-stressed infants, as seen in the unmodified sample of communal Kibbutz study (Sagi et al., 1985), and they seem to be associated with cultural influences in childrearing practices (e.g., encouraging extreme independence in German infants or dependence in Japanese infants at early age).

In general, as suggested by Li-Pac (1982), cultural differences in child-rearing practices can be categorized into two patterns: the proximal and distal mode of interaction. These different modes of interaction may explain why some infants experience different stress levels in the Strange Situation (Sagi, 1990), and, therefore, show different types of insecure attachment to cope with their stress.

Why does the proximal mode of interaction seem to generate overly-stressed infants and result in these infants exhibiting a higher rate of ambivalent attachment patterns? It is first crucial to explain the importance of the stress element in the Strange Situation prior to linking overly-stressed infants with ambivalent attachment patterns. The purpose of strangeness (e.g, unfamiliar room, the stranger, and infant being alone) employed in the Strange Situation is intended to activate infants' stress levels. Stress, in turn, will trigger infants to display different attachment-seeking behaviors toward their attachment figures (Takashi, 1990). How does this work? Mild stress is believed to be the optimal stress level to trigger attachment-seeking behaviors in an infant. In order to relieve the stress, this infant may then seek his or her parent as a secure base and return to explore his or her environment. When the mother of this infant is sensitive, emotionally-responsive to the infant's stressful signals, and is capable of facilitating the individual infants's attachment-exploration needs, this attachment-exploration balance is achieved, and secure attachment prevails.

What if the stress is increased beyond the mild level? Theoretically, if mild stress is optimal to

trigger secure attachment behaviors, then stress beyond the mild level would result in a skewed attachment-exploration balance and trigger insecure attachment behaviors. The attachment-exploration balance can be skewed either to the attachment or the exploratory side. To differentiate between attachment in general and the specific attachment side of the attachment-exploration balance, henceforward the attachment side is called close-proximity, which is parallel to the characteristic of the proximal mode of interaction.

There may be many explanations as to why the stress level of an infant moves beyond mild level and results in insecure attachment. To be sure, undeniably, maternal insensitivity toward infants' signals and attachment-exploration needs has been shown to increase infants' stress level and to result in insecure attachment. However, maternal influences occur within a cultural context. Cultural differences in childrearing practices (e.g., proximal vs. distal modes of interaction) influence infants' prior history of exposure to strange elements and are responsible for infants' increased stress levels (Levine & Miller, 1990).

The proximal mode of interaction is thought to have a greater emphasis on interdependence and discourage

separations between mother and child. For example, Japanese infants who were rarely left alone by the mother and rarely exposed to strangers are illustrative of a proximal mode of interaction (Caudill & Weinstein, 1969). The Japanese proximal patterns force Japanese infants' stress beyond the mild level in the strange situation when compared to American infants whose experience includes more frequent separations from the mother (e.g., being babysat, attending day care, etc.) (Ainsworth, 1978; Levine & Miller, 1990).

The excessive stress resulting from the Japanese proximal pattern is more likely to promote the attachment side (close proximity) of the attachment-exploration balance because these infants feel more comfortable remaining in close proximity with their mothers who encourage this behavior. Heightening close proximity as a result of this proximal pattern coincidentally resembles the preoccupation with mother which is the characteristic of ambivalent attachment patterns. It is, therefore, reasonable to say that these Japanese infants would be likely to display ambivalent attachment patterns, and are unlikely to display avoidant attachment patterns because these mothers tend to discourage infant-mother separations (Sagi et al., 1990).

There are three findings to support why overly-stressed infants would generate more ambivalent than avoidant attachment patterns. First, a higher percentage of the ambivalent attachment pattern was found in the unmodified kibbutz sample (with overly-stressed infants) rather than the modified kibbutz sample (with mild-stressed infants) (Sagi et al., 1985). Conversely, the modified kibbutz sample was found to have a higher percentage of the secure attachment pattern. This modified sample with mild-stressed infants supports the assumption that the "mild-stress is key to assessing how secure the base of attachment is" (Takashi, 1990, p. 27). Second, a higher percentage of ambivalent patterns with no avoidant attachment patterns has been found in all Japanese and Israeli studies (except for the city sample and the modified sample in the same Sagi et al. [1985] study). Third, the percentage of ambivalent patterns has doubled when overly-stressed infants rather than mild-stressed infants were included in the analysis (Takashi, 1986).

Even though the above mentioned findings seem to support that the "over stress" generating from the proximal patterns is related to ambivalent attachment patterns, one may wonder why overly-stressed infants who

require excessive physical closeness generated more ambivalent and not secure attachment patterns.

In the formulation of attachment patterns, Ainsworth et al. (1978) has indicated that the degree of physical closeness in quantitative terms (strongly or weakly attached) is not the determinant factor in classifying the quality of attachment patterns. Put differently, securely attached infants in Ainsworth's terms would be less attached to their mother when compared to insecurely attached infants (Main, 1996). The higher percentages of insecure attachment patterns prevail when there are more infants attached to their mother or object (e.g., toys). Similarly, Main (1996) points out that "...infants become attached to insensitive and maltreating parents" (p. 238). For this reason, the overly-stressed infants who are overly-attached to (or preoccupied with) their mothers are unlikely to exhibit secure attachment patterns.

Why does the distal mode of interaction seem to generate "under-stress" infants and why do these infants exhibit more avoidant attachment patterns? Both the American and German cultures are common examples of individualistic cultures which practice a distal mode of interaction (Caudill & Weinstein, 1969). Based on the assumption that secure attachment is the most desired form

of attachment pattern, both the American and Southern German cultures are classified as typical individualistic cultures which practice the typical distal mode of interaction. The rationale is that studies from both cultures show a higher percentage of secure than insecure attachment patterns. The northern German culture, therefore, represents the "extreme" type of individualistic culture which practices an extreme distal mode of interaction.

The distal mode of interaction emphasizes a greater sense of independence (i.e., avoiding physical contact). The German mothers who discourage close contact with, and encourage self-reliance in, their children are examples of an extreme distal mode of interaction (Grossmann et al., 1985). For this reason, studies show that distally-raised German infants appear to experience "understress" in the Strange Situation. Understress refers to stress that cannot be detected through observation. However, through physiological evaluation, these infants are actually overwhelmed by stress. These under-stressed infants seem to suppress their attachment needs because they cannot seek comfort from their mothers, who discourage close contact. Therefore, they turn their focus to exploring objects (e.g., toy) for comfort. Suppression of

attachment needs may lead to excessive exploration which is characteristic of avoidant attachment patterns. This may be why, then, a higher percentage of avoidant, not ambivalent, attachment patterns are found in the distal modes of interaction as seen in the Bielefeld study and the Baltimore sample (even though this Baltimore study showed a predominance of secure attachment).

It is critical to keep in mind that the concepts of close proximity in the proximal or distal patterns and Ainsworth's definition of physical closeness are not similar, even though both may appear to be related. The key difference is that the different modes of interaction emphasize a broader cultural influences on childrearing practices. Parents who utilize the proximal mode (which is commonly practiced in collective cultures) vs. the distal mode of interaction (commonly practiced in individualistic cultures) may also have securely attached infants. Regardless of parents' preferences on different modes of interaction, the recipe for secure attachment is warm, emotionally-responsive parents who are sensitive to their infants' signals and capable of balancing their infants' attachment-exploration needs. Nevertheless, there seems to be a tendency for a specific culture to facilitate either attachment (close-proximity) or

exploration needs in accordance with one's cultural expectation of independence or interdependence. This assumption will be further discussed in the following section: the implications of creating a cross-cultural model of attachment.

The Relationship between Secure Attachment and Cultural "Modifications" in Childrearing Practices. The third point was that when a higher percentage of secure than insecure attachments are found, they tend to be associated with some modification or improvement in childrearing practices in a culture. An example of this modification would include adopting American childrearing practices which emphasize independence over the traditional Chinese childrearing practice (which emphasizes *interdependence*) (Li-Pac, 1982), and delaying early independence in Southern German infants (Escher-Graeub & Grossmann, 1983) (see in Grossmann et al. (1985).

Regarding the modification of childrearing practices, the Berkeley study on Chinese Americans (Li-Pac, 1982) has suggested that increasing the amount of independence allotted to young children in Chinese childrearing practices (which is seen in the highly acculturated Chinese American mothers) shifts the ambivalent to the secure attachment patterns. The impact of this increased

independence suggests that a lack of emphasis on independence on childrearing is one of the characteristics of the proximal mode of interaction. Similarly, the Regensburg Southern German study, compared to the Northern German studies, has shown that by delaying independence during the early life of infants, there can be a shift in the predominance of avoidant to a predominance of secure attachment patterns. This delayed independence may suggest that overemphasis on independence in childrearing is one of the characteristics of an extreme distal mode of interaction.

In short, not only do the different degrees of independence (i.e., increased and delayed) support the notion of proximal and distal modes of interaction, but they provide a direction for improving the percentage of insecure to secure attachment patterns: increasing the amount of independence in the proximal mode of interaction would likely shift the percentage of avoidant to secure attachment patterns. Conversely, a decreasing amount of independence in the extreme distal mode of interaction would likely shift the percentage of avoidant to secure attachment patterns.

To sum up this point, current research suggests the following trends: 1) the *extreme distal* mode of

interaction tends to generate avoidant over ambivalent attachment, as seen in both Bielefeld Northern German studies; 2) the *typical distal* (i.e., not the extreme) mode of interaction tends to generate more secure attachment over insecure attachment, as seen in the Ainsworth et al. study, and the Regensburg Southern German study; and 3) the *proximal* mode of interaction tends to generate more ambivalent over avoidant attachment patterns, as seen in the Japanese studies, most Israeli studies, the Berkeley study, and the Korean study. However, this tendency does not mean that all parents who prefer to practice proximal mode of interaction will not have securely attached infants⁶.

Implications for Creating a Cross-Cultural Model of Attachment

How do cultures impact attachment? In order to explain the potential effect of cultural working models on attachment, a table representing a summary of cross-cultural studies of attachment is shown in Appendix A. The three points outlined in the previous section suggest a cross-cultural model that reflects an individualistic-collective continuum. This model suggests that the distribution of attachment patterns varies with where the culture falls along the individualistic-collective

continuum. More specifically, this model will demonstrate how individualistic- and collective-cultures affect cultural working models which in turn influence childrearing practices. Childrearing practices, in turn, influence the distribution of secure vs. insecure attachment patterns.

Prior to exploring this cultural model of attachment, one must first understand the definition of culture. In general, the psychological analysis of cultures can be divided into individualistic and collective cultures (Markus, & Kitayama, 1991). In an individualistic culture (common in Western countries), the definition of self is one that is autonomous and independent of the larger societal or cultural group. Individuals with an Independent Self-Construal (or independent self-concept), therefore, tend to focus on *individual* needs of autonomy, and independence over a group's needs. By contrast, in a collective culture (commonly found in non-Western countries), the definition of self is *interdependent* with other groups. Individuals with *Interdependent* Self-Construal (or collective self-concept), therefore, tend to focus on conformity to the group norms and relatedness to the ingroup over the fulfillment of individual needs

(e.g., Markus, & Kitayama, 1991; Phinney, Ong, & Maden, 2000; Trandis, 1996).

In accordance with the independent nature of individualistic cultures and the interdependent nature of collective cultures, individualistic- and collective-cultural *working models* are proposed. It seems reasonable to suggest that an individual who is raised in an individualistic culture may possess an individualistic-cultural working model. The individualistic-cultural working model would view the child as an individual. Since the parent of this child would be more likely to view the child as an individual, it is likely that the parent would be more tuned into and more responsive to the individual child's needs over the larger group's needs. Therefore, it would be expected that the parent would be more likely to meet the individual *child's* needs, and not put the parents' (or groups') needs first (or before the "child's"). On the other hand, a child who is raised in a collective culture may be more likely to have parents who possess a collective working model. The collective-cultural working model tends to view the child as an extension of a group instead of as an individual child. The parent of this child would be expected to be less responsive to the individual child's needs; instead, the

child would be socialized in ways that strive to meet the larger groups' (or society's) needs. Put differently, this child is responded in ways that tend to meet his or her *parents'* needs.

Consequently, the different cultural working models would be expected to yield different modes of interaction (distal behavior vs. proximal behavior) in childrearing practices. The assumption that the proximal mode of interaction generates more ambivalent over avoidant attachment seems parallel the interdependent expectation of collective cultural-working models. In this collective cultural model, parents tend to view their child as an extension of a group. In order to facilitate interdependence between their children and members of the groups, it is reasonable to expect these parents to be more likely to enforce their children's attachment side (or close proximity) of the attachment-exploration balance and not the exploratory side, which may lead to individuation. Over-enforcement of close proximity in the proximal mode of interaction may increase their preoccupation with children and thus lead to the generation of more ambivalent attachment patterns.

Following the same reasoning, the assumption that the distal mode of interaction generates more avoidant over

ambivalent patterns of insecure attachment seems to parallel the independent expectation of individualistic cultural-working models. For example, German parents tend to view their children as individuals and are more likely to foster too much independence in their children at an early age. It is reasonable to expect that these parents are more likely to foster their children's exploration side of the attachment-exploration balance, which may lead to individuation. Over-enforcement of exploration needs in the extreme distal mode of interaction skews the attachment-exploration balance. It is proposed that this overemphasis of exploration needs may increase avoidance in children (or preoccupation on objects) and thus lead to the display of more avoidant over ambivalent attachment patterns. This is in contrast to the Baltimore sample and the Southern German sample (which practice the typical distal mode of interaction) found more secure than insecure attachment patterns.

In short, the proximal mode of interaction is more likely to be the preferable mode of childrearing practice in the collective culture (Van IJzendoorn & Kroonenberg, 1988). This proximal mode tends to over-enforce attachment (close proximity) over exploration needs and thus results in more ambivalent than avoidant attachment

patterns. Conversely, the distal mode of interaction is more likely to be the preferable mode of childrearing practice in individualistic cultures (Van IJzendoorn & Kroonenberg, 1988). The typical distal mode of interaction is more likely to have a balance of attachment-exploration needs and thus results in more secure attachment patterns⁷. The extreme distal mode of interaction tend to over-enforce exploration needs (i.e., there is too much independence forced on children at too young an age) and results in more avoidant over secure attachment patterns.

Summary and Purpose of Study

The distribution of the three attachment patterns has been found to vary across cultures. Based on the higher percentages of insecure attachment patterns found in certain cultures or countries, some early cross-cultural researchers generalized that the distribution of attachment patterns was influenced by "specific cultural factors". However, it was unclear which specific cultural factors influenced attachment. To clarify this issue, a cross-cultural model of attachment is proposed. This model suggests that the distribution of attachment patterns varies according to where the culture falls along

the individualistic-collective cultural continuum. A table representing a cross-cultural model of attachment is shown in Appendix B. Put differently, it is postulated that the degree of independence or interdependence of the individual self emphasized in a particular culture is associated with various attachment patterns. No study to date has attempted to explore the *specific* cultural influences on attachment in terms of the individualistic and collective dimension, which is the single most commonly studied and influential cultural factor in cross-cultural psychology.

The purpose of the current study is, then, to investigate how the individualistic- and collective-cultural patterns influence the distribution of secure and insecure attachment patterns. The current study focuses on an adult sample rather than the usual infant sample since an adult sample is more accessible than an infant sample, and findings on adult attachment patterns are highly correlated to infant attachment patterns (e.g., Ainsworth et al., 1978; Fonagy et al., 1991). To strengthen this cross-cultural model, the analysis of the data at both cultural (i.e., *between* cultural groups) and individual levels (i.e., *within* cultural groups) was conducted since meta-analyses of infant attachment across cultures show

that within-culture or within-country differences (in the distribution of attachment patterns) are greater than between-culture or between-country differences.

Specifically, it was expected that:

Hypothesis 1: Participants with individualistic cultural backgrounds (e.g., Anglo) will score higher on measures of *Independent* Self-Construal (i.e., more independent-oriented) and lower on measures of *Interdependent* Self-Construal (i.e., more Interdependent-oriented) than participants with collective cultural backgrounds (e.g., Hispanic, Asian).

Hypothesis 2: Participants with individualistic cultural backgrounds (e.g., Anglo) will exhibit higher rates of secure attachment than participants with collective cultural backgrounds (e.g., Hispanic, Asian).

Hypothesis 3: Participants with high *Independent* Self-Construal will exhibit higher rates of secure attachment than participants with low *Independent* Self-Construal.

Hypothesis 4: Participants from collective cultural backgrounds (e.g., Hispanic, Asian) will exhibit higher rates of ambivalent attachment and lower rates of avoidant attachment than participants from individualistic cultural backgrounds (e.g., Anglo).

Hypothesis 5: Participants with high *Interdependent* Self-Construal will exhibit higher rates of ambivalent attachment and lower rates of avoidant attachment than participants with low *Interdependent* Self-Construal.

Hypothesis 6: Participants scoring high in acculturation (i.e., very Anglo-oriented Asians or very Western-oriented Hispanics) will exhibit higher rates of secure attachment than participants scoring low in acculturation (i.e., very Hispanic-oriented Hispanics or very Asian-oriented Asians).

Hypothesis 7: Participants scoring low in acculturation (i.e., very Asian-oriented Asians or very Hispanic-oriented Hispanics) will exhibit higher rates of ambivalent attachment and lower rates of avoidant attachment than participants scoring high in acculturation (i.e., very Anglo-oriented Asians or very Anglo-oriented Hispanics).

CHAPTER TWO

METHOD

Participants

Participants were 70 Anglo, 70 Hispanic, and 60 Asian females who were recruited from a mid-sized university in southern California and from a local Chinese children's school. Participants were grouped based on the self-reported ethnocultural background. Prior research on individualism and collectivism has suggested that Anglo females represent an individualistic cultural group, and Hispanic and Asian samples represent collective cultural groups (Coon, & Kemmelmeier, 2002; Harwood, 1992). All participants were English-speaking only and ranged in age from 22 to 52, with a mean age of 29.4. Participants were primarily from middle to lower-middle class backgrounds. Demographic information by ethnic groups is shown in Table 1.

Table 1.

Participants' Demographic Information

	<u>Cultural Groups</u>		
	<u>Anglo</u>	<u>Hispanic</u>	<u>Asian</u>
<u>Age in years</u>			
21-30	68.6%	82.9%	38.3%
31-40	12.9%	10.0%	41.7%
41-52	18.5%	7.1%	20.0%
<u>Marital Status</u>			
Single	40.0%	62.3%	36.7%
Divorced	15.7%	4.3%	0.0%
Married	37.1%	26.1%	61.7%
Other	7.2%	7.2%	1.6%
<u>Participants' Education</u>			
Graduate/post-graduate degree	8.5%	5.8%	36.7%
Graduated from college	64.3%	49.3%	45.0%
Some college	24.3%	37.7%	6.7%
Graduated from high school	2.8%	7.2%	11.7%
<u>Father's Education</u>			
Graduate/post-graduate degree	8.3%	4.9%	14.3%
Graduated from college	8.7%	4.9%	23.2%
Some college	32.9%	27.9%	33.9%
9 th to 12 th grade	44.3%	42.6%	14.3%
7 th to 8 th grade	2.9%	9.8%	5.4%
elementary to 6 th grade	1.4%	9.8%	8.9%
<u>Generation</u>			
First	-	10.4%	85.0%
Second	-	35.8%	11.7%
Third	-	13.4%	1.7%
Fourth	-	25.4%	1.7%
Fifth	-	14.9%	0.0%
<u>Acculturation level for Hispanic</u>			
Very Mexican-oriented	-	0.0%	-
Mexican-oriented to approximately balanced	-	31.8%	-

bicultural			
Slightly Anglo-oriented	-	56.1%	-
bicultural			
Strongly Anglo-oriented	-	10.6%	-
Very assimilated;	-	1.5%	-
Anglicized			
<u>Acculturation level</u>			
<u>for Asian</u>			
Very Asian-oriented	-	-	0.0%
Slightly Asian-oriented	-	-	17.2%
Bicultural	-	-	58.6%
Slightly Anglo-oriented	-	-	24.1%
Very Anglo-oriented	-	-	0.0%

Materials

A questionnaire comprised of scales assessing participants' attachment patterns, cultural patterns, acculturation level, and background information was compiled. There were four attachment measures used to assess participants' attachment patterns. They were the Adult Attachment Questionnaire (AAQ), the Relationship Questionnaire (RQ), the Experience of Close Relationship Inventory (ECR), and the Inventory of Parent and Peer Attachment (IPPA). One measure was used to assess participants' cultural patterns: the Self-Construal Scale. Two measures were used to assess participants' acculturation levels: the Acculturation Scale Rating for Mexican-American-II (ARSMA-II), and the Suinn-Lew Asian Self Identity Acculturation Scale (SL-ASIA).

Adult Attachment Questionnaire

The first attachment scale was the Adult Attachment Questionnaire (Hazan & Shaver, 1987). This scale was a self-report measure that assesses adult romantic attachment (Appendix C). Drawing from Ainsworth et al.'s (1978) description of three infant attachment patterns, the authors wrote a single-item measure that consisted of three paragraphs describing the three attachment patterns (i.e., secure, avoidant, and ambivalent) for adult romantic attachment. Securely attached individuals are able to trust others and are comfortable with intimacy. Avoidantly attached individuals are not able to trust others and are afraid of intimacy. Ambivalently attached individuals are preoccupied with and showed extreme jealousy toward their partner.

Participants were asked to choose which paragraph most closely resembled their attachment styles. Participants then rated each paragraph on a 7-point Likert scale ranging from 1 (not at all like me) to 7 (very much like me). For example, "I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, others want me to be more intimate than I feel comfortable

being". Raw scores were computed for this scale and utilized in the final analyses.

Test-retest reliability ranges from 0% to 70% stability over 5 months to 4 years (Crowell & Treboux, 1995). The most recent longitudinal study revealed that 70% of stability rate over 4 years period (Kirkpatrick & Hazan, 1994).

Relationship Questionnaire

The second attachment measure was the Relationship Questionnaire (RQ) (Bartholomew & Horowitz, 1991). This scale is a self-report measure that assesses adult romantic attachment (Appendix D). The scale consists of four paragraphs describing the four attachment patterns along two underlying dimensions: model of self (positive-negative), e.g., self as worthy vs. unworthy of love and support) and model of others (positive-negative), e.g., others are trustworthy and available vs. unreliable and rejecting). By combining these two dimensions, the four attachment patterns emerge: secure (positive self and positive other), preoccupied (negative self and positive others), fearful (negative self and negative others), and dismissing (positive self and negative other). Secure individuals are comfortable with close intimacy and autonomy. Fearful individuals are afraid of close

intimacy and rejection. Preoccupied individuals are preoccupied with relationships. Finally, dismissing individuals are emotionally detached from others and emphasized self-reliance.

Participants were asked to choose which paragraph most closely resembled their attachment styles. Participants then rated each paragraph on a 7-point Likert scale ranging from 1 (not at all like me) to 7 (very much like me). For example, the secure attachment pattern reads as follows: "It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me". Raw scores were computed for this scale and utilized in the final analyses.

Test-retest reliability ranged from .71 for secure, .69 for fearful, .59 for preoccupied, and .49 for dismissing over an 8-month period (Scharfe & Bartholomew, 1994). Regarding the validity, the secure and preoccupied ratings were positively correlated to sociability, and negatively correlated to the fearful and dismissing patterns (Bartholomew & Horowitz, 1991). Studies have shown that a negative self model is associated with Anxiety, and a negative model of others is associated with Avoidance (Brennan, Clark, & Shaver, 1998).

Experiences in Close Relationships Inventory

The third attachment measure was the Experiences in Close Relationships Inventory (ECR) (Brennan, Clark, & Shaver, 1998). This scale is a 36-item self-report measure of adult attachment (Appendix E). Derived from many attachment scales, the authors collected a pool of 323 non-redundant items which assessed 60 attachment-related constructs. They then factor-analyzed these 60 constructs (or subscales scores) yielding the Avoidance and Anxiety dimensions. The odd-numbered questions relate to the Avoidance dimension while the even-numbered questions relate to the Anxiety dimension. The 18-item Avoidance dimension is referred to as Avoidance of Intimacy and emphasized self-reliance. The 18-item Anxiety dimension is referred to as Preoccupation with The Relationships and Fear of Abandonment. Participants rated each item on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). This scale can rate individuals into four categorical attachment patterns (i.e., secure preoccupied, preoccupied, dismissing) and two continuous attachment dimensions (i.e., avoidance, ambivalent). Due to the complicated scoring method of this scale, the scoring criteria are presented in the

Appendix E. Raw scores were also computed for this scale and utilized in the final analyses.

Brennan, Clark, and Shaver (1998) found the coefficient alpha for the avoidance dimension and the anxiety dimension were .94 and .91. They reported the four attachment patterns of this scale and the RQ scale (Bartholomew & Horowitz, 1991) were closely related: the RQ's secure group scored low on both Avoidance and Anxiety, the RQ's fearful group scored high on both Avoidance and Anxiety, the RQ's preoccupied group scored low in Avoidance and high in Anxiety, and the RQ's dismissing group scored high in Avoidance and low in Anxiety.

Inventory of Parent-Peer Attachment

The fourth attachment measure was the Inventory of Parent-Peer Attachment (IPPA) (Armsden & Greenberg, 1987). This scale is a self-report measure assessing the quality of parent and peer attachment in adolescents and young adults (Appendix F). The theoretical underpinnings of the IPPA are based on the positive (the Trust and Communication subscales) and negative (the Alienation subscale) affective-cognitive dimensions on "psychological security" as outlined by John Bowlby. Only the maternal attachment scale was utilized in the current study.

The 25-item maternal attachment scale has three separate subscales: Trust, Communication, and Alienation. The Trust items reflect a mutual understanding and respect (e.g., "My mother respects my feelings."). The Communication items tap into the sensitivity of the spoken communication (e.g., "I feel it's no use letting my feelings show around my mother"). The Alienation items assess the feelings of anger and avoidance (e.g., "I get upset easily a lot more than my mother knows about"). Items are rated on a 5-point Likert scale ranging from 1 (almost never or never true) to 5 (almost always or always true). Higher IPPA scores indicate greater Trust, Communication, and Alienation. The IPPA can be categorized into either secure attachment or insecure attachment patterns. Secure attachment (or high security) is defined as "not High" Alienation scores and at least "medium" Trust and Communication. Insecure attachment (low security) is defined as low Trust and Communication scores and "medium or high" Alienation scores (Armsden & Greenberg, 1987). Raw scores were computed for this scale and utilized in the final analyses.

Armsden and Greenberg (1987) found Cronbach's alphas for the Trust, the Communication, and the Alienation

ranged from .72 to .91. Three-week test-retest reliabilities were .93 for parent attachment.

Self-Construal Scale

The Self-Construal Scale (SCS) (Singelis, 1994) was used to assess individualistic vs. collective cultural patterns (Appendix G). This scale is a 30-item, 7-point Likert scale (1= strongly disagree to 7= strongly agree) assessing Independent and Interdependent Self-Construals. Independent Self-Construal is defined as having a definition of self as independent from others. By contrast, an Interdependent Self-Construal was defined as having a definition of self as related to and Interdependent with others (Markus & Kitayama, 1991). The revised version of SCS consists of two 15-item subscales (instead of original two 12-item subscales) that separately assess Independent and Interdependent Self-Construals. Fifteen of these items reflect independence (e.g., "I enjoy being unique and different from others, it is very important to me"), and fifteen of these items reflect interdependence (e.g., "It is important for me to maintain harmony within my group"). A high score on independence indicates an individual with a highly developed independent self-concept or being more independent-oriented, whereas a high score on

interdependence indicates an individual with a highly developed interdependent self-concept or more interdependent-oriented. Raw scores were computed for this scale and utilized in the final analyses.

For the original scale, Singelis reported the Cronbach's alpha reliabilities of .70 for Independent subscale and .74 for the Interdependent subscale. Sato and Cameron (1999) found the Cronbach alpha reliabilities for Independent and Interdependence subcales were .71 and .70 respectively, for the Canadian sample and .67 and .75 respectively, for the Japanese sample.

Research has shown that at the cultural group-level, these two Self-Construals reside on a continuum, suggesting high in Independent Self-Construal means low in the interdependence Self-Construal. At the individual level, the two Self-Construals are orthogonally related, suggesting that high Independent Self-Construal does not mean low in Interdependent Self-Construal (Singelis, 1994). Based on this knowledge, at the cultural level of analyses, a comparison between individualistic cultural backgrounds (e.g., Anglo) and collective cultural backgrounds (e.g., Asian, Hispanic) was executed. At the individual-level of analyses, a comparison between high

Independent Self-Construal and low Independent Self-Construal was administered.

Acculturation Rating Scale for Mexican Americans-II

The Acculturation Rating Scale for Mexican Americans-II (ARSMA-II) (Ceullar, Arnold, Maldonado, 1995) was used to assess Mexican Acculturation status in this study (Appendix H). It was completed only by the Hispanic participants. The original ARSMA scale included four acculturative-related factors: 1) language use and preference, 2) ethnic identity and classification, 3) cultural heritage and ethnic behaviors, and 4) ethnic interaction. Only three out of four factors were used in the ARSMA-II. The purpose of revised ARSMA-II was to provide "...an instrument that assessed acculturation processes through an orthogonal and multidimensional approach by measuring cultural orientation toward the Mexican culture and the Anglo culture independently" (Ceullar, Arnold, Maldonado, 1995, p. 275).

The ARSMA-II consists of two scales. Scale I is a 30-item, 5-point Likert scale ranging from 1(not at all) to 5(extremely often or almost always), the assessing Mexican Orientation Scale (MOS) and the Anglo Orientation Scale (AOS). The 13-item Mexican Orientation subscale

(MOS) includes such items as, "I associate with Mexicans and/or Mexican Americans", and "I write letters in Spanish". The 17-item Anglo Orientation scale (AOS) includes such items as "I enjoy English language TV", and "I associate with Anglos". An acculturation score was derived from subtracting the MOS mean from the AOS mean, yielding a very Mexican oriented score to a very Anglo oriented score. Second, Scale II had three subscales: a 6-item ANGMAR (Anglo Marginality), a 6-item MEXMARG (Mexican Marginality), and a 6-item MAMARG (Mexican American Marginality). This current study used only Scale I. Raw scores were computed for this scale and utilized in the final analyses. In addition, the acculturation statuses were classified based on the suggested cutting scores, as listed in the Appendix H.

One-week test-retest reliability coefficient for scale I was .96. Cronbach's Alpha for the AOS and MOS were .86, and .88, respectively. A Pearson product moment correlation coefficient of .89 (N=171) was obtained when examining concurrent validity of the original ARSMA and the revised ARSMA-II. An increase in AOS score with each generation and decrease in MOS score provide support for the construct validity of this scale.

Suinn-Lew Asian Self-Identity Acculturation Scale

The Suinn-Lew Asian Self-Identity Acculturation Scale (SL-ASIA) (Suinn, Ahuna, & Khoo, 1992) was the second acculturation measure used. This scale was used to assess Chinese Acculturation status and was completed by Asian participants only (Appendix I). The SL-ASIA was modeled after one of the popular Mexican acculturation scales, ARSMA (Cuellar et al., 1980). The SL-ASIA is a 21-item, 5-point multiple choices questionnaire (1=highly Asian to 5=high Western) assessing Asian acculturation status. The SL-ASIA consists of 21-items that cover 6 areas: language (4 items), identity (4 items), friendships (4 items), behaviors (5 items), generational and geographic background (3 items), and attitudes (1 item). Using factor analysis, the authors identified 5 factors within the 21 items: 1) Reading/Writing/Cultural Preference (e.g., read or write in English vs. Asian language) , 2) Ethnic Interaction (e.g., ethnicity of friends and peers), 3) Affinity for Ethnic Identity and Pride (e.g., level of pride in one's identified ethnicity), 4) Generational Identity (e.g., first generation, second, etc.), and 5) Food Preference (e.g., types of food prefer when dining in a restaurant, and at home). Three of five factors were

identical to the ARSMA factors: Reading/Writing/Cultural Preference, Ethnic Interaction and Generational Identity.

For the original 21 questions, raw scores were computed for this scale and utilized in the final analyses. In addition, the acculturation statuses were classified based on the following scores: score could range from a low of 1 (0 to 21) indicating a low acculturation (or high Asian identification) to a medium of 3 (43 to 63) indicating a bicultural identification to a high of 5 (85 to 105) indicating a high acculturation (or high Western identification).

In addition to the 21 items, the author of the scale recently added 5 questions (22 to 26) to this scale. The purpose for the revision was to strengthen the support for multidimensional and orthogonal psychometric properties of this scale. The validity and reliability of these added items had not been obtained.

Cronbach's alpha for Asian American groups ranged from .83 to .91 (reported by Suinn et al., 1992) and for English-speaking Singapore Asians, .79. The SL-ASIA scores had been found to be correlated to the following demographic information: total years attending school in the U.S. ($r=.61$), age upon attending school in the U.S. ($r=-.60$), years living in the U.S. ($r=.56$), age upon

arriving in the U.S. ($r=-.49$), and self-rating of acculturation ($r=.62$).

Demographic Information

The demographic sheet (Appendix J), asked for the following information: marital status, number of children, age, ethnicity, participants' and their parents' educational background, and annual family income.

Procedure

Participants were given the questionnaire to take home to complete and return to the experimenter. The questionnaire took about 45 minutes to complete. Extra course credit was given to CSUSB students who participated in the study.

CHAPTER THREE

RESULTS

Preliminary Analyses

The means and standard deviations for the major variables in this study are shown below in Table 2. The definitions of each variable are outlined in Table 3. The percentages of Anglo, Hispanic, and Asian Females classified in secure, ambivalent and avoidant groups are shown in Table 4.

Table 2.

Means and Standard Deviations for the Attachment, Cultural Patterns, and Acculturation Variables for the Anglo, Hispanic, and Asian Groups

	Cultural Groups					
	Anglo (n=70)		Hispanic (n=70)		Asian (n=60)	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
<u>Attachment Scales</u>						
Adult Attachment Questionnaire (AAQ)						
Secure	4.90	1.69	4.70	1.76	4.62	1.87
Ambivalent	5.57	1.53	2.70	1.66	5.53	1.44
Avoidant	3.10	1.83	3.33	1.88	3.14	1.77
Relationship Questionnaire (RQ)						
Secure	4.83	1.70	4.25	2.02	4.47	1.74
Preoccupied (ambivalent)	2.71	1.53	2.66	1.65	2.57	1.51

Fearful (avoidant)	3.30	1.92	3.41	2.00	2.93	1.89
Dismissing	3.50	1.58	3.16	2.00	3.86	1.87
Inventory of Parent-Peer Attachment (IPPA)						
Secure	91.46	23.43	92.42	22.21	84.97	19.78
Close Relationship Inventory (ECR)						
Anxiety	60.03	20.06	63.34	23.00	64.60	17.45
Avoidance	45.71	16.67	51.95	21.58	51.57	17.53
<u>Cultural Pattern Scale</u>						
Self-Construal Scale (SCS)						
Independent	72.81	10.06	67.34	13.61	68.92	10.07
Interdependent	65.03	10.01	65.93	11.37	72.02	8.91
<u>Acculturation Scales</u>						
Acculturation Rating Scale for Mexican Americans-II (ARSMA-II) (Hispanic Only):						
Acculturation	-	-	0.31	0.73	-	-
AOS	-	-	48.93	9.83	-	-
MOS	-	-	9.10	13.77	-	-
Suinn-Lew Asian Self Identity Acculturation Scale (SL-ASIA) (Asian Only):						
Acculturation	-	-	-	-	53.64	13.78

Table 3.

Definitions of the Attachment, Cultural Pattern, and
Acculturation Variables

Scales	Variable Name	Definition
Adult Attachment Questionnaire (AAQ)	Secure	Comfortable with intimacy and autonomy.
	Ambivalent	Preoccupation with relationships.
	Avoidant	Avoidance of intimacy.
Relationship Questionnaire (RQ)	Secure	Comfortable with intimacy and autonomy.
	Preoccupied (ambivalent)	Preoccupation with relationships.
	Fearful (avoidant)	Fearful of intimacy.
	Dismissing	Dismissing of intimacy, self-reliance.
Inventory of Parent-Peer Attachment (IPPA)	Secure	At least medium Trust, medium Communication and low Alienation.
Experiences in Close Relationship Inventory (ECR)	Anxiety (ambivalent)	Preoccupation, fear of abandonment.
	Avoidance	Avoidance of intimacy, self-reliance.
Self-Construal Scale (SCS)	Independent Self-Construal	Definition of self is independent from others.
	Interdependent Self-Construal	Definition of self is interdependent with others.
	Self-Construal	

Acculturation Rating Scale for Mexican Americans-II (ARSMA-II)	Hispanic Acculturation Anglo Orientation score Mexican Orientation score	Low score means very Mexican oriented (low acculturated), while high score means strongly Western-oriented (high acculturated). Preference, and behavioral tendencies or actual behaviors reflected people from Anglo backgrounds. Preference, and behavioral tendencies or actual behaviors reflected people from Mexican backgrounds.
Suinn-Lew Asian Self Identity Acculturation Scale (SL-ASIA)	Chinese Acculturation	Low score means very Asian-oriented (low acculturated), while high score means strongly Western-oriented (high acculturated).

Table 4.

The Percentages of Anglo, Hispanic, and Asian Females
Classified in Secure, Ambivalent and Avoidant Attachment
Groups

	Cultural Groups		
	Anglo (n=70)	Hispanic (n=70)	Asian (n=60)
<hr/>			
Secure Attachment			
AAQ	68.6%	62.9%	63.3%
RQ	54.3%	51.4%	48.3%
ECR	45.7%	41.4%	36.7%
Ambivalent Attachment			
AAQ	8.6%	5.7%	5.0%
RQ	11.4%	7.1%	6.7%
ECR	25.7%	22.9%	23.3%
Avoidant Attachment			
AAQ	22.9%	31.4%	31.7%
RQ	18.6%	27.1%	16.7%
ECR	14.3%	24.3%	21.7%
<hr/>			
<u>Cultural Groups Differences</u>			
Categorical Attachment Scales			
AAQ, $\chi^2(4, N=200)=2.15, p=.71$			
RQ, $\chi^2(6, N=200)=7.28, p=.30$			
ECR, $\chi^2(6, n=200)=3.71, P=.72$			
<hr/>			

Internal Consistency

When conducting the comparative research on different ethnic minority groups, it is important to investigate the internal consistency of scales. The goal is that all participants in the study should respond similarly to the items in the scales to assure reliable measures. After

sorting the data by ethnicity, internal consistency for each of the multi-item continuous measures (i.e., ECR, IPPA, SCS) was computed. Comparing the coefficient alphas, there was strong evidence for all participants responding to the questionnaires in a similar manner, and no reliability differences were observed. This finding indicates that the measures of attachment (i.e., ECR, IPPA) and the cultural pattern (i.e., SCS) are reliable measures across the three cultural groups. The internal consistencies by ethnicity for each scale are presented in Table 5.

Table 5.

Internal Consistencies for the Continuous Measures by Cultural Groups

	Cultural Groups		
	Anglo (n=70)	Hispanic (n=70)	Asian (n=60)
ECR			
Avoidance	.93	.94	.93
Anxiety/Ambivalence	.93	.94	.90
IPPA	.97	.96	.95
SCS			
Independent Self-Construal	.74	.84	.74
Interdependent Self-Construal	.76	.78	.74

For the single-item measures of attachment (i.e., AAQ, RQ), internal consistency could not be computed. Therefore, intercorrelation for AAQ and RQ by cultural group was computed. Interrelations across ethnic groups showed some cultural reliability differences. Intercorrelations for AAQ and RQ by cultural groups are presented in Table 6 and Table 7.

Table 6.

Intercorrelations for the Adult Attachment Questionnaire
Single-Item Measure by Cultural Groups

	Avoidant	Secure	Ambivalent
Anglo Female Group			
Avoidant	-	-.79***	.30*
Secure	-	-	-.42***
Ambivalent	-	-	-
Hispanic Female Group			
Avoidant	-	-.39***	.21
Secure	-	-	-.41***
Ambivalent	-	-	-
Asian Female Group			
Avoidant	-	-.61***	.31*
Secure	-	-	-.22
Ambivalent	-	-	-

* $p \leq .05$
 ** $p \leq .01$
 *** $p \leq .001$

Table 7.

Intercorrelations for the Relationship Questionnaire
Single-Item Measure by Cultural Groups

	Secure	Avoidant	Ambivalent	Dismissing
<hr/>				
Anglo Female				
Secure	-	-.57***	-.27*	-.20
Avoidant	-	-	.15	.01
Ambivalent	-	-	-	-.05
Dismissing	-	-	-	-
<hr/>				
Hispanic Female				
Secure	-	-.42***	-.23	-.09
Avoidant	-	-	.39***	.02
Ambivalent	-	-	-	.12
Dismissing	-	-	-	-
<hr/>				
Asian Female				
Secure	-	-.50***	-.29*	-.42***
Avoidant	-	-	.29*	.41***
Ambivalent	-	-	-	.15
Dismissing	-	-	-	-

* $p \leq .05$
 ** $p \leq .01$
 *** $p \leq .001$

Analyses

Hypothesis 1

Hypothesis 1 stated that participants with individualistic cultural backgrounds (e.g., Anglo) would score higher on measures of *Independent* Self-Construal (i.e., the index of individualistic culture), and lower on measures of *Interdependent* Self-Construal (i.e., the index

of collective culture) than participants with collective cultural backgrounds (e.g., Hispanic, Asian).

To test the first part of this hypothesis, a one-way ANOVA comparing the means for Independent Self-Construal (SCS) across the three ethnic groups was computed. Results indicated that there was a significant difference, $F(2,197)=4.23$, $p=.02$ (see Table 2 for group mean scores). Post-hoc comparisons revealed that Anglo females scored significantly higher on Independent Self-Construal than the Hispanic females, $t(2)=5.47$, $p=.01$, but not higher than the Asian females. This suggests that Anglo females were more likely to focus on the fulfillment of individual needs than Hispanic females.

To test the second part of this hypothesis, a one-way ANOVA comparing the means for Interdependent Self-Construal (SCS) across the three ethnic groups was computed. Results indicated significant differences were found, $F(2,197)=8.75$, $p=.001$. Post-hoc comparisons revealed that Anglo females scored significantly lower on Interdependent Self-Construal than the Asian females, $t(2)=-6.99$, $p=.000$ (but not lower than the Hispanic females). This suggests that Anglo females were less likely to focus on relatedness to the ingroup than the Asian females. In addition, Hispanic females scored

significantly lower on Interdependent Self-Construal than the Asian females, $t(2)=-6.09$, $p=.002$ (but not significantly higher than Anglo females). According to these results, Asian females were more likely to focus on relatedness to the ingroup than either Anglo and Hispanic females.

These results provide partial support for the hypothesis: Anglo females (i.e., the individualist-cultural group) were more independently-oriented than Hispanic females (but not the Asian females), i.e., they were more likely to focus on the fulfillment of individual needs compared to Hispanic females (but not the Asian females). Conversely, Anglo females were less interdependently-oriented than Asian females (but not the Hispanic females).

Hypothesis 2

Hypothesis 2 stated that participants with individualistic cultural backgrounds (e.g., Anglo) would exhibit higher rates of secure attachment than participants with collective cultural backgrounds (e.g., Hispanic, Asian). To test this hypothesis, several analyses were conducted which included both categorical and continuous measures of attachment.

First, chi-squares comparing secure attachment pattern across the three ethnic groups were conducted for the categorical attachment scales (i.e., the AAQ, the RQ, and the ECR). Results showed no significant differences between the percentages of secure attachment across the three ethnic groups (see Table 4).

Second, one-way ANOVAs comparing the mean scores of secure attachment for the continuous measures of attachment (i.e., the AAQ, the RQ, and the IPPA) between the three ethnic groups were performed (see Table 2 for the group mean). Results showed no significant differences between the three ethnic groups for secure attachment.

In sum, results of the chi-squares and ANOVAs provide no support for the hypotheses: the Anglo, Hispanic, and Asian females groups did not score significantly different on secure attachment.

Hypothesis 3

Hypothesis 3 stated that participants with high *Independent Self-Construal* would exhibit higher rates of secure attachment than participants with low *Independent Self-Construal*. To test this hypothesis, several analyses were used.

First, Pearson correlations were computed on secure attachment using the continuous measures of attachment (i.e., the AAQ, the RQ, and the IPPA) and Independent Self-Construal (i.e., SCS) (see Table 8). As hypothesized, results revealed positive and significant correlations between the AAQ, the RQ, and the IPPA measures of secure attachment and Independent Self-Construal.

Table 8.

Pearson Correlations for the Secure Attachment Pattern and the Independent Self-Construal

Independent Self-Construal (n=200)	
Secure Attachment	
AAQ	.39***
RQ	.37***
IPPA	.32***
* $p \leq .05$	
** $p \leq .01$	
*** $p \leq .001$	

Next, t-tests were computed on secure attachment using the continuous measures of attachment (i.e., the AAQ, the RQ, and the IPPA) and the high vs. the low Independent Self-Construal groups. A tri-median split was initially generated for the Self-Construal scale and participants were then divided into "high", "medium", and

"low" groups. Only the high and low groups were used in this analysis. Consistent with the correlational results, the t-test analyses revealed significant differences between the high vs. low Self-Construal groups for the AAQ, $t(77)=4.90$, $p=.000$; the RQ, $t(75)=4.74$, $p=.000$; and the IPPA measures of secure attachments, $t(77)=3.90$, $p=.000$ (see Table 9).

Table 9.

T-tests Comparing Secure Attachment Pattern for High or Low Independent Self-Construal

	<u>Independent Self-Constructual</u>				
	High (n=58)		Low (n=21)		
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>Sig. (2-tailed)</u>
Secure Attachment					
AAQ	5.32	1.71	3.19	1.72	.000
RQ	5.08	1.75	3.00	1.64	.000
IPPA	95.67	22.72	74.29	18.26	.000

In sum, the correlational and t-tests results generally supported the hypothesis: secure attachment was positively and significantly correlated with Independent Self-Construal.

Hypothesis 4

Hypothesis 4 stated that participants with collective cultural backgrounds (e.g., Hispanic, Asian) would exhibit higher rates of ambivalent attachment and lower rates on avoidant attachment than participants with individualistic cultural backgrounds (e.g., Anglo). To test this hypothesis, several analyses were conducted which included both categorical and continuous measures of attachment.

First, chi-squares comparing the ambivalent and also the avoidant attachment patterns across the three ethnic groups were conducted for the categorical measures of attachment (i.e., the AAQ, the RQ, and the ECR). Results showed no significant differences for either the ambivalent attachment pattern across the three ethnic groups or for the avoidant attachment pattern (see Table 4).

Second, one-way ANOVAs comparing the mean scores for avoidant and ambivalent attachment using the AAQ, the RQ, and the ECR, which are the continuous measures of attachment across the three ethnic groups, were performed. Results showed no significant differences between the three ethnic groups for the AAQ, the RQ, or the ECR measures of avoidant or ambivalent attachment (see Table 2 for the group means). Thus, the hypothesis was

generally not supported since only one chi-square (RQ measure of avoidant attachment) resulted in the hypothesized direction.

Hypothesis 5

Hypothesis 5 stated that participants with high *Interdependent* Self-Construal would exhibit higher rates of ambivalent attachment and lower rates of avoidant attachment than participants with low *Interdependent* Self-Construal. To test this hypothesis, several analyses were used.

First, Pearson correlations were computed on ambivalent and avoidant attachment scores using the continuous measures of attachment (i.e., the AAQ, the RQ, and the ECR) and *Interdependent* Self-Construal (i.e., SCS) (see Table 10). Results for the AAQ and RQ showed no significant correlations between *Interdependent* Self-Construal and ambivalent or avoidant attachment. However, for the ECR, there was a positive and significant correlation between *Interdependent* Self-Construal and ambivalent attachment as well as a negative and significant correlation between the *Interdependent* Self-Construal and avoidant attachment.

Table 10.

Pearson Correlations for the Insecure Attachment Patterns
(Ambivalent and Avoidant) and the Interdependent
Self-Construal

	Interdependent Self-Construal (n=200)
Ambivalent Attachment	
AAQ	.04
RQ	.05
ECR	.20**
Avoidant Attachment	
AAQ	-.05
RQ	-.01
ECR	-.18**

* $p \leq .05$
 ** $p \leq .01$
 *** $p \leq .001$

Next, t-tests were performed on the ambivalent and avoidant attachment scores using the continuous measures of attachment (i.e., the AAQ, the RQ, and the ECR) and the high vs. the low Interdependent Self-Construal groups (using the same tri-median split method described above). Results of the t-tests showed no significant differences between the high vs. the low Interdependent Self-Construal groups for the AAQ, the RQ, and the ECR measures of ambivalent attachment. Results also showed no significant difference between the two groups for the AAQ, and the RQ

measures of avoidant attachment. However, there was a significant difference for the ECR measure of avoidant attachment, $t(94)=-3.47$, $p=.001$ (see Table 11).

Table 11.

T-tests Comparing Insecure Attachment Patterns (Ambivalent and Avoidant) for High vs. Low Interdependent Self-
Construal

	<u>Interdependent Self-Construal</u>				
	High (n=74)		Low (n=23)		
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>Sig. (2-tailed)</u>
<hr/>					
Ambivalent Attachment					
AAQ	5.40	1.60	5.31	1.25	.843
RQ	2.79	1.61	2.67	1.65	.745
ECR	67.65	18.64	59.21	18.35	.091
Avoidant Attachment					
AAQ	4.74	1.88	4.00	1.76	.104
RQ	3.15	1.87	3.33	1.74	.686
ECR	74.68	6.77	67.34	15.11	.001

In sum, the hypothesis was minimally supported: Interdependent Self-Construal is weakly correlated only with the ECR measure of ambivalence (positively) and avoidance (negatively). Similarly, only the high

Interdependent Self-Construal group exhibited less avoidant attachment compared to the low group.

Hypothesis 6

Hypothesis 6 stated that participants scoring high in acculturation (i.e., very Western-oriented Asians or very Western-oriented Hispanics) would exhibit higher rates of secure attachment than participants scoring low in acculturation (i.e., very Asian-oriented Asians, or very Hispanic-oriented Hispanics). To test this hypothesis, several analyses were used.

First, Pearson correlations were computed on secure attachment using the continuous measures of attachment (i.e., the AAQ, the RQ, and the IPPA) and the acculturation measures (i.e., the ARSMA-II for Hispanic females, the SL-ASIA for Asian females). Results showed that for Hispanic females, there were significant and positive correlations between secure attachment and acculturation (i.e., ARSMA-II) for the IPPA measure only (see Table 12).

Table 12.

Pearson Correlations for the Secure Attachment Pattern and the Hispanic Acculturation

	Hispanic Acculturation (ARSMA-II) (n=66)
Secure Attachment	
AAQ	-.12
RQ	.14
IPPA	.32**

* $p \leq .05$
 ** $p \leq .01$
 *** $p \leq .001$

Next, t-tests were computed on secure attachment and the high vs. the low ARSMA-II groups (defined by using the median split method). Results showed no significant differences between the two groups for the AAQ, the RQ, or the IPPA measures of secure attachment (see Table 13).

Table 13.

T-tests Comparing Secure Attachment Pattern for High or Low Hispanic Acculturation

	<u>Hispanic Acculturation (ARSMA-II)</u>				
	High (n=27)		Low (n=39)		
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	Sig. (2-tailed)
Secure Attachment					
AAQ	4.44	1.70	4.87	1.80	.34
RQ	4.55	1.78	4.13	2.18	.40
IPPA	97.74	23.21	90.08	18.80	.15

For Asian females, Pearson correlations were computed on secure attachment using the continuous measures of attachment (i.e., the AAQ, the RQ, and the IPPA) and the acculturation measure (i.e., the SL-ASIA). Results for Asian females showed that acculturation was positively and significantly correlated with the AAQ, and the RQ (but not with the IPPA) measures of secure attachment and acculturation (see Table 14).

Table 14.

Pearson Correlations for the Secure Attachment Pattern and the Asian Acculturation

	Asian Acculturation (SL-ASIA) (n=58)
Secure Attachment:	
AAQ	.34**
RQ	.30*
IPPA	.07
* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$	

Next, t-tests were computed on secure attachment and the high vs. the low SL-ASIA groups (as defined above). Results showed significant differences between the two groups for the AAQ, $t(56)=2.67$, $p=.01$, and the RQ measures of secure attachment, $t(55)=2.10$, $p=.04$ (see Table 15). Thus, highly acculturated Asian females (high SL-ASIA score) were significantly more likely to exhibit secure attachment than low acculturated Asian females (low SL-ASIA score).

Table 15.

T-tests Comparing Secure Attachment Pattern for High or Low Asian Acculturation

	Asian Acculturation (SL-ASIA)				
	High		Low		
	(n=25)		(n=32)		
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	Sig. (2-tailed)
Secure Attachment					
AAQ	5.31	1.43	4.09	1.92	.010
RQ	5.04	1.64	4.09	1.71	.040
IPPA	84.12	23.27	85.44	17.45	.806

In sum, the hypothesis was marginally supported with results varying by attachment measure: for the Hispanic group, only the IPPA was correlated with Hispanic acculturation. For the Asian group, both the AAQ and the RQ were correlated to Asian Acculturation.

Hypothesis 7

Hypothesis 7 stated that participants scoring low in acculturation (i.e., very Asian-oriented Asians or very Hispanic-oriented Hispanics) would exhibit higher rates of ambivalent attachment and lower rates of avoidant attachment than participants scoring high in acculturation (i.e., very Western-oriented Asians or very Western-oriented Hispanics). To test this hypothesis, several

analyses were used. First, Pearson correlations were computed on ambivalent and avoidant attachment using the continuous measures of attachment (i.e., the AAQ, the RQ, and the ECR) by acculturation. Results showed that for Hispanic females, acculturation was not significantly correlated with the AAQ, the RQ, or the ECR measures of ambivalent or avoidant attachment (see Table 16).

Table 16.

Pearson Correlations for the Insecure Attachment Patterns (Ambivalent and Avoidant) and the Hispanic Acculturation

Hispanic Acculturation (ARSMA-II) (n=66)	
Ambivalent Attachment	
AAQ	.16
RQ	.16
ECR	.21
Avoidant Attachment	
AAQ	-.07
RQ	-.15
ECR	.02
* $p \leq .05$	
** $p \leq .01$	
*** $p \leq .001$	

Similarly, t-tests were computed on ambivalent and avoidant attachment and the high vs. the low ARSMA-II groups (using a median split described above), revealing that no significant differences in the means between the

two groups for the AAQ or the RQ measures of ambivalent attachment. However, there was a significant mean difference between the two groups for the ECR measure of ambivalent attachment, $t(64)=2.30$, $p=.03$ (see Table 15). Thus, highly acculturated Hispanic females were significantly more likely to exhibit ambivalent attachment than low acculturated Hispanic females. Results also showed no significant mean differences between the two groups for the AAQ, the RQ, or the ECR measures of avoidant attachment (Table 17).

Table 17.

T-tests Comparing Insecure Attachment Patterns (Ambivalent and Avoidant) for High or Low Hispanic Acculturation

	<u>Hispanic Acculturation (ARSMA-II)</u>				
	High (n=27)		Low (n=39)		
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	Sig. <u>(2-tailed)</u>
<hr/>					
Ambivalent Attachment					
AAQ	3.22	1.91	2.43	1.46	.063
RQ	3.15	1.92	2.39	1.41	.066
ECR	69.67	24.66	56.56	21.44	.025
Avoidant Attachment					
AAQ	3.44	1.76	.13	1.88	.493
RQ	3.11	1.76	3.56	2.01	.348
ECR	53.89	22.07	49.95	20.39	.458

For Asian females, Pearson correlations were computed on measures of ambivalent and avoidant attachment by acculturation. Results for Asian females showed that acculturation was not correlated with the AAQ, the RQ, or the ECR measures of ambivalent or avoidant attachment (see Table 18).

Table 18.

Pearson Correlations for the Insecure Attachment Patterns (Ambivalent and Avoidant) and the Asian Acculturation

	Asian Acculturation (SL-ASIA) (n=58)
Ambivalent Attachment	
AAQ	.00
RQ	-.05
ECR	-.13
Avoidant Attachment	
AAQ	-.08
RQ	-.10
ECR	-.06

* $p \leq .05$
 ** $p \leq .01$
 *** $p \leq .001$

Similarly, t-tests were computed on ambivalent and avoidant attachment and the high vs. the low SL-ASIA groups (using a median split described above), revealing that no significant mean differences between the two groups for the AAQ, the RQ, or the ECR measures of

ambivalent or avoidant attachment (see Table 19). This hypothesis, then, was generally not supported.

Table 19.

T-tests Comparing Insecure Attachment Patterns (Ambivalent and Avoidant) for High or Low Asian Acculturation

	<u>Asian Acculturation (SI-ASIA)</u>				
	High (n=25)		Low (n=32)		
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	Sig. (<u>2-tailed</u>)
<hr/>					
Ambivalent Attachment					
AAQ	2.56	1.45	2.47	1.48	.816
RQ	2.40	1.53	2.58	1.43	.651
ECR	61.20	19.50	67.16	6.00	.206
Avoidant Attachment					
AAQ	3.04	0.88	3.22	1.74	.711
RQ	3.20	2.16	2.71	1.70	.346
ECR	51.54	19.30	51.13	16.43	.930

CHAPTER FOUR

DISCUSSION

Introduction

The present study explored whether there is empirical support for the cross-cultural model of attachment, specifically whether attachment patterns may be influenced by the individualism-collectivism continuum of culture (and of the individual). No other study to date has examined this. There were three general findings. First, the link between culture and self (Hypothesis 1) was partially supported: Anglo females, i.e., the individualist-cultural group, were more independently-oriented than Hispanic females (but not the Asian females). Conversely, Anglo females were less interdependently-oriented than Asian females (but not the Hispanic females). Second, the link between culture and attachment was not supported at the group-level of analysis (Hypothesis 2 and 4), meaning perhaps that a cultural effect on attachment does not exist, or at least perhaps it is not as strong as anticipated. However, this link between culture and attachment was supported at the *individual* level (Hypothesis 3 and 5): secure attachment was more likely to be associated with individual

Independent Self-Construal, while insecure attachment was more likely to be associated with individual Interdependent Self-Construal. Third, the link between acculturation and attachment was marginally supported: acculturation was positively and significantly correlated with secure attachment (Hypothesis 6) but not insecure attachment (Hypothesis 7) for both Hispanic and Asian females. Each of these points is discussed in more detail below.

Culture and Self-Construal: Hypothesis 1

The first hypothesis consisted of two parts. The first part stated that participants with individualistic cultural backgrounds (e.g., Anglo) would score higher on *Independent Self-Construal* (i.e., the index of the individualistic culture) than participants with collective cultural backgrounds (e.g., Asian, Hispanic). Findings showed partial support: Anglo females were more independently-oriented than Hispanic females (but not the Asian females). The significant finding comparing Anglo and Hispanic females was inconsistent with the studies of Gaines et al. (1997) and Coon and Kemmelmeier (2001). Both studies found that there were no significant differences on the *Independent Self-Construal* scores

between Anglos and the three ethnic minority groups examined (i.e., Hispanic, Asian, African).

The second part stated that participants with individualistic cultural backgrounds (e.g., Anglo) would score lower on *Interdependent Self-Construal* than participants with collective cultural backgrounds (e.g., Asian, Hispanic). This hypothesis was partially supported: Anglo females were less interdependently-oriented than Asian females (but not the Hispanic females). This finding is consistent with Coon and Kemmelmeier's (2001) work, which found that Asian Americans but not Hispanic Americans scored significantly higher on the *Interdependent Self-Construal* than the Anglo Americans.

These findings question the assumption of group homogeneity (Coon & Kemmelmeier, 2001). The homogenizing assumption states that all minority groups respond similarly to the measures of individualism and collectivism. Grouping Hispanic and Asian females together in the collective cultural group may indeed reveal a cultural effect. However, in doing so, this method may mask the differences among individuals within minority groups. Consequently, the different responses to individualism and collectivism found in the current study for both ethnic groups may not have been recognized.

In sum, the results provide partial support for the hypothesis. Specifically, Anglo females (i.e., the individualistic-cultural group) were more independently-oriented than Hispanic females (and not the Asian females). Anglo females also were less interdependently-oriented than Asian females (but not the Hispanic females). The results question the assumption of group homogeneity and suggest the need for a separate analysis for each of the ethnic minority groups.

Culture and Attachment

Two relevant points need to be addressed before interpreting the results of the next hypotheses. First, since there has not been any research exploring the link between attachment and culture at different levels of analyses to date, comparing the current findings with other related studies was not possible at the individual level of analyses. However, this type of comparison was possible at the group level of analysis by categorizing the compared cultural (ethnic) groups into individualistic and collective cultural groups (i.e., Anglo-individualistic culture, Hispanic-collective culture, Asian-collective culture). Then, findings of cross-cultural studies of attachment could be compared to the findings of the current study. Second, it is important to

keep in mind that attachment was assessed using four attachment scales (i.e., AAQ, RQ, ECR, & IPPA). Thus, it is not surprising to find inconsistencies across measures; in some circumstances, attachment patterns may be found to be significantly associated with one but not all attachment measures.

Group-level Analyses: Hypotheses 2 and 4. At the cultural group-level analysis (i.e., Anglo, Hispanic, Asian), there was no support from the current study for the proposed cross-cultural model of attachment: the Anglo (individualistic), Hispanic (collective), and Asian (collective) female groups did not score significantly different on secure attachment (Hypothesis 2) or insecure attachment (Hypothesis 4). This insignificant group difference was consistent with Tacon and Caldera's (2001) study which found no group differences in attachment between the Hispanic and the Anglo groups, which were the only two ethnic groups studied.

There are three possible explanations that may help explain the lack of support for the results of group-level analyses. First, the hypotheses may be wrong, suggesting that the proposed cultural effect does not actually exist. However, the research literature on cross-cultural

attachment suggests the opposite. It is, therefore, premature to rule out the cultural effect on attachment.

Second, and most likely, the insignificant cultural effect may be due to the small sample size resulting from meeting the criteria of insecure attachment (i.e., three or four attachment patterns) and thus a lack of power to find the significance. Due to a small percentage of insecure attachment in the sample, one may suggest collapsing Asian and Hispanic females into the collective cultural group. Based on the partial support of the first hypothesis in which only Asian females and not Hispanic females were more interdependent-oriented than Anglo females, it would have been unwise to collapse Asian and Hispanic female groups into a collective cultural group, even though it was suggested by and has been done in other studies (Fracasso, Busch-Rossnagel, & Fisher, 1994).

Third, recruitment of individuals from different ethnic backgrounds who reside within the United States may reduce the effect of culture. This is because these ethnic minority groups have been influenced greatly by the Euro-American independent-orientation (vs. other cultural groups residing outside of the United States). This idea would seem to be supported by a cross-national comparative study between America (individualist culture) and Korea

(collective culture) (You & Kathleen, 2000), which found significant group differences between both groups (over 50% of Korean adult were classified as ambivalently-attached).

Individual-level Analyses: Hypotheses 3 and 5. At the individual level of analysis, there is support from the current study for the proposed cross-cultural model of attachment. As predicted, results of Hypothesis 3 revealed that secure attachment (measured by the AAQ, the RQ, and the IPPA) was positively correlated with Independent Self-Construal (or individualism) across the three attachment measures. Thus, it indicated that participants with high Independent Self-Construal would exhibit higher rates of secure attachment than participants with low Independent Self-Construal. This finding may provide support for the "typical distal-secure attachment" assumption, as mentioned earlier. This assumption suggested that the typical distal mode of interaction (the common practice in the individualistic America culture) tended to have a balance of attachment-exploration and thus resulted in more secure attachment patterns. This may not be true for the extreme distal mode of interaction (the common practice in the extreme individualistic German culture).

As predicted, results of Hypothesis 5 revealed that Interdependent Self-Construal was only correlated positively and significantly with ambivalent attachment, and negatively and significantly with avoidant attachment. Thus, it indicated that participants with high Interdependent Self-Construal, regardless of ethnicity, would exhibit more ambivalent and less avoidant attachment than participants with low Interdependent Self-Construal.

The positive link between ambivalent and Interdependent Self-Construal may provide support for the "proximal mode-more ambivalent attachment" assumption, as mentioned earlier. This assumption suggested that the proximal mode of interaction (the common practice in the collective Japanese culture) was more likely to skew the attachment-exploration balance to the attachment side and this resulted in more ambivalent attachment. Thus, this finding confirmed this proximal-ambivalent assumption.

Moreover, the current finding of high collectivism-ambivalent attachment (derived from the positive collectivism-ambivalent link) combined with high collectivism-less avoidant attachment (derived from the negative collectivism-avoidant link) may be interpreted as paralleling and supporting the unique findings of a number of Japanese and Israeli Kibbutz infant samples, which

found a majority of ambivalent attachment with no or low avoidant attachment.

It is surprising to find that only the ECR measure of ambivalent attachment was correlated with Interdependent Self-Construal even though it was weakly (positively and significantly) correlated. One may wonder why this was found only with the ECR measure. This may be due to the multi-item dimensional property of the ECR measure which may make it a more sensitive assessment of attachment than a single-item measure (such as in the AAQ, the RQ) (Brennan et al., 1998). Responses based on the single-item continuous measures of attachment may be more influenced by the effect of social desirability than the multi-item, multi-dimensional measures of attachment.

In sum, since the cross-cultural model of attachment was supported at the individual level, but was not supported at the cultural group level, it would be appropriate to claim that the degree of individualism or collectivism emphasized within an *individual* (rather than a particular culture as originally postulated) was potentially associated with attachment patterns. In addition, these significant findings at the individual level are supportive of the two separate claims: first, Independent and Interdependent Self-Construals coexist

within *individuals* and are not limited to a culturally-specific concept (Singelis, 1994; Singelis et al., 1999). Second, an individual's "individualistic" and "collective" orientation relate to attachment, a pioneering finding.

Besides discussing the proposed hypotheses, there were two interesting findings in the current study regarding the overall correlations (including both the proposed and the non-proposed hypotheses) among the attachment variables and Self-Construal variables (see Appendix K). These two findings seem to strengthen the cross-cultural model of attachment. Prior to revealing these findings, the concern about cross-validation should first be addressed. Since no significant cultural group differences were supported, one may wonder whether it is appropriate to apply the significant findings of individuals to the international cultural group differences, or to different cultural groups within the U.S. This type of cross-validation has been employed in a study by Conway et al. (2001), which used the finding of intra-national differences (within American cultural group differences) to cross-validate the finding of international cultural group differences. Parallel to this reasoning, interpreting international cultural differences based on the supported findings of the current

study at an individual level is not ideal, yet it is a reasonable strategy and will be employed in the discussion below.

The first finding was that there was no correlation between secure attachment and Interdependent Self-Construal, or, in short, referred to as "no secure-collectivism link" (this link was not proposed in the current study). Based on the premise that secure attachment is the most universal practice form of attachment, at least conceptually, it is reasonable to predict that secure attachment should be positively and significantly correlated with Independent Self-Construal (an index of the individualist culture) as well as Interdependent Self-Construal (an index of the collective culture). Although there is "no secure-collectivism link", this does not mean that the universal claim of attachment security is not supported. There are two possible explanations. One, this result may stem from the cultural pattern measure (SCS). This measure may be a relatively strong and sensitive measure to detect an individualistic orientation. However, it may be too insensitive or weak to detect a collective orientation. Consequently, no correlation between collectivism and secure attachment would be found. Second, and most

likely, this result can be explained in the light of a controversial claim, which is discussed below.

The second finding was that attachment variables correlated more with individualism than collectivism. Perhaps the finding of more significant correlations of attachment in individualism over collectivism with no secure-collectivism link can be answered in the light of a controversial claim that attachment theory is more likely to be related to the Euro-American concept of individualism than non-Western collectivism (Tacon & Caldera, 2001; Rothbaum et al., 2000). Put differently, this finding may suggest that the underlying concept of attachment theory, the attachment-exploration balance, is deeply rooted in the Western idea of individualism, not the non-Western idea of collectivism. Therefore, the connection between secure attachment and individualism (but not collectivism) may reflect a biased view of attachment measures toward the Western idea of the attachment-exploration balance. The biased view is expected because it is a reflection of the individualistic cultural working model which promotes individuality.

Researchers examining this controversy (e.g., Rothbaum et al., 2000) have suggested that there may be

another type of secure base reflecting a non-Western emphasis on collectivism, namely "attachment-dependence secure base" (rather than the Western idea of attachment-exploration secure base). These researchers have questioned the three basic universal assumptions of attachment theory: 1) maternal sensitivity leading to secure attachment, 2) secure attachment promoting later social competence, and 3) a secure base underlying the attachment-exploration balance. The author of the current study partially agrees with Rothbaum et al.(2000) on the suggestion of an attachment-dependence secure base. Unlike Rothbaum et al.(2000), the author of the current study does not question the three basic assumptions of attachment theory.

One of the reasons for this partial agreement is that the author of the current study believes that the concept of an attachment-dependence secure base may present a problem in explaining the interlocking property of the attachment-exploration balance, meaning the activation and deactivation of the attachment and exploration systems. However, the author of the current study agrees with the notion of dependence from the attachment-dependence secure base. Dependence here may suggest the interdependent nature of collective cultures. Perhaps the attachment-

dependence secure base is the non-Western version of an attachment-exploration secure base. To emphasize the cultural influences on the different types of secure bases, the non-Western version of an attachment-exploration secure base is referred to as a "collective secure base" and the Western version of an attachment-exploration secure base is referred to as an "individualistic secure base". Attachment researchers should keep in mind that accepting cultural differences does not disqualify attachment theory. However, the combination of universal and culturally-specific evidences only can strengthen and enrich attachment theory and may hold the key to a broader intercultural understanding, which yet remain to be investigated.

An immediate question at this juncture may be "what would the collective secure base predict?". What are the similarities or differences between both types of secure bases? Parallel to the individualistic secure base serving as the foundation for the development of secure attachment, a sense of autonomy, and individuality, the collective secure base may also serve as the foundation for the development of secure attachment, a sense of relatedness, and social harmony (Rothbaum et al., 2000).

The author of the current study believes that the key similarity is that both types of secure bases predict and strive for secure attachment, namely the universal aspect of attachment theory. However, both types of secure bases are reaching for different social development goals (social individuation vs. social relatedness), namely the cultural-specific aspect of attachment theory. The individualistic secure base promotes social individuation which is consistent with individualism. However, the collective secure base promotes social relatedness which is consistent with non-Western collectivism (Harwood et al., 1996).

The follow-up question would be whether there is empirical support for the abovementioned suggestion. It is important to keep in mind that the concept of the collective secure base is in its infancy stage of formation. No other studies, including this current study, have directly examined this concept. However, the results of the current study and other cross-cultural studies of attachment collectively show support for this collective secure base.

Both the concept of individualistic and collective secure bases preferring secure attachment is supported by studies conducted by Harwood (1992) and Harwood et al.

(1996). These cross-cultural researchers have developed a series of open-ended interviews and culturally-sensitive vignettes of desirable and undesirable attachment behaviors. They found that both mothers from the individualistic Anglo-American culture and the collective Puerto-Rican culture preferred secure attachment. However, these mothers differed in the reasons for preferring secure attachment. Anglo-American mothers focused on an individual child's needs for independence and autonomy, whereas the Puerto Rican mothers were more likely to focus on their culturally desirable norms of obedience and relatedness to the cultural group.

If both the individualistic and collective cultural-specific secure bases promote secure attachment, then one would wonder whether both may promote different types of insecure attachment. Research based on Ainsworth's Strange Situation has shown that not only do different cultures produce different types of insecure attachment, but also secure attachment (Ainsworth et al., 1978; Grossmann et al., 1981; Li-Pac, 1982). However, no one has discussed this in the context of individualism-collectivism or, more specifically, individualistic and collective secure bases, until the current study. In regard to the different types of *insecure* attachment

patterns, it seems that the collective secure base tends to produce ambivalent attachment, as evidenced by the current finding supporting the typical proximal-ambivalent assumption. By contrast, the individualistic secure base tends to promote avoidant attachment. This individualism-avoidant assumption was not proposed in this study. However, the current finding, which showed a stronger negative correlation between individualism and avoidant attachment over a weaker correlation between individualism and ambivalent attachment, may provide support for this individualism-avoidant assumption.

Li-Pac's (1982) study and a number of studies mentioned by Li-Pac (1982) provide support for the notion that both the individualistic and collective secure bases promote different types of secure and insecure attachment patterns. Li-Pac's (1982) study found that the majority of Chinese-American infants (50%) were securely attached. Among the four subgroups of secure attachment (i.e., B1, B2, B3, B4), the B4 secure subgroup (i.e., a mixture of proximity and ambivalent behavior) was predominant. In regard to insecure attachment patterns, these infants exhibited a higher rates of ambivalent over avoidant attachment. It is interesting to point out that the ambivalence of the secure subgroup (B4) mirrors the

characteristics of ambivalent attachment. The descriptions of secure subgroups, i.e., B2, B4, are presented in Appendix L.

In the same article, Li-Pac (1982) also mentioned that the majority secure subgroup for the Bielefeld German sample (Grossmann et al, 1981) was the B2 subgroup (i.e., a mixture of proximity and avoidance), and for the American Baltimore sample, it was the B3 subgroup. In addition, according to Li-Pac (1982), "cultures that tend to produce type B2 or B1 secure attachment relationships would tend to produce 'A' [avoidant] type of insecure attachment relationships; cultures that tend to produce type B4 secure attachment relationships would tend to produce 'C' [ambivalent] type of insecure attachment relationships" (p. 120). In short, the combination of the B2 or B1 types of secure subgroups with avoidant attachment is supportive of the individualistic secure base. The combination of the B4 type of secure subgroup with ambivalent attachment is supportive of the collective secure base.

If the different types of secure base reflect different cultural belief systems or cultural working models, then caution should be exercised in generalizing the maladaptation (i.e., depression, delinquency) of

ambivalent attachment found in the American individualist culture vs. the other non-Western cultures (Rothbaum et al., 2000). Therefore, the implications of attachment should be qualified in the context of cultural values. For example, it is believed that ambivalent attachment may be more acceptable and thus may become less maladaptive in a collective culture than in an individualistic culture, as asserted by Rothbaum et al. (2000). This view is supported by the current finding of the positive link between ambivalent attachment and collectivism, and the negative link between ambivalent attachment and individualism, although this link was not proposed in the current study. Why is "ambivalent attachment more accepted and less maladaptive in collective cultures" compared to individualistic cultures? The higher rates of ambivalent attachment found in collective cultures may parallel and reflect the positive view of interdependence (as opposed to the negative view of ambivalent attachment in individualistic cultures).

To simplify the issue of the maladaptive notion of ambivalent attachment in a culturally-sensitive way, the author of the current study proposes that the maladaptive notion of ambivalent attachment should be addressed at two levels of comparison. First, regarding a within-

attachment comparison, it is proposed that ambivalent attachment is maladaptive when compared to secure attachment. This view is based on the current author's belief that secure attachment is a sign of good mental health across cultures. This view is consistent with Main's (1999) belief that ambivalent attachment may be adaptive within certain environments, but this adaption comes at the expense of psychological well-being. Second, in regard to a comparison between the individualistic and collective cultural patterns, as mentioned above, ambivalent attachment is less maladaptive in collective cultures than in individualistic cultures, given that the different types of secure base reflect different cultural belief systems or cultural working models. In short, the proposed within-attachment patterns comparison reflects the universal aspect of attachment theory, and the between-cultural patterns comparison reflects the culturally-specific aspect of attachment theory.

In sum, the findings based on the proposed and the non-proposed hypotheses reveal the following: 1) there was no relationship between secure attachment and collectivism, and 2) attachment variables correlated more with individualism than collectivism. These findings may provide support for the claim that attachment theory is

more likely related to the Euro-American concept of individualism over the non-Western collectivism. Following this view, an attachment-dependence secure base (Rothbaum et al., 2000) reflecting collectivism (or referred to as the collective secure base) was introduced. Finally, the author of the current study proposed that the maladaptive notion of ambivalent attachment should be addressed in within-attachment pattern comparisons, and between-cultural pattern comparisons.

Acculturation and Attachment: Hypotheses 6 and 7

The hypothesized relationship between acculturation and secure attachment was supported by both the Hispanic and Asian samples. Hypothesis 6 stated that non-Anglo participants scoring high in acculturation would exhibit higher rates of secure attachment than those scoring low in acculturation. Acculturation was found to be correlated positively and significantly with secure attachment for both Hispanic and Asian females. The highly acculturated females (both Hispanic and Asian) exhibited a significantly higher percentage of secure attachment compared to less acculturated individuals.

Because no other attachment studies have focused on Asian populations, and since a majority of the current Asian sample was Chinese, the findings of this hypothesis

are compared to Li-Pac's study (1982). This study found that highly acculturated Chinese mothers exhibited more secure attachment, even though they only looked at Chinese American females. The findings for the current Hispanic sample contradicted findings of other Hispanic studies (Tacon & Caldera, 2001), which have found that acculturation was not related to attachment.

Even though significant correlations were found for both the Hispanic and Asian females, this hypothesis was marginally supported: the results varied with the attachment measure used. Acculturation was correlated using the IPPA measure of secure attachment for the Hispanic group and using the AAQ and RQ measures of secure attachment for the Asian group. One possible explanation is that different attachment measures may capture different underlying concepts of secure attachment for different domains of relationships (i.e., adult romantic relationship vs. adult-parent relationship). For example, the AAQ and the RQ measures are targeted at adult romantic attachment relationships, whereas the IPPA is targeted at participants' parents' relationships with their young adult.

Hypothesis 7 stated that participants scoring low in acculturation (i.e., very Asian-oriented Asians or very

Hispanic-oriented Hispanics) would exhibit higher rates of ambivalent attachment and lower rates of avoidant attachment than participants scoring low in acculturation (i.e., very Anglo-oriented Asians or very Western-oriented Hispanics). Contrary to the hypothesis, acculturation was not correlated with either insecure attachment pattern. High and low acculturated Hispanic and Asian females did not differ in mean scores of ambivalent and avoidant attachment. For the Hispanic sample, the current insignificant finding is consistent with other studies of attachment in Hispanic samples (Tacon & Caldera, 2001), which found no correlation between insecure attachment and acculturation.

A possible explanation is that a small sample in the current study that met the criteria of insecure attachment may be responsible for the lack of any significant differences. Another possible explanation is that both Hispanic and Asian females were predominantly bicultural. Thus, the homogeneous acculturation statuses may be responsible for the lack of significant acculturation differences and thus no significant relationship between insecure attachment and acculturation.

A surprising and informative finding emerged for the Asian sample. The newly-added 25th item of the Asian

Acculturation measure (i.e., how well you fit when with other Americans who are non-Asian [Westerners]) was positively and significantly correlated with secure attachment across each of three attachment measures (i.e., the AAQ, the RQ and the IPPA measures of secure attachment). It seems that this particular item may be a better predictor for both secure attachment than the entire acculturation scale (i.e., the 26-item SL-ASIA).

It is tempting to interpret the finding that highly acculturated females exhibited more secure attachment as being mediated by Independent Self-Construal (i.e., highly acculturated individuals may have higher Independent Self-Construals and in turn this may perhaps result in more secure attachment). This potential link was not proposed in the current study. Visual observation of the data, however, indicates that this interpretation may not be appropriate since acculturation was found to be unrelated to either Independent or Interdependent Self-Construals for both the Hispanic and Asian samples. Understandably, a more comprehensive analysis is needed to qualify the interpretation.

Even though both global acculturation scales for Hispanic and Asian samples were not correlated with Independent and Interdependent Self-Construals, the

subscales of the Hispanic Acculturation scale (Anglo Orientation Scale and Mexican Orientation Scale) and the newly added item (#25) of the Asian Acculturation scale were correlated with Independent and Interdependent Self-Concepts. This observation may suggest that the multidimensional approach improves the sensitivity level of the acculturation scales to detect significant relationships. The multidimensional approach means that items listed in the acculturation scale assess separately participants' identity toward the ethnic minority culture (i.e., Mexican Orientation Scale for the ARSMA-II, "how well you fit when with others Asians of the same ethnicity" for SL-ASIA) as well as the majority culture (i.e., Anglo Orientation Scale for the ARSMA-II, "how well you fit when with other Americans who are non-Asian" for the SL-ASIA). In other words, this multidimensional approach may be responsible for the significant correlations between acculturation and Self-Concept, as mentioned above.

In sum, with the new multidimensional approach of the acculturation scale, the exploration of "... how individualist and collectivist orientations change as a function of acculturation" (Coon & Kemmelmeier, 2001, p. 360) is promising. Results based on the multidimensional

approach may become the important piece of the puzzle, bridging the understanding of acculturation in the context of an individualism-collectivism continuum.

Limitations and Future Research

There are several limitations of the present study that should be noted, including the issues of generalizability, small sample size, recruitment, and methodology. First, the generalizability of the findings is limited to the sample. This study utilized adult females. Therefore, this finding can only be applied to the Anglo, Hispanic, and Asian adult females only. Future research should broaden the examination of the interplay between infant-parent characteristics and the adult parent-grandparent attachment relationship in order to capture a stronger influence of cultural transmission and show support for the cross-cultural model of attachment. It would seem interesting to conduct a cross-nation study to further test the cross-cultural model of attachment.

Second, because of the small sample size used in the study, there was low power to detect a significant difference. Future studies should include more participants and should statistically figure out how many

participants are needed to achieve statistical significance for insecure attachment patterns.

Third, several concerns about the recruitment of participants should be addressed. First, all recruited participants were English-speaking only. It may be possible that the English-speaking Hispanic and Asian females were more acculturated than the non-English speaking participants. This is supported by the fact that the current study found a predominantly "slightly Anglo-oriented bicultural" Hispanic group and the bicultural Asian group. Future studies should translate the survey into the studied cultural groups' common languages in order to recruit the potentially less acculturated group. Second, samples were recruited from two different sources. The Anglo and Hispanic samples were recruited from a psychology department in a university setting. Because of a limited Asian population in this department, a convenient sample was recruited outside of the university setting, i.e., from a Chinese school. Although it was originally intended to recruit only Chinese Americans, this study included a broader Asian sample (e.g., Chinese Americans, Vietnamese, Chinese from mainland China, Taiwanese, and Malaysian females) because there was a poor return rate of surveys from the Chinese females. Perhaps

because of the heterogeneity of both the recruitment and make-up of this group, differences may have influenced the results. For example, the Asian sample consisted of predominantly married females with a high educational status compared to Anglo and Hispanic participants. In addition, these Asian females were predominantly first generation, and were a more diverse group of people compared to a more homogenous group of Hispanic females (i.e., who were exclusively Mexican-Americans) who primarily came from the second and the fourth generations. In addition, based on the feedback from the nonparticipant Chinese females, the poor return rate may stem from privacy concerns and feelings of being disrespectful when evaluating their relationship with mothers (found in the IPPA scale). Other cross-cultural researchers (Phinney, Ong, & Maden, 2000) have also mentioned the poor return rate from immigrant groups. They have noticed that participants who have more contact with the larger society usually are more acculturated and are willing to volunteer themselves to support research than nonparticipants. Future studies should be aware of the difficulty in recruiting a Chinese sample, and the impact of such a heterogenous sample of cultural groups on a study.

The following limitations relate to methodology. First, because the current study only employed self-reported measures (i.e., single-item and multi-dimensional-items measures), the responses may not reflect the actual attitudes or beliefs when compared to another type of measure used (i.e., an interview). In particular, the single-item self-report measures (i.e., AAQ, RQ) may promote social desirability and thus contaminate the results. It would be important for future research to include other types of measures (i.e., an interview) to enrich the description of attachment.

In addition, the limited exploration of insecure attachment patterns has been due to methodological problems. Future studies exploring insecure attachment or cross-cultural studies of attachment should consider using the ECR attachment measure since the current study found that the ECR has a high internal reliability across the three cultural groups (see Table 4). In addition, the multi-dimensional and continuous-rating psychometric properties of this scale allow for more statistical flexibility in analyzing data than the categorical measures would allow.

Another methodologically-related limitation was that the four attachment measures (i.e., AAQ, RQ, ECR, IPPA)

used in this study were based on different underlying concepts of attachment: the AAQ is based on Ainsworth's infant classification; the RQ is based on the model of self and model of other; the IPPA is based on the positive and negative affective-cognitive dimensions on "psychological security" as outlined by John Bowlby; and the ECR is based on the dimensions of avoidance and anxiety. Thus, significant findings may be in part related to the measures used, as seen in the acculturation and attachment link in this study. Amazingly, although these scales have different underlying concepts, some attachment patterns are moderately correlated. For example, the AAQ and RQ measures of secure attachment are moderately correlated ($r=.66$, $p<.000$). This moderate correlation may pose another concern regarding whether there are actually two significant findings between individualism and secure attachment (as measured by the AAQ and the RQ scales) or only one significant finding. Future studies should be aware of the variation of measures as well as the moderate relationship among attachment measures. Nevertheless, the emerging of the multidimensional ECR measure is encouraging in terms of overcoming this methodological shortcoming.

Implications and Conclusions

The present study was a pioneering effort to discover the relationship between culture and attachment at both the group and the individual levels. Even though no cultural group effect of attachment was found, the significant finding at the individual level helps to expand the concept of individualism-collectivism residing within an individual. In addition, this significant individual effect of attachment has been used to cross-validate the findings from other cultures. The main findings of this study, discussed below, assist in understanding the bridge between culture and attachment.

First, results show partial support for the link between culture and Self-Construal. More specifically, Anglo females, (i.e., the individualist-cultural group), were more independently-oriented than Hispanic females (but not the Asian females). Conversely, Anglo females were less interdependently-oriented than Asian females (but not the Hispanic females). The results suggest the need for a separate analysis for each of the ethnic minority groups to reveal a potential within ethnic minority group variation.

Second, contrary to the hypothesis, the cross-cultural model of attachment was not supported at the

group level, but was supported at the individual level. The following specific results were found: 1) secure attachment was positively and significantly correlated with Independent Self-Construal (individualism), 2) ambivalent attachment was positively and significantly correlated with Interdependent Self-Construal (collectivism), and 3) avoidant attachment was negatively and significantly correlated with Interdependent Self-Construal (collectivism). The results may provide support for the typical distal-secure attachment assumption, and for the proximal-ambivalent assumption as mentioned earlier. In addition, the results also support the controversial claim that attachment may be more related to individualism than collectivism, and thus it is proposed that there may be another type of secure base which reflects collectivism, namely an collective secure base.

In sum, these findings add to the growing support for the claim that Independent and Interdependent Self-Construals coexist *within individuals* and are not limited to a culturally-specific concept (Singelis, 1994; Singelis et al., 1999). It also adds to the growing recognition that the meaning of attachment should be qualified within the cultural context.

Third, acculturation was correlated with secure attachment (but not with insecure attachment), although results varied depending on the attachment measures used. This finding suggests that the new multidimensional psychometric property inserted in the acculturation scale may help in understanding of the link between acculturation and an individualism-collectivism continuum. This type of research has been limited or ignored, possibly because of a lack of sensitive measures to detect this link.

Although the results of the current study are premature to suggest any implication for practice, mental health workers should be aware of the concept of individualism and collectivism and its effect on attachment. At this juncture, mental health workers should incorporate the measure of cultural patterns (i.e., SCS) as an additional piece of background information for obtaining a better rapport with clients.

The overall results of this study are weakly supportive of the cross-cultural model of attachment. Nevertheless, this study pioneers a search for the empirical support for cultural influences on attachment and embraces both universal and culturally specific perspectives of attachment theory. As suggested by

Rothbaum et al. (2000), " ...an awareness of different conceptions of attachment would clarify that relationships in other cultures are not inferior but instead are adaptations to different circumstances" (p. 1101). However, the author of the current study asserts that researchers should not ignore the undesirable impact of adaption (or maladaptation) on the mental health development of an individual as well as a particular culture. Researchers should cite both the universal and culturally-specific aspects of attachment in order to buffer insensitive and inappropriate interpretations of cultural values and to become more competent in the understanding of intercultural relationships. In a broader sense, the cross-cultural model of attachment will help to provide a better understanding of the development of individual attachment as well as intercultural relationships.

FOOTNOTES

1. The communal kibbutz arrangement is the traditional caregiving arrangement of kibbutz infants in Israel. Infants residing in the communal arrangement spend 9 hours each day for 6 days per week under the primary care of metaplot (caregivers). During the hours of 4-8 P.M., parents spend time with their infants at home and send their infants back to the communal setting after 8 P.M. These infants remain in the setting at night under the care of watch women who supervise a roomful of infants at night (Sagi et al., 1994).

2. The only difference between the communal arrangement and the home-based arrangement is that infants residing in the home-based arrangement go home at 4.00 P.M. and do not return their infants to the setting until the next morning (Sagi et al., 1994).

3. There is no study which focuses on infants' stress levels found in the modified and unmodified kibbutz communal sample (Sagi et al., 1985) and the Sappora study (Takashi, 1986). Most studies only cited either findings that show a percentage of secure or insecure attachment patterns that support their hypotheses or findings.

4. Although the Li-Pac' study (1982), the Takashi's Study (1986), and the Miyake, Chen, & Campos, (1985) have

been categorized as studies that show a predominance of secure attachment (more than 50% of secure attachment and comparable to the percentage of secure attachment patterns found in the Ainsworth et al. (1978) study), these studies can be recategorized as studies that show a predominance of insecure attachment because these studies have at least two and one-half times more ambivalent patterns when compared to the ambivalent patterns found in the Ainsworth study.

5. In support of this view, research which emphasizes on four subgroups of the secure attachment patterns (e.g., B1, B2, B3, B4) has found that different cultures tend to prefer different secure subgroups and parallel to the majority findings of that particular culture. For example, 1) the American sample with a higher percentage of secure attachment tends to have a majority of B3 secure subgroup, 2) the Northern German sample with a higher percentage of avoidant attachment tends to have a predominance of avoidant-like secure subgroup (B1), and 3) the Chinese-American sample with a higher percentage of ambivalent attachment than the Baltimore sample tends to have a predominance of ambivalent-like secure subgroup (B4) (Li-Pac, 1982).

6. To illustrate this point, although Japanese samples (e.g., Takashi, 1986) have found a similar percentage of secure attachment patterns compared to the Baltimore sample, both differ in type of secure subgroups and insecure attachment. For example, Japanese samples tend to have the most ambivalent-like secure subgroup (B4), and ambivalent type of insecure attachment and the American Baltimore sample tend to have the most B3 secure subgroup and avoidant type of insecure attachment (Li-pac, 1982).

7. It is important to keep in mind that warm, emotionally-responsive parents who either practice proximal or distal modes of interaction may also have securely attached infants when these parents are capable of balancing their infants' attachment-exploration needs.

APPENDIX A:
A SUMMARY OF CROSS-CULTURAL OF STUDIES
OF ATTACHMENT

APPENDIX A

A Summary of Cross-cultural Studies of Attachment

Name of countries Name of studies	secure %	avoidant %	Amibivalent %	Conclusion	Remarks.
America: Ainsworth et al. (1987)	65	22	13		-standard sample
German: Bielefeld study# (Grossmann et al., 1981)	32.7	49	12.2	childrearing	-more avoidant patterns (2X) compared to the Ainsworth study
Regensburg study* (Escher-Graeub and Grossmann (1983)	>50	-	-	delay independence	-more secure patterns compared to both Bielefeld studies
Bielefeld German# (Grossmann et al., 1985)	-	46	-	childrearing	-more avoidant patterns (2X) compared to the Ainsworth study

Israel: Sagi et al. (1985) Modified communal kibbutz study*	69	13	17	unexplored cultural differences	-more secure patterns compared to the unmodified sample
Unmodified communal kibbutz study#	36	0	63		-more ambivalent patterns (4X) compared to the modified sample -more ambivalent patterns (5X) compared to the Ainsworth study
City sample*	75	3	16		-comparable % of secure patterns with the Ainsworth study
Sagi et al. (1994) Communal Kibbutz sample#	48	0	52	-unexplored cultural differences -insensitive care at night in the communal arrangement	-more ambivalent patterns (2X) compared to the home- based sample

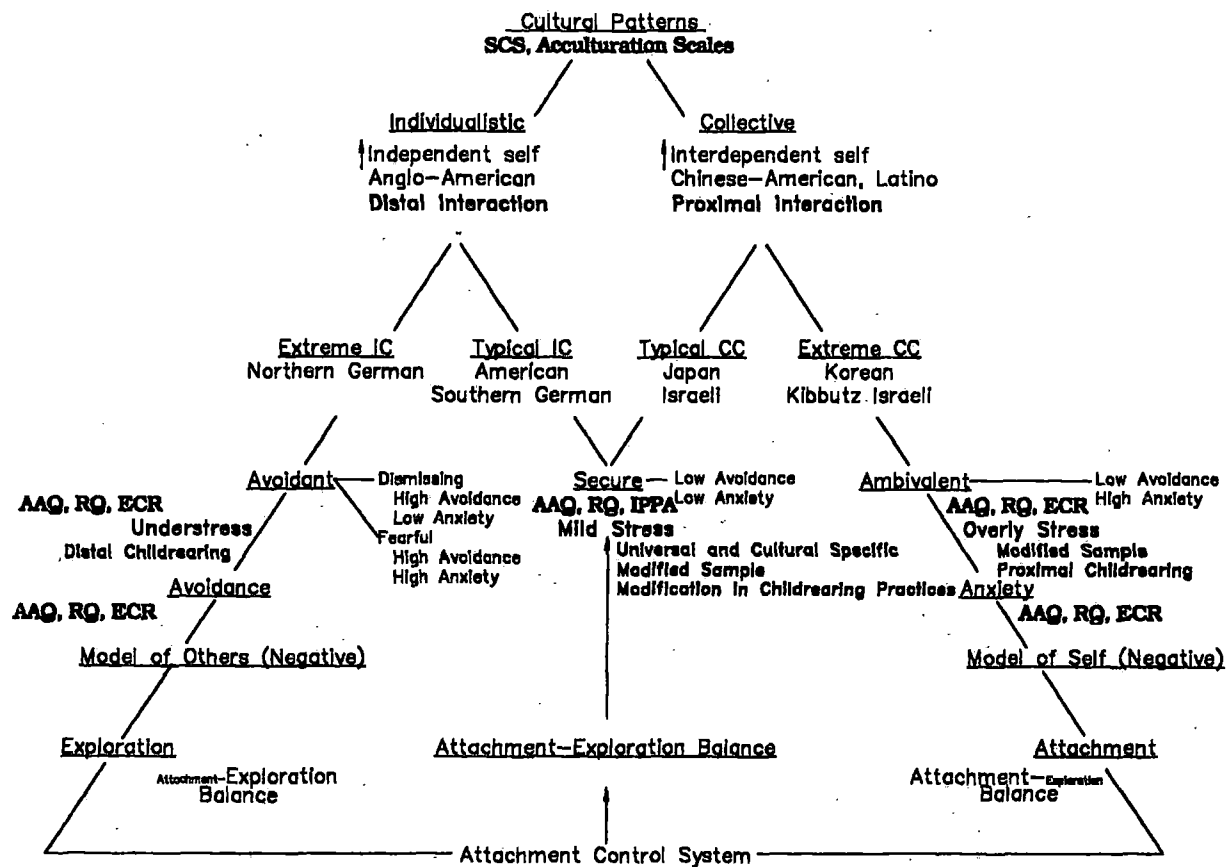
Home-based sample*	80	0	20		-more secure patterns (~2X) than the communal setting -no avoidant pattern
Japan: Miyake, Chen, & Campos (1985) *#	62	0	38	proximal mode of interaction in Japanese childrearing practice	-comparable % of secure patterns with the Ainsworth study -more ambivalent patterns (3X) compared to the Ainsworth study -no avoidant pattern
Modified Sapparo study*# Takashi (1986)	68	0	32	stress aroused by the Strange Situation procedure	-comparable % of secure patterns with the Ainsworth study -more ambivalent patterns (2½ X) compared to the Ainsworth study -no avoidant pattern
China: Peking study* (Hu & Meng, 1997)	68	16	16	striving/early independence results a high avoidant pattern	-comparable % of secure patterns with the Ainsworth study

America: Berkeley study# (Li-Pac, 1982)	46	23	31	Chinese vs. American childrearing	-more ambivalent patterns (2½ X) compared to the Ainsworth study
Korea: Korean adult study# (You & Kathleen, 2000)	-	-	>50	childrearing emphasizes relatedness	-more ambivalent patterns (4X) compared to the Ainsworth study

* comparable percentage of secure patterns with the Ainsworth et al. (1978) study

at least doubled the percentage of ambivalent and avoidant patterns when compared to the Ainsworth et al. (1978) study.

APPENDIX B:
A ACROSS-CULTURAL MODEL OF ATTACHMENT



APPENDIX C:
ADULT ATTACHMENT QUESTIONNAIRE

APPENDIX C

Adult Attachment Questionnaire

Please rate each of the relationship styles above to indicate how well or poorly each description corresponds to your general relationship style.

	Not At All Like me				Somewhat Like Me				Very Much Like Me
	1	2	3	4	5	6	7		
_____ 1	I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, others want me to be more intimate than I feel comfortable being.								
_____ 2	I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't worry about being abandoned or about someone getting too close to me.								
_____ 3	I find that others are reluctant to get as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to get very close to my partner, and this sometimes scares people away.								

Read each of the three self-descriptions below (A, B, and C) and then place a checkmark next to the single alternative that best describes how you feel in romantic relationships or is nearest to the way you feel. (Note: The term "close" and "intimate" refer to psychological or emotional closeness, not necessarily to sexual intimacy.)

4. A. I am somewhat uncomfortable being close to others; I find it difficult to trust them completely, difficult to allow myself to depend on them. I am nervous when anyone gets too close, and often, others want me to be more intimate than I feel comfortable being.
- B. I find it relatively easy to get close to others and am comfortable depending on them and having them depend on me. I don't worry about being abandoned or about someone getting too close to me.
- C. I find that others are reluctant to get as I would like. I often worry that my partner doesn't really love me or won't want to stay with me. I want to get very close to my partner, and this sometimes scares people away.

APPENDIX D:
RELATIONSHIP QUESTIONNAIRE

APPENDIX D

Relationship Questionnaire

Please rate each of the following relationship styles according to the extent to which you think each description corresponds to your general relationship style.

- | | Not At All
Like me | | Somewhat
Like Me | | Very Much
Like Me |
|----------|---|---|---------------------|---|----------------------|
| | 1 | 2 | 3 | 4 | 5 |
| _____ 1. | It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me. | | | | |
| _____ 2. | I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others. | | | | |
| _____ 3. | I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them. | | | | |
| _____ 4. | I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me. | | | | |

Following are descriptions of four general relationships styles that people often report. Please read each description and circle the letter corresponding to the style that best describes you or is closest to the way you are in generally your close relationships.

5. A. It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me.
- B. I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.
- C. I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.
- D. I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.

APPENDIX E:
EXPERIENCES OF CLOSE RELATIONSHIPS
INVENTORY

APPENDIX E

Experiences in Close Relationships Inventory

The following statements concern how you feel in romantic relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by indicating how much you agree or disagree with it. Write the number in the space provided, using the following rating scale:

Strongly Disagree	Disagree	Somewhat Disagree	Neutral/ Mixed	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

- ___ 1. I prefer not to show a partner how I feel deep down.
- ___ 2. I worry about being abandoned.
- ___ 3. I am very comfortable being close to romantic partners.
- ___ 4. I worry a lot about my relationships.
- ___ 5. Just when my partner starts to get close to me I find myself pulling away.
- ___ 6. I worry that romantic partners won't care about me as much as I care about them.
- ___ 7. I get uncomfortable when a romantic partner wants to be very close.
- ___ 8. I worry a fair amount about losing my partner.
- ___ 9. I don't feel comfortable opening up to romantic partners.
- ___ 10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
- ___ 11. I want to get close to my partner, but I keep pulling back.
- ___ 12. I often want to merge completely with romantic partners, and this sometimes scares them away.
- ___ 13. I am nervous when partners get too close to me.
- ___ 14. I worry about being alone.
- ___ 15. I feel comfortable sharing my private thoughts and feelings with my partner.
- ___ 16. My desire to be very close sometimes scares people away.
- ___ 17. I try to avoid getting too close to my partner.
- ___ 18. I need a lot of reassurance that I am loved by my partner.

Strongly Disagree	Disagree	Somewhat Disagree	Neutral/ Mixed	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

- ___ 19. I find it relatively easy to get close to my partner.
- ___ 20. Sometimes I feel that I force my partners to show more feeling, more commitment.
- ___ 21. I find it difficult to allow myself to depend on romantic partners.
- ___ 22. I do not often worry about being abandoned.
- ___ 23. I prefer not to be too close to romantic partners.
- ___ 24. If I can't get my partner to show interest in me, I get upset or angry.
- ___ 25. I tell my partner just about everything.
- ___ 26. I find that my partner(s) don't want to get as close as I would like.
- ___ 27. I usually discuss my problems and concerns with my partner.
- ___ 28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
- ___ 29. I feel comfortable depending on romantic partners.
- ___ 30. I get frustrated when my partner is not around as much as I would like.
- ___ 31. I don't mind asking romantic partners for comfort, advice, or help.
- ___ 32. I get frustrated if romantic partners are not available when I need them.
- ___ 33. It helps to turn to my romantic partner in times of need.
- ___ 34. When romantic partners disapprove of me, I feel really bad about myself.
- ___ 35. I turn to my partner for many things, including comfort and reassurance.
- ___ 36. I resent it when my partner spends time away from me.

Scoring Instructions

STEP 1: Recode the reversed variables, such that 1=7, 2=6, etc. You may want to create temporary variables, which can be reversed without potentially incorrectly transforming the original data. (We computed temp3 for item number 3, etc., for use in scoring below.)

Compute temp3 = A3. Compute temp15 = A15. Compute temp19 = A19.
Compute temp25 = A25. Compute temp27 = A27. Compute temp29 = A29.
Compute temp31 = A31. Compute temp33 = A33. Compute temp35 = A35.
Compute temp22 = A22.

Recode temp3 to temp22 (1=7) (2=6) (3=5) (5=3) (6=2) (7=1).

STEP 2: Compute scores for the two dimensions, avoidance and anxiety.
Compute AVOIDANC = mean.14 (A1, temp3, A5, A7, A9, A11, A13, temp15, A17, temp19, A21, A23, temp25, temp27, temp29, temp31, temp33, temp35).

Compute ANXIETY = mean.14 (A2, A4, A6, A8, A10, A12, A14, A16, A18, A20, temp22, A24, A26, A28, A30, A32, A34, A36).

STEP 3: Compute attachment-style categories from the classification coefficients (Fischer's linear discriminant functions) based on our sample of N = 1082.

Compute SEC2 = avoidanc*3.2893296 + anxiety*5.4725318 - 11.5307833.
Compute FEAR2 = avoidanc*7.2371075 + anxiety*8.1776446 - 32.3553266.
Compute PRE2 = avoidanc*3.9246754 + anxiety*9.7102446 - 28.4573220.
Compute DIS2 = avoidanc*7.3654621 + anxiety*4.9392039 - 22.2281088.

Variable Labels

sec2 coeff secure dimension

fear2 coeff fearful dimension

pre2 coeff preoccupied dimension

dis2 coeff dismissing dimension.

If (sec2 > max(fear2, pre2, dis2)) ATT2 = 1.

If (fear2 > max(sec2, pre2, dis2)) ATT2 = 2.

If (pre2 > max(sec2, fear2, dis2)) ATT2 = 3.

If (dis2 > max(sec2, fear2, pre2)) ATT2 = 4.

Variable labels ATT2 coefficient-based attachment category.

Value labels ATT2 1 secure 2 fearful 3 preocc 4 dismiss/.

APPENDIX F:
INVENTORY OF PARENT-PEER ATTACHMENT

APPENDIX F

Inventory of Parent-Peer Attachment

Each of the following statements asks about your feelings about your mother, or the woman who has acted as your mother. If you have more than one person acting as your mother (e.g. a natural mother and a step-mother) answer the questions for the one you feel has most influenced you. Please answer these questions as they relate to while you were a child and write the number in the space provided, using the following rating scale:

Almost Never or Never True	Not Very Often True	Sometimes True	Often True	Almost Always Or Always True
1	2	3	4	5

- ___ 1. My mother respected my feelings.
- ___ 2. I felt my mother did a good job as my mother.
- ___ 3. I wish I had had a different mother.
- ___ 4. My mother accepted me as I was.
- ___ 5. I liked to get my mother's point of view on things I was concerned about.
- ___ 6. I felt it was no use letting my feelings show around my mother.
- ___ 7. My mother was able to tell when I was upset about something.
- ___ 8. Talking over my problems with my mother made me feel ashamed or foolish.
- ___ 9. My mother expected too much from me.
- ___ 10. I got upset easily around my mother.
- ___ 11. I got upset a lot more than my mother knows about.
- ___ 12. When we discussed things, my mother cared about my point of view.
- ___ 13. My mother trusted my judgment.
- ___ 14. My mother had her own problems, so I didn't bother her with mine.
- ___ 15. My mother helped me to understand myself better.
- ___ 16. I told my mother about my problems and troubles.
- ___ 17. I felt angry with my mother.

Almost Never or Never True	Not Very Often True	Sometimes True	Often True	Almost Always Or Always True
1	2	3	4	5

- ___ 18. I didn't get much attention from my mother.
- ___ 19. My mother helped me to talk about my difficulties.
- ___ 20. My mother understood me.
- ___ 21. When I got angry about something, my mother tried to be understanding.
- ___ 22. I trusted my mother.
- ___ 23. My mother didn't understand what I was going through.
- ___ 24. I could count on my mother when I needed to get something off my chest.
- ___ 25. If my mother knew something was bothering me, she asked me about it.

APPENDIX G:
SELF-CONSTRUAL SCALE

APPENDIX G

Self-Construal Scale

This is a questionnaire that measures a variety of feelings and behaviors in various situations. Listed below are a number of statements. Read each one as if it referred to you. Beside each statement write the number that best matches your agreement or disagreement. Please respond to every statement.

Strongly Disagree	Disagree	Somewhat Disagree	Don't Agree Or Disagree	Somewhat Agree	Agree	strongly Agree
1	2	3	4	5	6	7

- ___ 1. I enjoy being unique and different from others in many respects.
- ___ 2. I can talk openly with a person who I meet for the first time, even when this person is much older than I am.
- ___ 3. Even when I strongly disagree with group members, I avoid an argument.
- ___ 4. I have respect for the authority figures with whom I interact.
- ___ 5. I do my own thing, regardless of what others think.
- ___ 6. I respect people who are modest about themselves.
- ___ 7. I feel it is important for me to act as an independent person.
- ___ 8. I will sacrifice my self interest for the benefit of the group I am in.
- ___ 9. I'd rather say "No" directly, than risk being misunderstood.
- ___ 10. Having a lively imagination is important to me.
- ___ 11. I should take into consideration my parents' advice when making education/career plans.
- ___ 12. I feel my fate is intertwined with the fate of those around me.
- ___ 13. I prefer to be direct and forthright when dealing with people I've just met.
- ___ 14. I feel good when I cooperate with others.
- ___ 15. I am comfortable with being singled out for praise or rewards.

Strongly Disagree	Disagree	Somewhat Disagree	Don't Agree Or Disagree	Somewhat Agree	Agree	Strongly Agree
1	2	3	4	5	6	7

- ___ 16. If my brother or sister fails, I feel responsible.
- ___ 17. I often have the feeling that my relationships with others are more important than my own accomplishments.
- ___ 18. Speaking up during a class (or a meeting) is not a problem for me.
- ___ 19. I would offer my seat in a bus to my professor (or my boss).
- ___ 20. I act the same way no matter who I am with.
- ___ 21. My happiness depends on the happiness of those around me.
- ___ 22. I value being in good health above everything.
- ___ 23. I will stay in a group if they need me, even when I am not happy with the group.
- ___ 24. I try to do what is best for me, regardless of how that might affect others.
- ___ 25. Being able to take care of myself is a primary concern for me.
- ___ 26. It is important to me to respect decisions made by the group.
- ___ 27. My personal identity, independent of others, is very important to me.
- ___ 28. It is important for me to maintain harmony within my group.
- ___ 29. I act the same way at home that I do at school (or work).
- ___ 30. I usually go along with what others want to do, even when I would rather do something different.

APPENDIX H:
ACCULTURATION RATING SCALE
FOR MEXICAN AMERICANS-II

APPENDIX H

Acculturation Rating Scale for Mexican Americans-II

1. Circle the generation that best applies to you. Circle one only.
1. 1st generation = You were born in Mexico or other country
 2. 2nd generation = You were born in USA.; either parent born in Mexico or other country.
 3. 3rd generation = You were born in USA, both parents born in USA and all grandparents born in Mexico or other country.
 4. 4th generation = You and your parents born in USA and at least one grandparent born in Mexico or other country with remainder born in the USA.
 5. 5th generation = You and your parents born in the USA and all grandparents born in the USA.

Use the scale below to answer questions 2-49 below. Write a number between 1-5 next to each item that best applies.

Not At all Often	Very Little Or Not Very Often	Moderately	Much and Very Often	Extremely Or Almost Always
1	2	3	4	5

- ___ 2. I speak Spanish.
- ___ 3. I speak English.
- ___ 4. I enjoy speaking Spanish.
- ___ 5. I associate with Anglos.
- ___ 6. I associate with Mexican and/or Mexican American.
- ___ 7. I enjoy listening to Spanish language music.
- ___ 8. I enjoy listening to English language music.
- ___ 9. I enjoy Spanish language TV.
- ___ 10. I enjoy English language TV.
- ___ 11. I enjoy Spanish language movies.
- ___ 12. I enjoy English language movies.
- ___ 13. I enjoy reading (e.g. books in Spanish).
- ___ 14. I enjoy reading (e.g. books in English).
- ___ 15. I write (e.g. letters in Spanish).
- ___ 16. I write (e.g. letters in English).

Not At all Often	Very Little Or Not Very Often	Moderately	Much and Very Often	Extremely Or Almost Always
1	2	3	4	5

- ___ 17. My thinking is done in the Spanish language.
- ___ 18. My thinking is done in the English language.
- ___ 19. My contact with Mexico has been.
- ___ 20. My contact with the USA has been.
- ___ 21. My father identifies or identified himself as "Mexicana".
- ___ 22. My mother identifies or identified herself as "Mexicana".
- ___ 23. My friends, while I was growing up, were of Mexican origin.
- ___ 24. My friends, while I was growing up, were of Anglo origin.
- ___ 25. My family cooks Mexican foods.
- ___ 26. My friends now are of Anglo origin.
- ___ 27. My friends now are of Mexican origin.
- ___ 28. I like to identify myself as Anglo American.
- ___ 29. I like to identify myself as Mexican American.
- ___ 30. I like to identify myself as a Mexican.
- ___ 31. I like to identify myself as an American.
- ___ 32. I have difficulty accepting some ideas held by Anglos.
- ___ 33. I have difficulty accepting certain attitude held by Anglos.
- ___ 34. I have difficulty accepting some behaviors exhibited by Anglos.
- ___ 35. I have difficulty accepting some values held by some Anglos.
- ___ 36. I have difficulty accepting certain practices and customs commonly found in some Anglos.

Not At all Often	Very Little Or Not Very Often	Moderately	Much and Very Often	Extremely Or Almost Always
1	2	3	4	5

- ___ 37. I have, or think I would have, difficulty accepting Anglos as close personal friends.
- ___ 38. I have difficulty accepting some ideas held by Mexicans.
- ___ 39. I have difficulty accepting certain attitude held by Mexicans.
- ___ 40. I have difficulty accepting some behaviors exhibited by Mexicans.
- ___ 41. I have difficulty accepting some values held by some Mexicans.
- ___ 42. I have difficulty accepting certain practices and customs commonly found in some Mexicans.
- ___ 43. I have, or think I would have, difficulty accepting Mexicans as close personal friends.
- ___ 44. I have difficulty accepting ideas held by some Mexican Americans.
- ___ 45. I have difficulty accepting certain attitude held by Mexican Americans.
- ___ 46. I have difficulty accepting some behaviors exhibited by Mexican Americans.
- ___ 47. I have difficulty accepting some values held by some Mexican Americans.
- ___ 48. I have difficulty accepting certain practices and customs commonly found in some Mexican Americans.
- ___ 49. I have, or think I would have, difficulty accepting Mexican Americans as close personal friends.

Cutting Score for Determining Acculturation Level Using ARSMA-II

Acculturation Levels	Description	ARSMA-II Acculturation Score
Level I	Very Mexican oriented	<-1.33
Level II	Mexican oriented to approximately Balanced bicultural	≥ -1.33 and ≤ -0.7
Level III	Slightly Anglo oriented bicultural	> -0.7 and < 1.19
Level IV	Strongly Anglo oriented	≥ 1.19 and ≤ 2.45
Level V	Very assimilated; Anglicized	> 2.45

APPENDIX I:
SUINN-LEW ASIAN SELF-IDENTITY
ACCULTURATION SCALE

APPENDIX I

Suinn-Lew Asian Self-Identity Acculturation Scale

The questions which follow are for the purpose of collecting information about your historical background as well as more recent behaviors which may be related to your cultural identity. Choose the one answer which best describes you.

1. What language can you speak?
 1. Asian only (for example, Chinese, Japanese, Korean, Vietnamese etc).
 2. Mostly Asian, some English.
 3. Asian and English about equally well (bilingual).
 4. Mostly English, some Asian.
 5. Only English.
2. What language do you prefer?
 1. Asian only (for example, Chinese, Japanese, Korean, Vietnamese etc).
 2. Mostly Asian, some English.
 3. Asian and English about equally well (bilingual).
 4. Mostly English, some Asian.
 5. Only English.
3. How do you identify yourself?
 1. Oriental.
 2. Asian.
 3. Asian-American.
 4. Chinese-American, Japanese-American, Korean-American, etc.
 5. American.
4. Which identification does (did) your mother use?
 1. Oriental.
 2. Asian.
 3. Asian-American.
 4. Chinese American, Japanese-American, Korean-American, etc.
 5. American.
5. Which identification does (did) your father use?
 1. Oriental.
 2. Asian.
 3. Asian-American.
 4. Chinese American, Japanese-American, Korean-American, etc.
 5. American.
6. What was the ethnic origin of the friends and peers you had, as a child up to age 6?
 1. Almost exclusively Asians, Asian-Americans, Orientals.
 2. Mostly Asians, Asian Americans, Orientals.
 3. About equally Asian groups and Anglo groups.
 4. Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.
 5. Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.

7. What was the ethnic origin of the friends and peers you had, as a child from 6 to 18?
 1. Almost exclusively Asians, Asian-Americans, Orientals.
 2. Mostly Asians, Asian Americans, Orientals.
 3. About equally Asian groups and Anglo groups.
 4. Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.
 5. Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.
8. Whom do you now associate with in the community?
 1. Almost exclusively Asians, Asian-Americans, Orientals.
 2. Mostly Asians, Asian Americans, Orientals.
 3. About equally Asian groups and Anglo groups.
 4. Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.
 5. Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.
9. If you could pick, whom would you prefer to associate with in the community?
 1. Almost exclusively Asians, Asian-Americans, Orientals.
 2. Mostly Asians, Asian Americans, Orientals.
 3. About equally Asian groups and Anglo groups.
 4. Mostly Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.
 5. Almost exclusively Anglos, Blacks, Hispanics, or other non-Asian ethnic groups.
10. What is your music preference?
 1. Only Asian music (for example, Chinese, Japanese, Korean, Vietnamese, etc.)
 2. Mostly Asian.
 3. Equally Asian and English.
 4. Mostly English.
 5. English only.
11. What is your movie preference?
 1. Asian-language movies only.
 2. Asian-language movies mostly.
 3. Equally Asian/English.
 4. English-language movies mostly.
 5. English-language movies only.
12. What generation are you ? (circle the generation that best applies to you:)
 1. 1st generation = I was born in Asia or country other than U.S.
 2. 2nd generation = I was born in U.S., either parent was born in Asia or country other than U.S.
 3. 3rd generation = I was born in U.S., both parents were born in U.S., and all grandparents born in Asia or country other than U.S.
 4. 4th generation = I was born in U.S., both parents were born in U.S., and at least one grandparent born in Asia or country other than U.S. and one grandparent born in U.S.
 5. 5th generation = I was born in U.S., both parents were born

- in U.S. and all grandparents also born in U.S.
6. Don't know what generation best fits since I lack some information.
13. Where were you raised?
1. In Asia only.
 2. Mostly in Asia, some in U.S.
 3. Equally in Asia and U.S.
 4. Mostly in U.S., some in Asia.
 5. In U.S. only.
14. What contact have you had with Asia
1. Raised one year or more in Asia.
 2. Lived for less than one year in Asia.
 3. Occasional visits to Asia.
 4. Occasional communications (letters, phone calls, etc.) with people in Asia.
 5. No exposure or communications with people in Asia.
15. What is your food preference at home?
1. Exclusively Asian food.
 2. Mostly Asian food, some American.
 3. About equally Asian and American.
 4. Mostly American food.
 5. Exclusively American food.
16. What is your food preference in restaurants?
1. Exclusively Asian food.
 2. Mostly Asian food, some American.
 3. About equally Asian and American.
 4. Mostly American food.
 5. Exclusively American food.
17. Do you
1. read only an Asian language.
 2. read an Asian language better than English.
 3. read both Asian and English equally well.
 4. read English better than an Asian language.
 5. read only English.
18. Do you
1. write only an Asian language.
 2. write an Asian language better than English.
 3. write both Asian and English equally well.
 4. write English better than an Asian language.
 5. write only English.
19. If you consider yourself a member of the Asian group (Oriental, Asian, Asian-American, Chinese-American, etc., whatever term you prefer), how much pride do you have in this group?
1. Extremely proud.
 2. Moderately proud.
 3. Little pride.
 4. No pride but do not feel negative toward group.
 5. No pride but do feel negative toward group.

20. How would you rate yourself?
1. Very Asian.
 2. Mostly Asian.
 3. Bicultural.
 4. Mostly Westernized.
 5. Very Westernized.
21. Do you participate in Asian occasions, holidays, traditions, etc.?
1. Nearly all.
 2. Most of them.
 3. Some of them.
 4. A few of them.
 5. None at all.
22. Rate yourself on how much you believe in Asian Values (e.g., about marriage, families, education, work):
- | | | | | |
|----------------|---|---|---|----------------------------------|
| 1 | 2 | 3 | 4 | 5 |
| Do not believe | | | | Strongly believe in Asian values |
23. Rate yourself on how much you believe in American (Western) values:
- | | | | | |
|----------------|---|---|---|-------------------------------------|
| 1 | 2 | 3 | 4 | 5 |
| Do not believe | | | | Strongly believe in American values |
24. Rate yourself on how well you fit when with other Asians of the same ethnicity:
- | | | | | |
|------------|---|---|---|---------------|
| 1 | 2 | 3 | 4 | 5 |
| Do not fit | | | | Fit very well |
25. Rate yourself on how well you fit when with other Americans who are non-Asian (Westerners):
- | | | | | |
|------------|---|---|---|---------------|
| 1 | 2 | 3 | 4 | 5 |
| Do not fit | | | | Fit very well |
26. There are many different ways in which people think of themselves. Which ONE of the following most closely describes how you view yourself?
1. I consider myself basically an Asian person (e.g., Chinese, Japanese, Korean, Vietnamese, etc.). Even though I live and work in America, I still view myself basically as an Asian person.
 2. I consider myself basically as an American. Even though I have an Asian background and characteristics, I still view myself basically as an American.
 3. I consider myself as an Asian-American, although deep down, I always know I am an Asian.
 4. I consider myself as an Asian-American, although deep down, I view myself as an American first.
 5. I consider myself as an Asian-American. I have both Asian and American characteristics, and I view myself as a blend of both.

APPENDIX J:
DEMOGRAPHIC INFORMATION

APPENDIX J

Demographic Information

Please checkmark the appropriate answer or fill in the appropriate space as carefully and accurately as you can.

1. Your age: _____
2. Your gender (check one):
☐ Male ☐ Female
3. Your current marital status (check one):
☐ Single ☐ Married ☐ Separated
☐ Divorced ☐ Widowed ☐ Other (specify: _____)
4. Do you have any children?
☐ Yes How many? _____ Age(s) _____
☐ No
5. How do you usually describe your ethnic background? (check one)
☐ White (go to #9)
☐ Black (go to #9)
☐ Native American (go to #9)
☐ Hispanic (or Latino)
☐ Asian
If you are Asian, please specify: _____ (e.g.,
Chinese from mainland China, Taiwan, Vietnam, Singapore,
Malaysia, etc.).
6. How many years have you lived in the United States? _____
7. What age were you when you came to the United States? _____
8. Is English your first language?
☐ Yes ☐ No (what is your first language?: _____)
9. How does your husband usually describe his ethnic background?

10. How does your mother usually describe her ethnic background?

11. How does your father usually describe his ethnic background?

12. What is the highest level of education you have completed?
(check one)
☐ Elementary to 6th grade
☐ 7th to 8th grade (Junior high school)
☐ 9th to 12th grade (senior high school)
☐ 1 to 2 years of college (include A.A. Degree)
☐ 3 to 4 years of college (B.A. or B.S. Degree)
☐ some post-graduate work
☐ graduate or professional degree
(specify: _____)

13. What was the highest level of education your father completed?

14. What was the highest level of education your mother completed?

15. What is your current approximate annual household income?
(check one)

- ☐ less than \$10,000
- ☐ \$10,000 - \$25,000
- ☐ \$25,000 - \$35,000
- ☐ \$35,000 - \$50,000
- ☐ \$50,000 - \$75,000
- ☐ over \$75,000

APPENDIX K:
PEARSON CORRELATIONS FOR THE ATTACHMENT
AND THE SELF-CONSTRUAL

APPENDIX K

Pearson Correlations for the Attachment and the Self-Construal

	Self-Construal	
	Independent (n=199)	Interdependent (n=199)
AAQ:		
Avoidant	-.24***	.05
Secure	.39***	.14
Ambivalent	-.18**	.04
RQ:		
Secure	.37***	.13
Fearful	-.09	-.01
Preoccupied	-.03	.05
Dismissing	.07	-.03
ECR:		
Avoidance	-.36***	-.18**
Anxiety	.14*	.20***
IPPA:		
Secure	.32***	-.00
* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$		

APPENDIX L:
THE DESCRIPTION OF SECURE SUBGROUPS

APPENDIX L

The description of Secure Subgroups (see in Li-Pac, 1982, p.112)

Subgroup B2

The baby greets his mother upon reunion, tends to approach her, and seems to want contact from her, but to a lesser extent than the B3 baby... The B2 baby may show some proximity avoiding, especially in Episode 5, but this gives way to proximity seeking in Episode 8, thus distinguishing him from the A2 baby. Although he accepts contact when picked up, he does not cling especially, and does not resist release. On the other hand, he shows little or no resistance to contact or interaction, and in general shows less mixed feelings than A2 babies. He tends to show little distress during the separation episodes.

Subgroup B4

The baby wants contact, especially during the reunion episodes, and seeks it by approaching, clinging, and resisting release; he is, however, less active and less competent in these behaviors than most B3 babies, especially in Episode 8. He seems wholly preoccupied with his mother throughout the strange situation. He gives the impression of feeling anxious throughout, with much crying. In the second separation, particularly, he seems entirely distressed... He may show some resistance to the mother, and indeed he avoid her by drawing back from her, or averting his face when held by her. Because he also shows strong contact-seeking behavior, the impression is of some ambivalence, although not as much as is shown by Group-C infants.

The Episodes of the Strange Situation Test (see in Sigelman, 1999, p.369)

Episode	Event	Attachment Behavior Observed
1.	Experimenter leaves parent and baby to play	
2.	Parent sits while baby plays	Use parent as secure base
3.	Stranger enters and talks to parent	Stranger anxiety
4.	Parent leaves; stranger lets baby play, offers comfort if needed	Separation anxiety
5.	Parent returns, greets baby, offers comfort if needed; stranger leaves	Reaction to reunion
6.	Parent leaves	Separation anxiety
7.	Stranger enters and offers comfort	Stranger anxiety; ability to be soothed by stranger
8.	Parent returns, greets baby, offers comfort, lets baby return to play	Reaction to reunion

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