



# Perceived support and relational conflict as mediators linking attachment orientations with depressive symptoms: A comparison of dating individuals from Hong Kong and the United States



Jin You<sup>a</sup>, Jason L. Huang<sup>b</sup>, Man Yee Ho<sup>c</sup>, Hildie Leung<sup>d</sup>, Caina Li<sup>e,\*</sup>, Michael Harris Bond<sup>d</sup>

<sup>a</sup> Wuhan University, China

<sup>b</sup> Wayne State University, USA

<sup>c</sup> The Hong Kong Institute of Education, Hong Kong

<sup>d</sup> Hong Kong Polytechnic University, Hong Kong

<sup>e</sup> Shaanxi Normal University, China

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## ABSTRACT

This cross-sectional study investigates how perceived support and relational conflict mediate the associations of attachment orientations with depressive symptoms among 367 (153 Chinese, 214 American) dating individuals. Results revealed a pan-cultural association of attachment anxiety with depressive symptoms mediated through relational conflict. Attachment avoidance was more strongly related to depressive symptoms through relational conflict in the Chinese sample than in the U.S. sample. Furthermore, attachment anxiety was related to perceived support across both cultural samples, while attachment avoidance was more strongly related to perceived support in the Chinese sample than in the U.S. sample. Findings are discussed in terms of the cultural logics governing interpersonal relationships across cultures.

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## 1. Introduction

Attachment research has long assumed that health implications of attachment orientations are universal across cultures (Carnelley, Pietromonaco, & Jaffe, 1994; Pietromonaco & Barrett, 2000; Posada & Jacobs, 2001). This assumption is challenged, however, by recent studies on cultural differences in the nature, antecedents, and consequences of attachment (Friedman et al., 2010; Rothbaum, Kakinuma, Nagaoka, & Azuma, 2007). Nonetheless, limited efforts have been devoted to understanding the functions and mechanisms of the attachment system for persons of different cultural heritages. The current study addresses this research gap from two aspects. First, focusing on perceived support and relational conflict as relational mediators, we examine the manner in which attachment anxiety and attachment avoidance are associated with depressive symptoms across cultures. Second, we investigate how the relational mediating models of attachment dynamics differ

across cultures to illustrate the different cultural logics governing attachment relationships.

### 1.1. Adult attachment orientations and depressive Symptoms

Attachment theory (Bowlby, 1973; Bowlby, 1980) posits that humans, based on their interactions with attachment figures in early years, form different types of attachment systems that govern their regulatory strategies to cope with stress. Once formed, attachment systems remain stable and shape the characteristics of their relationships with other attachment figures throughout the life span (Bowlby, 1980; Simpson, Rholes, Campbell, Tran, & Wilson, 2003).

To characterize individual differences in attachment systems, researchers proposed two orthogonal dimensions: attachment anxiety and attachment avoidance (Brennan, Clark, & Shaver, 1998; Fraley & Shaver, 2000). Individuals with high attachment anxiety tend to be oversensitive to relationship-threatening cues and cling to their attachment figures with the fear of being abandoned; individuals with high attachment avoidance tend to distance themselves from their attachment figures to maintain

\* Corresponding author at: School of Psychology, Shaanxi Normal University, Xi'an 710062, China. Tel./fax: +86 29 85303236.

E-mail addresses: [chinali7371@163.com](mailto:chinali7371@163.com), [chinali@snnu.edu.cn](mailto:chinali@snnu.edu.cn) (C. Li).

psychological independence and to avoid being rejected (Brennan et al., 1998).

Attachment theory (Bowlby, 1980) posits that attachment orientations carry implications for health. Attachment orientations, particularly attachment anxiety, were found to correlate with more frequent reports of depressive symptoms among college students (Burnette, Davis, Green, Worthington, & Bradfield, 2009; Murphy & Bates, 1997), older adults (Besser & Priel, 2008), women with eating disorders (Tasca et al., 2009), individuals with traumatic experiences (Zakin, Solomon, & Neria, 2003), married couples (Besser, & Priel, 2003; Shaver, Schachner, & Mikulincer, 2005; Whiffen, Foot, & Thompson, 2007) and three-generation triads (Besser, & Priel, 2005; Roberts, Gotlib, & Kassel, 1996).

### 1.2. Relational dynamics arising from attachment orientations

The associations of attachment orientations and depressive symptoms have been explained in terms of social support (Feeney, Alexander, Noller, & Hohaus, 2003; Mak, & Bond, 2010; Simpson et al., 2003), self-critical vulnerability (Besser & Priel, 2005), affect regulation strategies (Tasca et al., 2009), forgiveness (Burnette et al., 2009) and neediness (Besser & Priel, 2008). However, the relational dynamics underlying attachment system have not been adequately investigated. Social relationships could be well represented by two separable dimensions, namely perceived support and relational conflict (Pierce, Sarason, & Sarason, 1991). Bowlby (1980) proposes that the perceptions of negative and supportive interactions help to determine depressive symptoms. Indeed, studies found that perceived support and relational conflict carry great weight on determining psychological distress (Uchino, Holt-Lunstad, Smith, & Bloor, 2004). This study thus examined the relative importance of perceived support and relational conflict in linking attachment orientations to depressive symptoms.

Perceived support is the extent to which a relationship partner is perceived as available or utilizable for garnering social resources (Pierce et al., 1991). Perceived support has shown to be closely associated with attachment orientations. Studies have consistently revealed that individuals with high attachment anxiety and attachment avoidance perceive less social support in intimate relationships compared to securely attached counterparts (Mikulincer, & Shaver, 2003; Moreira et al., 2003; Priel, & Shamai, 1995). Notably, a recent study found that perceived support mediated the relationship between attachment orientations and depressive symptoms (Mak & Bond, 2010). Based on these findings, we hypothesized that:

**Hypothesis 1.** Perceived support would mediate the relationship between attachment orientations and depressive symptoms.

Relationship conflict, as negative exchanges that would be accompanied by negative feelings and relationship dissolution when unresolved (Pistole, & Arricade, 2003), is a typical threat to relationship stability (Simpson, Rholes, & Phillips, 1996). Relational conflict has been proven to correlate with attachment orientations. For instance, individuals with higher attachment avoidance were found to experience greater anger (Rholes, Simpson, & Orina, 1999) and to avoid expressing their needs openly (Bradford, Feeney, & Campbell, 2002). On the other hand, individuals with higher attachment anxiety reported more intense conflicts with their romantic partner (Campbell, Simpson, Boldry, & Kashy, 2005), perceived ambiguous social interactions as hurtful (Collins, & Feeney, 2004), and handled negative exchanges in a relationship-disruptive manner (Simpson et al., 1996). These relational styles may provoke their romantic partner's anger, thereby escalating relational conflict (Bradford et al., 2002). Given

the established positive association between relational conflict and depressive symptoms (Whiffen et al., 2007), we hypothesized that:

**Hypothesis 2.** Relational conflict would mediate the associations of attachment orientations with depressive symptoms.

### 1.3. Relational mechanisms of attachment systems across cultures

Inviting further complexity, the mechanisms underlying attachment dynamics and cultural orientations may also vary depending on culture. The culture fit hypothesis holds that personal characteristics may predict adjustment depending on the extent to which they match dominant cultural values (Lu, 2006; Ward, & Chang, 1997). Applying the cultural fit hypothesis to attachment research, researchers have argued that the impact of attachment orientations on psychological outcomes would also differ across cultures, given that the behavioral patterns associated with attachment orientations may match dominant norms concerning relationship management to a different extent (Friedman et al., 2010). In particular, they argued that attachment avoidance would be related to relationship and psychological problems in collectivistic cultures, since emotional distance and independence, emphasized by attachment avoidance, are in conflict with collectivistic cultural norms governing interpersonal associations. However, attachment anxiety may be universally related to psychological and relational problems, as a distrustful and self-serving interpersonal style will be discouraged by both American and Chinese cultures. Guided by this argument, we hypothesized that:

**Hypothesis 3.** Attachment avoidance would have a stronger association with depressive symptoms through the mediation of relational conflict and perceived support among Chinese than among Americans, but such mediation model underlying attachment anxiety and depressive symptoms would be universal across cultures.

## 2. Method

### 2.1. Participants

College students from the United States ( $N = 214$ ; 47% males) and Hong Kong, China ( $N = 153$ ; 46% males) participated in the study. All participants indicated that they had been involved in a romantic relationship lasting for at least 3 months. For the U.S. participants, mean age was 19.03 years ( $SD = 1.23$ ) and mean relationship length was 17.22 months ( $SD = 12.26$ ). For the Chinese participants, mean age was 20.44 years ( $SD = 1.90$ ) and mean relationship length was 23.47 months ( $SD = 21.34$ ). All participants from the United States and most participants from Hong Kong participated in the study as a partial fulfillment of a course requirement; other Hong Kong participants received HK\$50 (about US\$6.5) for their participation.

### 2.2. Measures

#### 2.2.1. Attachment orientations

Attachment orientations were measured by the Experiences in Close Relationships Questionnaire (Brennan et al., 1998). It includes two subscales containing 18 items each, tapping on attachment-avoidance (e.g., "I prefer not to show a partner how I feel deep down.") and attachment-anxiety (e.g., "I worry that romantic partners won't care about me as much as I care about them."). All items were rated on 7-point Likert scales ranging from 1 (*disagree*

strongly) to 7 (agree strongly). The alpha coefficients were .90 and .91 for attachment avoidance, and .87 and .92 for attachment anxiety in the Chinese and U.S. samples.

### 2.2.2. Perceived support

Perceived support was measured with the social support questionnaire (Sarason, Levine, Basham, & Sarason, 1983). The scale consisted of 7 items tapping the amount of perceived social support from the current dating partner (e.g., “How much can you count on your partner to distract you from your worries when you feel under stress?”). The items were rated on 7-point Likert scales ranging from 1 (*not at all*) to 9 (*very much*). The alpha coefficients were .90 and .87 in the Chinese and U.S. samples.

### 2.2.3. Relational conflict

The Conflict Measure (Friedman et al., 2010) was used to assess the frequency of conflict with the dating partner (e.g., “How often do you and your romantic partner argue?”). It comprises 5 items rated on 7-point Likert scales ranging from 1 (*never*) to 7 (*almost every day*). The alpha coefficients were .92 and .82 in the Chinese and U.S. samples.

### 2.2.4. Depressive symptoms

Depressive symptoms were evaluated with 10-item Center for Epidemiological Studies-Depression (CES-D-10) (Radloff & Teri, 1986). Participants were instructed to indicate the frequency of occurrence within the past week of experiences (e.g., “I was bothered by things that usually don’t bother me.”). Participants responded on 4-point Likert scales ranging from 1 (*rarely or none of the time – less than 1 day*) to 4 (*most or all of the time – 5–7 days*). The reliability coefficients were .84 and .78 in the Chinese and U.S. samples.

## 3. Results

Before testing hypotheses, the measurement equivalence of each scale was evaluated with multi-sample confirmatory factor analysis with EQS 6.1 structural equation program (Bentler, 1995) after constraining their factor loadings to be equal across the Chinese and U.S. samples. Results demonstrated that the model fit for each measure was acceptable (see Table 1), suggesting that the measures were metrically equivalent across two samples.

The zero-order correlations among observed variables are showed in Table 2. To test the mediating model proposed hypotheses 1 and 2, we first conducted a multi-sample analysis with EQS 6.1 to estimate the model fit and pathway parameters across two cultural samples. Multi-sample analysis showed that after deleting the direct pathway from attachment avoidance to depressive symptoms, the hypothesized model fit the data from both cultural samples,  $\chi^2(2) = 5.99$ ,  $\chi^2/df = 2.99$ , CFI = .987, IFI = .987, MFI = .995, SRMR = .025, RMSEA = .074. In the Chinese sample, both attachment avoidance ( $\beta = -.67$ ,  $p < 0.001$ ) and attachment anxiety ( $\beta = -.16$ ,  $p < .01$ ) explained 50.3% of the variance in perceived support. Similarly, attachment avoidance ( $\beta = .39$ ,  $p < .01$ ) and attachment anxiety ( $\beta = .15$ ,  $p < .01$ ) explained 18.3% of variance in relational conflict. Attachment anxiety ( $\beta = .38$ ,  $p < .001$ ) and relational conflict ( $\beta = .17$ ,  $p < .05$ ) explained 21.7% of the variance in depressive symptoms.

**Table 1**  
Model fit of measurement equivalence for study variables.

	$\chi^2/df$	CFI	IFI	MFI	SRMR	RMSEA
Attachment avoidance	1.33	.98	.98	.93	.07	.03
Attachment anxiety	1.41	.97	.98	.91	.06	.03
Relational conflicts	2.17	.99	.99	.98	.09	.06
Perceived support	2.73	.96	.96	.93	.05	.07
Depressive symptoms	1.71	.94	.94	.93	.09	.04

In the U.S. sample, attachment avoidance ( $\beta = -.32$ ,  $p < .001$ ) and attachment anxiety ( $\beta = .10$ ,  $p < .10$ ) explained 12.2% of the variance in perceived support. Attachment avoidance ( $\beta = .13$ ,  $p < .001$ ) and attachment anxiety ( $\beta = .18$ ,  $p < .10$ ) explained 5.5% of the variance in relational conflict. Attachment anxiety ( $\beta = .37$ ,  $p < .001$ ) and relational conflict ( $\beta = .13$ ,  $p < .10$ ) explained 19.1% of the variance in depressive symptoms.

We then adopted a multiple mediator procedure (Preacher & Hayes, 2008) to further test the significance of each mediation effect within each culture. The mediation effect was evaluated as significant when the 95% CIs did not contain 0, and was considered as marginally significant when 90% CIs did not contain 0. Results from the Chinese sample confirmed hypothesis 2, both attachment anxiety and attachment avoidance was indirectly related to depressive symptoms through relational conflict: for attachment avoidance, the point estimate was .0030, with BCA90% CI ranging from .0005 to .0066, BC90% CI ranging from .0005 to .0067, and 90th percentile CI ranging from .0003 to .0062; for attachment anxiety, the point estimate was .0014, with BCA95% CI ranging from .0001 to .0042, BC95% CI ranging from .0001 to .0042, and 95th percentile CI ranging from .0000 to .0038.

In the U.S. sample, attachment anxiety and attachment avoidance were also indirectly related to depressive symptoms through relational conflict, for attachment avoidance, the point estimate was .0008, with BCA95% CI ranging from .0000 to .0022, BC95% CI ranging from .0000 to .0020; for attachment anxiety, the point estimate was .0006, with BCA90% CI ranging from .0000 to .0015, BC90% CI ranging from .0000 to .0015, and 90th percentile CI ranging from .0000 to .0014.

To test hypothesis 3, we first constrained all the pathways as equal across cultural samples and estimated the model fit. The constrained model fit worse,  $\chi^2(2) = 5.99$ ,  $\chi^2/df = 2.99$ , CFI = .987, IFI = .987, MFI = .995, SRMR = .025, RMSEA = .074. Then, we compared the constrained and original models in terms of goodness of fit using the likelihood ratio (LR) test. Results revealed a significant difference between the constrained and original models,  $\chi^2(7) = 19.39$ ,  $p < .01$ . To identify the pathways that were not culturally equivalent in strength, the Lagrange Multiplier (LM) test was adopted. Results showed that the cultural difference of the model was caused by the associations of attachment avoidance with perceived support,  $\chi^2(1) = 11.49$ ,  $p = .001$ , and with relational conflict,  $\chi^2(1) = 6.43$ ,  $p = .01$ , see Fig. 1.

## 4. Discussion

The aims of the present cross-cultural study are twofold: 1) to investigate how attachment orientations are related to depressive symptoms through perceived support and relational conflict; 2) to explore how the relational mediating models of attachment orientations vary with cultures. With hypotheses 1 and 3 partially supported, attachment anxiety was related to perceived support across both cultural samples, while attachment avoidance was more strongly related to perceived support among Chinese than among Americans. Confirming hypotheses 2 and 3, we found that a pan-cultural association of with depressive symptoms through relational conflict, and that attachment avoidance was more strongly related to depressive symptoms through relational conflict among Chinese than among Americans.

Consistent with hypotheses 2 and 3, we found that attachment anxiety was related to depressive symptoms through relational conflict pan-culturally. Individuals with greater attachment anxiety are oversensitive and distrustful: they cling to their partners in order to satisfy their own emotional needs and are less considerate of their partners’ needs and benefits (Brennan et al., 1998).

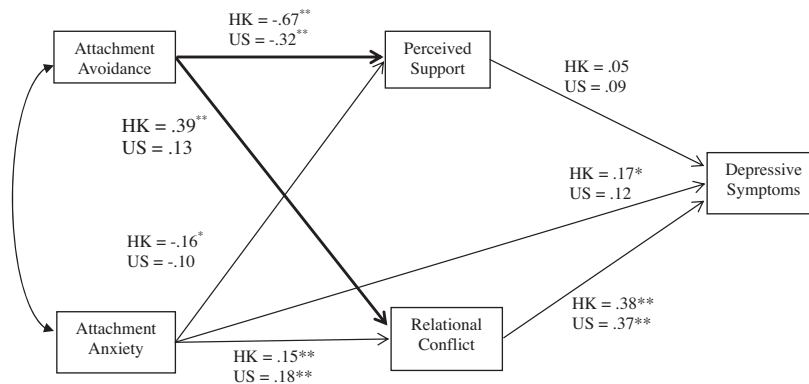
**Table 2**  
Zero-order correlation among variables in the Chinese and U.S. samples.

	Attachment avoidance	Attachment anxiety	Perceived support	Relational conflict	Depressive symptoms
Attachment avoidance	–	.14	–.33 <sup>b</sup>	.15 <sup>a</sup>	.22 <sup>b</sup>
Attachment anxiety	.13	–	–.15 <sup>a</sup>	.20 <sup>b</sup>	.40 <sup>b</sup>
Perceived support	–.69 <sup>b</sup>	–.24 <sup>b</sup>	–	–.34 <sup>b</sup>	–.18 <sup>b</sup>
Relational conflict	.40 <sup>b</sup>	.19 <sup>a</sup>	–.56 <sup>b</sup>	–	.23 <sup>b</sup>
Depressive symptoms	.22 <sup>b</sup>	.42 <sup>b</sup>	–.23 <sup>b</sup>	.27 <sup>b</sup>	–

Correlation coefficients in the Chinese and U.S. samples are below and above the diagonal, respectively.

<sup>a</sup>  $p < 0.05$ .

<sup>b</sup>  $p < 0.01$ .



**Fig. 1.** Path models for the associations between attachment orientations, perceived support, relational conflict, and depressive symptoms in the Chinese and U.S. samples. Notes. The values are the standardized path coefficients for the pathways in the Chinese and U.S. samples. The pathway in bold indicates that the strength of pathways differ significantly between the two samples.

Such self-serving and distrustful behavioral styles may violate the norm of autonomy in individualistic cultures and the norms of communality in collectivistic cultures (Friedman et al., 2010), yielding relational and psychological problems across two cultural samples. Thus, relational conflict may be a culturally universal mediator linking attachment anxiety to depressive symptoms.

Attachment avoidance was more strongly related to depressive symptoms through relational conflict among Chinese than among Americans. Such cultural difference may be driven by multiple cultural factors. In the Hong Kong Chinese culture with more marriage-age men than women, according to sex ratios theory (Pedersen, 1991), dating individuals prefer long-term, monogamous dating relationships and have stronger commitment to dating relationships (Schmitt, 2005). Furthermore, given the cultural norms of interdependence (Markus, & Kitayama, 1991), Chinese dating individuals were expected to preserve harmonious relationships with the partner and his/her family members (Dion, & Dion, 1993). Thus, Chinese with high attachment avoidance, who violate the norm of interdependence (Friedman et al., 2010), may experience more relational conflict and in turn invite more psychological distress.

By contrast, Americans have been found to have more promiscuous mating orientation and to develop less close romantic relationships due to more adequate child-rearing resources (Schmitt, 2005). Failure to maintain a close romantic relationship among individuals with higher attachment avoidance may be perceived as acceptable among Americans. In addition, with the emphasis on self-reliance (Hofstede, 1980), Americans may also regard maintaining dating relationships as personal business. Therefore, Americans with attachment avoidance may be less problematic in the interpersonal domain, but probably have depressive symptoms. It should be noted that casual sexual encounters known as hookups have been increasingly prevalent among American college

students (Fielder, & Carey, 2010; Owen, & Fincham, 2011). Further studies should distinguish serious dating relationships from hookups and investigate whether the findings hold in these two types of romantic relationship.

Supporting hypothesis 3, attachment avoidance showed more negative association with perceived support among Chinese than among Americans. This finding may be produced by culturally specific patterns of social support transactions. Chinese have more relationship concerns (e.g., face, criticism) when seeking support, because they share cultural assumptions that burdening others with personal problems is inappropriate (Kim, Sherman, & Taylor, 2008; Taylor et al., 2004). Thereby, Chinese with high attachment avoidance, who perceive others as distrustful, may be more cautious about enlisting others for support, perceiving or actually receiving less social support. On the contrary, Americans assume that individuals have the freedom to proactively satisfy personal needs, and thus may not hesitate to recruit support from others (Kim et al., 2008). As such, the association of attachment avoidance with perceived support may be greatly weakened among Americans.

It is noteworthy that inconsistent with hypothesis 1, perceived support failed to predict depressive symptoms and mediate the relationship between attachment orientations and depressive symptoms after controlling for relational conflict in both cultural sample. This finding agrees with previous findings that positive interactions are only associated with psychological well-being, but not psychological distress (Manne, Taylor, Dougherty, & Kemeny, 1997). Perceived support is more compatible with the norms of interdependence in romantic relationships and is less resource-consuming relative to relational conflict (Fiske, 1980; Peeters, & Czapinski, 1990). Therefore, perceived support may exert a comparatively less influential effect on depressive symp-

toms when taking relational conflict into consideration across cultures.

We acknowledge several limitations. First, the correlational nature of the study prevents causal conclusions. Follow-up research could adopt a longitudinal paradigm to more firmly establish our causal reasoning. Second, the study exclusively relies on self-reports with the potential for recall bias. Future studies should use experience sampling method to strengthen the validity of these findings. Third, the study includes merely two cultures and only a relatively small sample of college students was obtained at each study locale. Given that college students are often deviant from cultural traditions (Rozin, 2003), the findings may misrepresent some “real” cultural differences. Moreover, the narrow sampling of cultural groups may make it difficult to conclude whether the findings could generalize to populations from other parts of the world. There should be further work unpacking cultural logics (e.g., interdependent self-construal, sex ratio) that govern the relational mechanisms underlying attachment dynamics using a multi-nation sample.

Finally, we assessed Chinese depressive symptoms with CES-D-10, an imposed measure from Western psychology. Although CES-D-10 has good psychometric qualities and is statistically equivalent across cultures in this study, it nonetheless remains a weakness in that the experience, psychological meanings and behavioral manifestation of depressive symptoms may greatly differ in the Chinese and Western cultures (Kleinman, 1987). Future work should replicate the findings with the measures of greater cultural sensitivity.

Despite these limitations, the study furthers the understanding of attachment dynamics by uncovering its culturally distinctive relational mechanisms. We found evidence that attachment anxiety has pan-cultural implications for relationship outcomes and psychological consequences, and the relational mediation model of relational conflict underlying attachment avoidance and depressive symptoms works better in a collectivistic context than in an individualistic context. The study has the potential to challenge well-established assumption that attachment systems are culturally universal and starts an exciting journey of exploring relational mechanisms of attachment dynamics from a cross-cultural perspective.

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