TAIWANESE AND U.S. STUDENT ADULT ATTACHMENT WITHIN CLOSE RELATIONSHIPS

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ABSTRACT

The purpose of this project was to examine potential differences in undergraduate student attachment styles based on their nationality (Taiwanese and U.S.), gender (female and male), and the duration of their dating relationships (no relationship, less than 1 year, more than 1 year but less than 2 years, more than 2 years but less than 3 years, and more than 3 years). A total of 2,580 students participated in this study. Of these students, 1,298 were recruited from a university in Taiwan, and 1,282 were obtained from a university in the U.S.

Due to a lack of culturally-sensitive attachment theory and measures for the Asian population, in the current project, the author created a new scale based on the five Eastern cultural constructs identified by Wang and Song (2010) in order to gather data to better understand Taiwanese relational patterns. However, rather than confirming the five cultural constructs, a three-factor solution was found in this project. This solution better fit the data for Taiwanese students. The three-factors that were discovered were dialectical thinking and interdependent self-construal, filial piety, and yuan.

In the study to test the hypotheses, it was found that among the three cultural constructs, dialectical thinking and interdependency and yuan seemed to be more relevant to the attachment styles of Taiwanese students than filial piety. For the U.S. students, however, responses to yuan were significantly correlated with responses to attachment styles. Regarding the comparison between Taiwanese and U.S. participants, Taiwanese respondents seemed to relate to a dialectical thinking pattern, interdependency, and yuan better than U.S. students, while U.S. respondents rated higher on filial piety than the Taiwanese participants. In addition, the longer individuals were involved in a dating
relationship, the lower they scored on attachment avoidance. Even though females' overall scores on avoidance were higher than males, being in a relationship had greater salience for females than males. Strengths, limitations, and implications for research, theory, and practice are discussed.

*Keywords*: attachment, cross-cultural attachment theory, Taiwanese attachment, dialectical thinking, interdependent self-construal, filial piety, and yuan
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CHAPTER I
INTRODUCTION

The field of psychology has long understood the importance of relationships in human development and functioning. Theories of attachment began to emerge in the early 20th century that illuminated the overwhelming impact of early infant-parent relationships upon the development of psychopathology, the maintenance of psychological health, and adult relationships. This infant-parent relational bond is first established as a result of an infant’s interactions with a primary caregiver and is believed to affect relationships in adulthood. Thus, the importance of the infant-parent relationship and the existence of different attachment patterns cannot be over-emphasized and has been the focus of a large body of research in the 20th and 21st centuries.

After many years of research on attachment patterns among rhesus monkeys, Harry Harlow (1958) asserted that a mother’s personal characteristics are more important factors in attachment than food resources. Harlow proposed that this affectionate bond with an attachment figure (e.g., parent) is a significant influence from birth throughout the child’s development. Later, John Bowlby (1969) developed a theory of attachment and defined it as a stable connection between a mother and infant that provides feelings of safety and security for the child. Shortly thereafter, a now widely known research technique, the standard Strange Situation protocol and classification system, were
developed and utilized by Ainsworth, Blehar, Waters, and Wall (1978). Results from this research indicated the existence of three styles of attachment: secure, anxious-ambivalent, and anxious-avoidant. Children with a secure attachment use their caregiver as a secure base for exploration; protest the caregiver’s leaving, and seek proximity and feel comforted when the caregiver returns. Insecurely attached children of the anxious-ambivalent style are unable to use their caregiver as a secure base. Because the caregiver’s availability is not consistent, children feel a general level of anxiousness. They feel distressed on separation; are preoccupied with the caregiver’s availability; and seek contact, but resist angrily when it is achieved. Also on the insecure attachment spectrum, those children with an anxious-avoidant attachment style show little or no distress on the caregiver’s leaving and little or no visible response on return. They tend to ignore and do not maintain contact with their caregiver since they feel that there is no relational bonding.

In 1987, Hazan and Shaver began to focus on the connection between styles of attachment in infancy and adult attachment. In this work, the three infant attachment styles defined in the Strange Situation protocol were further developed to reflect adult relationships. This study revealed that an individual’s attachment style in the early infant-parent relationship remained consistent in later adult-peer relationships (Hazan & Shaver, 1987).

In addition to the seminal work by Hazan and Shaver (1987), a great volume of literature began to emerge in the early 1980s that noted the relevance of attachment principles to intimate adult relationships (Ainsworth, 1989; Aron, Dutton, Aron, & Iverson, 1989; Collins & Read, 1990; Hazan & Shaver, 1987; Main, Kaplan, & Cassidy,
argued that the features of the infant-caregiver bond (such as proximity-maintenance, separation-protest, and the secure base phenomenon) are active in most marital and committed, non-marital romantic relationships. Therefore, in order to study adult attachments within close relationships in various cultural settings, it is necessary to investigate the parental-child attachment and its impact on later romantic relationships.

Though the study of attachment has been focused in the Western world, research, theories, and measures related to this important subject is not limited to Western culture. Though there is a dearth of research on attachment among the Taiwanese, an attempt has been made to utilize attachment theory to elucidate patterns of bonding within the Taiwanese population. However, though these studies have utilized Taiwanese student samples, most of the research has relied upon a theory and measure of attachment that is based in a Western cultural model. As Wang and Wang (2007) noted, there has been no effort to modify attachment theory or measures to reflect an Eastern cultural model. Further, increased emphasis on the individual, common in a Western-based model, may limit the measure’s sensitivity among individuals demonstrating a more collectivistic orientation (DiTommaso, Brannen, & Burgess, 2005). The assumption that the Western theory of attachment requires no cultural adaptation for use with an Eastern population not only ignores cross-cultural differences, but also impedes upon the development of indigenous theories of psychology in Taiwan (Wang & Wang, 2007; Yang, 1993). Some researchers also argue that studies that do not make cultural adaptations or use culturally-sensitive methodologies cannot be considered cross-cultural research, as information sensitive to a particular culture may not be fully captured (Davidson, Jaccard, Triandis,
Morales, & Diaz-Guerrero, 1976). In addition, Chao (2001) has suggested that the development of a culturally sensitive model of attachment requires the integration of both universal and culturally specific perspectives. In congruence with this, Wang and Song (2010) also suggest that cross-cultural studies better capture the nuances of cultural differences when researchers incorporate Western-based and culturally sensitive components—or a combination of etic and emic approaches. To address these concerns, this study will investigate a current Western attachment theory, as well as some unique features of attachment in the Taiwanese culture. Ultimately, it is the aim of this study to investigate attachment behaviors among the Taiwanese population, and to help develop a more culturally appropriate theory of attachment for use in future research.

The Current Study

Research on attachment began to emerge in the early 20th Century in the U.S., and a variety of Western attachment measures have been used across various cultures. Researchers have drawn attention to the differences in attachment patterns of people from different nations. Yet, apart from acknowledging the difference in nationality as an independent variable, very few cross-cultural comparison studies have investigated the appropriateness of Western theory and the use of Western measures when studying attachment with non-Western populations. This oversight may lead to misinterpretations of data and misunderstandings regarding the attachment patterns of those from non-Western cultures. Since most attachment theories and measures were developed utilizing Western populations, it is questionable whether these theories and the instruments developed to measure them can accurately describe the relational phenomena of non-Western populations.
Wang and Mallinckrodt (2006) proposed that there are differences between the attachment styles of Taiwanese and U.S. individuals. In line with the literature, this study assumes that there are limitations inherent in using a Western instrument with individuals from non-Western cultures. With this concern in mind, the current author attempted to improve the cross-cultural relevance of a Western instrument while making a cross-cultural comparison of attachment styles between Taiwanese and North American individuals. In addition, the impact of gender and duration of relationships on attachment styles were also examined. Finally, the role of specific cultural variables derived from the Taiwanese culture was investigated in relation to attachment styles.

Currently, there are no measures of attachment that have been formulated specifically for use with the Taiwanese population. Cross-cultural validity addresses the question of comparability of observations across cultures; thus, the lack of cross-cultural validity of any Western attachment instrument is a very critical limitation when the instrument is applied within a Taiwanese population (Ægisdóttir, Gerstein, & Cinarbas, 2008; Lonner, 1985). Cross-cultural validity contains four equivalences that are used to address the question of comparability of observations across cultures. These equivalences are: (a) semantic/linguistic equivalence, (b) conceptual equivalence, (c) functional equivalence, and (d) metric equivalence. Each type of equivalence must be taken into consideration in a study in order to increase the accuracy of the cross-cultural comparison.

Several steps were taken to strengthen the accuracy and comparability of the current cross-cultural research. First, a Chinese version of a Western-based instrument, the Experiences in Close Relationships Scale-Chinese (ECRS-C) was modified by the
current author to increase its cultural appropriateness. The author also consulted with three specialists on Taiwanese attachment patterns regarding the scale’s semantic adequacy and made modifications based on their feedback. This step was utilized to address semantic equivalence. Though the semantic equivalence of the ECRS-C may have been adequately addressed by this strategy, it is still questionable whether the measure has construct and functional equivalence for a Taiwanese population.

Second, in order to enrich the understanding of Taiwanese relational patterns, the current researcher adopted the five Eastern cultural factors identified by Wang and Song (2010) and developed several additional culturally-relevant items, based on these cultural factors. These five cultural factors include: (a) interdependent self-construal, (b) yuan, (c) filial piety, (d) romantic love, and (e) dialectical thinking patterns (Wang & Song, 2010). Wang and Song propose that these five cultural factors constitute important cultural contexts for understanding a Chinese adult attachment model. Given this assumption, in order to better understand Taiwanese attachment patterns and further examine differences in the attachment styles of Taiwanese and U.S. individuals, this study aims to investigate the impact of the five cultural variables on attachment styles and to more accurately measure relational patterns by increasing the cross-cultural validity of the Western attachment measure.

In summary, by adopting Wang and Song’s (2010) five cultural elements into the ECRS-C, the current project will provide a better understanding of relational patterns amongst Taiwanese and U.S. college students. More specifically, this study will investigate the effects of nationality, sex, and duration of dating relationship on attachment style. This study may begin to illuminate the relationships between the sexes,
the duration of dating relationship, and attachment style, which have received little attention in previous research.
CHAPTER II
REVIEW OF LITERATURE

In order to understand patterns of attachment among Taiwanese students and the potential discrepancies between Taiwanese and U.S. patterns of attachment, it is necessary to first explore the origin of Western theories of attachment and the philosophical foundations of the Eastern principles discussed in this project. This chapter will first explore the Western theory of attachment and will then address the Eastern cultural factors that pertain to the cross-cultural study of attachment in Taiwan.

Western Attachment Theory

John Bowlby (1969), one of the pioneering attachment theorists, defined attachment as a stable emotional connection between caregiver and child that provides feelings of safety and security for the infant. The infant-parent bond is the outcome of interactions between the child and the parent in the course of the first year of life. Today, attachment is generally considered to be an enduring emotional bond with a specific figure—usually the child’s mother (Hazan & Shaver, 1994; Kenny & Rice, 1995). Although attachments are similar to other types of interpersonal relationships, they have several unique characteristics (Ainsworth, 1989). For instance, Ainsworth (1989)
proposed that attachment figures (those to whom one attaches) are not interchangeable with or easily replaced by others. Further, attachments are set apart from other relationships in that they include “the experience of security and comfort obtained from the relationship with the partner, and yet the ability to move off from the secure base provided by the partner, with confidence to engage in other activities” (Ainsworth, 1989, p. 711).

In order to better understand attachments, the defining features and functions of these unique types of relationships must be explored. There are three defining features and functions of attachment relationships: (a) proximity maintenance, (b) safe haven, and (c) secure base. Proximity maintenance, which includes proximity seeking (holding onto mother) and separation protest (fear when separated from mother), reflects an infant’s tendency to seek physical closeness with the mother. Safe haven describes the infant’s need to experience a mother who provides not only physical proximity but also availability and responsiveness. The infant will retreat to the mother as a source of comfort and support when s/he senses danger or feels tired, ill, or anxious. The mother also serves as a secure base from which the infant is able to engage in independent activities, such as exploration of the environment. Based on these features, Ainsworth et al. (1978) described three patterns of attachment: secure, anxious-ambivalent, and anxious-avoidant.

Of the three attachment patterns, secure attachment is the most common pattern found in U.S. populations, and has been observed in 55%-60% of North American infants (Campos, Barrett, Lamb, Goldsmith, & Stenberg, 1983; Hazan & Shaver, 1994). The secure infant seeks proximity, security, and comfort from the caregiver and has the ability
to use the caregiver as a secure base from which to explore the environment (Hazan & Shaver, 1994). Anxious-ambivalent attachment is the least common pattern, and is found in only 15%-20% of North Americans (Campos et al., 1983; Hazan & Shaver, 1994). In the anxious-ambivalent style, the caregiver responds inconsistently to the infant’s needs. Over time the infant becomes anxious and angry and appears preoccupied with his or her caregiver (Hazan & Shaver, 1994). Finally, about 25% of North American infants are classified as anxious-avoidant (Campos et al., 1983). In this relational style, the caregiver consistently rejects an infant’s signals for comfort, especially for close physical contact (Hazan & Shaver, 1994). Thus, the infant may eventually learn to ignore or avoid his or her caregiver or show little reaction or emotional response to the caregiver.

Though for decades these three styles of attachment have been examined and utilized by researchers worldwide (Mallinckrodt & Wang, 2004), more recently, Main and Solomon (1990) identified a fourth pattern – disorganized/dismissing attachment. This classification is typically applied to infants living in high-risk environments such as situations where parents are abusive, alcohol addicted, or depressed (Main & Hesse, 1990). Compared with infants whose attachments are organized (i.e., secure, anxious-avoidant, or anxious-ambivalent), an infant who is categorized as disorganized lacks coherent behaviors when in the parent’s presence (Solomon & George, 1999). For instance, infants were particularly ambivalent upon their parents’ return, both approaching and avoiding contact.

Each of the four attachment patterns generally accepted today begins to develop very early in life. Bowlby (1969) found that infants gradually build up expectations of their attachment figures through repeated interactions during the period from infancy on
to adolescence. Expectations about the availability and responsiveness of attachment figures are incorporated into “internal working models,” or mental representations of an attachment relationship. The concept of internal working models is the foundation for understanding the operation of attachment processes in relationships. These working models impact attachment experiences in adulthood and guide perceptions and behavior in adult relationships (Bowlby, 1969; Hazan & Shaver, 1994). Bowlby (1973) identified two key features of internal working models of attachment:

(1) whether or not the attachment figure is judged to be the sort of person who in general responds to calls for support and protection, and (2) whether or not the self is judged to be the sort of person towards whom everyone, and the attachment figure in particular, is likely to respond in a helpful way. (p. 204)

These two features represent an individual’s mental representations of both others and self (Bartholomew & Horowitz, 1991; Kachadourian, Fincham, & Davila, 2004). It is these mental representations that are repeatedly activated in both infant and adult relationships. Individuals with a positive working model of self see themselves as worthy of love and support, and as a result, experience less anxiety about being abandoned. Similarly, those with a positive model of others tend to view their romantic partners as available and trustworthy, and consequently, seek out intimacy and closeness with others (Kachadourian et al., 2004). These internal models help individuals manage and predict interactions with the outside world. They also have relevance to the theoretical and empirical literature regarding adult attachments (Bowlby, 1969; McCarthy, Moller, & Fouladi, 2001).
**Adult Attachment**

Internal working models are developed in infancy and impact an individual’s self-perception and experiences in adult relationships. Bowlby (1973) suggested that internal working models are relatively stable and often remain the same across the lifetime. Parent-child attachments likely predict the style of attachment one will carry into adulthood (Hazan & Shaver, 1987). Hazan and Shaver (1987) suggested that adult reports of their attachment histories are related to their adult attachment styles. For instance, secure adults reported warmer relationships with both parents when they were young, while avoidant adults reported that their mothers were cold and rejecting. Similar results were found in a study conducted by Collins and Read (1990). This study illustrated that certain patterns of attachment in children are comparable to those documented in adults. In the same year, Feeney and Noller (1990) used early attachment styles as predictors of romantic relationships. They found that secure individuals reported positive perceptions of their early family relationships, anxious-ambivalent individuals expressed a lack of independence and less support from their fathers, and avoidant individuals were prone to report childhood separation from their mothers. Later, Rothbaum, Weisz, Pott, Miyake, and Morelli (2000) also claimed that attachments in infancy and adulthood are strongly connected. In conjunction, these studies demonstrate the correlation between style of attachment in infancy and subsequent adult attachment style.

Given the strong correlation between parent-child and adult attachments, Hazan and Shaver (1987) translated the three infant attachment categories into terms appropriate for adult relationships: secure, avoidant, and anxious-ambivalent. Later, Bartholomew (1990) used different names for these three categories and added a new, fourth dimension.
Bartholomew’s four attachment patterns were derived from a combination of two dimensions—the model of self and the model of the other—that are comparable to Bowlby’s (1973) conceptualization of internal working models of attachment. Both Bowlby and Bartholomew proposed that there are four potential types of internal representations: positive self and positive other, negative self and positive other, negative self and negative other, and positive self and negative other (Bartholomew & Horowitz, 1991). These four representations correspond with secure, preoccupied, fearful-avoidant, and dismissive-avoidant attachment patterns, respectively (Bartholomew, 1990). Each of these styles will be addressed below.

The secure attachment style is characterized by a positive view of self and an expectation that others are generally accepting and responsive (positive model of the other). This secure style corresponds conceptually to Hazan and Shaver’s (1987) “secure attached” category of infant/child attachment. The preoccupied style indicates a negative view of self-combined with an expectation of positive interactions with others. Preoccupied individuals strive for self-acceptance by seeking the approval of valued others. Even though preoccupied individuals desire close relationships, they feel insecure or sometimes worthless (Klohnen & John, 1998). This pattern corresponds conceptually to Hazan and Shaver’s ambivalent style of infant/child attachment. The fearful-avoidant style involves a negative view of the self-combined with an expectation that others will perceive them negatively. By avoiding close relationships with others, fearful-avoidant individuals protect themselves against anticipated rejection. This pattern may correspond, in part, to the avoidant style described by Hazan and Shaver. The final style, dismissive-avoidant, involves a positive view of the self-combined with a negative disposition.
toward other people. Dismissive individuals protect themselves against disappointment by avoiding close involvement with others and maintaining a false sense of independence and invulnerability. This pattern corresponds conceptually to what Main, Kaplan, and Cassidy (1985) called a “dismissing of attachment attitude.”

Figure 1: Two Models of Attachment Style

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<td>Anxious-Ambivalent Attachment</td>
<td>Fearful-Avoidant Attachment</td>
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**Cross-cultural Understandings of Attachment**

The literature on adult attachment is helpful in understanding how adults perceive themselves and behave in their close relationships. This body of literature is fundamental to current psychodynamic theories of adult health and psychopathology. The vast majority of these theories have been developed and authenticated within a framework built upon a Western perspective. Though the Western principles of attachment are fundamental and invaluable, cultural contexts impact one’s attitudes toward self and other, romantic relationships, and attachment styles (Hatfield & Rapson, 1996; Markus & Kitayama, 1991; Schmitt et al., 2004). As a result, styles of adult attachment are likely to vary across culture and ethnicity. Thus, it may be concluded that an attachment instrument developed in the West has limitations in measuring attachment styles in non-
Western cultures. There is, however, a lack of research supporting the cross-cultural applicability of attachment (DiTommaso et al., 2005; Van IJzendoorn, 1990).

Researchers have reported cultural differences in the incidence of attachment categories; however, few have attempted to understand these categories within a different cultural context (Doherty, Hatfield, Thompson, & Choo, 1994; Schmitt et al., 2004; Sprecher et al., 1994). Many researchers have superimposed Western theories of attachment onto individuals from different cultures; yet, this method of research is not sufficient to capture the nuances of attachment in different ethnic groups. It has been suggested that assessment systems, such as attachment measures, based on Western norms of attachment behavior may be inappropriate if applied to individuals of other cultures (DiTommaso et al., 2005; Spencer-Rodgers, Peng, Wang, & Hou, 2004; Wang & Song, 2010). Similarly, many studies of attachment conducted within the Taiwanese populations utilized Western theories of attachment without considering the theory’s appropriateness within an Eastern culture (Wang & Song, 2010; Wang & Wang, 2007). As mentioned earlier, two significant obstacles arise when using a Western-based theory to study attachments with a Taiwanese population: (a) cross-cultural differences are disregarded, and (b) the development of an indigenous theory of psychology may be impeded in Taiwan (Wang & Wang, 2007; Yang, 1993).

Rothbaum and colleagues (2000, 2001) also expressed their concerns regarding the direct application of a Western attachment theory to Eastern cultures. From their perspective, in Western cultures independence and autonomy are the primary goals of child rearing, whereas, in Eastern cultures intimacy and dependency between mother and child are emphasized. Therefore, critics argue that core concepts of attachment theory are
not universally applicable (Rothbaum et al., 2000, 2001; Van IJzendoorn & Sagi-Schwartz, 2008). This concern is also considered by Wang and Song (2010), and they suggested that using the attachment theory developed by Bowlby, Ainsworth, and other Western theorists might not appropriately explain the patterns within intimate relationships in Eastern cultures. The current research assumes that these concerns regarding the inter-cultural use of psychological theories are valid and may revolve around two axes of contention: (a) categorical issues, and (b) issues concerning three core hypotheses.

**Categorical Issues**

Categorical issues are a set of concerns that occur when Western theories of attachment are attributed to the world’s other cultural groups. The current study attempts to ascertain the applicability of Western theories of attachment in the Taiwanese culture. Overall, Taiwanese researchers have found that attachment styles investigated in Taiwan are comparable with attachment styles examined in the United States (Wang & Wang, 2007). However, Wang and Wang (2007) also found that some discrepancies exist between Western and Eastern categorizations of attachment. For example, they indicated possible differences between the Western and Eastern definitions of a secure attachment.

In Wang and Wang’s (2007) study about the Taiwanese population, they proposed that a Eastern secure attachment could be divided into two subcategories: open-style and natural-style. People with an open-style, secure attachment actively approach others in relationships. Therefore, an open-secure style is conceptually similar to the Western secure attachment style. People with a natural-style, secure attachment, in contrast, do not actively approach others, but are driven by “destiny” to respond to others in a less active
manner. Thus, compared to open-style attachments, instead of taking a risk by outwardly expressing affection, people exhibiting a natural-style, secure attachment value interpersonal harmony by “going with the flow”, which is more consistent with traditional Eastern norms (Wang & Wang, 2007). Because of the value given to interpersonal harmony, the natural approach is also considered a securely attached behavior within the Taiwanese culture. However, the characteristics of this natural-style secure attachment (e.g., not actively approaching others, hindering personal expression to maintain harmony in relationships) may be perceived as a sign of attachment avoidance.

Another difficulty in categorizing attachment styles is related to an anxious-ambivalent attachment. Emotional dependency appears to be a primary cultural norm in Asian cultures; however, it may be associated with the character of attachment insecurity from a Western perspective. A study examining patterns of adult romantic attachments across 62 cultural regions, including nine countries from South, Southeast, and East Asia, claimed that in many Asian cultures, one’s acceptance of his or her romantic relationships is heavily dependent upon the perception of others (Sprecher et al., 1994). In a study by Wei, Russell, Mallinckrodt, & Zakalik (2004), the authors identified that some common patterns of behavior (e.g., depending on others and feeling anxious about acceptance from others) in Asian cultures are related to the characteristics of attachment anxiety in Western culture. Categorization of dependence as a non-secure attachment pattern would likely result in the disproportionate classification of East Asian populations as anxious-ambivalent (Sprecher et al., 1994).

A final problem related to use of Western theory with the Asian population is that researchers also have found that people with a highly preoccupied romantic attachment
tend to be less individualistic (more collectivistic) than those with a low preoccupied attachment. This highly preoccupied style was more commonly seen within Asian populations (Sprecher et al., 1994). Soon and Malley-Morrison (2000) suggested that East Asian individuals are more prone to strive for self-acceptance by gaining approval for their romantic relationships from highly valued others—a characteristic of preoccupied attachment. However, this “preoccupied style” and “dependence upon others’ approval” is normative in Eastern cultures. Therefore, in more interpersonally oriented cultures such as Taiwan, the result of attempting to understand attachment using a Western-based measurement is questionable and could lead to the stigmatization of an entire cultural group.

**Issues Related to the Three Core Hypotheses**

Before conducting studies on attachments in non-Western cultures utilizing a Western-based theory, researchers should consider various issues regarding three core hypotheses proposed by Van IJzendoorn and Sagi-Schwartz (2008). According to these authors, there are four core hypotheses central to attachment theory which are often emphasized in cross-cultural research: universality, sensitivity, competence, and normativity. The universality hypothesis is perceived as a fundamental principle of attachment and is defined as a phenomenon in which all infants become attached to a primary caregiver, except in a very few cases that involve neurophysiological impairments. The sensitivity hypothesis proposes that infants become securely or insecurely attached on the basis of their mother’s ability to sensitively respond to their signals. The competence hypothesis states that children who are securely attached become more socially and emotionally competent than those who are insecurely attached.
Finally, the normativity hypothesis emphasizes the capacity of caregivers to serve as a secure base, which is believed to increase infant survival.

Though the core hypotheses are generally accepted, Rothbaum et al. (2000) questioned the applicability of three of these four core hypotheses—sensitivity, competence, and normativity—and proposed several reasons why they believed the three basic tenets of attachment might not be relevant in every culture. First, for the sensitivity hypothesis, though the association between maternal sensitivity and security of attachment is widely supported by studies in the United States (Rothbaum et al., 2000), findings from studies in other cultures (such as Japan) are much less compelling (Van IJzendoorn & Sagi-Schwartz, 2008). Rothbaum et al. (2000) have identified fundamental differences in the ways sensitivity is expressed (skin-to-skin contact versus distal forms of contact), and more importantly, differences in the objectives of sensitivity (to foster exploration and autonomy versus dependence and emotional closeness). For instance, while infants in the United States are encouraged to explore their environment, the societal norm in Asia focuses on an infant’s dependence on their mother (Rothbaum et al., 2000). Such a major discrepancy demonstrates that the construct of sensitivity in Western cultures is very different from an Asian conceptualization.

Rothbaum et al.’s (2000) second question regarding cross-cultural applicability relates to the relevance of competence and secure attachment. In the United States, a secure attachment is likely to be associated with later social competence, such as exploration and autonomy (Rothbaum et al., 2000). However, Asian populations tend to manifest less social behavior compared to people from Western cultures (Rothbaum et al., 2000). For people from Asian cultures, they are more likely to associate social
competence and security with dependence, seeking of acceptance and commitment, and a
desire for union with their significant others (Fiske, Kitayama, Markus, & Nisbett, 1998;
Rothbaum et al., 2000). Contrary to the Western norms, competence is based upon
exploration, efficacy, sociability, and a willingness to disclose affection with peers and
unfamiliar others (Rothbaum et al., 2000). Thus, when applying the competence
hypothesis as a means to investigate attachments in different cultures, it is imperative to
incorporate the indigenous definition or meaning of social competence.

Finally, Rothbaum et al. (2000) maintained that the conceptualization of the
secure base reflects the Western emphasis on exploration that leads to individuation.
Earlier studies claimed that the link between attachment and exploration is universal and
applicable to other cultures (Ainsworth, 1978; Bowlby, 1969). However, in Eastern
cultures, researchers found that the link between attachment and dependence is stronger
than that between attachment and exploration (Rothbaum et al., 2000; Van IJzendoorn &
Sagi-Schwartz, 2008). Even though the conceptualization of the secure base has generally
been perceived as universal, in Asian societies, attachment researchers may want to
consider using it within a more culturally sensitive framework.

Given the categorical issues and concerns regarding the three core hypotheses
described above, it is inadvisable to apply a Western-based attachment theory to Eastern
cultures without careful consideration and cultural adaptation. However, there are still
some common factors that are universal across cultures. In particular, in both Western
and non-Western cultural groups, the research has revealed a similar relationship between
attachments and gender and the duration of time individuals have been in a relationship.
The relevant literature related to the impacts of gender and the duration of a dating relationship on attachment will be discussed later in this chapter.

**Eastern Cultural Factors in Relationships**

There are many cultural variables that play an important role in relationships in Asian styles of relatedness. Among these cultural variables, three concepts are frequently mentioned as universal characteristics that impact relational interactions in Eastern cultures: interdependent self-construal, dialecticism, and filial piety. The current researcher believes that these three concepts are deeply rooted in an individual’s beliefs and values and proposes that these factors are critical for an accurate and well-rounded understanding of Taiwanese adult attachment patterns.

**Interdependent Self-construal (互相依賴的自我建構)**

The concept of self-construal is a trait-like disposition embracing one’s beliefs, feelings, attitudes, and actions in social relations (Markus & Kitayama, 1991; Wang & Ratanasiripong, 2010). Researchers have identified two distinct types of self-construal (independent and interdependent) and stated that both types of construal are developed based on cultural norms (Markus & Kitayama, 1991). Interdependent self-construal has been perceived as one of the important factors that influence how individuals from the Eastern cultures think about their adult attachments. The traditional Chinese culture values collectivism and emphasizes connectedness among individuals. The *self* is defined as inseparable from one’s relational context, and one’s esteem is defined by the views of others in one’s social group. Therefore, people with interdependent self-construal not only value harmony in interpersonal relationships, but are also more willing to sacrifice personal goals for the needs of their social reference group (Markus & Kitayama, 1991;
Wang & Mallinckrodt, 2006). In contrast, most people from Western cultures develop a relatively strong independent self-construal. They hold individualistic values and place a strong emphasis on the uniqueness and rights of an individual to act free of the constraints of others. Valuing a relatively strong, independent self-construal, individuals from a Western culture tend to consider themselves and others as separate units. For instance, they are prone to pursue individual interests, establish distinct self-other boundaries, celebrate unique personal characteristics, and place an emphasis on direct self-expression (Markus & Kitayama, 1991; Wang & Ratanasiripong, 2010). Thus, it was proposed that both types of self-construal (especially interdependent self-construal for the Taiwanese population) and attachment theory are fundamentally concerned with predictable relational patterns (Wang & Mallinckrodt, 2006).

**Dialecticism (辯證論)**

Dialectical thinking has been suggested as another cultural factor that may elucidate East-West differences in adult attachment patterns. Dialecticism is based on three primary principles: contradiction (two opposing components may both be true), change (the universe is constantly changing), and holism (everything in the universe is interrelated; Spencer-Rodgers et al., 2004). Dialectical thinking is rooted in Eastern philosophical tradition, in which recognizing and accepting the duality in the universe (e.g., yin and yang) is regarded as normative (Peng & Nisbett, 1999). Similarly, Asians are more prone to acknowledge and accept psychological contradiction, including positive and negative views of the self. Different from the Eastern principle of contradiction, Western norms emphasize three basic principles: the law of identity (if it is true, then it is always true), non-contradiction (A cannot equal not A), and the excluded
middle (everything has to be either true or false; Peng & Nisbett, 1999; Spencer-Rodgers et al., 2004). According to this, people from Western cultures are generally less comfortable with contradiction and incongruity; instead, they place a value on synthesizing contradiction within a linear model. As a result, it has been believed that dialectical thinking tendencies influence the way in which Asians evaluate themselves, which may have important implications on adult attachment.

**Filial Piety (孝)**

Filial piety can be traced back to Confucian thought. As a filial son, one must serve his parents with a proper (highly respectful) attitude; nourish them while making them happy; take meticulous care of them in sickness; and sacrifice to them with solemnity (Ikels, 2004). In the Eastern cultures, children should provide “filial respect and filial submission” to their parents; repay their parents in every possible way, and care about them and treat them kindly (Wang, 2004). A daughter’s filial practices include, but are not limited to, faithful service of her parents-in-law and becoming a part of her husband’s family (Wang & Song, 2010). These practices not only impact parent-child relationships, but also influence the ways people relate to and interact with others in their daily life. One’s identity in society is defined in reference to relationships established with others, and filial piety is a practice that specifically identifies the self in reference to the family (Wang & Song, 2010). Thus, filial piety provides a framework for examining and understanding the self in relationships with others.

**Sex and Attachment**

Shaver, Hazan, and Bradshaw (1988) began their studies of romantic relationships with the notion that romantic love is an integration of attachment, care-giving, and
gender. Though it is widely accepted that attachment and care-giving impact romantic relationships, these authors suggested that sex also plays a fundamental role in building close relationships. As described earlier, the three domains of attachment are strongly connected to the way in which each partner perceives his or her relationship. Yet, Shaver et al. (1988) found that males and females differed significantly in their perceptions of relationship quality. Collins and Read (1990) found that men rated their relationships as greater in quality when their partner scored high for feeling anxious about being abandoned, whereas women perceived greater quality in their relationships when their partner was more comfortable with closeness. This finding provided evidence that men and women perceived their romantic relationships very differently.

Apart from the mediating role gender plays in romantic relationships, it also has a significant impact on attachment style. A study by Simpson, Rholes, and Nelligan (1992) indicated that highly avoidant men expressed less warmth and less supportiveness when discussing a major problem with their partner, while this result was not discovered for women with attachment avoidance. Kirkpatrick and Davis (1994) also discovered gender differences in attachment. They found that men who were identified as avoidant used a strategy that resulted in less positive and less constructive interactions with their romantic partner. Consequently, these men gave the most negative ratings to their relationships. On the other hand, women who were identified as anxious-ambivalent experienced significant stress and anxiety in their romantic relationships, and thus, gave the most negative ratings to their relationships. Thus, it is clear that gender impacts the manner in which attachment style affects close relationships in adulthood.
These gender differences in attachments not only occur in Western cultures, but also exist in Eastern cultures (Wang & Mallinckrodt, 2006; Wu, 2005). One study examined differences in attachments for men and women and found that, in comparison to Taiwanese men, Taiwanese women exhibited more anxiety when thinking about their ideal relationships (Wang & Mallinckrodt, 2006). Another study suggested that Taiwanese women were more prone to be dominating and demanding in order to cope with the difficulties in their close relationships, whereas Taiwanese men were more likely to use avoidance as their coping strategy (Wu, 2005). These gender differences in relational patterns for the Taiwanese population are consistent with the gender differences discovered in research conducted on Western populations.

Despite the seeming similarities between findings for Eastern and Western cultures, Hazan and Shaver (1994) proposed that the parallels might be the result of biases in the measurement instruments. The authors stated that “the anxious/ambivalent pattern sounds very much like the clingy, dependent aspects of the female stereotype, and the avoidant pattern strongly resembles the stereotypical intimacy-evading male” (1994, p. 17). If differences between sexes are considered when studying attachment, questions can be raised about the validity of the similarities in the attachment of Western and Eastern populations.

**Duration of Dating Relationship and Attachment**

Although many studies of attachment have focused on differences between the sexes, few have considered the impact of the duration of dating relationships on relational patterns. Most attachment studies gather demographic information including the length of the participant’s dating relationship and the modal length of time dating (Powers,
However, among the studies investigating adult attachments in romantic relationships (Collins & Read, 1990; Feeney & Noller, 1990; Powers et al., 2006; Simpson, 1990; Simpson et al., 1996), only one (Feeney & Noller, 1990) discussed the relationship between attachment style and the duration of dating relationship. Feeney and Noller (1990) found that greater duration of adult attachment relationships contributes to higher ratings of relationship satisfaction and may also be associated with more secure attachments among couples.

Sensitive to the issues inherent in the cross-cultural study of attachment, researchers have been raising concerns regarding the use of Western-based theory in non-Western cultures. These concerns have led to the investigation of variables that may impact attachment behavior in different cultural contexts. From the literature described earlier, both sex and duration of dating relationship are generally known to impact attachment styles, and the influence of these common factors seems to reveal similar results in attachment in both Western and Eastern cultures.

**Summary**

Starting from John Bowlby’s theory of attachment (1969), Hazan and Shaver (1987) proposed the relevance between parent-child and adult attachment. The study of attachment is not just limited to Western cultures, but more and more researchers start exploring attachment in Western cultures. This exploration led to discussion about the limitations of generalizing a Western-based attachment theory or instrument across cultures (DiTommaso et al., 2005; Spencer-Rodgers et al., 2004; Wang & Song, 2010). Considering this limitation, the current researcher seeks to understand not only the differences in attachment among different populations, but also wishes to explore how to
more accurately understand individuals’ relational patterns through consideration of their socio-cultural context.

In an attempt to explore the cultural elements relevant to attachment patterns in Taiwan, the current researcher used a Western instrument, the Experiences in Close Relationships Scale (ECRS), to measure both Taiwanese and U.S. students’ attachment styles. However, due to the lack of cultural elements in the ECRS, the current researcher also constructed a new cultural scale composed of items developed based on Eastern cultural norms in order to better understand Taiwanese relational patterns.

**Hypotheses**

Based on a review of the literature and the researcher’s interest in differences in attachment styles of Taiwanese and U.S. individuals, the current study investigates the following hypotheses:

1) There will be a relationship between the three Eastern cultural factors and attachment styles for Taiwanese individuals;

2) There will not be a relationship between the three Eastern cultural factors and attachment styles for U.S. individuals;

3) Taiwanese individuals will have higher scores on each of the three Eastern cultural variables, as compared to U.S. participants;

4) There will be no difference between the attachment styles of Taiwanese and U.S. participants when the effects of the three Eastern cultural factors of attachment style are controlled;
5) There will be no difference in attachment styles of Taiwanese and U.S. participants based on the duration of dating relationship when the effects of the three Eastern cultural factors of attachment style are controlled;

6) Taiwanese and U.S. women will have higher anxious attachment scores than Taiwanese and U.S. men, and men will have higher levels of avoidant attachment style than women when the effects of the three Eastern cultural factors of attachment styles are controlled.
CHAPTER III

METHODOLOGY

The current project was conducted to study the differences in adult attachment styles of Taiwanese and U.S. students based on their nationality, gender, and the length of their dating relationships and to further determine whether Eastern cultural factors had an impact on individuals’ relational patterns.

Participants

A total of 2,580 U.S. and Taiwanese students participated in this study. Out of these, 1,298 (50.3%) Taiwanese students (females: 654, 25.3%; males: 644, 25.0%) enrolled at Kaohsiung Medical University in Taiwan were recruited through an email advertisement to various departments. Through an announcement made in counseling psychology undergraduate classes and a campus wide email, 1,282 (49.7%) U.S. students (females: 704, 27.3%; males: 578, 22.4%) enrolled at Ball State University were recruited. In this study, only undergraduate students from Taiwan and the U.S. were included in the sample used for the data analysis. This sample included 1,070 (47.6%) Taiwanese and 1,180 (52.4%) U.S. students (See Table 1). Among the U.S. students, there were 1,039 (88.1%) Caucasian, 52 (4.4%) African American, 30 (2.5%) Asian American, 27 (2.3%) Latino/Hispanic, 4 (0.3%) Native American, and 28 (2.4%)
participants describing themselves as “Other.” An attempt was made to recruit students of similar age from both Taiwan ($M = 21.0, SD = 2.1$) and the U.S. ($M = 20.8, SD = 4.3$). As for level of education, 478 (21.2%) were freshmen (Taiwan: 104, 9.7%; U.S.: 374, 21.2%), 550 (24.4%) were sophomores (Taiwan: 279, 26.1%; U.S.: 271, 23.0%), 599 (26.6%) were juniors (Taiwan: 334, 31.2%; U.S.: 265, 22.5%), and 623 (27.7%) were seniors (Taiwan: 353, 33.0%; U.S.: 270, 22.9%). Participants’ birth order was listed as follows: 929 (41.3%) were the oldest child (Taiwan: 478, 44.7%; U.S.: 451, 38.2%), 419 (18.6%) were the middle child (Taiwan: 158, 14.8%; U.S.: 261, 22.1%), 734 (32.6%) were the youngest (Taiwan: 356, 33.3; U.S.: 378, 32.0%), and 168 (7.5%) were the only child (Taiwan: 78, 7.3%; U.S.: 90, 7.6%). Students were divided into five groups based on their relationship status: (a) not currently involved in a romantic relationship (total: 995, 44.2%; Taiwan: 518, 48.4%; U.S.: 477, 40.4%), (b) dated less than 1 year (total: 478, 21.2%; Taiwan: 184, 17.2%; U.S.: 294, 25.0%), (c) dated more than 1 year but less than 2 years (total: 324, 14.4%; Taiwan: 150, 14.0%; U.S.: 174, 14.7%), (d) dated more than 2 years but less than 3 years (total: 212, 9.4%; Taiwan: 96, 9.0%; U.S.: 116, 9.8%), and (e) dated more than 3 years (total: 241, 10.7%; Taiwan: 122, 11.4%; U.S.: 119, 10.1%).

**Procedure**

An email, including the URL address to an online survey and a message explaining that this study was about “the experience of close relationships,” was distributed to potential participants (see Appendices A and B). Either the Mandarin Chinese (for Taiwanese students) or English (for U.S. students) versions of the demographic information form, the Experiences in Close Relationships Scale (ECRS),
Table 1

Demographic Information

<table>
<thead>
<tr>
<th></th>
<th>Taiwanese Students</th>
<th>U.S. Students</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>(n = 1,070; 47.6%)</td>
<td>(n = 1,180; 52.4%)</td>
<td>(n = 2,250)</td>
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<td>Demographics</td>
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<tr>
<td></td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
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<td>1,070</td>
<td></td>
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<tr>
<td>U.S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
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<td>52</td>
<td></td>
</tr>
<tr>
<td>Asian American</td>
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<td></td>
</tr>
<tr>
<td>Caucasian</td>
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<td>1,039</td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
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<td>27</td>
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</tr>
<tr>
<td>Native American</td>
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<td>4</td>
<td></td>
</tr>
<tr>
<td>Other</td>
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</tr>
<tr>
<td>Sex</td>
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<td></td>
</tr>
<tr>
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<td>532</td>
<td>55.3</td>
</tr>
<tr>
<td>Men</td>
<td>50.3</td>
<td>538</td>
<td>44.7</td>
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<tr>
<td>Birth Order</td>
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<td></td>
</tr>
<tr>
<td>Oldest</td>
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<td>478</td>
<td>38.2</td>
</tr>
<tr>
<td>Middle</td>
<td>14.8</td>
<td>158</td>
<td>22.1</td>
</tr>
<tr>
<td>Youngest</td>
<td>33.3</td>
<td>356</td>
<td>32.0</td>
</tr>
<tr>
<td>Only</td>
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<td>78</td>
<td>7.6</td>
</tr>
<tr>
<td>Year in School</td>
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<td>Sophomore</td>
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<td>23.0</td>
</tr>
<tr>
<td>Junior</td>
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</tr>
<tr>
<td>Senior</td>
<td>33.0</td>
<td>353</td>
<td>22.9</td>
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</tr>
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<td>40.4</td>
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<td>184</td>
<td>25.0</td>
</tr>
<tr>
<td>Dating &gt;1&lt;2 yrs</td>
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<td>150</td>
<td>14.7</td>
</tr>
<tr>
<td>Dating &gt;2&lt;3 yrs</td>
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<td>96</td>
<td>9.8</td>
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<tr>
<td>Dating &gt;3 yrs</td>
<td>11.4</td>
<td>122</td>
<td>10.1</td>
</tr>
</tbody>
</table>
and the new cultural scale (made of additional items associated with five cultural factors) were included in the survey. Students took this survey online through the InQsit program supported by Ball State University. They were informed that it would require 10 to 15 minutes to complete the survey. Participants were asked to read the instructions carefully and to give the most appropriate answer to each item. All participants were asked to complete the demographic information first. Taiwanese students responded to the survey in Mandarin Chinese and the U.S. students responded in English. Students were also informed that their responses would be kept confidential and used for research purposes only. Following completion of the measures, the U.S. students who were enrolled in a Counseling Psychology class received a research credit and both the U.S. and Taiwanese students were entered into a drawing for an iPod Touch as an incentive.

**Instrument**

Participants were asked to complete an author-generated *demographic instrument* that included items such as ethnicity, sex, age, current year in school, marital status, and the length of their current dating relationship. The demographic questions were presented in Mandarin Chinese and English to Taiwanese and U.S. participants, respectively (see Appendices C and D).

The Experiences in Close Relationships Scale (ECRS), developed by Brennan, Clark, and Shaver (1998), is a 36-item, self-report measure of adult attachment (see Appendix E) comprised of two subscales: Anxiety and Avoidance. These constructs were derived from a factor analysis of 60 constructs, which included 482 items extracted from a thorough literature review of previous attachment research. The Anxiety subscale (18 items) assesses fear of rejection and preoccupation with abandonment from a romantic
partner. The Avoidance subscale (18 items) measures fear of intimacy and discomfort with getting close to significant others. The ECRS items are rated on a 7-point, Likert-type scale ranging from 1 to 7 (1 = disagree strongly, 2 = disagree somewhat, 3 = disagree slightly, 4 = neutral/mixed, 5 = agree slightly, 6 = agree somewhat, 7 = agree strongly). Subscale scores are obtained by reverse keying negatively worded items and calculating the mean of the 18 items. There is no total scale score. For the ECRS, respondents are asked to rate how they generally experience romantic relationships, above and beyond their current relationship. If respondents have not experienced a romantic relationship, they are asked to imagine how they would feel if they were in a romantic relationship.

Brennan et al. (1998) reported that the internal reliability (coefficient alpha) was .91 for the Anxiety subscale and .94 for the Avoidance subscale. Two studies found test-retest reliabilities for the ECRS. Brennan, Shaver, and Clark (2000) reported that, with a three-week interval, retest reliabilities for both subscales were .70. Lopez and Gormley (2002) also found that retest reliabilities with a six-month interval were .68 for Anxiety and .71 for Avoidance. In terms of construct validity (convergent validity), scores on the ECRS have been found to be significantly correlated with scores on other measures of adult attachment and with self-report measures of touch aversion and sexual feelings (Brennan et al., 1998, 2000).

Because of the comprehensive nature of the ECRS and its widespread use in Western studies of adult attachment, Mallinckrodt and Wang (2004) selected the ECRS as the best candidate for adaptation into Mandarin Chinese language in order to create a measure to promote adult attachment research in the Chinese culture. The instrument was
adapted through two primary procedures: a back-translation and a dual-language, split-half (DLSH) procedure.

For the back-translation procedure, the original ECRS was first translated into Mandarin Chinese by two native speakers of Chinese who were fluent, English-speaking, doctoral students in counseling psychology. The discrepancies between the two versions were ultimately resolved and a new draft translation was agreed upon. This new draft of the Chinese version of the ECRS was given to a bilingual, Taiwanese student with a major in Translation and Interpretation for back-translation. A native English speaker with a doctoral degree in counseling psychology then compared the back-translated English version with the original ECRS, to evaluate the semantic equivalence of the two versions. The final Mandarin Chinese version was labeled the ECRS-C (see Appendix F; Mallinckrodt & Wang, 2004).

After using a traditional back-translation procedure to verify the equivalence of the ECRS-C adaptation, the DLSH approach was utilized to provide convincing evidence for the semantic equivalence of the ECRS. The DLSH procedure required two alternative forms. Each form consisted of half the items presented in the original language (English) and half the items presented in the target language (Mandarin Chinese). Form A of the dual-language version was composed of 18 items in English and 18 items in Chinese (e.g., 9 items from each subscale, such as Anxiety or Avoidance, in each language). Form B presented the same 18 items, in the opposite language, with the 18 English items from Form A presented in Chinese, and the 18 Chinese items from Form A presented in English. Next, either Form A or Form B was administered to 15 bilingual students.
individually. At least 10 days after the first test, these students were given a retest that contained the same version (Form A or Form B) of the ECRS/ECRS-C.

Three tests for semantic equivalence were run on this DLSH approach. These included: DLSH reliability, internal reliability, and retest reliability. The results of these tests indicated strong support for the semantic equivalence of the ECRS and the ECRS-C. Two tests also were run to investigate the construct validity on the DLSH approach. Even though the construct of Avoidance measured by the ECRS demonstrated equivalent correlations across Chinese-language and English-language subsets of items, it should be noted that the English-language items designed to assess the construct of Anxiety were more strongly associated with an English-language measure of fear of intimacy than the same anxiety items worded in Mandarin Chinese (Mallinckrodt & Wang, 2004).

**ECRS-C and New Instrument**

Regardless of the findings reported by Mallinckrodt and Wang (2004), the cross-cultural validity of the ECRS remains questionable. Lonner (1985) and Ægisdóttir et al. (2008) proposed that cross-cultural validity addresses the question of comparability of observations across cultures and includes four equivalences: (a) semantic/linguistic equivalence, (b) conceptual equivalence, (c) functional equivalence, and (d) metric equivalence. Semantic/linguistic equivalence addresses the wording of items in different language versions of an instrument. Conceptual equivalence refers to the meaning attached to the behavior or concept (e.g., help seeking). Functional equivalence refers to the function of the behavior (e.g., smiling) under study. Metric equivalence refers to the psychometric properties of the tool used to measure the construct across cultures. It is
important to address cross-cultural validity because it enhances understanding of cultural differences, especially between Western and non-Western cultures.

When examining the previous research on the cross-cultural validity of the ECRS, the current researcher found potential limitations when applying a Western theory of attachment to the Eastern culture of Taiwan. These limitations are related to semantic (e.g., the translation of scales), conceptual (e.g., the content and construct of attachment), or functional equivalence (e.g., the function of attachment). Some of these limitations are dealt with in the current study. For instance, in order to help address conceptual and functional equivalence, the current researcher developed new items based on five cultural factors that are considered relevant to understanding the relational patterns of persons from Taiwan.

**Semantic equivalence.** As mentioned earlier, in order to appropriately translate the ECRS to the Chinese version, Mallinckrodt and Wang (2004) provided convincing evidence for semantic equivalence by using both traditional back-translation and the DLSH approach. Even though Mallinckrodt and Wang made a precise, word-by-word translation of the ECRS-C, concerns still remain regarding the level of semantic adequacy for the ECRS-C. For instance, even though items were carefully translated, there were still questions about whether the translated Chinese words or items were equally understood by the Taiwanese and U.S. respondents.

To explore this issue, the current researcher administered both the original ECRS and the translated ECRS-C to three Taiwanese, licensed, clinical psychologists who were fluent in Mandarin and English in order to assess the scales’ semantic adequacy. These individuals were asked to read the ECRS and to compare the translation of the ECRS-C...
with the ECRS. They were specifically asked to focus on the definition and wording of
the Chinese terms, the fluency of the Chinese sentences, and the meaning of the Chinese
items in regard to consistency with the original English items.

As a result of the process just described, minimal modifications were
recommended by the three Taiwanese professionals. For instance, they suggested
modifying the wording of the Chinese definition of prefer, in Item 1. They used 傾向
(prefer) instead of 寧願 (rather). Though this modification did not change the meaning of
the term prefer, the former (傾向, prefer) was commensurate with greater fluency. A
modification was also suggested for Item 16. The professionals recommended using 渴望
(desire) instead of 念頭 (thought or idea) for the English word desire because the
meaning of 渴望 (desire) was closer to desire than 念頭 (thought or idea). Further, one to
two words were added, removed, or reworded for Items 9, 15, 20, 21, 23, 26, and 29.

**Conceptual and functional equivalences.** Though the semantic equivalence of
the ECRS-C has been adequately addressed, it was still questionable whether the measure
had construct and functional equivalence for a Taiwanese population. The ECRS-C
appears to reflect attachment from a Western, rather than an Eastern perspective. For
example, the content and construct of attachment may be very different in the Taiwanese
culture. However, Mallinckrodt and Wang’s (2004) study did not account for this
possibility. Therefore, the ECRS may not have conceptual equivalence.

Additionally, questions remained about the functional equivalence of the ECRS-
C. Thus, it was debatable whether the well-translated, Mandarin Chinese terms would be
understood by a Taiwanese population. For instance, were the concepts of proximity
maintenance and secure base, which were fundamental principles of the current, Western attachment theory, perceived or understood in the same way in the Taiwanese culture? With concept and functional equivalence in mind, the current researcher adopted the five cultural factors identified by Wang and Song (2010) as unique Eastern cultural norms: (a) interdependent self-construal, (b) yuan, (c) filial piety, (d) romantic love, and (e) dialectical thinking patterns (Wang & Song, 2010). Wang and Song believed that these cultural norms would help researchers to better understand the aspects of Eastern attachment as these norms are commonly seen in the daily interactions and relationships of Asian populations. Thus, new items were constructed based on these five cultural concepts that were believed to be related to attachment for the Taiwanese population. The Eastern cultural norm comprised of these five Taiwanese cultural concepts is discussed more thoroughly below.

**Eastern Cultural Norms: The Five Cultural Concepts**

**Interdependent self-construal (互相依賴的自我建構).** Self-construal has been conceptualized as a trait-like disposition involving beliefs, feelings, attitudes, and actions regarding one’s relationship to others (Markus & Kitayama, 1991). Markus and Kitayama proposed two types of self-construal—*independent* and *interdependent*—and suggested that people develop their self-construal based on their cultural background. As discussed earlier, a Western culture generally values individualism, in which the independence and uniqueness of each individual are emphasized. However, Eastern cultures tend to have collectivistic values and strongly favor the development of an interdependent self-construal, in which the self is defined as inseparable from one’s relational context.
An interdependent self-construal may be common for the adult attachments of individuals from Eastern cultures. Western attachment measurements are believed to capture one’s character of independency, as individuals have been described in Western attachment theory as entities independent from others (Bartholomew & Horowitz, 1991). Further, Western theories of attachment suggest that the internal working model of the self functions separately from the working model of others (Bartholomew & Horowitz, 1991; Wang & Song, 2010). Even though this Western model appears to be effective for those with independent self-construal, it may not accurately encapsulate adult attachment for Taiwanese populations, which are likely to have stronger interdependent self-construal.

**Yuan (緣).** The second construct, Yuan, can be understood as the predestined connection between two persons (Yang & Ho, 1988). Wang and Song (2010) stated that Chinese people believe that any relationship happens for reason and the development of significant interpersonal relationships is never random; rather it is the *relational fate* that brings two individuals together to form a particular relationship. From a Chinese worldview, every important relationship occurs for a reason and current relationships are opportunities to complete whatever was left unfinished in a previous life (Hsu, 1981; Yang & Ho, 1988). Thus, the concept of yuan plays a critical role in relatedness for many Eastern cultures. Consequently, the acceptance of predestined connections in a relationship is believed to have significant implications for understanding Taiwanese attachments. Nevertheless, in the Western-based attachment model, “trust” is the most fundamental element in relationships with others, and each person is considered an independent individual who may decide to terminate a relationship if a sense of trust has
been violated (Wang & Mallinckrodt, 2006). For Taiwanese populations, “trust” may also be perceived as an important factor in a relationship; however, the belief in relational fate may outweigh the idea of trust when two individuals deeply believe they are meant to be with each other (Wang & Mallinckrodt, 2006).

**Filial piety (孝).** Filial piety is the cultural value outlining individual loyalty and obligated deference to the family, especially to older adults (Wang & Song, 2010; Yeh, 1997). The concept of filial piety focuses on loyalty to one’s parents, so a filial daughter is expected to respect, obey, please, and take the best possible care of her parents. For instance, a filial son/daughter is supposed to marry someone who is “approved” or liked by his/her family. Filial piety does not only influence Chinese parent-child relationships, but also impacts every important aspect of day-to-day interpersonal behavior. It is demonstrated in interpersonal relationships, systems of family governance, and manners of daily living. The core idea of adult attachment is the relatedness of self to others. This concept overlaps with the Chinese value and practice of filial piety, a practice that identifies the self in reference to the family, and provides a framework used to understand the self (Wang & Song, 2010).

**Romantic love (浪漫愛情).** Dion and Dion (1996) proposed that romantic love is experienced and expressed differently in various cultures, so it could be best understood and studied when the fundamental cultural values and beliefs are taken into consideration. For instance, Hsu (1981) proposed that Western ideals of romantic love are characterized by intense emotional experiences, direct affective expressions, and exclusive commitments to romantic partners, while the Chinese culture conceptualizes romantic love through collectivistic characteristics such as emotional restraint, obligation
to parents, and the importance of the social network. A study of Chinese romantic love conducted by Moore (1998) also showed that “conservatism” is deeply rooted in Chinese beliefs about romantic relationships. Conservatism places great value on caution, slow pace, limiting intimate experiences, seriousness, and parental approval. Thus, different ways of expressing one’s affection in a romantic relationship may be interpreted and perceived differently within different cultural contexts.

Hazan and Shaver (1987) were the first to attempt to conceptualize romantic relationships in adulthood as an attachment process, and later, a great volume of research emerged to investigate the relevance of attachment principles in intimate adult relationships. However, if romantic love is conceptualized and expressed differently in the Western and Eastern cultures, the applicability of the Western conceptualization of adult attachment with Taiwanese individuals is questionable (Wang & Song, 2010).

**Dialectical thinking pattern (辯證的思考模式).** Researchers suggest that dialectical thinking is deeply rooted in traditional Eastern philosophical beliefs such as the principle of contradiction (Spencer-Rodgers et al., 2004). The principle of contradiction, a distinctive feature of dialectical thinking, involves embracing contradictory elements and accepting their co-existence in one entity (Peng & Nisbett, 1999). For instance, the well-known Chinese Taoist symbol, in which yin and yang coexist and interweave to form a circle, exemplifies this dialectical thinking. However, in Western cultures, an analytical, logical thinking approach is highly valued and this approach tends to polarize contradiction and compare similarities and differences (Wang & Song, 2010).
Dialectical thinking has been found to have direct impact on expression of self-concept (Spencer-Rodgers et al., 2004). Wang and Song (2010) believe that it may also have significant implications on adult attachment. From the Western perspective, securely attached individuals are likely to develop self-acceptance, which relies on a linear model and creates a positive appraisal of self with a decreased negative self-image. However, instead of relying on a linear model, a psychologically healthy Chinese individual may adapt to the principle of contradiction and be more willing to admit to the possession of both negative and positive characteristics. Within this framework, Chinese individuals, for instance, may be more likely to accept both their partner’s strengths and weaknesses.

Given the five constructs just described, thirty-one new items were developed for the current study to represent an Eastern cultural norm. Again, this strategy was employed to potentially improve the understanding of the constructs of attachment for a Taiwanese population. Two sample items for each of these constructs are presented in Figure 2.

**Validity and Reliability of the Five Cultural Concepts Instrument**

A comprehensive review of the literature was completed regarding the five cultural concepts relevant to this study—interdependent self-construal, yuan, filial piety, romantic love, and dialectical thinking patterns. As a result of this process, once again, thirty-one items were developed by the primary researcher to assess these Taiwanese cultural norms. This process was employed to increase the content validity of the items linked with this new measure.
Following the development of these new items, three Taiwanese professors and one professor from Hong Kong were provided the definitions of the five constructs and given the items. They were asked to examine the items to potentially increase their content validity. Each of these four evaluators had worked in a U.S. university for several years and was familiar with East Asian cultures. Utilizing their cultural and language backgrounds, these professors provided their feedback to assure that the items were representative of the five cultural concepts. The professors were asked to review the initial list of items and (a) delete items they believed did not fit a construct, (b) reword items they thought did not effectively convey their intended meaning, (c) add items to

<table>
<thead>
<tr>
<th>Cultural Factors</th>
<th>Sample Items</th>
</tr>
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</table>
| Interdependent Self-Construal     | 1. I see myself as inseparable from my romantic partner.  
2. I usually do not share opinions that are different from others in order to maintain harmony in my social group. |
| Yuan                              | 1. My romantic partner and I are meant to be in love.  
2. I think there is a predestined connection between my romantic partner and I. |
| Filial Piety                      | 1. It is very important for me to be highly respectful toward my parents and elders.  
2. I would select a romantic partner who fits best with my family. |
| Romantic Love                     | 1. Rather than verbally expressing my affection towards my romantic partner, I would choose to do nice things for him or her.  
2. I usually keep my romantic relationship at a slow pace. |
| Dialectical Thinking              | 1. I believe my romantic relationship sometimes can be satisfying and sometimes unsatisfying.  
2. I only accept my romantic partner’s strengths and not his or her weaknesses. |
constructs if they thought some aspects were missing, and (d) suggest content areas that had been omitted but should have been included and also add items reflecting any new content areas. Obtaining their input was thought to help increase the likelihood of strengthening the cross-cultural and construct validity of the items.

The modifications made as a result of incorporating the feedback of the experts contributed to increasing the construct and/or content validity of the five constructs and their corresponding items. These modifications increased the likelihood that the five constructs were more representative of the content related to the Taiwanese cultural norms of interest to the current study. The modifications recommended by the experts included a number of structural changes to the new measure. First, several repetitive items (“How I view myself is greatly affected by how my romantic partner views me” and “How I view myself is greatly affected by how others view me”) were deleted and one new item (“I believe everything has both positive and negative sides”) was added to the construct of dialectical thinking patterns which initially contained five items. Second, one professor suggested adding more items to the construct of romantic love to increase its construct validity as well as to help differentiate between the romantic love of Taiwanese and U.S. individuals. Three more items were added to address this concern: (1) “It is important for me to marry someone who is accepted/approved by my parents and other significant family members;” (2) “My love toward my parents and family is as important as my romantic love;” and (3) “An important purpose of a romantic relationship is to find someone with whom to start a family.”

A third modification suggested by the experts involved item terminology (e.g., interdependent) that might not be familiar to some Taiwanese or U.S. participants.
Inclusion of unfamiliar terms on a measure can impact content validity, as participants may not accurately understand such items, and as a result, they may not provide valid responses. Questionable language of this sort was removed and replaced with a clearer description or definition of the problematic term.

Another modification recommended by the experts had to do with the focus of a few items. Some of the items were originally structured to obtain the perceptions of persons other than the respondents. Since the intended purpose of all the items was to understand the respondents’ perceptions about cultural factors, items that queried perceptions of others were not considered appropriate for inclusion. To correct this problem, the three items with an incorrect focus were rewritten to ascertain respondents’ own perceptions.

A final modification recommended by the experts was pursued to ensure consistency in terminology across items. Having inconsistency in the terminology of the items might be confusing to respondents, leading to participants arriving at different interpretations of the same item that are not real differences, but differences based on erroneous perceptions of an item. Including such items on a scale weakens the measure’s construct validity as such items fail to accurately assess the construct of interest. For the current scale, therefore, it was decided that instead of retaining both of the original terms romantic partner and significant other that were linked with various items, only the term romantic partner would be associated with the final set of items. As a result of incorporating all the expert feedback mentioned above, a total of 31 items were retained in the final measure (see Appendix G).
Creating a culturally sensitive conceptual framework appears necessary in order to accurately understand adult attachment from a Chinese cultural perspective (Wang & Song, 2010). Because the five cultural factors were identified from the literature and based on the Eastern cultural characteristics that are particularly important for Chinese styles of relatedness, Wang and Song (2010) proposed that these five cultural factors constituted imperative cultural contexts for understanding the Taiwanese attachment pattern. In the current study, if responses to these five new cultural constructs are highly correlated with responses to the ECRS for the Taiwanese population, it will be assumed that the new instrument was conceptually related to the ECRS lending support for the convergent validity of the five cultural constructs. On the other hand, if responses to the five cultural constructs and the ECRS were minimally correlated for the U.S. respondents, this would provide support for the discriminant validity of the five constructs.

After revising the 31 final items, they were translated by the current researcher into Mandarin Chinese. In order to maintain construct validity, this translation was based primarily on the content rather than the wording of the English items, so as to measure the same constructs as the English items. Both the English and Chinese translated items were then administered to three Taiwanese licensed clinical psychologists who were bilingual in both languages for the purpose of assessing semantic equivalence. Semantic equivalence is one of four types of equivalence linked with cross-cultural validity. This type of equivalence deals with the wording of items in, for example, two different language versions of the same instrument.
The three professionals mentioned in the previous paragraph were asked to focus on the content, rather than the wording, of the English items in order to enhance the construct and cross-cultural validity of the new scale. Additionally, they were asked to modify the Chinese items by changing, adding or deleting wording and/or sentences, and also creating new translations for items that might potentially confuse Taiwanese respondents.

As a result of the procedure described in the previous paragraph, several modifications were made. For example, for the English phrase *abide by* in Item 3, the term 遵從 (abide by) was replaced with 聽從 (follow). This modification did not change the meaning of *abide by*, but the former (遵從, abide by) was believed to create greater fluency. Another modification was made for Item 8. 依賴 (depend on: mentally and physically depend) was used instead of 依靠 (physically depend) for the English phrase *depend on* because the meaning of 依賴 (mentally and physically depend) was closer to *depend on* than 依靠 (physically depend). Finally, one to two words were added, removed, or reworded for Items 11, 14, and 16. Appendix H contains the Chinese version of the new items.

When a new measure is developed such as the one for this project, research shows that the initial pool of items may be as small as 50% larger than the final scale in order to ensure internal consistency reliability (DeVellis, 2003). In order to potentially increase the internal consistency of this new instrument, a large number of items were created from the start knowing that they would be cut back later. Thus, 10 to 15 items were first developed for each construct, with the exception of *romantic love* that only consisted of
five items (several items were added later in the process to increase its construct validity). Among these items, about six items (for each construct) that more fully captured each construct were selected after further discussion between the primary investigator and her advisor. As a consequence, responses to these finally selected items are likely to strongly correlate with one another as well as better represent the Taiwanese cultural norms of interest. Thus, this procedure can help to maximize not only the internal consistency of the new scale, but also its construct validity.

In summary, a number of steps were taken to establish validity and reliability for the new scale. First, having professors who were knowledgeable about the relevant content area helped to maximize item appropriateness. In addition, the primary investigator’s thorough review of the literature increased the certainty that the content domain tied to the relevant constructs had been comprehensively investigated. Content validity refers to the extent that a specific set of items reflects a content domain (e.g., Eastern Asian cultural factors). It is argued that, in the current project, the steps outlined above significantly increased the content validity of the new measure designed to assess the five Taiwanese cultural factors.

Along with increasing content validity, the steps discussed earlier also helped to increase the likelihood of strengthening the construct and cross-cultural validity of the items and constructs. Construct validity refers to whether the scale assesses the theoretical construct (e.g., Taiwanese cultural constructs) that it purports to measure. By involving experts in the review of the new constructs and their corresponding items, professionals who were familiar with the context of Eastern Asian cultural norms were in a position to confirm or invalidate the proposed definitions of each construct and could
offer modifications for these definitions. Even though there is no empirical evidence to support its construct validity, this process may contribute to increasing the likelihood of strengthening the construct validity for each of the five new constructs and their items.

To increase the cross-cultural validity of the constructs, three psychologists were asked to assess each item’s semantic equivalence. By providing feedback regarding the content of the Taiwanese items as opposed to a word-to-word translation, the experts in the current project helped to enhance the semantic equivalence of the items that in turn contributed to increasing the new scale’s cross-cultural validity.

The last strategy employed in the current project was to address validity related to the number of items generated for each of the five factors. More than twice the number of required items per factor were developed (10 to 15 items). This increased the possibility that many different aspects of a construct would be captured, leading to the likelihood of improving content and construct validity. As recommended by DeVellis (2003), the initial pool of items may be as small as 50% larger than the final scale in order to ensure internal consistency reliability. The strategy of including a larger number of appropriate items for each factor also had the potential of increasing the new measure’s internal consistency.

All of the strategies outlined above were pursued to provide initial support for the psychometrics of the five new cultural factors. The outcomes of these strategies provided preliminary support for the validity of these factors. Even so, questions could still be raised about the scale’s validity. For instance, no statistical investigation was performed to quantify the validity of the scale. A factor analysis would address this limitation by statistically examining patterns of responses to the items, and in so doing, provide
information about the scale’s validity. Results of such an analysis are reported in the next Chapter.

Research Design

The design of this study was a survey-type methodology at a single point in time. It was correlational in nature, so it did not allow for inferences about causal relationships between the independent (e.g., nationality, sex, and duration of length of dating) and the dependent variables (e.g., attachment styles). A large sample size allows for the rejection of the null hypotheses and a reduction of Type II error. The three instruments used (demographic information form, ECRS/ECRS-C, and new cultural instrument) in this study contained a fixed set of questions that enabled quantitative comparisons and insured that all participants had the same set of stimuli. This procedure controlled for instrumentation as a threat to the study’s internal validity. All participants were assured of anonymity to induce honest responses and to reduce the likelihood of a social desirability response set. However, this could not be guaranteed due to the self-report nature of the methodology. In addition, by administering the questionnaires to the participants at a single point in time, maturity and mortality threats to internal validity were not an issue. Finally, the use of nonprobability convenience sampling did not allow for an estimation of sampling errors. Thus, the validity of inferences to a population can be questioned (Pedhazur & Smelkin, 1991). The lack of randomization may induce a threat to the study’s external validity as well.
CHAPTER IV

RESULTS

Preliminary Analysis

Reliability of the Five Cultural Factors

Before proceeding with the hypothesis testing, preliminary analyses were conducted to explore the reliability of the five cultural variables linked with the new cultural instrument. In this study, this was accomplished by calculating Cronbach’s alpha reliability coefficients for each of the five variables (interdependent self-construal, yuan, filial piety, romantic love, and dialectical thinking patterns). The alpha coefficients were .57 (interdependent self-construal), .68 (yuan), .73 (filial piety), .36 (romantic love), and .67 (dialectical thinking patterns) for the five variables linked with the Chinese version of the new scale, and .52 (interdependent self-construal), .57 (yuan), .78 (filial piety), .35 (romantic love), and .60 (dialectical thinking patterns) for the five variables connected to the U.S. version of the measure. Due to the low reliabilities obtained, an Exploratory Factor Analysis (EFA) was performed on student responses to the new cultural items. In addition, because the cultural variables were believed to be only relevant to Eastern populations, an EFA was performed on only the Taiwanese students’ responses.

Exploratory factor analysis (EFA). A series of eight Principal Components (PC)
analyses with varimax rotation (6 analyses) and oblimin rotation (2 analyses), and a series of three Principal Axis Factor (PAF) analyses with varimax rotation (1 analysis) and oblimin rotation (2 analyses) were conducted to further examine the patterns of responses to the new cultural instrument. Since it is strongly recommended that multiple criteria be employed when evaluating the results of exploratory factor analysis (Tinsley & Tinsley, 1987), in this study, the criteria used included an examination of eigenvalues, scree plot tests, and factor loadings. It was found that a three-factor solution comprised of 22 of the original 31-items best fit the data. The obtained factors possessed eigenvalues greater than one and were above the elbow of the scree plot. Retained items had factor loadings at or above .40 and loaded on only one factor (Kahn, 2006). A total of 9 items with split (.40 or higher) and low (< .40) loadings were eliminated from further consideration. The same criteria were used to explore the results from the above series of analyses. Given the similarity of results found from the series of analyses, only one of the analyses was needed for the current study. In order to identify an appropriate analytic technique, PC analysis was explored as a means to reduce a large number of variables down to a smaller number of components, as has been suggested by Tabachnick and Fidell (2007). Thus, an exploration utilizing principal components analysis with a varimax rotation was adopted (See Table 2). The final solution contained 22 items, loading on three factors, explaining 46.5% of the total variance. The obtained eigenvalues in the final factor solution were as follows: 4.9 for Factor 1, 2.8 for Factor 2, and 2.5 for Factor 3.

A varimax rotation was used to reduce the potential correlation in responses to the obtained factors (Gorsuch, 1983). As expected, given that a varimax rotation was employed, responses to the three factors were minimally correlated (r’s ranged from .14
to .27; see Table 2). The internal consistency of each factor was investigated as well. Results suggested that the Cronbach’s alpha coefficient for each factor was acceptable (Factor 1 = .83; Factor 2 = .77; Factor 3 = .74). Although in this analysis the results failed to support the five cultural factors reported by Wang and Song (2010), the obtained three-factor solution appeared to integrate these five constructs. Factor 1 was comprised of 10 items (e.g., I believe everything has both positive and negative sides; I value harmonious interpersonal relationships) that seemed to represent self-perception and individual’s way of relating to others. Researchers also proposed that interdependent self-construal may reflect a dialectical cognitive tendency to accept both positive and negative aspects of the self (Heine, Lehman, Markus, & Kitayama, 1999; Spencer-Rodgers, Peng, Wang, & Hou, 2004) as the two factors are both associated with one’s relatedness to others. Thus, this factor was labeled, “Dialectical Thinking & Interdependent Self-Construal.” The 6 items (e.g., My romantic partner and I are meant to be in love; I think there is a predestined connection between my romantic partner and I) loading on Factor 2 tapped a predestined connection between people, and it was named, “yuan.” The final factor was labeled, “Filial Piety,” as the 6 items (e.g., I abide by what my parents say even though I disagree; I would select a romantic partner who fits best with my family) tied to this factor appeared to assess individual loyalty and obligated practice to the family. A total of 9 items with split and low factor loadings were not included in the final version of the cultural scale (e.g., Rather than verbally expressing my affection towards my romantic partner, I would choose to do nice things for him/her; I rarely say “I love you” to my romantic partner even though I do love him/her).
### Table 2

**New Cultural Instrument: Factor Loadings, Eigenvalues, Cronbach Alphas, & Correlation Matrix**

<table>
<thead>
<tr>
<th>Item</th>
<th>Dialectic Thinking &amp; Interdependent Self-Construal</th>
<th>Yuan</th>
<th>Filial Piety</th>
</tr>
</thead>
<tbody>
<tr>
<td>I believe everything has both positive and negative sides</td>
<td>.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel content when my romantic partner is content</td>
<td>.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am responsible to take care of my parents when they become older</td>
<td>.70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I believe my romantic relationship can sometimes be satisfying and sometimes unsatisfying</td>
<td>.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I admire those who accept whatever happens in romantic relationships with a peaceful mind and joyfulness</td>
<td>.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I value harmonious interpersonal relationships</td>
<td>.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I define myself as a part of a set of relationships</td>
<td>.59</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I know there are both positive and negative aspects about my romantic relationship</td>
<td>.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is very important for me to be highly respectful toward my parents and elders</td>
<td>.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have both positive and negative images about myself</td>
<td>.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I see myself as inseparable from my romantic partner</td>
<td>.69</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My romantic partner and I am meant to be in love</td>
<td>.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is important for me to depend on other people</td>
<td>.47</td>
<td></td>
<td></td>
</tr>
<tr>
<td>My relationships with romantic partners are opportunities to complete unfinished business?</td>
<td>.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I think there is a predestined connection between my romantic partner and I</td>
<td>.74</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whether people know or meet each other depends on their destiny</td>
<td>.54</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I abide by what my parents say even though I disagree</td>
<td>.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I do not respect my parent’s opinions about whom I should date</td>
<td>.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I would select a romantic partner who fits best with my family</td>
<td>.65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A romantic relationship with a person whom my parents do not like usually does not last long</td>
<td>.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before making an important decision, I value my parent’s opinions more than my own thinking</td>
<td>.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is not important for me to marry someone who is accepted/approved by my parents and other significant family members</td>
<td>.53</td>
<td></td>
<td></td>
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</tbody>
</table>

| **Eigenvalue** | 4.9 | 2.8 | 2.5 |
| **Cronbach Alpha** | .83 | .77 | .74 |
| **Correlation Matrix** |     |     |     |
| Dialectic Thinking & Interdependent Self-Construal | .27** | .15** |     |
| Yuan |       |     | .14** |

**Note.** *p < .001*. The scale instructions were as follows: 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.
To examine if the responses to the cultural variables and attachment styles were correlated, Pearson’s correlations were performed. Two correlation matrices were obtained to examine correlations between responses to each variable for the Taiwanese and U.S. individuals separately (see Tables 3 and 4). By computing correlations between responses to the cultural factors and attachment styles, the researcher was able to examine how responses from one set of variables related to those from the other set of variables. A total of six correlations were found to be significant for the Taiwanese individuals. For the U.S. participants, five correlations were significant; however, there was one exception, the correlation between responses to the anxiety attachment subscale and filial piety subscale was not significant. Generally, Taiwanese students’ responses to the cultural factors were more correlated with their responses to the attachment styles (see Table 3) than those of the U.S. students (see Table 4). There were three medium size correlations found for the Taiwanese students and only one medium size correlation found for the U.S. individuals. Even though the correlations between avoidance attachment and yuan were found to be significant for both samples, the correlation for the U.S. students was higher (.42) than the Taiwanese individuals (.38).

**Main Analyses**

**Canonical Correlation**

When testing the six hypotheses for this study, the alpha level was set at .05. Hypothesis 1 predicted that there will be a relationship between the three Eastern cultural factors and attachment styles for Taiwanese individuals. To test this hypothesis, a canonical correlation was performed. In this analysis, the three cultural factors
Table 3

*Correlations between Cultural Variables and Attachment Styles: Taiwan*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dialectic Thinking &amp; Interdependent Self-Construal</th>
<th>Yuan</th>
<th>Filial Piety</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$r$</td>
<td>$r$</td>
<td>$r$</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>$p$</td>
<td>$p$</td>
</tr>
<tr>
<td>Avoidance</td>
<td>-.33**</td>
<td>-.38</td>
<td>.07</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.18**</td>
<td>.33</td>
<td>.11</td>
</tr>
</tbody>
</table>

Note. * $p < .005$; ** $p < .001$

Table 4

*Correlations between Cultural Variables and Attachment Styles: U.S.*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Dialectic Thinking &amp; Interdependent Self-Construal</th>
<th>Yuan</th>
<th>Filial Piety</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$r$</td>
<td>$r$</td>
<td>$r$</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>$p$</td>
<td>$p$</td>
</tr>
<tr>
<td>Avoidance</td>
<td>-.20**</td>
<td>-.42</td>
<td>-.07</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.14**</td>
<td>.20</td>
<td>-.01</td>
</tr>
</tbody>
</table>

Note. * $p < .005$; ** $p < .001$
(dialectical thinking & interdependent self-construal, yuan, and filial piety) served as the predictors, whereas the two attachment styles (avoidance and anxiety) were the criterion variables. The use of canonical correlation analysis allows for the exploration of the strength of each cultural variable and its relationship to attachment patterns. For the Taiwanese sample, the first canonical correlation ($R_{c1}$) was calculated as .59 and was significant, Wilks’ $\lambda = .64$, $F (6, 2,382) = 98.18$, $p < .001$, explaining 34% ($R^2_{c1} = .34$) of the relationship between the two composites. The second canonical correlation ($R_{c2}$) was calculated as .14 and was significant, Wilks’ $\lambda = .98$, $F (2, 2386) = 12.51$, $p < .001$, explaining 2% ($R^2_{c2} = .02$) of the relationship between the two sets of variables. The results are reported in Table 5. Because the first canonical root appears to be superior to the second, in terms of variance accounted for (34% versus 2%), and to reduce Type I error, only the first root will be interpreted. The effect size was $f^2 = .25$, which is between a medium and large effect size as reported by Cohen (1988). Inspection of Table 5 reveals that the greatest contributions (canonical loadings equal or greater than .40) to the first canonical root were made by the cultural factors: dialectical thinking & interdependent self-construal (-.46) and yuan (-.79) and the attachment styles: avoidance (.84) and anxiety (-.60). This indicated that the higher the participants scored on dialectical thinking & interdependency, the lesser attachment avoidance and the greater level of anxiety they experienced in a relationship. This also suggested that the higher score of yuan people have, the lesser avoidance and the greater level of attachment anxiety they demonstrated. Since the first hypothesis predicts a relationship between cultural factors and attachment styles for the Taiwanese sample, and correlations of only
two cultural factors (except filial piety) were considered, the first hypothesis was partially supported.

In addition, Hypothesis 2 predicted that there will not be a relationship between the three Eastern cultural factors and attachment styles for U.S. individuals. To test this hypothesis, another canonical correlation was also performed. The canonical correlation \((R_{c1})\) was calculated as .54 and was significant, Wilks’ \(\lambda = .71\), \(F(6) = 70.52, p < .001\),

<table>
<thead>
<tr>
<th>Variables</th>
<th>Taiwanese Sample (n = 1,196)</th>
<th>U.S. Sample (n = 1,129)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dialectic Thinking &amp;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interdependent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Construal</td>
<td>-.46</td>
<td>-.36</td>
</tr>
<tr>
<td>Yuan</td>
<td>-.79</td>
<td>-.90</td>
</tr>
<tr>
<td>Filial Piety</td>
<td>.18</td>
<td>.22</td>
</tr>
<tr>
<td>Attachment Styles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidance</td>
<td>.84</td>
<td>.91</td>
</tr>
<tr>
<td>Anxiety</td>
<td>-.60</td>
<td>-.59</td>
</tr>
<tr>
<td>Canonical Correlation</td>
<td>.59</td>
<td>.54</td>
</tr>
<tr>
<td>Canonical R-Squared</td>
<td>.34</td>
<td>.30</td>
</tr>
<tr>
<td>Canonical Eigenvalue</td>
<td>.52</td>
<td>.41</td>
</tr>
<tr>
<td>(F) (df = 6)</td>
<td>98.18</td>
<td>70.52</td>
</tr>
<tr>
<td>Effect Size ((F^2))</td>
<td>.25</td>
<td>.22</td>
</tr>
<tr>
<td>Sign. of (F)</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

Note. \(p < .05\); Canonical loadings equal or greater than .40 are interpreted.
explaining 29% ($R^2_{c1} = .29$) of the relationship between the two composites. The effect size, $f^2 = .22$, was moderate to large, in accordance with Cohen (1988). Inspection of Table 5 reveals that the greatest contributions (canonical loadings equal or greater than .40) to the canonical root were made by one cultural factor: yuan (-.90) and the attachment styles: avoidance (.91) and anxiety (-.59). This indicated that the higher score of yuan persons possessed, the lesser avoidance and the greater level of anxiety they experienced in a relationship. Even though there are no correlations between responses to attachment styles and those to two of the three cultural factors (dialectical thinking & interdependent self-construal and filial piety), correlations were found between responses to the cultural factor (yuan) and those to attachment styles. Because the second hypothesis states that there will not be a relationship between two sets of variables for the U.S. participants, these findings lend partial support to the second hypothesis.

**Multivariate Analysis of Variance (MANOVA)**

To test the third hypothesis, the current researcher compared the means of the above stated cultural scores for each nationality. Hypothesis 3 explored whether Taiwanese individuals have higher scores on each of the three Eastern cultural variables, as compared to U.S. participants. In order to examine this, a one-way (nationality: Taiwanese and U.S.) between-subjects MANOVA was computed. MANOVA is useful because it allows the analysis of several related dependent variables simultaneously (Tabachnick & Fidell, 2007). In this analysis, nationality was the independent variable (Taiwanese and U.S.) and scores on the three cultural factors of the new instrument (dialectical thinking & interdependent self-construal, yuan, and filial piety) were the dependent variables. The MANOVA indicated significant differences in views about the
cultural factors between students of each nationality, Wilks’ $\lambda = .89$, $F(3, 2,462) = 104.37, p < .05$. Follow-up univariate ANOVAs were conducted to further explore this multivariate effect. This procedure revealed significant differences between Taiwanese and U.S. students on all three cultural factors. First, the analysis revealed significant differences between Taiwanese and U.S. students on the Dialectical Thinking & Interdependent Self-Construal scale, $F(1, 2,464) = 27.49, p < .05$. Taiwanese students had a greater level of dialectical thinking and interdependency ($M = 57.38, SD = 6.99$) than U.S. students ($M = 55.90, SD = 7.19$) (See Table 6). Second, there were also significant differences between the two samples on the Yuan scale, $F(1, 2,464) = 260.30, p < .05$. The Taiwanese revealed a greater level of yuan ($M = 26.46, SD = 6.15$) than U.S. individuals ($M = 22.30, SD = 6.80$). Third, significant differences were discovered on the Filial Piety scale, $F(1, 2,464) = 11.57, p < .05$. In this case, U.S. students demonstrated a greater level of filial piety ($M = 24.73, SD = 7.40$) than Taiwanese students ($M = 23.84, SD = 5.66$). These findings lend partial support to the third hypothesis.

**Multivariate Analysis of Covariance (MANCOVA)**

In order to test the fourth, fifth, and sixth hypotheses regarding nationality, sex, and the length of a dating relationship, a Multivariate Analysis of Covariance (MANCOVA) was performed. Hypothesis 4 predicted there will be no difference between the attachment styles of Taiwanese and U.S. participants when the effects of the three Eastern cultural factors of attachment style are controlled. Hypothesis 5 predicted there will be no difference in the attachment styles of Taiwanese and U.S. participants based on the duration of dating relationships when the effects of the three Eastern cultural factors of attachment style are controlled. Finally, Hypothesis 6 predicted that Taiwanese
and U.S. women will have higher anxious attachment scores than Taiwanese and U.S. men, and men will have higher levels of avoidant attachment style than women, when the effects of the three Eastern cultural factors of attachment style are controlled.

Before performing the MANCOVA, a Box’s M test was calculated to ensure that the covariance matrices of the dependent variables were equal across groups (Stevens, 1996). It was considered important given the unequal number of participants in each of the twenty groups (2 × 2 × 5). The Box’s M test was significant ($F = 5.03, p < .05$) indicating unequal covariance matrices. This may lead to an increased Type I error if the large sample variance is associated with the smaller group sizes (Stevens, 1996). As a result, it can be expected that some of the MANCOVA’s F tests were too liberal, thus indicating

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dialectic Thinking &amp; Interdependent Self-Construal</th>
<th>Yuan</th>
<th>Filial Piety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taiwanese Students</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>57.45 (57.38)</td>
<td>6.90  (6.99)</td>
<td>26.50  (26.46)</td>
</tr>
<tr>
<td>U.S. Students</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>55.95 (55.90)</td>
<td>7.10  (7.19)</td>
<td>22.32  (22.30)</td>
</tr>
</tbody>
</table>

Cronbach’s Alpha

Taiwanese version: .83
American version: .70

Table 6

*Adjusted Means and Standard Deviations for the New Cultural Scale*

Eastern Cultural Factors

and U.S. women will have higher anxious attachment scores than Taiwanese and U.S.
group differences at a greater alpha level than .05. To ensure that the F tests were not too liberal and to make sure that the alpha level was at .05, it was decided to randomly reduce the sample size until all groups contained an equal number of participants and perform another MANCOVA. Utilizing this method, the Box’s M test is thought to be robust and unequal covariances of the dependent variables across groups are not an issue (Stevens, 1996). Therefore, to reduce Type I error, the current researcher only interpreted the significant multivariate and univariate F’s that were discovered based on equal cell sizes.

Because of the correlation between the cultural factors and attachment styles, as described earlier, the possibility of using the three cultural factors as covariates was explored. According to Stevens (1996), the use of covariates reduces the error, which in this study would include the influence of the Eastern cultural factors on attachment patterns. However, before utilizing covariates to reduce error, two assumptions need to be met. First, there has to be a significant relationship between the covariate and the dependent variable; this assumption was fulfilled, as reported earlier. The second assumption, referring to the homogeneity of the regression slopes (Stevens, 1996), was also met. In this analysis, the result of the equal slopes assumption test revealed non-significance ($p > .05$), indicating that there was no significant interaction between the independent variables (nationality, gender, and the length of dating relationship) and the covariate (three Taiwanese cultural factors) with the dependent variables ($\Lambda = .86$, $F(114, 1198) = .85$, $p > .05$). Therefore, the three cultural factors were used as a composite covariate while exploring the differences in attachment styles as a function of nationality, gender, and length of dating relationship.
To test the three hypotheses regarding nationality, sex, and the duration of dating relationship, similarities and differences of attachment styles were measured utilizing a three-way MANCOVA. Attachment styles (Avoidance [Avoid] and Anxiety [Anx]) constituted the dependent variables. Nationality, Sex, and Duration of Relationship (DoR) were the independent variables and the three cultural factors were treated as the composite covariate. Thus, the relationship between adult attachment styles, nationality, sex, and duration of relationship was analyzed within a 2 (Nationality: Taiwanese and U.S.) × 2 (Sex: Male and Female) × 5 (DoR: No Relationship, dating less than 1 year [<1], dating more than 1 year but less than 2 years [<1>, dating more than 2 years but less than 3 years [<2>, and dating more than 3 years [3+]) between-subjects MANCOVA with the three cultural factors as a composite covariate. Adjusted means and standard deviations for the two attachment style scores by nationality, sex, and duration of relationship are presented in Table 7.

Results of the MANCOVAs are reported in Table 8. There were main effects discovered for Nationality, Wilks’ λ = .87, F(2, 656) = 50.58, p < .05, DoR, Wilks’ λ = .86, F(8, 1,312) = 12.39, p < .05, Sex, Wilks’ λ = .96, F(2, 656) = 13.40, p < .05, and also an interaction effect for DoR and Sex, Wilks’ λ = .97, F(8, 1312) = 2.21, p < .05. There were no other significant MANCOVA results discovered. Because there was a significant MANCOVA effect for nationality, a follow-up univariate Analyses of Covariance (ANCOVA) was performed and the results were reported in Table 9. This procedure first revealed that Taiwanese students (M = 72.79, SD = 18.37) experienced more attachment anxiety in relationships than the U.S. students (M = 66.18, SD = 21.07),
Table 7

*Adjusted Means and Standard Deviations for the ECRS*

<table>
<thead>
<tr>
<th>Attachment Styles</th>
<th>Avoidance</th>
<th>Anxiety</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nationality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taiwanese Students</td>
<td>48.99</td>
<td>14.79</td>
</tr>
<tr>
<td>U.S. Students</td>
<td>41.71</td>
<td>18.48</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>45.81</td>
<td>17.28</td>
</tr>
<tr>
<td>Men</td>
<td>44.89</td>
<td>16.96</td>
</tr>
<tr>
<td>Relationship Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Relationship</td>
<td>57.95</td>
<td>17.32</td>
</tr>
<tr>
<td>Dating &lt; 1 yr</td>
<td>44.66</td>
<td>15.33</td>
</tr>
<tr>
<td>Dating &gt; 1&lt;2 yrs</td>
<td>42.96</td>
<td>16.88</td>
</tr>
<tr>
<td>Dating &gt; 2&lt;3 yrs</td>
<td>41.03</td>
<td>14.43</td>
</tr>
<tr>
<td>Dating &gt; 3 yrs</td>
<td>40.15</td>
<td>15.25</td>
</tr>
<tr>
<td>Taiwanese Students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Relationship</td>
<td>62.71</td>
<td>14.49</td>
</tr>
<tr>
<td>Dating &lt; 1 yr</td>
<td>46.29</td>
<td>13.33</td>
</tr>
<tr>
<td>Dating &gt; 1&lt;2 yrs</td>
<td>45.15</td>
<td>13.88</td>
</tr>
<tr>
<td>Dating &gt; 2&lt;3 yrs</td>
<td>48.74</td>
<td>13.07</td>
</tr>
<tr>
<td>Dating &gt; 3 yrs</td>
<td>41.15</td>
<td>14.29</td>
</tr>
<tr>
<td>Men</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Relationship</td>
<td>59.00</td>
<td>11.67</td>
</tr>
<tr>
<td>Dating &lt; 1 yr</td>
<td>47.41</td>
<td>11.95</td>
</tr>
<tr>
<td>Dating &gt; 1&lt;2 yrs</td>
<td>48.76</td>
<td>14.70</td>
</tr>
<tr>
<td>Dating &gt; 2&lt;3 yrs</td>
<td>46.03</td>
<td>14.61</td>
</tr>
<tr>
<td>Dating &gt; 3 yrs</td>
<td>45.62</td>
<td>12.64</td>
</tr>
<tr>
<td>U.S. Students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Relationship</td>
<td>60.44</td>
<td>20.37</td>
</tr>
<tr>
<td>Dating &lt; 1 yr</td>
<td>42.41</td>
<td>15.55</td>
</tr>
<tr>
<td>Dating &gt; 1&lt;2 yrs</td>
<td>39.85</td>
<td>18.98</td>
</tr>
<tr>
<td>Dating &gt; 2&lt;3 yrs</td>
<td>35.50</td>
<td>11.33</td>
</tr>
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<td>Dating &gt; 3 yrs</td>
<td>36.88</td>
<td>13.08</td>
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<tr>
<td>Men</td>
<td></td>
<td></td>
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<tr>
<td>No Relationship</td>
<td>49.65</td>
<td>19.10</td>
</tr>
<tr>
<td>Dating &lt; 1 yr</td>
<td>42.53</td>
<td>19.47</td>
</tr>
<tr>
<td>Dating &gt; 1&lt;2 yrs</td>
<td>39.85</td>
<td>18.98</td>
</tr>
<tr>
<td>Dating &gt; 2&lt;3 yrs</td>
<td>33.85</td>
<td>12.95</td>
</tr>
<tr>
<td>Dating &gt; 3 yrs</td>
<td>39.97</td>
<td>19.24</td>
</tr>
</tbody>
</table>

Cronbach's Alpha
Taiwanese version  .90
American version   .94
Table 8

Results of the MANCOVAs

<table>
<thead>
<tr>
<th>MANCOVA</th>
<th>Effects</th>
<th>Significance of F</th>
<th>Wilk’s Lambda</th>
<th>Approximate F</th>
<th>Hypothesis DF</th>
<th>Error DF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original Sample</td>
<td>(N = 2,292)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Nationality</td>
<td>.93</td>
<td>91.69</td>
<td>2</td>
<td>2268</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.99</td>
<td>16.46</td>
<td>2</td>
<td>2268</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>DoR</td>
<td>.83</td>
<td>54.94</td>
<td>8</td>
<td>4536</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Sex by DoR</td>
<td>.98</td>
<td>5.30</td>
<td>8</td>
<td>4536</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Adjusted Sample</td>
<td>(N = 680)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nationality</td>
<td>.87</td>
<td>50.58</td>
<td>3</td>
<td>656</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.96</td>
<td>13.40</td>
<td>3</td>
<td>656</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>DoR</td>
<td>.86</td>
<td>12.39</td>
<td>8</td>
<td>1312</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Sex by DoR</td>
<td>.97</td>
<td>2.21</td>
<td>8</td>
<td>1312</td>
<td>.024</td>
<td></td>
</tr>
</tbody>
</table>

Note. \( p < .05 \)

Table 9

Results of the ANCOVAs

<table>
<thead>
<tr>
<th>ANCOVA</th>
<th>Effects</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance of F</th>
<th>Partial Eta Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anxiety</td>
<td>Nationality</td>
<td>1574.39</td>
<td>1</td>
<td>1547.39</td>
<td>5.10</td>
<td>.02</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>RelStatus*Sex</td>
<td>17.64.43</td>
<td>4</td>
<td>441.11</td>
<td>1.28</td>
<td>.28</td>
<td>.01</td>
</tr>
<tr>
<td>Avoidance</td>
<td>Nationality</td>
<td>20101.32</td>
<td>1</td>
<td>20101.32</td>
<td>101.23</td>
<td>.000</td>
<td>.13</td>
</tr>
<tr>
<td></td>
<td>RelStatus*Sex</td>
<td>1889.47</td>
<td>4</td>
<td>472.37</td>
<td>2.38</td>
<td>.05</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note. \( p < .05 \)
\( F(1, 657) = 5.10, p < .05, \text{Eta}^2 = .01 \). Second, Taiwanese students (\( M = 48.99, SD = 14.79 \)) expressed higher attachment avoidance in relationships than U.S. individuals (\( M = 41.71, SD = 18.48 \)), \( F(1, 657) = 101.23, p < .05, \text{Eta}^2 = .13 \). This finding does not lend support to the fourth hypothesis as there were significant differences found between the attachment styles of the two samples.

Even though main effects for both sex and the duration of relationship were discovered as described earlier, these findings will not be interpreted since an interaction effect involving Sex and DoR was discovered. As a consequence, a follow up ANCOVA was performed for the interaction effect. This analysis revealed a significant interaction involving attachment avoidance, \( F(4, 1,316) = 2.38, p = .05, \text{Eta}^2 = .01 \). No significant interaction was found for Anx, \( F(4, 1316) = 1.28, p > .05, \text{Eta}^2 = .01 \) (see Table 9). Follow-up pairwise comparisons were conducted on the mean avoidance responses linked with the interaction effect. The result revealed that for those not currently in a dating relationship, females were found to have significantly higher scores (\( M = 59.22 \)) on attachment avoidance than males (\( M = 51.69 \)). There were no significant differences between the means of females and males found for other lengths of dating relationships.

To further facilitate the interpretation of the interaction effect, a graph of the means for Sex and DoR was constructed (see Figure 3). It could be summarized that, overall, the longer females were involved in a dating relationship, the lower they scored on Avoid (No Relationship: \( M = 59.22 \); [\(< 1\)]: \( M = 45.86 \); [\(< 1 \geq \)]: \( M = 43.38 \); [\(< 2 \geq \)]: \( M = 43.60 \); and [\(3+\)]: \( M = 39.54 \)). For males, this pattern was also discovered; however, the intensity was weaker than that of the females (No Relationship: \( M = 51.69 \); [\(< 1\)]: \( M = 43.88 \); [\(< 1 \geq \)]: \( M = 44.21 \); [\(< 2 \geq \)]: \( M = 40.55 \); and [\(3+\)]: \( M = 41.58 \)).
Thus, given the findings of main and interaction effects shown earlier and the pattern of the graph described above, there are two potential conclusions. First, while the main effects appear to speak most directly to the researcher’s hypotheses, they did not lend support to the fifth hypothesis, which stated there will be no difference in attachment styles based on duration of dating relationship. Furthermore, the main effects also did not lend supportive evidence to the sixth hypothesis, which suggested that women will have higher anxious attachment scores than men and men will have higher levels of avoidant attachment than women. The conclusion related to the interaction effect introduced a finding that confirms the impact of the interaction effect of Sex and DoR on Avoid.
The purpose of this project was to extrapolate potential differences in undergraduate students’ attachment styles based on their nationality, gender, and the duration of their dating relationships. As the literature suggests that Eastern cultural factors may have an impact on attachment patterns (Soon & Malley-Morrison, 2000; Sprecher et al., 1994; Wei et al., 2004), Wang and Song (2010) identified five particular Eastern cultural constructs that they believed were related to the relational patterns of Chinese individuals. In the current study, the researcher developed a scale with culturally relevant items based on these five cultural constructs and predicted that responses to this scale could explain Taiwanese relational patterns. However, after performing an Exploratory Factor Analysis, the researcher found that only a three-factor solution (dialectical thinking and interdependent self-construal, filial piety, and yuan) best fit the data for the Taiwanese students. The Cronbach’s alpha coefficients for these three scales were acceptable for both the Mandarin Chinese and the English versions. Even though the results of the factor analysis did not support the five cultural factors originally proposed by Wang and Song, the three-factor solution appeared to integrate these five Eastern constructs, and as such, provided a deeper understanding of Eastern relational patterns.
Relationship between the Eastern Cultural Factors and Attachment Styles

As the current researcher was interested in further examining the relationship between these three cultural factors and attachment patterns, canonical correlations were performed to explore the strength of each cultural factor and its relationship to both attachment anxiety and avoidance. Hypotheses 1 and 2, which predicted relationships between the cultural factors and attachment for the Taiwanese and U.S. populations, were partially supported. For Hypothesis 1, the researcher anticipated a relationship between the three Eastern cultural factors and attachment styles for Taiwanese individuals. The results indicated that responses to both dialectical thinking and interdependent self-construal and yuan were significantly correlated with responses to the attachment styles of Taiwanese students. Specifically, positive canonical correlations were found between responses to (a) dialectical thinking and interdependency and attachment anxiety, and (b) yuan and attachment anxiety. Further, negative canonical correlations were discovered between responses to (a) dialectical thinking and interdependency and attachment avoidance, and (b) yuan and attachment avoidance. This indicated that the higher participants scored on dialectical thinking and interdependency, the lower level of avoidance and the greater level of anxiety they might have experienced in a relationship. This also suggested that the higher participants scored on yuan, the lower level of avoidance and the greater level of attachment anxiety they reported.

As described above, the current researcher found that among the three cultural constructs, dialectical thinking and interdependency and yuan seemed to be more relevant to the attachment styles of Taiwanese students than filial piety. The relationships between these cultural constructs (dialectical thinking and interdependency and yuan) and
relational patterns among Asians also have been described in the literature (Chang & Holt, 1991; Markus & Kitayama, 1991; Wang & Song, 2010). The fact that filial piety was not found to have a significant relationship to attachment in the current study was inconsistent with the literature (Wang & Song, 2010). Wang and Song (2010) stated that the Chinese cultural practice and value of filial piety were closely associated with one’s relatedness to self and others, which they believed to be the core tenet of adult attachment.

Wang and Song (2010) also stated that dialectical thinking and interdependency were believed to be more representative of Taiwanese student relationships than those from Western cultures. This assertion is congruent with the results of this study, namely, that dialectical thinking and interdependency might be associated with both attachment anxiety and avoidance for the Taiwanese students. In the current study, regardless of attachment style, students from Taiwan were likely to be accepting of both positive and negative sides of the self and the other (the concept of dialectical thinking) and they placed an emphasis on interdependent self-construal. These findings are also supported by the literature (Markus & Kitayama, 1991; Spencer-Rodgers et al., 2004), which states that some Eastern cultural elements, such as interdependency, can be used to explain relational patterns found among Asian groups. Specifically, the results of this study revealed a positive correlation between interdependency and attachment anxiety, indicating that the greater level of anxiety Taiwanese participants experienced, the more they seemed to value interdependent self-construal. Similar findings were reported by Wang and Mallinckrodt (2006) and Wei et al. (2004). Wang and Mallinckrodt suggested that attachment anxiety was positively associated with interdependent (collectivistic)
beliefs. Wei et al. also stated that some commonly observed behaviors in Asian cultures, such as depending on significant others and being anxious about acceptance from others, were related to the characteristics of attachment anxiety in Western culture.

Contrary to what was predicted, however, in this study filial piety was not found to be significantly correlated with Taiwanese respondents’ attachment styles. As stated earlier, filial piety refers to one’s loyalty, obligated caretaking, and deference to the elderly in the family, respect toward parents and grandparents, and obedience to the guidance given by elders. Prior literature on filial piety with Taiwanese individuals proposed that the construct originates from Confucian thought and is highly endorsed by individuals raised within Eastern Asian cultures (Yeh, 1997). Ikels (2004) also discovered that filial piety impacted not only parent-child relationships, but daily non-familial interactions in the lives of Chinese individuals as well. Consistent with the concept of collectivism found in Eastern cultures, in Chinese culture, the self is defined by one’s filial roles and responsibilities within the family (Yeh, 1997). Still, the process of developing self-identity may be subtly different because of larger socio-environmental changes. For example, the influence of the media in some modern Eastern societies has exposed Easterners to, and increased their acceptance of, Western cultural values that emphasize individualism (Ikels, 2004). This trend is especially true for younger generations of Easterners that may be more likely to have been exposed to these Western messages and processes of socialization at a time in development that could influence their identity formation (Ikels, 2004). Exposure to Western individualism may lead to the less vigorous pursuit of interpersonal harmony among family members or deference to the opinions of elders when making decisions (Ikels, 2004; Wang & Song, 2010). In
addition, Ikels (2004) proposed a theory called “Modernization,” which purports that the decline in the status of the elderly has been prevalent in Chinese society for decades. He explained that because many Eastern societies have changed from predominantly rural and agricultural to urban and industrial, the elderly might lose status as their land is no longer the only means of making a living, and their knowledge and experience in agriculture is no longer valued. These are viable reasons why Taiwanese students’ scores on filial piety were not correlated with attachment styles in the current study.

This change in Eastern culture in recent years could explain the relationship between attachment and cultural factors in this study. The first hypothesis for this study predicted a relationship between cultural factors and attachment styles for the Taiwanese sample. As the correlations of only two cultural factors (excluding filial piety) were significant, this hypothesis was only partially supported and appeared to parallel Ikels’ theory of Eastern Modernization.

The second hypothesis for this study examined U.S. participants’ attachment styles. Hypothesis 2 predicted that no relationship would exist between the three Eastern cultural factors and attachment styles for U.S. individuals. However, for the U.S. students, responses to yuan were significantly correlated with responses to attachment styles. There was a positive canonical correlation between responses to yuan and responses to attachment anxiety, as well as a negative correlation between responses to yuan and responses to attachment avoidance. This indicated that the higher a participant scored on yuan, the lower level of avoidance and the greater level of anxiety he or she might have experienced in a relationship.
These results stand in stark contrast to the current literature that suggests yuan is strictly an Eastern cultural phenomenon (Chang & Holt, 1991). U.S. students with a greater level of attachment anxiety appeared to hold more fatalistic and predestined views of relationships (e.g., “My romantic partner and I are meant to be in love,” and “Whether people know or meet each other depends on their destiny”). Even though the finding in the current study did not support Wang and Song’s (2010) statement, Larson (1992) suggested that U.S. students use a number of “constraining beliefs” when they make choices about a partner – among those is the belief in a “one and only,” a “soul-mate” concept. While not an exact match for yuan, U.S. students may have associated the items used to measure yuan with the similar and familiar concept of a “soul-mate.” This might provide an explanation for U.S. individuals’ higher scores on yuan. In other words, the idea of a fated connection between two individuals might not be as rare among U.S. students as was hypothesized.

As is detailed in the above paragraphs, no correlations were found between responses to attachment styles and two of the three cultural factors (dialectic thinking and interdependent self-construal, and filial piety). However, correlations were found between responses to the cultural factor (yuan) and attachment styles. Since the researcher predicted there would be no correlations between responses to these three cultural factors and attachment styles, the current findings lend partial support to this hypothesis.

**Differences in Cultural Influence**

As discussed in Chapter 1, cultures impact an individual’s ways of connecting with others. Hypothesis 3 predicted that Taiwanese individuals would have higher scores
than U.S. participants on all three Eastern cultural factors. In this study, Taiwanese students scored higher than U.S. students on dialectical thinking and interdependent self-construal, and yuan. However, the U.S. students had higher scores on filial piety than the Taiwanese students. Thus, Hypothesis 3 was partially supported. The interpretation of these two findings will be further discussed below.

As expected, Taiwanese respondents seemed to relate to a dialectical thinking pattern, interdependency, and yuan better than U.S. participants. According to Spencer-Rodgers et al. (2004) and Wang and Song (2010), dialectical thinking is deeply rooted in traditional Eastern philosophical beliefs, meaning that the Taiwanese are more likely to accept contradictory and inconsistent elements in one entity (i.e., a relationship). The current literature also suggested that interdependent self-construal was more commonly associated with Taiwanese participants than with U.S. students, meaning that Taiwanese individuals tended to have collectivistic values and defined the self as inseparable from one’s relational context (Markus & Kitayama, 1991; Wang & Song, 2010). Markus and Kitayama (1991) proposed two types of self-construal (independent and interdependent) and suggested individuals develop their self-construal based on cultural norms. For instance, researchers have discovered that, compared to U.S. students who are prone to be independent, Taiwanese participants were more likely to value interdependency (Newland et al., 2010; Wang & Mallinckrodt, 2006; Wang & Song, 2010). Additionally, researchers stated that, from the Chinese worldview, individuals were more prone to acknowledge the idea of predestined connection with significant others (the character of yuan) and may accept both negative and positive experiences with a peaceful mind and joyfulness (the character of dialectical thinking; Chang & Holt, 1991; Hsu, 1981; Wang
The findings in the current project coincided with those from the literature and, conjointly, indicated that Taiwanese relational patterns were more likely to be associated with these cultural factors than U.S. participants.

However, Hypothesis 3 was not completely supported, as U.S. participants rated higher on filial piety than the Taiwanese students. As mentioned earlier, there are some viable reasons why Taiwanese students’ scores on filial piety were lower. For instance, their exposure to the Western ideal of individualism may have lead to a decrease in emphasis on interpersonal harmony or deference to the opinions of elders among Eastern populations (Ikels, 2004; Wang & Song, 2010). In addition, a decline in the status of the elderly in families and communities has been found in Chinese society for decades (Ikels, 2004). These studies are consistent with the results of the current project in which Taiwanese students were found to be less concerned about the cultural practice and value of filial piety than the U.S. participants.

In line with Ikels’ (2004) reasoning, in the current study, U.S. participants scored higher on filial piety than their Taiwanese counterparts. One other possible explanation for the higher scores on filial piety among U.S. participants has to do with the relationship between the U.S. population and collectivistic cultures. Literature has suggested that, in most cultures, individualistic and collectivistic elements coexist and that each surfaces in different contexts (Coon & Kemmelmeier, 2001; Kagitcibasi, 1987). According to the literature, filial piety clusters with two other cultural factors (communalism and familialism) to create the family/relationship primacy construct. Family/relationship primacy is believed to be strongly related to vertical collectivism.
(Schwartz et al., 2010), which is the emphasis of hierarchy and respect for, and deference to, the elderly and family members (Coon & Kemmelmeier, 2001). U.S. students’ high scores on filial piety may reflect some value for collectivistic cultural principles. This finding does contraindicate, however, the literature suggesting that U.S. populations have a general tendency to emphasize the values of individualism (Markus & Kitayama, 1991). The current result may suggest that individualism and collectivism can co-exist in the same individual.

**Nationality, Sex, and Duration of Dating Relationship**

Hypothesis 4, 5, and 6 related to several variables: nationality, sex, and the duration of dating relationships. For Hypothesis 4, the researcher predicted that there would be no difference between the attachment styles of Taiwanese and U.S. participants when the effects of the three Eastern cultural factors (dialectical thinking and interdependency, yuan, and filial piety) were controlled. This hypothesis was not supported, as it was found that Taiwanese participants endorsed a higher level of both attachment avoidance and anxiety than the U.S. students; this occurred even when the effects of the three cultural variables were controlled. In the literature, researchers have reported that Asians experienced lower attachment security and higher levels of avoidance and anxiety in relationships than individuals from Western cultures (DiTommaso et al., 2005; Wang & Song, 2010; Wei et al., 2004). However, the previous authors had not incorporated “cultural impact” into their measurements of Eastern attachment styles by, for instance, considering some Eastern cultural norms associated with relational patterns while interpreting or analyzing the findings. Cultural impact was accounted for in the current study by developing a new cultural measurement with items
based on the concept of the Eastern cultural factors (dialectical thinking and interdependency, yuan, and filial piety). This new cultural measurement was utilized in conjunction with a Western based attachment measurement, Experiences in Close Relationships Scale (ECRS). Because Taiwanese students scored higher on attachment anxiety and avoidance than U.S. participants in this study, even after controlling for the effects of these three cultural variables in the MANCOVA, it seemed that these cultural variables may not have fully captured the differences in attachments for the two current samples. There are some possible explanations for the difficulty in this study to definitively identify a relationship between attachment and cultural background. One important factor is that the new cultural instrument utilized in this analysis did not fully capture the cultural elements, such as harmony and emotional dependency, that may be associated with Taiwanese attachment. For instance, Soon and Malley-Morrison (2000) proposed that the concepts of harmony and emotional dependency, which seem to be linked with one’s relational style, have been found among individuals from Eastern cultures. These unique characteristics may need to be further examined in order to fully appreciate their relationship to attachment style. The potential implications of these two cultural factors (harmony and emotional dependency) will be addressed separately below.

Wang and Wang (2007) identified two types of attachment security for Taiwanese people – an open and a natural style. An open style of attachment places emphasis on actively approaching others in relationships and engaging in emotional risk-taking by outwardly expressing affection. Those with a natural style of attachment emphasize harmony in interpersonal interaction and do not actively pursue relationships. Utilizing a Western definition of attachment and a Western attachment instrument (such as the
ECRS), those individuals with a natural style may be categorized as insecurely attached as not actively approaching others for relationships could be perceived as a character of attachment avoidance. Though incorporating the cultural factor of interdependent self-construal into the current study may have helped to capture some elements of a natural style of attachment, it may not be sufficient to comprehensively capture the natural style or the concept of harmony in Asian cultures. In addition, researchers have proposed that highly valuing one’s emotional dependency (dependence on others as a way of meeting one’s needs) and emotional self-control (emotional inhibition or disconnection) in relationships is a societal norm in Eastern cultures (Soon & Malley-Morrison, 2000). However, because Western cultures emphasize individualism, emotional dependency may be perceived as a sign of attachment anxiety within this perspective and emotional self-control might be viewed as avoidance (Soon & Malley-Morrison, 2000; Sprecher et al., 1994; Wei et al., 2004). Because emotional dependency also seems to be linked with one’s relational patterns, omission of this variable in the instrument used in the current study leads to concerns that the three cultural factors may not have completely captured Eastern cultural constructs. Thus, a failure to consider the impact of harmony and emotional dependency may lead to questions about the validity of the new cultural instrument used in the current study.

In addition to nationality, this study also proposed two hypotheses related to the impact of participants’ duration of dating relationships (DoR) and their sex on attachment. The current researcher predicted that there would be no difference in the attachment styles of the two populations based on the duration of their relationships (Hypothesis 5) and that women would have higher anxious attachment scores than men,
while men would have higher levels of the avoidant attachment style than women (Hypothesis 6). Results from the MANCOVA revealed significant main effects for both Sex and DoR. However, these findings will not be interpreted since an interaction effect involving Sex and DoR was discovered.

To further facilitate the interpretation of the interaction effect, a graph of the means for Sex and DoR was constructed (see Figure 3). From this graph, a couple of observations can be summarized. First, in regards to the interaction, overall, the longer individuals were involved in a dating relationship, the lower they seemed to score on attachment avoidance. Second, the avoidance scores for both females and males were similar when they were involved in a relationship. However, for participants who were not in a relationship, females had considerably higher scores than males on avoidance. Third, even though females’ overall scores on avoidance were higher than males, being in a relationship appeared to have greater salience for females than males.

Although there has been no research on the interaction between DoR and Sex on attachment style, studies have shown that males’ and females’ perceptions of relationship quality differs (Collins & Read, 1990; Shaver et al., 1988). More specifically, females have been found to be more likely to have anxious attachment styles and males more prone to exhibit avoidant attachment styles in relationships (Kirkpatrick & Davis, 1994; Simpson, Rholes, & Nelligan, 1992; Wang & Mallinckrodt, 2006; Wu, 2005). Further, the longer a relationship lasts, the more likely partners were to rate higher in attachment security (Feeney & Noller, 1990). This seems to be consistent with the graph in Figure 3, in which participants endorsed a lower level of attachment avoidance as their relationships continue. This may suggest that both men and women felt more secure in
longer-term relationships. Further, in general, females tended to feel more secure than males when they were involved in a relationship than when they were not in a relationship. Another conclusion that may follow from this graph is related to one’s self-perception in relationships. Having longer relational experiences (more time in a relationship) may increase one’s sense of self-confidence. This statement is supported by a study revealing that couples in longer relationships felt their partners were seeing the best in them more than those in shorter relationships, which may explain the increased positive self-perception (Campbell, Lackenbauer, & Muise, 2006).

Another finding in the current study which stands in contrast to the findings from prior studies is that females generally rated higher on avoidance, with the exception of those who had been in a relationship between 1 and 2 years and those involved in a relationship more than 3 years. This divergence from the findings in the literature, which suggests males were more likely to report attachment avoidance than females (Kirkpatrick & Davis, 1994; Simpson et al., 1992; Wang & Mallinckrodt, 2006; Wu, 2005), could be explained in regards to changing gender roles. As more and more emphasis is given to gender equality and feminism in modern society, the internalized pressure to be dependent or function solely as a support for a man’s career may be becoming a less motivational force for women in relationships (Tesch-Romer, Motel-Klingebiel, & Tomasik, 2008). As it becomes less acceptable for women to turn solely to their partner for approval or self-identity, females are becoming increasing more independent or interdependent, and are more able to develop self-identity and handle feelings without the need for their partner’s justification or approval (Tesch-Romer et al., 2008). As attachment avoidance is characterized by the expression of less support and
little emotional response (Hazan & Shaver, 1994; Simpson et al., 1992), the higher avoidance for females in this study may reflect the growing emphasis on female autonomy in romantic relationships in modern society.

Finally, the finding from Tesch-Romer et al. (2008) also may be helpful to explain why the current study did not find differences in attachment anxiety between the genders. The progressive changes in societal norms, values, and gender roles seem to help females to reassure their autonomy and independency in a relationship. As it becomes more acceptable for females to be financially and emotionally independent, they may be less likely to be perceived as dependent upon their partners. As a consequence, females may not be as anxious or worried about their relationships or status in a relationship as was hypothesized in this study.

Limitations

Though careful consideration was given to the design of this study, limitations remain that may affect the interpretation of the findings. All findings reported in the study were based on data collected via participant self-report and were, therefore, prone to the common biases associated with this method. One problem associated with this method was the potential for significant threats to validity. Potential issues arise in conjunction with both internal and external validity. In regard to internal validity, participants may not always be truthful, either because of open deception or lack of self-awareness. Regardless of the underlying cause, a failure to provide accurate responses threatens internal validity. In addition, the study’s design was non-experimental and utilized a survey-type methodology at a single point in time. Therefore, as the data were correlational in nature, it does not allow for inferences about causal relationships between
the independent and the dependent variables. With regards to external validity, one issue is worthy of note as a limitation for this study. Namely, both of the samples used in this study were recruited from an individual campus in the target country. That is, the Taiwanese sample was selected from one Taiwanese university and the U.S. sample was recruited from a single university campus in the Midwest. As these samples are limited to one sub-population in one geographic region, they may not be representative of all Taiwanese or U.S. college students or adults. Thus, generalization of these findings across age groups, educational backgrounds, or geographic region, for either the Taiwanese or U.S. population, must be viewed with caution.

Yet another potential threat to validity is related to the construction of the ECRS-C. Though the current researcher took several steps to establish the validity of the ECRS-C, because it has never been used with a Taiwanese sample, its construct equivalence could not be assumed. In fact, even for those instruments that have been used widely with non-White samples and have established adequate reliabilities, it is still possible that alternative factor structures might exist in the same construct for White and non-White individuals (Wang & Ratanasiripong, 2010). Thus, it is important that future researchers examine the construct equivalence of attachment measures in cross-cultural environments.

Finally, a third limitation of this study is linked to the three cultural factors adopted from Wang and Song (2010) for this project. Though Wang and Song’s (2010) cultural factors are generally accepted in Taiwanese attachment literature, it is still unclear whether these three cultural variables fully capture the relational styles of the Taiwanese population. In addition, using the new cultural instrument developed in the
current study with a U.S. population may impose a Taiwanese framework on a U.S. population since the cross-cultural validity of this measure has not been established for U.S. populations. Given that there is no theory or research to support the current researcher’s assumption that U.S. students will score differently than Taiwanese students on the new cultural scale, it remains questionable if U.S. populations endorse similar cultural values. Thus, further assessment of the scale’s validity with U.S. students is needed.

**Theoretical, Research, and Clinical Implications**

In spite of the above-noted limitations, this investigation adds to the knowledge base on the relationship between nationality, duration of dating, sex, and attachment style. The study provides some support for the impact of Eastern cultures on the relational bonds of an Asian sample. The current study also offers some support for the correlation between cultural factors and attachment style; namely, Taiwanese attachment styles were correlated with dialectical thinking and interdependency, and yuan, while U.S. attachment patterns were linked with yuan. Moreover, Taiwanese participants had a greater level of dialectical thinking and interdependence, and yuan, than the U.S. participants, while the U.S. participants endorsed more filial piety. These results support the findings from the literature, which state that dialectical thinking (Spencer-Rodgers et al., 2004; Wang & Song, 2010), interdependency (Markus & Kitayama, 1991; Newland et al., 2010; Wang & Mallinckrodt, 2006), and yuan (Chang & Holt, 1991; Hsu, 1981; Yang & Ho, 1988) are deeply rooted in the commonly held beliefs and values of the larger Asian culture and have impacted the ways in which individuals from these cultures connect with others. However, higher scores among the U.S. students on filial piety
contraindicated the current understanding that filial piety was a core and unique value in Chinese culture (Ikel, 2004; Yeh, 1997). This finding stands in such stark contrast to the current literature that it calls for further investigation on the roles of filial piety for individuals from Eastern and Western cultures.

The present results also revealed that Taiwanese students experienced more attachment anxiety and avoidance in relationships than U.S. individuals even when the effects of Eastern cultural factors were controlled. Thus, in future research it will be important to continue examining the applicability of attachment perspectives and how Western adult attachments may be associated with various cultural factors in Taiwanese or Asian individuals. It may also be useful to identify and examine the influences of other unique cultural factors that are involved in the construction of self-other relations for Asians. For instance, identifying cultural components, such as harmony and emotional dependence, may allow researchers to more adequately describe how individuals from Asian cultures form relational bonds. Hopefully this study will also inspire more attachment researchers to investigate the cross-cultural validity of the theory on Taiwanese and other non-Western populations and, in so doing, reduce the risk of imposing a Western-based theory onto a non-White or non-Western population and apply the theory properly with confidence.

The current investigation provides some important clinical implications for counselors practicing in Asia and North America. As it was found that attachment style was correlated with different cultural factors for the two target populations (dialectical thinking and interdependency, and yuan for Taiwanese and yuan for the U.S. participants), when helping members of these groups with relational or family concerns,
psychologists should be aware of the cultural impact on attachment styles. This awareness may help increase psychologists’ understanding of self-other relations among their clients in both dating and non-romantic relationships. Furthermore, the researcher suggests that with careful attention to the counseling relationship, therapists can serve as a source of secure attachment or as a secure base for social-interpersonal exploration for their U.S. clients (Wang & Mallinckrodt, 2006). With sufficient multicultural sensitivity to form a meaningful therapeutic bond, therapists can also fill this role for students from different cultures or countries. In addition to looking at clients’ cultural background(s) when developing a treatment plan, therapists may also need to take into consideration a client’s sex and relationship status, as the current research suggested that women were more avoidant than men when they were not in a relationship. This may imply that within a therapeutic relationship, women can be expected to feel more secure than men and they may be more likely to engage in the counseling process. As this was a preliminary finding, secondary to the purpose of this study, further practice and study is needed to explore the implications of the current findings for clinical work.

**Conclusions**

Six hypotheses were tested in the current study. The relationships between the cultural factors and attachment styles for Taiwanese and U.S. individuals were investigated and a relationship was expected for Taiwanese sample while no relationship was expected for U.S. participants. Taiwanese participants were also expected to have higher scores on the three cultural factors compared to U.S. participants. Moreover, the current researcher also predicted that there would be no differences in attachment styles of Taiwanese and U.S. participants based on their nationality and the duration of their
dating relationship. Finally, the remaining hypothesis proposed that both Taiwanese and U.S. women would have higher scores on attachment anxiety than men, while men would score higher on avoidance.

As was hypothesized, the results revealed some support for relationships between the cultural factors and attachment styles. It was found that both dialectical thinking and interdependency, and yuan were correlated with Taiwanese attachment styles, while only yuan was correlated with U.S. attachment patterns. Results also showed partial support for differences in cultural influence; namely, compared to the U.S. sample, Taiwanese participants endorsed a greater level of dialectical thinking and interdependence, and yuan, while U.S. participants demonstrated a higher level of filial piety. The findings also revealed that Taiwanese students reported greater levels of attachment anxiety and avoidance than the U.S. students even when the cultural factors were controlled. Moreover, the interaction effect between the duration of participants’ dating relationship and their sex on attachment revealed that, the longer one’s dating relationship, the lower level of avoidance they experienced. Specifically, for those not in a relationship, women had higher scores than men on avoidance; and even though women’s overall avoidance scores were higher than men’s scores, being in a relationship had greater salience for women than men.

As in every investigation, this study had limitations that were explicated previously. Despite the limitations, this study contributes to the Taiwanese attachment literature. It adds to our current knowledge base on attachment styles and provides further support for the impact of Eastern cultural factors on one’s relational patterns. It is also important to note, though, that the five cultural variables originally identified by Wang
and Song (2010) were not supported. The three-factor solution identified and utilized in the current study reflected an integration of these five Eastern constructs (Wang & Song, 2010) and provided a depth of understanding of Taiwanese relational patterns. The current results correspond with prior findings that suggested relational patterns were a function of cultural background(s), duration of dating relationship, and sex, which partially supports the validity of the current results. Yet, more studies are needed to inspect the clinical significance of how attachment styles vary by nationality, length of dating, and sex. A culturally sensitive attachment measurement for assessing Taiwanese attachment styles must be identified as well. Finally, research designs are warranted that explore the causal relationship between cultural background and attachment styles. Findings from such studies can lead to more specific counseling interventions for populations from different countries.
REFERENCES


Hello,

My name is Yueh-Ching Hsu, and I am a fourth year doctoral student in the Department of Counseling Psychology and Guidance Services at Ball State University. I am currently conducting research for my dissertation on adult close and romantic relationships. The results of this study will help enrich our understanding of college students’ relationships.

If you choose to participate, you will be asked to complete a series of internet surveys asking for basic background information about yourself including your nationality, age, sex, and year in school, and also questions about your experiences in your close and romantic relationships. You will not be asked to provide your name to ensure your confidentiality. It will take approximately 10 to 15 minutes to complete the survey, and upon completion, you will have the option of entering into a drawing for an iPod Touch.

If you are willing to participate, please click the link below. I ask that you take a few moments to read the consent form before taking the survey, and if you consent to the study, click the “I Accept” button to begin. After you have completed the survey hit the “Submit” button at the bottom of the page, then you will be given another link to enter into the drawing, as to not link your answers with your information. Please email me at yhsu@bsu.edu if you have any questions regarding the survey. The drawing will take place on November 15, 2010. The winner will be notified via email on that date. Please complete the survey only one time. Multiple entries into the drawing will not be allowed, and will not help your chances of winning.

http://inquisitor.bsu.edu/inqsit/inqsit.cgi/hsu?Close+Relationship

Thank you,

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你好，

我的名字是徐悅晴，博爾大學四年級諮商心理系的博士生。我目前正在进行一份以成人親密關係為主題的博士論文。此項論文研究的結果將有助於我們更了解大學生的人際關係。

如果你選擇參與此問卷，我們會請你完成一系列的線上問卷調查。問卷中包含你的個人基本資料，例如國籍，年齡，性別，在學年級，以及和親密關係相關的問題。你不需要提供真實姓名，且你的一切資料將會保密處理。整個問卷過程大約需要10到15分鐘。在你完成之後，你可以選擇是否參與iPod Touch的抽獎。

如果你願意參與此問卷調查，請點擊下方的連結進入。在填寫問卷之前，你僅需以很短的時間先閱讀同意書。如果你同意所述內容，按下”我接受” (I Accept) 鈕即可開始進行問卷。填寫完成後，點擊畫面下方的”送出” (Submit) 鈕，即成功結束問卷，並且會出現一個抽獎連結網址。此抽獎活動與你所填寫的問卷內容及基本資料不會有任何關聯。若你有任何關於此問卷的疑問，請隨時與我連絡 (yhsu@bsu.edu)。而抽獎得主的公佈日期為99年11月15日。得獎者在當天會收到電子郵件通知。請勿重複填寫此問卷。若查明有重複填寫情事，則當事人之抽獎資格會立即取消。

http://inquisitor.bsu.edu/inqsit/inqsit.cgi/hsu?Close+Relationship?

謝謝你的參與，

Yueh-Ching Hsu (徐悅晴), M.S.
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Email: yhsu@bsu.edu
Faculty Supervisor:
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Department of Counseling Psychology and Guidance Services
Teacher's College
Muncie, IN 47306
Email: lgerstein@bsu.edu
APPENDIX C:

DEMOGRAPHIC INFORMATION (ENGLISH VERSION)

1. What is your ethnicity?
   a. African/Black
   b. Asian/Pacific Islander
   c. Caucasian/White
   d. Hispanic/Latino
   e. Native American
   f. Other

2. What is your gender?
   a. Female
   b. Male

3. What is your age?
   ______

4. In your family, are you the____
   a. Oldest child
   b. Middle child
   c. Youngest child
   d. Only child

5. How many brothers do you have?
   ______

6. How many sisters do you have?
   ______

7. What is your current year in school?
   a. Freshman
   b. Sophomore
   c. Junior
   d. Senior
   e. Graduate Student (and above)
8. What is your parents’ marital status?
   a. Married
   b. Single
   c. Separated
   d. Divorced
   e. Other

9. What is your father's educational background?
   _________

10. What is your mother's educational background?
    _________

11. What is your father's occupation?
    _________

12. What is your mother's occupation?
    _________

13. What is your current marital status?
   a. Married
   b. Single
   c. Separated
   d. Divorced
   e. Other

14. If you are married, please indicate how long you have been married? (If not, please indicate 0)
   Years____ Months____

15. If you are single, are you currently in a dating/romantic relationship?
   a. Yes
   b. No

16. If you are in a dating/romantic relationship, please indicate how long you have been in your current relationship? (If not, please indicate 0)
   Years____ Months____
APPENDIX D:

DEMOGRAPHIC INFORMATION (MANDARIN CHINESE VERSION)

1. 你的國籍是?
   a. 台灣
   b. 中國/港澳
   c. 馬來西亞
   d. 新加坡
   e. 日本
   f. 韓國
   g. 其他

2. 你的性別是?
   a. 女性
   b. 男性

3. 你的年齡是?
   ______

4. 你在家中的排行是_____
   a. 排行老大
   b. 排行中間
   c. 排行老么
   d. 獨子/獨女

5. 家裡有幾個兄弟?
   ______

6. 家裡有幾個姊妹?
   ______

7. 你目前就讀幾年級?
   a. 大一
   b. 大二
   c. 大三
   d. 大四
   e. 研究所(含以上)
8. 父母的婚姻狀態是?
   a. 已婚
   b. 單身
   c. 分居
   d. 離婚
   e. 其他

9. 父親的教育程度是?
   ________

10. 母親的教育程度是?
    ________

11. 父親的職業是?
    ________

12. 母親的職業是?
    ________

13. 你目前的婚姻狀態是?
    a. 已婚
    b. 單身
    c. 分居
    d. 離婚
    e. 其他

14. 如果你已婚了，請註明結婚至今多久? (未婚請填 0)
    年_______月_______

15. 如果你單身，目前有交往對象嗎?
    a. 有
    b. 沒有

16. 如果目前有交往對象，請註明已經交往多久? (沒有交往對象請填 0)
    年_______月_______
APPENDIX E:

THE EXPERIENCES IN CLOSE RELATIONSHIPS SCALE (ECRS)

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.

<table>
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<tr>
<td></td>
<td>Disagree Strongly</td>
<td>Disagree Somewhat</td>
<td>Disagree Slightly</td>
<td>Neutral/mixed</td>
<td>Agree Slightly</td>
<td>Agree Somewhat</td>
<td>Agree Strongly</td>
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___ 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.
___ 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.
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.
以下的這些陳述是有關你(妳)在愛情關係中可能有的感受。如果你(妳)有談戀愛的經驗，我們想知道的是通常你(妳)在一段戀情中對你(妳)的情人所持有的想法和感受，而不是只針對你(妳)和現在的女(男)朋友的關係。如果你(妳)沒有談戀愛的經驗，則想像你(妳)在戀情中可能有的想法和感受來回答。請根據你(妳)對每一個陳述同意的程度作答，並圈選適當的數字來代表。

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<td>④</td>
<td>⑤</td>
<td>⑥</td>
<td>⑦</td>
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</tbody>
</table>

① 1.我傾向不讓我的情人知道我內心深處的感受

② 2.我擔心被拋棄

③ 3.親近我的情人對我來說很自在

④ 4.我非常擔心我的愛情關係

⑤ 5.當我的情人開始要親近我的時候 我發現我自己會躲開

⑥ 6.我擔心我的情人不像我在乎他(她)一樣地在乎我

⑦ 7.當我的情人想要和我非常親近的時候 我會覺得不自在

⑧ 8.我相當擔心失去我的情人

⑨ 9.對我的情人吐露感受 會讓我覺得不自在

⑩ 10.我常常盼望我的情人對我的感覺可以像我對他(她)的一樣強烈

⑪ 11.我想要親近我的情人 但我總是退卻不前

⑫ 12.我常想要和我的情人形影不離 但是他(她)有時會因此而嚇跑

⑬ 13.當我的情人太親近我的時候 我會很緊張

⑭ 14.我擔心感情路上會孤單一個人

⑮ 15.當和我的情人分享我個人內心的想法和感覺時 我感到很自在
16. 我想要和别人非常亲近的这个渴望有时会吓跑他们
17. 我试着避免和我的情人变得太亲近
18. 我需要我的情人一再地保证他(她)是爱我的
19. 我发现亲近我的情人对我而言是件容易的事
20. 有时候我绝对我需要勉强我的情人多表达一些感情和承诺
21. 我很难让自己去依赖我的情人
22. 我不会常常担心会被抛弃
23. 我倾向不要和我的情人变得太亲近
24. 如果我无法得到我的情人的注意和关怀，我会心烦意乱或生气
25. 我几乎什么事情都告诉我的情人
26. 我发现我的情人对我们的期待并不如我所期待的那样亲近
27. 我常常和我的情人讨论我所遭遇的问题和烦恼
28. 当我没有谈恋爱的时候，我觉得有些焦虑和不安
29. 依赖我的情人对我而言很自在
30. 当我和我的情人在一起的时间不如我期待的一样多时，我会觉得挫折
31. 我不在意向我的情人要求安慰、建议或帮助
32. 当我需要我的情人时，他(她)却没有空，我会觉得挫折
33. 在我需要帮忙的时候，去找我的情人是有用的
34. 当我的情人不赞同我时，我觉得自己很差劲
35. 我会为了很多事情去找我的情人，包括寻求他(她)的安慰和保证
36. 当我的情人不花时间和我在一起时，我会觉得怨恨不平
APPENDIX G:

NEW CULTURE SCALE – ENGLISH VERSION

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.

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<th>6 Agree Somewhat</th>
<th>7 Agree Strongly</th>
</tr>
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</table>

___ 1. I see myself as inseparable from my romantic partner
___ 2. My romantic partner and I are meant to be in love
___ 3. I abide by what my parents say even though I disagree
___ 4. I do not respect my parent’s opinions about whom I should date
___ 5. My love toward my parents and family is as important as my romantic love
___ 6. I believe everything has both positive and negative sides
___ 7. I feel content when my romantic partner is content
___ 8. It is important for me to depend on other people
___ 9. I am responsible to take care of my parents when they become older
___ 10. I would select a romantic partner who fits best with my family
___ 11. My relationships with romantic partners are opportunities to complete unfinished situations from my previous life
___ 12. I only accept my romantic partner’s strengths, not his or her weaknesses
___ 13. I am not prone to seek acceptance and commitment from others
___ 14. I usually keep my romantic relationship at a slow pace
___ 15. Rather than verbally expressing my affection towards my romantic partner, I would choose to do nice things for him/her
___ 16. I believe my romantic relationship can sometimes be satisfying and sometimes unsatisfying
___ 17. I do not view romantic relationships from a fatalistic perspective
18. I rarely say “I love you” to my romantic partner even though I do love him/her.
19. I usually do not share opinions that are different from others in order to maintain harmony in my social group.
20. A romantic relationship with a person whom my parents do not like usually does not last long.
21. I admire those who accept whatever happens in romantic relationships with a peaceful mind and joyfulness.
22. I value harmonious interpersonal relationships.
23. I define myself as a part of a set of relationships.
24. I know there are both positive and negative aspects about my romantic relationship.
25. I think there is a predestined connection between my romantic partner and I.
26. Before making an important decision, I value my parent’s opinions more than my own thinking.
27. Whether people know or meet each other depends on their destiny.
28. It is very important for me to be highly respectful toward my parents and elders.
29. It is not important for me to marry someone who is accepted/approved by my parents and other significant family members.
30. An important purpose of a romantic relationship is to find someone with whom to start a family.
31. I have both positive and negative images about myself.
以下的這些陳述是有關你(妳)在愛情關係中可能有的感受。如果你(妳)有談戀愛的經驗，我們想知道的是通常你(妳)在一段戀情中對你(妳)的情人所持有的想法和感受，而不是只針對你(妳)和現在的女(男)朋友的關係。如果你(妳)沒有談戀愛的經驗，則想像你(妳)在戀情中可能有的想法和感受來回答。請根據你(妳)對每一個陳述同意的程度作答，並圈選適當的數字來代表。

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<tr>
<td>非常地不同意</td>
<td>不同意</td>
<td>有一点不同意</td>
<td>不確定</td>
<td>有一点同意</td>
<td>同意</td>
<td>非常地同意</td>
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____ 1. 我認為我和我的情人是密不可分的
____ 2. 我和我的情人是註定要相愛的
____ 3. 即使我不同意我還是會遵從父母的意見
____ 4. 關於選擇我交往的對象我不會聽從父母的意見
____ 5. 我對於家人和父母的愛和對情人的愛是一樣多的
____ 6. 我相信每一件事都有其正反面
____ 7. 當我的情人感到滿足我也會感到滿足
____ 8. 對我來說依賴他人是很重要的
____ 9. 當我的父母年老時我有責任要照顧他們
____ 10. 我會選擇最適合我家庭的情人
____ 11. 我與情人的相遇是為了接續上輩子的緣份
____ 12. 我只能接受情人的優點但不能接受他/她的缺點
____ 13. 我並不傾向去尋求他人的接納和承諾
____ 14. 我通常會讓我的戀情是慢慢發展的
15. 與其用言語對我的情人表達愛意，我寧可選擇用實際行動來表達
16. 我相信我的戀情有時候是滿意的，但有時候是不滿意的
17. 我不相信我的戀情是由宿命決定
18. 即使我很愛我的情人，我還是很少對他/她說“我愛你”
19. 為了維持團體中的和睦，我通常不會表達與他人不同的意見
20. 如果我的戀情不被家人看好，通常這段感情都不會持久
21. 我很羨慕那些不管他們的戀情發生了甚麼事，都能坦然面對且心平氣和接受的人
22. 我重視人際間的和諧關係
23. 我認為自己是某一關係/群體的一份子
24. 我知道我的戀情同時有好和不好的一面
25. 我相信有種命中注定的緣份牽引著我和我的情人
26. 在做重要決定之前，我認為父母的意見比我的想法更重要
27. 不管是相識還是片面之緣，都是取決於彼此的緣份
28. 尊敬父母和長輩對我來說是很重要的
29. 結婚的對象是否被父母以及重要家人接納/認同，對我來說不重要
30. 找到能一起組成家庭的情人，是擁有親密關係的重要目的
31. 我對於自己有正面和負面的看法