2016

Dialectical relationship thinking: examination of partner evaluation and partner knowledge organization across cultures

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Dialectical relationship thinking: Examination of partner evaluation and partner knowledge organization across cultures

by

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A dissertation submitted to the graduate faculty

in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Psychology

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Ames, Iowa

2016

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ACKNOWLEDGMENTS

I would like to express my deepest gratitude to my adviser, Dr. Susan E. Cross, for her continuous support, persistent help, patience, and enthusiasm. I will never forget the first time we met five years ago–the time I started my intellectual journey in culture and close relationships. I would also like to thank my committee members, Dr. Zlatan Krizan, Dr. Frederick O. Lorenz, Dr. David L. Vogel, and Dr. Meifen Wei, for their guidance and support throughout the course of this research.

I am greatly in debt to my fiancée and parents, who have provided me unconditional support and love all these years. Words are not enough to mention all the things they have done for me. I would never be able to complete my study without their support and love.

I would like to thank my colleagues, collaborators, research assistants in my lab, my former adviser Dr. Sylvia Chen and her lab, my mentor Prof. Michael Bond who introduced me to cultural psychology, the ISU department faculty and staff for their help, suggestions and encouragement. I would also like to express my sincere gratitude to those who were willing to participate in my studies, without whom, this dissertation would not have been possible.

ABSTRACT

The major purpose of the current research is to examine how and why Chinese and European Americans' views and evaluations of their romantic relationships and partners differ. Based on the cultural theory of naïve dialecticism, I proposed that, compared to European Americans, Chinese would have more ambivalent attitudes toward their partners and they would be more likely to integrate positive and negative knowledge about their partners.

Three studies were designed to examine how partner evaluation and partner knowledge organization vary across cultures. Study 1 examined Chinese and European American dating individuals' explicit evaluation of their partners and relationships, and I found that Chinese were more ambivalent in their explicit partner evaluation than their European American counterparts. Further, explicit partner-ambivalence mediated cultural differences in relationship outcomes, after controlling various individual differences factors (e.g., self-esteem, neuroticism, attachment styles, and idealization). Study 2 investigated implicit attitudes toward one's partner across cultures. I found that Chinese were more ambivalent in their implicit partner evaluations than European Americans. Study 3 tested the differences in how Chinese and European Americans organized positive and negative knowledge of their partners. Chinese tended to use more negative attributes (relative to positive attributes) in their partner knowledge than European Americans; unexpectedly, participants in both cultures used a compartmentalized organization structure.

This research has both theoretical and practical values in understanding the psychological mechanisms that underlie cultural differences in relationship well-being between the East and the West

CHAPTER 1. INTRODUCTION

I've prepared for this

I never shoot to miss

But I feel like a storm is coming

If I'm goanna make it through the day

Then there's no more use in running

This is something I gotta face

I want to feel love, run through my blood

Tell me is this where I give it all up?

For you I have to risk it all

Cause the writing's on the wall

Sam Smith, "Writing's On the Wall"

The above Oscar winning song portrays braveness and risk-taking in love, as well as that love is all or none. In stark contrast, the award winning (in various Hong Kong music competitions) Chinese love song below depicts very different themes: unpredictability and contradictions.

The butterfly goes round and round to seek out flowers

If time wants to leave, it has to fly

Life is a game for seconds

Our love is a forever secret

Yet this romance is in vain

Several legacies lose

Separation and togetherness; how would you know my sadness?

Even if memories can be forgotten

I still sometimes think of you

Even our love has no result; I still enjoy it till death

Yuek Hei Ng, "Secret of Tears"

(translated from Chinese)

Does culture influence people's thoughts and feelings about their romantic partners and relationships? Ample research has shown that East Asians, including Chinese, Japanese, and Koreans, tend to report lower levels of relationship quality than do Westerners, including North Americans, Australians, and others with European heritage (e.g., Epstein, Chen, & Beyder-Kamjou, 2005; Hiew, Halford, van der Vijver, & Liu, 2015; Williamson et al., 2012). The reasons why East Asians, compared to Westerners, feel less satisfied in their romantic relationships are not fully known. The major purpose of this research is to examine the way East Asians compared to Westerners think about their partners and relationships in terms of contradiction and change, and how this relationship thinking is related to relationship well-being.

The limited cross-cultural literature that has examined how culture influences our close relationships mostly applies the frameworks of individualism versus collectivism (Triandis, 1995) or independent versus interdependent self-construals (Markus & Kitayama, 1991) to predict and explain how people with different cultural backgrounds value, think, and behave in close relationship contexts (e.g., Anderson, Adams, & Plaut, 2008; Dion & Dion, 1993; Zhang & Kline, 2009). For instance, in Western cultures that value personal autonomy and uniqueness (i.e., individualistic, independent cultures), people tend to emphasize

romantic feelings and love in decisions to marry (Levine, Sato, Hashimoto, & Verma, 1995). In contrast, among people from Asian cultures that value connectedness and harmonious relationships (i.e., collectivistic, interdependent cultures), family-related concerns (e.g., family approval) play a relatively important role in people's relationship decisions (Zhang & Kline, 2009).

Although the cultural theory of naïve dialecticism, a lay belief about change and contradiction endorsed by many East Asians, has gained empirical support in understanding cultural differences in cognition, emotion, and behaviors between the East and the West (for a review, see Spencer-Rodgers, Williams, & Peng, 2010), it has received relatively less attention in the study of intimate relationships. In this research, I attempt to investigate differences regarding how Chinese and European Americans explicitly and implicitly evaluate their romantic partners and organize knowledge of their partners as illuminated by the theory of naïve dialecticism.

I first review previous literature that has demonstrated that the cultural theory of naïve dialecticism is a novel and useful framework for predicting and understanding differences in cognition, emotion, and behaviors of people from the East and the West. Second, I outline how this framework can be extended to investigate people's attitudes toward their romantic partners and their mental representations of their partners. Third, I report three studies that investigate my predictions of cultural differences in evaluation and knowledge organization of one's romantic partner by comparing samples of Chinese and European Americans. Forth and finally, I discuss the significance of the current research in building a theory to better understand Chinese relationships and its implications in serving distressed Chinese intimates.

1.1 Cultural Theory of Naïve Dialecticism

Cross-cultural psychology literature has widely documented that East Asians and Westerners differ in various basic perceptual and cognitive processes, including attention, attribution, categorization, and reasoning (for a review, see Nisbett, Peng, Choi, & Norenzayan, 2001). A cultural theory of naïve dialecticism has been proposed to explain many of these cultural differences, especially those relevant to the concepts of change and contradiction (Peng & Nisbett, 1999; Spencer-Rogers, Williams, et al., 2010).

According to Peng and Nisbett (1999), dialectical thinking is a "cognitive tendency toward acceptance of contradiction" (p. 742; see Appendix A for definitions of important concepts in this dissertation). They identified two principles that underlie dialectical thinking of Chinese and other East Asians. The principle of change denotes the belief that "reality is a process [that] does not stand still but is in constant flux" (p. 743); the principle of contradiction denotes the belief that "reality is not precise and cut-and-dried but is full of contradictions" (p. 743). These underlying principles of dialectical thinking differ fundamentally from laws of formal logic advocated by early Greek philosophers (Peng & Nisbett, 1999), such as the law of identity (*A* equals *A*; e.g., a Ph.D. student is a Ph.D. student), the law of noncontradiction (*A* does not equal not-*A*; e.g., a Ph.D. student is not a non-Ph.D. student), and the law of excluded middle (*B* equals *A* or not-*A*; e.g., a person can either be a Ph.D. student or a non- Ph.D. student). In contrast to formal logic, dialectical thinkers may argue based on the principles of change and contradiction that *A* does not equal *A* (or *A* is not-*A*; e.g., a Ph.D. student is no longer a Ph.D. student after graduation), and *B* can be both *A* and not-*A* (e.g., a person was a Ph.D. student in the past, but he/she is not a Ph.D. student now).

Scholars speculated that this folk theory of dialecticism was derived from the prominent East Asian philosophies of Taoism, Confucianism, and Buddhism (Nisbett, 2003;

Nisbett et al., 2001). For example, in the classic text of Taoism, *Tao Te Ching*, we can easily find writings about change and contradiction (translated by Pine, 2009):

> The incomplete becomes whole
> the crooked becomes straight
> the hollow becomes full
> the worn-out becomes new
> (chapter 22, pp. 44)

> What you would shorten
> you first should lengthen
> what you would weaken
> you first should strengthen
> (chapter 36, pp. 72)

In addition to the texts above, the yin-yang symbol of Taoism also illustrates this dialectical view of change and contradiction (see Figure 1; Spencer-Rodgers, Williams, et al., 2010). The black and white parts of the circle, as well as the small dots, indicate that in the world all things are composed of opposing components but the parts can still fit nicely together. The yin-yang symbol is constantly turning, which represents the idea of constant change and flux. Intriguingly, a study showed that European Americans expected greater change in their forecasts (stock market and weather) when they were primed by the yin-yang symbol, as compared to other Chinese symbols (e.g., a Chinese dragon) or a control condition (Alter & Kwan, 2009).

This lay theory of dialectical thinking shared by many East Asians has led to different ways of viewing the world among people from East Asian cultures compared to people from Western cultures. Whereas people from Western, non-dialectical cultures think that the world is stable or changes in a gradual linear trend, people from East Asian, dialectical cultures see the world as constantly changing and in a state of flux. Previous research showed that European Americans expected an event to continue its trend, whereas Chinese expected the trend to slow down or even go the opposite direction (Ji, Nisbett, & Su, 2001). In a related vein, Koreans felt less surprised relative to European Americans when they were presented with an unexpected outcome (Choi & Nisbett, 2000). East Asians' tendency to expect change and their belief about a constantly changing universe naturally extend to the concept of contradiction. East Asians believe that because all things continuously change into their opposites in a never-ending cycle and stay in balance (e.g., good in extreme becomes bad, bad in extreme becomes good; strength in extreme becomes weakness, weakness in extreme becomes strength), contradictions are inevitable and should be tolerated and accepted (Peng & Nisbett, 1999; Spencer-Rodgers, Williams, et al., 2010). Prior research found that European Americans presented with two opposing arguments were more likely to polarize and choose one argument against the other to resolve the contradiction; Chinese judged both arguments to be equally plausible (Peng & Nisbett, 1999, Study 5). Whereas Westerners are motivated to resolve seeming contradictions by adopting extreme positions or by means of synthesis (i.e., an integrated combination of both positions), East Asians tend to tolerate contradictions by taking the "Middle Way" and think that the truth is somewhere in the middle (Peng & Nisbett, 1999; Briley, Morris, & Simonson, 2000).

The cultural framework of naïve dialecticism has also been applied to study various cultural differences in East Asian and Westerners' selfhood and emotional world. Two of the

research areas are especially relevant to the present research, namely, dialectical self and dialectical emotions.

1.1.1 Dialectical Self

Research has revealed that East Asians, as compared to Westerners, tend to view themselves in contradictory ways. That is, East Asians embrace opposing or contradictory aspects in their self-concepts, and all these aspects exist in active harmony (Spencer-Rodgers, Williams, et al., 2010). Spencer-Rodgers, Peng, Wang, and Hou (2004) found that Chinese held more ambivalent attitudes toward themselves relative to European Americans. An ambivalent attitude, according to attitude research, is defined as the presence of positive and negative attitudes toward an object at the same time (for reviews, see Conner & Sparks, 2002; Jonas, Broemer, & Diehl, 2000). In Spencer-Rodgers and colleagues' (2004) research, self-evaluative ambivalence was operationalized as simultaneously endorsing positive and negative self-beliefs in the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), and generating both positive and negative self-statements in the Twenty Statements Test (TST; Kuhn & McPartland, 1954). The researchers also developed the Dialectical Self Scale (Spencer-Rodgers et al., 2004) to measure dialectical self-beliefs that are comprised of both an individual's tendency to view oneself as malleable (e.g., "I often find that my beliefs, attitudes and personality will change under different contexts") as well as the tendency to tolerate contradictions (e.g., "When I hear two sides of an argument, I often agree with both"). Importantly, they found that the measure of dialectical self explained cultural differences in self-ambivalence and subjective well-being when comparing Chinese and European Americans. This measure of dialectical self has also proven to be useful in the explanation of cultural differences in various self-related phenomena, including self-concept consistency (Boucher, 2011) and self-verification motivation (Spencer-Rodgers, Boucher, Peng, & Wang,

2009). Another important finding to note in their work is that not all collectivistic and interdependent cultures are dialectical cultures; indeed, Latinos and African Americans do not view themselves ambivalently (Spencer-Rodgers et al., 2004). Thus dialecticism is a cultural dimension unique to many East Asian cultures.

One may argue that East Asians compared to Westerns are more self-ambivalent or hold stronger negative self-beliefs because of their self-critical tendency rather than their dialectical tendency to hold contradictory information about the self (Spencer-Rodgers, Boucher, Mori, Wang, & Peng, 2009). Nonetheless, the contradiction between positive and negative self-descriptions is only one form of contradictory self-knowledge. Research demonstrated that Chinese were more likely to describe themselves in contradictory statements (but not necessarily negative self-statements) relative to European Americans (e.g., "I am friendly but shy"; Spencer-Rodgers, Boucher, Mori, et al., 2009, Study 1). Similarly, when Koreans and European Americans were asked to rate themselves in terms of extraversion and then introversion, or vice versa, Koreans were more likely than European Americans to show inconsistent responses–describing themselves as both extravert and introvert (Choi & Choi, 2002, Study 1; see also Hamamura, Heine, & Paulhus, 2008).

Additionally, contradictory self-knowledge is more accessible or retrieved more quickly from memory for East Asians than for Westerners. In one study, Japanese and European Americans were asked to use different trait words to describe themselves, and their reaction time was recorded (Spencer-Rodgers, Boucher, Mori, et al., 2009, Study 2). Japanese responded to opposing traits such as "outgoing" and "shy" with similar speed, whereas European Americans responded to traits like "outgoing" more quickly than the opposite such as "shy". Their subsequent studies revealed that dialecticism but not self-criticism explained cultural differences in inconsistent self-beliefs (Spencer-Rodgers, Boucher, Mori, et al., 2009).

East Asians' dialectical views of the self are not only limited to their explicit self-evaluations, but are also observed in their implicit, automatic self-evaluations. Boucher, Peng, Shi, and Wang (2009) used the Go/No-Go Association Task (GNAT; Nosek & Banaji, 2001) to assess Chinese and European American individuals' implicit self-esteem. They found that Chinese were more ambivalent in their implicit self-esteem than European Americans. It is noteworthy that implicit self-ambivalence was not related to explicit self-ambivalence in their research. In a related vein, Spencer-Rodgers, Boucher, Mori, and colleagues (2009, Study 3) used an autobiographical memory method (Rogers, Kuiper, & Kirker, 1977) to examine East Asians' and Westerners' implicit self-beliefs. They found that Chinese relative to European Americans remembered more contradictory pairs of traits in a surprise memory recall test.

Regarding the other component of dialecticism–change, East Asians relative to Westerners are more likely to recognize the complexity and inconsistency of their behaviors across roles and situations. A large body of research has shown that East Asians view themselves in context-specific ways, such that they tend to exhibit less consistency in their self-beliefs across roles and situations than do Westerners (e.g., Boucher, 2011; Church et al., 2008, 2012; English & Chen, 2007, 2011; Suh, 2002). When people are asked to think of themselves in different roles or relationship contexts, East Asians compared to Westerners describe themselves as behaving differently across these roles or contexts. Notably, researchers have found that dialecticism explains cultural differences in cross-role inconsistency among East Asians and Westerners (Boucher, 2011; Church et al., 2008). In a similar vein, East Asians are more likely than Westerners to change their global self-concepts (both positive and negative) depending on others' feedback. For instance, Chinese participants rated themselves as less extraverted on a second personality test compared to the first one after receiving contradictory feedback indicating that they were introverted (Spencer-Rodgers, Boucher, Peng, et al., 2009). For East Asians, their "true self" may reflect

their context-specific selves rather than a global, consistent self-view, whereas Westerners see such varying self-conceptualization across contexts as inauthentic (Boucher, 2011; English & Chen, 2011).

As reviewed above, plenty of research has revealed that East Asians hold contradictory self-knowledge, at both explicit and implicit levels, and contextualized self-views, compared to Westerners. This undoubtedly reflects the two principles of dialecticism, tolerance for contradiction and expectation of change, in East Asians' self-views.

1.1.2 Dialectical Emotions

Cross-cultural research has shown that emotional experiences of East Asians are more complex than that of Westerners. East Asians are more likely to experience co-occurring positive and negative emotions or mixed emotions than are Westerners, which is termed emotional complexity (Goetz, Spencer-Rodgers, & Peng, 2008). While Western emotion research generally finds that positive and negative feelings are negatively correlated, data from East Asian samples reveal a weaker association, no association, or even a positive association between positive and negative feelings (Bagozzi, Wong, & Yi, 1999; Spencer-Rodgers, Peng, & Wang, 2010). Likewise, Goetz et al. (2008) reported a study in which Chinese described more frequent occurrence of mixed emotions than did European Americans.

Besides, East Asians and Westerners employ different strategies of emotion regulation, and cultural differences in emotional experiences can be potentially attributed to their different emotion regulation strategies. In one study, Miyamoto and Ma (2011) asked Japanese and European American participants to recall their experience of success. They found that Japanese were more likely than European Americans to report dampening their positive emotional experiences in these situations, for instance, by thinking about things to

make themselves not feel as good. Cultural differences in dampening positive emotions were explained by Japanese people's higher endorsement of the dialectical beliefs about positive emotions (e.g., "I think that something bad might happen if I continue feeling delighted"). Accordingly, it is not surprising to observe that East Asians report co-occurrence of good and bad feelings if they employ such a dampening strategy in positive situations. Similarly, East Asians are more likely than Westerners to think that happiness may have negative consequences (i.e., fear of happiness; Joshanloo et al., 2014).

The cultural framework of dialecticism is helpful in understanding the complex emotional experiences of East Asians. Importantly, this theoretical perspective provides unique insights beyond the widely employed cultural frameworks of individualism-collectivism or self-construals (Hui, Fok, & Bond, 2009; Schimmack, Oishi, & Diener, 2002).

1.2 Naïve Dialecticism in Close Relationship Contexts

Cross-cultural work on the lay theory of dialecticism has accumulated in the past decades (Spencer-Rodgers, Williams, et al., 2010). Compared to the large body of work on dialectical self and emotions, however, only a handful of studies have attempted to apply this framework in the area of close relationships.

Recently, Cross and Lam (in press) employed the cultural theory of naïve dialecticism to conceptualize how East Asians and Westerners differ in their feelings, thoughts, and behaviors in romantic relationships. Following their review, I propose three domains in which the theoretical framework of naïve dialecticism helps predict and explain East Asian and Westerners' emotional experiences and social cognitive processes in romantic relationship contexts (see Table 1 for a summary). This is termed dialectical relationship thinking, which reflects how the dialectical principles influence people's social cognitive and interpersonal processes in their relationships. I discuss the three domains in the subsequent section, but the

current research only addresses predictions regarding differences in the latter two domains, namely, partner evaluation and partner knowledge organization.

1.2.1 Emotional Experiences in Romantic Relationship

A common Chinese metaphor of marriage is that "marriage is like tea" (Rosenblatt & Li, 2012). For many Chinese people, marriage is perceived as an experience of both "sweet" and "bitter" at the same time. A study of popular U.S. and Chinese love songs revealed that Chinese love songs consisted of more themes of sentiment and suffering than U.S. songs (Rothbaum & Tsang, 1998). The notion of co-occurring positive and negative emotional experiences in romantic relationship contexts is also frequently observed in Chinese proverbs and word use. These include sayings such as "fighting is petting; nagging is loving," "having mixed love-and-hate feelings," or "quarrelsome but loving couple." Likewise, in a lexicon study of emotion, researchers identified a category of sad love in Chinese, but not in English or Italian (Shaver, Wu, & Schwartz, 1992). These views of co-occurring love and negative emotions may sound unfamiliar or even strange to many people from a Western, non-dialectical culture. In contrast, East Asians naturally accept these contradictory views of love and negative emotions. More important, East Asians tend to experience these mixed emotions in their relationships.

East Asians' tendency to experience love and negative emotions simultaneously was addressed in a study of Chinese American and European American couples who were asked to talk about various relationship topics (e.g., their first date; Shiota, Campos, Gonzaga, Keltner, & Peng, 2010). The research showed that European Americans were more likely to experience either love *or* the target negative emotion during the conversations (for instance, contempt, people when compared their first date with their recent ones, they might feel contempt because their more recent dates were worse), whereas Chinese Americans were

more likely to experience both love *and* the target negative emotion. In line with the research that observes cultural differences in emotion regulation strategies (Miyamoto & Ma, 2011), one may also predict that East Asians, compared to Westerners, are more likely to dampen their feelings of love by thinking and expecting that something negative will happen in their relationships.

If East Asians simultaneously experience love and negative emotions in their intimate relationships, do they also feel and think about their romantic partners in a similar way? In other words, do East Asians evaluate their romantic partners more ambivalently than do Westerners? Some research suggests that it may be the case.

1.2.2 Evaluation of Romantic Partner

Relationship research based on Western samples generally observes that intimates view each other and their relationships in a positive light, and these perceptions are at times illusory or unrealistic. For instance, couples view their partners more positively compared to their views of a typical partner or their partners' self-perceptions (Murray, Holmes, & Griffin, 1996a, 1996b). In addition, individuals think that they have a stronger sense of control in their relationships and that their relationships have a better future as compared to other individuals' relationships (Murray & Holmes, 1997). Another study showed that almost 80% of the newlyweds in the sample initially thought that their feelings about their marriages would get better rather than get worse; ironically, their marital satisfaction decreased over a 4-year period (Lavner, Karney, & Bradbury, 2013). This extremely positive view of the relationship and high expectation of need fulfillment may make it more and more difficult for an American's spouse to fulfill the person's hopes and wishes in a marriage–just like climbing a mountain without enough air to breathe (Finkel, Hui, Carswell, & Larson, 2014).

In sharp contrast, East Asians tend to simultaneously hold positive views of their partners and relationships together with negative or critical views, as reflected in their ambivalent evaluations. A few studies have shown that East Asians' ambivalent feelings are not only limited to their emotional experiences, but also extend to their evaluation of close others. Chinese are more likely to view their ingroups (e.g., family members, ethnic group) ambivalently than are European Americans (Ma-Kellams, Spencer-Rodgers, & Peng, 2011). In addition, Lam and colleagues (2016, Study 1) found that Chinese married couples evaluated their spouses more ambivalently compared to their European American counterparts, using a partner version of the Self-Esteem Scale (Neff & Karney, 2005). Their research also found that partner-evaluative ambivalence explained why Chinese couples reported lower marital quality than did European American couples. Although previous research showed that self-ambivalence explained why Chinese reported poorer personal well-being than did European Americans (Spencer-Rodgers et al., 2004), self-ambivalence had no significant relation to these couples' relationship well-being (Lam et al., 2016). This research therefore demonstrates the unique contribution of partner-evaluative ambivalence in understanding cultural differences in relationship well-being.

Although the findings in Lam et al. (2016) has provided initial evidence of cultural differences in ambivalent partner evaluation, their research is subject to various well-known limitations of explicit, self-report measures (Stone et al., 2000). For instance, people may not want to disclose their deeper negative feelings toward their partners. Cross-cultural examination of automatic evaluative processes using implicit measures may help extend previous findings based on explicit measures. As mentioned before, a study of implicit self-evaluative ambivalence showed that Chinese were more likely than European Americans to implicitly associate themselves with both positive and negative attributes, which may suggest Chinese peoples' automatic tendency to balance "good" with "bad" (Boucher et al., 2009).

1.2.2.1 Implicit partner evaluation

Implicit measures such as the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) have long been used to study people's automatic evaluative processes toward a person or an object. Implicit measures of attitudes address various limitations of explicitly asking participants to report what they like or dislike, although questions about the underlying mechanisms of implicit measures of attitudes, and how implicit attitudes are related to explicit attitudes, are still open to debate (Ferguson & Fukukura, 2012; Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005; Karpinski & Hilton, 2001; Nosek, 2005).

Implicit measures have also been applied to assess people's relationship-specific attitudes (for a review, see Baldwin, Lydon, McClure, & Etchison, 2010). For instance, Cross, Morris, and Gore (2002) assessed people's implicit associations between relationship-oriented words and evaluative words by administering the IAT (Greenwald et al., 1998). They found that individuals who thought that their close relationships were an important part of their self-concept were more likely to associate relationships with positivity. Using a partner version of the Go/No-Go Association Task (GNAT; Nosek & Banaji, 2001), Lee, Rogge, and Reis (2010) demonstrated that associating one's partner with good or bad attributes predicted relationship breakup over a one-year period, even after controlling various explicit measures of relationship quality. Individuals with positive implicit partner evaluations had reduced risk of breakup, whereas individuals with negative evaluations had increased risk of breakup (although the predictive power of negative implicit associations was relatively weak).

Despite the usefulness of using implicit measures to assess people's deeper feelings about their romantic partners or relationships, existing cross-cultural studies of romantic relationships largely rely on self-report measures or open-ended questions. To my knowledge, no study has examined implicit associations of romantic relationships or partners across

cultures. Indeed, examining people's automatic evaluations of their relationships or partners may reveal important processes that are obscured by explicit, self-report methods. First, daily interactions among dyads usually happen in contexts of time pressure, fatigue, distraction, and multitasking, in which automatic processes play a more important role than controlled responses (Baldwin et al., 2010). Implicit and explicit measures provide different perspectives to understand relationship phenomena in diverse contexts. Second, implicit and explicit measures are often weakly related to each other, and both types of measures uniquely contribute to the prediction of important relationship outcomes (e.g., Lee et al., 2010). In a nutshell, the present research assesses ambivalent attitudes toward one's partner using both implicit and explicit measures.

Consistent with the recent findings on explicit partner evaluation in which Chinese evaluate their partners more ambivalently than do European Americans (Lam et al., 2016), I predict that Chinese will also have more ambivalent implicit attitudes toward their romantic partners compared to European Americans. This is because of Chinese people's tendency to tolerate contradictory partner evaluations, as predicted by the theory of naïve dialecticism. Moreover, due to cultural differences in partner-evaluative ambivalence, I expect that Chinese will report lower levels of relationship quality than European Americans. I posit that partner evaluation is a mediator between culture and relationship well-being, based on evidence from longitudinal studies that has supported the potential causal role of partner evaluation on relationship well-being (e.g., Murray & Holmes, 1997; Murray, Griffin, Derrick, Harris, Aloni, & Leder, 2011).

By administering both explicit and implicit measures of partner attitudes among Chinese and European Americans, I make the following predictions.

Hypothesis 1a: Chinese participants will be more ambivalent toward their romantic partners in their *explicit* evaluations, as assessed by a self-report measure of partner attitudes, compared to European American participants.

Hypothesis 1b: Chinese participants will report lower levels of relationship quality relative to European American participants, and this cultural difference will be mediated by *explicit* partner-evaluative ambivalence.

Hypothesis 2a: Chinese participants will be more ambivalent toward their romantic partners in their *implicit* evaluations, as assessed by an implicit associations test, compared to European American participants.

Hypothesis 2b: Chinese participants will report lower levels of relationship quality relative to European American participants, and this cultural difference will be mediated by *implicit* partner-evaluative ambivalence.

Like many other studies on the association between explicit and implicit measures, I expect that explicit partner-ambivalence and implicit partner-ambivalence will be unrelated or weakly related. However, the two kinds of measures may uniquely predict relationship outcomes.

1.2.3 Organization of Partner Knowledge

The third domain that I expect East Asians and Westerners to differ in is their organization of knowledge of their romantic partners. Studies have suggested that the ways that intimates think about their relationships have a unique effect on their relationship

evaluation regardless of the content. Murray and Holmes (1999; see also Murray & Holmes, 1993) showed that people who found virtues in their partners' faults in open descriptions of their relationships were more likely to maintain the relationships a year later, regardless of whether they generally described their relationships positively or negatively. Furthermore, the ways that married couples attribute or explain relationship events are related to their marital quality (Bradbury & Fincham, 1990). Therefore, in addition to studying *what* people think about their partners, it is important to examine *how* they think about their partners.

One way that people perceive and represent positive and negative aspects of their partners is through cognitive strategies to organize positive and negative partner knowledge. Showers and her colleagues (Showers & Kevlyn, 1999; Showers & Zeigler-Hill, 2004) proposed two "types" of organizational structure, namely, compartmentalization and integration. According to their model, some individuals compartmentalize their positive and negative beliefs about their partners such that they can focus on the positives (or negatives) and isolate the negatives (or positives). Other individuals integrate their positive and negative beliefs about their partners; in other words, positive and negative knowledge about their partners is mixed. An example of compartmentalized organization is presented in Panel A of Appendix B; an example of integrative organization is presented in Panel B.

Research has shown that the structure of partner knowledge and the overall valence of such knowledge interact to predict people's extent of liking and loving their romantic partners and relationship dissolution one year later (Showers & Kevlyn, 1999; Showers & Zeigler-Hill, 2004; Campbell, Butzer, & Wang, 2008). When individuals' perception of their romantic partners is generally negative, an integrative organization is positively associated with liking and loving, but the probability of breakup increases as compared to a compartmentalized organization. This is perhaps because a negative integrative structure makes the positive aspects of one's partner available in the short run. In the long run,

however, a person needs to exert substantial mental and emotional effort to maintain such a negative integrative structure; hence, the person may be overwhelmed by continuously seeing his or her partner's flaws. In contrast, when individuals perceive their partners in a generally positive light, a compartmentalized organization is positively linked to liking and loving, but also to a higher probability of breakup, as compared to an integrative organization. This may be because a positive compartmentalized structure helps people minimize access to the negative aspects of their partners temporally, "like sweeping [these negative compartments] under the rug" (Showers & Zeigler-Hill, 2004, p. 1199). However, individuals with a positive compartmentalized view of their partners may be vulnerable to gradually finding negative attributes of their partners over time, leading to higher breakup rates.

Using the procedure of categorizing attributes to describe a romantic partner (Showers & Kevlyn, 1999), I assess people's organizational structure of partner knowledge across cultures. Research has shown that East Asians tend to recognize the complexity of people's behaviors across time, contexts, and situations (for instance, East Asians agree to items such as "Whether or not a person is arrogant will tend to change over time," "A person who is compassionate with friends may lack compassion with strangers," and so on), as compared to Westerners (Church et al., 2003, 2006). This may suggest that East Asians are more likely than Westerners to hold a complex and integrative view of a person, and in this case, one's partner. Likewise, Lam and colleagues (2016, Study 2) asked Chinese and European Americans to describe their romantic partners in three broad domains, namely, academic/work, interpersonal, and family domains. They found that Chinese participants, compared to their European American counterparts, generated more contradictory descriptions of their partners both within a domain (e.g., "my partner is hardworking and lazy in school") and across domains (e.g., "my partner is talkative in front of friends; he/she is shy in family gatherings"). This finding may suggest that within a particular aspect of partner

knowledge, Chinese are more likely to hold contradictory partner knowledge than are European Americans. Chinese people's descriptions of their partners are indeed consistent with the integrative organization of partner knowledge. As a result, I predict that Chinese will be more likely to integrate both positive and negative beliefs (integrative organization) when describing a particular aspect (e.g., my partner as a student), whereas European Americans will be more likely to compartmentalize their positive and negative beliefs (compartmentalized organization). In addition to organization structure, I expect that Chinese people's perception of their partners will be generally more negative relative to European Americans, reflecting their tendency to balance good and bad views of their partners.

Hypothesis 3: Chinese participants will hold more negative beliefs about their romantic partners than will European American participants.

Hypothesis 4: Chinese participants' partner knowledge organization will be more integrative (which also means less compartmentalized) as compared to that of European American participants.

As mentioned before, prior research found that content (positive vs. negative) and organization structure (compartmentalization vs. integration) of one's partner knowledge interacted to predict relationship well-being, despite that negative partner knowledge content was generally related to poor relationship well-being (Showers & Kevlyn, 1999; Showers & Zeigler-Hill, 2004; Campbell et al., 2008). As a result, I examine whether partner knowledge content and structure will predict relationship outcomes. Furthermore, I predict that negative beliefs about one's partner will mediate cultural differences in relationship quality. I assume that partner knowledge is the mediator rather than relationship quality based on the

longitudinal research by Showers and Zeigler-Hill (2004) which found that partner knowledge predicted relationship dissolution one year later.

Hypothesis 5: Negativity in one's partner knowledge will mediate cultural differences in relationship quality.

For exploratory reasons, I also assess how people think about the importance of various aspects of their partners and whether they think that those aspects are stable. Research on self-views has observed that people weight positive and negative self-aspects with different importance (i.e., differential importance; Pelham & Swann, 1989). Differential importance is computed by correlating ratings of importance and valence across aspects for each individual (i.e., within-subjects correlations). People tend to rate their positive self-aspects to be more important than negative self-aspects (within-subjects *r* between .50 and .60), and rating positive relative to negative self-aspects as more important are related to positive global self-esteem (Pelham & Swann, 1989; Showers, 1992). However, Showers and Kevlyn (1999) reported a lower value of differential importance of positive to negative aspects in people's beliefs about their partners (r = .36) compared to self-beliefs. They also observed that differential importance did not interact with organization structure in the prediction of relationship outcomes. Despite the findings by Showers and Kevlyn (1999), it is important to assess differential importance in the present research. If East Asians are more likely than Westerners to balance positive and negative partner knowledge, then this tendency may be reflected in the differential importance index, such that East Asians do not differentially rate the positive or negative aspects as more important. Consequently, I expect that Chinese participants will be less likely to show differential importance than European American participants.

Given that East Asians expect more change than do Westerners, I anticipate that Chinese will be less likely than European Americans to think that the partner aspects that they describe are stable. This prediction is consistent with the theory of dialectical relationship thinking as well as some recent findings that Chinese are more likely than European Americans to perceive changes in their partners (Lam et al., 2014).

Hypothesis 6: Chinese participants will be *less* likely than their European American counterparts to differentially value positive and negative partner aspects (i.e., differential importance).

Hypothesis 7: Chinese participants will be *less* likely than European American participants to view the partner aspects as stable.

Table 1. Differences in romantic relationship experiences in East Asian and Western cultures

	East Asian, Dialectical Cultures	**Western, Non-dialectical Cultures**
Emotional Experiences	• Experience positive *and* negative emotions simultaneously in the relationship, such as love and hate • Have more mixed feelings about the relationship • Dampen their feelings of love because of the belief that too much love feelings may lead to negative consequences in the relationship	• Experience either positive *or* negative emotions at different times in the relationship • Less occurrence of mixed feelings about the relationship • Do not dampen their feelings of love
Partner Evaluation	• Evaluate one's partner more ambivalently – applies to both implicit and explicit attitudes • Leads to more negative relationship judgment overall	• Evaluate one's partner less ambivalently • Leads to more positive relationship judgment overall
Partner Knowledge Organization	• Hold more contradictory information about one's partner • Organize positive and negative partner knowledge in an integrative structure • Both positive and negative partner knowledge equally valuable • Less stable view of one's partner	• Maintain internally consistent information about one's partner • Organize positive and negative partner knowledge in a compartmentalized structure • Negative partner knowledge less valuable than positive knowledge • More stable view of one's partner

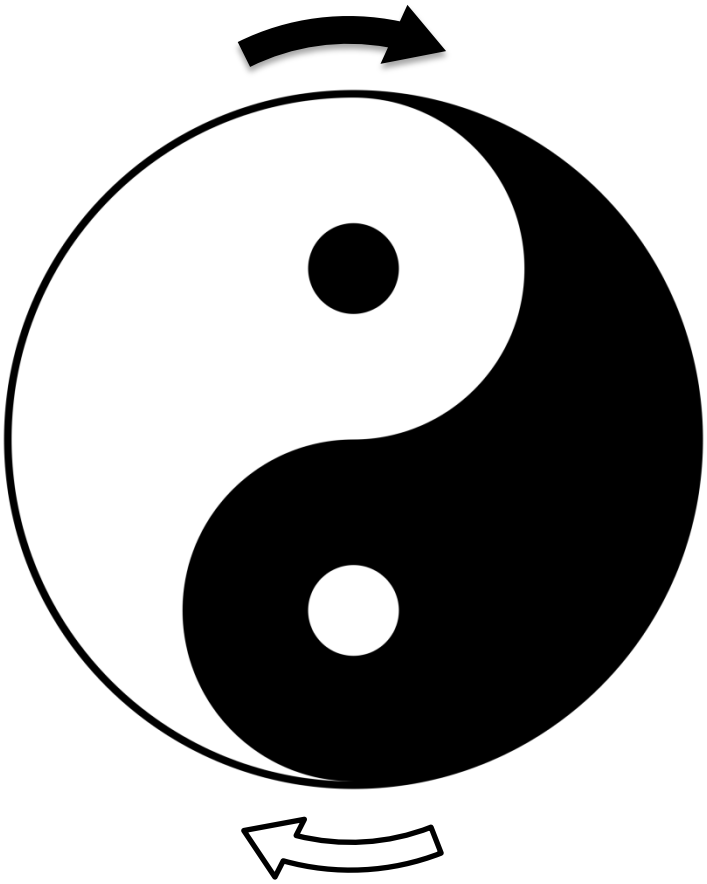

Figure 1. Yin-yang symbol (arrows indicate movement)

CHAPTER 2. OVERVIEW OF CURRENT RESEARCH

2.1 Objectives

Three studies were conducted to examine partner evaluation and partner knowledge organization among Chinese and European Americans (the second and third domains in Table 1). This research was approved by the Institutional Review Board at Iowa State University (see Appendix C). In the first study, I attempted to replicate Lam and colleagues' (2016) findings that Chinese were higher in explicit partner-ambivalence than European Americans, and that explicit partner-ambivalence explained cultural differences in relationship quality (*Hypotheses 1a & 1b*). More important, I tested my predictions after controlling relevant individual differences constructs. In the second study, implicit attitudes toward one's romantic partner, as well as explicit attitudes, were assessed to examine my predictions that Chinese would evaluate their partners more ambivalently at both implicit and explicit levels than their European American counterparts would (*Hypotheses 1a & 2a*), and that partner-ambivalence at both implicit and explicit levels mediated cultural differences in relationship quality (*Hypotheses 1b & 2b*). In the third study, I measured people's partner knowledge across the two cultural groups to examine cultural differences in their content and organization structure (*Hypotheses 3 & 4, 6 & 7*) and to test whether partner knowledge mediated cultural differences in relationship quality (*Hypothesis 5*). Figure 2 graphically presents the predicted conceptual linkages in the current research.

2.2 Sample Size

Another goal of Study 1 was to explore the factor structure of some explicit partner attitudes and relationship quality measures. I targeted a sample of at least 200 participants per

cultural group such that the sample size would be adequate for good recovery of population factors under the condition of a 20-item to 3-factor ratio across different levels of communalities (MacCallum, Widaman, Zhang, & Hong, 1999).

I conducted power analysis using G*Power (Faul, Erdfelder, Buchner, & Lang, 2009) to determine the sample sizes for Studies 2 and 3. For Study 2, based on Boucher et al.'s (2009) findings on implicit self-ambivalence, about 96 participants per group were needed to detect cultural differences in implicit ambivalence with a power of .80. For Study 3, based on Lam et al.'s (2016) findings on contradictory partner descriptions, about 133 participants per cultural group were needed to detect cultural differences in partner knowledge organization structure with a power of .80.

2.3 Pilot Study

To generate a list of positive and negative words for use in Studies 2 and 3, I conducted a pilot study among Chinese (n = 57) and European American (n = 45) dating individuals. The words/attributes used in the pilot study were collected from Showers and colleagues' (1999) attribute list, the Interpersonal Quality Scale (Murray et al., 1996a), as well as responses from Chinese and European Americans who described their romantic partners (Lam et al., 2016, Study 2). Chinese and European American participants in the pilot study were asked to rate the valence ("How positive is this word/phrase when used to describe a romantic partner?" and "How negative is this word/phrase when used to describe a romantic partner?") and usage frequency ("How commonly used is this word/phrase to describe a romantic partner?") of each word on 7-point scales: 1 = *not at all* and 7 = *extremely* for valence; 1 = *not common at all* and 7 = *very common* for usage frequency. Based on the valence ratings, I selected positive words that were high in positive ratings (*Mean* positivity > 5) and low in negative ratings (*Mean* negativity < 3) in both cultural

groups. In a similar vein, I selected negative words that were high in negative ratings (*Mean* negativity > 5) and low in positive ratings (*Mean* positivity < 3) in both cultural groups. Further, I checked that these selected words were either similar in usage frequency across cultures or commonly used in both cultural groups. A list of 41 words, 22 positive and 19 negative, were compiled for use in Studies 2 and 3 (see Appendix D).

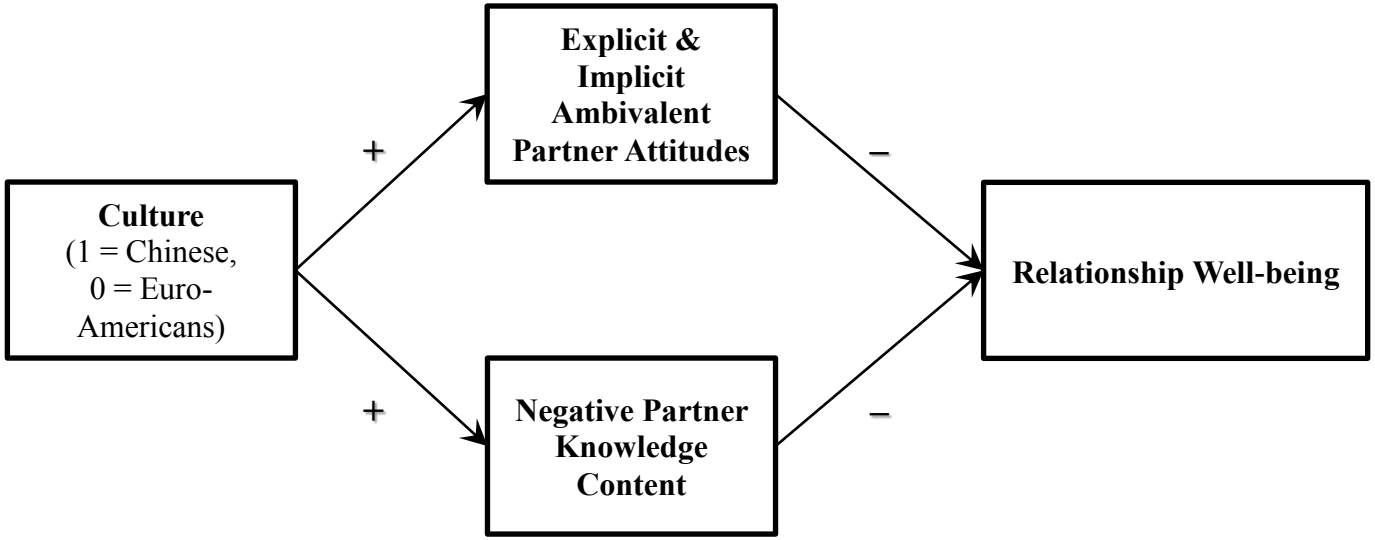

Figure 2. Mediation model of culture, ambivalent partner attitudes, partner knowledge, and relationship well-being

CHAPTER 3. STUDY 1

3.1 Introduction

The aims of Study 1 were threefold. First, I attempted to examine factor structures of several measures of explicit partner attitudes and relationship quality that have not been used in Chinese populations. Second, I tested *Hypothesis 1a* that Chinese would be more ambivalent in their explicit partner evaluation than European Americans. Third, I examined whether explicit partner-ambivalence predicted various relationship outcomes, including relationship satisfaction, commitment, relationship quality, closeness, conflict, and marriage intention. Importantly, I tested whether partner-ambivalence mediated cultural differences in relationship outcomes (*Hypothesis 2a*).

I included several individual differences correlates in the prediction of relationship outcomes to rule out alternative explanations, namely, low self-esteem, neuroticism, insecure attachment, and idealization. Research has shown that people who are low in self-esteem (e.g., Murray, Holmes, & Griffin, 2000; Murray, Rose, Bellavia, Holmes, & Kusche, 2002), neurotic (e.g., Karney & Bradbury, 1997), and insecurely attached (e.g., Collins & Read, 1990) report relatively poor relationship well-being. Furthermore, I wanted to distinguish partner-evaluative ambivalence from idealization processes. Idealization is defined by Murray and colleagues (Murray et al., 1996a, 1996b) as people seeing their intimate partners in a benevolent light despite their partners' imperfection. Research has suggested that idealization is related to favorable relationship outcomes in intimate relationships (e.g., Murray et al., 1996a, 1996b; Murray & Holmes, 1997; Murray et al., 2002). Idealization emphasizes the positive aspects in one's partner/relationship and downplays the negative

aspects, and it is expected to be associated with *intolerance* of attitudinal ambivalence. Hence, it is important to measure and control idealization in the current study.

Given that previous research has found sex differences in relationship quality, such that husbands reported higher marital satisfaction than their wives (e.g., Fowers, 1991; Shek, 1995), I took account of sex when testing my predictions. Furthermore, people in longer relationships may evaluate their partners and relationships differently as compared to their counterparts in shorter relationships; therefore, I tested for cultural differences in relationship length to ensure that my Chinese and European American samples did not largely differ in this variable, and I controlled for relationship length in my major analyses.

3.1.1 Ambivalence Index

As mentioned earlier, attitudinal ambivalence is defined as simultaneously holding positive and negative attitudes toward an object (Conner & Sparks, 2002; Jonas et al., 2000).[1] Researchers have proposed various formulas to capture people's ambivalent attitudes toward an object based on their separate evaluations of the positive and negative aspects of the object (or what they called objective ambivalence). Generally, higher values in the ambivalence index indicate higher levels of ambivalent attitudes toward the object. For parsimony, by comparing the strength of people's positive and negative evaluations, the greater of the evaluations is labelled the dominant response/reaction (in short, D), whereas the lesser of the evaluations is labelled the conflicting response/reaction (in short, C). Formulas for an ambivalence index differ in how dominant and conflicting responses are conceptualized in relation to experiences of attitudinal ambivalence.

Priester and Petty (1996) proposed a model of ambivalence that was empirically derived from observing the relation between conflicting responses and subjective ambivalence (by directly asking respondents to indicate whether they feel indecisive, mixed,

and conflicted) in different levels of dominant responses (see Appendix E for descriptions of other commonly used formulas). In particular, they found that dominant responses were no longer related to subjective ambivalence above a minimal number of conflicting responses (i.e., when conflicting responses were greater than 1 or what they called threshold). That is, conflicting responses were the only driver of people's subjective ambivalence when the threshold was met. The Gradual Threshold Model (GTM; Priester & Petty, 1996) then uses the following formula to compute an objective ambivalence index.

$$A = 5C^{p} - D^{1/c}$$

In this formula, the exponent of D (i.e., 1/C) denotes that the impact of dominant responses on ambivalence become smaller as conflicting responses increase, until the effect of dominant responses is negligible. The power function (p) is recommended to be 0.5 to reflect the negatively accelerating relationship between conflicting responses and ambivalence (Priester & Petty, 1996). In other words, increases in conflicting responses lead to greater increases in ambivalence when ambivalence level is low than when it is high.

Imagine that participant A gives an average response of 6 on the 7-point positive attitude items and an average response of 2 on the negative attitude items (on a scale of 1 = *not at all* and 7 = *extremely*). In this case, 6 is the dominant response and 2 is the conflicting response. Then the ambivalence index for participant A is $5*2^{0.5} - 6^{1/2} = 4.62$. Another person, participant B, gives an average response of 6 on positive attitude items and an average response of 5 on negative attitude items. Then the ambivalence index for participant B is $5*5^{0.5} - 6^{1/5} = 8.73$. Thus participant B is higher in attitudinal ambivalence than participant A.

In the current study, I applied the GTM to compute the ambivalence indices based on participants' responses on the positive and negative attitudes toward their partners and their

relationships. Research showed that this empirically derived formula captures people's ambivalence experiences better than other previous formulas (Priester & Petty, 1996).[2]

3.2 Method

3.2.1 Participants

A sample of 286 Chinese and 285 European American college students were recruited to take part in an online survey study. Participants in the Hong Kong Chinese sample were recruited through a mass-emailing system in a Hong Kong university and their counterparts in the U.S. sample were recruited through a subject pool system in a Midwestern university. As a common criterion, only participants who were currently in a romantic relationship for at least three months were invited to participate in order to ensure that participants were in a relatively stable relationship.

3.2.2 Procedure

The online survey was programmed in Qualtrics, and participants were given a link to complete the survey.[3] For the language of instruction, European American participants read the materials in English whereas their Chinese counterparts read the materials in Chinese. English measures were translated and back-translated by competent bilinguals into Chinese if a Chinese version was not available. In particular, an English-Chinese bilingual translated the English version into Chinese, and another bilingual translated this Chinese version back into English. I compared the original English version and the back-translated English version and resolved any discrepancy between the two versions with the translators.

After participants completed the survey, they were debriefed online. For the U.S. students, they were granted research credits for their participants; for the Hong Kong students, they were paid HKD $100 (about USD $13).

3.2.3 Measures

Reliability statistics for the measures can be found in Tables 2 and 3.

3.2.3.1 Partner evaluation

Participants' explicit attitudes toward their romantic partners were assessed by an 18-item scale that tapped people's cognitive, behavioral, and affective reactions toward their partners (Banse & Kowalick, 2007). Participants rated nine positively framed items such as "When I think about my partner I rejoice" and nine negatively framed items such as "When I think about my partner I get angry (reverse)" on 7-point scales ranging from 1 = *strongly disagree* to 7 = *strongly agree*. This measure has been found to be positively associated with relationship satisfaction (Banse & Kowalick, 2007).

3.2.3.2 Relationship outcome measures

***Relationship quality*.** The relationship satisfaction and commitment subscales from the Investment Model Scale were used (IMS; Rusbult, Martz, & Agnew, 1998). Additional items were extracted from another relationship satisfaction and commitment measure (Marigold, Holmes, & Ross, 2007). Ten items measured respondents' general satisfaction with their current relationship (e.g., "I feel satisfied with our relationship") and another ten items measured their levels of commitment (e.g., "I am committed to maintaining my relationship with my partner"), on 7-point Likert scales ranging from 1 = *strongly disagree* to 7 = *strongly agree*. In a study of Chinese and European Americans (Lam et al., in press), measurement equivalence was observed for the satisfaction and commitment subscales across cultures.

The Quality of Relationship Index (QRI; Norton, 1983) was used in the current study as a general measure of relationship quality. Participants reported their general relationship quality on six items (e.g., "We have a good relationship") using a 7-point scale anchored by 1

= *strongly disagree* and 7 = *strongly agree*. This general measure of relationship quality has been successfully used in Chinese samples (e.g., Lam et al., 2014).

In addition to the above single dimension measures of relationship quality, the Positive and Negative Semantic Differential measure of relationship satisfaction (PN-SMD) was used to capture participants' ambivalent attitudes toward their relationships (Mattson, Rogge, Johnson, Davidson, & Fincham, 2013). Participants rated their relationships using a list of positive (e.g., interesting) and negative (e.g., empty) attributes on 8-point scales anchored by 0 = *not at all* and 7 = *completely*. Previous research has shown that this measure can differentiate people who are ambivalent (those who highly endorse both positive and negative attributes) and indifferent (those who do not endorse the positive and negative attributes) in their relationships.

***Closeness*.** Participants reported on the level of closeness and intimacy in their relationships on a 5-item scale (Campbell, Lackenbauer, & Muise, 2006). The scale contained items such as "My partner and I are very close and intimate in our relationship" and it was rated on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

Conflict. I also assessed people's perceived conflict with their partners using a 5-item scale (Braiker & Kelley, 1979; see also Murray et al., 2002). Items such as "My partner and I often argue with one another" were rated on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

***Marriage intention*.** I measured participants' intention to marry their current partners with two items (Kline & Zhang, 2009), using 7-point scales. I averaged the two items to assess marriage intention: "How likely is it that you are going to marry your current partner?" (1 = *very unlikely* to 7 = *very likely*) and "To what extent do you intend to marry your current partner?" (1 = *not at all* to 7 = *extremely*).

3.2.3.3 Individual differences measures (i.e., control variables)

***Self-esteem*.** The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) is a widely used measure of trait self-esteem. Ten statements (e.g., "On the whole, I am satisfied with myself") were rated on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*.

***Neuroticism*.** The Mini-International Personality Item Pool (Mini-IPIP; Donnellan, Oswald, Baird, & Lucas, 2006) was administered to measure the personality factor of neuroticism. It is a 20-item short personality measure extracted from the 50-item IPIP (Goldberg, 1999), with each personality factor measured by 4 items rated on a 7-point scale, ranging from 1 = *not at all describes me* to 7 = *describes me very well*. Samples items on neuroticism included "I have frequent mood swings." This short measure of the Big Five personality has been validated with other measures of personality traits (Donnellan et al., 2006) and used across cultures (Leung et al., 2012).

***Attachment styles*.** Participants' attachment styles with their romantic partners were assessed using the Experiences in Close Relationships – Relationship Structures Questionnaire (ECR-RSQ; Fraley, Heffernan, Vicary, & Brumbaugh, 2011). Participants rated their agreement on items such as "I often worry that he/she doesn't really care for me" and "I prefer not to show him/her how I feel deep down" on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. This short attachment measure was validated in a large online sample that showed the two dimensions of attachment styles, namely, avoidant attachment and anxious attachment (Fraley et al., 2011).

***Idealization*.** A 9-item measure of idealization was developed by combining items from Murray and colleagues (2002) as well as Campbell and colleagues (2006). Sample items included "I see special qualities in my partner, qualities that other people might not see," "I look beyond my partner's faults and see the best in him/her," and "I am less critical of my

partner's faults than my partner judges him/herself." These items were rated on a 7-point scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. **3.2.3.4 Demographic questions**

Participants reported their age, sex, and relationship status. In addition, they were asked to report various aspects of their romantic relationship experiences, including the length of their current romantic relationship (in months).

3.3 Results

3.3.1 Preliminary Analysis

In the present study, 286 Hong Kong Chinese (M_{age} = 20.28, *SD* = 1.62; 187 females) and 285 European Americans (M_{age} = 19.30, *SD* = 1.75; 179 females), who were in a heterosexual relationship participated. Among them, one Chinese participant was engaged, whereas seven European American participants were engaged. The average length of relationship was 20.59 months (*SD* = 18.83; ranges from 3 months to 11 years) and 20.21 months (*SD* = 19.32; ranges from 3 months to 11 years) for Chinese and European Americans, respectively. The two cultural groups did not significantly differ on relationship length (the relationship length difference was about 11 days, *p* = .82).

3.3.1.1 Exploratory factor analysis

Some relationship measures in the current study have not been used in Chinese populations, including the partner attitudes scale, semantic differential measure of relationship satisfaction, as well as measures of closeness, conflict and idealization. As a result, I conducted exploratory factor analysis (EFA) to examine the factor structure underlying each scale–separately for each culture. In particular, I employed principal axis factoring with Promax rotation to account for correlations among factors. For measures that consisted of two or more factors, I performed Procrustes rotation on the factor structures to

test the factorial agreement across the two cultural groups (van de Vijver & Leung, 1997). Congruence coefficients were computed to indicate the factorial agreement attained; particularly, Tucker's phi (Tucker, 1951) with a value of .90 or above suggests good factorial agreement (van de Vijver & Leung, 1997). However, this cutoff is arbitrary, and previous cross-cultural research observed phis ranging from .82 to .95 for Big Five personality (Leung, Cheung, Zhang, Song, & Xie, 1997), .78 to .91 for social beliefs (Leung et al., 2012), and .89 to .98 for ideal partner preferences (Lam et al., in press).

Partner attitudes. I obtained a two-factor solution for the measure of partner attitudes in each cultural group, as indicated by the scree test (variance explained = 45.07% for HK and 42.95% for US). The two factors were simply labelled as positive partner attitudes (e.g., "When I think about my partner I rejoice") and negative partner attitudes (e.g., "When I think about my partner I get angry). The Tucker's phis for the positive and negative partner attitudes factors were .91 and .89. The phi of .89 for negative partner attitudes was close to the cutoff of .90, suggesting that the factor structures of the partner attitudes measure were generally similar across the two cultural groups.

Semantic differential. For the semantic differential measure of relationship satisfaction, a two-factor solution was observed in each cultural group (variance explained = 70.34% for HK and 65.63% for US). As expected, one factor consisted of the positive attributes (e.g., interesting) and the other factor consisted of the negative attributes (e.g., empty). The Tucker's phis for the positive and negative components were .98 and .97, indicating that the factor structures were very similar across cultures.

Closeness, Conflict, and Idealization. EFAs were conducted separately for the measures of closeness, conflict, and idealization. In both cultural groups, a single-factor solution was observed for the measures of closeness (variance explained = 67.54% for HK

and 65.71% for US), conflict (variance explained = 54.74% for HK and 52.21% for US), and idealization (variance explained = 38.82% for HK and 47.40% for US).

Table 2 summarizes means and standard deviations of the major variables, *t*-test results of cultural differences in the variables, as well as bivariate correlations among variables. From the *t*-test results, it is noteworthy that Chinese were more ambivalent in their partner attitudes ($t[568] = -7.00$, $p < .001$, $d = 0.59$, 95% CI [0.42, 0.75]) and relationship satisfaction ($t[569] = -6.63$, $p < .001$, $d = 0.56$, 95% CI [0.39, 0.72]) than European Americans. Furthermore, Chinese reported lower relationship quality than European Americans as measured by relationship satisfaction, relationship quality, closeness, and conflict. However, the two groups did not differ greatly on relationship commitment ($t[569] = 1.82$, $p = .069$) and marriage intention ($t[569] = -1.24$, $p = .22$).

Zero-order correlations revealed that ambivalent partner attitudes were related to poor relationship outcomes in both cultural groups (*rs* ranged from ±.40 to ±.67, *ps* < .001). However, the ambivalence index was extremely highly correlated with negative partner attitudes (*rs* = .99). This is mainly because almost all of the participants rated the positive aspects to be higher than the negative aspects; accordingly, the ambivalence index reflected variations in the negative partner attitudes (conflicting responses). I decided to continue to use the ambivalence index to test my hypotheses in spite of its extremely high correlations with negative partner attitudes. This issue will be further addressed in the discussion section.

Table 3 summarizes the descriptive statistics for the individual differences variables, as well as their correlations with relationship outcomes. These individual differences variables, except neuroticism, were modestly associated with relationship outcomes in both cultural groups (*rs* ranged from ±.16 to ±.64, *ps* < .01). Neuroticism only showed weak correlations with relationship variables, probably because of its relatively low internal consistency.

3.3.2 Cultural Differences in Explicit Partner-Ambivalence

To test *Hypothesis 1a* that Chinese were more ambivalent in their explicit partner evaluations than European Americans, I conducted two sets of analysis. First, I ran a mixed ANCOVA on explicit partner evaluations, with a 2 (Culture: 0 = U.S. vs. 1 = HK) × 2 (Sex: 0 = Women vs. 1 = Men) × 2 (Valence: positive partner attitudes vs. negative partner attitudes) design.[4] Length of relationship was included in the model as a covariate.

I found a significant interaction effect of Culture × Valence (F[1, 563] = 75.74, p < .001, η_p^2 = 0.12). In both cultural groups, participants held stronger positive than negative partner attitudes, but pairwise comparisons showed that this difference was greater in the European American (M_{positive} = 6.28, M_{negative} = 2.21; F[1, 563] = 97.55, p < .001, η_p^2 = 0.15) relative to Chinese samples (M_{positive} = 5.78, M_{negative} = 2.61; F[1, 563] = 32.73, p < .001, η_p^2 = 0.06).[5] Other effects, including sex and its interaction, were not significant, *ps* > .05.

I then conducted a one-way ANCOVA on partner-ambivalence, with culture and sex being the two between-subjects variables; relationship length was included as a covariate. A significant effect of culture was observed (F[1, 563] = 40.42, p < .001, η_p^2 = 0.07). Supporting my hypothesis, Chinese were higher in ambivalent partner attitudes than European Americans (M_{HK} = 7.68, M_{US} = 6.92). Sex and its interaction with culture were not significant, *ps* > .05.

3.3.3 Cultural Differences in Relationship Outcomes

Using MANCOVA, I tested whether there were cultural differences in relationship outcomes, namely, positive semantic differential, negative semantic differential, satisfaction, commitment, relationship quality, closeness, conflict, and marriage intention. Culture and sex were the between-subjects factors, and relationship length was included as a covariate.

I found significant multivariate effects of culture (F[8, 557] = 22.51, p < .001, η_p^2 = 0.24) and sex (F[1, 557] = 2.57, p = .009, η_p^2 = 0.04). As expected, Chinese were lower in positive semantic differential (M_{HK} = 4.99, M_{US} = 5.75), satisfaction (M_{HK} = 5.55, M_{US} = 6.13), relationship quality (M_{HK} = 5.85, M_{US} = 6.24), closeness (M_{HK} = 5.64, M_{US} = 6.08), but they were higher in negative semantic differential (M_{HK} = 1.01, M_{US} = 0.65) and conflict (M_{HK} = 3.53, M_{US} = 3.03) than European Americans, *ps* < .001. Nevertheless, the two cultural groups did not significantly differ in commitment (M_{HK} = 6.02, M_{US} = 6.11) and marriage intention (M_{HK} = 5.51, M_{US} = 5.30), *ps* > .05.

For the effect of sex on relationship outcomes, men were lower in positive semantic differential (M_{men} = 5.20, M_{women} = 5.54), satisfaction (M_{men} = 5.72, M_{women} = 5.96), commitment (M_{men} = 5.95, M_{women} = 6.18), relationship quality (M_{men} = 5.92, M_{women} = 6.17), and closeness (M_{men} = 5.73, M_{women} = 5.98) than women, *ps* < .01; yet men and women did not differ in negative semantic differential (M_{men} = 0.88, M_{women} = 0.78), conflict (M_{men} = 3.29, M_{women} = 3.28), and marriage intention (M_{men} = 5.30, M_{women} = 5.50), *ps* > .05.

3.3.4 Mediation Analysis

I conducted mediation analyses with 5,000 bootstrap samples following the procedure outlined in Preacher and Hayes (2004) to examine *Hypothesis 1b* that cultural differences in relationship outcomes among Chinese and European Americans were mediated by partner-evaluative ambivalence. Importantly, I controlled self-esteem, neuroticism, avoidant attachment, anxious attachment, and idealization in the mediation models. Because of the number of tests I conducted, I used an alpha level of .01 in these mediation analyses. Table 4 summarizes the mediation analysis results for the eight relationship outcomes I tested.

Overall, partner-evaluative ambivalence explained cultural differences in relationship outcomes. For instance, Chinese reported lower relationship satisfaction than European

Americans, and this cultural difference was mediated by the fact that Chinese viewed their partners more ambivalently than European Americans (indirect effect = -0.19, 99% CI [-0.28, -0.11]).

3.4 Discussion

The current study replicates Lam and colleagues' (2016) findings that Chinese hold more explicit ambivalent attitudes toward their romantic partners than do European Americans; this cultural difference is medium in effect size according to Cohen (1988). Furthermore, this study extends their research by testing the mediating role of partner-ambivalence on cultural differences in various relationship outcomes after controlling relevant individual differences correlates. In the next study, I investigated ambivalent partner attitudes at the implicit level.

Table 2. Descriptives, reliabilities, and bivariate correlations for major variables in Study 1

	HK (n = 286)			US (n = 285)			Cultural Difference	
Variable	*M*	*SD*	α	*M*	*SD*	α	*t*	*d*
1. Positive Partner Attitudes	5.76	0.66	0.85	6.31	0.54	0.82	10.99***	0.92
2. Negative Partner Attitudes	2.61	0.78	0.73	2.19	0.82	0.72	-6.26***	0.53
3. Ambivalent Partner Attitudes	7.67	1.26	-	6.87	1.46	-	-7.00***	0.59
4. Positive SMD	5.00	1.14	0.94	5.81	1.05	0.93	8.81***	0.74
5. Negative SMD	1.01	0.98	0.91	0.62	0.77	0.87	-5.27***	0.44
6. Ambivalent SMD	3.50	3.17	-	1.72	3.27	-	-6.63***	0.56
7. Relationship Satisfaction	5.57	0.95	0.94	6.17	0.89	0.94	7.78***	0.65
8. Relationship Commitment	6.02	0.82	0.88	6.16	0.97	0.87	1.82	0.15
9. Relationship Quality	5.87	0.86	0.94	6.28	0.90	0.95	5.62***	0.47
10. Closeness	5.66	0.88	0.88	6.12	0.86	0.87	6.33***	0.53
11. Conflict	3.55	1.11	0.79	3.02	1.23	0.76	-5.38***	0.45
12. Marriage Intention	5.49	1.21	0.87	5.35	1.60	0.93	-1.24	0.10

Note. Correlation matrix for HK is in the lower panel, whereas that for US is in the upper panel. SMD = Semantic Differential measure of relationship satisfaction.

*p < .05. **p < .01. ***p < .001.

Table 2 continued.

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Positive Partner Attitudes	1	-.51***	-.53***	.68***	-.43***	-.48***	.60***	.64***	.58***	.53***	-.28***	.51***
2. Negative Partner Attitudes	-.42***	1	.99***	-.63***	.55***	.58***	-.69***	-.55***	-.67***	-.41***	.61***	-.43***
3. Ambivalent Partner Attitudes	-.45***	.99***	1	-.64***	.53***	.60***	-.67***	-.55***	-.65***	-.40***	.61***	-.43***
4. Positive SMD	.61***	-.51***	-.53***	1	-.58***	-.66***	.80***	.73***	.80***	.64***	-.45***	.63***
5. Negative SMD	-.32***	.51***	.51***	-.42***	1	.89***	-.70***	-.52***	-.69***	-.45***	.47***	-.42***
6. Ambivalent SMD	-.41***	.54***	.55***	-.53***	.88***	1	-.69***	-.55***	-.67***	-.50***	.52***	-.46***
7. Relationship Satisfaction	.62***	-.64***	-.64***	.75***	-.68***	-.67***	1	.77***	.90***	.68***	-.52***	.64***
8. Relationship Commitment	.68***	-.64***	-.63***	.66***	-.47***	-.53***	.75***	1	.77**	.61***	-.36***	.76***
9. Relationship Quality	.67***	-.58***	-.59***	.77***	-.59***	-.59***	.89***	.76***	1	.68***	-.50***	.65***
10. Closeness	.57***	-.49***	-.50***	.62***	-.53***	-.52***	.75***	.60***	.74***	1	-.22***	.64***
11. Conflict	-.26***	.50***	.52***	-.35***	.43***	.48***	-.40***	-.28***	-.36***	-.28***	1	-.26***
12. Marriage Intention	.58***	-.46***	-.47***	.64***	-.34***	-.42***	.63***	.73***	.67***	.58***	-.16**	1

Note. Correlation matrix for HK is in the lower panel, whereas that for US is in the upper panel. SMD = Semantic Differential measure of relationship satisfaction.

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 3. Descriptives and bivariate correlations with relationship outcomes for individual differences variables in Study 1

Variable	HK (n = 286)			US (n = 285)			Correlations with Relationship Outcomes			
	M	*SD*	α	*M*	*SD*	α	Positive SMD	Negative SMD	Relationship Satisfaction	Relationship Commitment
Self-Esteem	4.67	0.84	0.88	5.31	0.96	0.87	.31***/.28***	-.27***/-.27***	.32***/.29***	.24**/.22***
Neuroticism	4.43	1.10	0.77	3.79	1.15	0.66	-.07/-.04	.20**/.04	-.11/-.03	-.08/.04
Avoidant Attachment	2.33	0.86	0.86	1.89	0.91	0.88	-.53***/-.58***	.41***/.35***	-.60***/-.56***	-.61***/-.49***
Anxious Attachment	3.41	1.44	0.83	2.55	1.55	0.89	-.31***/-.43***	.34***/.33***	-.40***/-.43***	-.28***/-.27***
Idealization	5.01	0.69	0.77	5.66	0.83	0.84	.49***/.55***	-.35***/-.41***	.54***/.56***	.49***/.49***

Note. Correlation coefficients for HK are before slashes, whereas those for US are after slashes. SMD = Semantic Differential measure of relationship satisfaction.

*p < .05. **p < .01. ***p < .001.

Table 3 continued.

Variable	Correlations with Relationship Outcomes			
	Relationship Quality	Closeness	Conflict	Marriage Intention
Self-Esteem	.27***/.26***	.32***/.16**	-.20**/-.31***	.19**/.17**
Neuroticism	-.05/-.05	-.04/.08	.24***/.31***	-.01/.03
Avoidant Attachment	-.57***/-.51***	-.64***/-.53***	.23***/.21***	-.49***/-.43***
Anxious Attachment	-.34***/-.40***	-.29***/-.34***	.28***/.33***	-.23***/-.26***
Idealization	.53***/.52***	.48***/.49***	-.34***/-.41***	.46***/.49***

Note. Correlation coefficients for HK are before slashes, whereas those for US are after slashes. SMD = Semantic Differential measure of relationship satisfaction.

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 4. Results summary for mediation analyses with 5,000 bootstrap samples in Study 1

	Positive SMD				Negative SMD				Relationship Satisfaction			
			99% CI				99% CI				99% CI	
Effect	Coefficient	*t*	LL	UL	Coefficient	*t*	LL	UL	Coefficient	*t*	LL	UL
Indirect Effect via												
Explicit Partner-Ambivalence	-0.19	-	-0.30	-0.10	0.16	-	0.09	0.25	-0.19	-	-0.28	-0.11
Direct Effect of Culture	-0.13	-1.81	-0.32	0.06	-0.06	-0.86	-0.24	0.12	0.01	0.11	-0.14	0.15
Individual Differences Covariates												
Self-Esteem	0.15	3.68***	0.04	0.26	-0.09	-2.37*	-0.19	0.01	0.11	3.39***	0.03	0.19
Neuroticism	0.04	1.29	-0.04	0.13	0.01	0.37	-0.07	0.09	0.04	1.57	-0.03	0.11
Avoidant Attachment	-0.30	-6.56***	-0.42	-0.18	0.11	2.49*	-0.004	0.23	-0.25	-6.92***	-0.34	-0.16
Anxious Attachment	-0.03	-1.30	-0.10	0.03	0.06	2.34*	-0.01	0.12	-0.05	-2.54*	-0.10	0.001
Idealization	0.39	8.21***	0.27	0.52	-0.19	-4.18***	-0.31	-0.07	0.34	9.26***	0.25	0.44

Note. SMD = Semantic Differential measure of relationship satisfaction. Sex and relationship length are controlled.

[a]For indirect effects, only 99% CIs are reported; CIs that do not include 0 indicate a significant indirect effect at $\alpha = .01$.

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 4 continued.

	Relationship Commitment				Relationship Quality				Closeness			
			99% CI				99% CI				99% CI	
Effect	Coefficient	*t*	LL	UL	Coefficient	*t*	LL	UL	Coefficient	*t*	LL	UL
Indirect Effect via												
Explicit Partner-Ambivalence	-0.19	-	-0.30	-0.11	-0.19	-	-0.29	-0.11	-0.11	-	-0.12	0.002
Direct Effect of Culture	0.33	5.41***	0.18	0.50	0.12	2.05*	-0.03	0.27	0.27	-0.07	-0.16	0.16
Individual Differences Covariates												
Self-Esteem	0.09	2.46*	-0.005	0.17	0.08	2.48*	-0.004	0.16	0.16	3.41***	0.03	0.21
Neuroticism	0.05	1.87	-0.02	0.12	0.04	1.53	-0.03	0.11	0.11	2.50*	-0.002	0.14
Avoidant Attachment	-0.29	-7.31***	-0.39	-0.19	-0.20	-5.57***	-0.30	-0.11	-0.11	-9.45***	-0.47	-0.27
Anxious Attachment	0.05	2.14*	-0.01	0.11	-0.03	-1.47	-0.08	0.02	-0.02	-0.08	-0.59	0.06
Idealization	0.27	6.77***	0.17	0.38	0.31	8.21***	0.21	0.41	0.41	8.42***	0.23	0.44

Note. SMD = Semantic Differential measure of relationship satisfaction. Sex and relationship length are controlled.

[a]For indirect effects, only 99% CIs are reported; CIs that do not include 0 indicate a significant indirect effect at $\alpha = .01$.

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 4 continued.

	Conflict				Marriage Intention			
			99% CI				99% CI	
Effect	Coefficient	*t*	LL	UL	Coefficient	*t*	LL	UL
Indirect Effect via								
Explicit Partner-Ambivalence	0.32	-	0.20	0.49	-0.17	-	0.54	1.10
Direct Effect of Culture	-0.12	-1.40	-0.35	0.10	0.82	7.58***	-0.31	-0.07
Individual Differences Covariates								
Self-Esteem	-0.04	-0.84	-0.17	0.08	0.11	1.88	-0.04	0.27
Neuroticism	0.16	4.23***	0.06	0.26	0.12	2.57*	-0.001	0.25
Avoidant Attachment	-0.16	-2.83**	-0.30	-0.01	-0.33	-4.90***	-0.51	-0.16
Anxious Attachment	0.09	2.92**	0.01	0.17	0.01	0.37	-0.09	0.11
Idealization	-0.26	-4.62***	-0.40	-0.12	0.57	8.13***	0.39	0.76

Note. SMD = Semantic Differential measure of relationship satisfaction. Sex and relationship length are controlled.

[a]For indirect effects, only 99% CIs are reported; CIs that do not include 0 indicate a significant indirect effect at $\alpha = .01$.

*$p < .05$. **$p < .01$. ***$p < .001$.

CHAPTER 4. STUDY 2

4.1 Introduction

The major objective of Study 2 was to examine cultural differences in ambivalent attitudes toward one's romantic partner using both explicit and implicit attitude measures among Chinese and European Americans. In particular, I tested *Hypotheses 1a & 1b* concerning explicit partner attitudes using a self-report measure, as well as *Hypotheses 2a & 2b* concerning implicit partner attitudes using an implicit measure.

Among the available implicit measures of attitudes toward one's partner, the Go/No-Go Association Task (GNAT; Nosek & Banaji, 2001) has two major advantages over other implicit measures. First, unlike the IAT, the GNAT does not require a comparison group (Nosek & Banaji, 2001). Researchers can assess respondents' implicit associations between their partner and some valenced stimuli (e.g., positive and negative words) without comparing the associations between another target and the valenced stimuli. This is especially important in cross-cultural research because the comparison group, no matter whether it is a generalized other or a close friend, may have different meanings to people with different cultural backgrounds (Boucher et al., 2009). Second, the GNAT can separately assess both the associations between partner and positive stimuli and the associations between partner and negative stimuli (Lee et al., 2010), such that we can compute an ambivalence index based on these separate evaluations. Other measures either require computation of a difference score between associations with positive and negative stimuli (e.g., Banse & Kowalick, 2007) or ask respondents to make a one-dimensional judgment (e.g., Banse, 1999).

4.2 Method

4.2.1 Participants

Similar to Study 1, a sample of 94 Hong Kong Chinese and 93 European American college students were recruited in U.S. and Hong Kong universities, respectively. Again, participants who were currently in a romantic relationship for at least three months were sampled.

4.2.2 Procedure

Participants were invited to the lab in groups of two. When they arrived, each participant was seated in front of a computer in an individual cubicle and instructed to complete a categorization task. This categorization task was the measure of implicit partner attitudes, the partner-GNAT (PGNAT; Lee et al., 2010). As a first step, participants were asked to input the name they usually use to call their partner for use as one of the target stimuli. Then they were instructed to work on the PGNAT as fast as possible while maintaining accuracy. The PGNAT was programmed using Inquisit 4 (Millisecond Software, Seattle, WA) with all instructions presented on the screen.

After they completed the PGNAT, they were told to fill in an online survey that was administered in Qualtrics. The online survey consisted of a filler task that asked participants to match capital cities and countries, and followed by measures of explicit partner attitudes and relationship quality. Participants were debriefed, thanked, paid/given credits, and dismissed after they completed the online survey.

I presented the implicit measure PGNAT before the online survey that involved explicit self-report measures, because participants might be more attentive if working on the implicit measure first than working on the explicit measures first. Moreover, the presentation order of implicit and explicit measures does not affect the correlations between implicit and explicit measures (Hofmann et al., 2005).

4.2.3 Materials and Measures

Reliability statistics for the self-report measures are reported in Table 5.

4.2.3.1 Implicit partner evaluation

The PGNAT consisted of two critical blocks of trials. For each block of trials, some stimuli were assigned as targets and the other stimuli were assigned as distractors. Specifically, in one block of trials (*partner + positive/good*), participants were asked to press the space bar when their partners' name or a positive word (e.g., accepting) appeared, and they needed to refrain from pressing the space bar when a negative word (e.g., annoying) appeared. Similarly, participants were instructed to respond to their partners' name or a negative word in another block of trials (*partner + negative/bad*). The target group labels (e.g., Partner, Good) were shown on the upper comers for participants' easy reference. Five positive words and five negative words were randomly selected from the word list compiled in the pilot study. The five positive words used in the current study are *warm*, *friendly*, *accepting*, *giving* and *optimistic*. The five negative words are *distant*, *complaining*, *criticizing*, *annoying* and *irritable*.

Each critical block contained 70 trials (40 target stimuli plus 30 distracting stimuli), and the two blocks (*partner + positive* and *partner + negative*) were counter-balanced in order of presentation across participants. Participants had a chance to practice the classification of positive and negative words (20 trials) before the critical trials. Each stimulus was presented for 600 ms, which is a very fast response window to avoid conscious processing, with an intertrial interval of 400 ms. A red cross (X) appears at the bottom if the participant makes an incorrect classification, while a green circle (O) appears at the bottom if the participant makes a correct classification. I pilot tested the response time window in an independent, small sample of participants from both cultural groups (n_{HK} = 14; n_{US} = 7) to make sure that there are variations in people's responses to the stimuli.

A measure of sensitivity (*d'*) was computed to assess implicit partner attitudes based on signal detection theory (Nosek & Banaji, 2001). If a participant correctly hit the space bar, the response is counted as a hit. However, if the participant wrongly hit the space bar, the response is counted as a false alarm. The proportions of hits and false alarms in a block of trials were computed and then transformed into *z* scores following Nosek and Banaji (2001). Sensitivity is the difference between hit rate and false alarm rate. Two variables of *d'* were computed, one for *partner + positive* and one for *partner + negative*. Higher values of *d'* indicated greater sensitivity in making the discriminations for the targets against the distractors. Thus if participants have a stronger association between their partners and positivity, as compared to those who have a weaker association, they are more likely to correctly identify their partner's names and positive words across the *partner + positive* trials. Values of *d'* lower than 0 indicated that participants were not able to discriminate the targets and the distractors or they did not pay attention to the instructions. As a result, their data were removed from further analysis.

Implicit partner ambivalence was computed using the sensitivity scores for *partner + positive* associations and *partner + negative* associations. As in Study 1, the GTM was used for the computation of ambivalence index.

4.2.3.2 Explicit partner evaluation

Participants' explicit attitudes toward their romantic partners were assessed using the same 18-item scale in Study 1 (Banse & Kowalick, 2007). Explicit partner-ambivalence was computed based on average scores on the positive partner attitude items and the negative partner attitude items, using the GTM ambivalence formula.

4.2.3.3 Relationship quality

Relationship satisfaction and commitment were assessed using the same modified Investment Model Scale in Study 1 (IMS; Rusbult et al., 1998; Marigold et al., 2007).

4.2.3.4 Demographic questions

Participants reported their age, sex, relationship status, and length of relationship (in months).

4.3 Results

4.3.1 Preliminary Analysis

Two participants who showed negative *d'* values (that is, their false alarm rates were higher than their hit rates) were removed from subsequent analysis (two European Americans). Moreover, four participants who reported color blindness were dropped (one Chinese and three European Americans). The final sample consists of 93 Hong Kong Chinese (M_{age} = 20.37, *SD* = 1.57; 55 females) and 88 European Americans (M_{age} = 19.49, *SD* = 1.46; 66 females). All participants were in a heterosexual dating relationship, except two European American participants who were engaged. The average length of relationship was 23.35 months (*SD* = 21.54; ranges from 3 months to 7.92 years) and 21.35 months (*SD* = 16.50; ranges from 3 months to 6.50 years) for Chinese and European Americans, respectively. The two cultural groups did not significantly differ on relationship length(the relationship length difference was about 60 days, p = .49).

Table 5 summarizes *t*-test results of cultural differences in the major variables, as well as bivariate correlations among variables. For cultural differences in implicit partner attitudes, Chinese had stronger positive implicit partner attitudes than did European Americans (t[179] = -2.31, p = .022, d = 0.34, 95% CI [0.05, 0.64]), and they also had stronger negative implicit partner attitudes (t[179] = -4.60, p < .001, d = 0.69, 95% CI [0.38, 0.98]). Furthermore, Chinese reported lower positive explicit partner attitudes (t[179] = 7.57, p < .001, d = 1.12, 95% CI [0.81, 1.43]), relationship satisfaction (t[179] = 7.50, p < .001, d = 1.12, 95% CI [0.80, 1.42]) and relationship commitment (t[179] = 4.64, p < .001, d = 0.69, 95% CI [0.39,

0.99]), but higher negative explicit partner attitudes (t[179] = -5.98, p < .001, d = 0.89, 95% CI [0.58, 1.19]), than did European Americans. As predicted, Chinese were more ambivalent in their implicit (t[179] = -3.64, p < .001, d = 0.54, 95 % CI [0.24, 0.84]) and explicit partner evaluations than European Americans (t[179] = -6.82, p < .001, d = 1.02, 95% CI [0.70, 1.32]).

Positive and negative implicit partner attitudes were positively correlated (r_{HK} = .31, p < .001; r_{US} = .42, p < .001) which suggested shared method variance (see also Lee et al., 2010). Therefore in the prediction of outcomes using implicit variables they should be controlled for each other. Positive implicit partner attitudes was weakly related to positive partner attitudes (r_{HK} = .09, p = .41; r_{US} = .20, p = .058), negative partner attitudes (r_{HK} = -.30, p = .004; r_{US} = -.13, p = .22), satisfaction (r_{HK} = .26, p = .011; r_{US} = .21, p = .054), and commitment (r_{HK} = .23, p = .025, r_{US} = .18, p = .09). Negative implicit partner attitudes did not correlate with explicitly measured relationship outcomes in either cultural group (ps > .05), except for an unanticipated positive correlation with positive partner attitudes in the U.S. sample (r = .21, p = .05).

Implicit partner-ambivalence was not correlated with relationship outcomes, except for an unexpected positive correlation with commitment in the U.S. sample (r = .24, p = .022). Explicit partner-ambivalence was strongly correlated with satisfaction (r_{HK} = -.67, p < .001; r_{US} = -.65, p < .001) and commitment (r_{HK} = -.68, p < .001; r_{US} = -.46, p < .001) in both cultural groups. Implicit and explicit partner-ambivalence indicators were not significantly related in either cultural group, ps > .05.

4.3.2 Cultural Differences in Implicit Partner-Ambivalence

I conducted two sets of analysis to examine *Hypothesis 2a* that Chinese participants would hold stronger implicit ambivalent attitudes toward their partners than European American participants.

I first conducted a 2 (Culture: 0 = U.S. vs. 1 = HK) × 2 (Sex: 0 = Women vs. 1 = Men) × 2 (Order: 0 = *partner* + *positive* block first vs. 1 = *partner* + *negative* block first) × 2 (Valence: positive implicit partner attitudes vs. negative implicit partner attitudes) mixed ANCOVA on implicit partner evaluation.[6] The first three factors were between-subjects and the last factor was within-subjects; length of relationship was included as a covariate. As expected, I observed a significant Culture × Valence interaction effect (F[1, 170] = 4.18, p = .042, η_p^2 = 0.02). Pairwise comparisons showed that Chinese people's positive and negative implicit partner attitudes did not differ (F[1, 170] = 0.02, p = .88), whereas European Americans had higher positive than negative implicit partner attitudes (F[1, 170] = 8.00, p = .005, η_p^2 = 0.05; see Figure 3). These results suggested that Chinese held strong positive and negative implicit attitudes, whereas European Americans had stronger positive than negative implicit attitudes. I also found a significant effect of culture (F[1, 170] = 16.37, p < .001, η_p^2 = 0.09) and a significant effect of sex (F[1, 170] = 5.02, p = .026, η_p^2 = 0.03). Chinese were more sensitive (better at differentiating target stimuli from distracting stimuli) than European Americans in the PGNAT (M_{HK} = 2.12; M_{US} = 1.74), and men were less sensitive than women (M_{men} = 1.82; M_{women} = 2.04).

Subsequently, I conducted an ANCOVA on implicit partner-ambivalence. Culture and sex were the two between-subjects factors; again, length of relationship was added as a covariate. There was a significant effect of culture (F[1, 174] = 11.15, p = .001, η_p^2 = 0.06) such that Chinese were more ambivalent than European Americans in their implicit partner

attitudes (M_{HK} = 6.73; M_{US} = 6.11). Sex and its interaction with culture were not significant, *ps* > .05.

4.3.3 Predicting Relationship Satisfaction and Commitment

Next I examined if implicit partner attitudes predicted relationship satisfaction and commitment using hierarchical regression analysis. In the first set of regression models, culture, sex and relationship length were entered in the first block. In the second block, the positive and negative implicit partner attitudes were entered. Lastly, the interaction term of positive and negative implicit partner attitudes were entered. Separate regression models were conducted for relationship satisfaction and commitment. Results, including unstandardized coefficients and confidence intervals, for these regression analyses are summarized in Table 6.

For the prediction of relationship satisfaction, culture (β = -0.46, $p < .001$) and sex (β = -0.22, $p = .001$) were significant predictors. Chinese relative to European Americans reported lower satisfaction level, as well as men relative to women reported lower satisfaction. Implicit partner attitudes significantly predicted relationship satisfaction (R^2 change = 0.03, $F[2, 173] = 4.18$, $p = .017$). In particular, positive implicit partner attitudes positively predicted satisfaction (β = 0.19, $p = .005$), whereas negative implicit partner attitudes were not a significant individual predictor. The two implicit partner attitudes variables did not interact to predict satisfaction. Further, additional analysis did not reveal significant moderation effects of culture.

For the prediction of relationship commitment, culture (β = -0.27, $p < .001$) and sex (β = -0.31, $p < .001$) were significant. Although implicit partner attitudes did not significantly contribute to the prediction of commitment (R^2 change = 0.02, $F[2, 173] = 2.37$, $p = .096$), positive implicit partner attitudes were a significant individual predictor (β = 0.15, $p = .048$). The interaction between the two implicit partner attitude variables was not significant. Moreover, culture did not moderate these associations.

I then tested the unique contribution of implicit partner attitudes after controlling for explicit partner attitudes. Although implicit and explicit partner attitudes did not strongly correlate, explicit partner attitudes and relationship outcomes were highly related, to some extent due to common method variance. Thus it is a conservative test if one can show that implicit partner attitudes explain unique variance of the relationship outcomes over and above explicit partner attitudes. In the hierarchical regression models, I first controlled for culture, sex and relationship length. In the second block, I entered the positive and negative explicit partner attitudes. In the next block, I entered the two implicit partner attitude variables, and their interaction was entered in the final block. Table 7 summarizes the regression results.

In the prediction of relationship satisfaction, it was not surprising to find that explicit partner attitudes were strongly associated with satisfaction (R^2 change = 0.39, F[2, 173] = 106.12, $p < .001$). Both positive (β = 0.42, $p < .001$) and negative (β = -0.42, $p < .001$) explicit partner attitudes contributed to the prediction of satisfaction. Implicit partner attitudes as a whole did not significantly contribute to the prediction of satisfaction (R^2 change = 0.01, F[2, 171] = 1.88, $p = .16$). Yet, positive implicit partner attitudes marginally predicted satisfaction (β = 0.09, $p = .059$).

For relationship commitment, explicit partner attitudes were significant as a whole (R^2 change = 0.45, F[2, 173] = 109.17, $p < .001$). Both positive (β = 0.57, $p < .001$) and negative (β = -0.33, $p < .001$) explicit partner attitudes were significant individual predictors. However, implicit partner attitudes as a whole or individually did not significantly predict commitment, *ps* > .10.

4.3.4 Mediation Analysis

I predicted that Chinese participants would report lower relationship quality than would European American participants, because Chinese participants were more ambivalent

toward their partners (*Hypotheses 1b & 2b*). In fact, Chinese were more ambivalent in their explicit partner evaluation in the current study (F[1, 174] = 41.41, $p < .001$, $\eta_p^2 = 0.19$; *Hypothesis 1a*). Moreover, the cultural comparisons found that Chinese were also more ambivalent at the implicit level than were European Americans (*Hypothesis 2a*). The regression analysis showed that Chinese reported lower satisfaction and commitment than did European Americans. These results together suggested that partner-ambivalence might mediate cultural differences in relationship satisfaction and commitment.

Accordingly, mediation analyses with 5,000 bootstrap samples were conducted to test whether explicit and implicit partner-ambivalence mediated cultural differences in relationship quality, namely, satisfaction and commitment. Sex and relationship length were included in the model as covariates. Results of these mediation analyses are summarized in Table 8.

For relationship satisfaction, explicit partner-ambivalence significantly predicted satisfaction (b = -0.37, 95% CI [-0.44, -0.30], t = -10.11, $p < .001$), but implicit partner-ambivalence did not (b = 0.04, 95% CI [-0.04. -0.13], t = 0.99, p = .32). As a result, explicit partner-ambivalence mediated cultural differences in satisfaction (indirect effect = -0.48, 95% CI [-0.69, -0.32]). Given that the direct effect of culture was significant (direct effect = -0.45, 95% CI [-0.67, -0.22], t = -3.84, $p < .001$), it was a partial mediation.

For relationship commitment, a similar pattern was observed. Only explicit partner-ambivalence predicted commitment (b = -0.32, 95% CI [-0.39, -0.24], t = -8.12, $p < .001$) but not implicit partner-ambivalence (b = 0.07, 95% CI [-0.02, 0.16], t = 1.55, p = .12). There was a full mediation for explicit partner-ambivalence (indirect effect = -0.41, 95% CI [-0.62, -0.26]), as the direct effect of culture was not significant (direct effect = -0.14, 95% CI [-0.39, 0.11], t = -1.11, p = .27).

4.4 Discussion

Results from Study 2 support *Hypothesis 2a* that Chinese are more ambivalent at the implicit level than European Americans; the cultural difference is small in effect. Chinese show balance in associating their romantic partners with positive and negative words, whereas European Americans show stronger associations of their partners with positive than negative words.

The PGNAT adopted from previous research is useful in predicting both Chinese and European American dating individuals' relationship satisfaction and commitment. In particular, people who more strongly associate their partner with positive words report higher satisfaction and commitment in their relationships, compared to those who have weaker associations between their partner and positive words. This effect is marginally significant in the prediction of satisfaction even after controlling the very strong predictor of explicit partner attitudes. Associating partner with negative words is not related to relationship outcomes. Likewise, Lee and colleagues (2010) also found weak effects of negative implicit partner attitudes in predicting break up across studies.

The current findings only partially support my hypotheses regarding the mediating role of partner-ambivalence. As in Study 1, Chinese show higher explicit partner-ambivalence than do European Americans (*Hypothesis 1a*), and explicit partner-ambivalence mediates cultural differences in relationship quality (*Hypothesis 1b*). However, despite cultural differences in implicit partner-ambivalence (*Hypothesis 2a*), implicit partner-ambivalence is not associated with relationship quality (*Hypothesis 2b*). One possibility is that because relationship quality is assessed by self-report measures in the current study, these measures are more likely to be related to the self-report measure of explicit partner attitudes rather than implicit partner attitudes.

Table 5. Descriptives, reliabilities, and bivariate correlations for major variables in Study 2

Variable	HK (n = 93)			US (n = 88)			Cultural Difference	
	M	*SD*	α	*M*	*SD*	α	*t*	*d*
1. Positive Implicit Partner Attitudes	2.14	0.73	-	1.90	0.68	-	-2.31*	0.34
2. Negative Implicit Partner Attitudes	2.11	0.63	-	1.63	0.76	-	-4.59***	0.69
3. Ambivalent Implicit Partner Attitudes	5.47	0.67	-	6.13	1.28	-	-3.64***	0.54
4. Positive Explicit Partner Attitudes	5.60	0.71	0.89	6.31	0.52	0.78	7.56***	1.13
5. Negative Explicit Partner Attitudes	2.71	0.85	0.78	1.96	0.84	0.75	-5.98***	0.89
6. Ambivalent Explicit Partner Attitudes	7.83	1.29	-	6.43	1.47	-	-6.82***	1.02
7. Relationship Satisfaction	5.42	1.01	0.94	6.37	0.65	0.88	7.50***	1.12
8. Relationship Commitment	5.79	0.91	0.89	6.39	0.82	0.87	4.64***	0.69

Note. Correlation matrix for HK is in the lower panel, whereas that for US is in the upper panel.

*p < .05. **p < .01. ***p < .001.

Table 5 continued.

Variable	1	2	3	4	5	6	7	8
1. Positive Implicit Partner Attitudes	1	.42***	.54***	.20	-.13	-.11	.21	.18
2. Negative Implicit Partner Attitudes	.31**	1	.87***	.21*	-.13	-.05	.14	.18
3. Ambivalent Implicit Partner Attitudes	.67***	.75***	1	.27*	-.17	-.10	.20	.28**
4. Positive Explicit Partner Attitudes	.09	.02	-.02	1	-.49***	-.46***	.59***	.60***
5. Negative Explicit Partner Attitudes	-.30**	-.07	-.16	-.50***	1	.98***	-.67***	-.48***
6. Ambivalent Explicit Partner Attitudes	-.29**	-.05	-.15	-.50***	.99***	1	-.62***	-.43***
7. Relationship Satisfaction	.26*	.01	.11	.68***	-.67***	-.67***	1	.65***
8. Relationship Commitment	.23*	.01	.10	.77***	-.70***	-.68***	.73***	1

Note. Correlation matrix for HK is in the lower panel, whereas that for US is in the upper panel.

*p < .05. **p < .01. ***p < .001.

Table 6. Results summary for predicting relationship quality by implicit partner attitudes in Study 2

	Relationship Satisfaction					Relationship Commitment				
		95% CI					95% CI			
Variable	*b*	LL	UL	*β*	*t*	*b*	LL	UL	*β*	*t*
Block 1	$\Delta R^2 = 0.30$, $F(3, 175) = 24.58$***					$\Delta R^2 = 0.20$, $F(3, 175) = 14.58$***				
Culture	-0.89	-1.14	-0.64	-0.46	-7.07***	-0.50	-0.75	-0.25	-0.27	-3.94***
Sex	-0.45	-0.73	-0.18	-0.22	-3.27**	-0.60	-0.88	-0.33	-0.31	-4.31***
Relationship Length	0.001	-0.01	0.01	0.03	0.40	0.00	-0.01	0.01	0.01	0.07
Block 2	$\Delta R^2 = 0.03$, $F(2, 173) = 4.18$*					$\Delta R^2 = 0.02$, $F(2, 173) = 2.37$				
Positive Implicit Partner Attitudes	0.27	0.08	0.45	0.19	2.82**	0.19	0.00	0.38	0.15	2.00*
Negative Implicit Partner Attitudes	-0.04	-0.22	0.15	-0.03	-0.39	0.01	-0.18	0.20	0.01	0.12
Block 3	$\Delta R^2 = 0.00$, $F(1, 172) = 0.01$					$\Delta R^2 = 0.00$, $F(1, 172) = 0.09$				
Positive × Negative Implicit Partner Attitudes	-0.01	-0.25	0.23	-0.02	-0.09	-0.04	-0.28	0.20	-0.10	-0.31

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 7. Results summary for predicting relationship quality by implicit and explicit partner attitudes in Study 2

	Relationship Satisfaction					Relationship Commitment				
		95% CI					95% CI			
Variable	*b*	LL	UL	*β*	*t*	*b*	LL	UL	*β*	*t*
Block 1	ΔR^2 = 0.30, *F*(3, 175) = 24.58***					ΔR^2 = 0.20, *F*(3, 175) = 14.58***				
Culture	-0.89	-1.14	-0.64	-0.46	-7.07***	-0.50	-0.75	-0.25	-0.27	-3.94***
Sex	-0.45	-0.73	-0.18	-0.22	-3.27**	-0.60	-0.88	-0.33	-0.31	-4.31***
Relationship Length	0.001	-0.01	0.01	0.03	0.40	0.00	-0.01	0.01	0.01	0.07
Block 2	ΔR^2 = 0.39, *F*(2, 173) = 106.12***					ΔR^2 = 0.45, *F*(2, 173) = 109.17***				
Positive Explicit Partner Attitudes	0.57	0.42	0.72	0.42	7.33***	0.73	0.58	0.88	0.57	9.40***
Negative Explicit Partner Attitudes	-0.44	-0.55	-0.33	-0.42	-7.70***	-0.33	-0.44	-0.21	-0.33	-5.68***
Block 3	ΔR^2 = 0.01, *F*(2, 171) = 1.88					ΔR^2 = 0.002, *F*(2, 171) = 0.45				
Positive Implicit Partner Attitudes	0.12	-0.01	0.25	0.09	1.90[a]	0.06	-0.07	0.19	0.05	0.95
Negative Implicit Partner Attitudes	-0.07	-0.19	0.06	-0.05	-1.02	-0.03	-0.16	0.10	-0.02	-0.41
Block 4	ΔR^2 = 0.00, *F*(1, 170) = 0.27					ΔR^2 = 0.001, *F*(1, 170) = 0.73				
Positive × Negative Implicit Partner Attitudes	-0.04	-0.20	0.12	-0.10	-0.52	-0.07	-0.23	0.09	-0.18	-0.85

[a]This is marginally significant as reported in the text (*p* = .059).

*p < .05. **p < .01. ***p < .001.

Table 8. Results summary for mediation analyses with 5,000 bootstrap samples in Study 2

	Relationship Satisfaction				Relationship Commitment			
			95% CI				95% CI	
Effect	Coefficient	*t*	LL	UL	Coefficient	*t*	LL	UL
Indirect Effects via[a]								
Implicit Partner-Ambivalence	0.03	-	-0.03	0.11	0.05	-	-0.01	0.14
Explicit Partner-Ambivalence	-0.48	-	-0.69	-0.32	-0.41	-	-0.61	-0.26
Direct Effect of Culture	-0.45	-3.84***	-0.67	-0.22	-0.14	-1.11	-0.39	0.11

Note. Sex and relationship length are controlled.

[a]For indirect effects, only 95% CIs are reported; CIs that do not include 0 indicate a significant indirect effect at $\alpha = .05$.

*$p < .05$. **$p < .01$. ***$p < .001$.

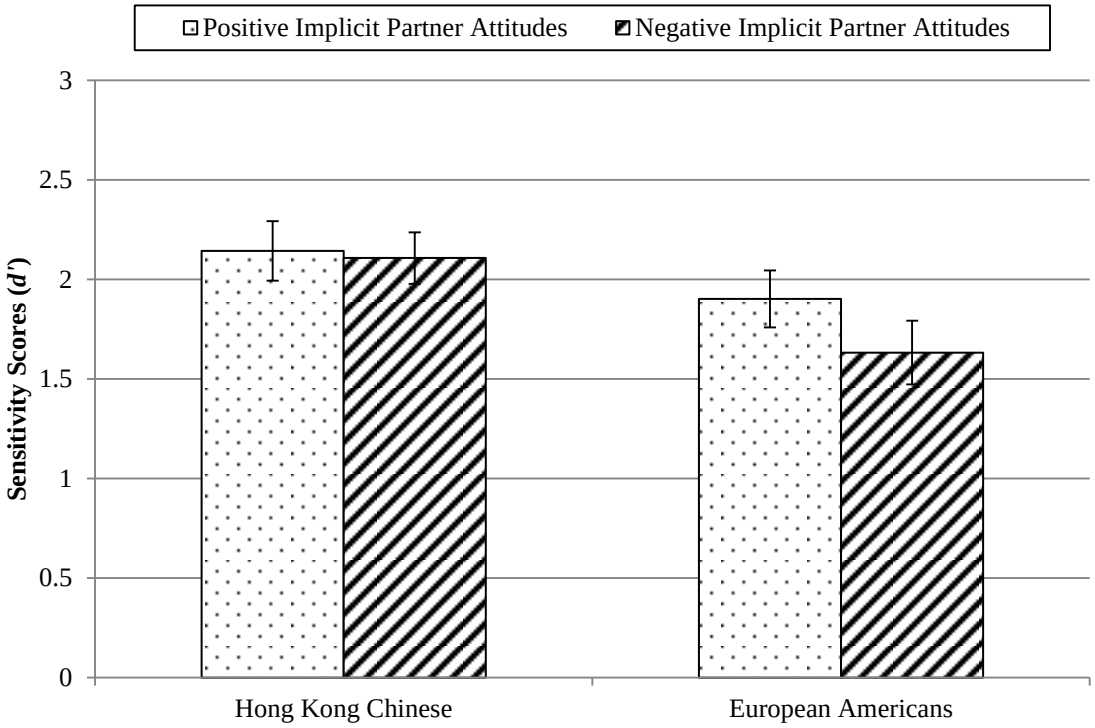

Figure 3. Positive and negative implicit partner attitudes across cultural groups (with 95% CI bars)

CHAPTER 5. STUDY 3

5.1 Introduction

In Study 3, I examined how Chinese and European Americans organize their knowledge of their partners using Showers and colleagues' (1999) partner knowledge organization task. I predicted that Chinese participants would be more likely to hold a negative and an integrative structure of partner knowledge, whereas European American participants would be more likely to hold a positive and a compartmentalized structure (*Hypotheses 3 and 4*). Furthermore, I expected that Chinese would be less likely than European Americans to differentially value positive and negative partner aspects (i.e., lower differential importance; *Hypothesis 6*). Chinese would also be less likely than European Americans to think that partner aspects are stable (*Hypothesis 7*).

In addition to examining cultural differences in partner knowledge content and structure, I also tested how these various dimensions of partner knowledge, namely, valence, organization structure, differential importance and instability predicted relationship quality. More importantly, I predicted that negative partner knowledge content would explain why Chinese reported poorer relationship quality than did European Americans (*Hypothesis 5*).

5.2 Method

5.2.1 Participants

A sample of 127 Hong Kong Chinese and 158 European American college students, who were currently in a romantic relationship for at least three months, were recruited.

5.2.2 Procedure

Participants were invited to the lab for a study about self and relationships in groups of two to five. They were first seated in individual cubicles. Then they were instructed to complete the partner knowledge organization task (PKOT; Showers & Kevlyn, 1999). Subsequently, they completed an online survey in Qualtrics that consisted of measures of relationship quality. After participants were finished, they were debriefed, thanked, paid/given credits, and dismissed.

5.2.3 Materials and Measures

5.2.3.1 Partner knowledge organization

In the PKOT, participants were asked to put positive and negative words/attributes into groups/aspects to describe various aspects of their partners. These groups were freely created by the participants. In particular, participants were presented a list of words and then given 25 minutes to generate groups that describe their partners using the list of words compiled in the pilot study (see Appendix D for an example).

Participants were also asked to rate each group/aspect in terms of its importance ("When you think about your partner, how important is this aspect?") and stability ("Would you say this aspect of your partner is a stable aspect?"). These items were rated on 7-point scales: 1 = *not important at all* and 7 = *very important* for importance, and 1 = *not stable at all* and 7 = *very stable* for stability.

An index of compartmentalization (vs. integration) was computed to represent whether one only describes one's partner using the same pole of attributes or mixed within a group. Specifically, a phi coefficient was calculated by comparing the observed frequencies of positive and negative attributes in each group and those that would be expected based on the overall usage of attributes (Showers & Kevlyn, 1999). The phi coefficient ranged from 0

to 1 with higher values indicating a more compartmentalized organization (or a less integrative organization). In addition, an index of negativity was computed based on the number of negative words used by the participant over all the words s/he used. The higher the negativity index, the more negative words a person used compared to positive words in the task.

I also computed differential importance based on importance and valence of each aspect (Pelham & Swann, 1989). Particularly, I computed within-person correlations across the importance ratings and proportion of negative words in each aspect. As a result, higher values reflected a stronger tendency to think of positive relative to negative partner aspects as important. The stability scores across aspects were averaged such that higher scores indicated thinking the partner aspects as more stable.

5.2.3.2 Relationship quality

I used the same relationship satisfaction and commitment scales in Studies 1 and 2 to measure relationship quality. Reliability statistics for the can be found in Table 9.

5.2.3.3 Demographic questions

Participants reported their age, sex, relationship status, and length of relationship (in months).

5.3 Results

5.3.1 Preliminary Analysis

Seven participants who did not follow instructions in completing the PKOT were dropped; for instance, they created their own words rather than using words that I provided (one Chinese and six European Americans). Moreover, if a person uses fewer than two negative words, the phi coefficient cannot be computed. This resulted in five Chinese (about 4%) and fifteen European Americans (about 9%) being removed from further analysis. A chi-

square test showed a marginally significant effect that more European American than Chinese participants were dropped ($\chi^2[1] = 3.48$, $p = .062$).[7] The percentage of case removal in the U.S. sample was compatible to previous studies that used the PKOT (e.g., Showers & Kevlyn, 1999).

The final sample consisted of 121 Hong Kong Chinese ($M_{age} = 20.31$, $SD = 1.67$; 76 females) and 139 European Americans ($M_{age} = 19.10$, $SD = 1.38$; 83 females). All participants were in a heterosexual dating relationship, except three European American participants who were engaged and one European American participant who was married. The average length of relationship was 21.42 months ($SD = 17.48$; ranges from 3 months to 7 years) and 25.06 months ($SD = 19.31$; ranges from 3 months to 7.50 years) for Chinese and European Americans, respectively. The two cultural groups did not significantly differ on relationship length (the relationship length difference was about 109 days, $p = .12$).

On average Chinese created more groups in the PKOT ($M = 9.55$; $SD = 2.45$) than European Americans ($M = 7.16$; $SD = 2.22$; $t[258] = -8.24$, $p < .001$, $d = 1.03$, 95% CI [0.76, 1.28]). However, Chinese did not use significantly more words in the task ($M = 74.76$; $SD = 34.89$) than European Americans ($M = 70.74$; $SD = 31.19$; $t[258] = -0.98$, $p = .33$).

Table 9 summarizes *t*-test results of cultural differences in the major variables, as well as bivariate correlations among variables. As predicted, Chinese people's partner knowledge was more negative than that of European Americans ($t[258] = -2.06$, $p = .041$, $d = 0.26$, 95% CI [0.01, 0.50]). However, the two groups did not differ in partner knowledge structure (i.e., phi coefficient; $t[258] = -0.79$, $p = .43$). Both Chinese and European Americans tended to use a compartmentalized (rather than an integrative) structure to organize their partner knowledge ($M_{HK} = 0.68$, $SD = 0.18$; $M_{US} = 0.66$, $SD = 0.21$); the phi coefficients were significantly higher than 0 in both cultural groups ($ps < .001$). The two cultural groups differed in differential importance ($t[254] = 4.55$, $p < .001$, $d = 0.57$, 95% CI [0.32, 0.82]). Chinese were

less likely than European Americans to think that positive relative to negative aspects were important in describing their partners (M_{HK} = 0.12, *SD* = 0.42; M_{US} = 0.37, *SD* = 0.45). The differential importance values were significantly higher than 0 (*ps* < .01) such that both Chinese and European Americans thought that positive partner aspects were more important than negative ones. Notably, European Americans' levels of negativity, compartmentalization, and differential importance in the present study were similar to those reported in previous studies (e.g., Showers & Kevlyn, 1999). As expected, Chinese were less likely to think that the partner aspects were stable than European Americans (*t*[258] = 6.25, *p* < .001, *d* = 0.78, 95% CI [0.52, 1.02]).

Correlation results revealed that negativity in partner knowledge was related to compartmentalization in both cultural groups (r_{HK} = 0.37, *p* < .001; r_{US} = 0.39, *p* < .001). Participants who had relatively more negative partner-beliefs were more likely to use a compartmentalized strategy to organize their partner knowledge than those who had fewer negative partner-beliefs. Moreover, the negativity index was related to lower relationship satisfaction (r_{HK} = -0.35, *p* < .001; r_{US} = -0.41, *p* < .001) and commitment (r_{HK} = -0.28, *p* < .001; r_{US} = -0.36, *p* < .001). Compartmentalization, however, was not significantly related to relationship quality in either cultural group, *ps* > .05. Differential importance showed a small positive correlation with satisfaction in the HK sample (*r* = 0.19, *p* = .034), but not in the U.S. sample (*r* = .06, *p* = .49). Interestingly, stability was positively correlated with satisfaction (r_{HK} = 0.35, *p* < .001; r_{US} = 0.40, *p* < .001) and commitment (r_{HK} = 0.33, *p* < .001; r_{US} = 0.31, *p* < .001). Participants who thought that their partners' aspects were stable tended to feel satisfied and committed in their relationships.

5.3.2 Cultural Differences in Partner Knowledge

My major prediction was that Chinese participants would be more likely to hold a negative and integrative structure of their partner knowledge as compared to their European American counterparts (*Hypotheses 3 & 4*). I conducted a MANCOVA with the four indices of partner knowledge content and structure, namely, negativity, compartmentalization, differential importance and stability, as dependent variables. The two between-subjects factors were culture and sex; relationship length was included as a covariate.

A significant multivariate effect of culture was observed (F[4, 247] = 15.83, $p < .001$, $\eta_p^2 = 0.20$). Similar to *t*-test results, Chinese were more negative ($M_{HK} = 0.25$, $M_{US} = 0.22$; F[1, 250] = 5.87, $p = .016$, $\eta_p^2 = 0.02$), lower in differential importance ($M_{HK} = 0.10$, $M_{US} = 0.39$; F[1, 250] = 25.54, $p < .001$, $\eta_p^2 = 0.09$), and lower in stability ($M_{HK} = 4.84$, $M_{US} = 5.41$; F[1, 250] = 33.35, $p < .001$, $\eta_p^2 = 0.12$) than European Americans.

Sex (F[4, 247] = 3.06, $p = .017$, $\eta_p^2 = 0.05$) and its interaction with culture (F[4, 247] = 3.03, $p = .018$, $\eta_p^2 = 0.05$) were also significant. Men were higher in negativity than women in general ($M_{men} = 0.25$, $M_{women} = 0.22$; F[1, 250] = 5.59, $p = .019$, $\eta_p^2 = 0.02$). Furthermore, Chinese men were lower in differential importance than Chinese women ($M_{men} = 0.04$, $M_{women} = 0.17$), whereas European American men were higher in differential importance than European American women ($M_{men} = 0.45$, $M_{women} = 0.33$; F[1, 250] = 4.84, $p = .029$, $\eta_p^2 = 0.02$).

5.3.3 Predicting Relationship Satisfaction and Commitment

I conducted several sets of hierarchical regression analysis to test the associations between different partner knowledge indices and relationship quality. In particular, culture, sex, and relationship length were entered in the first regression block. Then the four indices

were entered. In the last block, two-way interactions among the four indices were added. Results of the regression analyses are summarized in Table 10.

In the regression equation predicting relationship satisfaction, only culture was significant (β = -0.37, $p < .001$) in the first block, such that Chinese reported lower satisfaction than European Americans. The four indices as a whole predicted satisfaction (R^2 change = 0.20, F[4, 247] = 19.33, $p < .001$). Individually, negativity predicted lower satisfaction (β = -0.28, $p < .001$). Differential importance (β = 0.16, $p = .003$) and stability (β = 0.29, $p < .001$) were positive predictors. The interaction terms in the third block were not significant. Additional analysis showed that culture did not moderate these effects.

A similar pattern of results was found in the prediction of relationship commitment. This time, culture did not significantly predict commitment (β = -0.10, $p = .11$). The four indices as a whole predicted commitment (R^2 change = 0.17, F[4, 247] = 12.92, $p < .001$). Negativity (β = -0.26, $p < .001$) and stability (β = 0.27, $p < .001$) significantly predicted commitment whereas differential importance only marginally predicted commitment (β = 0.11, $p = .070$). Their interactions were not significant. Additional analysis showed that culture did not moderate these effects.

Because previous research has found a significant interaction between negativity and compartmentalization in the prediction of relationship outcomes, I also specifically examined their interaction effect removing the two other indices (the interaction term was computed after mean-centering the predictors). Their interaction was not significant in predicting satisfaction or commitment, $ps > .10$. Although not predicted, I found marginally significant interaction effects between differential importance and compartmentalization in the prediction of satisfaction (b = 1.08, 95% CI [-0.12, 2.28], t = 1.78, $p = .077$) and commitment (b = 0.97, 95% CI [-0.18, 2.11], t = 1.66, $p = .098$). In particular, among people who were high in differential importance, compartmentalization was not strongly related to satisfaction

(*b* = -0.12, 95% CI [-0.89. 0.65], *t* = -0.30, *p* = .76) or commitment (*b* = -0.08, 95% CI [-0.81, 0.66], *t* = -0.20, *p* = .84). In contrast, among people who were low in differential importance, a compartmentalized relative to an integrative strategy was associated with lower satisfaction (*b* = -1.11, 95% CI [-1.90, -0.31], *t* = -2.73, *p* = .007) and commitment (*b* = -0.96, 95% CI [-1.72, -0.19], *t* = -2.47, *p* = .014). The interaction effects were not further moderated by culture. Figures 4 and 5 depict these interaction effects.

In short, in both cultural groups, people who were more positive in their partner knowledge, who thought that positive aspects were more important, and who thought that their partner aspects were more stable, tended to report higher relationship satisfaction and commitment. Unexpectedly, compartmentalization did not interact with negativity (but did with differential importance) in the prediction of relationship outcomes.

5.3.4 Mediation Analysis

Finally, I examined whether partner knowledge content and structure explained cultural differences in relationship quality. Therefore I conducted mediation analysis with 5,000 bootstrap samples. The four indices were treated as potential mediators, although my previous analyses showed that compartmentalization did not have an effect on relationship quality. Sex and relationship length were controlled in the analyses. Results of the mediation analyses are summarized in Table 11.

For relationship satisfaction, significant mediation effects were found for negativity (indirect effect = -0.07, 95% CI [-0.17, -0.01]), differential importance (indirect effect = -0.09, 95% CI [-0.17, -0.03]) and stability (indirect effect = -0.20, 95% CI [-0.32, -0.12]). It was a partial mediation given the significant direct effect of culture (direct effect = -0.35, 95% CI [-0.57, -0.13], *t* = -3.09, *p* = .002).

For relationship commitment, only negativity (indirect effect = -0.06, 95% CI [-0.14, -0.01]) and stability (indirect effect = -0.16, 95% CI [-0.28, -0.08]) were significant mediators. Culture did not show a significant direct effect (direct effect = 0.11, 95% CI [-0.11, 0.32], t = 0.95, p = .34), and hence it was a full mediation.

5.4 Discussion

The current findings support *Hypothesis 3* that Chinese are more negative in their partner knowledge than European Americans; this cultural difference is small in terms of effect size. However, *Hypothesis 4* is not supported. Chinese and European Americans are equally compartmentalized in their partner knowledge.

I find that European Americans are more likely than Chinese to rate positive relative to negative aspects as important (*Hypothesis 6*). Chinese people's lower differential importance may partly reflect their dialectical relationship thinking–valuing negative aspects in viewing one's partner. Chinese think about their partners as less stable, or more changeable, than European Americans (*Hypothesis 7*). If Chinese expect changes in their partners, such that positive things can suddenly change or disappear, then it is not surprising to find that they experience lower relationship quality. These cultural differences are medium regarding effect size.

Negativity in partner knowledge, in addition to differential importance and stability, mediates cultural differences in relationship quality, which supports *Hypothesis 5*. However, compartmentalization does not interact with negativity to predict relationship outcomes. Instead an interaction between compartmentalization and differential importance has been found, such that when positive partner aspects relative to negative aspects are less important (or when negative aspects are more important than positive aspects), separating positive and negative things (a compartmentalized strategy) is related to poor relationship quality.

Table 9. Descriptives, reliabilities, and bivariate correlations for major variables in Study 3

	HK (*n* = 121)			US (*n* = 139)			Cultural Difference	
Variable	*M*	*SD*	α	*M*	*SD*	α	*t*	*d*
1. Negativity	0.25	0.14	-	0.21	0.11	-	-2.06*	0.26
2. Compartmentalization	0.68	0.18	-	0.66	0.21	-	-0.79	0.10
3. Differential Importance	0.12	0.42	-	0.37	0.45	-	4.54***	0.57
4. Stability	4.82	0.73	-	5.40	0.77	-	6.25***	0.78
5. Relationship Satisfaction	5.58	1.04	0.94	6.30	0.74	0.90	6.50***	0.81
6. Relationship Commitment	6.10	0.72	0.85	6.31	0.95	0.87	1.96	0.24

Note. Correlation matrix for HK is in the lower panel, whereas that for US is in the upper panel.

*p < .05. **p < .01. ***p < .001.

Table 9 continued.

Variable	1	2	3	4	5	6
1. Negativity	1	.39***	.13	-.52***	-.41***	-.36***
2. Compartmentalization	.37***	1	.31***	-.13	-.05	-.07
3. Differential Importance	-.02	.11	1	-.17	.06	.03
4. Stability	-.10	-.09	.05	1	.40***	.31***
5. Relationship Satisfaction	-.35***	-.15	.19*	.35***	1	.77***
6. Relationship Commitment	-.28**	-.14	.14	.33***	.75***	1

Note. Correlation matrix for HK is in the lower panel, whereas that for US is in the upper panel.

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 10. Results summary for predicting relationship quality by partner knowledge indices in Study 3

	Relationship Satisfaction					Relationship Commitment				
		95% CI					95% CI			
Variable	*b*	LL	UL	*β*	*t*	*b*	LL	UL	*β*	*t*
Block 1	$\Delta R^2 = 0.15$, $F(3, 251) = 14.24$***					$\Delta R^2 = 0.03$, $F(3, 251) = 2.81$*				
Culture	-0.71	-0.93	-0.49	-0.37	-6.27***	-0.17	-0.39	0.04	-0.10	-1.63
Sex	-0.08	-0.31	0.15	-0.04	-0.66	-0.02	-0.24	0.20	-0.01	-0.19
Relationship Length	0.003	-0.003	0.01	0.06	1.07	0.01	0.001	0.01	0.14	2.17**
Block 2	$\Delta R^2 = 0.20$, $F(4, 247) = 19.33$***					$\Delta R^2 = 0.17$, $F(4, 247) = 12.92$***				
Negativity	-2.08	-2.96	-1.20	-0.28	-4.63***	-1.73	-2.61	-0.86	-0.26	-3.91***
Compartmentalization	0.04	-0.51	0.59	0.01	0.15	0.03	-0.51	0.57	0.01	0.10
Differential Importance	0.35	0.12	0.58	0.16	2.96**	0.21	-0.02	0.44	0.11	1.82
Stability	0.35	0.21	0.49	0.29	4.97***	0.28	0.15	0.42	0.27	4.09***
Block 3	$\Delta R^2 = 0.02$, $F(6, 241) = 1.39$					$\Delta R^2 = 0.01$, $F(6, 241) = 0.25$				
Negativity × Compartmentalization	3.27	-1.37	7.90	0.37	1.39	0.29	-4.35	4.92	0.04	0.12
Negativity × Differential Importance	1.30	-0.67	3.27	0.15	1.30	0.59	-1.38	2.56	0.08	0.59
Negativity × Stability	0.64	-0.41	1.68	0.41	1.20	-0.12	-1.16	0.93	-0.09	-0.22
Differential Importance × Compartmentalization	0.17	-0.96	1.30	0.06	0.30	0.45	-0.68	1.58	0.18	0.78
Differential Importance × Stability	-0.09	-0.36	0.17	-0.23	-0.69	0.002	-0.26	0.27	0.01	0.01
Compartmentalization × Stability	0.45	-0.26	1.15	0.52	1.24	0.09	-0.62	0.79	0.11	0.24

*$p < .05$. **$p < .01$. ***$p < .001$.

Table 11. Results summary for mediation analyses with 5,000 bootstrap samples in Study 3

	Relationship Satisfaction				Relationship Commitment			
			95% CI				95% CI	
Effect	Coefficient	*t*	LL	UL	Coefficient	*t*	LL	UL
Indirect Effects via[a]								
Negativity	-0.07	-	-0.17	-0.01	-0.06	-	-0.14	-0.01
Compartmentalization	0.001	-	-0.01	0.02	0.00	-	-0.01	0.02
Differential Importance	-0.09	-	-0.17	-0.03	-0.05	-	-0.14	0.003
Stability	-0.20	-	-0.32	-0.12	-0.16	-	-0.28	-0.08
Direct Effect of Culture	-0.35	-3.09**	-0.57	-0.13	0.11	0.95	-0.11	0.32

Note. Sex and relationship length are controlled.

[a]For indirect effects, only 95% CIs are reported; CIs that do not include 0 indicate a significant indirect effect at $\alpha = .05$.

*$p < .05$. **$p < .01$. ***$p < .001$.

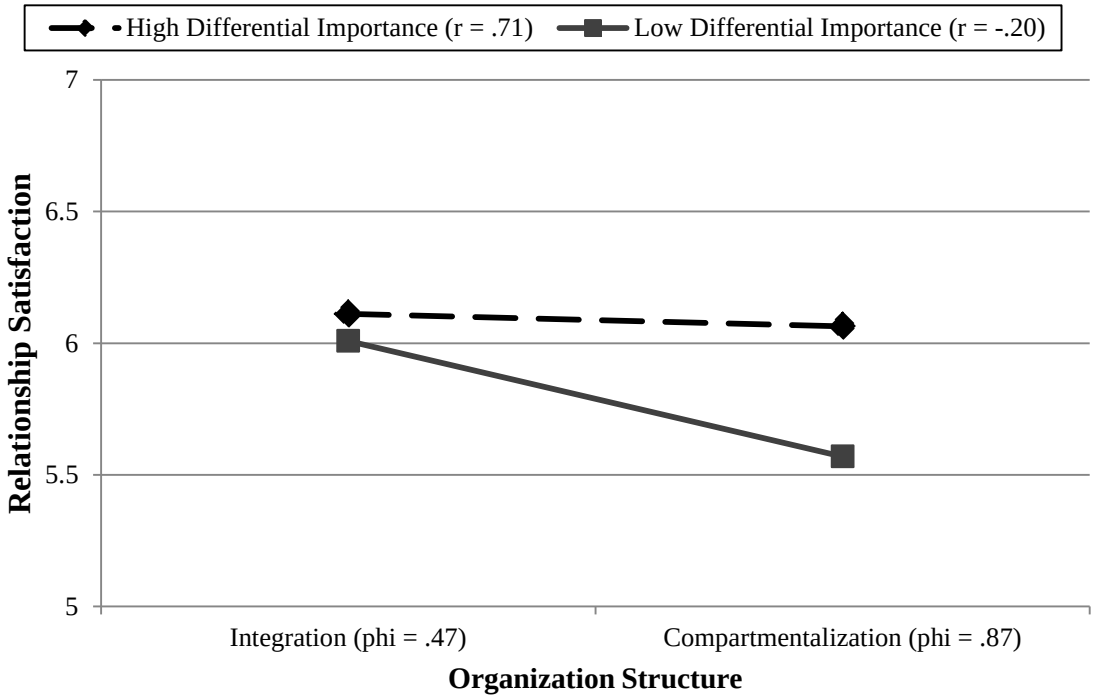

Figure 4. Interaction between differential importance and organization structure on relationship satisfaction

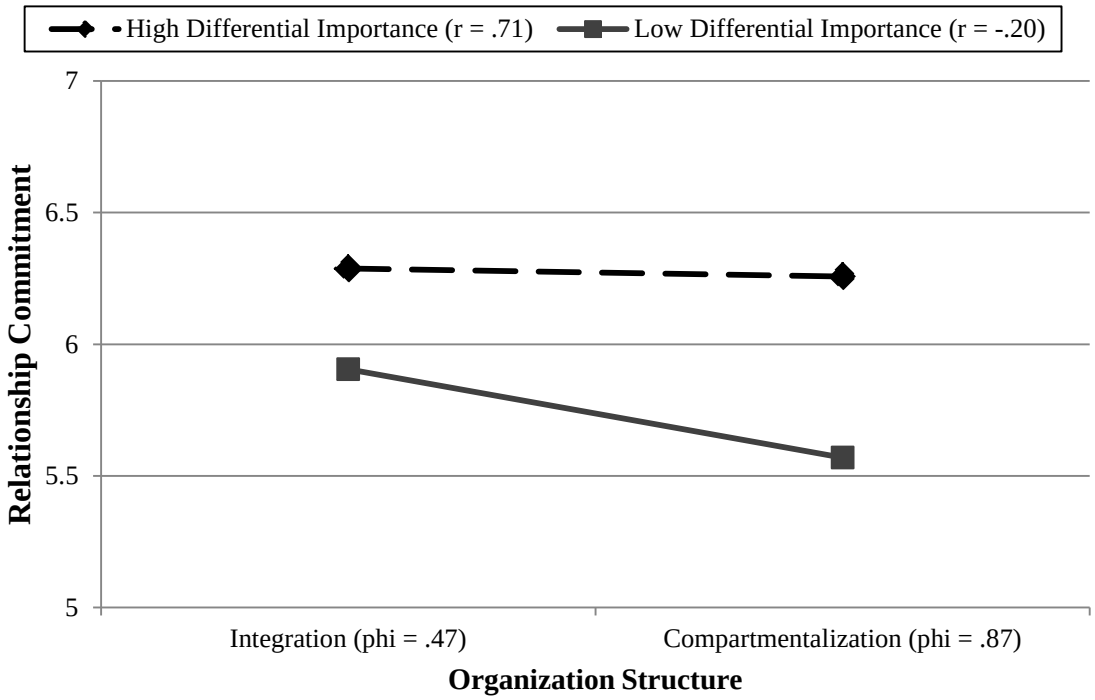

Figure 5. Interaction between differential importance and organization structure on relationship commitment

CHAPTER 6. GENERAL DISCUSSION

Does culture shape the ways people experience their social relationships, despite the universal need for people to belong and to relate to other human beings (Baumeister & Leary, 1995; Sheldon, Elliot, Kim, & Kasser, 2001)? This research applies the cultural framework of naïve dialecticism to examine cultural differences in romantic relationship experiences (Cross & Lam, in press). Particularly, across three studies I demonstrate that Chinese compared to European Americans are more likely to engage in dialectical relationship thinking, that is, they are more likely to think about their romantic partners and relationships in terms of contradiction and change. Chinese people's tendency to think dialectically is reflected in their explicit and implicit partner evaluations, as well as their partner knowledge.

6.1 Ambivalent Partner Evaluation

Findings from the present research support the hypotheses regarding cultural differences in ambivalent partner evaluation (Studies 1 & 2). Chinese are more ambivalent in their partner evaluation than European Americans, as observed in their explicit and implicit partner evaluations (*Hypotheses 1a & 2a*). Effects based on the implicit measure are especially important because implicit partner attitudes are different from explicit partner attitudes. First, although Chinese people's explicit positive partner evaluations are higher than the negative ones, their positive and negative implicit evaluations do not differ; European Americans' partner evaluations, at both explicit and implicit levels, show more positive than negative attitudes. Perhaps Chinese express more negative feelings toward their partners at the implicit than explicit levels. Second, the two types of attitudes are weakly related, and implicit partner attitudes, particularly positive attitudes, predict satisfaction

independent of explicit partner attitudes. Future research may benefit from assessing relationship outcomes that are not self-report (e.g., break up rate, couple interaction) to further demonstrate the utility of the implicit measure of partner attitudes. Moreover, the implicit measure may have a more significant role in relationship and psychological well-being among distressed couples or people who are in stressful life circumstances compared to college dating samples (Banse & Kowalick, 2007).

One issue is worthy of discussion: most participants showed stronger positive than negative explicit partner attitudes, regardless of their cultural group. As a result, the ambivalence indices computed in the current research reflect mainly the variations in negative partner attitudes; that is, the ambivalence indices are extremely highly correlated with negative partner attitudes (*rs* = .99). The findings from Study 3 in the present research, using a relatively indirect measure of positive and negative partner knowledge, also revealed that in both cultures about 70-80% of the content was positive–only 20-30% was negative. In line with this, Endo, Heine, and Lehman (2000) found that both Japanese and European Canadians exhibited similar levels of relationship-serving biases or relationship enhancement, in that they viewed their romantic relationships to be better than others' relationships, especially in positive aspects. Taken together, research using various methods suggests that people across cultures are positive about their partners and relationships.

Despite this generally positive view of one's partner and relationship, Chinese participants demonstrated more negative partner attitudes than European Americans (Studies 1 & 2). Hence, I argue that there are two processes underlying Chinese people's partner evaluation, namely, idealization and dialectical relationship thinking. Idealization refers to the way people embrace their partners' virtues and downplay their faults; people also see their partners more positively than their partners see themselves (Murray et al., 1996a, 1996b). This idealization process has been demonstrated to lead to better relationship quality in

Western romantic relationships (Murray & Holmes, 1997). This is consistent with the findings in Study 1 that shows a positive relationship between a self-report measure of idealization and relationship quality among both Chinese and European Americans. The second process, dialectical relationship thinking, is central to the current research. Chinese tend to balance their overall positive views about their partners with some degree of negative views, and they do not see a need to resolve these contradictions. As a result, Chinese are higher in negative attitudes toward their partners than European Americans. Regression analysis in Study1 shows that partner-ambivalence, although mainly driven by negative partner attitudes, predicts relationship quality independent of idealization. Therefore, idealization is likely reflected in Chinese intimates' overall positive views about their partners, whereas dialectical relationship thinking is likely reflected in their negative partner attitudes as a way to balance positive and negative views.

6.2 Partner Knowledge Organization

Study 3 examines how Chinese ad European Americans differ in their partner knowledge content and structure. Originally, I predicted that Chinese people's partner knowledge is more negative and integrative than that of European Americans. However, only the hypothesis that Chinese have more negative partner knowledge than European Americans is supported (*Hypothesis 3*); it is noteworthy that more European American than Chinese participants who had extremely positive partner knowledge were dropped in this study. Chinese and European Americans are similar in the use of the compartmentalization strategy, such that they mentally separate positive and negative aspects regarding their romantic partners (*Hypothesis 4*). One potential explanation for this unexpected finding is that Chinese people's tolerance for contradictory partner knowledge is reflected in holding opposing positive and negative partner aspects, rather than by integrating positive and negative

attributes into a single aspect. For instance, Peng and Nisbett (1999) noted that Chinese people's dialectical thinking is about tolerating seemingly contradictory components rather than synthesizing or finding an integrative solution. In contrast, European Americans may compartmentalize their partner knowledge for a different reason–prioritizing the positive aspects. More research is needed to disentangle the current findings by investigating the motivations underlying people's use of partner knowledge organization strategy.

When differential importance is examined, I find that Chinese are less likely than European Americans to differentially value positive and negative partner aspects (*Hypothesis 6*). Thus dialectical relationship thinking may be reflected in how Chinese compared to European Americans value positive and negative aspects in describing their partners. I also discover that Chinese view partner aspects as less stable than do European Americans (*Hypothesis 7*). This finding pinpoints the other component of dialectical relationship thinking, namely, viewing relationship issues as changing across contexts and situations. This is consistent with previous research that showed that Chinese couples were less likely than European American couples to attribute their marital problems to stable causes (e.g., Stander, Hsiung, & MacDermid, 2001).

Additionally, compartmentalization interacts with differential importance but not negative partner content in the prediction of relationship quality. Organizing partner knowledge in a compartmentalized way is associated with poor relationship quality among people who rate negative relative to positive aspects to be more important (i.e., low in differential importance), but not among people who are high in differential importance. In other words, a person reports poor relationship quality when he or she thinks that negative aspects are more important than positive ones in describing his or her partner, and when he/she separates negative aspects from positive aspects, such that he or she mainly focuses on

the negative ones. These interaction effects are small and unexpected, however. Future research should attempt to replicate this result pattern before a conclusion can be drawn.

In a nutshell, research that compares partner knowledge organization across cultures is scarce. Although I have not found cultural differences in organization structure as predicted, this null finding provides important groundwork for future research that attempts to look at partner knowledge organization across cultural contexts. Nevertheless, other aspects of people's partner knowledge, such as negative partner knowledge content, differential importance, and stability judgments, reveal cultural differences in thinking about partners and relationships with regards to contradiction and change.

6.3 Cultural Differences in Relationship Well-being

Cultural differences in relationship well-being comparing Chinese and European Americans have been repeatedly observed across studies. These cultural differences are more pronounced in measures that tap satisfaction and intimacy, as compared to those that tap commitment and marriage intention. Given that the current samples of Chinese and European American dating individuals were in their relationships for an average of one to two years, it is reasonable that they did not largely differ in how committed they were in their relationships.

What explain these cultural differences in relationship well-being, especially relationship satisfaction? First, I hypothesized that explicit and implicit partner-evaluative ambivalence would mediate cultural differences in relationship well-being (*Hypotheses 1b & 2b*). Because Chinese are more likely to hold an ambivalent view of their partners than are European Americans, it is potentially reflected in Chinese people's relationship evaluation and judgment. Results from both Studies 1 and 2 support the prediction that explicit partner-ambivalence explains cultural differences in relationship well-being (*Hypothesis 1b*). The

mediation effects remain even after controlling relevant constructs, such as self-esteem, neuroticism, attachment styles, and idealization. Contrary to my prediction, implicit partner-ambivalence does not predict relationship satisfaction in either cultural group (*Hypothesis 2b*). Again, one major concern is that relationship well-being was mainly assessed using self-report measures, such that it is expected that explicit and implicit measures are not highly related to each other.

Second, I hypothesized that negative partner knowledge content would mediate cultural differences in well-being (*Hypothesis 5*). Results from Study 3 support this mediation prediction in that Chinese have more negative partner knowledge than their European American counterparts, and that they also report poorer relationship quality. In addition to negativity, stability is another potential mediator in the model. As mentioned above, Chinese rate partner aspects as less stable than European Americans, and Chinese people's unstable view of their partners is associated with lower relationship quality. However, this finding needs to be interpreted with caution due to the fact that attribution of stability for positive versus negative aspects leads to very different outcomes (Bradbury & Fincham, 1990). Because participants in the current research generally have positive partner knowledge, stable attribution of these positive partner aspects is related to favorable relationship outcomes.

Overall, explicit partner-ambivalence (but not implicit partner-ambivalence) and negative partner knowledge content potentially explain why Chinese report lower relationship quality than European Americans. Attitudinal ambivalence in partner evaluation has some important implications for understanding cultural differences in relationship well-being.

It is intriguing that men tend to report higher relationship quality than women in dating relationships across studies (in Studies 1 and 2, but not in Study 3), and that men have more negative partner knowledge than women (Study 3). This result based on dating relationships is opposite to sex differences found in marital relationships. Perhaps women

enjoy dating experiences more than men do, but they feel stressful in their marriages due to the large amount of responsibilities. Because our current dating samples are all college students, additional research that samples different age groups, marital status, and education levels is needed to test this speculation.

6.4 Building Non-Western Based Relationship Theories

Most relationship theories have been developed based on samples of North Americans with European heritage, and we know that these samples are not representative of human populations across the globe (see Henrich, Heine, & Norenzayan, 2010 for a similar argument). There are only a handful of studies that investigate cultural differences in romantic relationships, and they mainly rely on the individualism-collectivism (Triandis, 1995) and independence-interdependence (Markus & Kitayama, 1991) distinctions to predict and explain these cultural differences. The cultural theory of dialecticism has received relatively little attention in the relationship literature. The present research demonstrates that investigating dialectical relationship thinking, which is frequently observed in Chinese people's lay conceptualizations of relationships (e.g., love songs, proverbs), may inform relationship scholars and practitioners about relationship processes that are important in East Asian populations.

First, many Western relationship theories and assessments assume a one-dimensional structure of relationship quality. In particular, many of the relationship measures assess positive relationship experiences but often downplay negative experiences. Some widely used measures in the literature do not even have negative or reverse statements (e.g., the Perceived Relationship Quality Components Inventory by Fletcher, Simpson, & Thomas, 2000; the Quality of Relationship Index by Norton, 1983). The current research, which adopts a dialectical perspective, concurs with previous research that proposed a two-dimensional view

of relationship quality, in which negative components are important in relationship evaluation (e.g., Fincham & Linfield, 1997; Fincham & Rogge, 2010; Mattson et al., 2013). Furthermore, one's romantic partner can be a target of attitudinal ambivalence, such that a person can both love and hate his or her partner at the same time. Many East Asians tolerate these contradictory views of partner/relationship without resolving the contradiction. Relationship theories therefore should pay attention to positive and negative, as well as ambivalent relationship experiences of individuals. Future research that explores cultural differences in these negative and ambivalent relationship experiences in diverse relationship contexts may be fruitful. For instance, given that East Asians are more likely to think about negative aspects in their relationships, do East Asians, compared to Westerners, foresee and talk about failure of their dating relationships even if their relationships are in the early stage of development? Are East Asians more likely than Westerners to tolerate their partners' negative relationship behaviors (e.g., criticism) and think that these negative behaviors may have favorable consequences for the relationship (e.g., helping one to be a better relationship partner)?

Second, the present findings seem to suggest that viewing one's partner/relationship in a contradictory and changing way has negative relationship consequences, such as poor relationship quality. However, dialectical relationship thinking can be beneficial for relationships in contexts that have not been examined in the present research (Cross & Lam, in press; see also Spencer-Rodgers & Peng, 2004 for a similar discussion on dialectical thinking). For instance, a dialectical view of one's partner/relationship may buffer the relationship from negative events or adversity. For East Asians, perhaps a rough patch or difficult time in a relationship is expected, so one can accept adversity in order to pass through the bad times. As a result, dialectical relationship thinking may lead to perseverance and endurance in the relationship among East Asians because they may think that bad things

will soon pass. In contrast, members of Western cultures believe that once something is on a certain trajectory, it will continue to follow that trajectory. This perception may result in unrealistic expectations of relationships among Westerners. For example, Westerners may expect a relationship to stay wonderful for the duration of the relationship, and thus they feel disappointed or worry that something is wrong when the relationship fails to live up to their expectations. They may also think that if there are bad times in the relationship right now, these bad times will persist because change is not expected, which may ultimately result in premature dissolution of the relationship. Additional studies are needed to demonstrate these relationship benefits for dialectical relationship thinkers, for instance, by keep track of relationship events and people's relationship experiences over time.

Last but not least, the findings from this research may inform practitioners regarding the interpretation of assessment of East Asians' relationship well-being as well as its underlying psychological mechanisms. For example, practitioners who provide services to Asian couples may interpret their clients' ambivalent attitudes toward their partners as a reflection of maintaining a balance between positive and negative partner knowledge (or sometimes even beneficial to the relationship in the long run), rather than a relatively serious relationship issue that requires change. Moreover, Asian couples may be generally less optimistic and idealistic about their relationships as compared to European Americans; therefore a different norm of relationship well-being in Asian populations may be developed, in order to assess Asian clients' current relationship functioning.

6.5 Limitations

The current studies are limited in three primary ways. First, my samples are all college students who are currently dating. It is not difficult to imagine that people face more stress and negative events in a marriage than in a dating relationship. Future research should

sample more widely across people in different relationship statuses. Second, I rely on self-report measures to assess relationship quality. Future research should explore outcomes that are not self-report in nature (e.g., videotaping couple's interaction behavior, or even asking respondents' peers to rate their relationships), in order to minimize various methodological biases in self-report measures and to provide convergent support to the current findings. Finally, the cross-sectional nature of this research does not allow me to draw casual interpretations. One should be cautious not to interpret the mediation model as a causal one. Further evidence from longitudinal and experimental studies is needed to establish the causal role of dialectical relationship thinking.

6.6 Conclusion

In conclusion, this research highlights the importance of understanding the effects of culture on relationship processes, especially the principles of contradiction and change in East Asians' dialectical thinking. Moreover, it is perhaps the first set of systematic studies that explore implicit partner evaluation and partner knowledge across cultures, contributing to the limited literature in the research area of culture and close relationships.

REFERENCES

Alter, A. L., & Kwan, V. S. Y. (2009). Cultural sharing in a global village: Evidence for extracultural cognition in European Americans. *Journal of Personality and Social Psychology, 96*(4), 742-760.

Anderson, S. L., Adams, G., & Plaut, V. C. (2008). The cultural grounding of personal relationship: The importance of attractiveness in everyday life. *Journal of Personality and Social Psychology, 95*(2), 352-368.

Bagozzi, R. P., Wong, N., & Yi, Y. (1999). The role of culture and gender in the relationship between positive and negative affect. *Cognition & Emotion, 13*(6), 641-672.

Baldwin, M. W., Lydon, J. E., McClure, M. J., & Etchison, S. (2010). Measuring implicit processes in close relationships. In B. Gawronski, & B. K. Payne (Eds.), *Handbook of implicit social cognition: Measurement, theory, and applications* (pp. 426-444). New York: The Guilford Press.

Banse, R. (1999). Automatic evaluation of self and significant others: Affective priming in close relationships. *Journal of Social and Personal Relationships, 16*(6), 803-821.

Banse, R., & Kowalick, C. (2007). Implicit attitudes towards romantic partners predict well-being in stressful life conditions: Evidence from the antenatal maternity ward. *International Journal of Psychology, 42(3)*, 149-157.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497-529.

Boucher, H. C. (2011). The dialectical self-concept II: Cross-role and within-role consistency, well-being, self-certainty, and authenticity. *Journal of Cross-Cultural Psychology, 42*(7), 1251-1271.

Boucher, H. C., Peng, K., Shi, J., & Wang, L. (2009). Culture and implicit self-esteem: Chinese are "good" and "bad" at the same time. *Journal of Cross-Cultural Psychology, 40*(1), 24-45.

Bradbury, T. N., & Fincham, F. D. (1990). Attributions in marriage: Review and critique. *Psychology Bulletin, 107*(1), 3-33.

Braiker, H. B., & Kelly, H. H. (1979). Conflict in the development of close relationships. In R. L. Burgess, & T. L. Huston (Eds.), *Social exchange in developing relationships* (pp. 135-168). New York: Academic Press.

Briley, D. A., Morris, M., & Simonson, I. (2000). Reasons as carriers of culture: Dynamic versus dispositional models of cultural influence on decision making. *Journal of Consumer Research, 27*(2), 157-178.

Campbell, L., Butzer, B., & Wong, J. (2008). The importance of the organization of partner knowledge in understanding perceptions of relationship quality and conflict resolution behavior in married couples. *Personality and Social Psychology Bulletin, 34*(6), 723-740.

Choi, I., & Nisbett, R. E. (2000). Cultural psychology of surprise: Holistic theories and recognition of contradiction. *Journal of Personality and Social Psychology, 79*(6), 890-905.

Choi, I., & Choi, Y. (2002). Culture and self-concept flexibility. *Personality and Social Psychology Bulletin, 28*(11), 1508-1517.

Choi, I., Koo, M., & Choi, J. A. (2007). Individual differences in analytic versus holistic thinking. *Personality and Social Psychology Bulletin, 33*(5), 691-705.

Church, A. T., Ortiz, F. A., Katigbak, M. S., Avdeyeva, T. V., Emerson, A. M., Vargas Flores, J., & Ibanez Reyes, J. (2003). Measuring individual and cultural differences in implicit trait theories. *Journal of Personality and Social Psychology, 85*(2), 332-347.

Church, A. T., Katigbak, M. S., Del Prado, A. M., Ortiz, F. A., Mastor, K. A., Harumi, Y., . . . Cabrera, H. F. (2006). Implicit theories and self-perceptions of traitedness across cultures: Toward integration of cultural and trait psychology perspectives. *Journal of Cross-Cultural Psychology, 37*(6), 694-716.

Church, A. T., Katigbak, M. S., Reyes, J. A., S., Salanga, M. G., Miramontes, L. G., & Adams, N. B. (2008). Prediction and cross-situational consistency of daily behavior across cultures: Testing trait and cultural psychology perspectives. *Journal of Research in Personality, 42*(5), 1199-1215.

Church, A. T., Alvarez, J. M., Katigbak, M. S., Mastor, K. A., Cabrera, H. F., Tanaka-Matsumi, J., . . . Buchanan, A. L. (2012). Self-concept consistency and short-term stability in eight cultures. *Journal of Research in Personality, 46*(5), 556-570.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.

Collins, N. L., & Read, S. J. (1990). Adult attachment, working models, and relationship quality in dating couples. *Journal of Personality and Social Psychology, 58*(4), 644-663.

Conner, M., & Sparks, P. (2002). Ambivalence and attitudes. *European Review of Social Psychology, 12*, 37-70.

Cross, S. E., Morris, M. L., & Gore, J. S. (2002). Thinking about oneself and others: The relational-interdependent self-construal and social cognition. *Journal of Personality and Social Psychology, 82*(3), 399-418.

Cross, S. E., & Lam, B. C. P. (in press). Dialecticism in close relationships and marriage. In J. Spencer-Rodgers, & K. Peng (Eds.), *The Psychological and Cultural Foundations of Dialectical Thinking*. Oxford: Oxford University Press.

Dion, K. K., & Dion, K. L. (1993). Individualistic and collectivistic perspectives on gender and the cultural context of love and intimacy. *Journal of Social Issues, 49*(3), 53-59.

Donnellan, M. B., Oswald, F. L., Baird, B. M., & Lucas, R. E. (2006). The Mini-IPIP Scales: The tiny-yet-effective measures of the Big Five factors of personality. *Psychological Assessment, 18*(2), 192-203.

Endo, Y., Heine, S. J., & Lehman, D. R. (2006). Culture and positive illusions in close relationships: How my relationships are better than yours. *Personality and Social Psychology Bulletin, 26*(12), 1571-1586.

English, T., & Chen, S. (2007). Culture and self-concept stability: Consistency across and within contexts among Asian Americans and European Americans. *Journal of Personality and Social Psychology, 93*(3), 478-490.

English, T., & Chen, S. (2011). Self-concept consistency and culture: The differential impact of two forms of consistency. *Personality and Social Psychology Bulletin, 37*(6), 838-849.

Epstein, N. B., Chen, F., & Beyder-Kamjou, I. (2005). Relationship standards and marital satisfaction in Chinese and American couples. *Journal of Marital and Family Therapy, 31*(1), 59-74.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*(4), 1149-1160.

Ferguson, M. J., & Fukukura, J. (2012). Likes and dislikes: A social cognitive perspective. In S. Fiske, & C. N. Macrae (Eds.), *Sage Handbook of social cognition* (pp. 165-189). Los Angeles: SAGE Publications.

Fincham, F. D., & Linfield, K. J. (1997). A new look at marital quality: Can spouses feel positive and negative about their marriage? *Journal of Family Psychology, 11*(4), 489-502.

Fincham, F. D., & Rogge, R. D. (2010). Understanding relationship quality: Theoretical challenges and new tools for assessment. *Journal of Family Theory and Review, 2*(4), 227-242.

Finkel, E. J., Hui, C. M., Carswell, K. L., & Larson, G. M. (2014). The suffocation of marriage: Climbing Mount Maslow without enough oxygen. *Psychological Inquiry, 25*(1), 1-41.

Fletcher, G. J. O., Simpson, J. A., & Thomas, G. (2000). The measurement of perceived relationship quality components: A confirmatory factor analytic approach. *Personality and Social Psychology Bulletin, 26*(3), 340-354.

Fowers, B. J. (1991). His and her marriage: A multivariate study of gender and marital satisfaction. *Sex Roles, 24*, 209-221.

Fraley, R. C., Heffernan, M. E., Vicary, A. M., & Brumbaugh, C. C. (2011). The Experiences in Close Relationships–Relationship Structures Questionnaire: A method for assessing

attachment orientations across relationships. *Psychological Assessment, 23*(3), 615-625.

Goetz, J. L., Spencer-Rodgers, J., & Peng, K. (2008). Dialectical emotions: How cultural epistemologies influence the experience and regulation of emotional complexity. In R. M. Sorrentino, & S. Yamaguchi (Eds.), *Handbook of motivation and cognition across cultures* (pp. 517-538). Amsterdam, Netherlands: Elsevier.

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The Implicit Association Test. *Journal of Personality and Social Psychology, 74*(6), 1464-1480.

Hamamura, T., Heine, S. J., & Paulhus, D. L. (2008). Cultural differences in response styles: The role of dialectical thinking. *Personality and Individual Differences, 44*(4), 932-942.

Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *Behavioral and Brain Sciences, 33*, 61-135.

Hiew, D. N., Halford, W. K., van de Vijver, F. J. R., & Liu, S. (2015). Relationship standards and satisfaction in Chinese, Western, and intercultural Chinese-Western couples in Australia. *Journal of Cross-Cultural Psychology, 46*(5), 684-701.

Hofmann, W., Gawronski, B., Gschwender, T., Le, H., & Schmitt, M. (2005). A meta-analysis on the correlation between the implicit association test and explicit self-report measures. *Personality and Social Psychology Bulletin, 31*(10), 1369-1385.

Hui, C. M., Fok, H. K., & Bond, M. H. (2009). Who feels more ambivalence? Linking dialectical thinking to mixed emotions. *Personality and Individual Differences, 46*(4), 493-498.

Inquisit 4.0 [Computer software]. (2014). Seattle, Wa: Millisecond Software.

Ji, L.-J., Nisbett, R. E., & Su, Y. (2001). Culture, change, and prediction. *Psychological Science, 12*(6), 450-456.

Jonas, K., Bromer, P., & Diehl, M. (2000). Attitudinal ambivalence. *European Review of Social Psychology, 11*, 35-74.

Joshanloo, M., Lepshokova, Z. K., Panyusheva, T., Natalia, A., Poon, W.-C., Yeung, V. W.-l., . . . Jiang, D.-Y. (2014). Cross-cultural validation of Fear of Happiness Scale across 14 national groups. *Journal of Cross-Cultural Psychology, 45*(2), 246-264.

Kaplan, K. J. (1972). On the ambivalence-indifference problem in attitude theory and measurement: A suggested modification of the semantic differential technique. *Psychological Review, 77*(5), 361-372.

Karney, B. R., & Bradbury, T. N. (1997). Neuroticism, marital interaction, and the trajectory of marital satisfaction. *Journal of Personality and Social Psychology, 72*(5), 1075–1092.

Karpinski, A., & Hilton, J. L. (2001). Attitudes and the Implicit Association Test. *Journal of Personality and Social Psychology, 81*(5), 774-788.

Kuhn, M., & McPartland, T. (1954). An empirical investigation of self-attitudes. *American Sociological Review, 19*(1), 68-76.

Lam, B. C. P., Cross, S. E., Chen, S. X., Hui, B. P. H., Lau, V. C. Y., Ng, J. C. K., & Ng, H. K. Y. (2014). *The influence of willingness to change on relationship quality across cultures.* Poster presented at the 15th Annual Meeting of the Society for Personality and Social Psychology, Texas, U.S.

Lam, B. C. P., Cross, S. E., Chen, S. X., Zhang, J.-L., Zheng, L.-J., Chan, K. S., . . . Lau, V. C. Y. (2016). *Do Chinese and European Americans perceive and evaluate their romantic partners differently? Dialecticism and romantic relationships.* Poster presented at the 17th Annual Meeting of the Society for Personality and Social Psychology, San Diego, U.S.

Lam, B. C. P., Cross, S. E., Wu, T. F., Yeh, K.-H., Wang, Y.-C., & Su, J. C. (in press). What do you want in a marriage? Examining marriage ideals in Taiwan and the US. *Personality and Social Psychology Bulletin*.

Lavner, J. A., Karney, B. R., & Bradbury, T. N. (2013). Newlyweds' optimistic forecasts of their marriage: For better or for worse? *Journal of Family Psychology, 27*(4), 531-540.

Lee, S., Rogge, R. D., & Reis, H. T. (2010). Assessing the seeds of relationship decay: Using implicit evaluations to detect the early stages of disillusionment. *Psychological Science, 21*(6), 857-864.

Leung, K., Cheung, F. M., Zhang, J., Song, W., & Xie, D. (1997). The five-factor model of personality in China. In K. Leung, Y. Kashima, U. Kim, & S. Yamaguchi (Eds.), *Progress in Asian social psychology* (vol. 1) (pp.231-244). Singapore: John Wiley and Sons.

Leung, K., Lam, B. C. P., Bond, M. H., Conway, L. C., Gornick, L. J., Amponsah, B., . . . Zhou, F. (2012). Developing and evaluating the Social Axioms Survey in eleven countries: Its relationship with the Five-Factor Model of Personality. *Journal of Cross-Cultural Psychology, 43*(5), 833-857.

Levine, R., Sato, S., Hashimoto, T., & Verma, J. (1995). Love and marriage in eleven cultures. *Journal of Cross-Cultural Psychology, 26*(5), 554–571.

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods, 4*(1), 84-99.

Ma-Kellams, C., Spencer-Rodgers, J., & Peng, K. (2011). I am against us? Unpacking cultural differences in ingroup favoritism via dialecticism. *Personality and Social Psychology Bulletin, 37*(1), 15-27.

Marigold, D. C., Holmes, J. G., & Ross, M. (2007). More than words: Reframing compliments from romantic partners fosters security in low self-esteem individuals. *Journal of Personality and Social Psychology, 92*(2), 232-248.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*(2), 224-253.

Mattson, R. E., Roggie, R. D., Johnson, M. D., Davidson, E. K. B., & Fincham, F. D. (2013). The positive and negative semantic dimensions of relationship satisfaction. *Personal Relationships, 20*(2), 328-355.

Miyamoto, Y., & Ma X. (2011). Dampening or savoring positive emotions: A dialectical cultural script guides emotion regulation. *Emotion, 11*(6), 1346-1357.

Murray, S. L., & Hilmes, J. G. (1993). Seeing virtues in faults: Negativity and the transformation of interpersonal narratives in close relationships. *Journal of Personality and Social Psychology, 65*(4), 707-722.

Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996a). The benefits of positive illusions: Idealization and the construction of satisfaction in close relationships. *Journal of Personality and Social Psychology, 70*(1), 79-98.

Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996b). The self-fulfilling nature of positive illusions in romantic relationships: Love is not blind, but prescient. *Journal of Personality and Social Psychology, 71*(6), 1155-1180.

Murray, S. L., & Holmes, J. G. (1997). A leap of faith? Positive illusions in romantic relationships. *Personality and Social Psychology Bulletin, 23*(6), 586-604.

Murray, S. L., & Holmes, J. G. (1999). The (mental) ties that bind: Cognitive structures that predict relationship resilience. *Journal of Personality and Social Psychology, 77*(6), 1228-1244.

Murray, S. L., Holmes, J. G., & Griffin, D. W. (2000). Self-esteem and the quest for felt security: How perceived regard regulates attachment processes. *Journal of Personality and Social Psychology, 78*(3), 478-498.

Murray, S. L., Rose, P., Bellavia, G. M., Holmes, J. G., & Kusche, A. G. (2002). When rejection stings: How self-esteem constrains relationship-enhancement processes. *Journal of Personality and Social Psychology, 83*(3), 556-573.

Murray, S. L., Griffin, D. W., Derrick, J. L., Harris, B., Aloni, M., & Leder, S. (2011). Tempting fate or inviting happiness? Unrealistic idealization prevents the decline of marital satisfaction. *Psychological Science, 22*(5), 619-626.

Neff, L. A., & Karney, B. R. (2005). To know you is to love you: The implications of global adoration and specific accuracy for marital relationships. *Journal of Personality and Social Psychology, 88*(3), 480-497.

Nisbett, R. E. (2003). *The geography of thought: How Asians and Westerners think differently… and why*. New York: Free Press.

Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review, 108*(2), 291-310.

Norton, R. (1983). Measuring marital quality: A critical look at the dependent variable. *Journal of Marriage and the Family, 45*(1), 141-151.

Nosek, B. A. (2005). Moderators of the relationship between implicit and explicit evaluation. *Journal of Experimental Psychology: General, 134*(4), 565-584.

Nosek, B. A., & Banaji, M. R. (2001). The Go/No-Go Association Task. *Social Cognition, 19*(6), 625-666.

Pelham, B. W., & Swann, W. B. Jr. (1989). From self-conceptions to self-worth: On the sources and structure of global self-esteem. *Journal of Personality and Social Psychology, 57*(4), 672-680.

Peng, K., & Nisbett, R. E. (1999). Culture, dialectics, and reasoning about contradiction. *American Psychologist, 54*(9), 741-754.

Pine, R. (2009). *Lao-tzu's Taoteching: with selected commentaries of the past 2,000 years*. Port Townsend, Washington: Copper Canton Press.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*(4), 717-731.

Priester, J. R., & Petty, R. E. (1996). The Gradual Threshold Model of ambivalence: Relating the positive and negative bases of attitudes to subjective ambivalence. *Journal of Personality and Social Psychology, 71*(3), 431-449.

Rogers, T., Kuiper, N., & Kirker, W. (1977). Self-reference and the encoding of personal information. Journal of Personality and Social Psychology, 35(9), 677-688.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rosenblatt, P. C., & Li, X. (2012). Researching Chinese cultural understandings of marriage via similes and metaphors on the World Wide Web. *Marriage & Family Review, 48*(2), 109-124.

Rothbaum, F., & Tsang, B. Y.-P. (1998). Lovesongs in the United States and China: On the nature of romantic love. *Journal of Cross-Cultural Psychology, 29*(2), 306-319.

Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*(4), 357–391.

Schimmack, U., Oishi, S., & Diener, E. (2002). Cultural inferences on the relation between pleasant emotions and unpleasant emotions: Asian dialectic philosophies or individualism-collectivism? *Cognition & Emotion, 16*(6), 705-719.

Shiota, M. N., Campos, B., Gonzaga, G. C., Keltner, D., & Peng, K. (2010). I love you but…: Cultural differences in complexity of emotional experience during interaction with a romantic partner. *Cognition & Emotion, 24*(5), 786-799.

Shaver, P. R., Wu, S., & Schwartz, J. (1992). Cross-cultural similarities and differences in emotion and its representation: A prototype approach. In M. S. Clard (Ed.), *Review of personality and social psychology* (Vol. 13, pp. 175-212). Newbury Park, CA: Sage.

Shek, D. T. L. (1995). *Gender differences in marital quality and well-being in Chinese married adults*. Sex Roles, 32, 699-715.

Sheldon, K. M., Elliot, A. J., Kim, Y., & Kasser, T. (2001). What is satisfying about satisfying events? Testing 10 candidate psychological needs. *Journal of Personality and Social Psychology, 80*(2), 325-339.

Showers, C. (1992). Compartmentalization of positive and negative self-knowledge: Keeping bad apples out of the bunch. *Journal of Personality and Social Psychology, 62*(6), 1036-1049.

Showers, C. J., & Kevlyn, S. B. (1999). Organization of knowledge about a relationship partner: Implications for liking and loving. *Journal of Personality and Social Psychology, 76*(6), 958-971.

Showers, C. J., & Zeigler-Hill, V. (2004). Organization of partner knowledge: Relationship outcomes and longitudinal change. *Personality and Social Psychology Bulletin, 30*(9), 1198-1210.

Spencer-Rodgers, J. & Peng, K. (2004). The dialectical self: Contradiction, change, and holism in the East Asian self-concept. In R. M. Sorrentino, D. Cohen, J. Olson, & M. P. Zanna (Eds.), *The Ontario Symposium: Vol. 10. Culture and social behavior* (pp. 227-249). Mahwah, NJ: Lawrence Erlbaum.

Spencer-Rodgers, J., Peng, K., Wang, L., & Hou, Y. (2004). Dialectical self-esteem and East-West differences in psychological well-being. *Personality and Social Psychology Bulletin, 30*(11), 1416-1432.

Spencer-Rodgers, J., Boucher, H. C., Mori, S. C., Wang, L., & Peng, P. (2009). The dialectical self-concept: Contradiction, change, and holism in East Asian cultures. *Personality and Social Psychology Bulletin, 35*(1), 29-44.

Spencer-Rodgers, J., Boucher, H. C., Peng, K., & Wang, L. (2009). Cultural differences in self-verification: The role of naïve dialecticism. *Journal of Experimental Social Psychology, 45*(4), 860-866.

Spencer-Rodgers, J., Peng, K., & Wang, L. (2010). Naïve dialecticism and the co-occurrence of positive and negative emotions. *Journal of Cross-Cultural Psychology, 41*(1), 109-115.

Spencer-Rodgers, J., Williams, M., & Peng, K. (2010). Cultural differences in expectations of change and tolerance for contradiction: A decade of empirical research. *Personality and Social Psychology Review, 14*(3), 296-312.

Stander, V. A., Hsiung, P.-C., & MacDermid, S. (2001). The relationship of attributions to marital distress: A comparison of Mainland Chinese and U.S. couples. *Journal of Family Psychology, 15*(1), 124-134.

Stone, A. A., Turkkan, J. S., Bachrach, C. A., Jobe, J. B., Kurtzman, H. S., & Cain, V. S. (2000). *The science of self-report: Implications for research and practice*. Mahwah, NJ: Lawrence Erllbaum Associates.

Suh, E. M. (2002). Culture, identity consistency, and subjective well-being. *Journal of Personality and Social Psychology, 83*(6), 1378-1391.

Thompson, M. M., Zanna, M. P., & Griffin, D. W. (1995). Let's not be indifferent about (attitudinal) ambivalence. In R. E. Petty, & J. A. Krosnick (Eds.), *Attitude Strength: Antecedents and Consequences* (pp. 361-386). Mahwah, NJ: Erlbaum.

Triandis, H. C. (1995). *Individualism and Collectivism*. Boulder, CO: Westview Press.

Tucker, L. R. (1951). *A method for synthesis of factor analysis studies* (Personnel Research Section Report No. 984). Washington, DC: Department of the Army.

Van de Vijver, F. J. R., & Leung, K. (1997). *Methods and data analysis for cross-cultural research*. Thousand Oaks, CA: Sage.

Williamson, H. C., Ju, Z., Bradbury, T. N., Karney, B. R., Fang, X., & Liu, X. (2012). Communication behavior and relationship satisfaction among American and Chinese newlyweds couples. *Journal of Family Psychology, 26*(3), 308-315.

Zhang, S., & Kline, S. L. (2009). Can I make my own decision? A cross-cultural study of perceived social network influence in mate selection. *Journal of Cross-Cultural Psychology, 40*, 3-23.

FOOTNOTES

[1] Note that the two opposing components do not necessarily need to be positive and negative attitudes; it can be extended and applied to opposing traits, such as extraversion and introversion (e.g., Spencer-Rodgers, Boucher, Mori, et al., 2009).

[2] Basically, previous research that examined cultural differences in ambivalence found very similar results using different formulas (e.g., Boucher et al., 2009; Spencer-Rodgers et al., 2004).

[3] Participants' responses were anonymous via the use of unique identifiers. Similarly, anonymity was ensured for Studies 2 and 3.

[4] I treated sex as a predictor in analysis of variance to explore its interaction effects with other predictors.

[5] Means for analysis of variance reported in the text are adjusted for covariates, and hence they are slightly different from those reported in the Tables.

[6] There was a significant Order × Valence effect (F[1, 170] = 5.22, p = .024, η_p^2 = 0.03). Participants were higher in their positive implicit partner attitudes when they did the *partner + negative* block first (F[1, 170] = 9.81, p = .002, η_p^2 = 0.03), although the reverse was not found (p = .98). It may suggest practice effect in the PGNAT, particularly for the *partner + positive* block, such that after participants practiced in one block they were better at classification in the next block.

[7] To note, these participants were extremely positive in their partner knowledge, and given that more European Americans were removed from the sample than Chinese, this may bias the cultural comparison of partner knowledge content (and to some extent relationship

quality). Indeed, these dropped participants were higher in satisfaction than the remaining participants (t[278] = -2.44, p = .015, d = 0.29, 95% CI [0.11, 1.02]).

APPENDIX A
DEFINITIONS OF IMPORTANT CONCEPTS

ambivalent attitude (p. 9) the presence of positive and negative attitudes toward an object at the same time

ambivalence index (p. 26) an indicator of attitudinal ambivalence computed based on an individual's separate evaluations of the positive and negative aspects of an object

compartmentalized organization (p. 19) separating positive and negative partner knowledge

dialectical relationship thinking (p. 13) thinking about one's partner and relationship with regards to the dialectical principles of contradiction and change

dialectical thinking (p. 6) a cognitive tendency toward acceptance of contradiction

differential importance (p. 22) differentially value positive aspects relative to negative aspects in describing oneself or one's partner

dominant and conflicting responses (p. 26-27) by comparing the strength of an individual's positive and negative evaluations, the greater of the evaluations is labelled the dominant response, whereas the lesser of the evaluations is labelled the conflicting response

idealization (p. 26) seeing one's partner in a benevolent light despite his or her imperfection

integrative organization (p. 19) mixing positive and negative partner knowledge

partner-evaluative ambivalence (p. 15) evaluating one's partner both positively and negatively

partner knowledge organization (p. 19) cognitive strategies to organize positive and negative partner knowledge

sensitivity (p. 39) performance in the Go/No-Go Association Task to discriminate target stimuli from distracting stimuli; a measure of sensitivity (*d'*) based on signal detection theory taps positive and negative implicit partner attitudes

APPENDIX B

EXAMPLES OF PARTNER KNOWLEDGE ORGANIZATION

Panel A: Compartmentalized Organization (phi = .96)

Personality	Work Ethnic	Friends	Bad Mood	Good Mood
Energetic	Independent	–Incompetent	–Insecure	Energetic
Responsive to my needs	Interested	–Immature	–Not the "real him/her"	Communicative
Warm	Dedicated	–Not the "real him/her"	–Critical and judgmental	Giving
Friendly	Successful	–Critical and judgmental	–Unloved	Interested
Hardworking	–Irritable	–Annoying	–Irritable	Confident
Dedicated	Determined	–Self-centered	–Distant	Capable
Tolerant and accepting		–Irrational	–Irrational	Optimistic
		–Thoughtless	–Moody	Responsive to my needs
				Tolerant and accepting
				Warm
				Friendly
				Patient

Note. Minus signs indicate negative attributes, other attributes are positive.

Panel B: Integrative Organization (phi = .29)

Personality	How I Feel with Him	What He Thinks of Me	What His Friends Think of Him	His Family	Who He Wants to Be
Witty	Energetic	Energetic	Energetic	–Distant	Communicative
Independent	Communicative	Organized	Witty	–Irritable	Giving
Warm	Interested	Independent	Warm	Focused	Confident
Determined	Optimistic	Confident	–Distant	Friendly	Responsive to my needs
Focused	Tolerant and accepting	Tolerant and accepting	Friendly	Successful	Tolerant and accepting
Friendly	Warm	–Moody	Capable	Dedicated	Warm
Mature	–Irritable	Warm	Hardworking	–Uncomfortable	Focused
Hardworking	Friendly	–Distant	Dedicated	Tolerant and accepting	Friendly
Dedicated	Responsive to my needs	Friendly			Hardworking
		Hardworking			Successful

Note. Minus signs indicate negative attributes, other attributes are positive.

APPENDIX C

IRB APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 8/4/2015

To: Ben Chun Pan Lam
W112 Lagomarcino Hall

CC: Dr. Susan E Cross
W112 Lagomarcino Hall

From: Office for Responsible Research

Title: Understanding Your Romantic Partner and Relationship

IRB ID: 15-335

Approval Date:	8/3/2015	**Date for Continuing Review:**	8/2/2017
Submission Type:	New	**Review Type:**	Expedited

The project referenced above has received approval from the Institutional Review Board (IRB) at Iowa State University according to the dates shown above. Please refer to the IRB ID number shown above in all correspondence regarding this study.

To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- **Use only the approved study materials** in your research, **including the recruitment materials and informed consent documents that have the IRB approval stamp.**
- **Retain signed informed consent documents for 3 years after the close of the study**, when documented consent is required.
- **Obtain IRB approval prior to implementing any changes** to the study by submitting a Modification Form for Non-Exempt Research or Amendment for Personnel Changes form, as necessary.
- **Immediately inform the IRB of** (1) **all serious and/or unexpected adverse experiences** involving risks to subjects or others; and (2) **any other unanticipated problems involving risks** to subjects or others.
- **Stop all research activity if IRB approval lapses**, unless continuation is necessary to prevent harm to research participants. Research activity can resume once IRB approval is reestablished.
- **Complete a new continuing review form** at least three to four weeks prior to the **date for continuing review** as noted above to provide sufficient time for the IRB to review and approve continuation of the study. We will send a courtesy reminder as this date approaches.

Please be aware that IRB approval means that you have met the requirements of federal regulations and ISU policies governing human subjects research. **Approval from other entities may also be needed.** For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **IRB approval in no way implies or guarantees that permission from these other entities will be granted.**

Upon completion of the project, please submit a Project Closure Form to the Office for Responsible Research, 1138 Pearson Hall, to officially close the project.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

APPENDIX D

FINAL WORD/ATTRIBUTE LIST FROM PILOT STUDY

Positive Words	Negative Words
Energetic	Incompetent
Organized	Worthless
Communicative	Isolated
Independent	Uncomfortable
Giving	Insecure
Interested	Immature
Confident	Hopeless
Capable	Like a failure
Optimistic	Not the "real him/her"
Responsive to my needs	Critical and judgmental
Tolerant and accepting	Moody
Witty	Thoughtless
Warm	Irrational
Determined	Distant
Focused	Complaining
Friendly	Irritable
Mature	Self-centered
Hardworking	Unloved
Successful	Annoying
Patient	
Self-assured	
Dedicated	

APPENDIX E
OTHER COMMONLY USED FORMULAS FOR AMBIVALENCE INDEX

One of the most widely used model or formula for ambivalence, the Conflicting Reactions Model (CRM; Kaplan, 1972), is defined by the following formula. According to the CRM, ambivalence (A) is simply a linear function of people's conflicting reaction (C).

$$A = F[(D + C) - (D - C)] \text{ or } A = F(2C)$$

Other scholars proposed a different model or formula, the Similarity-Intensity Model (SIM; Thompson, Zanna, & Griffin, 1995), which took into account two necessary conditions for ambivalence, namely, similarity and intensity. Similarity is the degree to which positive and negative attitudes are similar in magnitude, and is defined as – (D – C). Intensity is the degree to which both positive and negative attitudes are strongly endorsed, and is defined as (C + D) / 2. The overall formula for the SIM is as below.

$$A = F\{[(C + D) / 2] - (D - C)\} \text{ or } A = F(3C - D)$$